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FROM THE CHIEF EDITOR

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Page unturned

The year has passed since the presidential candidate and the RF Prime Minister Vladimir V. Putin spoke at the conference of the Russian Union of Industrialists and Entrepreneurs on February 9, 2012. In his speech Vladimir V. Putin clearly identified the main causes of high social tension in the country, perhaps, for the first time since 2000:

"...what was going on in Russia in the 1990s. We have spoken a great deal about this, and we know that business back then amounted to nothing more than slicing up the state-owned pie";

*"...**certainly, we need to turn this page as well...** We need to close this period. There are different ways to do this. We need to discuss them with society and with experts, but we must do so in such a way that society agrees with the resolution of problems dating back to the 1990s, including patently unfair privatization and auctions of all kinds";*

"...what we absolutely have to do is ensure public legitimacy of the institute of private property and public trust in business. Otherwise we will not be able to develop a modern market economy, let alone create a healthy civil society" **"...key steps should be taken in 2012"**[1].

The first ten months of Vladimir Putin's presidency have passed, and it can be noted that there were no specific instructions aimed at solving one of the most fundamental problems of modern Russian society – socially unfair privatization of state property. They were given neither in the first President's Executive Orders (dated on May 7, 2012) nor in his Address to the Federal Assembly (12 December 2012).

In the Address to the Federal Assembly Vladimir V. Putin noted that "the high degree of offshore investments and ownerships in the Russian economy is an absolute fact" and "we are to strive for offshore transparency". But no variants to "close" the problems of the 1990s were given for the society to discuss, which dealt with "*patently unfair privatization and auctions of all kinds*".

[1] The speech of V.V. Putin at the conference of the Russian Union of Industrialists and Entrepreneurs, February 9, 2012.Official site of V.V. Putin. Available at: http://premier.gov.ru/events/news/18052/

Unfair privatization of the 1990s became the basis for the formation of an oligarchic and corrupt system of the state, which brought up the modern political elite and led to an unprecedented income inequality among Russia's citizens. In Russia, 1% of oligarchs and large owners account for about 40% of national income, while 1% of the richest people in the United States accounts for 8% of national income. Thus, inequality degree is 5 – 10 times higher in Russia than in the USA[2].

According to one renowned politician, *"...the state power in Russia was forcing against Russia speaking on behalf of Russia during the last decades"*[3].

During the 1990s, existing oligarchic clans extracted minerals in Russia and appropriated most of the resource rents. And only in 2002, on the RF President Vladimir Putin's initiative a mineral extraction tax (MET) was imposed and tariffs on export were increased. This resulted in a 4.2-fold increase of the federal budget revenues in 2011 as compared with 2000 (in constant prices), and the share of mineral extraction tax and foreign economic activity revenues in the budget increased from 20% to 58.7%[4].

At the same time, the government continued to retreat under the pressure of the oligarchs and international financial speculators.

Thus, the last restrictions on foreign exchange regulation were canceled in Russia in 2006, which dramatically accelerated the capital outflow from the country[5].

According to experts, federal and regional budgets lose up to 50% of tax revenues due to different legal ways to avoid taxes of large corporations and the political elite *(tab. 1)*.

A serious analysis of the current situation in the country before the elections to the State Duma in December 2011 and the presidential elections in March 2012 in the conditions of the formation of a new political cycle, conducted by numerous experts,

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[2] Yashina G.A. Progressive taxation: "pros and cons". Federal Internet Edition "Capital of the country". Available at: http:www/kapitalrus.ru/articles/article/177034

[3] ShevchenkoM. Financial triumphs. Zavtra. 2012. No. 37.

[4] Mineral Extraction Tax (MET) was imposed on January 1, 2002 instead of the payments for the right to use subsurface resources, deductions for the replacement of the mineral raw material base, excise duty on oil and stable gas condensate, the share of which was about 80% in the structure of resource payments. Mineral extraction tax was aimed at the maximum simplification of tax collection for the state.

In fact, the events leading up to the imposition of mineral extraction tax were different. S.S. Gubanov describes them in his article "System choice of Russia and standard of living" as follows (The Economist, 2011. No. 11. P. 355): "1998 August default marked the full system crash of unlimited power of private-oligarchic property. The distribution of power began to be noticeably revolutionized. The fall of reactionary reformers' cabinet concealed the threat to the basis of the oligarchic property. The question had an edge to it who will win: will oligarchs win Russia or Russia beat oligarchs? Without waiting for the irreversible turn of scales, the comprador clan of oligarchs decided to sacrifice the secondary things to save their major priority – the predominance of their personalized property. They agreed to split their revenue with the state; thus, the system of extremely unusual, hybrid sate and oligarchic partnership was developed, when the system domination continued to belong to the oligarchic property, but its revenues were partially privatized and partially nationalized. The social contract between the parties came into effect in 2001 along with the mechanism of mineral extraction tax formalized in legislation. Since then, the partial bite of taxes from export and raw material rent to the state budget, i.e. currency and budgetary nationalization, became the encumbrance for oligarchic property. Increasing the budget due to raw material export and petrodollars, the government acquired an opportunity to support domestic demand through budget expenditures and their indexing, and an oligarchic clan retained his property and comprador capital power at its disposal".

[5] According to the Central Bank of RF, the net capital outflow from Russia by the private sector and individuals amounted to 30.2 billion dollars in 2006 and 62 billion in 2007 (2008 – 164, 2009 – 72.2, 2010 – 56.3, 2011 – 111.9 billion dollars). Thus, at the end of 2011, the volume of cross-border transfers (3.6 trillion rubles) was equal to 62% of own territorial budgets revenues of RF (5.8 trillion rubles), and it was 2.6 times higher than the public debt of Russia (1.4 trillion rubles).

public figures, mass media, showed that in order to implement the faster growth policy it was necessary *"to restrain the furies of oligarchic business, corrupt officials vampires, a gang of werewolves wearing police epaulets, TV nightmares and other evil spirit bred in abundance on the rotting remains of the Soviet empire. They are the products of the post-Soviet power, so they should be eliminated by it with the purpose of self-preservation. Otherwise, they either will have gorged the power and statehood remnants, or they will have been destroyed by the revolutionary fire. Both results will be catastrophic for Russia"*[6].

Today's information field in the country is rather clearly described by journalist M. Kononenko, *"We had the dashing 1990s and stable 2000s. And now we have the dashing years again but this time – the 2010s. More precisely – deputy"*[7].

Table 1.Calculation of the possible increase in revenues to the budget of the Russian Federation, trillion rubles

Source	Actual value	Proposed variant	Consolidated budget of RF	Budgets of state non-budgetary funds	Federal budget	Budgets of the federal subjects of Russia
Cancellation or reduction of the rate of export VAT refund	18%	0–5%*1)	0.8		0.8	
Increase in the tax rate on dividends	5 – 9%	13 – 15%*1)	0.2 – 0.5			0.2 – 0.5
Introduction of progressive income tax rate	13%*	13–50%*2)	2.0 – 4.5			2.0 – 4.5
Introduction of the tax on currency export	no	20%*3)	0.5		0.5	
Cancelation of the limiting value of annual income, above which insurance payment are not taken	463 thsd. rub.	0*4)	0.5	0.5		
Total			4.0 – 6.8	0.5	1.3	2.2 – 5.0

* There are the following income tax rates in foreign countries: USA – 1035%; Great Britain – 050%; Australia – 1747%; China – 545%; Japan – 550%; Denmark – 3859%; Ukraine – 1517%; Latvia – 26%.
*1) Doctor of Economics N.A. Krichevskiy, ISEDT RAS.
*2) RAS Academician R.I. Nigmatulin, Doctor of Economics V.L. Inozemtsev, Doctor of Economics N.A. Krichevskiy, A.V. Bagaryakov, documents of political parties Just Russia, CPRF.
*3) Documents of Just Russia Party, Chairman of the Chamber of Tax Consultants D. Chernik.
*4) Doctor of Economics V.L. Inozemtsev, Economic Expert Group.

[6] Glazyev S.Yu. Why is Putin? Zavtra. 2012. No. 9.

[7] Kononenko M. Dashing deputy. Izvestia. 2013. No. 32. February 21. The author writes: "These are the headlines of last week. The Lipetsk City Duma deputy corpse rolled up in a barrel of cement was found in the vicinities of Moscow. The former Deputy Minister of the Moscow Oblast's housing and public utilities was detained on suspicion of murder. The flat of a deputy of the Kirov Oblast's Parliament was searched with regard to the case of the Urzhum Distilling Plant. The Ministry of the Interior found embezzlements running into billions in RusHydro. Ex-adviser of the Governor of the Murmansk Oblast misappropriated 430 million rubles. The former Deputy Head of Uralvagonzavod was arrested when he tried to escape from the country. Serdyukov's son-in-law left Russia. The former Mayor of Ryazan was suspected of blackmail. The Chief of Staff of the Southern Military District was blamed for exceeding of authority. FSB conducted a search of the Transport Committee of St. Petersburg. A taxman was arrested for the extortion of 7 million rubles in the vicinities of Moscow. The Ministry of the Interior arrested a university teacher for the murder of his colleague. The Chief Oncologist of Russia left his post because his daughter and his deputy stole 39 million rubles. The Head of the Federal Agency for Fishery was involved in criminal proceeding. The former Chairman of the State Commission for Academic Degrees and Titles stole 1.5 billion rubles. That is, a criminal paradigm in Russia has completely changed. Deputies, officials, effective managers, as well as intellectuals joined them and represented by doctors and teachers have become dashing ones".

Russian mass media is full of facts reflecting the conflict between different groups of the political elite[8].

It seems that, when the staff of the Government was formed, the President of Russia excessively trusted people allowing some of them, who did not explicitly or implicitly support his policy thesis stated not only in his well-known articles but in his decrees dated May 7, 2012, to be included in the Government.

What other reasons can explain the fact that the Government did not build the funds into the budget for 2013 and 2014 – 2015 to implement the decrees dated May 7, 2012 on the main points of modernizing the economy of the country: increase in the salaries of teachers and doctors since 2013; modernization of the social sphere; the core funding of a military-industrial complex was postponed for a period after 2015.

More than 70% of budget expenditures on implementing the presidential decrees to raise wages of public sector employees for the period from 2013 to 2018 fall on the period from 2016 – 2018 (*tab. 2)*.

"Citizens of Russia will feel very quickly the mistakes, which were not corrected by the Duma, because the tasks to raise the wages of state employees set by the President are not secured with the real financing; it appears that there is a hole in the regional budgets, which can be covered by nothing. Therefore, it will be not an increase in the wages of regions' state employees but a profanation"[9].

"Some commentators explain the retreat in financing of the social sphere by excessive appropriations for rearmament. This is a delusion: the Ministry of Finance treats the defense industry not much better than education. Besides that about a quarter of more than twenty trillion promised for eight years falls on the three-year period, and the Ministry of Finance shifted a part of this money to the following budgetary cycle replacing them by the loans of commercial banks during the current cycle.

The federal budget adopted in the third reading does not solve any problem: at best, it cowardly moves them for the indeterminate future. I'm not talking about the fact that it is plain folly to throw out money saved due to the castration of necessary expenses into formally security Western bonds. Throwing hundreds of billion rubles of our common resource rents into this maelstrom as before is only a little bit wildly than burning them"[10].

In recent years, the most part of budget funding was shifted onto the lower levels. Governmental budget compels a significant part of the regional budgets to increase the national debt up to a critical point, increase commercial loans, and thus, it tightens a debt stranglehold.

Unfortunately, the increase in the role of federal budget is not provided in years to come.

All these and many other facts show that the Government of Dmitry A. Medvedev works in harness as "circular firing squad", because the influence of elite groups holding

[8] See, for example, media reports: "Disputed assessments on the case of Khodorkovsky: Dmitry Medvedev – he is "absolutely harmless" for the society; Vladimir Putin – "a thief should sit in jail", he has "blood on his hands" "(RIA-news, Grani.RU), "Letter of O. Golodets criticizing the Dima Yakovlev Law was sent to Vladimir Putin at the request of Dmitry Medvedev" (Interfax, December 26, 2012); "Vladimir Putin noted the worsening economic indicators and the lack of distinct strategy for the economic development of the country till 2018 at the enlarged session of the Government of the Russian Federation (Rossiyskaya Gazeta, January 13, 2013); "Dmitry Medvedev decided not to return "the winter time" despite the pre-election Putin's promise (Gazeta.RU, February 7, 2013), etc.

[9] Dmitrieva O. Citizens of Russia will feel very quickly the mistakes, which were not corrected by the Duma. Kommersant FM, 19.11.2012. Available at: http://kommersant.ru/doc/2068055

[10] Privalov A. On ostrich budget. Expert. 2012.No. 47. November 21.

Table 2. Distribution of budget expenditures for the wages of public sector employees in the period from 2013 to 2018

Levels of budgetary system	2013 – 2015, bln. rub.	% from the total amount in the period from 2013 to 2018	2016 – 2018, bln. rub.	% from the total amount in the period from 2013 to 2018
Total	1332.4	27.0	3608.7	73.0
Federal budget	240.1	18.9	1029.6	81.1
Budgets of the federal subjects of Russia	1092.3	29.8	2579.1	70.2
Source: Programme of phased improvement of wages system in the state (municipal) institutions for the period from 2012 to 2018. Approved by the Decree of the Russian Government dated November 26, 2012 No. 2190-r.				

various oligarchic groups is great. And the Chairman of the Government often sends signals that do not mobilize the members of the Government to implement the new policy of Vladimir V. Putin.

One of the principal points of divergence is the Government's desire to carry out the rapid privatization of state property once again. It seems that the point of view of the famous writer and economist N. Starikov is rather convincing.

"...1. The current round of privatization, which is guided personally by the Prime Minister Dmitry Medvedev, does not make sense from the standpoint of economics. Today there is no urgent need for money to sell the last shirt like a regular alcoholic in front of a pub.

2. The current round of privatization is none other than the camouflaged and accompanied by beautiful phrases free transfer of Russia's state property to the West.

3. Medvedev plans such a privatization only owing to ideological reasons. Dmitry Medvedev and his Government believe for some reason that it would be better for Russia"[11].

In this situation, there is a natural question: will the Government led by Dmitry A. Medvedev be able to realize the goals stated in the programme of the President Vladimir V. Putin and specified in his decree of May 7, 2012?

In all probability, the RF President Vladimir V. Putin should continue the systemic unconditional implementation of his election programme for benefit of the future of the country and most people in Russia. One of these steps could be considering for the basis the suggestions of RAS Academician S.Yu. Glazyev and RAS Corresponding Member G.G. Fetisov set in the report "On the strategy of sustainable development of Russia's economy"[12].

The breakthrough strategy "differs from the programmes offered by governmental and other 'system-related' experts in the fact, that though it deals mainly with the economy, it overcomes the 'macroeconomic determinism', by integrating this important area of the state's responsibility into the global and Russian historical context: **science, technology, culture, rational nature management, political and civil relations – these 'productive forces' are as important as finances or entrepreneurial initiative"**[13].

In recent months, it can be clearly seen the President's activity in initiating the additional measures to create the conditions for the implementation of his election programme aimed at the significant improvement of life quality of most people, strengthening of Russia's competitiveness in a globalizing

[11] Official site of N. Starikov. Available at: http://nstarikov.ru/blog/22314

[12] The main provisions of the report by S.Yu. Glazyev and G.G. Fetisov are presented by them in the article of the same name (Economist, 2013, No. 1), reprinted in this issue.

[13] Ibid, p. 13.

Table 3. Dynamics of the approval index of the RF President among different social groups in the Vologda Oblast

Category	Dec. 2007 (V.V. Putin)	Dec. 2011* (D.A. Medvedev)	Downward change in index, in points
Total population	163.5	116.0	47.5
20% with the highest income	170.2	130.0	40.2
Women	166.2	121.5	44.7
With specialized secondary education	168.5	119.8	48.7
60% with average income	170.5	118.8	51.7
Aged under 30	164.5	118.3	46.2
Aged over 55	167.8	118.1	49.7
With secondary and incomplete secondary education	158.7	115.8	42.9
Aged 30 – 55	160.5	113.5	47.0
With higher and incomplete higher education	164.2	112.8	51.4
Men	160.4	109.1	51.3
20% with the lowest income	149.6	96.7	52.9
* Ranked by December 2011.			

world, creation of all the necessary conditions for inviolable sovereignty of the Russian Federation.

Apparently, this is only the beginning of painful purification of various power federal and regional elite clans from all the kinds of corrupt officials, immoral persons in political and economic life of the country.

The solution of the main problem of the early 1990s – unfair privatization – and it is the base in large part of political clans, will require system measures for not only "convincing" the members of the Government, but also improving moral climate in the country; and it should be done without destroying the capacity of the state, more than 45 million electors of Vladimir V. Putin voted for this.

The President Vladimir V. Putin could not turn over the page of unfair privatization in 2012. It is 2013. We waited for a longer time. But the RF President Vladimir V. Putin should not stop, it is necessary to pull this thorn out of the soul of a Russian citizen. We must turn over the page!

It should be noted that the long sociological monitoring shows the evolution of citizens' estimates of political leaders, including the Head of the state. The Editorial Board of the Journal regularly publishes the results of this monitoring that concerns the dynamics of the changes in the population's approval of the President of the Russian Federation, the Prime Minister, governmental institutes and political parties.

If we compare the approval ratings of the President Vladimir V. Putin in 2007, at the end of his second term, and the approval ratings of the President Dmitry A. Medvedev in 2011, during the last year of his presidency, we can see that Dmitry A. Medvedev lost from 25% to 30% of people who approved his activity as the Head of the state *(tab. 3)*. That is an objective evaluation of his activities in the period from 2008 to 2011 by the region's population.

A more detailed information is given below, in the diagrams (P. 16-19).

Dynamics of the RF President's activity approval index*

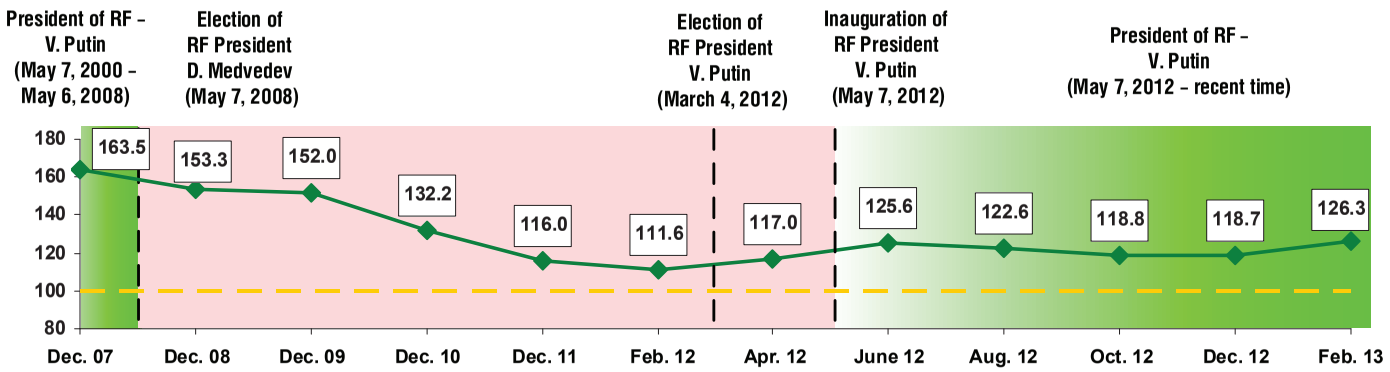

Fig. 1. Population of the Vologda Oblast

The RF President's activity approval index has fixed at the level of 126.3 points in February 2013 exceeding the figures for the previous months in 2012 and December 2011.

Dynamics of the approval index of the RF President among men and women

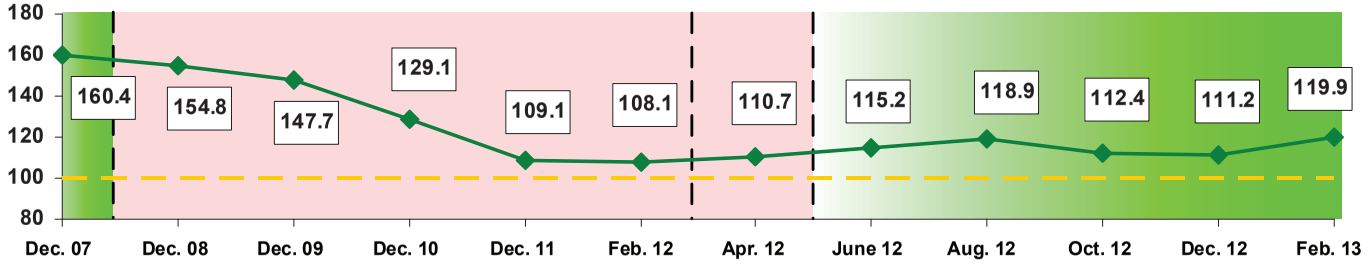

Fig. 2. Men

The RF President's activity approval index among the men of the region has increased in February 2013 and fixed at the highest level for the whole measurement period (119.9 points).

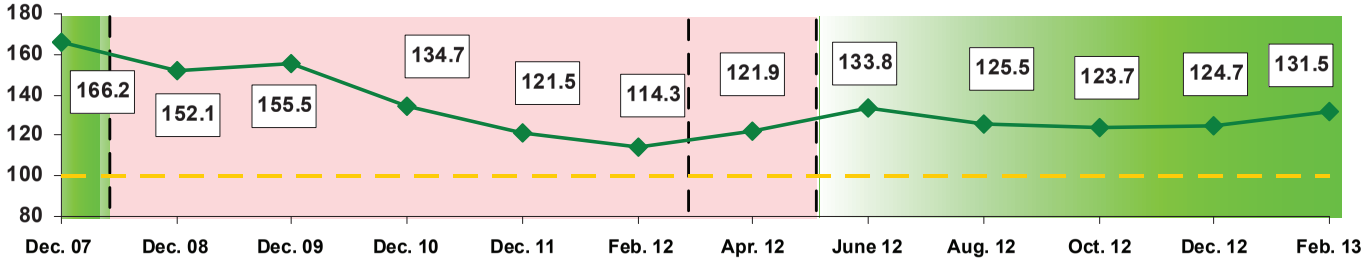

Fig. 3. Women

The RF President's activity approval among women has improved for the recent months: the relevant index fixed at the level of 131.5 points exceeding the figures of the previous measurements.

* The balance of positive and negative responses has been marked by a yellow dotted line (index is equal to 100 points) Index above 100 points indicates the predominance of positive responses over negative ones (green), index below 100 points – the opposite situation (red).

Dynamics of the RF President's activity approval index in the age groups

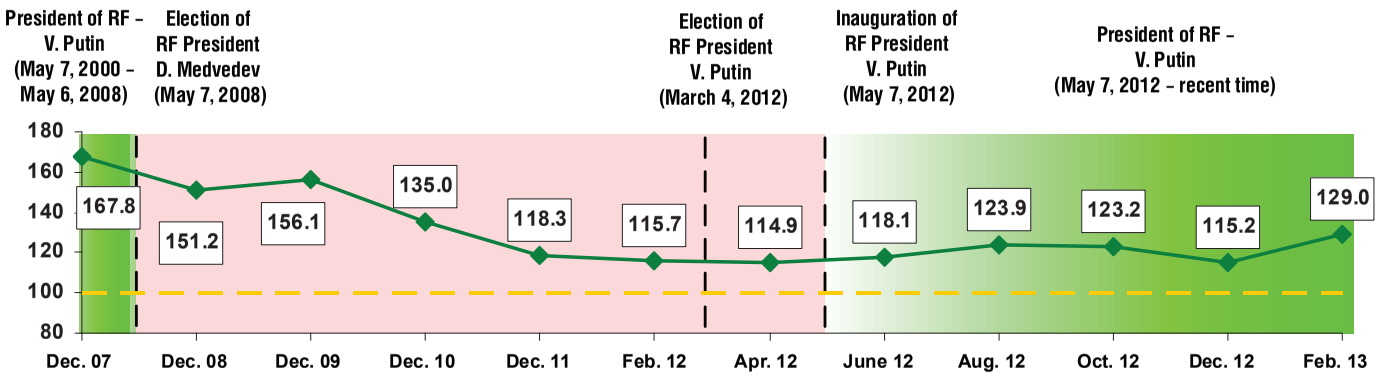

Fig. 4. Age group under 30

After a significant decline at the end of 2012, the RF President's activity approval index in the age group under 30 increased in February 2013 and fixed at the highest level as compared to the previous months in 2012 and December 2011 (129 points).

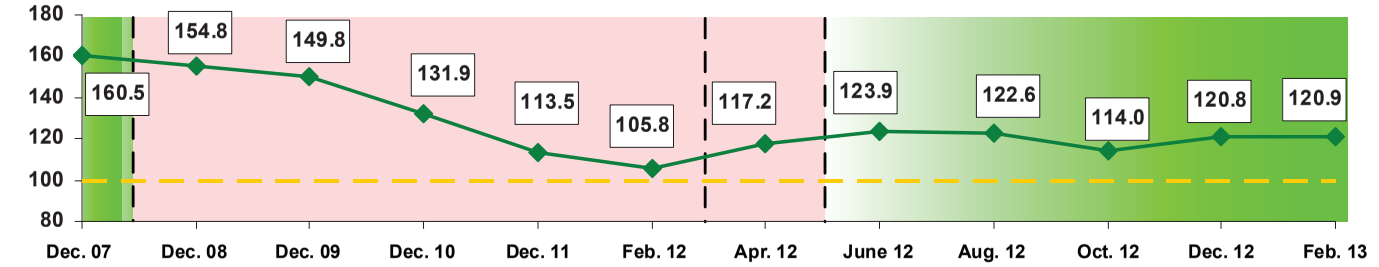

Fig. 5. Age group of 30 – 55

The RF President's activity approval index in the age group from 30 to 55 has not significantly changed for the recent two months (120.9 points), and it remains higher than it was in December 2011.

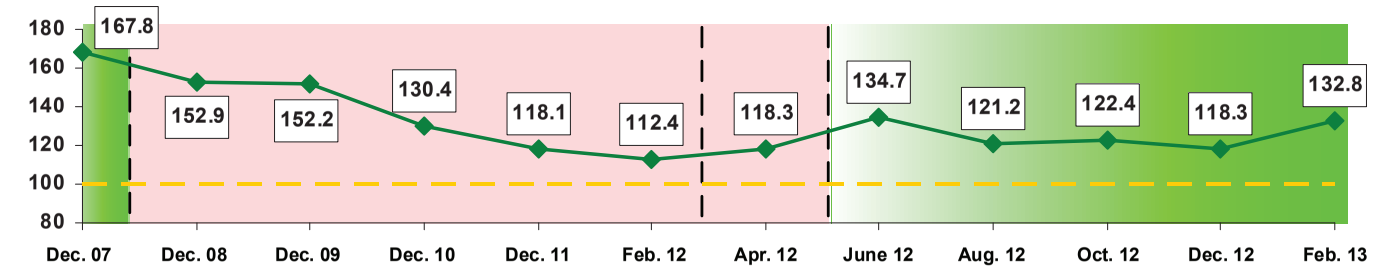

Fig. 6. Age group over 55

The RF President's activity approval index in the age group over 55 has significantly increased for the period from December 2012 to February 2013 (from 118.3 up to 132.8 points). Estimates are more favorable than at the end of 2011.

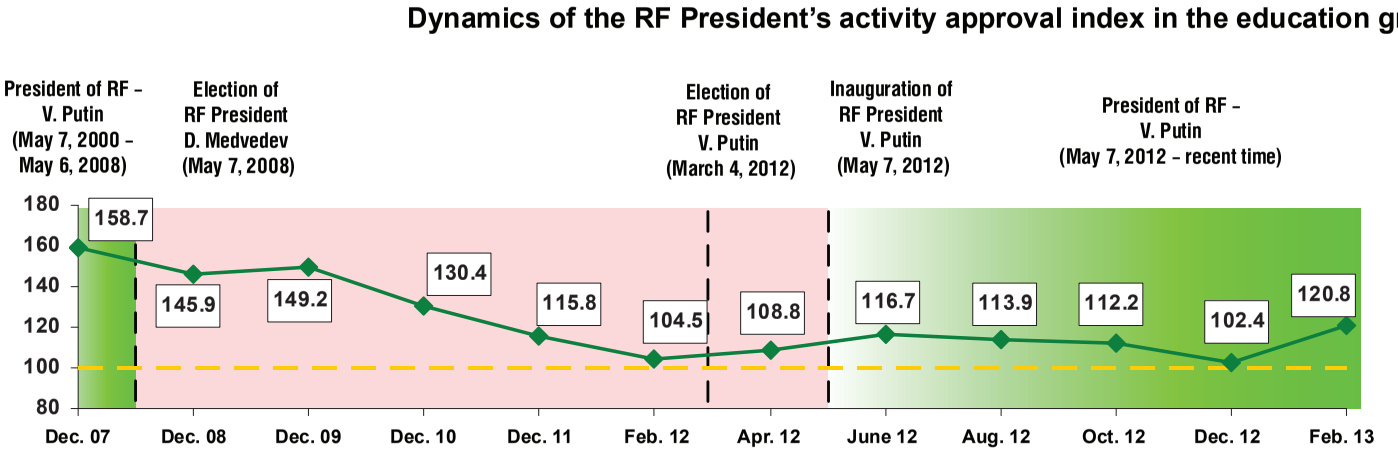

Fig. 7. Secondary and incomplete secondary education

After a sharp decline in December 2012, the RF President's activity approval index among the people who have secondary and incomplete secondary education has significantly increased (from 102.4 up to 120.8 points) in early 2013 exceeding the figures of the previous measurements.

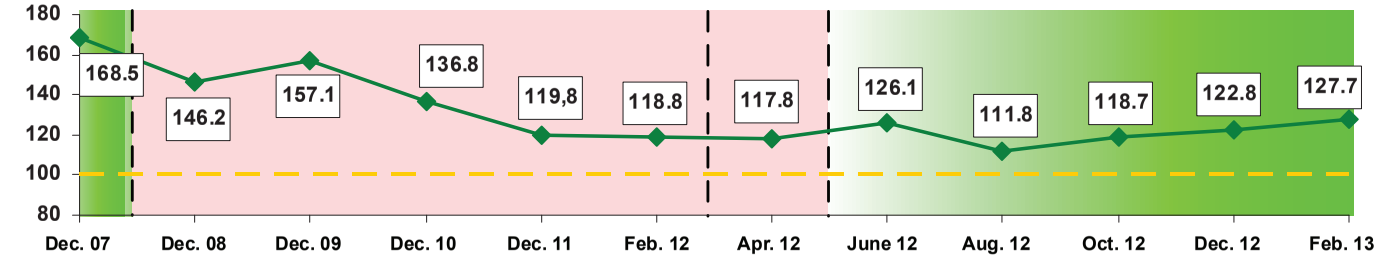

Fig. 8. Specialized secondary education

The tendency to improve the estimates of the RF President's activity among the people who have specialized secondary education, which began in August 2012, continued in February 2013. The approval index reached 127.7 points and exceeded the figures of December 2011.

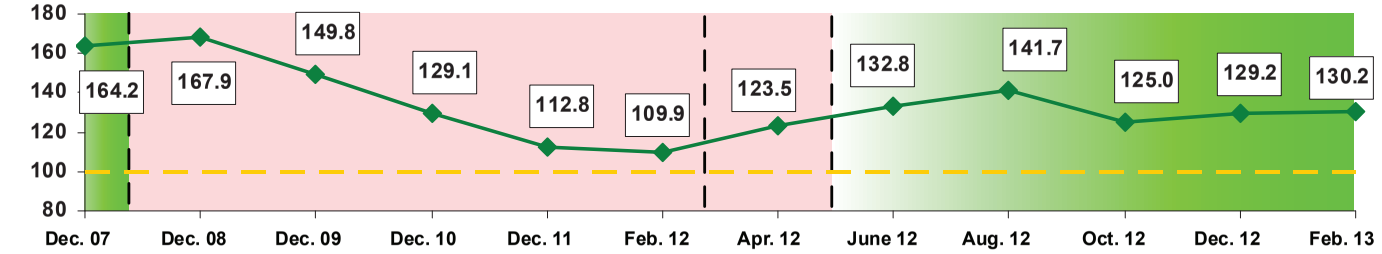

Fig. 9. Higher and incomplete higher education

The RF President's activity approval index among the people who have higher and incomplete higher education has not significantly changed for the recent two months (130.2 points). Estimates are more favorable than at the end of 2011.

Dynamics of the RF President's activity approval index in the income groups

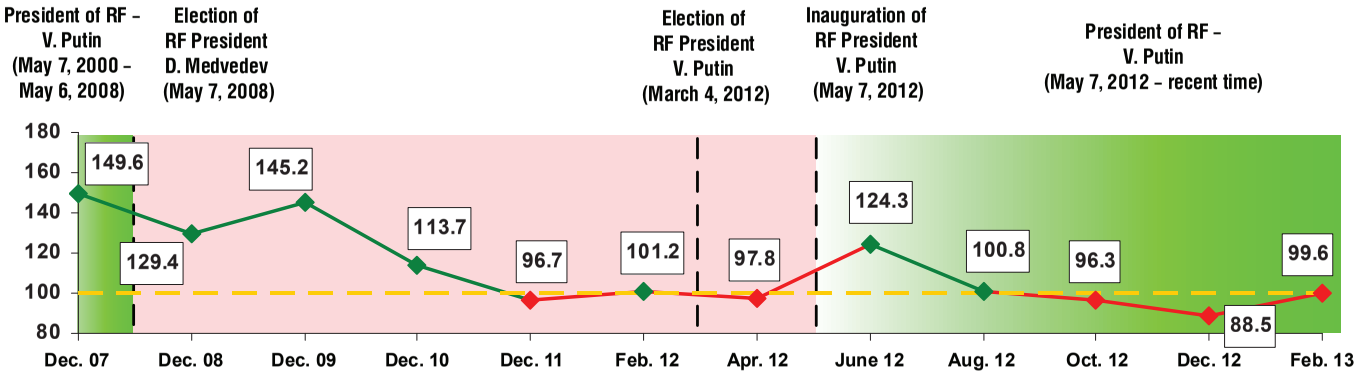

Fig. 10. 20% with the lowest income

The RF President's activity approval index in the group covering 20% of people who have the lowest incomes in the region has significantly increased (up to 99.6 points), but it remains lower than the neutral level.

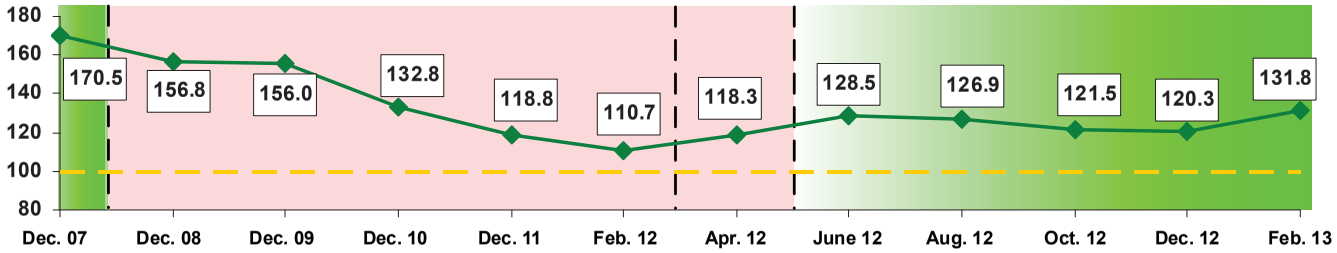

Fig. 11. 60% with average income

The RF President's activity approval index in the group covering 60% of people who have average incomes in the region (from 120.3 up to 131.8 points) in February 2013 as compared to the period of two months ago, and it exceeded the figures of the previous measurements.

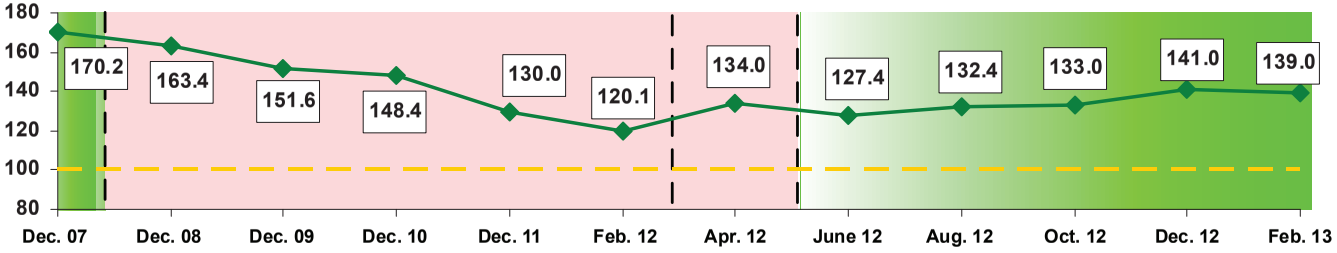

Fig. 12. 20% with the highest income

There was a slight decline in the RF President's activity approval index in the group covering 20% of people who have the highest incomes in the region in the period from December 2012 to February 2013 (from 141 down to 139 points). At the same time, these estimates remain more optimistic as compared to the previous measurements.

Page unturned

As in the previous issues, we publish the results of the recent public opinion monitoring of the state of the Russian society *.

The following tables show the dynamics of some parameters of social well-being and socio-political sentiments in the Vologda Oblast for the period from December 2011 to February 2013.

Table 1. Estimation of power activity (How do you assess the current activity of..?)

Vertical power structure	Approval, in % to the total number of respondents								Dynamics indices, Feb. 2013 to Dec. 2011		Dynamics indices, Feb. 2013 to Dec. 2012	
	Dec. 2011	Feb. 2012	Apr. 2012	June 2012	Aug. 2012	Oct. 2012	Dec. 2012	Feb. 2013				
The President of the RF	51.7	47.3	50.3	54.5	53.7	50.9	53.3	55.5		1.07		1.04
The Chairman of the Government of the RF	52.9	52.6	51.7	49.5	48.5	47.1	48.3	47.9	0.91		0.99	
The Governor of the Vologda Oblast	41.9	37.7	37.7	44.7	45.3	43.6	42.5	43.0		1.03		1.01

Vertical power structure	Disapproval in % to the total number of respondents								Dynamics indices, Feb. 2013 to Dec. 2011		Dynamics indices, Feb. 2013 to Dec. 2012	
	Dec. 2011	Feb. 2012	Apr. 2012	June 2012	Aug. 2012	Oct. 2012	Dec. 2012	Feb. 2013				
The President of the RF	35.7	35.7	33.3	28.9	31.1	32.1	34.6	29.2	0.82		0.84	
The Chairman of the Government of the RF	32.7	32.0	33.1	31.5	34.5	32.8	35.9	34.4		1.05	0.96	
The Governor of the Vologda Oblast	6.1	33.8	32.6	31.8	32.7	33.7	35.4	33.8	0.94		0.95	

Notes. Hereinafter, it is pointed out: green – improvement; yellow – without changes; red – change for the worse.

* 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, Sheksninsky District). The method of the survey is a questionnaire poll by place of residence of respondents. The volume of a sample population is 1500 people aged from 18 and older. The sample is purposeful and quoted. Representativeness of the sample is ensured by the observance of the proportions between the urban and rural populations, the proportions between the inhabitants of settlements of various types (rural communities, small and medium-sized city), age and sex structure of the adult population of the region. Sampling error does not exceed 3%.

The coefficient of change shows the ratio of data for February 2013 to December 2011 and December 2012.

The results of the ISEDT RAS polls are available at www.vscc.ac.ru

Table 2. What party expresses your interests?

Party	In % to the total number of respondents									Dynamics indices, Feb. 2013 to Dec. 2011		Dynamics indices, Feb. 2013 to Dec. 2012	
	Dec. 2011	Elections for the State Duma 2011, fact	Feb. 2012	Apr. 2012	June 2012	Aug. 2012	Oct. 2012	Dec. 2012	Feb. 2013				
United Russia	26.1	**33.4**	26.0	28.3	31.9	31.4	26.6	30.4	30.5		1.17		1.00
KPRF	13.4	**16.8**	10.1	11.4	10.0	9.5	10.4	12.2	9.7	0.72		0.80	
LDPR	9.2	**15.4**	9.1	9.5	7.7	6.7	6.8	7.2	6.3	0.68		0.88	
Just Russia	13.9	**27.2**	10.2	8.2	4.6	5.6	5.5	5.5	5.3	0.38		0.96	
Other	4.6	–	3.1	3.2	2.8	2.3	2.4	3.5	3.5	0.76			1.00
No party	23.9	–	25.7	28.6	31.5	33.2	36.1	32.5	35.3		1.48		1.09
It's difficult to answer	9.0	–	15.8	10.8	11.6	11.1	12.3	8.7	9.3		1.03		1.07

Table 3. Estimation of social condition

In % to the total number of respondents								Dynamics indices, Feb. 2013 to Dec. 2011		Dynamics indices, Feb. 2013 to Dec. 2012	
Dec. 2011	Feb. 2012	Apr. 2012	June 2012	Aug. 2012	Oct. 2012	Dec. 2012	Feb. 2013				
What would you say about your mood in the last days?											
Usual condition, good mood											
64.2	62.9	63.4	69.0	71.3	69.0	68.0	66.6		1.04	0.98	
Feeling stress, anger, fear, depression											
30.2	33.5	30.2	23.4	23.3	25.5	26.5	30.5		1.01		1.15
What statement, in your opinion, suits the current occasion best of all?											
Everything is not so bad; it's difficult to live, but it's possible to stand it											
78.6	74.9	76.5	77.3	73.2	77.5	79.9	75.5	0.96		0.94	
It's impossible to bear such plight											
14.1	18.1	16.8	13.6	17.0	15.6	13.7	16.1		1.14		1.18
Consumer Sentiment Index											
85.6	89.8	90.1	93.4	92.3	91.7	91.7	92.3		1.08		1.01
What category do you belong to?											
The share of people who consider themselves to be poor and extremely poor											
41.9	43.2	43.6	45.0	44.2	44.1	47.0	45.9		1.10	0.98	
The share of people who consider themselves to have average income											
42.2	44.9	46.5	45.3	43.4	44.7	43.4	44.3		1.05		1.02

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As in the previous issues, we publish the journal articles rating in this one.

The first ten articles, published in 2010-2013, according to the frequency of their viewing for the recent 12 months (March 2012 — February 2013)

Rating	Article	Total time of reading for the recent 12 months, minutes	Total time of reading, for the whole accounting period*, minutes	Number of views for the whole accounting period	Number of views for the recent 12 months	Number of views for the recent 3 months	Average time of viewing for the whole accounting period*, minutes	Issue	Release date	Authors
1	Agriculture of the Vologda Oblast on the eve of Russia's accession to the World Trade Organisation	6957	6957	207	207	151	34	No.21	June 2012	Anishchenko Nikolay Ivanovich Ivanova Marina Nikolayevna Bilkov Valentin Alekseyevich
2	Modernization of the Russian economy as the imperative of the country's prospective innovative development	4559	5139	185	150	3	28	No.16	August 2011	Kondakov Igor Anatolyevich
3	Threats to the region's economic security and the ways to overcome them	1482	3169	160	66	14	20	No.14	April 2011	Uskova Tamara Vitalyevna Kondakov Igor Anatolyevich
4	Fiscal federalism and inter-budget relations in the Russian Federation	1421	2771	199	91	6	14	No.13	February 2011	Avetisyan Ishkhan Artashovich
5	Methodology of the comparative estimation of the scientific and technical potential of the region	1081	3496	183	54	8	19	No.12	December 2010	Zadumkin Konstantin Alekseyevich Kondakov Igor Anatolyevich
6	Demographic problems of the Republic of Belarus and their solutions	1070	1370	98	76	23	14	No.16	August 2011	Shakhotko Lyudmila Petrovna
7	The post-crisis economic development and prospects of innovation activity in the Tomsk Oblast	1055	1260	45	34	3	28	No.15	June 2011	Myakota Ekaterina Aleksandrovna Vorobyov Aleksandr Grigoryevich Putilov Aleksandr Valentinovich Zhiganov Aleksandr Nikolayevich
8	Topical issues of the improvement of intergovernmental dealings in the system of local government	688	688	43	43	8	16	No.19	March 2012	Uskova Tamara Vitalyevna Pechenskaya Mariya Aleksandrovna
9	Assessment of the critical threshold values of the indicators of the state of Russian society and their use in the socio-economic development management	626	626	30	30	11	21	No. 22	August 2012	Glazyev Sergey Yuryevich Lokosov Vyacheslav Veniaminovich
10	Migratory processes as mirrored by the transformations: border regions in Russia	550	811	37	18	4	22	No.14	April 2011	Mikhel Egor Aleksandrovich Krutova Oxana Sergeyevna

* Account of the site's viewing has been carried out since 2009, December, 12.

Glazyev S.Yu., Fetisov G.G.

On the strategy of sustainable development of Russia's economy *

The article contains the main provisions of the authors' report on the economic development strategy and presents a system approach to the analysis of the state and prospects of Russia's economic development in the conditions of worldwide instability. Furthermore, the article considers the proposals for the implementation of an integrated system of government policy measures aimed at the development and modernization of economy on the advanced structural and technological basis, the implementation of which will enhance economic growth rates and promote the transition to innovation development.

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RAS Corresponding Member

On the methodology of elaboration and implementation of the priority development strategy

The transition of economy to innovation development, the enhancement of investment activity and other measures of curing 'black oil addiction' have been constantly decilared at the top governmental levels and in the programme documents of state authorities. However, it is already clear that these measures are impossible to implement in time without a sound economic policy.

We are convinced that the goals of transition to innovation-driven development and the recovery of investment activity should be and can be achieved within 5 – 10 years. And the tasks of economy modernization, connected with the establishment of competitiveness and

* The article has been reprinted from the journal "Economist", 2013, issue No.1 with the permission of the editorial board.

progress at the world level, can be implemented gradually over the next 15 – 20 years, with the first results of high-tech modernization to be expected in 3 – 5 years already.

We would like to point out that socio-economic policy should be primarily aimed at achieving significant results, and not only creating favourable conditions for modernization relying on the actions of market mechanism. In all the importance of institutional reforms, the key condition of successful economic development consists in the creation of technologically advanced processing industry with powerful export potential, consisting of high-tech and innovation-active companies, which get the bulk of their revenue from the sales of high-tech products.

In order to achieve significant success in carrying out the necessary structural and technological modernization, the policy and government management of economic development should be carried out systematically, pragmatically and creatively, without artificially narrowing down the field of possible measures by far-fetched rules, the theoretical substantiation and practical applicability of which in Russian conditions is highly doubtful. In particular, it concerns the following untenable requirements: sterilization of oil and gas budget revenues and 'excessive' money supply; removal of export duties; the state's renunciation of the ownership of enterprises or their shares; the rejection of well-known instruments of prices regulation, currency exchange regulation and target-oriented lending policy. It is necessary to abandon many other principles of market fundamentalism that are based on the superficial conviction of its adherents that economy seeks the ideal state of market balance, in which maximum efficiency is achieved through the optimal use of resources. And although theory and practice long ago proved the inconsistency between the axioms this approach is based on and, consequently, the conclusions made hereto and the characteristics of real economy, the above mentioned approach is still used to justify the estrangement of the state from handling the tasks of economic development. This approach results in systematic errors in economic forecasting, incorrect formulation of reform goals and failures in achieving the declared objectives, simplification of the structure and deterioration of the technological level of economy, loss of its integrity and its break up into fragments, absorbed by better organized external entities[1].

Judging by the forecasts of global economic changes and the analysis of the state of the economy, the perspective directions of its development and measures for their implementation should be clearly defined, and the necessary conditions should be created. At that the main attention should be focused on the key issues that can't be handled in the framework of market fundamentalism policy.

State and prospects of development in the conditions of structural changes in the global economy

The restoration of pre-crisis production volume is not yet accompanied by the modernization and elimination of structural impediments to the country's further economic development. The growth without development, which took place in the pre-crisis decade on the basis of production and technology potential left after the 1990s reforms, has exhausted itself completely and its revival can't be long-lasting and sustainable. This is proved by the experience of post-crisis industrial production recovery, which in manufacturing industry branches is characterized by a very rapid growth of prices given a slow revival of production, the volume of which has not reached the pre-crisis level.

For overcoming the structural constraints to economic growth, it is necessary to boost investment and innovation activity on the basis of priority development of the new technological mode, which is possible only with maintaining

average annual GDP growth rate at the level not lower than 8%, industrial output – 10%, investments in fixed capital – 15%, R&D funding – 20%.

The necessity for the growth rates increase is conditioned not by a desire to 'catch up' with other countries, but by the logic of creating the basic prerequisites for intensification of investment and innovation processes for implementing structural and technological modernization in order to expand the socio-economic development opportunities in the long-term. At that, the singularity of the current situation consists in the fact that, due to the relatively high savings rate, the volume of capital investment can be increased 1.5-fold without reducing the level of consumption. But the investment breakthrough is hampered by the fact that the state and business export hundreds of billions of dollars, accumulating them in almost profitless Western financial instruments, given the fact that business then borrows them at the world market under 6 – 9% per annum.

The policy of economic modernization and development should proceed from a clear understanding of the structural changes and prospects of global socio-economic development, revealing national competitive advantages, the promotion of which can ensure the sustainable and rapid growth of production under the emerging new wave of economic recovery. Measures for overcoming the consequences of the global crisis should be coordinated with the strategic objectives of socio-economic development.

When evaluating the global economic development prospects, one should understand the structural component of the crisis, which is determined by the change of technological modes and their corresponding long waves of economic growth. The way out of this crisis is connected with the 'storm' of innovations, paving the way for the establishment of the new technological mode.

At that, not only the technological structure of the economy, but also its institutional system will change, as well as the list of leading firms, countries and regions. Those will thrive, who will be the first to enter the path of the new technological mode and catch up with its new productions in the early stages of its development. And, vice versa, along with the formation of new technological paths, entering them will become more and more expensive.

At present, the new technological mode in its development is shifting from the 'embryonic' phase to the phase of growth. Its expansion is constrained by a small scale and continuing adjustment of relevant technologies, as well as the unpreparedness of socio-economic environment to their wide application. However, despite the crisis, the expenses on the development of state-of-the-art technologies and the scope of their application are growing in the advanced countries with a rate of about 35% a year. Stock indices of high-tech companies grow faster than average. According to estimates, the crisis will end up with the flow of a large part of the capital, remaining after the collapse of financial bubbles, into the productions of the new technological mode[2].

After the structural adjustment (which will last for 3 – 7 years) of the economies in the leading countries on the basis of the new mode, a new long wave of economic growth will begin. At the same time, the balance of negative and positive effects will be determined by the growth rate of new productions, which compensate for the compression of obsolete parts of the economy.

The peculiarity of Russian economy, impeding its modernization, is its technological heterogeneousness, which manifests itself in the considerable differentiation in the profitability indicators of different economic sectors. In market conditions, the low yield of the majority of industries in manufacturing, including its high-tech sector, hampers economic modernization.

Overcoming this barrier is impossible without active state policy. Delay in the transition to such a policy leads to the increasing backwardness of Russia's economy concerning the dynamics of establishing the new technological mode, the development of which will determine the development of the world economy in the 20-year perspective.

The volume of national wealth that Russia possesses, its available scientific-production, personnel and intellectual potential allow using the opportunities, which opened in the conditions of the global crisis, for a breakthrough to the new wave of economic growth. It is this period of the global structural crisis that gives the lagging countries a chance to work an 'economic miracle', i.e. a fast leap to the level of developed countries through the priority development of key industries and factors of the new technological mode. This, as the world experience of overcoming similar structural crises in the 1970s and 1930s proves, requires a powerful impetus of fixed capital renovation on a fundamentally new technological basis.

For staying on the crest of the new wave of economic growth, investments in the development of productions of the new technological mode should increase annually not less than 1.5-fold, while the share of R&D expenditures should reach 4% of GDP.

It is necessary to point out that the level of investment and innovation activity required for successful development, as a minimum, twice exceeds the available capabilities of the current financial and investment system. In our opinion, the headstrong policy of quantitative limitation of money supply (monetary base) on the part of the Central Bank was the main impediment to the development of Russian economy during the post-Soviet period.

This monetary policy artificially narrowed down the possibilities of the financial sphere on the funding of capital accumulation, also by attracting the savings of population and enterprises, while the accumulation ratio remained 1.5 times less than the savings rate. These capabilities did not meet the requirements of modernization of the real sector, the profitable part of which in the absence of the mechanism of refinancing from internal sources refocused on the external loaning sources, and the remaining part shifted to the fixed capital decumulation.

The policy of 'excessive' revenues sterilization actually meant the exchange of the state's cheap long-term money for expensive short-term loans of foreign banks. Net loss from such a policy was measured in tens of billions of dollars a year, not to mention the loss of profits from the artificial freezing of investment and innovation activity.

The restrictive policy of the Bank of Russia leads to the exclusion of Russian banks from the loan market and traps the country's financial system into foreign dependency. The gap between the external and internal rates on the money market causes domestic borrowers to shift toward foreign credit sources. It is followed by the continuing increase of external debt and the involvement of the national financial system in a vicious circle of inequitable external economic exchange.

As it was mentioned earlier, the restrictive monetary policy was accompanied by taking abroad a significant part of budget revenues from export duties. Meanwhile, if the budget surplus provided by export revenues were directed to the goals of modernization, development of advanced innovation technologies existing in Russia's scientific-technological environment, enhancement of development institutions and stimulation of investment activity, then by the onset of the global crisis the economy would form the advancing structures of the new technological mode, capable of preventing capital depreciation and enhancing economic growth. In this case, it could not only be possible to avoid capital flight and the crisis compression of production, but also to attract international investment in the development of new perspective niches for the sales of domestic products in the world market.

Unfortunately, we missed these opportunities – the inflow of petrodollars has been redirected to support American financial pyramids, while the expenditures for the development of Russia's economy remained significantly below world standards.

The results of the policy carried out in the pre-crisis period indicate that the mechanism of market self-organization can not provide the rate of accumulation required for economic modernization. In the absence of the state policy of stimulating progressive technological shifts, Russia's economy was used as a donor of the U.S. financial system, while continuing to stagnate due to the lack of investments, which was compensated only to a small extent by direct foreign investments and long-term loans.

Under the crisis, financial authorities had to change their policy by resorting to unprecedented monetary emission in order to save the banks and corporations that have found themselves in the grip of external debt. And although since then the refinancing of commercial banks has become the main channel of monetary emission, the extent and timing of loan resources granting are not adequate for the transition to sustainable economic growth.

At present, the total amount of collateral that is accepted by the Bank of Russia (the Lombard list), is about 3.5 trillion rubles, which is less than 10% of the banking system assets. This limits the banks' capacity to refinance the economy crediting, forming the difference between long-term and short-term rates, which sharply reduces the enterprises' demand for loans, since the rates exceed the profitability level of many economic sectors, generally increasing the level of system risks (interest, credit and exchange risks) in the country's financial system. Today, even top Russian borrowers pay 10 – 12% per annum on loans and more, which puts them in a worse position compared to international corporations, which pay from 1 to 2 – 3% per annum for attracting financial resources.

Under all the global crisis scenarios, *Russia's economic development opportunities will depend not so much on external factors, as on internal economic policy.* By implementing the following measures, Russia could substantially improve its position in the world economy, having achieved:

– priority formation of a new technological mode and economic revival in the long wave of its growth;

– considerable enhancement of domestic banking and investment system efficiency;

– economic stabilization and creation of a sustainable development zone in EurAsEC and in case of favourable political conditions – in CIS as well.

Priority directions of development policy

From the *science and technology* viewpoint, the priorities must comply with the perspective guidelines of formation of the new technological mode. From the *macroeconomic* viewpoint, they should give an impetus to the growth of demand and business activity. From the *structural and reproduction* viewpoint, main productions should, from a certain point, enter their own development path of extended reproduction, serving as 'engines of growth' for the economy. From the *socio-economic* viewpoint, their implementation should be accompanied by the expansion of employment, increase of actual wages and salaries and improvement of employees' qualifications, the general growth of public welfare.

Science and technology forecasting allows pointing out the key directions of forming the new technological mode: biotechnology, based on the achievements of molecular biology and genetic engineering, nanotechnology, artificial intelligence systems, global information networks and integrated high-speed transport systems. These should be supplemented by the spheres that bear the new technological mode and that are the major consumers of its products: space technology, manufacture of construction materials with predetermined properties,

aircraft industry, nuclear industry, solar power engineering. Reserves in atomic, space-rocket, aircraft and other science-intensive industries, in molecular biology, genetic engineering and nanotechnologies provide Russia with actual opportunities for priority development of the new technological mode and chances for leadership in the respective areas of formation of a new long wave of economic growth.

Naturally, when choosing the priorities, one should not only proceed from breakthrough technologies the country possesses, but also take into account its current position in the global division of labour. A significant part of the domestic industry, including high-tech branches, will, in the foreseeable future, work for the needs of extraction and processing of raw materials.

Agriculture, services sector, especially housing and utilities and transport, as well as education, health care and public administration possess huge reserves for technological modernization.

The formation of a new technological mode will be accompanied by the intellectualization of production, transition to the continuous innovation process in most industries, and lifelong education in most professions. There will be a shift from the mass consumption society to the society of development, in which paramount importance will be attached to scientific-technological and intellectual potential, as well as life quality and environment. Energy and material consumption of GDP will reduce sharply.

The consumption structure will be dominated by information, education, medical services. It implies that science, education and health care, being the basic branches of the new technological mode, will play a crucial part in economic modernization.

Key issues of the long-term economic development strategy should comprise:

- establishment of the strategic planning system, capable of identifying the prospective directions of economic growth, as well as directing the activities of state development institutions for their implementation;
- provision of macroeconomic conditions necessary for the priority growth of the new technological mode;
- formation of institutions aimed at financing the projects for creation and development of production-technological complexes of the new technological mode and the spheres of consumption of their products.

Creation of a strategic planning system

Strategic planning methodology envisages a system of long-, medium - and short-term forecasts of socio-economic development, the choice of technological-economic development priorities, their implementation mechanism and tools, which involve a system of long-term concepts, medium-term programmes and indicative plans, institutions organizing the related activities, as well as methods of control and measures of responsibility for achieving the necessary results.

In accordance with the system approach, the documents on socio-economic, sectoral and territorial strategic planning should make up a single complex and they should be developed on a common methodological basis for ensuring coordination and hierarchical integration of the elements of the strategic planning system.

At the federal level, such a system might include the following documents:

– the long-term (25 – 50 years) forecasts, which provide various scenarios of economic development depending on the options of changes in external and internal objective factors, as well as the options of socio-economic policy;

– the medium-term (10 – 12 years) socio-economic development concept coordinated with the general scheme of production forces development and distribution that determine the main goals, tasks and priorities of the country's socio-economic development, the composition of state target programmes of different levels;

– the indicative plan of socio-economic development for a three-year period that sets development indicators and measures for their achievement (the term 'indicative' means that the indicators of this plan serve as guidelines for non-governmental authorities, but are compulsory for all state power bodies, also when determining the directives for state representatives in the companies' managing bodies); medium-term state programmes: federal, regional and branch-wise, that are coordinated in investment issues as well, and that ensure the achievement of the set goals;

– annual budgets and three-year budget plans (on a sliding basis), which are formed on the basis of the target indicators set in a concept, indicative plan and medium-term programmes.

It is also necessary to establish standards of responsibility for the achievement of planned results and the use of the necessary tools of macroeconomic policy, in addition: to set the legal norms of economic responsibility of organizations and management responsibility of the leadership for the performance of target development indicators established by the government.

This requires the adoption of the efficient federal law 'On the state strategic planning' that determines the development procedures and the status of planning documents, which need to be taken into account when planning the budget, monetary policy and making other managerial decisions. The implementation of development strategy should include active *industrial policy*, which supports the expansion of core branches of the new technological mode and enhances 'points of growth'.

All the main sections of the unified strategic planning system should reflect spatial peculiarities. This will allow additional restrictions of potential economic growth to be revealed and also the measures on its enhancement to be developed through the optimization of the regional structure of the economy[3].

The coordinated system of regional policy institutions requires appropriate legislative framework. First of all it is necessary to finalize and adopt the *RF spatial development concept*, which would form the system of spatial priorities, and marked the place of territorial development strategies and programmes in the system of strategic management. Besides, it is necessary to finalize and adopt a *federal law on the regional policy*, which should stipulate the following points: a hierarchical system of coordinated levels, institutions and powers of the regional policy (Federation – federal district – federal subject – municipality); a common normative and legal framework for drafting and approval of planning and forecasting documents on the regional development, which allows different levels to retain their independence while remaining the structural elements of a single management system; the mechanisms for monitoring the implementation of coordinated obligations and ensuring the liability of the subjects of management.

Maintenance of macroeconomic environment for sustainable development

Macroeconomic conditions promoting the successful development of economy are stipulated by the requirements of its fundamental modernization on the advanced technological basis. They include: extended reproduction at the promising directions of the new technological mode; the maintenance of favorable price proportions for this purpose; the formation of the system of support of innovation activity; creation of the mechanisms providing long-term crediting of investment projects.

To implement the above conditions, the state uses the tools of fiscal, monetary, antimonopoly and pricing policy.

The *orientation of fiscal policy toward development objectives* stipulates the reduction of tax burden on all kinds of innovation and high-tech activities, as well as the priority allocation of budget funds for supporting the productions that are crucially important for the establishment of the new technological mode.

Along with budget revenue sources mobilization for boosting innovation activity, it is necessary to expand the financial opportunities of enterprises: to give them the rights for capital assets revaluation at the replacement cost and for establishing accelerated depreciation standards for machinery and equipment; to restore the accumulation accounts for depreciation deductions and establish obligatory control over their proper use; to exempt the enterprises from paying property tax on the assets side of the acquired fixed capital during the first three years of their usage; to set standards for the recovery of profits tax paid in the current period in the part of funds, allocated for technological re-equipment.

The main reason for constant shortage of funds for development purposes consists in the fact that financial policy is oriented toward the available resources of the state budget, which are insufficient for maintaining the current socio-economic stability and carrying out structural and technological modernization at the same time. The latter problem can be solved only through the development of bank loaning. The loan fund has been created for this purpose, it is a tool of the RF Central Bank, which, at present, is not used for implementing the country's socio-economic policy. Its active application and the development of credit requires extensive use of targeted refinancing of commercial banks in line with the objectives of budgetary, industrial and structural policy along with significant increase in the role of internal sources of money supply.

Monetary policy instruments should ensure adequate money supply for the extended reproduction and sustainable development of the economy.

In order to eliminate artificial limitations of the monetary policy conducted by the RF Central Bank, its functions should be expanded and completed with the objectives of stimulating economic development, investment activity and promoting employment, as it is done in many developed and successfully developing countries.

The theory of economic development and the practice of developed countries justify the expediency of a comprehensive approach to the formation of money supply linked to economic development objectives and the tasks of budgetary, industrial and structural policy relying on the internal sources of money supply and mechanisms of credit institutions refinancing, provision with current liquidity, expansion of opportunities for creating 'long money', ensuring the direction of liquidity into priority spheres.

The terms, on which commercial banks gain access to the RF Central Bank refinancing, should be linked with the obligations on using credit resources for the financing of industrial enterprises taking into account the priority directions of economic development. This will create efficient money supply mechanisms focused on the crediting of the real sector of economy and promote investments in the priority directions of its development. This can be effected by using a combination of certain methods of the RF Central Bank's money supply formation. Such well-known methods have been tested and employed by developed countries and include indirect (refinancing secured on bonds, bills of exchange and other liabilities of solvent enterprises) and direct (co-financing of state programmes, provision of state guarantees, provision of loans to development institutions) methods. Accordingly, the refinance rate should not exceed the *average profit ratio of manufacturing industry*, and the timing of loans should comply with a typical duration of an R&D and production cycle in the real sector of the economy (3 – 7 years) [4].

The main funding source of economic modernization and growth should be found in the issuing mechanism of providing refinancing to commercial banks by the Central Bank under their claims to the enterprises of the real sector

and with regard to the increasing demand for financing in the priority directions of developing economy. The refinancing of commercial banks and development banks by the Central Bank should provide the banking sector with current liquidity and the opportunities of forming 'long-term money', and it should provide the state with a source of long-term crediting of priority development directions.

Using such tools as the refinance rate, the Lombard list of the RF Central Bank, development corporations, state guarantees on the loans taken by enterprises for implementing priority investment projects, and subsidizing interest rates, the government can selectively influence monetary and credit flows, providing the extended reproduction of enterprises, as well as creating favourable conditions for the growth of economic activity in the priority directions of development. The RF Central Bank should become a lender of last resort, which will require great work on the monitoring of the borrowers' solvency, and which will also demand higher requirements to the performance of banks in analyzing and selecting investment projects.

In order to avoid the pumping of unsecured money into the economy, the RF Central Bank can refinance commercial banks on the security of long-term corporate bonds and promissory notes of enterprises with the adjustment coefficient of 50%, and under the guarantees of the government and regional authorities – with the adjustment coefficient of 70 – 80%, which would make the sale of these debt obligations by the banks unprofitable. Under this condition, the Lombard list of the RF Central Bank can be significantly expanded, including the promissory notes of solvent enterprises operating in priority directions of establishing the new technological mode according to the list, approved by the RF government, the collaterals of sponsoring agencies of federal target programmes, as well as the bonds of development institutions and state-owned corporations.

We think that the admission of foreign securities and foreign assets of Russian banks as the collateral for lombard and other loans of the RF Central Bank should be gradually abandoned.

It is also expedient to stop the refinancing of banks against the pledge of debt financial instruments that do not direct investments in fixed capital and innovations. We consider it useful to establish the limit of financial and credit leverage not only for banks, but also for non-banking companies, limiting it to a double value for the latter.

When calculating the liquidity, capital adequacy and other indicators, the RF Central Bank should not consider the obligations of foreign states and non-residents to be more reliable and liquid, than the similar obligations of Russia and its residents.

For expanding the resource base of the banking system it is expedient to cancel the reservation of long-term deposits of natural persons, subject to obligatory insurance: now there is a 'double encumbrance'. In addition, the RF Central Bank could provide banks with unsecured loans in the amount equal to the part of population's funds represented by fixed-term deposits in rubles, provided that the banks will use these loans for crediting investments in the fixed capital of industrial enterprises, which will promote the creation of 'long money' sources.

The policy of development should include another important element, which is the *long-term stabilization of the real exchange rate of ruble*. Otherwise, it will not be possible to reduce the interest rates and extend the lending of the real sector of the economy because the banks might transfer credit resources on the exchange market trying to gain super-profits on the ruble devaluation. It is reasonable to ensure the constant adjustment of the nominal ruble exchange rate in proportion to the relative decrease in its purchasing power.

At the same time, one should avoid excessive pressure on the ruble exchange rate on the part of the participants of foreign trade, as well as the speculative capital.

For enhancing the sustainability and power of the Russian currency and finance system, the use of its own currency should be expanded, supporting the expansion of national financial institutions on the markets already explored by Russia.

For expanding the use of rubles in international settlements, the share of payments in rubles should be consistently increased in foreign trade, including in the export of raw materials, metals, military equipment; it is also necessary to ensure the ruble export crediting of Russian goods, and reduce the cost of exchange operations for the national currencies of the states that are closely integrated with Russia economically. The last task can be solved with the help of the CIS Interstate Bank, which, due to its correspondent relations with the central banks of the CIS states, reduces manifold the transaction costs of currency exchange operations.

The *expansion of the domestic market through the creation of the Customs Union and, subsequently, the EurAsEC common economic space* is an important direction of the development strategy. The creation of integration associations expands the development opportunities of the national economy, enhances its resistance to external shocks, increases the scale of activities and competitive advantages of enterprises. Implementing a common anti-crisis strategy, the EurAsEC states raise their chances of overcoming the crisis and entering the path of accelerated development.

It should be pointed out that the proposed policy of money circulation does not imply the abandonment of inflation targeting. It stipulates the establishment of guidelines and, if necessary, restrictions concerning the price index, exchange rate fluctuations, interest rates, the dynamics of money supply at the levels necessary for ensuring economic modernization and development.

The implementation of these measures will provide the necessary level of money supply for the recovery of investment and innovation activity for modernization and economic development. Unlike the current issuers of world currencies, the crisis that Russia is experiencing is not caused by the excess of money supply and related financial bubbles, but it is a structural crisis, caused by the low efficiency and resource dependence of the economy, complicated by its constant insufficient monetization. Experiencing an acute lack of investment and credit, the country's economy have been working flat out for a long time. In order to recover the domestic market, enhance innovation and investment for modernization and priority development, it needs a substantial increase in monetization level, and the expansion of loaning and the capacity of the banking system.

It should be pointed out that an important measure of ensuring economic security is to abandon the practice of employing major foreign rating agencies, which proved their partiality, bias and prejudice, for evaluating the borrowers' reliability. The regular shift of their ratings in favor of American companies and underrating of the companies of developing countries trigger off the destabilization of the latter, artificially downgrade their investment attractiveness, entail enormous unjustified losses and pose a threat to the national financial systems. Obviously, the Bank of Russia should use only the ratings of the Russian agencies, as well as the results of its own monitoring, including the refinancing of banks and their implementation of prudential regulation standards. The performance standards should be set up for rating agencies, the ratings' evaluation standards should be determined and the development of domestic rating agencies promoted.

It is expedient to establish a rating agency under EurAsEC that uses the model of sample economy without budget deficit and balance of payments, with a steadily low refinance rate and a reliable mechanism of financial market regulation. It is also necessary to create domestic financial infrastructure as related to consulting, audit, valuation and other analytical organizations. For these purposes, it is advisable to introduce the mandatory use of their services by state-owned companies.

* * *

The breakthrough strategy differs from the programmes offered by governmental and other 'system-related' experts in the fact, that though it deals mainly with the economy, it overcomes the 'macroeconomic determinism', by integrating this important area of the state's responsibility into the global and Russian historical context: science, technology, culture, rational nature management, political and civil relations – these 'productive forces' are as important as finances or entrepreneurial initiative.

We are sure that only the policy, which considers all the complexity of the modern world and raises development issues with scientific responsibility and diligence, can lead the country and each of its residents to success.

Therefore, the breakthrough strategy concerns everyone. But its drafting and implementation is the ultimate priority of the top state authorities in the first place. A swift breakthrough to the advanced development level is the only way to save and strengthen Russia in the world where no one can be guaranteed a bright future.

[1] Glazyev S.Yu. (ed.) Market essentials. Moscow: "Ekonomika", 2004; Glazyev S.Yu. Lessons of another Russian revolution: collapse of liberal utopia and a chance for 'economic miracle'. Moscow: Publishing house "Ekonomicheskaya gazeta", 2011.

[2] Perez C. Technological revolutions and financial capital: the dynamics of bubbles and golden ages. Moscow: Delo, 2011.

[3] Fetisov G.G. Monetary policy and the development of Russia's monetary system under globalization: national and regional aspects. Moscow: "Ekonomika", 2006.

[4] Fetisov G.G. Russian monetary policy: objectives, instruments and rules. Voprosy Economiki. 2008. No. 11.

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Regional budget for 2013 – 2015: stability or survival?

The next three-year budget has been enacted in the Vologda Oblast. According to the Senior Executive Vice-Governor of the Vologda Oblast A.A. Travnikov, the discussion of the main financial region's law has been "the hardest over recent years because it is too difficult to drop down, especially after a long period of sustainable growth"[1]. For the first time, the regional budget has not been adopted in the first reading because it has left out of account the resources due to acute debt burden, which are necessary for eliminating the crisis disproportions, making the conditions for economic growth and dealing with the vitally important tasks of growth in the population's prosperity defined by the President of the Russian Federation in his election programmes. Meanwhile, clear and strict implementation of these tasks is not only a matter of authorities' prestige, but also social and political stability.

According to the basic parameters of the budget, the situation in the budgetary sphere will not improve in the short term. Growing debts and debt service expense force the regional governments to reduce funding of social programmes. The problem is aggravated by the fact that the Government of the Russian Federation has not taken decisive measures to stabilize the sub-federal budgets. On the contrary, the centralized model of the budgetary structure in the country is going to become a true brake on socio-economic development, and it requires a cardinal re-examination of the current fiscal policy.

Regional budget, debt burden, loaning, own revenue, deficit, the Decrees of the President of the Russian Federation dated on May 7, 2012.

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Due to the significant integration of the Vologda Oblast into the Russia's and international economic space, its budget was formed on the base of key parameters of the world and Russia's economies. The global economic situation will remain unstable in the medium term in the context of the debt crisis of the developed countries, which will require 4 or 6 years to be overcome. The growth rates of the world economy, which began to slow down in 2011, will have not recovered by 2016. Russia's economy will show moderate growth, which will not exceed the pre-crisis level in 2015 *(fig. 1)*.

[1] Speech by A.A. Travnikov at the public hearing on the forecast of the socio-economic development of the Vologda Oblast and the draft law "On the regional budget for 2013 and the planning period of 2014 and 2015" dated November 21? 2012. Official website of the Legislative Assembly of the Vologda Oblast. Available at: http://www.vologdazso.ru/analitic/8812/

The regional budget of the Vologda Oblast for the period from 2013 to 2015 was based on the conservative scenario of economic development in order to level budgetary risks. It reflects the slowdown in economic growth against the background of the stagnation of industrial production, consumer demand and strong decline in investment activity. Increase in the cost of tariffs of natural monopolies will form the basis for the growth of budget expenditures *(tab. 1)*.

There is no doubt that financial resources will not form sufficiently with such pessimistic economic growth rates. According to the key

Figure 1. Growth rates of the world and Russia's economy in 2008 – 2015, % to the previous year

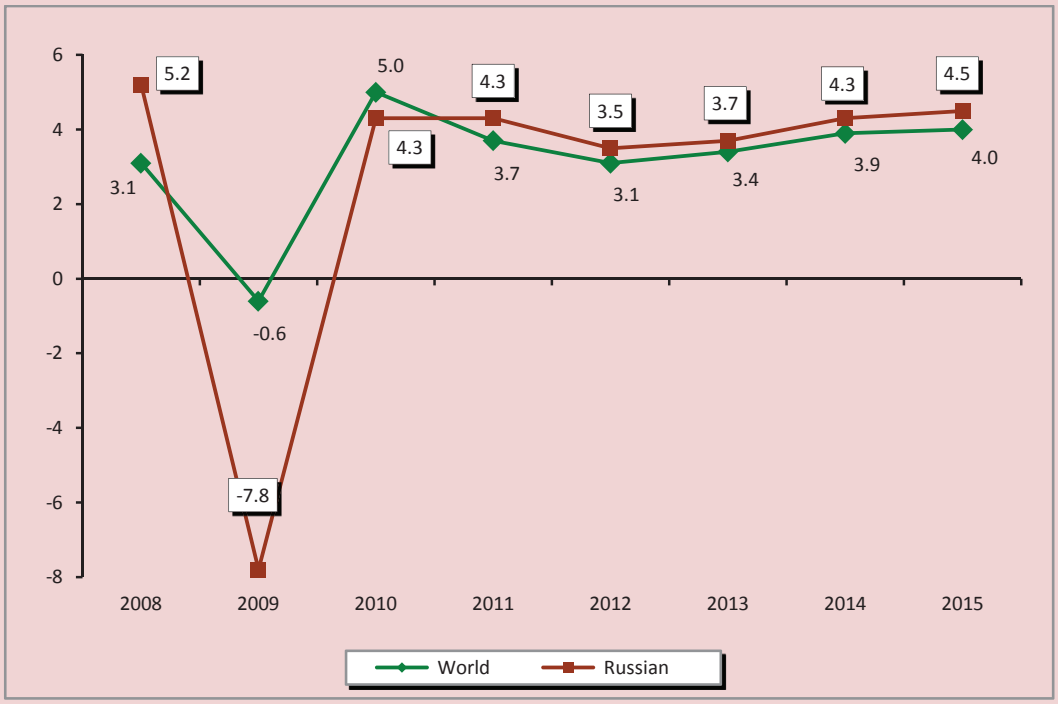


Table 1. Key macroeconomic indicators for drawing up the regional draft budget of the Vologda Oblast for the period from 2013 to 2015

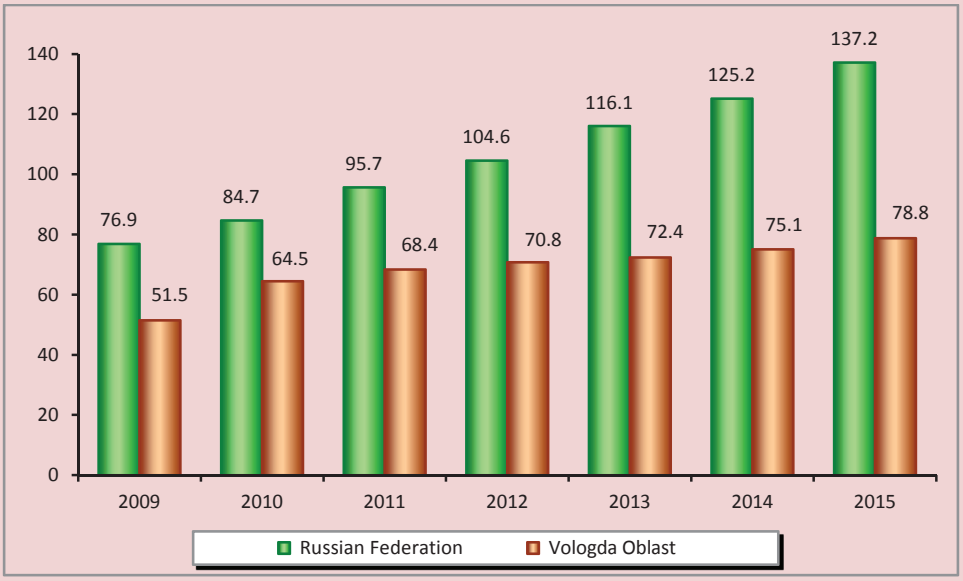
Indicators	In fact				2012, evaluation	Plan		
	2008	2009	2010	2011		2013	2014	2015
Gross regional product*	96.7	87.1	105.7	105.8	101.0	100.0	102.5	102.0
Industrial production index, to the previous year	95.3	90.5	111.1	104.8	99.5	101.5	102.0	102.5
Fixed capital expenditures *	85.9	71.5	96.9	153.4	98.6	74.0	107.6	79.0
Retailing turnover*	108.5	89.4	116.3	106.0	109.4	104.1	103.3	103.2
Real disposable incomes of people, %	98.7	90.4	108.6	100.2	110.0**	103.7	103.6	104.5
Inflation (CPI), December to December, %	114.3	107.2	109.2	105.7	107.0	105.5	104.5	104.5
Tariffs, % to the previous year								
Electric energy	120.6	120.1	118.6	113.4	105.1	113.0	111.0	111.7
Natural gas	125.0	115.9	126.7	115.0	107.1	115.0	115.0	114.8

* In comparable prices, % to the previous year.
** January – October 2012.

Table 2. Key parameters of the regional budget of the Vologda Oblast, bln. rub.

Indicators	In fact				2012, evaluation	Plan		
	2008	2009	2010	2011		2013	2014	2015
Revenues, total	39.5	31.2	36.1	39.3	42.5	38.2	38.9	41.7
Tax and non-tax revenues	34.4	19.0	25.8	28.8	31.5	33.6	36.0	39.0
Expenditures	39.1	37.7	43.1	46.5	45.3	39.3	35.7	36.0
Deficit (-), surplus (+)	+0.4	-6.5	-7.0	-7.2	-2.8	-1.1	+3.2	+5.7

Figure 2. Dynamics of the real own revenues of the regional budget of the Vologda Oblast in 2009 – 2015, in % to 2008



parameters of a new three-year budget, in 2014 own revenues in the current prices will exceed the level of 2008. Budget surplus is expected in 2014 – 2015 due to the reduction of expenditures by 9.3 billion rubles as compared to 2012 *(tab. 2)*.

However, the impacts of the crisis on the budget system of the Vologda Oblast were so deep that the real own revenues of the regional budget will not go on a trajectory of their pre-crisis volume even in 2015 *(fig. 2)*.

A key factor of depressing recovery of own revenue sources is extremely low profit tax revenues that was the main catalyst of the regional budget in the pre-crisis period.

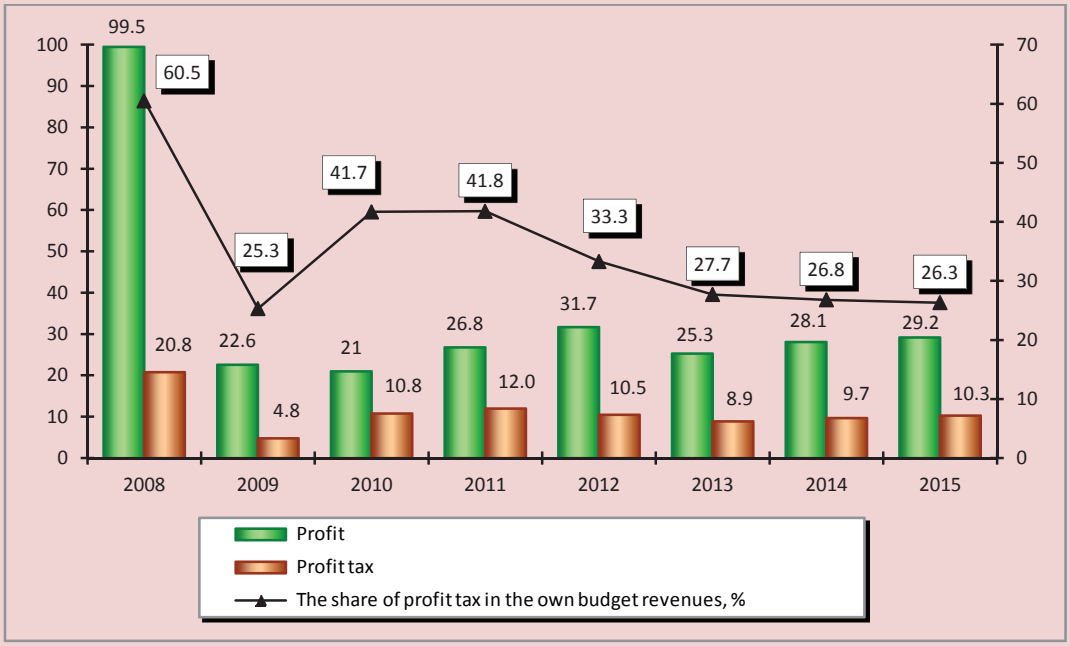
Growth rate reduction in the global and Russia's economy will continue to have a negative impact on the financial results of the business entities in the region, almost 30% of which are unprofitable[2].

According to forecasts, before-tax income of organizations, which remains one of the most challenging economic indicators, will decrease by 20% in 2013 as compared to 2012, and it will have amounted to only 30% of the 2008 level by the end of the planning period[3]. As a result, profit tax revenues are expected to be lower than the real revenues in 2010 – 2012 *(fig. 3)*.

[2] According to the Department of Economy of the Vologda Oblast, the number of unprofitable enterprises was 28.8% in the period from January to October in 2012.

[3] It should be mentioned that the forecast of income before tax was generated by the Government of the Vologda Oblast, excluding the profit of the enterprises included in the consolidated group of taxpayers JSC Severstal.

Figure 3. Dynamics of profit* and profit tax revenues of the regional budget of the Vologda Oblast in 2008 – 2015, bln. rub.



* Before-tax income of profitable enterprises excluding agricultural organizations.

The main change in the sectoral structure of the profit tax will be the reduction in the share of budget-making enterprise JSC Severstal, which became record even in 2012. At the same time, the share of structural units of natural monopolies and big banks, and local taxpayers will increase *(fig. 4)*.

These changes are caused by the predicted worsening of global situation and, therefore, production and financial indicators of the metallurgy industry in the Vologda Oblast.

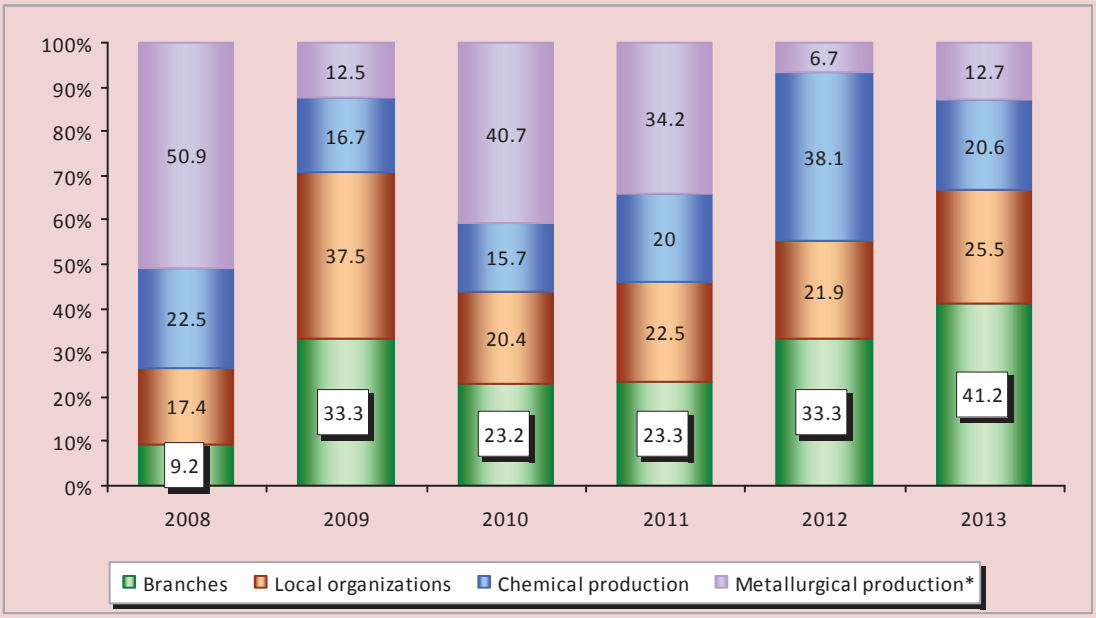
According to the forecasts of the RF Ministry of Economic Development, the multiple increases in prices in the export market of ferrous metals that took place in the pre-crisis period are not expected in the coming years. With the falling price trend for steel, steady excessive supply tendency will last until 2016 *(fig. 5)*.

The volume of steel production will slow down and the profit will reduce 6-fold as compared to 2012 under the influence of the unfavorable external environment *(fig. 6)*. In this case, only one company of JSC Severstal, located on the territory of the region, JSC Severstal-Metiz is expected to be profitable according to the forecast of the Vologda Oblast's Government. Thus, the forecast parameters of profit and profit tax allow us to say that the role of the regional economic leader – the Cherepovets Steel Mill – in the formation of the financial resources will come to nothing in the medium term.

However, the establishment of the consolidated group of taxpayers JSC Severstal united 22 companies gives reason to hope for an increase in profit tax revenues of steel production[4].

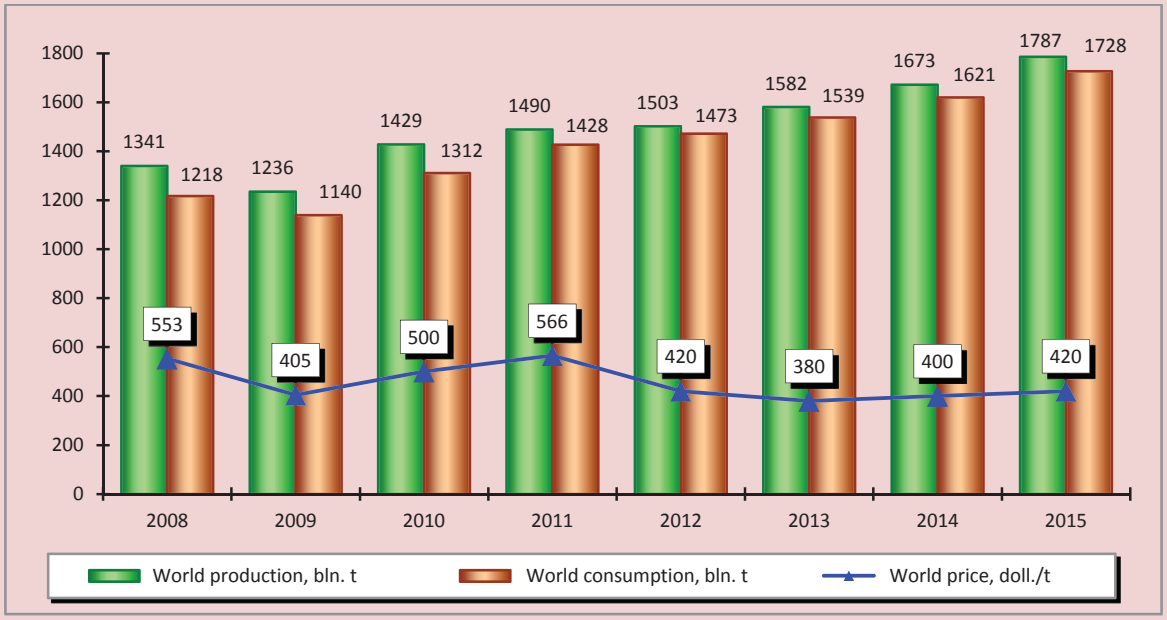
[4] In January 1, 2013 the consolidated group of taxpayers JSC Severstal included the largest resource companies JSC Vorkutaugol, Karelskiy Okatysh and Olkon, which paid 2.8 billion rubles, 3.9 and 1.5 billion rubles, respectively, of profit tax to the budgets of the Komi and Karelia republics and the Murmansk Oblast in 2011.

Figure 4. Sectoral structure of profit tax revenues to the regional budget of the Vologda Oblast in 2008 – 2013



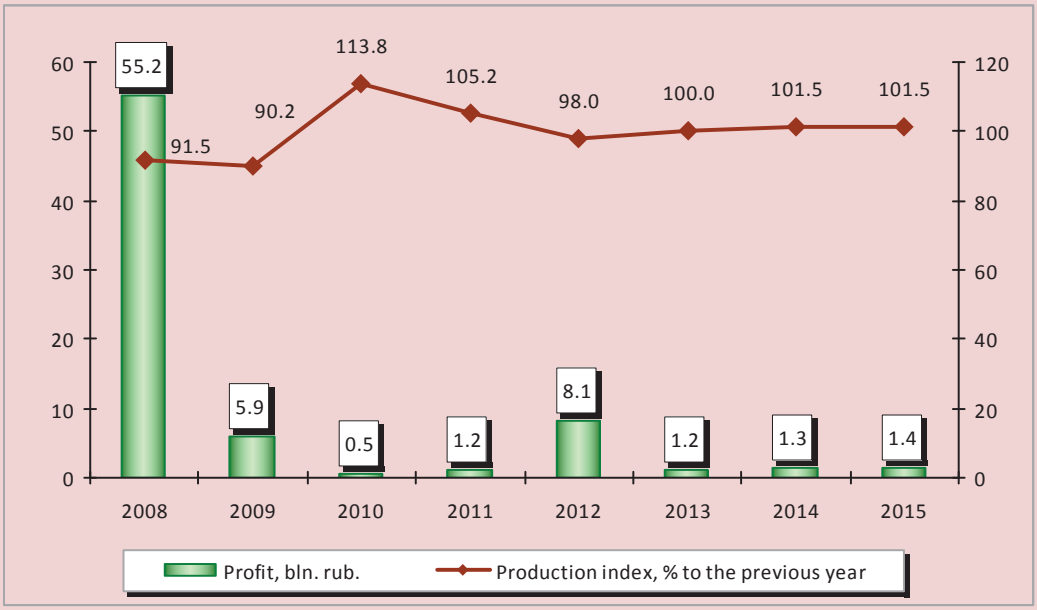
* JSC Severstal (in 2013, including the expected revenues of the consolidated group of taxpayers. Profit tax revenues of a key asset of Severstal – Cherepovets Steel Mill – are not expected at all).

Figure 5. Dynamics of production, consumption and prices in the world steel markets in 2008 – 2015



Source: Official website of the RF Ministry of Economic Development. Available at: http://www.economy.gov.ru/minec/activity/sections/macro/prognoz/

Figure 6. Dynamics of the key production and financial indicators* of steel production in 2008 – 2015



* In 2013 – 2015 excluding the consolidated group of taxpayers.

The role of the main budget-formed source will move from the corporate profit tax to the personal income tax in the next budget cycle. The share of personal income tax in the own revenues of regional budgets will rise to 38% in 2015 as compared to 23% in 2008 *(fig. 7)*.

However, despite the increase in income tax revenues, its share in budget revenues will be not as substantial as the share of profit tax, which amounted to 55 - 60% before the crisis. This fact is caused by two reasons. Firstly, according to the budget legislation, 80% of personal income tax collected in the territory is included in the regional budget. Secondly, the Vologda Oblast is characterized by the lag of the average wages from the national average level that does not allow a significant increase in the wages fund. The gap between the regional and national average wage rates will accounts for 4.5 thousand rubles in 2013, and it will increase to 5.9 thousand rubles in 2015 *(tab. 3)*.

In the context of budgetary resources constraints, the Government of the Vologda Oblast has taken decisive steps to optimize the tax incentive policy in regard to property taxation. If, the regional budget was short of 75 – 90% of corporate property tax revenues in 2009 – 2011, this indicator will reduced to 7% in 2013 – 2015. Elimination of tax preferences will allow increasing the regional treasury by 2.2 billion rubles annually *(fig. 8)*.

In the field of non-tax revenues, we should note the current practice of their underestimation in the formation of the regional budget. Thus, actual non-tax revenues have exceeded by 779 million rubles the revenues planned for 2013 *(tab. 4)*.

Thus, budget planning do not take into account all the reserves of its fullness, including in terms of non-tax collection the fiscal function of which is extremely low and points to the problems of regional property management.

The implementation of the main directions of region's budget policy in the coming period will be defined by the relationship with the federal government.

Figure 7. Dynamics of income tax revenues of the regional budget of the Vologda Oblast in 2008 – 2015

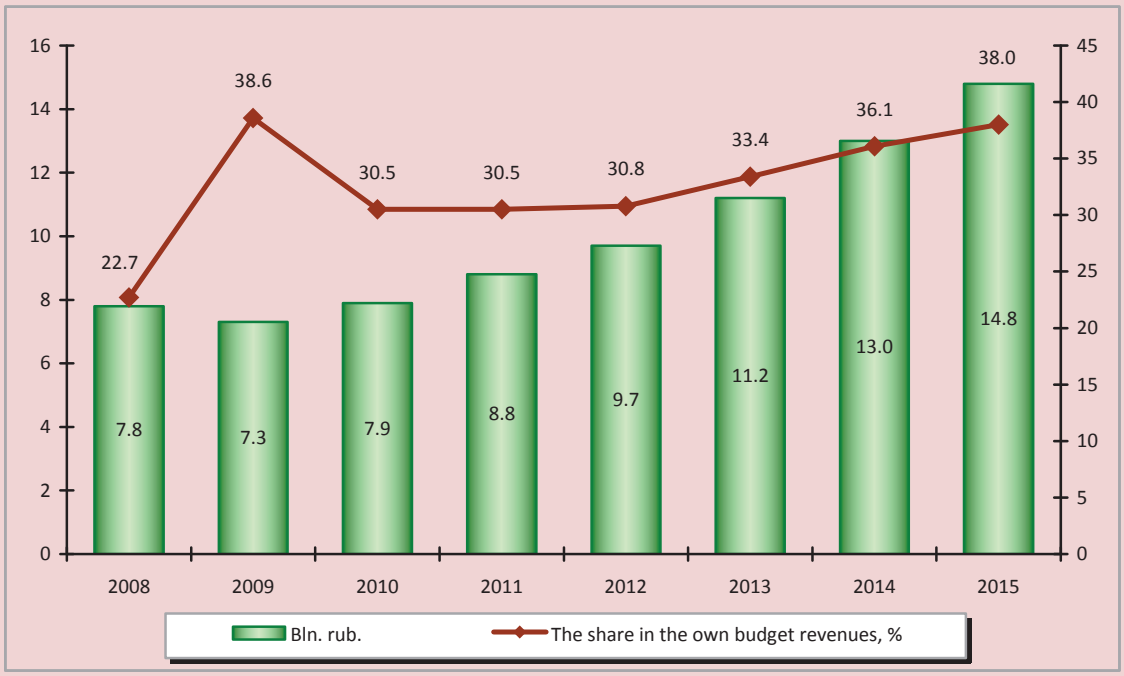


Table 3. Dynamics of the nominal imputed average monthly wage per employee

Indicator	In fact							2012, evaluation	Plan		
	2005	2006	2007	2008	2009	2010	2011		2013	2014	2015
Vologda Oblast	8.8	10.7	12.9	16.1	16.6	18.5	20.7	23.1	25.5	28.1	30.9
Russian Federation	8.6	10.6	13.6	17.3	18.6	21.0	23.4	26.8	30.0	33.1	36.8
The gap in the level of average wages between the Vologda Oblast and the Russian Federation											
Thsd. rub.	+0.2	+0.1	-0.7	-1.2	-2.0	-2.5	-2.7	-3.7	-4.5	-5.0	-5.9
%	2.3	0.9	5.1	6.9	10.8	11.9	11.5	13.8	15.0	15.1	16.0
Growth rates of wages fund, %	23.7	18.6	21.2	24.6	-5.0	12.3	8.7	13.5	10.3	10.1	9.7

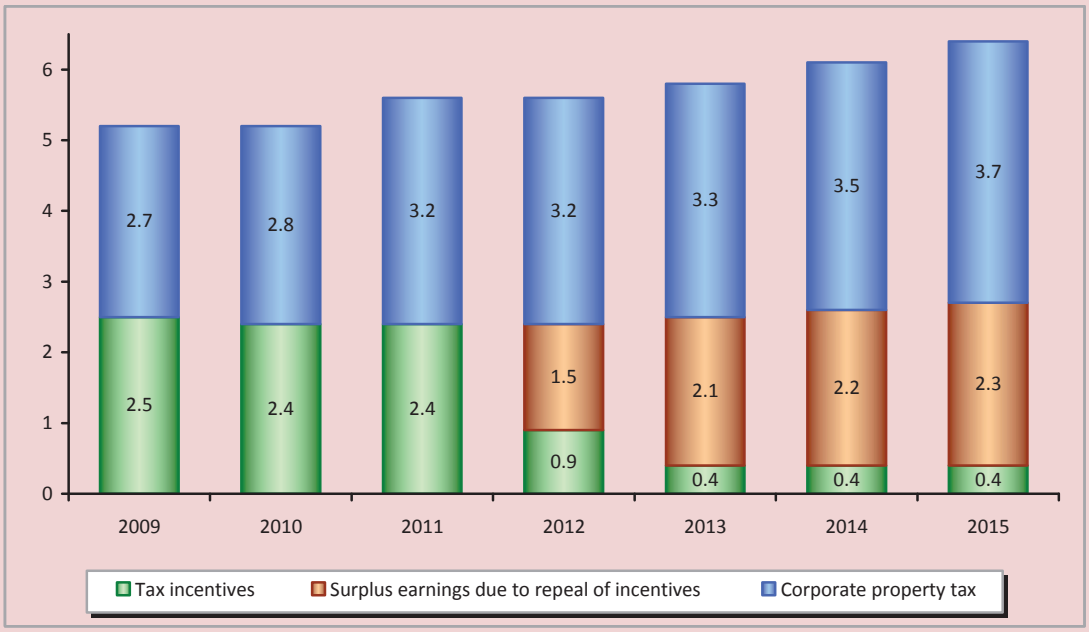
Sources: data of Rosstat; forecasts of the socio-economic development of the Russian Federation and the Vologda Oblast for the period from 2013 to 2015; author's calculations.

Table 4. Dynamics of non-tax revenues of the regional budget of the Vologda Oblast in 2010 – 2015

Indicators	2010		2011		2012*		2013, plan	2014, plan	2015, plan
	plan	fact	plan	fact	plan	fact			
Non-tax revenues, bln. rub.	600.0	648.2	530.8	746.8	537.2	1316.4	776.1	836.9	854.0
The share in own revenues, %	2.9	2.5	1.9	2.6	1.8	5.1	2.3	2.3	2.2

* January – October 2012.

Figure 8. Dynamics of corporate property tax in 2009 – 2015, bln. rub.



The Vologda Oblast was a donor of the federal budget till 2009 *(fig. 9)*. However, we had to say about the new quality of budgetary cooperation in 2009 – 2012, as gratuitous transfers from the federal budget exceeded by two times tax revenues from the region. Thus, the oblast achieved the status of a recipient of the federal budget.

The article does not attempt to analyze the quantitative characteristics of gratuitous financial support which will be received by the region in 2013 – 2015 because more than half of inter-budget transfers from the federal budget are traditionally distributed during the fiscal year. However, it should be noted that despite the greatest decline in self-sufficiency not only among the subjects of the North-Western Federal District but among the regions of the Russian Federation, the Vologda Oblast acquired the minimum amount of inter-budget transfers in crisis and post-crisis periods *(tab. 5)*.

Compensatory role of financial support for the Vologda Oblast remains inadequate, and this is proved by the progressive reduction of per capita fiscal capacity *(tab. 6)*.

Per capita fiscal capacity in the region will be 33 – 39% lower than national average in the planning period. At the same time, the federal budget provides equalization transfer for the Vologda Oblast only in 2013 – 2014, which will cover a little more than 1% of expenditure needs.

The regional budget losses caused by the changes in the excise tax legislation will amount to 1.1 billion rubles, which is comparable to the deficit in 2013.

Talking about the deficit, it is necessary to point out that the significant success was reached in improving the budget balance in 2012 – the absolute amount of the deficit reduced 2.5-fold, and the level in the personal income dropped to 3% as compared to 25 – 34% in 2009 – 2011 *(fig. 10)*.

The further deficit minimization is expected in 2013, and budget surplus is expected in the next two years.

It should be noted that the Government of the oblast has been forming a three-year budget with a deficit for the next year and a surplus for the next two years of the planning period for several years.

Figure 9. Gratuitous transfers from the federal budget to the regional budget of the Vologda Oblast in 2006 – 2012, % to the oblast's payments to the federal budget

Source: author's calculations according to the data of the Treasury of Russia and the Federal Tax Service of Russia.

Table 5. Inter-budget transfers to the subjects of the North-Western Federal District in 2009 – 2011, thsd. rub. per capita

Subject	Own revenues, 2009 to 2008, %	2009	*To the average indicator in RF*	2010	*To the average indicator in RF*	2011	*To the average indicator in RF*
Nenets Autonomous Okrug	102.8	73.5	*7.02*	53.3	*5.50*	61.7	*5.36*
Kaliningrad Oblast	92.9	19.2	*1.84*	11.5	*1.18*	20.2	*1.76*
Pskov Oblast	100.3	11.2	*1.07*	12.8	*1.30*	18.2	*1.58*
Archangelsk Oblast	75.8	15.5	*1.48*	17.3	*1.77*	18.0	*1.56*
Republic of Karelia	88.3	12.4	*1.19*	13.1	*1.34*	14.6	*1.27*
Murmansk Oblast	96.4	14.8	*1.41*	11.7	*1.20*	13.5	*1.18*
Novgorod Oblast	102.6	10.4	*0.99*	7.4	*0.76*	11.9	*1.03*
Republic of Komi	88.5	9.5	*0.91*	7.4	*0.76*	10.0	*0.87*
Vologda Oblast	**55.2**	**9.2**	***0.88***	**7.2**	***0.73***	**8.4**	***0.73***
Saint Petersburg	85.4	8.2	*0.78*	5.6	*0.58*	7.2	*0.63*
Leningrad Oblast	95.8	5.1	*0.48*	4.6	*0.47*	7.0	*0.61*
Russian Federation	83.7	10.5	*1.00*	9.8	*1.00*	11.5	*1.00*

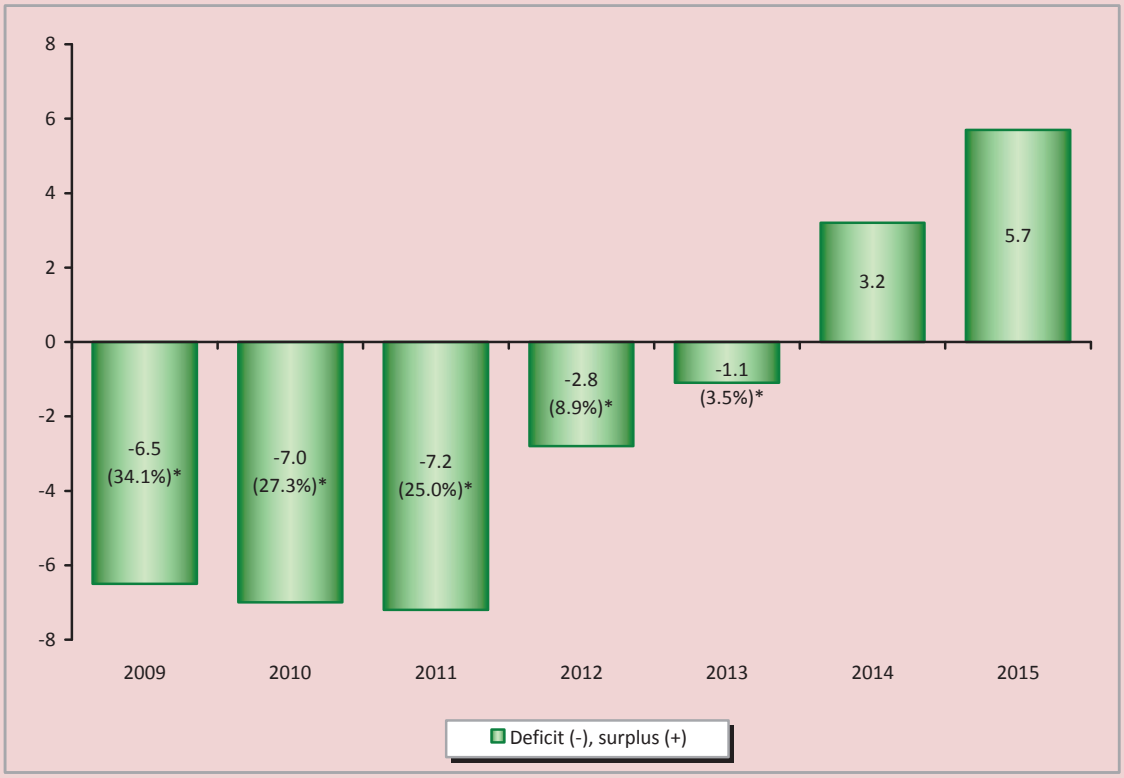
Source: author's calculation according to the data of the Treasury of Russia and Rosstat.

Table 6. Per capita fiscal capacity in the Vologda Oblast in 2008 – 2015

Indicators	In fact					Forecast		
	2008	2009	2010	2011	2012	2013	2014	2015
Fiscal capacity, thsd. rub. per capita	41.6	33.0	38.4	42.2	45.6	42.4	43.7	46.6
To the average indicator in RF (1)	0.95	0.79	0.84	0.79	0.81	0.67	0.64	0.61
Equalization transfer, bln. rub.	0	0	0	737.9	1332.5	821.1	229.0	0

Source: author's calculation according to the data of the Treasury of Russia and Rosstat.; Laws on Federal budget and regional budgets of the Vologda Oblast for the period from 2013 to 2015.

Figure 10. Dynamics of the regional budget execution results of the Vologda Oblast in 2009 – 2015, bln. rub.



* Deficit to own budget revenues, %

In reality, the budget process is far from the scenario conditions and it forces to correct the results of budget execution many times. Thus, the budget for 2012 and 2013 were was initially considered to be surplus ones, and deficiency – during the formation of the main characteristics of the next budget cycle *(tab. 7)*.

Thus, the underestimation of the main budget parameters in the context of limited revenues specifies surplus coordinates for budget projecting with the budget deficit, reducing the continuity and predictability of medium-term financial planning.

For the financing of budget deficit in 2013 it is planned to attract loans for more than 8 billion rubles from commercial banks, the volume of these loans will be the maximum *(fig. 11)*. As a result of borrowing the costs for their servicing in 2013 – 2014 will increase up to 2.5 billion rubles and in their share will be the fifth expenditure item of the regional budget after social security, general education, road fund and inter-budget transfers to the territorial fund of compulsory health insurance.

Due to the planned allocation of significant amount of budgetary funds for the return of the achieved volume of debt and for the payment of interest expenses, the risks of expenditure obligations execution will increase. In 2013 – 2015 the Vologda Oblast uses 15 – 25% of its own revenues for the public debt security *(fig. 12)*.

Continuing the issue of the repayment of loans, it is necessary to emphasize that the expenditures directed for the repayment of the credit sources of the budget deficit financing, in accordance with the legislation are not a legitimate article of expenses. Therefore, if they are included in the expenditure part, then the real budget deficit of the Vologda Oblast in 2013 will exceed the limits, and in 2014 the budget will be executed with a deficit instead of the expected surplus *(tab. 8)*.

Table 7. Changes in the projected parameters of deficit of the regional budget of the Vologda Oblast, bln. rub.

Item	2012	2013	2014
Draft budget for 2011 – 2013	2338.6	3256.1	
Draft budget for 2012 – 2014	-4430.0	4838.0	4930.0
Draft budget for 2013 – 2015		-1167.8	3215.5

Figure 11. Dynamics of attracted loans and interest expenses of the Vologda Oblast budget in 2009 – 2015, bln. rub.

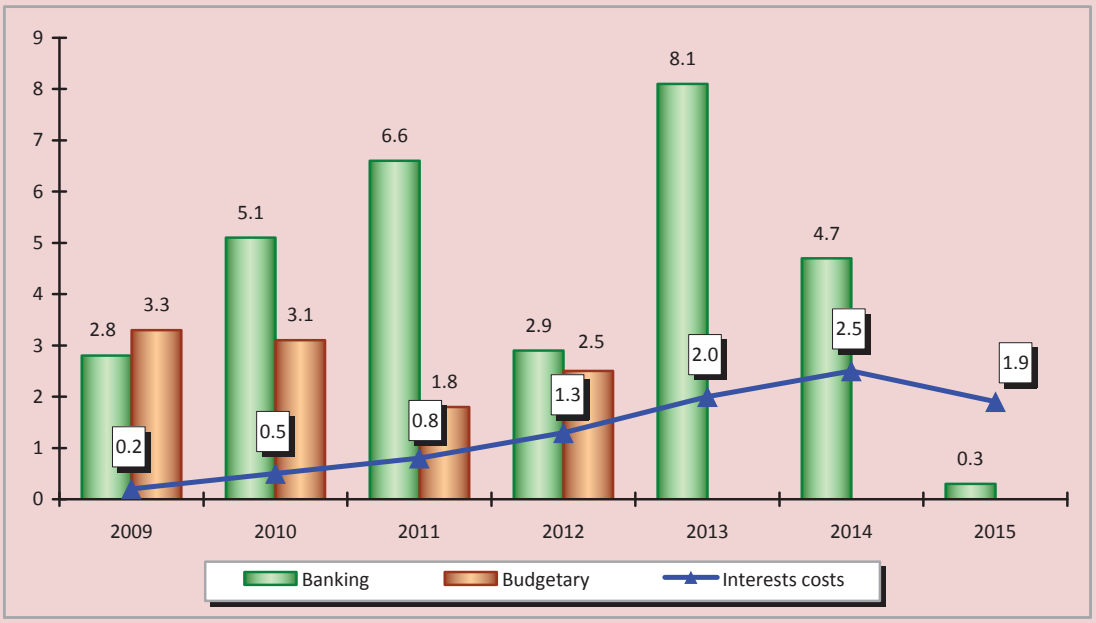
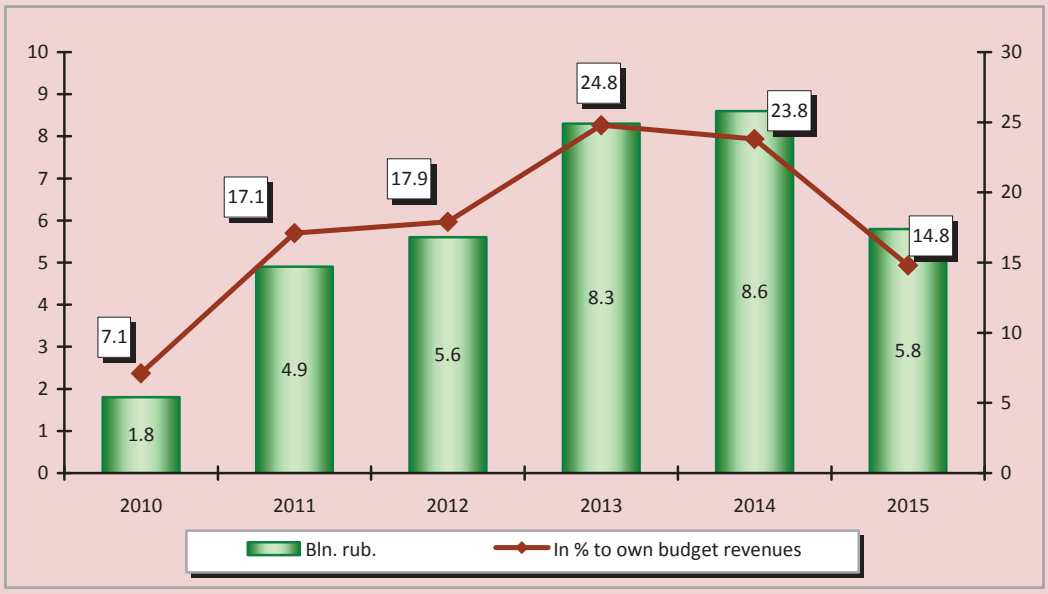


Figure 12. Vologda Oblast budget expenditures on the repayment and servicing of debts in 2010 – 2015



Source: author's calculations based on the data of the Treasury of Russia and the Vologda Oblast Finance Department.

Table 8. Forecast of the actual results of the Vologda Oblast budget execution, mln. rub.

Indicators	2012		2013		2014		2015	
	Actual	Real	Planned	Real	Planned	Real	Planned	Real
Deficit (-), surplus (+)	-2812	-7131	-1168	-7441	3215	-2927	5659	1801
To the budget's own revenues, %	-8.9	-22.6	-3.5	-22.2	8.9	-8.1	14.5	4.6
Source: author's calculations based on the data of the Vologda Oblast Finance Department.								

Figure 13. Dynamics of the real expenditures* of the Vologda Oblast budget in 2011 – 2015, bln. rub., in the prices of 2011

*For the purposes of comparability, the expenditures are stated without taking into account inter-budgetary transfers.

Thus, if additional funding sources in the form of own revenues or subsidies on the stabilization don't be allocated by the federal centre, there still most likely be the regional budget deficit in the forecast period and once again the low reliability of the three-year budget planning will be proved.

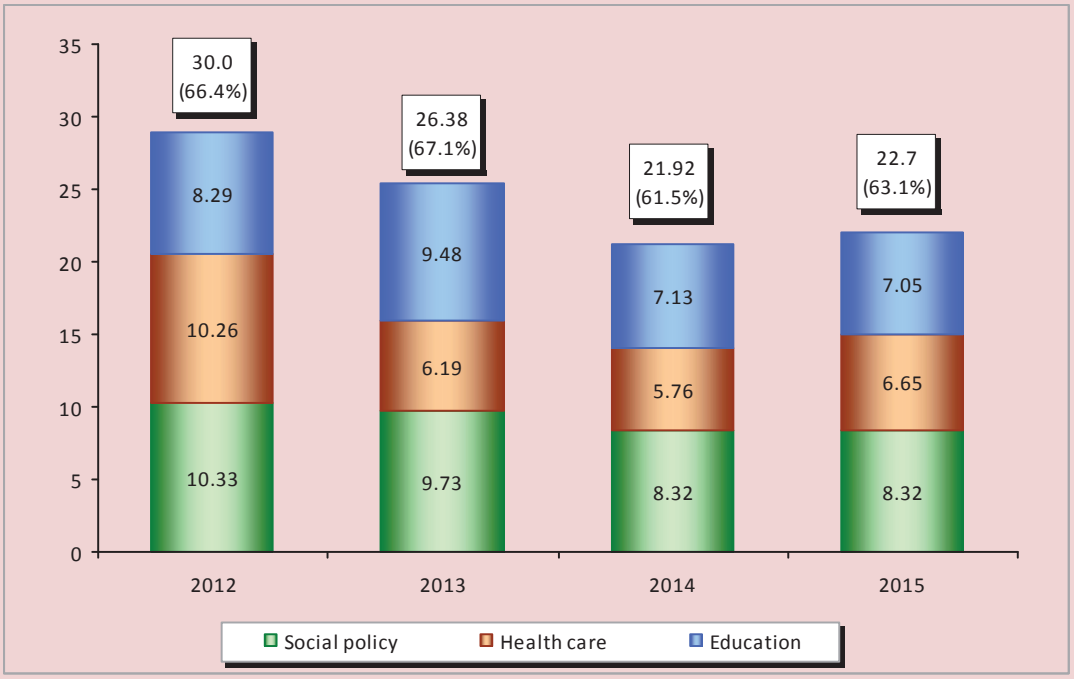
The task of ensuring the return of borrowed funds aimed at covering the deficit will be addressed primarily by curbing the public expenses. In real terms the expenditure part of the budget will be reduced by almost 10 billion rubles, or by one third as compared to the level of 2011 *(fig. 13)*.

The new budget does not stipulate the changes in the structure of expenses and is traditionally positioned as a socially oriented one, but it is unlikely that such a budget can be considered a merit of the ongoing fiscal policy. In the future, social orientation will not allow easily reducing the level of public expenses, so that the additional resources could be allocated for the repayment of accumulated debt, and in the future for investing in the economy.

In 2013 – 2015 over 60% of allocations are supposed to be used for financing the social sphere *(fig. 14)*.

One of the main tasks of the new cycle of budget policy will consist in the implementation of the RF President's decrees dated May 7, 2012, first of all those, which concern the gradual increase of salaries of budgetary sphere employees. The importance of implementing these decrees is determined by the fact that they were signed in the framework of the President's election programme.

Figure 14. Structure of the Vologda Oblast budget expenditures for the funding of the main branches of social sphere in 2012 – 2015, bln. rub.



The first stage, covering 2012 – 2013, envisages the increase in the average salaries of general education teachers up to the regional average, and preschool education teachers – up to the regional average in the sphere of general education.

It should be noted that the federal centre has in its own way solved the problem of resource provision of the President's election programmes, shifting 60% of the funding to the regional budgets, the majority of which are encumbered with deficit and high debt load. The Federal Treasury, in its turn, does not compensate even for the one-third of territorial budget costs[5].

The Vologda Oblast will require 3.8 billion rubles to implement the first stage of presidential decrees. The lack of own funds did not allow the oblast to take into account these costs in the first version of the regional budget. In this regard, the increase of the state employees' salaries will be funded mainly from the federal budget, as the agreement on receiving these funds was negotiated by the Vologda Oblast Governor and the Russian Federation Government. Thus, in 2013, the average salary of school and kindergarten teachers will increase 1.4-fold *(fig. 15)*.

In the future, it is planned to work out the stages for handling the issues of raising salaries of workers of culture, social services, paramedics and junior staff of health care institutions.

Of course, the implementation of the President's social initiatives will be an additional load on the regional budget in 2014 – 2015 as well, amounting to about 5 billion rubles by preliminary estimates. The oblast lacks such funds, judging by the forecasted parameters

[5] According to the Russian Federation Finance Ministry, in 2013 – 2015, 2.6 trillion rubles should be allocated to increase the salaries of budget sphere employees. Out of this sum, 1.5 trillion rubles should be provided by the RF Subjects at the expense of their own revenues. Additional transfers from the federal budget for these purposes are planned in the volume of 400 billion rubles.

Figure 15. Average salaries of general and pre-school education teachers in the Vologda Oblast in 2012 – 2013, rub.

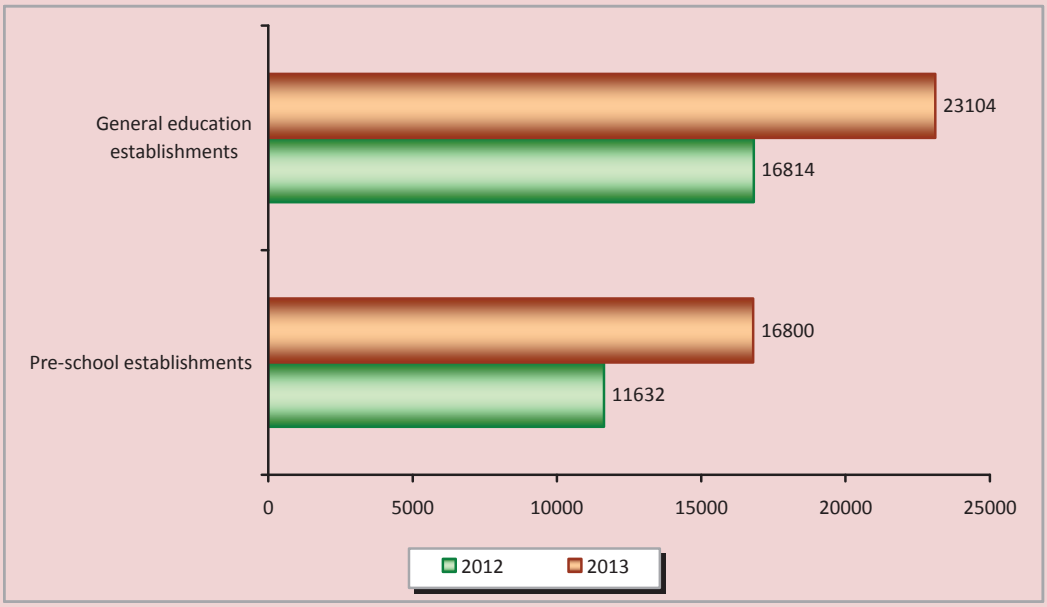
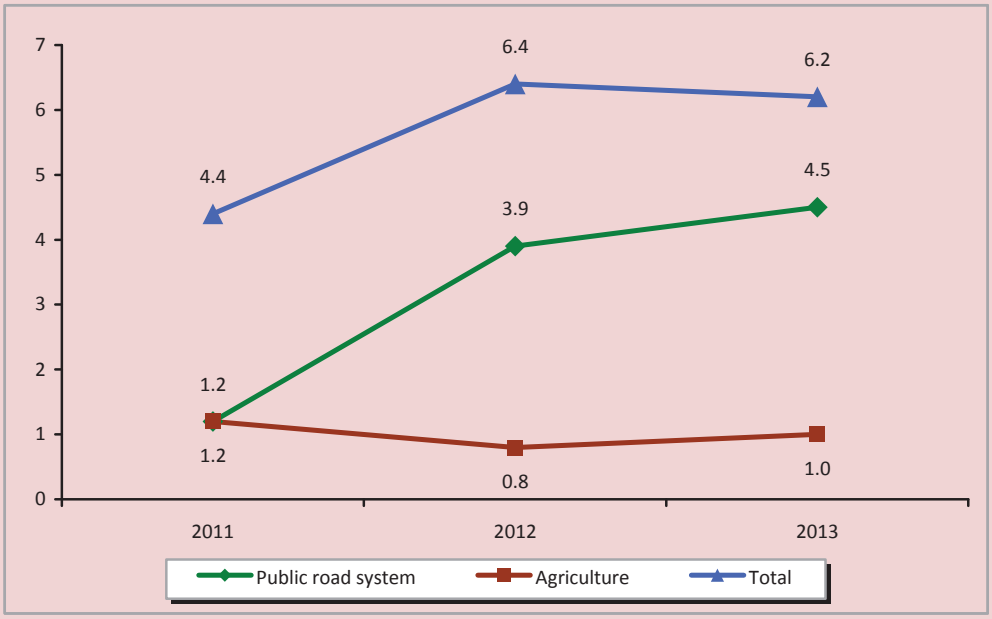


Figure 16. Vologda Oblast budget expenditures* in the section "National economy" in 2011 – 2013, bln. rub.



* For comparability purposes, the expenditures don't include inter-budget transfers from the federal budget.

of the budget. Therefore, if the federal budget provides no assistance, new borrowings will be necessary, which will increase the already excessive debt burden.

One of the few positive features of the new budget consists in the maintenance of the level of support to the major branches of national economy, achieved in 2012 *(fig. 16)*.

In 2013 it is expected to allocate 18% of the regional budget funds to the financing of the national economy let alone non-repayable revenues (in 2012 – 18.7%). At that, two-thirds of the funding will be directed to the functioning of the road fund. The agro-industrial complex will remain the second priority direction, the planned financing of which is more than 16% of budget expenditures.

Despite the relatively sustainable dynamics of state support to the subjects of national economy, it should be noted that the socialization of budget expenditures will impede the formation of the development budget in the near future. Moreover, the forecasted dynamics of investments indicates that the oblast budget has run out of reserves for achieving its balance by the compression of investment expenses *(fig. 17)*.

As we can see, the years 2013 – 2015 will face a rapid reduction of capital expenses in their total volume as well as in the share of budget expenditures. In 2015, budget investments in real terms will be less than 500 million rubles, having decreased almost 5-fold, compared to 2012.

In recent years, many budget-related problems of the Vologda Oblast have evolved into an acute debt crisis. In 2012, the level of its public debt, amounting to 93% in relation to the own budget revenues, became critical. The major part of additionally received own revenues will be allocated to servicing the debt in the planning period; however, the escalation of the external funding sources of adopted expenditure commitments will not substantially reduce the debt load *(fig. 18)*.

The structure of the state debt is dominated by bank loans, the level of which will have reached more than 70% of the accumulated debt by 2015 *(tab. 9)*, this will require increased attention of regional authorities to the debt problem.

In 2013 – 2015 in order to minimize debt risks, it is not planned to provide state guarantee support, consequently, the share of the conditional part of state debt will reduce

Figure 17. Dynamics of capital investments of the Vologda Oblast budget in 2008 – 2015, mln. rub., in the prices of 2008

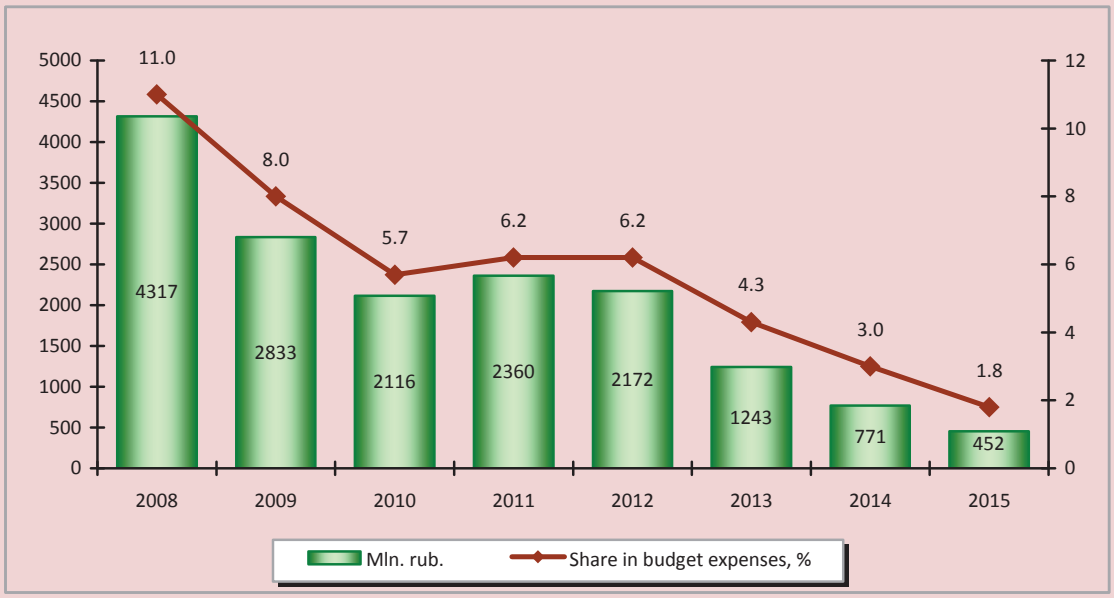


Figure 18. Dynamics of public debt of the Vologda Oblast in 2008 – 2015

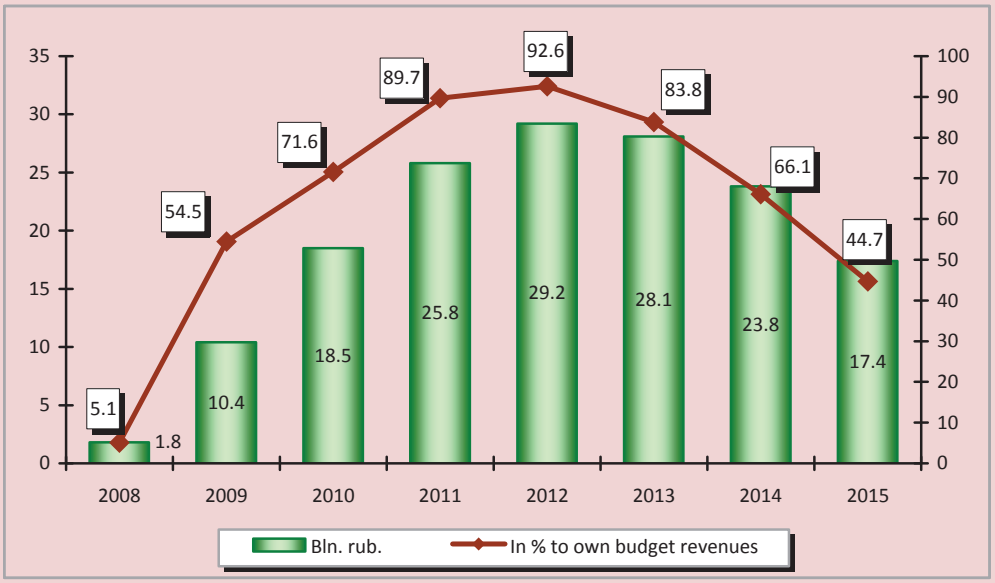


Table 9. Vologda Oblast's state debt structure in 2008, 2012 – 2015

Indicators	2008, actual		2012, actual		2013, planned		2014, planned		2015, planned	
	Mln. rub.	%	Mln. rub.	%	Mln. rub.	%	Mln. rub.	%	Mln. rub.	%
Public debt, total	1753	100.0	29157	100.0	28133	100.0	23799	100	17411	100.0
State guarantees	1734	98.9	5679	19.5	3359	11.9	2110	8.9	1377	7.9
Oblast's securities	0	0	7110	24.4	6608	23.5	4935	20.7	2802	16.1
Budget loans	19	1.1	7385	25.3	3942	14.0	2052	8.6	280	1.6
Commercial loans	0	0	8988	30.8	14224	50.6	14702	61.8	12951	74.4

to 8% against 20% in 2012. In all fairness it should be noted that so far the regional budget has not fulfilled obligations on the execution of guarantees. Meanwhile, the new budget provides for over 0.3 billion rubles to the possible execution of guarantees.

Summing up, we can conclude that the new budget cycle will be extremely challenging. A destabilizing impact on the functioning of the regional budgetary system will be caused by the following factors.

Firstly, the reduction in the volume of non-repayable financial assistance from the federal budget in the form of grants and subventions to 2.2 billion rubles.

Secondly, the change in the policy of differentiation of revenue and expenditure responsibilities, which will reduce the tax revenues of the regional budget by 1.1 billion rubles and increase the expenditures on the execution of the RF President's decrees by 8 billion rubles.

Thirdly, the actual regional budget deficit (taking into account the expenses on the repayment of loans) in the amount of 10.4 billion rubles.

Fourthly, the allocation of own resources for the servicing of public debt in the total volume of 6.4 billion rubles.

Fifthly, the cessation of co-financing of the federal budget expenditures on the development of public road system and the allocation of the regional budget's own revenues for the formation of the road fund in the amount of 14.2 billion rubles, or an average of 4.7 billion rubles annually.

In general, this refers to the amount of about 40 billion rubles, which is comparable to the annual volume of the Vologda Oblast budget revenues.

Obviously, the task of reducing the debt burden, which was not solved in 2012, as well as the search for the sources of own revenues will form the agenda of the next budget cycle. It seems that the efforts of regional authorities should be concentrated on the following main directions.

1. The continuation of the systemic inter-departmental work on the legalization of revenues and reduction of indebtedness on the budget payments. According to the Vologda Oblast Department of Finance, a "hidden" individual income tax deficiency is assessed at 6.6 billion rubles. According to the oblast tax agencies, the total accounts receivable of the budget as of December 1, 2012 was 1.5 billion rubles. The collection of the above sums would solve the problem of the financing sources of activities aimed at implementing the social programmes of the RF President.

2. In order to strengthen the mobilizing functions of non-tax revenues a number of administrative measures should be implemented, in particular: to make an inventory of the property of the oblast treasury; to develop objective methodologies of rents calculation; to eliminate the facts of transferring regional property in the free use of federal structures.

3. Implementation of further interaction with federal authorities on the issues of receiving additional financial assistance, primarily to ensure the implementation of presidential decrees and the functioning of the road fund, as well as the restructuring of the total indebtedness on the bank and budget loans.

4. In the sphere of debt policy it is necessary to diversify the borrowings through the substitution of commercial loans for budgetary loans and market borrowing (state securities of the oblast), characterized by long terms and competitive cost of service. For alleviating the debt burden it will be necessary to intensify efforts aimed at concluding agreements with credit institutions for reducing interest rates and the period of using the borrowed funds. Along with the implementation of short-term tasks, it will be necessary to change the priorities of the debt policy, since borrowing, not focused on the development and performing the tasks of covering cash gaps can lead to a deep debt crisis. The basic element of the state debt management model should be a system of risks evaluation and control, which allows forecasting the possible debt threat[6]. Legislative elaboration should be applied to the issues of enhancing the personal responsibility of public officials who make decisions concerning the attraction of loans.

Meanwhile, the problem of increasing profitable opportunities not only for the Vologda Oblast, but also for the overwhelming majority of Russia's regions can be solved only by changing the paradigm of inter-budgetary policy.

To ensure the real fiscal federalism it is necessary to decentralize the tax system. Perhaps, it makes sense to resume the compliance with the principles of classical fiscal federalism, under which the number of revenues forming the regional budgets, accounts for 50% of their total number, as it was in the late 1990s[7]. The significant increase in the revenues of sub-federal budgets can be achieved through the reform of individual property tax, the increase of excise rates on alcohol, the enrollment of the profit tax revenues[8], the revenues from water and other taxes and fees to the fullest.

[6] An example of this approach can be found in the public debt management system of Saint Petersburg.

[7] The share of the consolidated budget revenues of the RF Subjects in the revenues of the RF consolidated budget in 2013 – 2015 will be 43.9%, 43.3% and 43.1% accordingly.

[8] According to the author's calculations, transferring the federal part of profit tax (2% of tax rate) to the regional level will stimulate the inflow of profit tax revenues in the Vologda Oblast budget by 1.6 bln. rub.

The most important reserve of the regions' revenue base increase is found in the reduction of federal benefits on land and property taxes[9]. The policy of unsustainable expansion of benefits, without a comprehensive assessment of their potential impact on budget revenues and economic activity, not only worsens the quality of budget management, but also poses a threat to macroeconomic stability. Suffice it to say that the scope of benefits provided by the federal legislation in the VologdaOblast in 2011 increased 5-fold as compared to 2006 and reached 3.8 billion rubles. This amount is what the region needs for the first stage of raising salaries for public sector employees. In addition tax benefits in 2010 – 2011 exceed by 15% the corporate property tax revenues in the regional budget.

The issue concerning the change of conceptual approaches to the formation of regional budgets requires urgent solving. The most problematic RF subjects from the viewpoint of self-sufficiency, such as the Vologda Oblast, require the abandonment of the practice of surplus budgets planning advocated by the RF Finance Ministry, which distorts the real condition of the state budget. The efficiency of budget parameters execution (deficit or surplus) must be determined taking into account the expenditures allocated for the return of the loans, which can not be implemented so far without the appropriate amendments to the current legislation.

Thus, the Vologda Oblast budget for 2013 and the planning period of 2014 – 2015, will, in fact, become the budget of survival. Its main task is to prevent deterioration of social protection of the citizens, which will require strict fiscal consolidation from the regional authorities.

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[9] The necessity to abolish federal benefits on the territorial taxes has been repeatedly mentioned by the RF President, experts, the State Duma deputies, and representatives of the power bodies of the RF subjects; however, this issue remains unsettled.

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LBC 65.374.6(235.1)

Comprehensive approach to arranging marine economy in the Western Arctic

The article substantiates the necessity of using integrated management of marine economy in the West-Arctic shelf, primarily in the Barents Sea. It studies the experience of applying marine spatial planning, the projects of environmental impact assessment, the methodology of integrated coastal zone management. The necessity to improve the Russian Federation legislation is shown in order to eliminate contradictions in integrated management.

Marine economy, integrated management, marine spatial planning, environmental impact assessment, integrated coastal zone management.

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The Arctic and Atlantic sectors, being the areas of the national marine strategy implementation, include a number of territories and waters, which are very important for Russia geographically and functionally. One of the most outstanding areas in the sector is the Barents Sea, which is distinguished by the two crucial factors: firstly, its special geopolitical and military-strategic role and, secondly, the abundance of natural resources. At present, these factors, due to the increasing contradictions of globalization are turning into competitive advantages [3, 6].

The whole range of countries, as well as Russia, consider the Barents Sea to be a very attractive area for exploring its natural-resource potential due to its favourable economic and geographical position, the possibility of year-round navigation with the direct access of international trade routes to markets in Europe and the U.S. combined with large hydrocarbon reserves and highly productive biological resource base of the shelf. There is every indication that by 2020 the region will have become one of the most important areas of fuel resources development and a significant factor of global energy security. But, at the same time, the Barents Sea cannot be allowed to lose its status as one of the most important biological resource basins of the global ocean and experience negative effects from the development of offshore oil and gas production. Therefore, the Barents Sea will inevitably transform into an 'integrated area' requiring the rational use of resources and nature management.

In the last 10 – 15 years, the issues of complex (integrated) approach to the management of marine natural and economic systems have acquired greater importance [1, 4, 7, 11].

It is conditioned by the inefficiency of the branch-wise and departmental approaches to management, which causes tensions between the users of natural resources and the increasing anthropogenic threats to marine ecosystems in the areas of intensive economic activity. Developed countries have been recently using marine spatial planning (MSP) based on the ecosystem approach to the marine activities planning and management as the main tool for the implementation of marine policy. The Study of MSP methodology shows that its goal is to create conditions for the efficient coexistence of various industries, in particular: fishery, oil and gas activities and maritime transport. MSP should promote the elaboration of a common stand in the management of the considered marine area among the representatives of various industries, local, regional and central authorities, as well as among nature conservation organizations and groups representing other interests, in the framework of sustainable development.

Marine spatial planning is currently a tool of integrated coastal zone management (ICZM) and the implementation of marine policy. It promotes the system and long-term use of the marine environment through a more rational and efficient organization of maritime space, the regulation of interaction between its different users, as well as by ensuring the balanced development of marine activities and protection of marine environment.

MSP is a way to improve the efficiency of decision-making on the issues of organizing human activities in marine environment, based on ecosystem approach. It provides an opportunity for a complex, long-term and consistent regulation of marine space utilization. The purpose of marine spatial planning consists in promoting a more rational usage of marine space and interaction between utilization types; furthermore, MSP should bring the development requirements in accordance with environmental protection and contribute to the achievement of social and economic objectives through planning and open discussions. Marine spatial planning, being an efficient method of functional zoning and strategic assessment of marine areas utilization opportunities, despite certain application limitations caused by the current absence of relevant legislation, can become a useful tool in the development of coastal marine component of the strategies and comprehensive programmes on the socio-economic development of coastal territories.

The development of marine spatial planning is one of the promising directions for enhancing the marine activities management system, and it is stated in the Strategy for the development of marine activity of the Russian Federation up to 2030 [9].

The Integrated Management Plan for the Barents Sea, elaborated by Norway in 2002 – 2006 is a successful example of the world experience in marine activity management in the Arctic Region. The plan is chiefly aimed at creating favourable conditions for sustainable exploitation of the Barents Sea resources, the development of transport and other production activities, maintaining at the same time the structure, functions and productivity of existing ecosystems. Other examples include the Eastern Scotian Shelf Integrated Management Plan (Canada, 1998 – 2007), the Irish Sea Pilot Project (Great Britain, 2002 – present), the General Plan for the Belgian part of the North Sea (Belgium, 2003 – 2005) the Integrated Management Plan for the North Sea, 2003 – present), the Spatial Plan for the North Sea and Baltic Sea, 2004 – present) [10].

Economic activity within individual seas (transport, fishery, oil and gas extraction, etc.) does not form a unified system and it is not aimed at obtaining the integrated useful result. Such concepts as 'fish industry', 'ship repair complex', 'oil and gas complex', etc. illustrate the fact. A single marine complex on a national or regional scale is formed only with the enhancement of rational interrelations

and the achievement of the optimal combination of major marine and coastal economic sectors. First of all, these processes involve integrated marine areas.

Thus, marine and coastal ecosystems in the Global Ocean serve as the basis for 'planning and management units', and sectoral marine complexes – as their superstructure. These components are united most adequately in the concept 'regional marine economic complex' (RMEC), which is a form of unification of nature, economy and society.

The internal spatial relationships between the various users of natural resources in the Barents Sea has just recently started to develop, reflecting the initial development stage of a new, more complex ecological-economic situation, and subsequently, a new ecological-economic system. Until recently, the absence of competitors to the fishing industry contributed to the formation of psychological monopoly on the use of natural resources in this region. At present, the shelf resources are developed by various economic sectors, and the integrated management of versatile marine activities can become a tool for ensuring sustainable development [8].

Traditionally the Northern sea areas and the Barents Sea were used mainly for fishing and sea transportations. Nowadays, the situation is changing significantly. Oil and gas production, coastal transportations of oil (effective – to the West and developing – to the East), the increasing number of ships cruising along the coasts and in the marine areas of the Arctic, as well as the exploration of marine bioresources are the new types of activities that require assessment of interests, coordination and regulation with regard to the traditional types of activity. It concerns especially the relationship between oil industry and fishing industry, between sea transport and fishing industry and between transport and gas industry.

The need for an efficient inter-sectoral marine management system is intensified by certain changes in economic structure. In terms of creating economic values, the Barents region and its neighbouring seas have a great potential.

Among the wide range of approaches to the development of management systems, a comprehensive or an integrated one is the most efficient, as it was stated above [6, 7, 12]. The concept of integrated approach includes four essential components:

- firstly, the connections between all the major ecosystem components within the selected water area, water layer, bottom and shores (abiotic and biotic);
- secondly, management should be planned and implemented in the context of a long-term development strategy;
- thirdly, the relations between the different users of nature and their social and environmental interests and values should be considered together;
- fourthly, the territorial contradictions of nature management should be resolved by transforming corporate interests into national ones in order to achieve strategic compromise.

In Russia the development of conceptual framework and methodology in this area is only in its initial stage. In this connection, the notions of an ecosystem approach to the development of MSP seem very promising. The MSP formation mechanism may include the following succession of actions: study of the initial state of a marine object and its analysis from economic view points → forecasting of anthropogenic changes of a system according to the planned economic activity → choice of methods and measures for the minimization of negative consequences. This sequence corresponds to the development methodology of the Environmental Impact Assessment (EIA) projects. However, in this case, EIA should be applied not only to individual projects, but also to the areas of operation

of individual industries with the subsequent coverage of the whole managed water area.

In case of the Barents sea, shifting from the assessments of environmental effects of a certain industry (e.g. oil and gas industry) to functional assessments makes it possible to abandon the 'opposing' EIA procedures (e.g. fishing against oil and gas production) and move to strategic, territorial ones, i.e. to create the analytical and forecast basis of marine spatial planning.

Multiple-use marine areas often suffer from the competition for exploitation of the bottom, shores and water areas. In particular, such industries as fishery and oil and gas production are potential competitors for the space of almost entire basin of the Barents Sea. *Figure 1* shows the location of fishing areas and prospective oil and gas facilities in the Barents Sea. A number of potentially disputed areas are defined, for instance, the structures of the Murmanskoye and Severo-Kildinskoye deposits, where the share of the average catch of fish is relatively high. As for the Barents sea, such competition is not critical yet, however, in the future it may become alarming.

Competition for one's 'share' in marine areas is quite tough. However, along with the development of technology, the direct management area will encompass the sea and ocean areas more distant from the land (for example, oil and gas extraction on the continental slopes), thereby increasing the scale of managed subsystem and expanding the zones of potential conflicts.

The Marine Activity Development Strategy of the Russian Federation up to 2030 (approved by the RF Government Order dated December 8, 2010 No. 2205-r) stipulates as its strategic objective 'the transition to an integrated approach to the planning of the development of marine and coastal areas of specific coasts of the country by uniting them into a single object of state management'.

The number of coastal subjects of the Russian Federation, implementing or drafting such programmes should be 21. Marine natural resources management, according to the strategy, should be developed as follows:

– 'introduction and development of the integrated (inter-sectoral) management at all levels that considers maritime economy as an integrated management object and is aimed at preserving the marine environment and eliminating the conflicts emerging from the multiple use of marine areas;

– expansion of the marine component of the programmes on the comprehensive development of coastal territories and coastal marine areas to the borders of the sea areas under the RF jurisdiction;

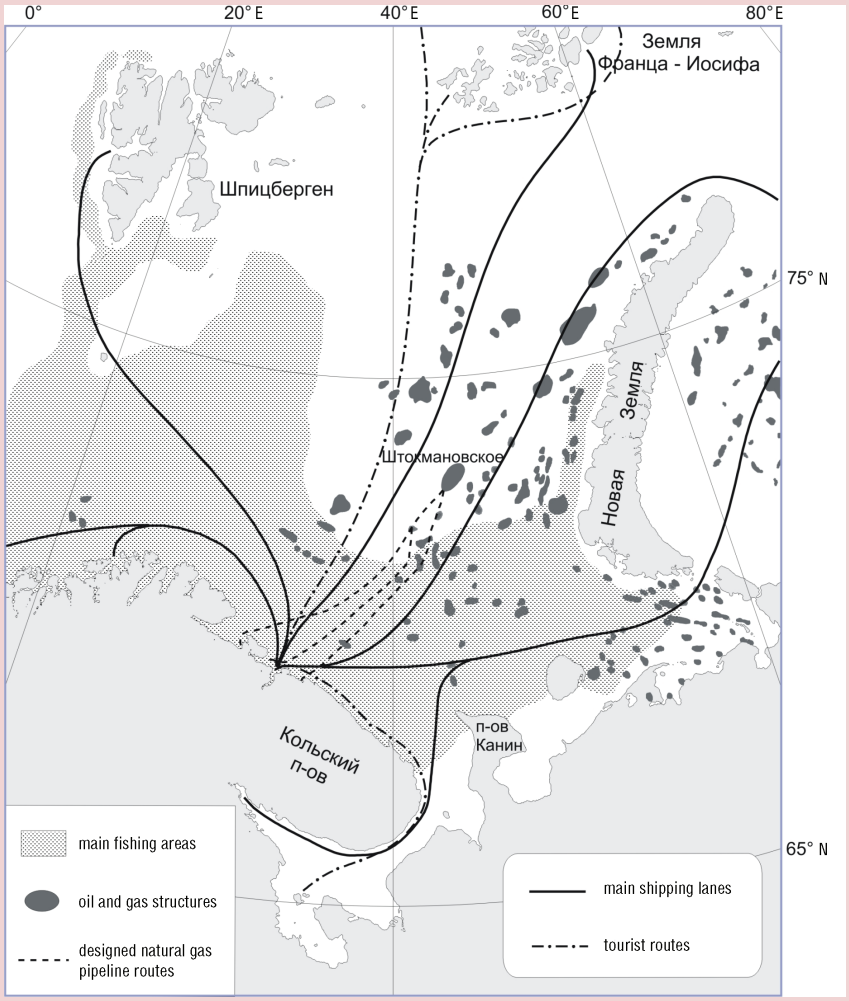
– utilization and development of marine spatial planning tools'.

It should be noted that it is, perhaps, the first time a federal document raises the issue concerning the necessity of an integrated planning and management of maritime economy. The stated objectives and tasks are expected to be achieved mainly by implementing individual sectoral programmes under the RF Government coordination.

Consideration of coastal territories and coastal water areas as a single object of state management is aimed at improving the regional strategic socio-economic planning and it will promote the development of mechanisms for vertical and horizontal integration of strategies and development programmes. This will make it possible to harmonize the interests of the federal centre and regions, individual users, optimize the structure and enhance the efficiency of state support to the coastal zone development.

Integrated coastal zone management (ICZM) is the most widespread and approved integrated management model in the world practice of nature management. ICZM methodology is aimed at creating an efficient economic structure of coastal marine areas, at

Figure 1. Natural resource management system of the Barents Sea (the object of management) [8]



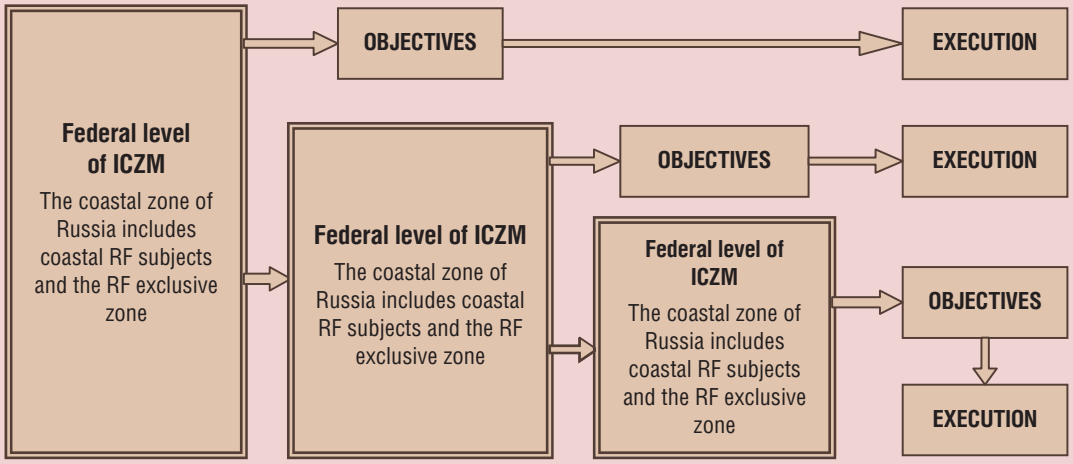
enhancing the efficiency of marine and coastal economy by resolving the disputes over the competitive utilization of marine and coastal resources, at improving the organization opportunities and human potential development. According to the Ministry of Economic Development, regional strategies and programmes on the socio-economic development of all the coastal subjects of the Russian Federation and their coastal municipalities should contain a separate section representing the coastal and marine component, aimed at promoting innovations and achieving cooperation through the coordinated development of marine activity and its coastal infrastructure.

The structure and content of the coastal and marine component of development strategies and programmes of various levels should complement each other, thus creating a common system of strategic planning.

The project of the 'Methodological guide for the development of the coastal and marine component…' (not published) envisages a three-level structure *(fig. 2)*.

In our viewpoint, the zone at the municipal level should comprise the territory of the municipality and the territorial sea within the zone boundaries, which will provide opportunities for the development of coastal industrial fishery and fishing for private use.

Figure 2. Basic scheme of a three-level vertical structure of ICZM with indication of the land boundaries of the coastal areas and maritime borders of the coastal areas, corresponding to the various levels of state administration



The cluster approach is a tool that promotes the transition from sectoral to integrated management. This approach combines cross-sectoral and territorial principles, allows taking into account internal and external trends and changes in the structure of the main production factors, provides an integrated approach to the planning of the socio-economic development of coastal territories. Maritime activities, which represent the system of interaction between the different types of activities and which have a significant multiplicative effect, are a promising object for the use of cluster approach.

The cluster approach actually changes the content of the state industrial policy. In this case, the efforts of government authorities should be directed toward the development of the relations between suppliers and consumers, between ultimate consumers and producers, between producers and government institutions rather than toward the support of individual enterprises and industries.

Today, the existing and planned activities in the Murmansk coastal zone are concentrated in the nominal triangle with vertices in the areas of Varangerfjord, Pechenga Bay – Murmansk city, Kola Bay – Teriberka rural locality, Orlovka Bay, Korabelnaya Bay, Zavalishina Bay, Lodeynaya Bay, Opasova Bay *(fig. 3)* [2].

It is this relatively small (about 5.3 thousand square km) area of the Kola Peninsula where the planning, exploration and construction activities are carried out in the framework of the two federal megaprojects: the coastal infrastructure of the Shtokman project and the infrastructure of the Murmansk transportation hub. The naval, frontier and EMERCOM forces are stationed here, and this area possesses huge potential for coastal fishing, aquaculture and recreation.

The population in the Murmansk coastal zone is distributed rather unevenly, its vast majority is concentrated within the Kola Bay shores (up to 90%). According to the available statistical data, the contribution of the coastal zone in the Murmansk Oblast economy is still very small (not more than 15%). This does not correspond to the potential of the Murmansk coastal zone, and hampers the transition of the whole peninsular region to sustainable development.

Coastal fishing and processing of hydrobionts are the socially significant activities in the coastal zone of the Kola Peninsula.

Figure 3. The Murmansk coastal zone

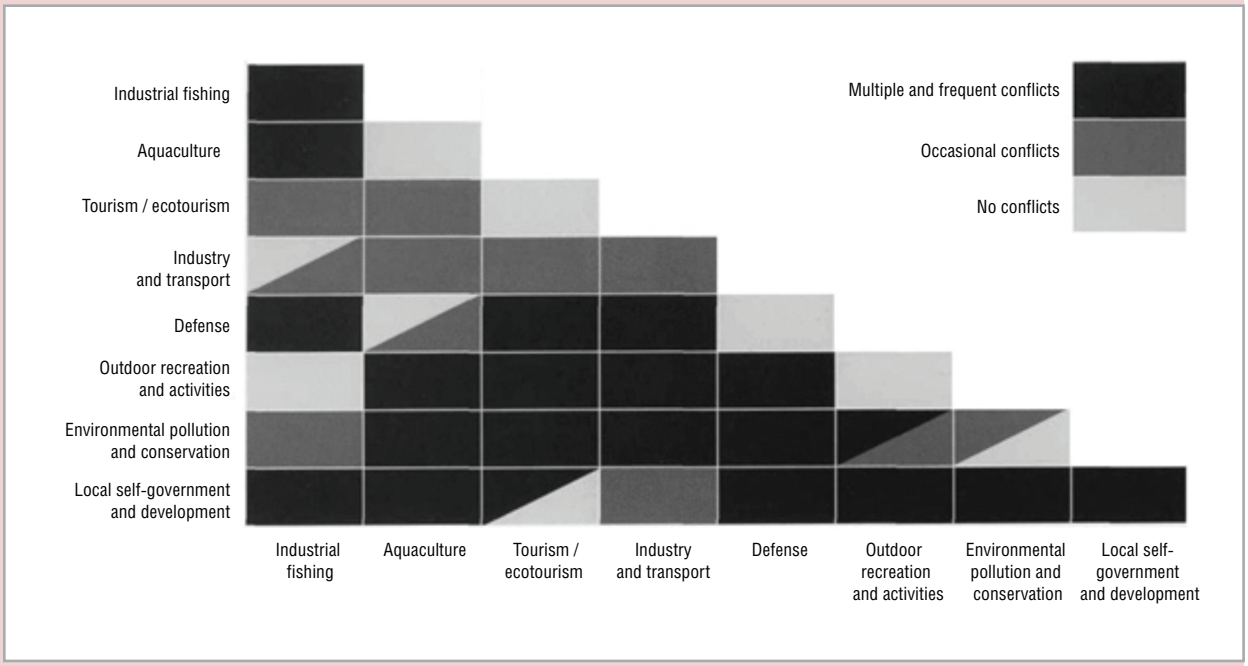
These activities can promote the settlement of population in the coastal areas, ensure their employment and improve their living standards, enhance the fiscal capacity of local municipalities.

At present, the coastal zone, traditionally exploited by fishermen, is considered (and partially used) as an integral spatial resource for any marine activity, whether fishing, aqua-culture, marine transportation, specially protected areas, defense or recreation. Such a diversity of activities on one and the same territory (water area) cannot but cause disputes and conflicts. *Figure 4* shows the interaction between various types of activities in the open sea and coastal areas, as well as the classification of possible conflicts between users of nature [13]. The analysis of the matrix shows that, in practice, the most typical are numerous and frequent conflicts (over 50%). Individual (pair) conflicts are 2 times less frequent, and peaceful interactions almost never happen.

Figure 3 shows the so-called 'hot spots' in the triangle of intensive anthropogenic activity that emphasize the necessity of creating ICZM programmes approved at the high level for these natural and anthropogenic sites.

In the first place, it will be necessary to substantiate the priority development directions of the coastal areas of the Kola Peninsula based on the region's sustainable development concept, i.e. the triad of economy, social issues and environment. The inclusion of the coastal and marine component into the strategy and programmes on the socio-economic development of coastal areas should be aimed at ensuring the balance between the short-term economic benefits and the achievement of long-term development goals. This requires, first of all, identifying the factors restricting the use of coastal zones, including legislative and normative documents. Back in 1998 the concept of 'administrative-geographical dualism' was introduced, which reveals contradictions at the intersection of geographical, legal and admi-

Figure 4. Compatibility matrix for the types of marine activities



nistrative-territorial spheres of knowledge [5]. The coastal zones, where the land falls within the jurisdiction of the RF subjects and the marine areas – within that of the federal authorities (the centre), are a bright example of such contradictions. That is why it is not quite clear how the strategic issues remaining the responsibility of the Ministry of Economic Development, and the issues entrusted to local authorities can be combined. Taking into account the current legislation, the integration of coastal territories and marine areas in the framework of the general object of state management, as stipulated by the Marine Activity Development Strategy, is possible only with the introduction of significant amendments into a number of federal laws.

After resolving these issues of principle, it is necessary to collect the source data for evaluating the resource potential and risks in the coastal zone, for example in the above-mentioned rural locality of Teriberka. And only after that, it will be expedient to determine, which methods from the number of integrated strategic planning tools will prove to be appropriate for developing the coastal and marine component of the strategy.

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Innovation factors in the country's economic security management system

This article is devoted to the studies in the sphere of introducing innovation factors into the country's economic security management system. According to the research, innovation factors and economic security of the country are determined by its scientific and technological potential. The article reveals the essence of introducing innovation priorities in the Republic of Azerbaijan and describes two main categories of innovations. It also studies possible results of the state innovation policy in ensuring the country's economic security. Besides, it presents the scheme of innovation revival of the country's industrial potential, providing the enhancement of economic security.

Innovation, government policy, structural reforms, investment and innovation potential, innovation policy, lawmaking, innovation categories, economic security, revival of industrial and scientific-technological sphere.

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In the beginning of 1990s the Azerbaijan Republic possessed a most powerful intellectual, scientific-technological and production potential.

This provided the opportunity for a breakthrough in enhancing the efficiency of economy and life quality in Azerbaijan. However, in the course of reforms in the socio-political system, i.e. in the transition from socialism to capitalism, negative results were obtained due to the lack of professionalism of the legislative and executive powers.

Nowadays the tangible improvement of macroeconomic indicators is not related to the country's innovation strategies, for it is associated with the export of oil and oil products and is of a temporary, situational character. The proportion of innovation-active enterprises in the country has decreased 22-fold for 20 years. At the same time, many developed countries, such as the USA, Japan, Germany, France, and the leading companies of the world are shifting to a new innovation-driven economic policy, to the economy capable of ensuring the overall quality of products on the basis of the comprehensive development of the knowledge base.

According to its innovation-economic policy, the United States increased its federal budget expenditures on education by 50% in the period of 2000 – 2010. For example, the U.S. expenses for these purposes during the stated period have increased 100-fold in comparison with Russia. Therefore, if an education system is not established properly, then it will hardly be possible to use market innovation-economic relations for the revival of the economy in CIS

countries. Given the current state management policy, it is impossible to work out efficient principles of a new innovation economy.

The academic novelty of this article consists in the development of an efficient mechanism of innovation business functioning and management; in the substantiation of the factors enhancing the role of the government regulation of innovation activity. Besides, the paper describes the economy of the countries with market relations, the economy of the countries with economies in transition (CIS), furthermore, it defines the role of the state in managing the economy under crisis conditions.

It can be confidently asserted that the system approach and system analysis (in particular, the system of the unity of objects of management and its external relations) are the key tools of the new innovation-based economic policy. The system analysis of an object, or a subject of management should be carried out in the following sequence:

a) examination of its investment and innovation opportunities, and the formulation of an economic mission;

b) study and forecast of trends in the innovation development of the objects located in a far and near environment;

c) study and forecast of the parameters of innovation products' consumers markets and their competitors;

d) research and forecast of the parameters of innovation production suppliers' markets;

e) definition of goals, functions; construction (development) of the object's structure on the innovation basis.

Thus, the results of the system analysis serve as the foundations for the elaboration of the strategy of the object's innovation-based development.

The studies indicate that the development of society is conditioned by efficient republican laws, strategies and programmes. Their study according to various aspects of education and science, the forecast and elaboration of the socio-economic development plan of the Azerbaijan Republic and its national economy, as well as its competitiveness management lead to the conclusion that the system development of these documents was not carried out, and if it was indeed, then the goals, task and results turned out to be too general. Therefore, investment and innovation programmes do not and will not produce the desired outcome. It is common knowledge, that it is the Constitution which is the basic law, determining the quality of the documents on a country's economy management [3, p. 7-10].

When drafting the republican laws, the deputies of the National Assembly (Milli Majlis) of the Azerbaijan Republic consult certain laws and normative acts of the advanced Western countries, but at the same time, the selected laws in the sphere of competition, competitiveness, innovation activity, personality development, education, healthcare, culture, standardization, information and communication technologies are not considered sufficiently enough.

There is no system of forecasting, optimization, functional-cost analysis, resource-saving, management of quality, competitiveness and innovation processes.

Under the conditions of transition to the market economy, innovation policy is becoming more important as a factor of ensuring the country's economic security. The state innovation policy is the major element of economic and scientific-technological policy. It defines the main trends of basic innovations at the regional level, in intergovernmental relations, as well as the mechanism of implementation of these priorities. Studies prove that the development of innovation priorities in the Republic of Azerbaijan should be based on:

- long-term economic and scientific-technological forecasts;
- statement of these priorities in innovation programmes and regulatory documents;
- state support of priority basic innovations and state innovation programmes;

- support of small business
- creation of the legal base of innovation activity.

The role and place of the country's innovation policy becomes more important during technological crises and the transition to a new technological mode, i.e. when basic innovations require urgent state support and the application of antimonopoly legislation in order to curb the impact of monopolies, seeking to preserve obsolete equipment and the old technological mode.

The innovation policy of Azerbaijan should be strategically aimed at the elimination of technological degradation, the development of the fifth technological mode, the enhancement of innovation activity, the formation of a unified innovation policy for the country [1, 102-104].

The reform of the economy in our country depends on the state innovation policy. It contributes to the development of incentives for innovations commercialization at the enterprises and institutes possessing economic independence; it also enhances the competitiveness of domestic production and the development of new institutional mechanisms of competitive financing of R&D.

It is necessary to take into account the aggravation of problems of innovation processes management that consist in the following:

- weakening of administrative leverages;
- reduction in the number of coordinating bodies;
- deterioration of industrial science, which impeded the introduction of new scientific developments;
- deterioration of the personnel and material potential of scientific institutions due to external and internal "brain drain";
- lowering of the status of scientific workers;
- extreme depreciation of equipment, etc.

Thus, innovation development of Azerbaijan economy requires the removal of administrative and institutional barriers and provision of economic self-sufficiency of the subjects of innovation process.

It should be noted that the factors mentioned above were then followed by others that significantly hamper the innovation activity of economic entities. Such factors consist in:

- absence of a strategic motivation on the part of the majority of national economic entities;
- significant resource limitations for the economy;
- reduction of the creative component in human activity, conditioned by the change of values.

Accordingly, at present, the following problems of innovation sector are coming to the fore in our country, as well as in CIS countries:

- ➢ elimination of "non-transparency" of innovations market, i.e. the elimination of informal ways of technology transfer, as well as the complexity of financial and legal relations;
- ➢ development of communication channels, providing the connection between the subjects of innovation processes;
- ➢ creation of special tools for financing innovation projects.

The problems listed above involve the term "infrastructure of an innovation market", which means the set of economic entities and mechanisms, that provide material and organizational support to the efficient interaction of manufacturers and consumers of knowledge-intensive products in the period of creating innovations and further distribution of knowledge-intensive products in the economy.

Research proves that the enhancement of production efficiency in modern conditions can be achieved mainly through the development of innovation processes that is displayed in new technologies, new kinds of competitive products. The search for and use of innovations directly at the enterprises is a relevant problem as well.

The development of new organizational and technological solutions creates the conditions for the renewal of reproduction processes at the enterprises and additional impetus to economic growth. Essentially, innovations include not only technical or technological developments, but also any changes for the better in all spheres of research and production activities.

The founder of the theory of innovation J. Schumpeter, considering innovation, especially technological, as entrepreneur's means of profit-making, proved that a dynamic entrepreneur is a source of short-term market fluctuations. Analyzing the reasons for such fluctuations, J. Schumpeter, for the first time in economics, defined the "new combinations of changes in development" and gave them a description.

J. Schumpeter identified five typical changes:

1) manufacture of products with new properties;

2) introduction of a new method (way) of manufacture;

3) development of new markets;

4) use of a new source of raw materials;

5) performance of the relevant reorganization of production.

What J. Schumpeter meant by the notion of "innovation" in the 1930s, took place due to the use of new or advanced solutions of technological, organizational nature in production, supply and marketing of products. In accordance with international standards, innovation is defined as the final result of innovative activities that was embodied in the form of a new or improved product introduced in the market, a new or improved technological process, used in practical activities.

Traditionally all innovations are divided into two main categories: technological and non-technological. Many researchers argue that technological innovations determine the intensity of production development.

Non-technological innovations include innovations of organizational, managerial, legal, social, ecological character. Studies show that in the transition period the whole production sphere and the sphere of services in CIS countries had to face the situation of the 1930s, which is possible to handle only by introducing technological and non-technological innovations on the basis of "combinations of changes in development" described by J. Schumpeter.

Research shows that due to various external and internal reasons, the great opportunities of CIS countries were impeded by sluggish, inefficient bureaucracies in the period of transition to market relations.

As a result, CIS countries experienced a complete shutdown of many factories and plants, with a total loss of skilled personnel in all the spheres of national economy.

In addition, economic security of these countries, being part of national security, deteriorated. Studies prove that it is impossible to confront threats to economic and national security regardless of at least basic national values and objectives. By and large, the fact that innovation development has been curbed is explained by the absence of the state innovation policy strategy, which is to determine the role and place of the government in the provision of innovation process in innovation sphere.

The modern experience of the countries with market economy indicates that the state actively regulates the economy. Emerging economies should have a government, which actively regulates and revives the production sphere by introducing innovations and investments in it.

In the countries with economies in transition, it is the state and not the "invisible hand of the market" that should define the objectives of the revival of national economy branches on innovation technological and non-technological basis.

It is not the market, but the state that defines what the economy should be, for the business in emerging economies is not capable of car-

rying out structural reforms on its own, to eliminate imbalances and to level economic and social differences.

Today, information and industry are important conditions for ensuring economic security. These factors form the foundation for choosing the policy and strategy of economic revival on the basis of innovation support and scientifically grounded introduction of innovations in the production sphere.

The state innovation policy should be an integral part of socio-economic policy aimed at the development and promotion of innovation activity, which is understood as the creation of new or advanced products, new or advanced technological processes, implemented in the economy using R&D, experimental and design works, or scientific achievements.

Thus, the author believes that the state innovation policy is defined as the set of socio-economic relations between the state and the subjects of scientific-technological activity in the issues of creation, transformation and use of innovations for modernization of all spheres of life, provided that the government ensures legal support and compliance with moral and ethical aspects of innovation system's formation. And this problem should be solved on the basis of efficient regulation of innovations by state authorities: promotion of innovations, creation of the legal base of innovation processes and formation of scientific and innovation structure, which is connected with the solving of the urgent tasks that the state faces in the sphere of innovation activity at present.

The state innovation policy should be formed and implemented with the acknowledgement of the fact that innovation activities are crucial for enhancing the competitiveness of domestic products, for ensuring sustainable economic growth, for increasing the level and improving population's life quality, and for ensuring the defense, technological, industrial, ecological security, which would provide for the improvement of economic and national security.

Unfortunately, at present, it is impossible to carry out an effective innovation policy in CIS countries, as all the spheres of industrial production, science, R&D have deteriorated.

Over the last 20 years the innovation policy in CIS countries hasn't undergone any significant positive changes. As for the opinion of some economists that the modern economy is determined by the market and not the state, it is absolutely groundless. In particular, it concerns the issues of economic development in CIS countries. The fact is that many countries with capitalistic socio-political system and centuries-old forms of economic development united their industrial and financial capital in order to upgrade their industrial production, and thus carrying out their investment and innovation policy, which linked science and production. However, even these conditions did not enhance the development efficiency of a market economy in order to improve people's living conditions.

Economy of CIS countries, including Azerbaijan, is absolutely different from the centuries-old capitalist economy. The point is that the former USSR countries, having shifted toward market economy, lost their scientific potential, as well as the great number of skilled employees, and returned to the level of 1950s – 1960s. All CIS countries, including the Republic of Azerbaijan, have become raw material suppliers. Oil and gas exports in these countries account for 92 – 97% of overall exports. All the other industries, which don't produce competitive products, virtually ceased to exist, and therefore, economic security can't be ensured without the innovation policy of the government.

The author believes that the crises in CIS countries and in the Republic of Azerbaijan are much more complicated structurally than the crises affecting the developed capitalist countries. Here we are confronted, on the one hand, with the crisis in the countries with powerful industrial potential, which produce

competitive products, and where the relations between science and production are close; on the other hand, we observe the crisis in the countries with weak industrial potential that are not capable of producing competitive products and that lost the link between science and production. And in both cases we mean their innovation factor in ensuring the country's economic and national security, affecting legislative, monopolistic, social, banking and trade union activities.

The intervention of the government in the economy at the beginning of the 20th century was spontaneous and it had no theoretical foundation as a manifestation of economic mechanisms of entering the crisis and preventing it.

The author's research in the history of the Great Depression, an economic crisis that took place in the United States in 1929 – 1933, shows that the government did everything in its power to avert it. The then U.S. Presidents J. Edgar Hoover and Franklin D. Roosevelt piloted a number of important bills. They included the laws on loans to farmers and businessmen, on the programmes for scientific and industrial policy, public and construction works. Although these half-measures couldn't recover the situation completely, they at least reduced the crisis effects to a minimum. At the same time, disastrous changes finally undermined the confidence in the fact that a spontaneously organized market enjoying the minimal participation and intervention of the government was able to ensure balance and stability in the economy. At that time it was already clear that the current economic theory had serious flaws.

Many economists, including Karl Marx, were baffled by those flaws. The Great Depression clarified the occurred economic paradox. The first step to the solution was made by John Maynard Keynes in his work "The General Theory of Employment, Interest and Money" (1936). Keynes' main achievement was his refutation of the existed notion, that market economy was capable of self-regulation. The scientist proved that it was inclined to stagnation, which created internal tension in economic and social relations, the tension that should be removed through government intervention.

The author argues that government intervention in the economy in CIS countries, including the Republic of Azerbaijan, should be effected more promptly, than in the developed countries, on the basis of innovation factors, which is necessary for the revival of competitive industry, reduction of social tension and enhancement of economic security. The funds, received from the export of raw materials should be the source of introducing innovation factors. The implementation of the investment innovation factor in Azerbaijan's oil sector led to the 11-fold increase in oil production in 2011 as compared to 1992 *(table)*.

Here the question arises: how can the domestic industrial production be revived in the conditions of a relentless competition by applying innovations as the main lever of development?

Studies show that there are two ways to implement an investment strategy that would improve a country's economic security.

The *first* one consists in paying special attention to the country's scientific-technological potential.

Development of innovation activity in oil industry in the Republic of Azerbaijan in 2005 – 2011

No.	Indicators	2005	2006	2007	2008	2009	2010	2011
1.	Volume of exported oil products, million tons	33.6	43.6	47.8	29.7	49.5	49.8	50.3
2.	Expenditures on technological innovations, billion dollars	1.2	1.3	1.1	1.3	1.6	1.2	1.1
3.	Number of innovation enterprises	5	11	12	15	18	21	23

The *second* one consists in the introduction of the existing foreign scientific-technological potential and innovation into the country's own economy. In the first place, this strategy was used by Japan in the post-war period, when it purchased licenses to the advanced technologies from such highly developed countries as the USA, England, France, Germany in order to develop the production of state-of-the-art products, enjoying great demand on the international market, and also for the subsequent creation and development of its own scientific-technological and scientific-industrial potential. This ensured further implementation of the innovation cycle from basic R&D to the introduction of its own innovations for the modernization of production.

Studies prove that in the present conditions, when the industrial and scientific spheres have declined and the link between science and production has been lost, the first way of implementing innovation policy is virtually impossible.

The second one, i.e. the Japanese way of reviving industrial innovation and scientific-technological sphere is the most reasonable and productive [2, p. 65-69].

Such a strategy was adopted not only in Japan, but also in China and some countries of South-East Asia. The classic example is the creation of the competitive South Korean automotive industry and industry producing advanced computers, household equipment and electronics.

The Republic of Azerbaijan should develop and choose its own strategy of promoting innovations, which would be based on the existing production, intellectual and resource potential. The strategy of innovation and technological breakthrough, in case of its successful development, adoption and consistent implementation with the government support, will give Azerbaijan the last chance to stop its technological deterioration, and to revive the production in its national economy up to the relevant international standards.

Studies show that many countries pay considerable attention to the provision of necessary external and internal economic and technological information that is of a certain innovation interest for national enterprises and businesses.

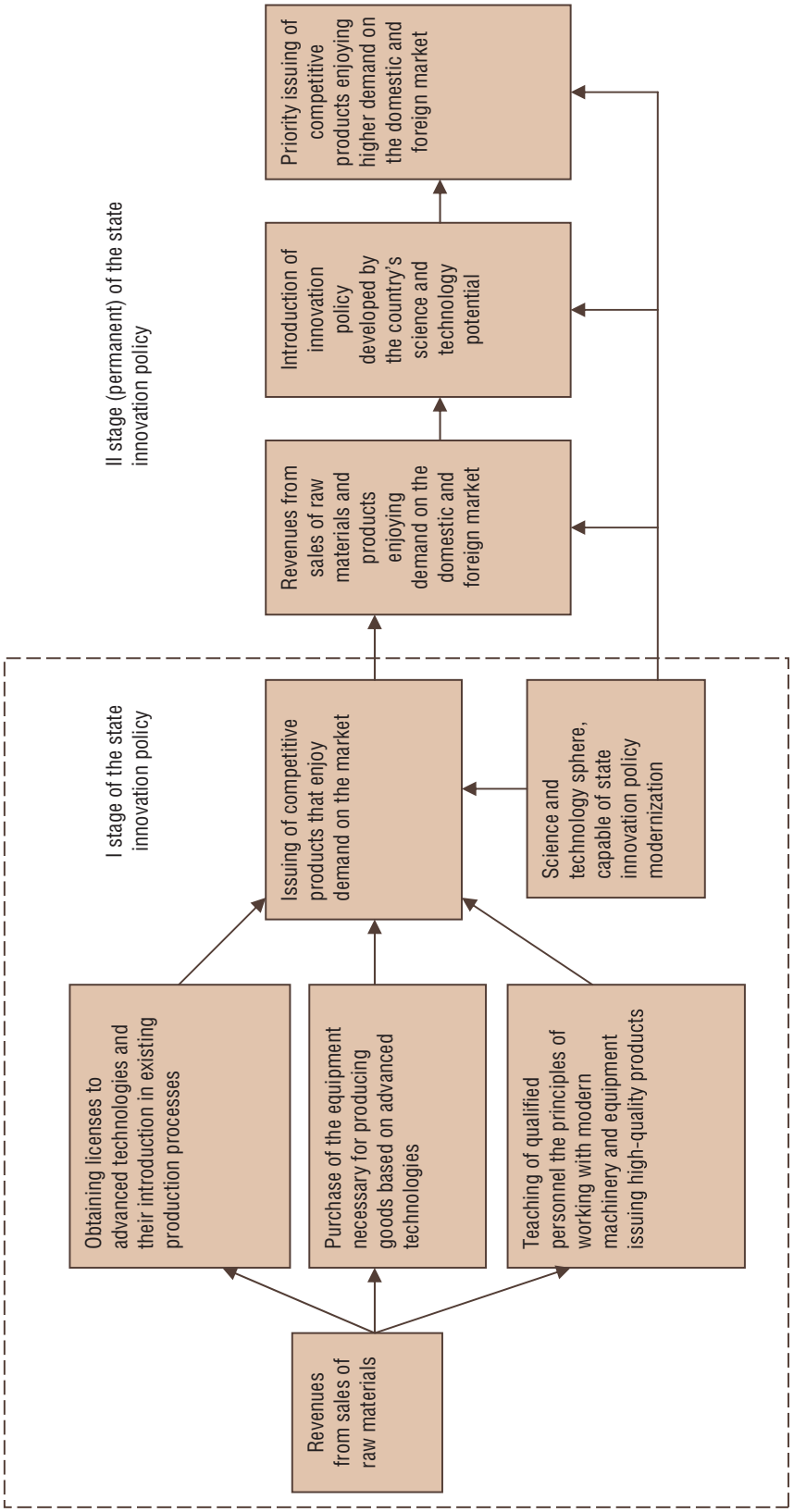
In this regard, it is notable experience of Japan, which since 1958 under the Ministry of Industry of a foreign trade organization dedicated to the collection of scientific-innovation development across the world and their analysis. This organization receives economic information due to close contacts with official representatives of all economically developed countries. Selection and qualitative analysis of the innovations is carried out in Japan (as in France, Germany and etc.) with the help of information system.

That is the way of innovations implementation that contributes to the maintenance of the country's economic security at the proper level.

The revival of the industrial potential in CIS countries requires determining the information, financial, personnel sources possessing the ability to conduct innovation policy taking into consideration the availability of domestic raw material resources and the previous experience in various spheres of industry.

For example, the Azerbaijan Republic has sufficient raw material resources, like oil, gas, cotton, wool, silk, tobacco, etc., as well as intellectual resources consisting in the experience in the processing of raw materials, production of consumer and industrial products, qualified scientific-technological and engineering personnel, capable in the shortest term to restore their scientific potential on the basis of borrowed innovations, introduced in the production sphere. The *figure* displays the ways and sources of innovation policy in the Republic of Azerbaijan, promoting economic security.

Scheme of innovation revival of the country's industrial potential ensuring its economic security



The fast-track introduction of the scheme of innovation policy aimed at enhancing the country's economic security requires innovation-oriented investments, especially foreign ones, in order to develop the advanced technologies of the sixth technological mode.

Integration of science, higher educational institutions and production in the selected strategic innovation priorities, which will contribute to the attraction of talented youth is particularly relevant for the implementation of the second stage of innovation policy.

Thus, the restructuring of national economy in order to ensure the proper level of the country's economic security requires a science-based governmental innovation policy. In turn, this requires certain financial, intellectual, informational costs. Science-based innovation policy contributes to the strengthening of the country's economic security, which is possible due to the gradual innovation revival of the country's industry and national economy.

At that, the government plays an important role in the implementation of innovation policy in priority areas, as well as in the creation of an advanced infrastructure of innovation activity, in ensuring the interaction between science, education, production and in formation of a favorable financial and credit sphere for the development of innovation activities.

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Framework of harmonization and unification of external economic relations between the Republic of Belarus and the Russian Federation in the context of Russia's accession to WTO

Russia's accession to the World Trade Organization has serious risks for the economy of the Republic of Belarus. This will affect such sectors of the Belarusian economy dominating in exports to Russia as agriculture, machine-building, chemical industry. Therefore, it is necessary to carry out a detailed analysis of the rules and regulations that exist in the economy in the nearest future. For this purpose, the methods of harmonization and unification of external economic relations between Belarus and Russia have been developed. The practical application of the developed methods will reveal the non-compliance of them with WTO law enforcement practice, which will give an opportunity to take immediate action to minimize losses in this sphere because of Russia's accession to WTO.

Republic of Belarus, Russian Federation, World Trade Organization (WTO), harmonization, unification, economic standards.

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Russia's accession to WTO will have a serious impact on the economy of the Republic of Belarus, which is creating the Common Economic Space (CES) together with the Russian Federation and the Republic of Kazakhstan. Today, three countries have a common customs tariff and use the unified measures for tariff and non-tariff regulation of foreign trade.

According to the Agreement on the Functioning of the Customs Union (CU) [2], from the date of any of three states' accession to WTO, the rates of common customs tariff shall not exceed the rates of import tariffs that are specified in WTO standards.

That is, the Republic of Belarus and Kazakhstan have to accept obligations that were bargained by the Russian Federation in the negotiations on Russia's accession to WTO.

Due to Russia's joining WTO, there will be a reduction in tariffs in the following areas [1, 5]:

- average marginal rate for all the products – from 9.5% down to 7.8%;
- average marginal duty on agricultural products – from 13.2% down to 10.8%;
- average marginal duty on manufactured goods – from 9.5% down to 7.3%.

The average level of import duties after the complete tariff cut on some types of goods is presented in *table 1.*

A new rate of duties will be effective for one third of goods since the date of Russia's accession to WTO; as for other goods, a transitional period from 2 to 8 years will be used for them according to the type of product: for example, a transitional period of 8 years was determined for poultry, a period of 7 years – for cars, helicopters, civil aircraft.

Tariff quotas on some imported foodstuffs will be kept after Russia's accession to WTO: import within the quotas will be liable to lower duties, import over the quotas will be liable to higher duties *(tab. 2)*.

Russia's commitments to WTO for a number of commodity items, which include about 2.5 thousand goods, are below the current common customs tariff. External rates of duties on one thousand commodity items are 7 – 15% lower than the current common customs tariff, and they are 4 – 6.5% lower on the rest 1.5 thousand items.

Tables 1 and 2 show that the restrictions adopted by the Russian Federation will have a significant impact on the economy of the Republic of Belarus [3]:

1. Belarusian milk products can be driven out of the market in Russia, while they are significant source of currency earnings to the country: at the end of 2010 commodity group "Cheese and Curd" headed the list according to the cost of commodity exports from Belarus to Russia passed ahead of the position "Trucks and Tractors".

2. Due to the increase in Russia's tariff quotas for imported food and zero duties on pork, there will be a decline in prices for livestock products, which will have a negative impact on the standing of Belarusian farmers: livestock production occupies 90% of food exports in Belarus.

3. Increased competition will affect the leading Belarusian industry – machine-building, including farm-machinery industry, most production of which is exported to Russia: import duties on almost all the types of agricultural machinery will be reduced.

4. Low tariff commitments of Russia will increase the imports from the third countries to the territory of the Customs Union; this will involve such industries as chemical and wood-working.

The study is aimed at the development of the methods of harmonization and unification of external economic relations between the

Table 1. Changes in the level of import duties after the complete tariff cut in accordance with Russia's commitments to WTO [5]

Production	Tariff rate in accordance with commitments to WTO, %	Current tariff rate, %
Dairy products	14.9	19.8
Crops	10.0	15.1
Chemical products	5.2	6.5
Cars	12.0	15.5
Wood and paper	8.0	13.4
Information technology products	0	5.4

Table 2. Tariff quotas adopted by Russia in accordance with the commitments to WTO, on some imported goods [1, 5]

Production	External rates of duties within a tariff quota, %	External rates of duties over a tariff quota, %
Beef	15	55
Pork	0, since 2020, on a flat scale – 25	65
Some types of cultured milk foods	10	15
Some types of poultry products	25	80

Republic of Belarus and the Russian Federation in the context of Russia's accession to WTO.

We can see that Russia's accession to WTO is resulted in the changes that concern not only the common customs tariff, but technical regulations, standards and rules of veterinary checks and phytosanitary control, volume and nature of governmental support for various economical sectors of the Republic of Belarus.

In the near future, it is necessary to carry out a detailed analysis of the current standards and regulations in the economic field of the republic and develop the measures to level a negative impact of Russia's accession to WTO on the economy of Belarus. All these steps require the harmonization and unification of the legislation in the Republic of Belarus.

At the same time, it is assumed, for example, the following harmonization of VAT rates: it accounts for 20% in the Republic of Belarus [4] and 18% in the Russian Federation. It is clear that the reduction of VAT rates down to the level of Russia will significantly reduce the budget revenues in Belarus because VAT revenues account for 31% of the revenue side of its budget (according to the results of 2011).

But the current rate of 20% can lead over time to the fact that business and taxpayers will be to look for more favorable variants move to Russia in the conditions of free movement of goods, services, capital and labour contained in the documents adopted within the framework of the Customs Union and the Common Economic Space.

This is precisely why the harmonization, i.e. the development of common agreed principles and measures for their implementation to solve one or another problem in the economic sphere, is necessary.

The level of harmonization implies the elimination of the differences in the national legislations of Belarus and Russia for the benefit of intensifying the foreign economic relations between these countries in order to create common legal basis of the economic sectors. Harmonization will facilitate a mild impact of intergovernmental mechanisms on the development of consistent and coordinated activity of Belarus and Russia in the field of external economic relations.

The ways to implement the harmonization have been developed as part of the methodology *(fig. 1)*.

It is necessary to use the experience of other countries and regional organizations, as well as take into account the negative effects of the global financial crisis when implementing the harmonization in the Republic of Belarus and the Russian Federation.

We suggest the algorithm of harmonization within the frameworks of the methods developed *(fig. 2)*.

The proposed technique defines the methods that should be used to implement the harmonization:

1. The Republic of Belarus and the Russian Federation develop consistently the common principles and measures to achieve them.

2. The country (Belarus and Russia) introduces some laws or regulations of another country in its own economic system.

There are the areas of harmonization in the methodology that include ***the introduction of model legislation into national legislative acts***, i.e. the development of recommended (model) legislative acts in the economic sphere. Today, model legislation is widely used in international contacts because model laws are suitable to change the national legislation by developing a national act on the basis of the common text but in view of specific character of the country. The development of model legislation should be based on the best international practice and generally recognized principles of international law *(fig. 3)*.

The next area of the process of harmonization is filling the gaps in the national legislation in the economic sphere with new laws and other regulations to comply with common principles and standards; bringing the current economic legislation to conformity with the provisions of international agreements.

Figure 1. Ways of implementing the harmonization

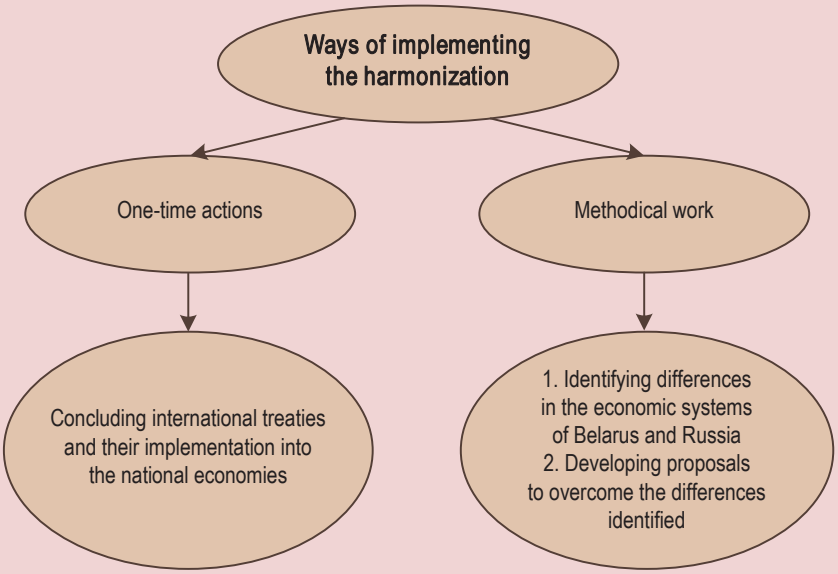


Figure 2. Algorithm of harmonization

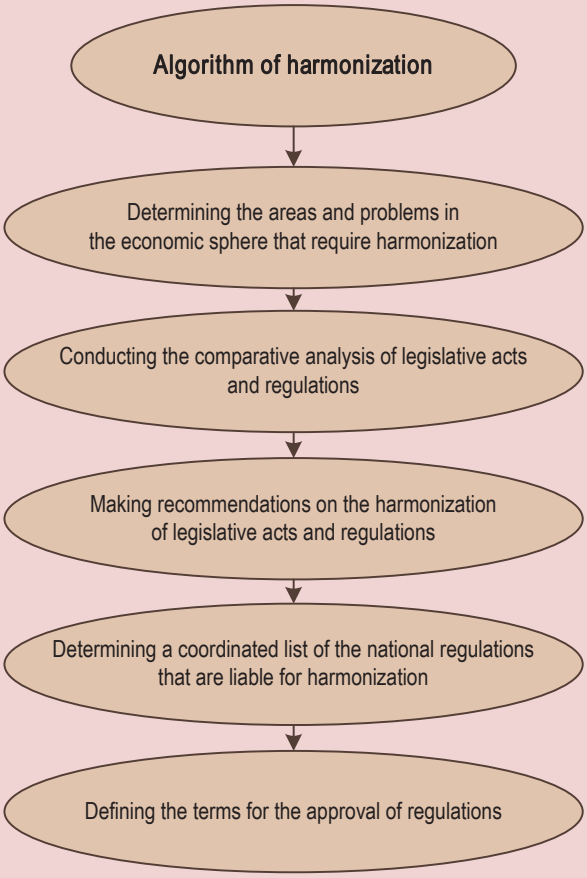
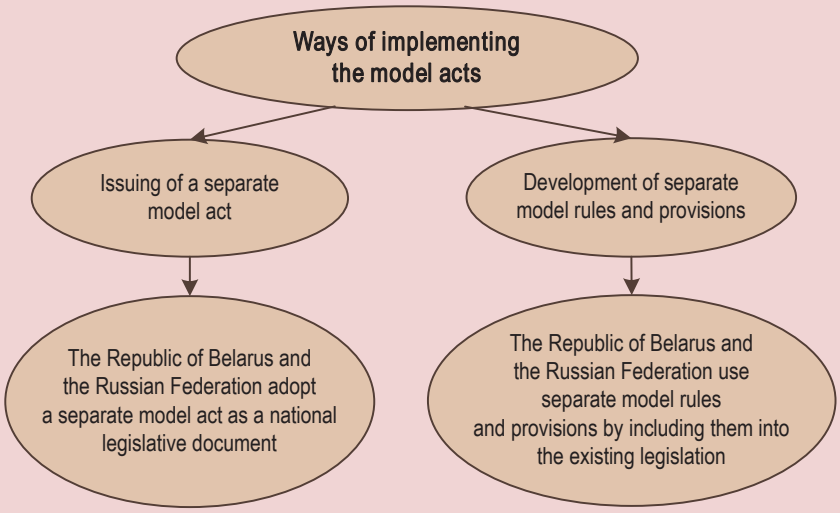


Figure 3. Ways of implementing the model acts



The Republic of Belarus and the Russian Federation are not always ready to develop a common approach to specific economic issues due to various objective reasons and arguments of little substance. Therefore, we propose to develop a procedure for the preparation, adoption and implementation of agreements and decisions made by both states, and their transformation into the economic systems of our countries, as well as to develop the common principles and objectives formulated in the form of recommendations for reviewing the statutory wordings in the economic sphere.

The need for unification has been caused by Russia's accession to WTO and spreading of Russia's commitments to all the members of the Common Economic Space. This means that the Republic of Belarus should unify its own regulations according to Russia's commitments in the near future.

These measures are necessary to bring the regulations and standards of Belarus into conformity with international ones, improve the competitiveness of the national economy and implement the further trade liberalization. In future, this will allow the Republic of Belarus to join WTO on the transparent and agreed terms and become a participant enjoying full rights in the multilateral trading system. Belarus' accession to WTO will mean functioning within WTO legal framework; however, we have no access to dispute resolution mechanism within the multilateral trading system of WTO because our country is not a member of the World Trade Organization. It is possible to characterize the current situation as follows: we have commitments, but we have no rights.

The process of unification involves the reduction of economic standards and principles to a complete uniformity, a common form, a common standard.

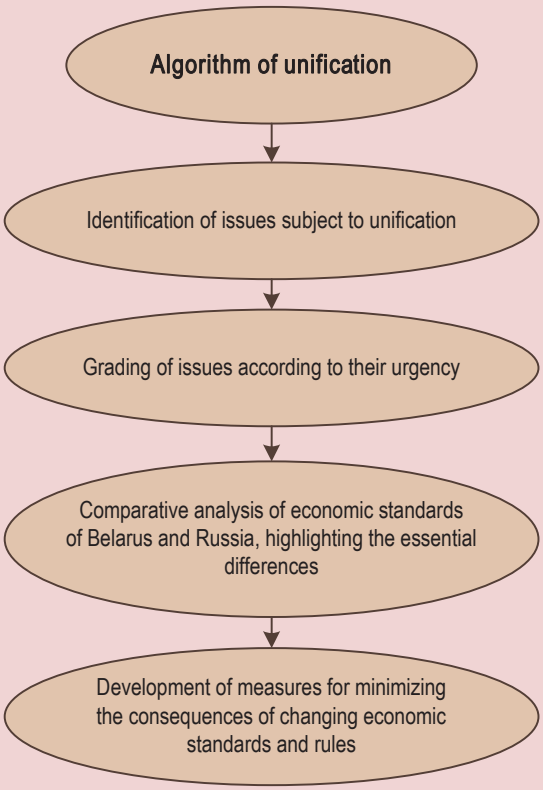
Algorithm of unification is depicted in *figure 4*.

The **methodical basis** of comparative analysis of the economic standards of Belarus and Russia have been developed, which include the following components:

1. *Tasks of comparative analysis:*

- collection and analysis of information on economic standards of Belarus and Russia;
- identifying the differences in economic standards, economic principles;
- making recommendations to change economic standards and regulations.

Figure 4. Algorithm of unification



2. *Requirements for comparative analysis:*

- the completeness of analyzed material on the subject;
- the comparability of statutory wordings according to the identity of issues to be solved;
- the objectivity of analysis and assessments.

3. *The types of decisions can be:*

- changes in economic standards and regulations;
- abolition of the previously established restrictions, benefits, etc.

4. *Objects of comparative analysis:*

- economic systems on the whole;
- sectors as holistic establishments regulating the specific types of economic relations;
- international treaties between Belarus and Russia and the acts of the Custom Union and the Single Economic Space with regard to the economic sphere of regulation;
- national regulations, including executive power acts and departmental regulations;
- specific regulations or the groups of interrelated standards.

5. *Stages of comparative study:*

- studying economic standards and regulations;
- comparing the content and types of notions and economic terms;
- selecting the texts of normative standards, thematic selection of international agreements;
- presentation of research results.

6. *Results of comparative study:*

- in the form of proposals and recommendations in order to eliminate some provisions that hinder the process of unification;
- other final documents containing the proposals on the ways and means of unification.

Conclusions and proposals

Russia's accession to WTO resulted in serious impacts on the Republic of Belarus. The changes will affect not only the common customs tariff, but technical regulations, standards and rules of veterinary checks and phytosanitary control, the volume and nature of governmental support for various sectors of Belarus' economy. In the near future, the republic should carry out a detailed analysis of current economic standards and regulations and develop the measures to level the negative impact of Russia's accession to WTO on the economy of Belarus. All these facts are resulted in the need for the harmonization and unification of the legislation in the Republic of Belarus. Their implementation will contribute to a mild international mechanisms' effect on the formation of consistent and coordinated activity of Belarus and Russia in the field of external economic relations. Unification of Belarus' standards and regulations in accordance with Russia's commitments made by the country when joining WTO allow the Republic of Belarus to bring them into line with international standards, improve the competitiveness of the national economy and implement the further trade liberalization, which in future will allow Belarus to join WTO on the transparent and agreed terms and become a participant enjoying full rights in the multilateral trading system.

The methods developed allow us to reveal the divergence with WTO law enforcement practice both at the macrolevel (in the field of customs regulations, taxation, exchange and price controls, antitrust regulation, insurance) and at the microlevel (providing business entities with individual tax benefits, compensation for the interest on bank loans, budget loaning, etc.).

The practical application of the developed methods allow conducting the structural analysis of economic standard acts of the Republic of Belarus to identify the possible non-compliance of the national legislation with WTO standards and regulations in order to take immediate action to change the current legislation and minimize the losses because of Russia's accession to WTO.

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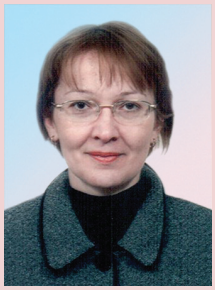
LBC 65.305.142(235.1)

Spatial aspects of electric power industry development in Russia's European North*

The article deals with the Karelian-Kola and Dvina-Pechora parts of the electric power system located in Russia's European North (REN) as the structures of trans-regional level. A comparative system analysis of these objects revealed their common and distinctive features, and the problems of their spatial organization. As a result, important factors of enhancing integration ties have been determined. Besides, the article highlights the main directions of spatial development of REN power supply system.

Russia's European North, economic space, electric power systems, spatial organization, modernization.



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The role of space in electric power industry modernization

Economic space research methodology is based on the creation of different abstract images – multivariate models, describing its properties and revealing its development regularities [1, 2, 3, 4]. The research is based mainly on a system approach, which consists in the presentation of economic space as a single complex of interconnected natural, social, technological systems, in the study of their interactions, formation principles, trends and development criteria, regulatory institutions. The results of scientific research on economic space, when applied in practice, should determine the optimal mechanisms of interaction and trends of development, and also contribute to the creation of an efficient system of management of these processes.

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What is meant here, is the paramount importance of progressive transformation of institutional environment, which is an active structure of economic space, defining the rules of its functioning and transformation conditions.

In this regard, "spatial development should be considered as an approach to state objectives of development management, based on the system-structural notions of the country's integrity and instruments of such management" [5, p. 18].

Electric power industry or power supply as a branch or type of activity is an integral component, a constituent part of economic environment at any level of its territorial hierarchy from a global to a local one. At the same time, power supply systems are developing in accordance with the properties and characteristics of economic space, such as the requirements of economy and population, geography and climate, ecology, resources, state of energy infrastructure and economic potential. "Development of a region's energy sector takes place under the influence of external factors, determined by upper level systems of the hierarchy and related natural and socio-economic systems" [6, p. 95]. There is a close interrelation between the state of economy and the developmental level of its energy supply system. Therefore, in the abstract image of economic space, the characteristics of an electric power system represent a direct or indirect display of all the spheres of this space in energy indicators (coordinates).

It should be emphasized, that characteristics of spatial fragmentation and cohesion become crucially important in the creation of energy supply systems of any level, considering their technological features: remoteness of power facilities (both from each other and from consumers) and mandatory nature of power supply connections (network topology), priority of technical conditions of system interaction, continuity of energy production, distribution and consumption (physical and technical regularities), external connections with fuel supply systems (cross-sectoral integration). Technological condition of power supply systems determines the possibility of their institutional organization development, since the presence or absence of technical alternatives of power supply of the consumers creates conditions for a competitive or monopolized market, in accordance with which the rational options of business processes are selected.

A functional connection, which shows the role of economic space in the development of electric power industry, is created in the following sequence: characteristics and properties of the space → its development capacity, forecasted transformations → rational formation of energy systems (technology, organization, potential). The necessary detailed elaboration of this sequence leads to increasing complexity of integrated research in energy and economics and greatly complicates its informational and methodological support. Modern tools of system research in energy sphere help to overcome the emerging difficulties [7, 8]. The tools include a set of models in the spheres of energy and economics according to the sectoral and territorial structure, designed for forecasting production and investment activities, material and financial flows, for the analysis of organizational structures and multi-objective optimization of development according to energy, economic, environmental and social performance criteria. The planning of electric power systems means the selection of rational options for the development of production, and its achieving implies the creation of favourable conditions and sources of practical implementation. At that, the urge towards a rational way of electric power industry development envisages sustainable and adaptive solutions taking into account "the influence of economic factors (such as demand, fuel prices and the cost of construction of new facilities) and non-economic factors (environmental, socio-political, regulatory, institutional and other constraints)" [8, p. 83].

The strategic task of electric power infrastructure development in Russia, according to [9], consists in a comprehensive and accelerated modernization, i.e. a large-scale renewal of production technologies, and significant enhancement of the quality of the whole system of energy supply and energy saving. Some progress in technological modernization has already been achieved in the construction of new facilities and reconstruction of existing ones with the introduction of new, advanced machinery and equipment for power generation, transformation and transfer. It may be assumed that rapid development of advanced technologies will lead to progressive structural changes both in electric power industry and in economy as a whole. Institutional modernization has been going on continuously. It is aimed at improving the conditions and forms of organization of economic activity, the rules of interaction between the subjects of power supply, which requires additional efforts aimed at the structural and functional reorganization of energy systems and creation of appropriate legal and regulatory framework for their development. The strategy for the country's electric power industry modernization actualizes the objectives of the research of spatial structures and relationships of energy and economy in the part of forecasting their transformations on the basis of scientific-technological progress and institutional innovations. Modernization should result in "the enhancement of reliability of power supply and energy security of the country, the growth of energy and ecological efficiency of electric power industry facilities, providing, in general, the decrease in growth rates and stabilization of tariffs for electric and heat energy" [10, p. 9]. According to such targets, the indicators of efficiency and reliability of electric power supply should be considered as the criteria for planning and monitoring the development of electric power industry, and not only for the national system as a whole (general macroeconomic indicators), but also for its regional subsystems (field of values) in order to reflect the heterogeneity of its spatial structure and identify problem areas.

In the context of the research on the spatial development of Russia's North, [3, 11] the studies of energy supply systems formation and modernization should, in our opinion, be specified by the analysis and evaluation of the following:

✓ reasons for and factors of regional differentiation of the conditions of energy supply and energy efficiency of production;

✓ configuration and regional decomposition of economic and technological properties of power systems;

✓ efficiency of business structure of the wholesale and regional energy and power markets;

✓ factors and methods of inter-regional energy supply integration;

✓ main relations with other components of economic environment (resource provision and settlement system, energy requirements for economic development, environmental conditions, etc.);

✓ capacity and directions of technological and institutional modernization;

✓ requirements for the development of electric power industry, potential sources and mechanisms of their provision.

It seems that consideration of these positions with regard to the territorial factor, will provide a detailed characteristic of significant factors of economic space in the process of energy economy modernization in the North.

Spatial organization of electric power industry in Russia's European North (REN EPS)

Analyzing the spatial organization of electric power industry requires clarification of the following points: the peculiarities of objects' allocation, configuration of network connections and mechanisms of cooperation;

besides, the choice of the object of research is crucially important here. This determines its integrity, i.e. the systemic character of the object's functioning, the level of affordable aggregation and necessary specification of its structure; in addition, this determines the hierarchy of competences in the object's management. For example, the study of the spatial organization of regional energy systems requires specifying their structure at the level of energy units – centres of generation and consumption, their interactions and significant external relations, which will be the objects of management contributing to the optimal development of the entire system. The object of the present study is the electric power industry of the European North of Russia[1], thus the regional energy systems, their relations and cooperation are considered as the structural elements of the first level, and the issues of their coordinated development are highlighted. It should be emphasized that the formation of the hierarchy of power supply systems in the Northern regions led to the predominance of the regional principle of delimitation of competences and technological integrity. The 2005 – 2008 organizational reform of power industry, resulting in the establishment of generating companies of the extraterritorial level, created new centres of responsibility and redistributed cash flows, but it didn't changed the essentials of functional linkages and interactions of the subjects of power supply.

Power supply of the consumers on the territory of REN is provided by 4 regional energy systems – Kola, Karelia, Arkhangelsk and Komi, included in the unified electric power system of the North-Western Federal District (UEPS of the North-West). The location of the main power stations and system-forming power transmission lines (PTL) is shown in *fig. 1*. It is clear that the spatial configuration of the power system of REN is presented by two parts – the Western (Karelian-Kola) and the Eastern (Dvina-Pechora), which are not connected directly with each other.

The Western part is the association of regional energy systems of the Murmansk Oblast and the Republic of Karelia, which have the unified backbone network with the voltage of 330 kV (Kola nuclear power plant – Knyazhegubsky nuclear power plant – Loukhi – Petrozavodsk), with a maximum capacity[2] of about 600 MW. External intersystem connections have been formed with the Leningrad power system by a 330 kV transmission line (Kirishskaya GRES (Kirishi state district power station) – Syas – Petrozavodsk) and a 220 kV transmission line (Upper Svir hydroelectric station – Drevlyanka). A low-power connection has been established with the Vologda power plant through 110 kV power transmission lines. Electricity is exported in limited amounts to Norway and Finland (about 0.7 billion kWh).

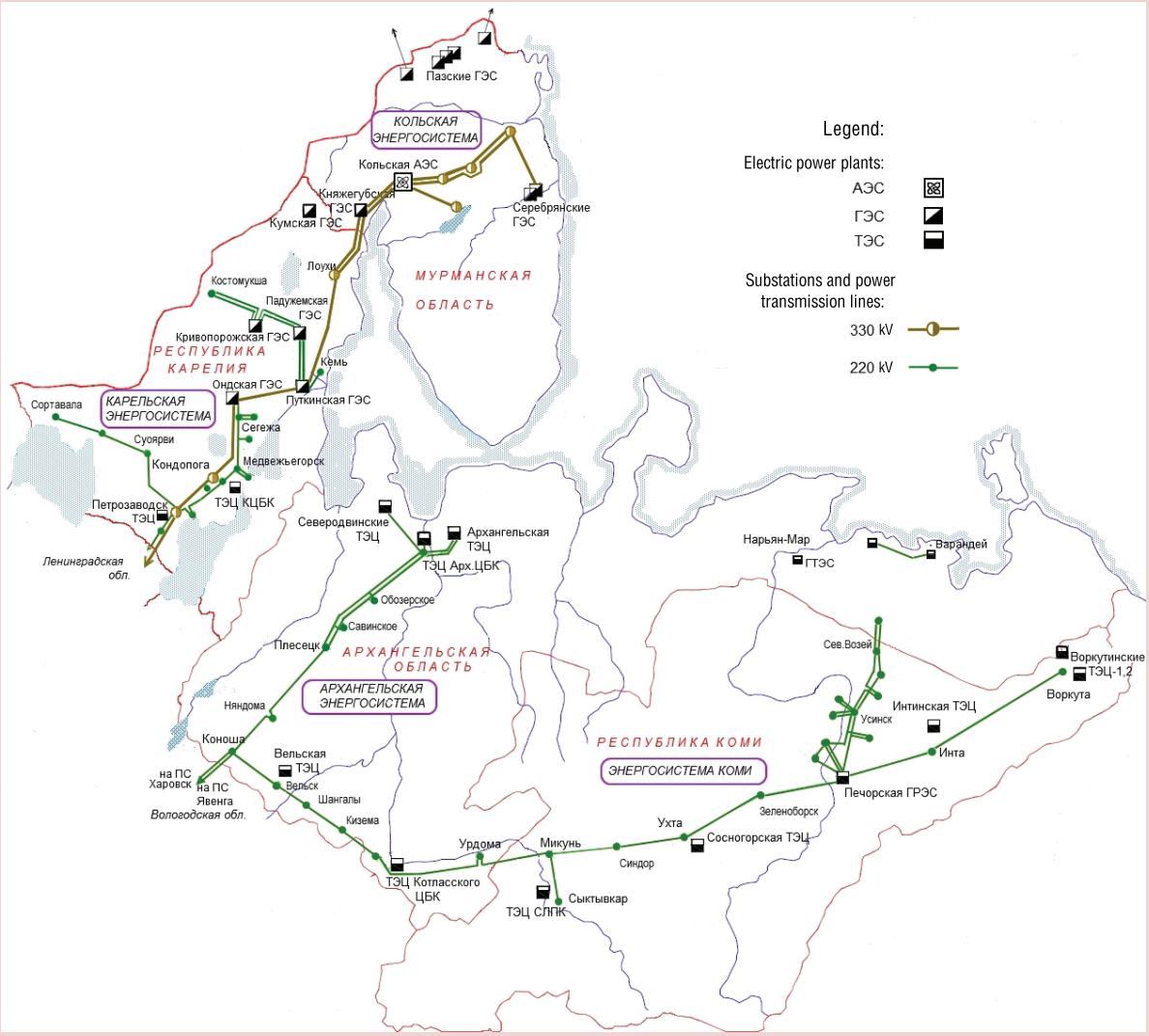
The Eastern part contains an extensive network, including power systems of the Arkhangelsk Oblast and the Republic of Komi that have a backbone connection of a lower voltage level through 220 kV power transmission lines Mikun – Urdoma (the maximum capacity[3] on the regions' border doesn't exceed 200 MW). There is an outside intersystem connection through 220 kV transmission lines with the Vologda Oblast power supply system (Konosha – Kharovsk, Yavenga), that is part of the unified electric power system of the Centre.

[1] On the territory of the regions included in the Far North and localities equated to them: the Murmansk and Arkhangelsk oblasts, the Republic of Karelia and the Republic of Komi. The Vologda Oblast power system (as part of the Northern economic area) is considered only in terms of external linkages, since it is included in the united energy system of the Centre, which establishes the priorities of its operational interaction and development.

[2] According to the data of OJSC System operator of UES: Information necessary for competitive capacity procedure for 2012 (http://monitor.so-ups.ru/?P=42&DocumentID=163).

[3] Scheme and programme for the development of power industry of the Komi Republic for 2012 – 2017: adopted by the Resolution of the Government of the Komi Republic dated 28 April 2012 No.172-r.

Figure 1. Location of the main electric power facilities of REN



The potential of the most efficient utilization of this connection for transferring the cheaper electric power from the UEPS of the Centre to the Northern part of the Arkhangelsk Oblast is limited by the transmission capacity of a single-circuit area of high-voltage 220 kV transmission lines "Konosha – Plesetsk"[4]. There are also several low-powered intersystem connections through 110 kV transmission lines with the Vologda and Kirov oblasts, but the energy supplies effected through these lines are of local importance. Energy consumers of the Nenets Autonomous Okrug and North-Eastern districts (Mezensky and Leshukonsky) of the Arkhangelsk Oblast remain outside the system of electric power industry (with decentralized electricity supply).

The analysis of Rosstat data and the official information provided by the regional administrations and energy companies allowed estimating the parameters of the energy-economic space under review *(tab. 1)* and identifying the general and distinctive features of the two formed separate parts of the electric power system of REN.

[4] Source: website of the Arkhangelsk Oblast Administration (http: //www.dvinaland.ru/ power/departments/ deptek/26145).

Table 1. Economic and power industry indicators of REN for 2010*

Indicators	In the service area	
	Western part of EPS	Eastern part of EPS
Area, thousand km^2	325	1006.7
Population, thousand persons	1441.3	2129.7
Number of cities and towns; urban-type settlements; rural settlements	29; 23; 888	24; 49; 4691
Gross regional product (GRP), billion rubles	362.3	708.2
Volume of shipped production (VSP)of industry, billion rubles	288.7	578
Structure of VSP of industry, % according to the type of economic activities (TEA): Extraction of minerals Manufacturing Production and distribution of energy, gas, water	 34 46 20	 55 34 11
VSP of TEA "Production and distribution of electric power", billion rubles VSP of TEA " Production and distribution of heat power "	33.9 22.0	32.6 24.7
Volume of electric power consumption, billion kWh, total	22.4	17.9
Including losses in networks	1.2	1.6
Domestic consumption per capita, thousand kWh/person	1.0	0.9
Electric intensity of industrial production, kWh/thousand rubles	50	20
Electric intensity of GRP, kWh/thousand rubles	59	25
Volume of electric power production in 2010, billion kWh	22.7	17.3
Net proceeds (+) or output (-) of electric power, billion kWh	-0.3	+0.6
% of the volume of production	-1	+3
Power system structure of electric power plants according to their types, MW:	4858	4464
Thermal power plants (TPP) (including those working on gas)	811 (380)	3917(2434)
Nuclear power plants (NPP)	1760	0
Hydraulic power plants (HPP)	2235	0
Stand-alone power plants (including gas-fired power plants)	52	547 (260)
System electric load maximum in % to the total generating capacity of an electric power plant	70	66
Structure of electric power output according to the types of power plants:		
TPP	11	100
NPP	47	0
HPP	42	0
Number of power plants with installed capacity over 30; 100; 1000 MW	26, 11, 1	15, 9, 1
Maximum voltage class of the grid, kV	330	220
Total number of substations with the voltage over 35 kV, units	285	396
Transformers powerf, MVA, voltage class: over 110 kV inclusive under 35 kV inclusive	 9412 1921	 6528 4529
Transmission route length, thousand km: voltage 110 kV and higher 35 kV and lower	10 10	11 45 (36)
Wholesale electricity and capacity market (WECM) zone	Price	Non-price
Average cost of electricity provided to the consumers rubles/kWh (VAT excluded)**	1.8	3.3

* Compiled on the basis of the official data of Rosstat, regional administrations, energy companies and organizations.
** Calculated as a ratio of the value of the shipped goods of foreign economic activities "Production and distribution of electricity" to the volume of electricity provided to the consumers.

General features:

1. Service area of the electric power system includes Northern territories with harsh natural conditions and low population.

2. Configuration of the network structure of an extended linear type, with the predominance of single-circuit power lines. The routes of the main backbone transmission lines are located along the railways.

3. The installed capacity of power plants in both parts of the electric power system doesn't exceed 5 GW. The available generating capacity is sufficient enough for the consumers of the considered REN regions.

4. The available excess of installed capacities in each of the parts (about 15%) is represented by pent-up capacities, the use of which is limited by the capacity of the backbone network transmission.

5. Long-term exploitation of most power plants (40 – 70 years).

6. The volume of power and energy exchange through interconnection lines among other neighbouring regions (the Leningrad, Vologda, Kirov oblasts) is insignificant, mainly due to technological limitations.

7. High depreciation of electric power distribution networks.

8. The cost volumes of markets of electric and thermal energy are rather similar.

The two parts of REN EPS differ in the following aspects.

- The service area of the Dvina-Pechora part covers a significantly large territory with a more dispersed settlement structure. Here the macroeconomic efficiency of social production is higher mainly due to the prevalence of oil and gas sector in economy. But the utilization capacity of electricity is lower both in absolute and in specific indicators (per capita, per unit of GRP). The Karelian-Kola part contains industrial production that consumes more electricity: specific consumption of electric power in 2010 on average amounted to 50 kWh per 1 thousand rubles of shipped products, which is 2.5 times more than in the Eastern part.

- The structure of installed capacity and generation at the power plants of the Dvina-Pechora part is uniform and includes only thermal power stations operating on organic fuel, and using gas as a fuel for 60% of their capacities; about 60% of electricity is generated using the fuel produced in the region of its utilization. In the Karelian-Kola part of EPS, the structure of generating capacities is diversified: energy is produced by nuclear, hydro – and thermal power stations, and non-fuel power production, concerning its capacity and performance, significantly exceeds thermal power production, which is more expensive and operates on imported fuel.

- The electric power industry of the Western part of REN, unlike that of the Eastern part, is characterized by the less sparse and concentrated location of power producers: in a much smaller service area, the system has a greater number of operating electric power stations, less distant from each other. A more uniform and high density of generation is a factor that enhances the reliability and efficiency of centralized power supply. Each part of the electric power industry of REN contains one GW-class power producer: the Kola nuclear power plant and the Pechora state district power station (SDPS).

- The REN EPS power network has the following voltage classes: the backbone 330 kV and 220 kV power transmission lines connect the centres of generation and carry out transit (long-range) power transmission; 150 kV and 110 kV power transmission lines are backbone distribution lines, connecting main power centres with main load concentration points; transmission lines of 35 kV and lower are distribution lines in urban settlements, rural areas and at enterprises. As the data in *table 1* shows, the system-forming network of the Western part of REN EPS is more high-powered: it is formed by transmission lines of a higher voltage class and has a larger quantity of transformer capacities than the Eastern part.

The total length of high-voltage transmission lines in both parts of EPS is practically the same, while the coverage area and length of the main transit in the Eastern part is 2 times larger. The volume of development of low-voltage distribution networks in the Eastern part of REN EPS is 4 times greater than that in the Western part, which is explained by the low density and the dispersion of consumers in the service area three times as vast.

- Economic efficiency of electricity supply varies due to the above features of technological structure of the two parts of REN EPS: the average cost of power supply is 1.8 times higher in the Eastern part. It is the result of firstly, a more expensive fuel generation, especially working on fuel oil; secondly, higher unit costs of operating the network distribution complex, because more substations and power transmission lines are involved in distributing a smaller amount of energy. The price ratios of the unit value of different generation types, calculated on the basis of approved two-rate tariffs on energy and capacity for suppliers of the wholesale electricity and capacity market in 2010 [12] show the price advantage of the non-fuel generation in the Western part of REN EPS *(fig. 2)*.

The ratios of the cost of power production to its transmission services, established in REN EPS, considered on the example of the structure of prices for electric power for industrial consumers of the regional retail markets (excluding population) with the number of hours of using the declared capacity being 5,000 hours/year *(tab. 2)* indicate that the value of network services exceeds the generation prices and they are higher in the Eastern part of the power system.

- Institutional conditions of regulating power supply activities in the considered parts of REN EPS have differences, which are

Figure 2. Production volume of wholesale market suppliers in REN EPS and tariffs on the power, 2010

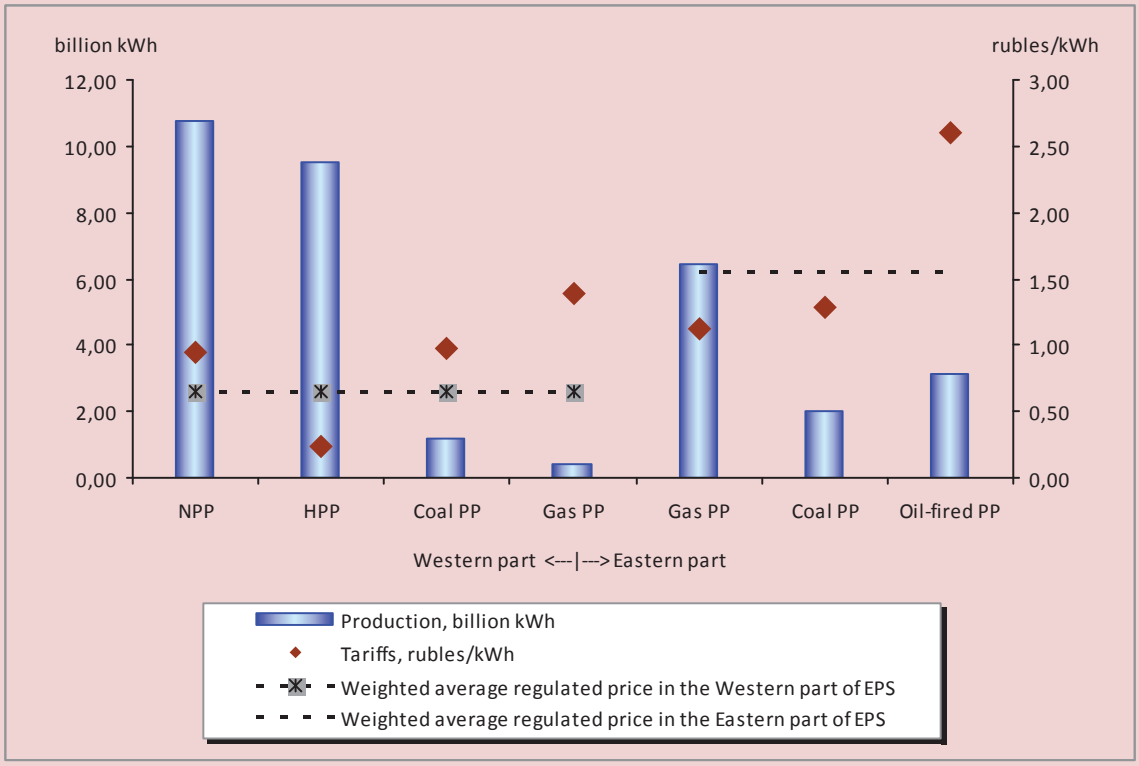


Table 2. Electricity prices and tariffs as of 2010, rubles/kWh, VAT excluded*

Price constutuents	On retail electricity markets			
	Murmansk Oblast	Republic of Karelia	Arkhangelsk Oblast	Komi Republic
Cost of generation:				
tariff	1.06	1.10	2.02	1.47
open price	1.52	1.64	-	-
Tariff on transmission services when supplying electricity within:				
high-voltage (HV) network	1.84**	1.62	1.58	1.76
low-voltage (LV) network	1.84	1.96	3.42	2.35
Sales premium and infrastructural payments	0.03	0.12	0.12	0.11
Total price HV/LV::				
regulated (tariff)	2.94 / 2.94	2.84 / 3.18	3.73 / 5.57	3.33 / 3.93
open	3.39 / 3.39	3.37 / 3.72	-	-

* Calculated on the basis of two-rate tariffs and prices, according to the official data of regional administrations and marketing companies.
** Equality of HV and LV tariffs indicates tariff cross-subsidization for consumers connected to a LV network, at the expense of customers in a HV network.

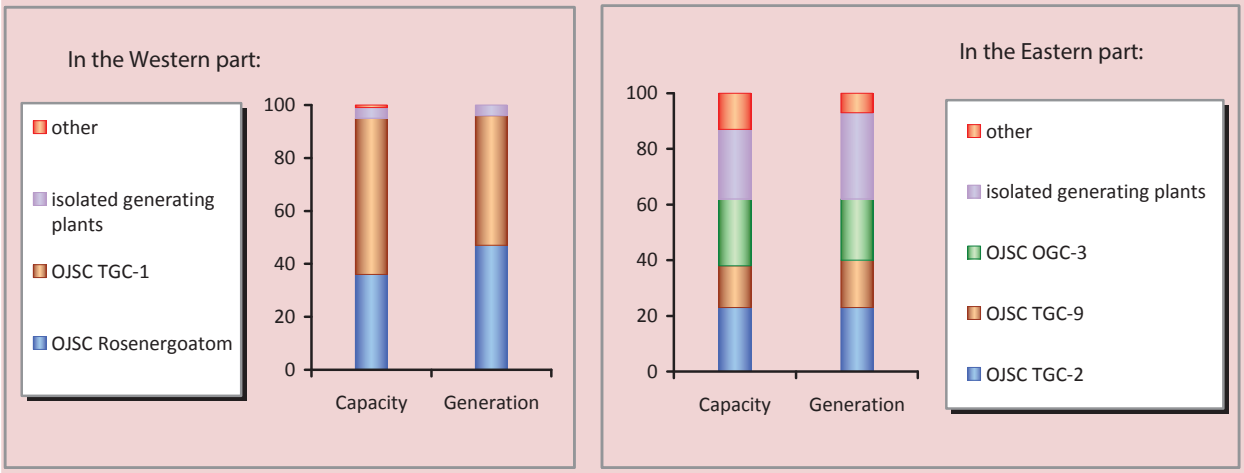
revealed when considering the wholesale electricity and capacity market (WECM) from the viewpoint of price and non-price zones. It is supposed, that the price zone of WECM (the Western part) has the conditions of a competitive market in electricity generation, and in the non-price zone (the Eastern part) competition is limited by technological conditions.

Accordingly, the generating companies in the price zone carry out their activities in the liberalized segment of the market with free pricing, and in the non-price zone – under the conditions of tariff regulation. *Figure 3* presents the main subjects of generation and the share of their production in the appropriate market areas. In the Western part of REN EPS, there are only two major generating companies on the market, but even between them competition is not possible due to the normatively established technological priorities for loading the capacities of a nuclear power plant. In the Eastern part, the number of market participants and their share in production allow the development of competitive relations, but they are hampered by the network restrictions and costs of power and energy transfer from distant sources.

Therefore, full-fledged competitive market relations between generating companies in both parts of REN EPS currently can not be realized. Nevertheless, the rules regulating the activity in WECM price zone create advantages for efficient generators. The procedure of competitive selection in WECM implements the principle of marginal pricing, which allows generators with low operating costs get higher revenues, than under the conditions of tariff regulation according to economically justified costs and revenues.

As the data in figure 2 and table 2 show, in WECM price zone (Western part), the open price for electricity (with regard to power), which has been formed at the level of the tariff (i.e. economically sound cost of production) of the supplier is about 1.5 rubles/kWh, which is considerably higher than the tariffs of nuclear and hydroelectric power stations, which ensures their high profitability. Official accounting reports of power companies indicate, that in 2010 the profitability according to EBITDA in the price zone accounted for more than 50% at Rosenergoatom and 25% at TGC-1, in the non-price zone at TGC-9,2 and OGC-3 it didn't exceed 6%. For energy companies, such differences in price regulation

Figure 3. Structure of electric power production according to the main subjects of REN EPS



of their profitability should undoubtedly affect motivation and the formation of investment resources for modernization of their own production capacities. For consumers, the differences in price regulation resulted in the outpacing dynamics of the rise in the cost of energy in the liberalized segment of WECM, as a result of which the average price level of the retail markets in the Western part of EPS, with non-fuel generation more efficient according to operational costs, approached the more expensive one – in the Eastern part.

Problems and prospects of spatial development of REN EPS

The analysis of the spatial organization of REN EPS allows the following main conclusions to be made.

Electric power supply system in Russia's European North consists of two self-contained parts; there is only an indirect connection via the unified electric power system of the Centre, with no integration purposes. Both parts of EPS are included in the North-Western unified electric power system, but for the Eastern part, consisting of Arkhangelsk and Komi power systems, this union is formal, since there is no technological connection for the system interaction with other objects of the unified power system. In the Western part of EPS the integration is provided by the power supply network connections between the Kola and Karelian power systems and the Leningrad EPS.

System generating capacities in both parts are sufficient for fulfilling the present-day requirements of economy and population in their service areas. Each part of EPS has some excessive reserves of generating capacity, which are planned to be used in the 5 – 10-year perspective for connecting new consumers and replacing retired capacities. Therefore, the task of developing external economic relations with the aim of further transmission and expansion of electric power market is not relevant at present. A more differentiated and efficient generation system with a more powerful backbone connection has been formed in the Western part.

The primary task of spatial development of REN EPS is the "strengthening" of the established basic structures with the purpose of organizing technically and economically optimal interaction of energy facilities. In this respect, the programmes for the development of electric networks [10, 13, 14] envisage the elimination of "bottlenecks" in the system-forming connections – the

construction of second chains of transmission lines for increasing transmission capacity and transmission reliability, reducing losses and total costs of electric power supply when using the most cost-efficient facilities.

Since the efficiency level of electric power industry in the Eastern part of Russia's European North is considerably lower than in the Western part, it is expedient to enhance its efficiency: 1) by replacing expensive fuel; 2) by developing and strengthening the backbone connection; 3) by introducing the sources of non-fuel generation (nuclear or dispersed hydro- and bioenergy). The first two directions are already being implemented: combined heat and power plants (CHPP) working on fuel oil are being modified to work on gas, construction of the second networks of 220 kV system transmission lines. The creation of an efficient power source on the basis of coal fuel is viewed as a strategic goal in solving the problem of diversification of utilized fuel.

Technological integration of the two parts of REN EPS into a single complex can be grounded by the following factors: 1) enhancement of energy security, since the system integration will promote the diversification of energy sources structure according to the types and resources, neutralizing potential threats of gas being the major resource orientation of electric power industry in the Eastern part; 2) reduction of the cost of power supply through optimizing the load and power exchange in order to use the most efficient energy sources to the fullest; 3) increase of reliability of power supply of the consumers given the increase in the number of acceptable supply alternatives; 4) adjustment of price differences; 5) development of competitive relations by increasing the number of market participants. The unification of the two parts of REN EPS is possible by creating a direct inter-system connection (for example, a double transmission line 220 along the route Obozerskoye – Belomorsk – Kem).

The relative isolation of the Arkhangelsk and Komi power systems can be handled by the development of network connections with the power systems of the Vologda and Kirov oblasts. But both these systems are not sufficiently provided with their own generating capacities, the lack of which is covered by considerable inter-regional supplies from the unified energy system of the Centre and that of the Urals. Therefore, the development of system connections of the Eastern regions of Russia's European North in the southern direction depends on the maximum capacity of transit and competitiveness of transferred energy.

A decision on the expediency of uniting the two parts of REN EPS can be made only after pre-project feasibility studies in the framework of the system planning of Russia's unified energy system development. Such studies are carried out under the direction of federal bodies (the Ministry of Energy of the Russian Federation, OJSC System operator of UES) by the leading developers of strategies and programmes on the prospective development of the national UES of Russia (Institute of Energy Strategy, JSC G.M. Krzhizhanovsky Power Engineering Institute, Energy Research Institute of RAS, Melentiev Energy Systems Institute of the Siberian Branch of RAS, CJSC Energy Forecasting Agency, etc.), which have the necessary information, methodological and modeling tools.

According to Russia's EPS development projects for the period up to 2020, included in the officially approved documents [13, 14], the spatial structure of REN EPS will not undergo significant alterations. The relative isolation of the Eastern part will be maintained (given the formal inclusion in the UES of the North-West), the structure and capacity of energy sources will not change significantly, the regional and inter-regional system network connections between the Arkhangelsk and Komi energy systems will strengthen, the capacity of inter-

system connection with the Vologda Oblast for the power transit from UES of the Centre will increase. As for the Western part, it is planned to increase the capacity of the Kola – Karelian – Leningrad EPS backbone connection, and the substantial growth of nuclear energy potential is envisaged as well, with a significant surplus of generating capacity in this part of UES of the North-West exceeding the standardized reserves. Therefore, the planned development will lead to the increase in the differences in the potential of electric power economy in the parts of EPS under consideration.

In conclusion it should be emphasized that one of the objectives of spatial development of economy and power industry is to reduce inter-regional disparities[5], which implies rational alignment of living conditions, including energy supply: its availability, quality, reliability and efficiency. Thus, the plans and projects for energy infrastructure modernization should ensure balanced spatial development.

It is difficult to determine to what extent this requirement is maintained, since the main programme (federal and regional) documents on the development of electric power industry don't contain, with few exceptions, the forecasts of future conditions – indicators of reliability, security, energy, environmental and economic efficiency, which served as the criteria for the decisions taken. Meanwhile, no doubt, that assessing such targets in the planning of spatial development is extremely important not only for the macro-level of national power industry, but also for its established meso-structures and regional segments. The compulsory character of assessing the criterial indicators reflecting the efficiency of various segments of the spatial structure of energy economy will serve as a basis for the rational direction of efforts and resources to "weak" objects and relations, it will also promote quality monitoring and control over the efficiency of the system design and programme management.

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Transformation of machine building of the Republic of Karelia

The article considers the process of mechanical engineering transformation from the beginning of market reforms up to the present time. The article provides the comprehensive analysis of the republic's machine-building sector, represented by several types of activities, and presents the dynamics of indicators characterizing its development. Besides, it defines the region's machine building development prospects.

Region, machine building, economic activities, regional national development.

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On the modern map of machine building in our country the Republic of Karelia is presented by a small number of enterprises. But all of them have their history, specialization, their problems and strategies, playing a certain role in the economics of the republic.

In the Soviet period, machine building was one of the leading sectors in the economy of the republic. The big enterprises of Petrozavodsk included Onega tractor plant, Petrozavodskbummash (the factory of paper-making equipment), the radio manufacturing plant, the factory Onego (microelectronics), the shipbuilding factory Avangard, the machine building plant Stankozavod and a number of smaller enterprises, where dozens of thousands of citizens worked.

Machine-building enterprises produced trail tractors, woodworking machines, paper-making machines, bark-stripping drums, crimping aggregates. The production of Karelian machine builders was exported not only to socialistic countries, but also to Canada, Federal Republic of Germany, Greece. Electronics and instrument engineering accounted for about one third of the output volume. Besides about 10 repair enterprises functioned in the republic.

Machine building of Karelia, which had a wood profile, provided timber processing complex both of the country and of the republic with tree crop harvesters, woodwork machines; and cellulose and paper industry with spare parts, aggregates and even paper-making machines.

In 1985 the share of machine building industry in the whole volume of industrial production of Karelia was 19%, and the share of the employed in this branch was 20% of the number of manufacturing personnel [2, p. 30].

In the late 1980s – early 1990s, at the beginning of economic reforms, price liberalization and external economic relations, the whole industry (and machine building as well) of the country and the republic was built according to branch-wise principle with the high level of specialization and the low level of inter-sectoral and intra-sectoral exchange. After the demolition of the common economic space of USSR and Comecon countries, enterprises found themselves in conditions of shrinkage of outlet areas and absence of competitiveness for many positions in the world market. The enterprises faced a complicated task of finding their place in transitional economy, develop and implement a set of measures aimed at adaptation to the conditions of arising market-driven economy.

Reformation of the enterprises went practically spontaneously and separately, according to branches and territories. The enterprises tried to solve this problem on their own. The situation was escalated by the long delays of payments for already delivered goods. At the same time foreign manufacturers carried out an active policy of penetration into the Russian market. That is why every enterprise developed its own strategy of survival, depending on its abilities and opportunities. New owners and managers often didn't have experience in running business operations in market conditions.

Machine-building enterprises in the country and in Karelia, confronted with the abrupt drop of purchasing power on their production, had to use the strategies of survival which didn't correspond with the strategies of dynamic development.

The transformation of enterprises went under unstable conditions of transitional economy under the influence of many contradictory factors of outside environment. Originally a state was the key-subject of reformation. Balancing between market driven approaches and demands on the assurance of people's survivance, the state moved to the market slowly but without any serious social outbursts [6].

During this period different schemes of enterprises' disaggregation were used, aimed at removing the disproportions of planned economy. The extrication of main production from non-core kinds of activity was taking place, and auxiliary departments had the opportunity to continue their work as self-contained subjects of economic activity [8].

The process of restructuring of machine-building enterprises in the Republic of Karelia affected departments of social services, auxiliary units, engineer subdivisions and non-core departments of the main production unit. For example, in 1997, 18 associated enterprises were created during the realization of a large-scale project of the disintegration in OJSC Onega tractor plant.

In a varying degree restructing was conducted by practically all the machine-building enterprises of the republic, releasing non-core production units and minor kinds of activity. As a result, the situation in the machine-building industry of the country and the republic changed fundamentally during the years of economic reforms.

OJSC Onega tractor plant, having cut the volumes of production by 1996 in comparison to 1990 by 23 times – from 11800 tractors a year to 500 tractors – lost competition in

the Russian market to Finnish companies (PONSSE, TIMBERJACK) because it wasn't ready for developing competitive products. The production volumes of CJSC Petrozavodskmash were cut considerably, due to its lack of financial resources for buying abroad licenses for producing modern equipment for paper-making industry. JSC Stankozavod actually curtailed production: 250 machines in 1990 against 29 machines in 1995 and 4 machines in 2006. A considerable slum took place in the volumes of mechanical material maintenance in CJSC Repair and engineering works and in Petrozavodsk automotive equipment maintenance plant, that switched over to building and renting out manufacturing and office property. Their functions were taken by new established enterprises in maintenance service of equipment.

Many enterprises got through the procedure of bankruptcy and changed their owners more than once, and some enterprises couldn't work in new conditions and were eliminated. The Petrozavodsk radio manufacturing plant went out of business, it fulfilled defence orders and was a part of the Leningrad research and manufacturing combine Leninets; the Petrozavodsk plant Onego dissolved as well, it represented the Leningrad association of electronic instrument engineering Svetlana – the biggest organization in developing and output of electronic goods in the USSR. Shipbuilding factory Avangard went through the procedure of bankruptcy, changed several owners and ceased to exist; it specialized in fulfilling defence orders, building of fishing motor cultivators and trawlers. Its equipment has been sold, the territory rented out for offices and a service centre, its boiler-house heats the city's residential area.

Eventually the output volumes shrank considerably, and a number of staff as well, but the rest of the enterprises adapted to the conditions of market driven economy, releasing competitive products, carrying out modernization and implementing development strategies. All these enterprises moved off from repetitive manufacturing, organized their own marketing system and work customized.

Positive tendencies in the developing of machine-building industry are the most significant in CJSC Holding Company Petrozavodsk factory of paper-making machine building. It is the biggest producer of technological equipment for cellulose and paper, oil and gas industries in the country. In the course of the reforms, the company's restructuring was conducted, the system of management was changed; the list of outlet products was expanded. Over a number of years the enterprise cooperates with such famous companies as VOITH (Austria), METSO (Finland), and supplies paper-making and cellulose equipment to Finland, Austria, Norway, Sweden, Great Britain and CIS countries. The goods are produced in accordance with domestic and international standards.

The development of new partner relations with Russian and foreign enterprises allowed the plant to keep the volume of production in all kind of outlet goods and integrate the state corporation Rosatom in OJSC Atomenergomash. At present, one of the main tasks of the enterprise is the demonopolization of market of equipment for atomic power stations. At the same time, the state corporation Rosatom set before CJSC Petrozavodskmash a strategic task of keeping and outputting to the world market production of equipment for paper and paperboard and other industries of the country's timber complex.

Without reducing production volumes, the enterprise conducts updating and modernization of production. New equipment is bought at the cost of about half million euros. Due to that, in 2010 the volume of goods dispatched by CJSC Petrozavodskmash was 2.1 billion rubles (2.3 times more than in 2009), among them, the atomic industry equipment

accounts for 1.6 billion [7]. Following the results of 2011, the total value of produced goods was 2.52 billion roubles, which makes 132% to the level of 2010. The main volume of production is achieved by the orders from the state corporation Rosatom [5].

In 2012 Petrozavodskmash launched a large-scale project on constructing a shop for producing reactor equipment for atomic power stations. This is the second and the last stage of the investment programme at the total cost of 5 billion rubles which aims at the modernization of the enterprise for the output of large-size equipment for atomic power stations. The construction and repair works are planned to be over in the second half of 2013. The total cost of the project of reactor shop building is over 3 billion rubles. The project of the shop is calculated for annual output of 1.5 sets of reactor block equipment by three-shift work. The contract for purchasing a package type vehicle is already closed; this vehicle will allow transporting a reactor vessel to the port of the enterprise for embarkation.

The management team of CJSC Petrozavodskmash started to work out a strategic development programme and accomplishes business planning for long-term prospects; in the conditions of high uncertainty of Russian business-environment only a few representatives of machine-building industry can afford it.

The oldest enterprise in the country is LLC Onega tractor plant, developing and producing tractors for timber processing complex for more than half a century, was confronted with difficulties in sales of final products because outlet caterpillar models are old-fashioned and are not in such demand as wheeled timber cutting complexes of foreign manufacture. The results of last years testify to instability of manufacturing and financial situation at this enterprise. 663 tractors were produced in 2003 (the volume of output in monetary terms made 516.6 million roubles), in 2005 only 363 tractors of different versions were manufactured. In 2010 the plant managed to sell 76 items.

The factory got through the procedure of bankruptcy, changed several owners. In 2004 it was included in the affiliate group of corporations Tractor Plants and incurred accelerated restructing which was aimed at the elimination of noncompetitive and duplicating other units departments. As a result, the subject-oriented combined machine-building enterprise with enclosed technological cycle transformed into an assembly plant.

The enterprise takes steps on the way of participation in international cooperation and integration into international economic relations. The project involves semi knocked down assembly of modern timber cutting harvesters CHETRA KH-451 made at the Danish plant Silvatec Skovmaskiner A/S which is a part of the concern Tractor Plants.

Long-range engineering projects of constructing and regulating of production of modern complex of machines for Canadian timber cutting technology are conducted at the plant. This complex is composed of felling and milling and delimber-bucker machines, timber loader. This is a new technology of forest harvesting differing from tree-length logs and cut-to-length method used in our and European countries. 175 people worked at the plant in 2012; relocation from the city centre to the second manufacturing area of the enterprise is finished and its development is spreading. Summarizing the results of 2011, about 100 items was assembled and dispatched at the factory. Although it was planned for 2012 to produce 130 tractors, output capacities allow reaching the index of 300 machines a year.

The main enterprise of production of vehicles and equipment in the republic is the Onega shipbuilding factory set up as a successor of shipbuilding-ship repairing capacities OJSC Belomorsko-Onezhskoe parohodstvo. The enterprise is assessed by the Russian Marine Registry of Shipping, Russian River Register and German Lloyd.

Within the framework of presidential programme on the renewal of Russian fleet, a big project on building of "Karelia" type ships was implemented at the factory. This is a self-propelling, one-screw dry cargo ship, meant for transportation of general and bulk cargoes. Ships like that being of interest for private shipping companies are more effective in marine conditions than familiar to our ship owners crafts of composite class "river-sea". In 2009 contract liabilities for building of three ships were fulfilled successfully. Despite the world tendency of reducing the purchase orders for constructing of crafts and scarcity of working capital in 2010 CJSC Onega shipbuilding factory reached its maximum efficiency, 4 crafts, and sent them to the customers. In 2011 the factory began to build five oil ships of the type "river-sea" of project RST23 at deadweight capacity 7000 tons.

At present, the capacities of the factory allow building ships at length to 140 m, width to 16.5 m and light-ship to 2.3 thousand tons. The prospects of development of shipbuilding are governed by the "Strategy of development of shipbuilding industry in the Russian Federation for the period till 2020 and the future perspective" and by the federal target programme "The Development of civil marine facilities for 2009 – 2016". The enterprise has a task of modernization and expansion of production facilities in the short term, which will allow building ships at length to 190 m and light-ship to 3 thousand tons.

One of the effective examples of successful cooperation between republican bodies and manufacturers can be found in the establishment of two subsidiary enterprises of Finnish concern PKC Group – LLC AEK and LLC Electrokos in the city of Kostomuksha. In 2003 – 2005 a group of companies of this concern completed the construction of a production base for outlet of electric wiring for automotive industry and electronic components. The sum of investments made up more than 1063 million rubles. It enabled to create 193 new workplaces.

LLC Electrokos offers services in engineering and producing electronics. LLC AEK, having become one of the essential branch offices of the foreign owner in manufacturing electric wiring for heavy-duty Volvo and Scania vehicles, employs more than 800 people, mainly women. Half of all products manufactured in the republic according to the type of economic activity "Production of electric, electronic and optical equipment" fall on these enterprises.

In this field of economic activity a newly developed research and production enterprise Proriv (the city of Petrozavodsk) works successfully; in Russia it is a leading developer and producer of testing facilities and measuring equipment in the field of electromagnetic compatibility.

On the whole, the production index in the type of economic activity "Production of electric, electronic and optical equipment" in 2011 was 111.3% [5].

In the process of transformation of Karelian machine building LLC Research and Production Company Microprofil which produces mechanical equipment for manufacturing of corrugated fibreboard.

Innovative enterprise CJSC SPA Engineering centre of fire robotics "EFER" specializes in developing and producing firefighter hydraulic and hand fire nozzles, fire-fighting robots, robotize firefighter complexes.

CJSC Petrozavodsky opitno-mehanichesky zavod manufactures machines for wood-working enterprises, equipment and instruments for plants of forest and wood-working industry branches.

During the restructurization of the mining and beneficiation complex in Kostomuksha an enterprise of wide-line profile LLC ZRGOO was created (repair mining and concentrating equipment factory). It implements machine processing of large-size parts (to 28 t), manufactures forge pieces (to 100 kg), spare parts for heavy dumpers and executes other works.

Following the results of 2011 products at total 518.1 million roubles or 125% to the level of 2010 were manufactured in LLC ZRGOO. It was possible due to the increasing in production volumes of the main customer of the enterprise (LLC Karelsky Okatysh).

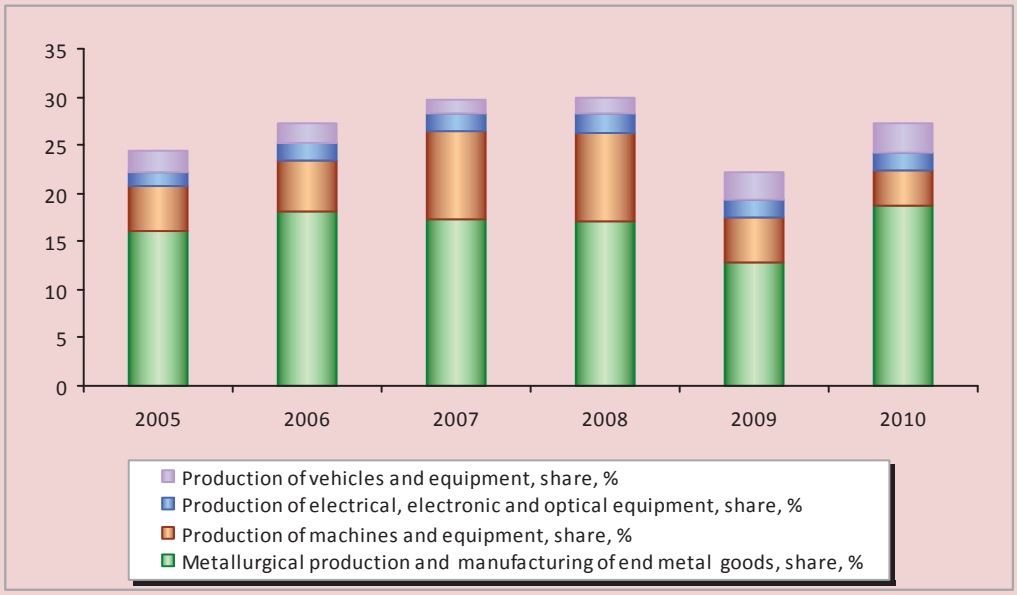
Modern conditions of economic management and the transition of plants to a new technological mode caused the emergence of servicing enterprises. For example, in 2011 a factory of unit repair LLC Zeppelin Russland (Petrozavodsk) started working in the Republic of Karelia. The company, being a dealer of the world famous company Caterpillar, which produces different heavy equipment, works successfully on the territory of the European part of our country for more than 10 years and it already has its branch office in the town of Kostomuksha.

All these examples show the level of development of machine building in the republic. In manufacturing works it is represented by the following types of economic activity: producing of machine and equipment (136 enterprises), manufacturing of end metal goods (106), producing of electric, electronic and optical equipment (68), manufacturing of vehicles and devices (23 plants). Meanwhile, the main potential of machine-building goods production in the republic (95%) is concentrated in 9 enterprises.

About one third of the production volume, dispatched according to the type of economic activity "Manufacturing works" *(fig. 1)* falls on the share of machine-building profile enterprises. Since 2005 to 2008 this share increased from 24.4% to 30%. In 2009 (due to the crisis) indexes dropped, after that in 2010 the summary rate of machine-building products figured up to 27.3% from the volume of goods dispatched on the type of economic activity "Manufacturing works".

In the enterprises of machine-building profile 19.4 thousand people work, or 5.6% of those employed in the republic's economy. the products are manufactured to the amount of 13.5 billion roubles. Cost effectiveness of production is an average of 5.3%.

Figure 1. Scheme of volume of products dispatched on the type of economic activity "Manufacturing works" in the Republic of Karelia in 2005 – 2010



Average monthly salary is progressively increasing. If in 2005 it was 10% lower than the average in the republic, then in 2010 it was 12% higher.

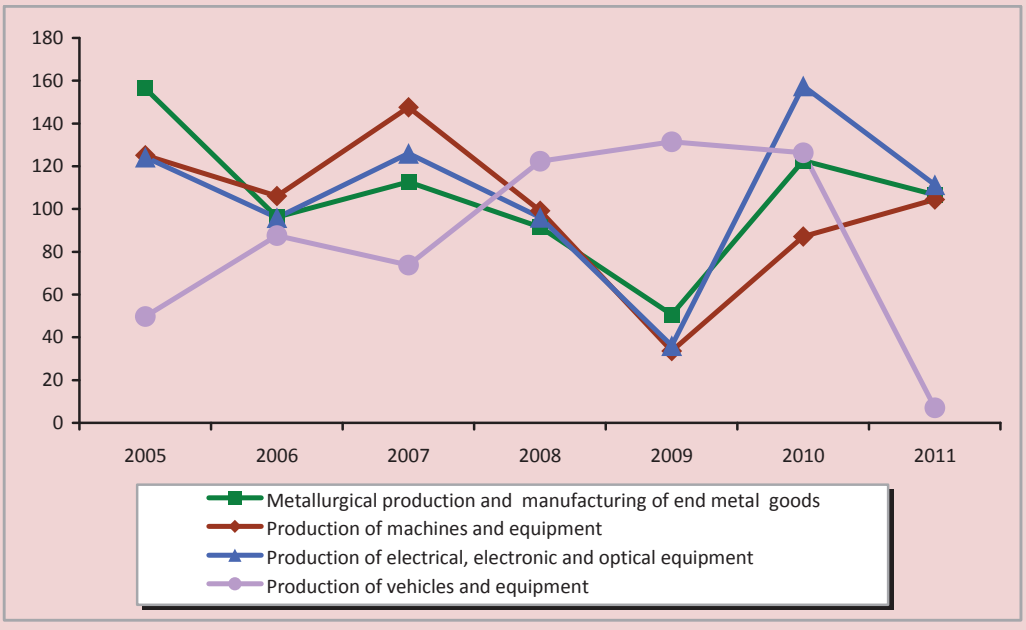
The analysis of machine-building enterprises' work shows some stabilization of manufacturing situation approximately by 2005, first of all in big plants. In the period of 2005 – 2007 the factory output was increasing, which is confirmed by industrial production indexes *(fig. 2)*. From the beginning of the crisis in 2008 the development slowed down, and in 2009 the indexes in three types of economic activity of machine-building industry dropped considerably. Then the situation began to improve. While the type of economic activity "Manufacturing of vehicles and devices" is in the opposite phase of main tendency, which is connected with the technology of ship producing. In 2011 we see the dropping of this type of activity index to 7%.

Steps taken by the government of the country, republic and enterprises, allowed in 2011 to increase production volumes on the following types of economic activity: manufacturing of machines and equipment (104.4%), metallurgical production and production of end metal goods (106.7%), manufacturing of electric, electronic and optical equipment (111.3%). At the same time, in the enterprise of vehicle production befell a sudden drop of industrial production index – to 7.1%. Because of the change of the owner who unsuccessfully tried to convert the manufacturing to producing ships of a different class, the enterprise turned out to be in a situation of bankruptcy.

Enterprises producing competitive goods demonstrate a positive dynamics of development, because they possess modern technologies and a modern system of management. Here a computer monitoring of the whole life circle of products is provided – from formation to running.

In the medium term, steps in enterprises' development will be directed towards their further reconstructing and modernization on the basis of implementation of modern, high efficiency equipment, mastering of new product kinds, more effective usage of manufacturing facilities.

Figure 2. Industrial production index on the types of economic activity in the Republic of Karelia in 2005 – 2010, in % to the previous year



For example, CJSC Holding company Petrozavodskmash and the State Corporation Rosatom, which is continuing to implement the integration project, by 2015 plan to carry out technical re-equipment of the existing production, prepare facilities for increasing production volumes and for developing the production of Russian nuclear industry equipment. Besides, it is planned to develop the resource efficient production of environmentally safe shipping packaging set for keeping and transporting of spent nuclear fuel. In addition, CJSC Petrozavodskmash will continue its work on the conclusion of long-term contracts for manufacturing goods for its traditional customers – cellulose and paper and oil and gas industries.

The further development of LLC Onega tractor plant is connected with the enlargement of product line of output machines and with new market penetration. A project is being implemented which is aimed at the import substitution of timber machines. For the purpose of effective development of the plant and organizing the assemblage of new kinds of modern, competitive machines for timber cutting works, the enterprise signed a contract with the Ministry of Industry and Trade of the Russian Federation for carrying out R&D, for organizing the manufacturing of a modern machine complex. At present machine samples are assembled and tested. Besides the enterprise is implementing a programme aimed at the production of a machine complex for cut-to-length timber harvesting. The programme's implementation by 2015 will allow to achieve the complete replacement of the product line and to produce the new basic model of a vehicle Onezhets-300 commercially.

Other machine-building enterprises have their development programmes as well. Several factors are needed for their implementation, including the modernization of manufacturing, the expanding of distribution areas and output of new products.

In order to keep their competitiveness in the conditions of Russia's joining WTO and given the increase of foreign machine-building goods' import, enterprises have to perform a deep organizational and management modernization and to enter the path of innovation development.

It is necessary to develop a mutually beneficial partnership between business and state through the increase of social responsibility of enterprises and enhancement of state support instruments. Under these circumstances collective and cooperated actions of authorities and employers in the revival of the image of working professions and in steep increase of moral and financial incentive for employees of machine building plants are needed.

In the opinion of several experts the republic can become an area for implementation of the cluster approach to development of innovation timber machine building with high level of competitiveness of output goods, covering the requirements of Russian timber enterprises, in the first place those of the RF North-Western Federal District [4]. Forest-industry and wood machine building clusters of the republic are able to cover requirements of wood enterprises of the region in equipment and to maintain deliveries to other regions of the country and for export.

In general, during the years of political and economic changes machine building in the republic fell under complete transformation. Essentially new enterprises were created, which have adopted the rules of market driven economy and are now shifting to a new organizational and technological mode of production, they are able to compete in the conditions of the world market.

At the present stage of development, machine builders of the republic undertake mission of maintaining and enhancing the achieved level of manufacturing, its technical re-equipment and production of competitive goods which comply with the world standards.

That is why the elaboration of a system strategy of development of machine building in the Republic of Karelia as part of public-private partnership appears to be essential [3].

In general, the positive dynamics of production indexes, negotiation of the consequences of the crisis and practical actions of owners and top-managers of machine-building enterprises indicate that, despite the existing difficulties and problems, Karelian machine building has good development prospects.

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The problems of financing of higher education in modern Russia

The article deals with the financing of higher education in the current conditions on the materials of state universities in the Russian Federation. The author proves that education in general, including higher education, cannot be considered as a commercial service sector and universities as commercial organizations. He believes that it is a sphere of intellectual and spiritual activities that creates public goods, which must be provided by the state on a par with other public goods (ensuring of the state and social security, social security of the population, environmental security, etc.). This article presents the problems in the improvement of education expenditure planning and financing according to the objectives of modernizing the country at the new stage of its development.

Higher education in Russia, financing, commercialization of universities, organization of student admitting and training, academic teaching staff salaries.

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The course for the modernization of society declared in Russia should be implemented due to the transition to an innovation economy. So, improving the quality of human capital that depends directly on the education of public at large takes a particular importance in this process. The modernization of society is impossible without qualified specialists and talented scientists, without acquiring knowledge and high-quality education of people who are, in turn, the sources of high and sustainable rates of economic growth.

In this regard, a key role is assigned to higher professional education (HPE) – the highest level of the educational system that provides a person with the guarantees of higher education and qualification in the chosen field of professional activity. The institutions of this educational sphere are called higher education institutions (institutes of higher education) that have the forms of a university, academy, institute, etc.

Prior to the adoption of the new Federal Law "On education" that will become effective since 2013, legislative and legal principles of state policy in the field of education in Russia are regulated by the federal laws "On Education" dated January 13, 1996 No. 12-FL and "On Higher and Postgraduate Education" dated August 22, 1996 No. 125-FL, the National Doctrine of Education Development approved by the Government Resolution dated October 4, 2000 No. 751, as well as by the subordinate legislations of the Ministry of Education and Science of the Russian Federation, the Ministry of Finance of the Russian Federation, the Federal Treasury of Russia, etc.

There is no need to prove that the stable functioning of universities, the development of higher education and improving the quality of training of qualified specialists depend largely on timely financing for the above purpose. Since the development of higher education was considered as a national problem, it was financed mainly from the federal budget of Russia. According to the 2004 data, nationwide sphere of state higher education received 93% of funds from the federal budget of Russia, 6% from the budgets of the federal subjects of Russia and 1% from local budgets[1]. However, there is a trend to decrease in the nationwide share of government financing of higher education in recent years: the share of federal budget in the financing of state universities' expenditure has accounted for 70 – 75%[2]. The share of extra-budgetary funds, particularly the revenue from paid educational services, has increased due to strengthening the commercialization of state universities' activity. Thus, the share of budget financing in the structure of financing the Vologda State Technical University's (VSTU) expenditures was 49.7% in 2003 and 43.9% in 2012, the share of non-budgetary financing was 50.3% in 2003 and 56.1% in 2012. According to recent statistics, more than 2/3 of the total current expenditures of the University are financed by the funds received from paid educational services.

This dynamic has its own history. In the period of transition to a market economy (the 1990s of the 20th century), the educational system on the whole and higher education in particular had to survive due to the sustained reduction of government financial support for social sphere. Sometimes, the low wages of lectures and other employees in the state universities, as well as the meager scholarships of students were not paid on time. There was no budgetary financing of expenditures for the organization of the educational process, the maintenance and use of buildings, buying and repairing equipment. State universities' arrear with the payments for public services and energy supply increased, and there were no actual mechanisms and sources to repay the debt. Due to the acute deficiency of governmental funds, the budgetary financing of state universities reduced under the pretence of rationalization and efficient use of budget funds, the need for "the transparency" of budget financing, the intensification of state functions in the budget process. These measures have resulted in the following:

– reduction in the number of state funded organizations that was resulted in the closure and / or consolidation of state universities, as well as transferring the functions of university financing to the regional budgets;

– detailed distribution of budgetary funds by federal authorities between the items of budget classification already at the stage of budget quarterly breakdown; allocation of budgetary funds for the specific expenditure items without the right to redistribute them, etc.

In order to solve the situation, state universities were allowed to search for additional (non-budgetary) funding sources to cover the financing gap, especially in the current expenses. The government stimulated the development of universities' entrepreneurial activity that favoured the increase in the amount of revenue from paid educational services from year to year and allowed the state universities to turn into the market-based organizations. Moreover, market-based state policy in the field of higher education resulted in the increased number of non-state commercial universities and their branches that throve in our country over the past two decades.

In all fairness it has to be added that the reduction of the state financial support for higher education was a necessary measure in

[1] Gurov V.A., Sigova S.V. On financing of education. Finances. 2006. No. 8. P. 49-52.

[2] Kalashnikova O.V. Financing of higher education in the transition to an innovative economy. Author's abstract. Ivanovo, 2011. P. 11.

the 1990s because of the chronic economic decline and deterioration of the financial situation in Russia due to thoughtless economic reforms. However, there was an economic growth in the country after the 1998 default. Annual average GDP growth rates accounted for 5 – 6.5% in the period from 2000 to 2008. During those years, Russia's GDP grew by 68%, and the country ranked the 6th in the world according to GDP gross volume. The volume of Russia's consolidated budget increased manifold during that period, the federal budget of Russia became surplus, there was an increase in gold and foreign exchange reserves[3], etc. It would seem, Russia had an opportunity to mobilize the financial support for higher education due to the significant improvement of macroeconomic and financial indicators.

However, it did not happen. Scanty scholarships were persisted. It was not implemented the provision of the 1996 Russia's law "On education" that the average wage rates of academic teaching staff should be two times higher than the average wage of industrial workers. According to this law, the share of expenditures on higher education should be at least 3% of the expenditure side of the federal budget, however, it was actually accounted for 2.5% on average in 2000 – 2004. There was no radical progress in the subsequent years.

Table 1 shows that the share of financing of higher education expenditures in the total expenditures of Russia's federal budget increased slightly – up to 3.3% in 2009, i.e. the growth was only 0.9% for six years. The share of budget financing of higher education expenditures accounted for 0.8% of GDP in 2009. At the end of 2011, it had dropped to 0.7% of GDP, which was two times lower than in developed countries (average rate of the OECD countries – 1.3%). Budget amounts of Russian state universities for research was no more than 0.04% of GDP, while it amounted to 0.25 – 0.4%[4] in the developed countries.

The quality of specialist training in Russia has dropped sharply over the recent two decades that is proved, for example, by the following facts. The Times Education has published the World University Rankings 2011 – 2012 based on the special score evaluation. According to this ranking, Lomonosov Moscow State University that was among 50 top universities in the world until recently found itself in the group of universities that ranked from 276th to 300th. St. Petersburg State University, followed the Moscow State University, found itself in the group of universities rounded out the list (351st – 400th positions)[5].

It is our firm belief[6] that one of the main reasons for the sharp decline in the quality of higher education in Russia today is the commercialization of state universities and a growing trend to increase the number of students who pay for their education due to reducing the share of free education. In fact, there is non-compliance with the requirements the RF Constitution (Article 43) that "everyone shall have the right to receive, free of charge and on a competitive basis, higher education in a state or municipal educational institution or enterprise"[7]. As we see, there is no paid higher education clause on a non-competitive basis in the Constitution.

Moreover, a number of laws run counter to the Constitution and aimed at strengthening the commercialization of state higher education institutions have been adopted in the country in recent years. For example, the Law of the Russian Federation "On Autonomous

[3] See: Avetisyan I.A. Issues of the state regulation of the processes of income distribution and use in today's Russia. Economic and social changes: facts, trends, forecast. Vologda: VSCC CEMI RAS, 2009. Iss. 1 (5). P. 109-111.

[4] Kalashnikova O.V. Ibid. P. 12.

[5] Version. 2012. No. 11. March 19 – 25. P. 5.

[6] The author of this article has been teaching in the state universities for 47 years. Of which, he had been working as a pro-vice-chancellor for academic affairs for 12 years in the economic university (in Soviet times).

[7] Constitution of the Russian Federation. Moscow: RF MIA Joint Editorial Board, 1998. P. 17.

Table 1. Dynamics of higher education expenditure financing by the federal budget of the Russian Federation in 2003 – 2009

Indicators	2003	2004	2005	2006	2007	2008	2009
Volume of GDP, trln. rub.	13243	17048	21625	26903	33111	41668	40420
Volume of expenditures of Russia's federal budget, bln. rub., total in % from GDP	2358.5 17.9	2648.9 15.8	3514.3 16.2	4284.8 15.9	5983.0 17.1	7570.9 18.1	9931.4 20.4
Higher education expenditures of Russia's federal budget, bln. rub., total in % from GDP in % from the total volume of Russia's federal budget expenditures	56.8 0.4 2.4	71.8 0.4 2.6	119.2 0.5 3.4	161.6 0.6 3.8	228.3 0.7 3.8	280.0 0.7 3.7	328.6 0.8 3.3
Source: Kalashnikova O.V. Financing of higher education in the transition to an innovative economy. Author's abstract. Ivanovo, 2011. 26 p.							

Institutions" dated November 3, 2006 No. 174-FL was adopted under the pretext of improving the legal status of public institutions; it allowed the privatization of public institutions, including state universities, and thus provided for the full gradual replacement of free higher education by paid one. However, the complexity of the process of creating autonomous institutions (the Resolution of the Government should have been taken to each of them) did not allow a massive transition of public institutions, including state universities, into the status of autonomous organizations, and they did not guarantee the improvement of their financial standing because the decline in budget funding required to attract extra-budgetary sources.

The Federal Law on May 8, 2010 No. 83-FL "On amendments to certain Legislative Acts of the Russian Federation in connection with the improvement of the legal status of state (municipal) institutions" enacted on July 1, 2012 has become the logical extension of the policy aimed at strengthening the commercialization of public institutions, including state universities. This law allows the state universities to achieve a status of so-called institutions with an extended range of rights, or autonomous institutions, or government agencies. According to this law, a number of federal state-funded educational institutions of higher education which are under the jurisdiction of the Federal Security Service and the Ministry of the Interior are automatically awarded the status a status of government agencies. These universities should be financed in accordance with the budget estimates (estimated form of financing), and the funds obtained due to other profitable activity are liable to be included into the appropriate budget. The rest of state universities are awarded the status of institutions with an extended range of rights or autonomous institutions that defines the differences in the financial aspects of their activity. For example, institutions with an extended range of rights or autonomous institutions can be provided with the funds in the form of subsidies and budgetary investment according to the assignment of the founder, and their revenues should be at their self-sufficient disposal. In fact, without investment, the overall trend is becoming clear that the budgetary financing of these universities' expenditures is reduced.

The amendment to the Budget Code of the Russian Federation made according to the Federal Law No. 83-FL eliminated the provision that state-financed organization should perform non-commercial functions and their activity should be financed at the expense of the national budget or state non-budgetary fund. According to the new amendment of the Budget Code of the Russian Federation, those state universities that have awarded the

status of state-financed public organizations perform commercial functions, and they are financed in full due to the budget on the basis of the budget estimates (BC Code of RF; article 161). And most state universities that have not been awarded this status perform commercial functions, and they are financed mainly by the revenues from their paid activity, in particular, from providing paid educational services.

Finally, Russia has found a global factor to transfer the activity of social institutions (in the sphere of education, public health, etc.) onto commercial basis: the country became a full member of the World Trade Organization (WTO) and a participant of the General Agreement on Trade in Services (GATS) at the end of August, 2012. According to the WTO – GATS rules, the citizens of Russia, unfortunately, are deprived of their constitutional rights to free education, as these social rights become expensive and inaccessible for most people services that are similar in their nature to the sale of goods in retail trade system.

Strengthening the commercialization of state universities, which means, first of all, the replacement of free education by fee paid education is one of the reasons for the sharp decline in the quality of graduates from the universities. *Table 2* proves this.

The table shows that the total number of graduates from the Economics Department of the Vologda State Technical University has increased 2.2-fold over the period from 2003 to 2006, including 1.7-fold increase in the number of graduates who got state-subsidized education and 4.2-fold increase in the number of fee-paying graduates, i.e. the growth rates of the fee-paying groups have exceeded the growth rates of the state-subsidized groups. Moreover, the share of state-subsidized honours graduates in the total number of graduates from the Economics Department accounted for 13.7% in 2006, and the share of graduates who got state-subsidized education and received excellent and good final marks was 56.2%. The share of honours fee-paying graduates was only 1.8%, and the share of fee-paying graduates who received excellent and good final marks accounted for 28.2%. It is increasingly possible to meet such graduates from the economic faculties who have no ideas about economic categories and economic laws, say nothing of the current problems of economic transition of the country to innovative development.

There is a tendency to reduce the number of state-subsidized students in the state universities of the country. So, share of these students reduced by 4% in 2006 and by 10% in 2007.

Table 2. The number of full-time graduates from the Economics Department of the Vologda State Technical University their quality classification in 2003 – 2006

Indicators	2003	2004	2005	2006
The number of full-time graduates from the Economics Department, total Including: – graduates who got state-subsidized education	152 121	166 146	189 176	336 204
– graduates who paid for their education	31	20	13	132
Graduates quality: – the number of honours graduates who got state-subsidized education	40	49	44	46
– the number of graduates who got state-subsidized education and received excellent and good final marks	79	90	104	179
– the number of honours fee-paying graduates	1	–	5	6
– the number of fee-paying graduates who received excellent and good final marks	17	15	7	55

Source: Avetisyan I.A. Higher education expenditure financing in the Russian Federation and the directions of its improvement. Economic and social changes: facts, trends, forecast. Vologda: VSCC CEMI RAS, 2007. No. 39. P. 12-27.

The number of state-subsidized students in Russia amounted to 179 persons per 1000 people at the end of 2006; according to this indicator it was overtaken by Canada (299), Austria (227), Belgium (224), Finland (220), Spain (187), a number of Latin America countries[8].

The new Minister of Education and Science of the Russian Federation Dmitry Livanov has called for a further reduction of state-subsidized student spaces in the state universities and principled rejection of free higher education. He has described his position as follows: "As soon as we get away from the free higher education for everyone, we will have got the mechanism to engage valued staff. For example, education loan. If good education is expensive and a person has to pay for it, he or she will be able to take out a loan, and an employer to be will repay it in exchange for commitments"[9]. In our view, such an approach of the minister to higher education reform in today's Russia, where a third of the population lives below the poverty line, and according to official statistics, the ratio of the average income of the richest 10% to the poorest 10% (the Gini coefficient) is higher than 15-fold, but in fact it is 35-fold or more[10], puts an end to the availability of free higher education for many talented and gifted children from poor families. It is also impossible to agree with the minister's opinion that an educational loan can be used as a tool to replace state-subsidized higher education by fee paid education because it is almost impossible to use such a loan due to the great social inequalities in the country. Moreover, educational loans for students become risky and unprofitable for banks and employers due to the second wave of economic and financial crisis

It is well known that providing high-quality higher education, first of all, depends on the standard of knowledge of graduates from secondary schools and vocational educational institutions, which are the main source of contingent for both public and non-government for-profit universities in the country. If earlier (in Soviet times), as a rule, only the pupils with predominant excellent and good marks entered the universities and became students, then today mediocre pupils enter the state universities paying money. Our teaching experience shows that if the students in state universities receive objective grades then about 2/3 of fee-paying students will be immediately expelled for academic failure after the first session of the academic year. But this means that that state university will lose a teacher's wage rate and has to dismiss one lecturer. If it is repeated every term, the university will have to liquidate the whole department and a lot of lectures will be unemployed. With such a system of the organization of higher education, when functioning of state universities and salaries of their lectures do not depend on the state budget funding, but mainly on the money paid for the education by students and their parents, the objective assessment of the knowledge of fee-paying students is eliminated and, therefore, there is no stimulating basis to improve the quality of higher education. Is it a reason to explain the fact that in Russia fee-paying students do not have the desire to study, and they study badly, considering that getting "a wallpaper degree" (i.e. diploma of higher education) is guaranteed by the fact of paying for education. This situation is one of the causes of corruption and bribery in the system of higher education in our country.

Former RF Minister of Education and Science Andrey Fursenko, known for his liberal and market views on the reforms in Russia's higher education system, said, "The main defect of the Soviet educational system was an attempt to form a human-creator, and now our task is to cultivate a skilled consumer who is able to use ably the results of others' creativity"[11].

[8] Soviet Russia. 2007. January 16. P. 5.
[9] Soviet Russia. 2012. July 5. P. 1.
[10] Zavtra. 2012. Aug. No. 31. P. 3.
[11] Soviet Russia. 2012. June 19. P. 4.

Ex-minister's ignorance strike us when he tries to fling mud at the Soviet system of education, turn everything upside down and find faults in everything, even in the creative and constructive nature of Soviet educational system recognized in due course as the best one in the world. According to ex-minister, forming of a human-creator through the system of education is not a virtue but a defect. But it is well known that forming of a human-creator is a fundamental factor to characterize the quality of training. Instead of this, it is proposed to bring up the consumers who are able to use the results of others' activity (creativity, creation). What will such an approach lead to? Firstly, if the higher education system does not prepare creators, it turns out that the objects of consumption (advanced technologies and other objects of creativity) that are not made in the Russian Federation but abroad, will be used by Russia's qualified consumers from the place where they are made, i.e. from abroad. Secondly, this approach to higher education in the context of world globalization will strike out Russia from the list of potential competitors in the world market. Thirdly, it is the most important thing, this is a clear failure of plans to modernize the society and transfer the national economy to innovative development announced by the current Russia's government because the implementation of these plans requires the creative impulse and only the creators but not consumers are able to implement them.

Introduction of Unified State Exam (EGE in Russian) in schools is one of the reasons for the academic decline in schools and, naturally, the deterioration in quality of higher education training in the Russian Federation. Since 2001, EGE has been cultivated in Russia as an experiment, which is opposed by many professionals, school and academic teachers. However, despite the views of experts and the general public protest, a special federal law was adopted, and according to it, EGE was introduced across Russia in 2003 and the oral and written exams for prospective university students were replaced by testing. At the same time, the final school exams in the form of testing became the entrance university examinations. In other words, if a pupil obtained the required score (maximum 100 points) according to the results of testing and sent a certificate in the university that he or she liked, he or she could consider himself/herself a student. Meanwhile, testing is a formal way of examination because school leavers, i.e. potential university students, learn and mechanically reproduce information without analyzing it and almost without studying the subjects, they cease to understand the nature of the question and think by themselves. In our opinion, EGE is a means of mental debilitation, cultural and psychological primitivism of the younger generation, and, finally, it has a negative impact on the quality of both general and higher education in the country.

The test method used in EGE is not particularly appropriate for testing and objective assessment of knowledge of social disciplines and humanities (history, literature, social studies, etc.), as they are not formalized due to their specific nature. It is impossible to assess objectively university entrants' knowledge of the subjects mentioned above without direct speaking to them and without an oral exam. The authorities seem to recognize the shortcomings of EGE; however, they suggest to improve this exam but not to cancel it. It is impossible to agree with this, because the negative effects of EGE emerge from its faulty nature. By the way, the developers of the law on EGE in Russia borrowed it from the former practice of the American educational system, which was abolished later in most European countries, including the USA. EGE supporters believe that it is intended to provide all the school leavers with the equal opportunities for entering the universities and reduce corruption and bribery in the education sector.

However, this is not borne out in practice: EGE results show that corruption and bribery have risen to a new level.

Doubtful innovation in higher education is the transition to the educational process in state universities according the Bologna system (BS). Russia's state universities have adopted a two-stage educational system "bachelor plus master". This innovation is aimed at the unification of higher education and acceptance of Russia's diplomas in Europe. While there are state-subsidized, i.e. free, student spaces in the state universities only for the Bachelor's programme as a lower stage of higher education, then students should pay for their MA courses at the highest stage of higher education. The maximal term of Bachelor's programme is four years, and the term of MA course is two years. And the transition took place when there were no serious reasons to adopt BS in Russia because our schoolchildren always ranked first in the Physics and Mathematics Olympiads, and the graduates from Russia's universities such as engineers and physicists were appreciated and employed abroad despite the inconvertibility of their degrees.

We share the opinion of Andrey Fursov that "the introduction of a four-year bachelor's programme instead of five-year traditional high education turns our high school into a kind of vocational school; it brings the higher education down to earth; and if such a policy is very bad for an institute, then it is catastrophic for an university, because an university is eliminated as a social and civilized phenomenon"[12]. In the United States, bachelors are trained in colleges that are similar to our technical schools. Training of bachelors according to BS rules dramatically increases the bureaucratization of the educational sphere. The case is that bachelor's programme requires a lot of time of lectures to bring their usual scientific and educational activities in accordance with the formal requirements of bachelor's programme, i.e. there are things that are not related to the content of education here. In such a situation, low-skilled teachers are ready to cling to the formal aspect of training.

The financing problems of higher education are closely related to the financial support for universities' scientific activity, as they are not only educational, but also research centres. The most part of country's scientific potential is concentrated in the universities. The system of higher education and the realm of science are inseparable, because a today's student is a potential tomorrow's researcher. Academic scientists and researchers, especially in the state universities, do not only impart their professional and scientific knowledge to students, but they "produce" the knowledge conducting fundamental and applied scientific and technical projects, as well as preparing and publishing their textbooks, manuals, scientific articles etc. In the modern era of high technologies, when the world really strives for a "knowledge economy", the new institutional forms of between education, science and industry such as "academic university", "research institute", "research and education centre" and others are in demand.

The budgetary financing of higher education has been reduced manyfold in recent years due to the transition of state universities to market relations. Despite this, many leading state universities continue the tradition of tireless scientific research which involves leading scientists who generate new ideas and research directions. At the same time, the spectrum for research activities is expanded, and it covers many fields of knowledge – from the theoretical and fundamental to specific and applied sciences. Students continue their research activity that are resulted in publishing the collections of their research works. Finally, the top state universities rank first in training of academic, scientific and research staff through postgraduate and doctoral courses.

[12] Zavtra. 2011. December. No. 50. P. 5.

The transition of the country's economy to an innovative way of development requires a new qualitative level of the development of university's science and new methods of its financing. Therefore, in our opinion, when addressing the issue of funding support for university's science according to theoretical and fundamental areas, including social and humanitarian researches, it is impossible to set hopes upon attracting the investment of businesses because they are not interested in this. Budgetary financing should predominate here due to the developed long-term concept of the state policy in the field of higher education and science. As for financing of concrete applied research projects that are developed by major universities and research and education centres, then it is possible to involve the investments of the business community to implement them or use public-private partnership, as well as they can involve foreign leading experts and scholars following the principles of arranging the work of the Skolkovo Innovation. Centre

Of course, world globalization, high business competition, technological and scientific discoveries, which change the way of life, require the changes in standards of higher education that should be brought in accordance with the requirements of the day. The Presidential Decree "On the measures to implement the state policy in the field of education and science" dated on May 7, 2012 No. 599 is aimed at solving these tasks. The decree provides for the activities related to:

- monitoring the activities of universities to assess the effectiveness of their work in order to restructure inefficient universities;
- increase in scholarships to needy first- and second-year students who are studying on an internal basis on bachelors' and specialists' programmes (state-subsidized groups) and have excellent and good marks by the end of 2012;
- transition to normative per capita financing of universities by June 2013;
- increase in the share of employed people aged from 25 to 65 who improved their qualification and (or) were retrained up to 37% by 2015;
- increase in the share of universities and secondary vocational institutions, the buildings of which were adapted for disabled people from 3 to 25% by 2020.

The need for these and other measures was dictated primarily by the fact that a lack of governmental regulation of the labour market for the specialists with higher education was resulted in a number of non-governmental commercial universities in Russia. As a result, the total number of universities and the number of diplomas received in the country became much more than before 1990. For example, there were more than 500 universities (only in the form of state universities) in the RSFSR before the Soviet Union collapse which involved about 2.8 million students, i.e. there were 6000 students on average per one university. Today, there are 2650 universities in Russia (according to incomplete data), including non-governmental commercial universities that involve seven million students, i.e. the average number of students per one university is 2.64 thousand people, which indicates the diminishment of Russia's universities[13]. On the other hand, 20.6% of the population in Russia had higher education at the end of 2005, which was lower than in the developed countries. For example, this indicator amounted to 30% for the same period in the USA[14]. Furthermore, state-subsidized (free) student spaces are allocated to state universities without clear and theoretically substantiated calculation of the need for specialists. Both state and non-governmental commercial universities have been training the specialists in humanities for the recent 20 years (lawyers, economists, managers) who are not on demand in the labour market. At the same time, there is an acute shortage of highly skilled engineers and technicians.

[13] Soviet Russia. 2012. June 21. P. 5.
[14] Zavtra. 2006. No. 49. December. P. 4.

Due to unregulated labour market of specialists who have higher education and a lack of the distribution system for the graduates from the state universities, a lot of graduates are not in demand for practical work, so they join the army of unemployed people or do not work in their specialty. According to the 2004 World Bank analysis, only 20% of graduates from the Russian universities worked in their specialty[15].

According to the RF President's Decree No. 599, the precondition for the implementation of state policy in higher education is ensuring the sufficient financing for the expenses on the development of state universities, as well as using new forms and methods of its implementation. Moreover, the main item of expenditure for the current functioning of state universities is the wages of their employees, especially academic teaching staff and students' scholarships. Since the main persons involved in ensuring the quality of higher education are teachers and scientists who work in state universities, it is necessary to set their wages in such a way that they would work and live worthily and have a high social status.

Unfortunately, tariff rates and official salaries of university teachers to the exclusion of degree and academic rank allowances have not increased over the years of market reforms, and they still remain low while increasing the educational and instructional load. Often a lecture has to teach 3 – 5 disciplines for the sake of more or less adequate salary. Of course, such a lecture regardless of his/her qualification can't efficiently teach all the disciplines. Ultimately, this will have a negative impact on the quality of training. In addition, many students have to work at the expense of the quality of training because of the extremely low scholarships.

It is known that education in general, including higher education, as one of the leading sectors of the social sphere belongs to a non-production sector, where material benefits in the form of goods are not directly produced. However, the social importance of this field for society is very high, since, as noted, the effective economic development of any country depends on the education of its citizens. That is why free secondary education and free higher education on a competitive basis is a constitutional right of citizens in Russia (Article 43 of the Constitution) and one of the social functions of the Russian state because the Russian Federation is a social state (Article 7 of the Constitution). But nowadays education in Russia is increasingly derived from the social functions of the state, higher education services become a commodity, and the universities turn into trade organizations. In our opinion, the whole education system, including higher education, can't be considered a service sector. This is a sphere of intellectual and spiritual activities of the society, which allows us to acquire knowledge, educates and forms a human person who has not only higher education, but also spiritual, moral and ethical qualities. World experience shows that there are benefits (public goods) at the level of society, which are not rational and sometimes impossible to be acquired individually. Of course, these public goods include educational services. But this does not mean that educational state-financed institutions, particularly state universities, cannot receive extra-budgetary funds from the additional educational activities through their preparatory departments, training and retraining centres, experimental farms, as well as through contractual researches and their implementation, rental property, etc.

Today, all the spheres of social life, including higher education, have a pressing issue of strengthening the public financial control over budgetary expenditures. It is a known fact that low budget discipline, embezzlements, thefts, improper use of budget resources, corruption, bribery, etc. take place in some state universities due to weak, ineffective and sometimes formal state internal and external

[15] Premier. 2007. March 27 – April 2. P. 16.

financial control at the level of the Ministry of Education and Science, therefore, it is necessary to focus on some issues relating to the use of new techniques, forms and mechanisms of financing for higher education.

Until recently, the current expenditures on the wages of state university employees in a public sector, including higher education, were financed through a unified tariff net (UTN), which was abolished later and replaced by a new one, so-called sectoral system of financing the public sector expenditures. That is, the individual methods of planning and financing of budget expenditures began to be used in every sector of the public sphere (education, health, culture, etc.). In order to implement a new phase of higher education reform, there is a need for the development of a new model to finance its expenditures that is adequate to today's challenges. SIFO system (State individual financial commitments), which is used in planning and financing the expenditures of state universities and which is a part of a new model of financing the higher education expenditures, is worth noticing. This system is called "a transition to a normative per capita financing of universities". It will be used since June 2013. If budgeted form of financing predominated earlier in the planning and financing of state universities' expenditures, i.e. the amount of funding was formed not on the base of the actual and expected results of budget expenditures, but by indexing and adjusting the amount of funds allocated in the previous year, then the amount of financing for each state university is formed by programmed target principle in the new format. These budget expenditures on financing of each university are argued by the purpose of spending which is permitted by the government. In this case, the purpose is determined in accordance with the task determined by the government. For example, funding for university teachers' salaries expenses in the part of training state-paid students directly depends on the number of the latter. The use of programmed target principle of funding provides a stronger link between budgetary financing of state universities' expenditures and achieving the objectives, thereby improving the utilization of budgetary funds.

The analysis of the problems investigated in this article allows us to formulate the main conclusions and suggestions.

1. In our opinion, education in whole, including higher education, can't be considered a service sector, educational services as goods, and universities should not be considered as commercial organizations. The specifics of education, including higher education, is the fact that it is a sphere of intellectual and spiritual activities of the society, which allows us to acquire knowledge, educates and forms a human person who has not only higher education, but also spiritual, moral and ethical qualities.

2. The reform of higher education and the educational system in whole implemented under the guise of modernization in Russia in recent years that is based on educational standards (models) of Western countries with the use of the Unified State Exam and the Bologna education system has a negative impact on the quality of general and higher education in the country, which brings into a question the feasibility of the strategic objectives of society modernization and the transition of economy to innovative development. We oppose the mechanical copying of the Western educational standards and propose to develop the National Doctrine for the development of education, including higher education of the Russian Federation, as well as to have our own model of its long term modernization – the model based on the best traditions of Russian and Soviet education. In our opinion, the compliance with the national roots and traditions does not mean that the country refuses to make progress and we doom ourselves to mark time. On the contrary, it means that the reform of higher education in our country should be oriented to the world's

achievements in this field, it should create the necessary prerequisites for the improvement of higher education system in Russia.

3. The unregulated labour market of specialists who have higher education was resulted in a number of non-governmental commercial universities in Russia. As a result, the total number of universities and the number of diplomas received in the country became much more than before 1990. However, universities train the specialists in humanities, while there is an acute shortage of highly skilled engineers and technicians in the country. This is a result of the fact that state-subsidized (free) student spaces are allocated to state universities spontaneously, i.e. without a clear and scientifically calculating the need for them. There is no distribution system for the state-subsidized graduates from the state universities, so a lot of graduates are not in demand for practical work, so they join the army of unemployed people or they work not in their specialty, and talented specialists go abroad. Based on this, we propose to recover the practice of planning the number of state-subsidized spaces in the state universities for the certain types of specialties based on clear and scientifically grounded calculation, as well as to put into practice the distribution system for the state-subsidized graduates aimed at the compliance of their training with real needs.

4. Since ensuring the quality of higher education is largely determined by the academic teaching staff of state universities, today an important task of the state is to increase their wages in such a way that they would work and live worthily and have a high social status, as it is done in the developed countries. The labour of a university teacher and an academic scientist is a highly skilled labour required for the current and further development.

We also propose to restore the provision of an article 54 of § 3 of the 1996 RF Law "On Education", which states that the average wage rates and official salaries ... for the academic teaching staff of state universities are set at the level that is two times higher than the average wages of industrial workers in Russia. And it is necessary to achieve the implementation of this provision at the expense of the budget funds, which will become available due to the reorganization and reduction of the number of inefficient institutions.

5. High competition, technological and scientific breakthroughs that change the way of people's life in a few years require to change the standards of higher education in the country so as to bring these changes into line with modern requirements. Therefore, the reform of higher education that is characterized by continuous and dynamic nature must be closely related to the development and implementation of a new model of financing the educational expenditures. It is impossible to improve the quality of higher education by the only increase in funding the educational expenditures. Today, more than ever, it is important to increase state financial control over the spending of budget funds allocated to finance the expenditures on higher education.

In terms of the implementation of a new phase of the reform (modernization) of higher education in Russia, a significant result can be achieved by a funding model, a part of which is the system of State individual financial commitments. According to it, since June 2013 the expenditures on higher education will be financed on the base of a programmed target principle.

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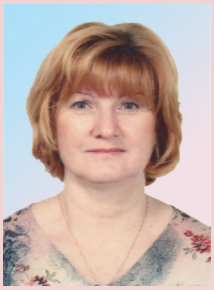
Methodology and mechanisms of funding the social welfare system in the Northern regions

The article deals with the notion 'social assistance' as a form of social protection. It gives the definition of the concept 'social assistance measures' and analyzes such forms of social assistance as regular monetary payments, lump-sum payments and monetary compensation provided in the Northern regions. Besides, the article analyzes expenditure obligations of the Russian Federation and its subjects on the provision of social assistance measures. Furthermore, it determines the dynamics of structural changes in the categories of population receiving social support in the Northern regions for the period from 2012 to 2020.

Social protection of population, social assistance, regular monetary payment, lump-sum payment, monetary compensation, targeted social assistance.



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Implementation of social support measures provided to different population groups in Russia's Northern territories is specified by the region, as it is determined by the level of socio-economic development of the territory, characteristics of various-level budgeting, prerogatives of federal and regional authorities in the sphere of social protection, which is the field of shared responsibility.

Great practical experience in the usage of different forms and methods of budgetary support of the population entitled to benefits has been accumulated in the Northern regions by now. Legislative and regulatory framework governing measures on social security has been formed. Diverse network of institutions providing social services to certain population groups has been established. There are, however, factors significantly reducing efficiency of social support measures, such as the lack of balance between federal and regional social programmes, uneven distribution of expenditure obligations on social support provided by the Russian Federation and RF constituent entities; insufficient level of retirement benefits from federal sources that

requires regional authorities to take additional measures to raise non-working pensioners' income to the subsistence level. The most vulnerable group of population with income below the subsistence level is not affected sufficiently by social support. The task of providing targeted social support has not been solved so far. The common feature of RF constituent entities with varying levels of budget allocation sufficiency is the prevalence of categorical social support measures in the structure of social security expenditures.

The legislative framework is the basis for state social security regulation. Legislators present social support as one of the forms of a broader concept "social security".

The term "social security" does not have a single regulatory meaning yet, therefore it is interpreted quite differently in academic circles demonstrating that "the specified social phenomenon is complex and diverse" [1].

Some authors consider the content of the term "social support" broader, than that of the term "social security" [2]; others, on the contrary, narrow it greatly defining social support as a form of supplemental assistance to people facing difficult life situation, and not to those living below the subsistence level. Social support is poorly regulated by normative-legal documents.

According to the majority of specialists, however, social support is provided to low-income citizens in financial distress in the form of monetary payments, in-kind assistance, benefits, services and, as a rule, is of short-term nature [4].

In general, three main tasks of social support system are the following:

– to provide support to people, who have made outstanding contributions to the state;

– to make insurance-like payments (pensions, temporary disablement allowance, benefits for harsh environmental and hazardous working conditions);

– to carry out social services for disabled population group not provided with adequate family support, including certain benefit payments of such as child benefits, benefits to families with three or more children and single-parent families, etc.

The latter task is of the lowest priority and is poorly financed. As a result, low-income (needy) population groups have limited access to resources reallocated through allowance and benefits system.

The content of social support, according to the author, practically coincides with the content of social assistance, but differs nominally by legal formalization and sources of financing.

Hence, social support measures are defined as a complex of activities, carried out as a part of social security programme within the framework of the state's social policy and aimed at providing assistance to certain population groups in accordance with the legislative and regulatory acts of the Russian Federation and RF constituent entities.

Financial security of the social support system (income generation and use) is carried out through the set of corresponding financial institutions [5]. Therefore, the system of social support should be regarded as a financial institution from the institutional point of view, as it is based on money relations (finance) and requires financial security.

State sources constitute the major part of social support funding sources, and they are allocated from budgetary and non-budgetary funds.

Federal Laws No. 122-FL of August 22, 2004, No. 122-FL of July 23, 2005, No. 67-FL of May 9, 2006 introduced amendments to the legislative acts of the Russian Federation envisaging changes from in-kind benefits provided to certain population groups to monetary compensations, as well as the division of expenditure commitments providing social support measures by levels of the budgetary system.

Thus, firstly, the law made a clear distinction of expenditure powers between federal, regional, and municipal levels of authorities. Secondly, expenditure commitments assigned to the federal budget in the field of social support were reduced, unfunded mandates were eliminated. Thirdly, ensuring the conformity of budgets profits and new expenditure powers became the responsibility of regional and local authorities. Finally, in order to improve accountability and increase transparency of financial flows, certain types of in-kind benefits were transferred into monetary compensations [6].

Distribution of powers on social support resulted in the distribution of all welfare recipients into two levels of responsibility – of the federal government and of the RF entities. The group of "federal welfare recipients" comprises veterans and disabled persons of the Great Patriotic War, veterans of military actions, family members of dead war veterans, Heroes of the USSR and the Russian Federation, Heroes of Socialist Labour, Full Cavaliers of the Orders of Glory and the Orders of Labour Glory, honorary donors, victims of radiation accidents and nuclear disasters, the disabled (including children with disabilities).

Powers regulating the implementation and financing of measures providing social support to "regional welfare recipients", i.e. labour veterans, home front workers, rehabilitees and victims of political repressions, were allocated to RF constituent entities.

Moreover, social support and services provided to the elderly and the disabled, families with children, orphans, poor and socially vulnerable population groups, as well as the development of regional standards in the rent subsidies programme have fallen under the jurisdiction of regions.

Thus, once the Federal Law No. 122-FL had been issued, the law on veterans underwent the most substantial reduction, with the two largest categories of welfare recipients – labour veterans and home front workers, being excluded. These groups were attributed to the RF entities, due to the distribution of powers between the federal centre and constituent entities of the Russian Federation.[7].

At present, the system regulating social support reflects such *indicators* as population groups entitled to social support; the number of welfare recipients at regional and federal levels; dynamics of social support expenditures; territorial and socio-demographic differentiation of population; rate of population growth.

Expenses on the implementation of social support measures is an ongoing priority within budget commitments of the Northern regions.

Thereupon, it is appropriate to analyze the dynamics of the number of certain population groups and expenditure commitments of the Russian Federation and RF constituent entities on the measures regulating social support.

The forms of social support are distinguished as following: *regular monetary payment; lump-sum payment; money compensation*.

Regular monetary payment is defined as payment, introduced due to the changes in the form of social benefits, as well as all kinds of payments (extra-payments), provided to certain categories of citizens at regular intervals (monthly or quarterly) in accordance with the regulatory acts of RF constituent entities, except for monetary compensations [8].

According to Rosstat data [9], the total number of certain population categories receiving *regular* monetary payments, as a whole across the Russian Federation in 2008 was 18446 thousand people, i.e. 743 thousand people more as compared to the year 2007, with 1046 thousand (5.7%) welfare recipients in the Northern regions. Out of the total number of individuals in the Northern territories entitled to benefits and receiving regular monetary compensations, only 13.5 (1.3%) thousand people fall under the jurisdiction of the Russian Federation. The largest number of welfare recipients are in Khanty-Mansi Autonomous Okrug (6.1 thousand) and in the Sakhalin Oblast (3.3 thousand).

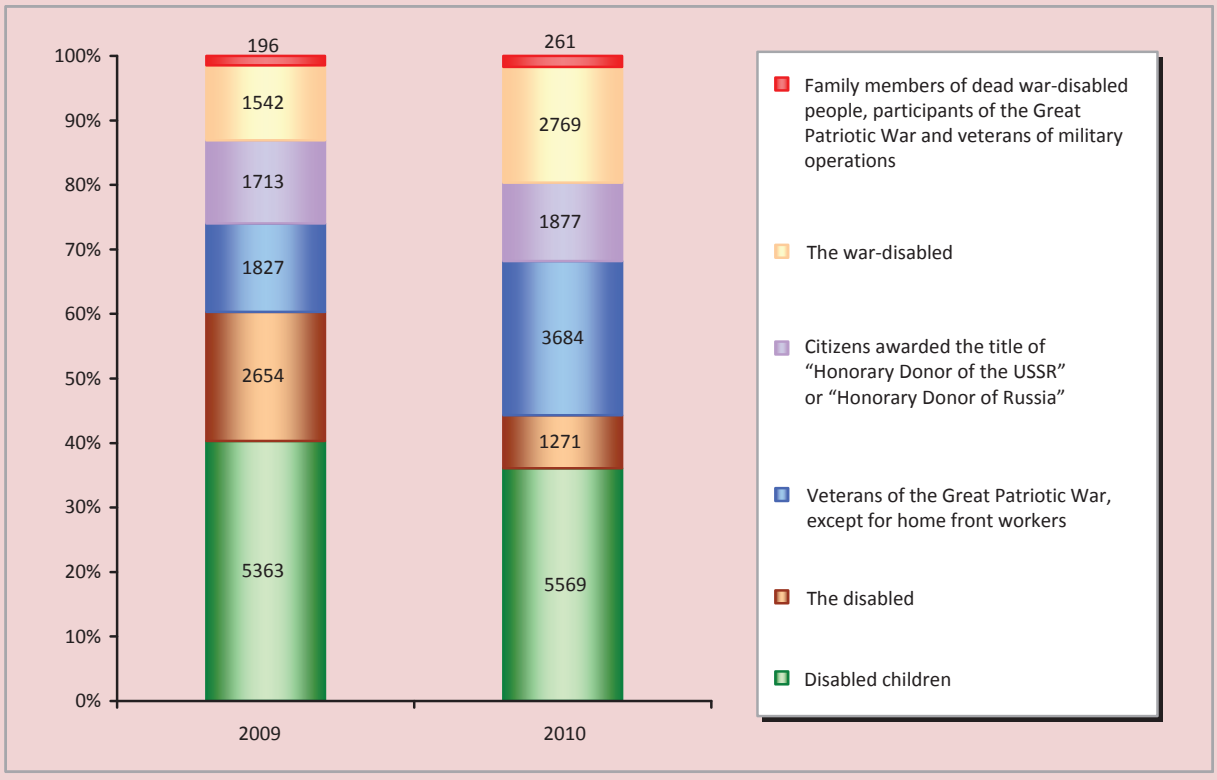
The sum of regular monetary payments in Northern regions in 2007 ranged from 100 to 2518 rubles in the Republic of Sakha per month per one welfare recipient, and in 2010 from 100 rubles in Kamchatka Krai to 19566 rubles in Yamalo-Nenets Autonomous Okrug, depending on the category of recipients.

According to Rosstat data, the total number of individuals receiving regular monetary payment and falling under the jurisdiction of the Russian Federation made up 12.8 thousand in 2009, and 1.6 thousand in 2010, which is 9.4% less as of the last year level. This change occurred due to reducing number of the war-disabled (216 people), the disabled (747 people) and children with disabilities (281 people). The total volume of regular payments by the Northern regions comprising 13.3 million rubles in 2009, increased by 13.9% in 2010.The average amount of regular monetary payments amounted to 1042 rubles in 2009, and has increased to 1333 rubles per a recipient in 2010. Disabled children, disabled war veterans, and veterans of the Great Patriotic War accounted for the largest volume of payments *(fig. 1)*.

The largest number of the war-disabled in 2010 was registered in Khanty-Mansi Autonomous Okrug (595 people) and in the Republic of Sakha (509 people), of the disabled – in the Republic of Sakha (533 people), of children with disabilities – in Khanty-Mansi Autonomous Okrug (4.6 thousand people). The Sakhalin Oblast accounted for a significant number of the Great Patriotic War veterans (1018 people) and citizens awarded the title of "Honorary donor of Russia" (2410 people).

The total number of certain population categories receiving *regular* monetary payments and falling under *the jurisdiction of RF constituent entities* has increased from 617.7

Figure 1. The amount of regular monetary payments under the jurisdiction of the Russian Federation, thsd. rub.



to 662.9 thousand people in the period from 2007 to 2010, i.e. by 6.9%. On average, the number of welfare recipients in the Northern regions increased annually by 1.7%.

The total amount of payments for the period under review rose by 23.3%, from 290.6 to 379.0 million rubles. On average, the volume of payments grew by 5.8% per year.

In 2010 in the Northern regions, labour veterans received from 90.4% to 94.1% of regular monetary payments, home front workers received from 3.9% to 6.1%, and rehabilitees received from 1.8% to 2.5% *(fig. 2)*. The largest volume of payments to labour veterans was registered in the Arkhangelsk (98.9%) and Murmansk (98.1%) oblasts. The exception is the Republic of Sakha, where 100% of the payments are received by home front workers.

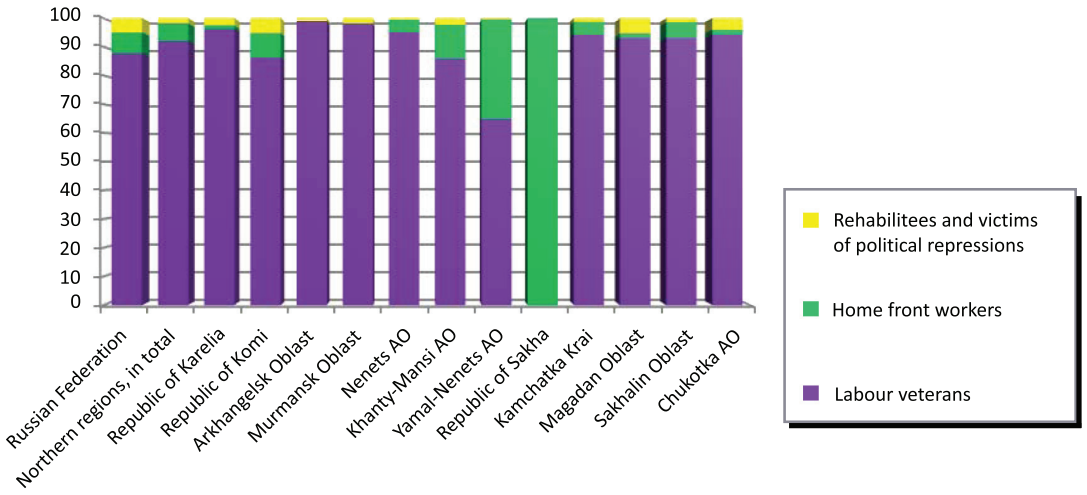
The analysis of the data above suggests that the expenditure commitments of the Russian Federation with regard to regular monetary payouts cover an insignificant number of welfare recipients of the Northern regions, that has been annually decreasing due to natural loss among such population categories, as the war-disabled, the disabled, and children with disabilities. The total amount of these payments is insignificant and in 2010 made up only 4% of the expenditure commitments of RF constituent entities, that became responsible for payments to the largest categories of welfare recipients, i.e. labour veterans and home front workers.

Another form of social support is *lump-sum payment*, which is defined as a sum of money paid at once and in whole, not by parts; form of monetary compensation of the losses; insurance lump-sum benefit [8].

According to Rosstat data, the total amount of individuals receiving lump-sum payment made up 223.5 thousand in 2007. Only 26% out of the given number are welfare recipients under the jurisdiction of the Russian Federation, accounting for 11.6% of the total amount.

The number of individuals entitled to this type of social support, increased to 289.7 thousand people, i.e. by 22.9% in 2008, with 83.5% of them falling under the jurisdiction of RF constituent entities.

Figure 2. The amount of regular monetary payments under the jurisdiction of the RF entities, 2010, thsd. rub.



The number of lump-sum payment recipients under the jurisdiction of RF constituent entities, was 80.9 thousand people in 2009. The total volume of payments in all Northern regions as a whole reached 490 million rubles. Home front workers received the main share of payments (92.7%), labour veterans – 6.6%, and rehabilitees and victims of political repressions – 0.7%. On average, home front workers received the highest lump-sum payments (21753 rubles). They follow by rehabilitees with 1556 rubles, and labour veterans with 556 rubles per one recipient. Though being insignificant, the payment was received mostly by labour veterans (57.9 thousand people, or 71.6%). In the Murmansk Oblast labour veterans receive 84.9% of payment funds. In some regions, such as the Republic of Sakha (Yakutia), Kamchatka Krai, Nenets and Khanty-Mansi autonomous okrugs home front workers are the only ones to receive lump-sum payment.

The number of lump-sum payment recipients in the Northern regions increased by 25.9 thousand people and reached 106.9 thousand people in 2010, due to a significant increase in the number of home front workers, that rose by 28 thousand as compared to the 2009 level. In the total volume of spent funds, however, their share decreased by18.7% as compared to the last year level and made up 74%.

Average amount of lump-sum payment per a recipient sharply decreased: from 21753 rubles to 1348 rubles, i.e. 16 times. Lump-sum payment was made only to home front workers in practically all Northern regions. The only exceptions were the Murmansk Oblast, with 86.1% of the funds paid to the labour veterans, and Yamalo-Nenets Autonomous Okrug, with 4.4% of payments received by rehabilitees.

The above-stated information indicates that, often, subjects of management do not have necessary statistical data on the number of individuals, entitled to social support by categories that in many cases results in inefficiency of social policy when making strategic decisions.

Social monetary compensation is another type of social support. *Compensation* [from lat. "compensation"] is defined in the dictionary as repayment or remuneration [10]. In Russian economic literature and in practice the term is mostly used in the meaning of "compensation". The meaning is stipulated in the Labour Code of the Russian Federation, in which compensation is defined as monetary payment, implemented in order to reimburse expenses to employees, and related to fulfillment of labour duties or other forms of duties envisaged by the Federal Law by the Federal law [11].

Rosstat interprets *monetary compensation* as a complete or partial targeted reimbursement of expenses for purchase of goods and services paid to individuals.

Social compensations are targeted at certain population groups, including:

– participants of the Great Patriotic War and home front workers in the Great Patriotic War given the same status;

– mothers and widows of soldiers, who died during the Great Patriotic War and in peacetime;

– former underage prisoners of fascism;

– victims of political repressions;

– victims of radiation accidents;

– other population groups.

Since the budgets of different levels and funds (mainly the federal and local budgets, the Pension Fund of the Russian Federation) are the sources of different types of compensations and indexations, it is impossible to keep track of and assess the extent of compensation payments to the fullest. Remunerations of financial character, i.e. having monetary value are used as compensation. The expression "of financial character" highlights the idea that the compensation payouts are accompanied by formation of financial relations. The latter are associated with the movement of cash flows, use

of money funds for financing of compensation payments, regardless of the form (cash, in-kind, or services) they were made in each specific case.

The compensation payments are as follows: use of urban, suburban and intercity transport; purchase of medicines; sanatorium and health resort treatment; phone subscription fee; food, purchase of clothes, shoes and articles of prime necessity; manufacturing and repair of dentures; installation of house telephone; other purposes.

According to Rosstat data, the total number of welfare recipients falling under the jurisdiction of the Russian Federation in the Northern regions made up 640 thousand people in 2007, and rose by 64.4% and reached 993.7 thousand people in 2010. In the period under review the given indicator grew by 19.5% from 6.5 million people to 7.8 million people throughout the country. Northerners comprised 12% out of the total number of Russian citizens provided with financial support in the form of compensation payments in 2010, illustrating considerable expenditure commitments of the subjects of the Northern territories with regard to social support measures.

The largest number of individuals receiving compensation payments falls on the Republic of Sakha (377 thousand people), Kamchatka Krai (144 thousand), and Khanty-Mansi Autonomous Okrug (110 thousand).

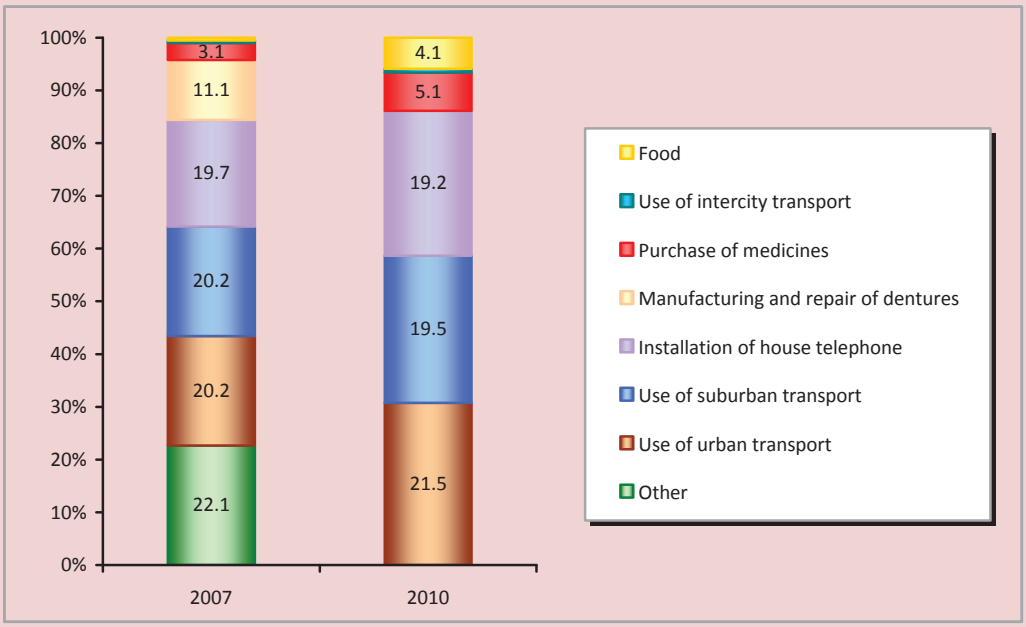
The largest share of compensation recipients out of total population was observed in Kamchatka Krai (44.8%),the Republic of Sakha (39.3%), and Nenets AO (32.9%), and the smallest share was registered in the Magadan and Murmansk oblasts (0.6 – 1.8%). Compensation payments are not practically carried out in Chukotka AO *(tab. 1)*.

In 2007 – 2010 period a considerable share of welfare recipients used the benefit for travelling by urban and suburban transport, which makes 40% out of total compensation payments and remains almost without changes during the period *(fig. 3)* with compensation payments provided to 84.6% of all compensation recipients in the Murmansk Oblast, 56.4% of the recipients in Kamchatka Krai, and 54.2% in the Republic of Sakha. This fact is explained by very low population density in the named regions and high demand for transportation communications.

Table 1. The number of individuals receiving compensation payments out of the total population in 2010

Regions	The total population, thousand people	The number of compensation recipients, thousand people	The number of compensation recipients out of total population, %
Russia, in total	142938.3	7765	5.4
Northern regions, in total	7617.1	933.7	12.3
Republic of Karelia	646.1	63.9	9.9
Republic of Komi	904.1	40.5	4.5
Arkhangelsk Oblast	1187.9	112.5	9.5
Murmansk Oblast	798.2	14.4	1.8
Nenets AO	42.6	14.0	32.9
Khanty-Mansi AO	1527.3	109.6	7.2
Yamalo-Nenets AO	523.7	18.2	3.5
Republic of Sakha	958.2	377.0	39.3
Kamchatka Krai	321.7	144.0	44.8
Magadan Oblast	157.6	1.0	0.6
Sakhalin Oblast	498.9	38.6	7.7
Chukotka AO	50.8	0.0	-

Figure 3. Share of payments by compensation types in 2007, 2010, %



The next most important type of compensation is phone subscription benefit. Its share remained at the level of 19% throughout the analyzed period. However, this kind of benefit is only made in three Northern regions (Kamchatka Krai, the Republic of Sakha and Yamalo-Nenets Autonomous Okrug), whereas in other regions it has been abolished. Nevertheless, such type of compensation as the installation of house telephone has been introduced, with the share of 27.3% out of total compensation payments throughout the Northern regions. It is necessary to note, that this type of compensation was paid by all Northern regions, without exception. The largest share of the benefit is in Nenets (94.6%) and Khanty-Mansi autonomous okrugs (80.9%), the Arkhangelsk Oblast (66.1%) and the Republic of Komi (57.7%).

The percentage of medicines benefits has increased from 3.1% to 5.1%. The highest number of individuals receiving this kind of benefit was registered in the Magadan Oblast (74.6%), the Republic of Karelia (63.5%) and the Republic of Komi (24.5%).

In the period under review, the share of individuals receiving sanatorium and health resort treatment benefit decreased from 0.9 to 0.4%. The benefit is present only in two Northern regions – the Republic of Komi (13.3%), and the Murmansk Oblast (4.5%). Food expenditures increased considerably, with the Sakhalin Oblast being the leader (98.8% of the benefit recipients).

Thus, the analysis conducted has shown that the most financed types of compensation payments are the following: travelling by urban and suburban transport, phone subscription fee and installation of house phone. There are regions, in which the funds are directed mostly to one type of payment, i.e. the Sakhalin Oblast (food – 98.8%), the Murmansk Oblast (use of urban transport – 84.6%), the Magadan Oblast (the purchase of medicines – 74.6%). Such cost-based payments as sanatorium and health resort treatment, purchase of medicines, clothes, shoes and articles of prime necessity, manufacturing and repair of dentures are not carried out in most Northern regions, which is determined by socio-economic development level of these regions.

Based on the Rosstat population forecast for the 2012 – 2020 period, the dynamics of structural changes within the groups of social support recipients in the Northern regions was revealed by the author, who adjusted the Rosstat calculation of expected population size in three variants (low, medium, high) proceeding from the size and categories of resident population as of the beginning of 2009 taking into account Russia's 2010 Census data. [12].

The *medium* forecast scenario is considered the most likely and is accepted as the base one. The population forecast by the Northern regions was made for the 2012 – 2020 period.

According to Rosstat data, *average population size* in the Northern regions will be steadily declining up to the year 2020. The only exception is four Northern regions, where sustained population growth is expected: Khanty-Mansi AO (11.2%), Yamalo-Nenets AO (10.9%) and Nenets AO (2.8%), and the Republic of Sakha (1.5%) *(tab. 2)*.

Population has been growing in these regions due to migration and natural increase processes over the years. Population growth throughout Russia's northern regions will make up 0.3% (7631.8 thousand people).

Population growth forecast by groups. The important characteristic of socio-demographic processes is the age structure of population that will undergo serious changes. According to the medium forecast scenario, in the Northern regions *average size of population under working age will increase* by 1556.7 persons (9.4%) by the year 2020. In Russia growth rate will amount to 11.8% *(tab. 3)*.

According to the table, five top regions are: Khanti-Mansi AO (20.5%), Yamalo-Nenets AO (16.8%) and Nenets AO (15.5%), the Republic of Sakha (9.6%).

Growth rates in other Northern regions will be fluctuating from 2% (the Sakhalin Oblast) to 5.9% (the Murmansk Oblast). The exception is Chukotka AO, with the size of population under working age declining by 2.8%.

Population aging generally typical for the country becomes a serious issue for the Northern territories, as well. Considering growth of population under working-age, and significant increase of retirement-age individuals in almost every region, *working age population will decrease* considerably.

Maximum reduction in the number of working-age population will be observed in

Table 2. Population growth rates in Russia's Northern regions by 2020, %

Regions	2012	2013	2014	2015	2016	2017	2018	2019	2020
Russia	0.0	0.1	0.1	0.1	0.1	0.0	0.0	-0.1	-0.1
Northern regions	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3
Republic of Karelia	-0.4	-0.9	-1.3	-1.7	-2.2	-2.7	-3.2	-3.8	-4.3
Republic of Komi	-0.6	-1.1	-1.6	-2.2	-2.7	-3.3	-3.9	-4.4	-5.0
Arkhangelsk Oblast	-0.5	-1.0	-1.5	-2.0	-2.6	-3.2	-3.7	-4.3	-4.9
Nenets AO	0.5	0.9	1.2	1.7	1.9	2.1	2.4	2.6	2.8
Murmansk Oblast	-0.4	-0.8	-1.2	-1.6	-2.0	-2.4	-2.9	-3.3	-3.7
Khanty-Mansi AO	1.3	2.6	3.9	5.2	6.5	7.6	8.8	10.0	11.2
Yamalo-Nenets AO	1.1	2.3	3.6	4.8	6.1	7.3	8.5	9.7	10.9
Republic of Sakha	0.2	0.4	0.6	0.8	0.9	1.1	1.2	1.4	1.5
Kamchatka Krai	-0.3	-0.6	-1.0	-1.3	-1.7	-2.1	-2.5	-2.9	-3.3
Magadan Oblast	-0.5	-1.1	-1.6	-2.1	-2.6	-3.1	-3.6	-4.1	-4.6
Sakhalin Oblast	-0.7	-1.4	-2.1	-2.8	-3.5	-4.3	-5.1	-5.8	-6.6
Chukotka AO	-1.7	-3.4	-4.9	-6.6	-8.0	-9.5	-11.0	-12.5	-14.0

Table 3. Growth rate of population under working age by 2020, %

Regions	2012	2013	2014	2015	2016	2017	2018	2019	2020
Russia	3.2	5.0	6.5	8.2	9.7	10.2	10.7	11.2	11.8
Northern regions	2.7	4.1	5.4	6.9	8.1	8.4	8.8	9.1	9.4
Republic of Karelia	2.3	3.5	4.5	5.6	6.2	5.6	5.1	4.5	4.0
Republic of Komi	1.6	2.5	3.1	4.0	4.6	4.3	3.9	3.6	3.2
Arkhangelsk Oblast	2.3	3.4	4.2	5.2	5.8	5.3	4.8	4.2	3.7
Nenets AO	3.1	5.2	7.2	9.3	11.3	12.4	13.4	14.4	15.5
Murmansk Oblast	1.9	3.0	4.0	5.2	6.0	6.0	5.9	5.9	5.9
Khanty-Mansi AO	5.0	7.6	9.9	12.5	14.9	16.3	17.7	19.1	20.5
Yamalo-Nenets AO	3.0	4.9	6.7	8.7	10.9	12.4	13.8	15.3	16.8
Republic of Sakha	1.8	2.9	4.1	5.6	6.8	7.5	8.2	8.9	9.6
Kamchatka Krai	1.9	2.9	3.4	4.3	5.2	5.2	5.2	5.2	5.2
Magadan Oblast	1.8	2.9	3.2	4.3	4.7	4.6	4.5	4.4	4.3
Sakhalin Oblast	1.5	2.5	3.0	3.8	4.0	3.5	3.0	2.5	2.0
Chukotka AO	0.9	0.9	0.9	0.9	0.9	0.0	-0.9	-1.9	-2.8

Table 4. Growth rate of working age population by 2020, %

Regions	2012	2013	2014	2015	2016	2017	2018	2019	2020
Russia	-2.1	-3.3	-4.5	-5.7	-6.9	-7.8	-8.6	-9.5	-10.4
Northern regions	-2.3	-3.4	-4.6	-5.8	-6.8	-7.4	-8.0	-8.7	-9.3
Republic of Karelia	-3.2	-4.9	-6.6	-8.4	-9.9	-11.1	-12.2	-13.3	-14.5
Republic of Komi	-3.4	-5.1	-6.7	-8.4	-9.9	-10.9	-12.0	-13.1	-14.1
Arkhangelsk Oblast	-3.7	-5.5	-7.3	-9.2	-10.9	-12.1	-13.3	-14.5	-15.8
Nenets AO	-2.6	-4.1	-5.3	-6.8	-7.9	-8.8	-9.8	-10.7	-11.7
Murmansk Oblast	-3.0	-4.4	-5.9	-7.3	-8.5	-9.3	-10.1	-10.9	-11.7
Khanty-Mansi AO	-0.2	-0.3	-0.5	-0.8	-0.9	-0.7	-0.4	-0.1	0.1
Yamalo-Nenets AO	0.1	0.1	0.2	0.2	0.2	0.7	1.2	1.7	2.2
Republic of Sakha	-1.8	-2.7	-3.7	-4.9	-5.9	-6.6	-7.2	-7.9	-8.5
Kamchatka Krai	-2.8	-4.2	-5.4	-6.7	-8.0	-8.9	-9.9	-10.8	-11.7
Magadan Oblast	-3.8	-5.6	-7.1	-8.7	-9.9	-10.8	-11.7	-12.5	-13.4
Sakhalin Oblast	-4.0	-6.0	-7.8	-9.6	-11.2	-12.3	-13.4	-14.5	-15.6
Chukotka AO	-6.0	-8.5	-11.4	-13.6	-15.5	-17.1	-18.7	-20.3	-21.8

Chukotka AO (by 21.8%), the Arkhangelsk (by 15.8%) and Sakhalin (by 15.6%) oblasts, the Republic of Karelia (by 14.5%) and the Republic of Komi (by 14.1%), Yamalo-Nenets AO being the only one with the indicator increasing by 2.2% up to 374.8 thousand people *(tab. 4)*.

In general, this population group will reduce by 9.3% and will amount to 4.5 million people throughout the Northern regions by 2020.

Hence, *high growth rate of retirement-age population* throughout Northern regions is forecast by 2020. Specifically significant increase of retirement-age population will be observed in Yamalo-Nenets AO (75.9%), Khanty-Mansi (74.2%) and Nenets autonomous okrugs (47.5%), the Republic of Sakha (37%). In other Northern regions this indicator will be fluctuating from 2% (the Sakhalin Oblast) to 5.9% (Kamchatka Krai). The exception is Chukotka AO, where retirement-age population will reduce by 1.9%. *(tab. 5)*

This will result in a considerable increase in financial expenses of *local* budgets for social support of the elderly: bringing income level of non-working pensioners to subsistence minimum, benefits and compensation payments, social service provided to the elderly.

Table 5. Growth rate of retirement-age population by 2020, %

Regions	2012	2013	2014	2015	2016	2017	2018	2019	2020
Russia	4.0	6.0	8.2	10.5	12.6	14.4	16.1	17.9	19.6
Northern regions	7.0	10.5	14.1	17.6	20.7	22.8	25.0	27.1	29.2
Republic of Karelia	3.7	5.7	7.8	10.0	11.9	13.2	14.5	15.8	17.1
Republic of Komi	4.9	7.2	9.6	12.0	13.9	15.1	16.2	17.4	18.5
Arkhangelsk Oblast	4.3	6.3	8.6	10.8	12.6	13.7	14.9	16.1	17.3
Nenets AO	11.9	16.9	22.0	27.1	32.2	36.0	39.8	43.6	47.5
Murmansk Oblast	4.7	7.0	9.4	11.5	13.2	13.9	14.6	15.3	16.0
Khanty-Mansi AO	15.9	23.8	32.4	41.0	48.9	55.2	61.6	67.9	74.2
Yamalo-Nenets AO	16.6	25.2	34.2	43.4	51.9	57.9	63.9	69.9	75.9
Republic of Sakha	8.3	12.5	16.7	21.0	25.2	28.2	31.1	34.1	37.0
Kamchatka Krai	5.2	7.7	9.9	12.0	13.9	15.1	16.3	17.4	18.6
Magadan Oblast	6.2	9.2	11.7	13.6	15.0	15.6	16.1	16.7	17.2
Sakhalin Oblast	4.9	6.7	8.8	10.2	11.2	11.4	11.6	11.8	12.0
Chukotka AO	3.8	5.7	7.5	7.5	5.7	3.8	1.9	0.0	-1.9

As a result, due to demographic processes, *average annual size of population in the Northern regions*, which is subject to the system of social guarantees, *will be objectively increasing* in the 2012 – 2020 period. It is related both to growing rate of population under working-age (by 1% on average), and overall population ageing (the number of the elderly increase by 2.9%).

The analysis of the dynamics of structural changes within the groups of social support recipients has shown that many individuals, entitled to social benefits will be moving from one group to another. Due to demographic reasons (natural loss), the Russian Federation expenditure commitments will be steadily decreasing, whereas the commitments of the RF constituent entities will be considerably increasing.

Hence, in the course of implementation of the Federal Law No. 122-FL of August 22, 2004 concerning measures of social support provided to regional welfare recipients, the growing tendency of all welfare recipients groups is observed, mostly due to natural increase in the number of the elderly, entitled with "Labour Veteran". This group of welfare recipients accounts for the largest expense volume from regional budgets. Therefore, the main burden of providing population with social support weighs heavily on the local authorities.

Thus, the imbalance of resources and commitments at all levels of the RF budget system is the most acute problem, determining socio-economic relations between the state and the society. The federal government faces the task of promoting efficiency of social security system and decreasing social differentiation in order to reduce poverty by means of interbudgetary level equalization.

In this connection, the main method of social security in general and of social support, in particular is the provision of targeted social assistance only to the households with the actual consumption below the subsistence minimum.

In practice, system functioning of social payments in the regions shows that the only possible way to improve its effectiveness is to introduce immediately the targeting principle. The concept of "targeting" in this context is defined as limitation of social support recipients to specific target groups depending on the state priorities concerning social policy at a given stage.

In this case, the targeting principle is opposed to "category approach" with social assistance provided to individuals depending

on the formal type of the group (professional or social-demographic) they belong to, not taking into account the neediness factor.

Boosting social assistance targeting requires the adoption of legislative and organizational measures to limit social support recipients to poor families and poor individuals without families. Corresponding budgetary resources will be formed by means of reduction in non-targeted forms of assistance, as well as socially unjustified benefits and payments.

It should be noted, that the benefits provided for outstanding contributions to the state, such as Heroes of Russia and the Soviet Union, Full Cavaliers of the Orders of Glory, the disabled and participants of the Great Patriotic War are to be preserved [13]. Provision of other benefits should be dependent on the income of the recipients.

In this connection, the amount of social payments should correspond with regional financial possibilities. The criterion of social advisability providing social security becomes a serious issue, requiring exact definition of those who, due to objective reasons, completely or partially, are not able to take care of themselves and have incomes below the subsistence minimum. Absence of due consideration to the real needs, and maintenance of equalization results in low efficiency of social support, as it is unreasonably distributed among large number of its consumers.

Against the background of the current crisis and in conditions of limited financial resources, conceptual approaches for establishing the social security system (field of activity, a set of indicators, categories of recipients, funding sources and levels of responsibility), as well as quantitative characteristics (the number of recipients, the amount of support) and forms of direct entitlement (cash, in-kind and services) become crucial.

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Vologda residents' notions of happiness

The article evaluates the level of happiness in the Vologda Oblast in comparison with the Russian Federation and the countries of the world. It studies the influence of internal sensation of happiness on the perception of socio-political processes and demographic situation. Furthermore, the article analyzes some of the factors affecting the level of happiness (financial situation, professional activities, interpersonal relations, socio-demographic characteristics).

Happiness index, social characteristics of population, quality of life.

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For a long time scientists are trying to explain what happiness is and how happy people feel. Pitirim Sorokin marked that progress achievements are valuable only when they increase the feeling of happiness among popular majority. The weight of any terminal values (love for one's neighbors, solidarity, knowledge, etc.) is decreasing if they are not accompanied by parallel development of happiness [1, p. 15].

From the history of happiness phenomenon studies

The first attempts to measure that phenomenon were offered by Emile Durkheim. He supposed that the number of suicides per capita could be used as the level of society's unhappiness. Durkheim's idea was simple: if a person decided to commit a suicide, so he was deeply unhappy. However, further investigations of psychologists and sociologists proved that not all people are predisposed to suicides, therefore using that figure for evaluation of happiness level in society was not quite correct. Although, certain dependence between the suicide level and happiness level of course exists.

Macroeconomic indicators (such as GDP) do not always reveal the country's real state of development. In particular, high income level

does not always guarantees life satisfaction. Growth of wealth during decades is not accompanied by features of the increasing happiness [2]. This problem is a matter of fierce debates in the UK, France, Canada, Northern Ireland and many other developed nations. Methods of measuring happiness and its factors, opportunities of monitoring on the international level are being discussed by specialists [2].

Investigations of relationship between the economic growth, measured by GDP, and the personal happiness level show that happiness is increasing with GDP, while GDP is growing till certain level. Beyond that level, GDP growth does not lead to human happiness rise any more. For instance, Japan, where fivefold increase of GDP during the 20th century did not lead to human happiness rise [3]. The similar situation is observed in the U.S.: during last 30 years income per capita including inflation increased twofold, however, the share of those who consider themselves happy reduced by 14 million people, divorce rate increased twofold, the number of suicides among adolescents – threefold, grave offense level – fourfold, prison population – fivefold. The same situation takes place in other countries, which can be named as carriers of European civilization (France, Norway, Australia, the UK, and Canada) [4].

In 1972 the king of Bhutan Jigme Singye Wangchuck offered the notion of gross national happiness (GNH) as the official state philosophy.

In 2003 the International Fund World Values Survey conducted the first global research in 65 countries. The result was extremely unexpected. The happiest countries were Nigeria, Mexico, Venezuela, the Republic of El Salvador, Puerto Rico, then Western Europe, the USA and Canada. Russia turned out to be among the unhappiest.

In 2008 the same organization conducted a research already in 97 countries. The highest figures of happiness were stated in Denmark, Puerto Rico, and Columbia. Russia moved to 88th place in the list. Zimbabwe took the last one.

In 2006 another international fund – New Economist Foundation (NEF) – introduced metrics "Happy Planet Index" that revealed people's welfare and environmental condition in different countries. The index shows efficiency with which the countries worldwide "convert" natural resources into the lasting and happy life of their citizens. While estimating the happiness index, three figures are taken into account: human impact on nature *(ecological footprint)*, life expectancy and life satisfaction. The more is the index, the less is the amount of resources spent by the country on the provision of happy life of their citizens *(life expectancy + life satisfaction)*. The index calculated this way does not show "happiness" of citizens of a certain country, but natural resources efficiency for a person to feel happy. *For instance, a huge amount of resources is necessary for American citizens to be satisfied with their lives; consequently, this developed country has a low Happy Planet Index.* The highest Happy Planet Index has Costa Rica (76.12), the lowest – Zimbabwe (16.59), Russia with its index 34.47 takes 108th place[1].

Mass public surveys became the simplest and most efficient way to investigate happiness. Most of the data is gathered in different countries worldwide on the most typical classical question: "How happy are you?" – with four variants of responses: "very happy", "happy rather than unhappy", "unhappy rather than happy", "very unhappy".

According to happiness index estimated in 58 countries worldwide, the Russian Federation takes 40th place[2].

[1] Happy planet index. – Available at: www.priroda.su

[2] The survey was conducted in October – December 2011 in the framework of the global research "Global Barometer on Hope and Despair" covering the population majority of the world. All in all 45 thousand people from 58 countries were questioned. In every country the respondents were questioned according to the national probability sampling with the help of personal interviews, phone interviews or online questionnaire. Questionnaires in Russia were conducted by research company "Romir" – the representative of Gallup International in Russia.

In Russia the number of happy people is far less than in the whole world (39% against 53%), but the number of unhappy is fewer (8% against 13%). However, Russia is in the decile of countries where the share of respondents replied neutrally "neither happy, nor unhappy" (42%). The share of happy people in Russia comprises 39%. Sociologists suppose that it speaks about Russians' peculiarities of national culture and mentality, for example, about their stoic or fatal perception of events in their own lives or about restraint in estimating their own "happiness" and "unhappiness". Happiness level index of Russians comprises 31 items. The ranked list among the neighbors of Russia includes the USA, Pakistan and Hong Kong [5].

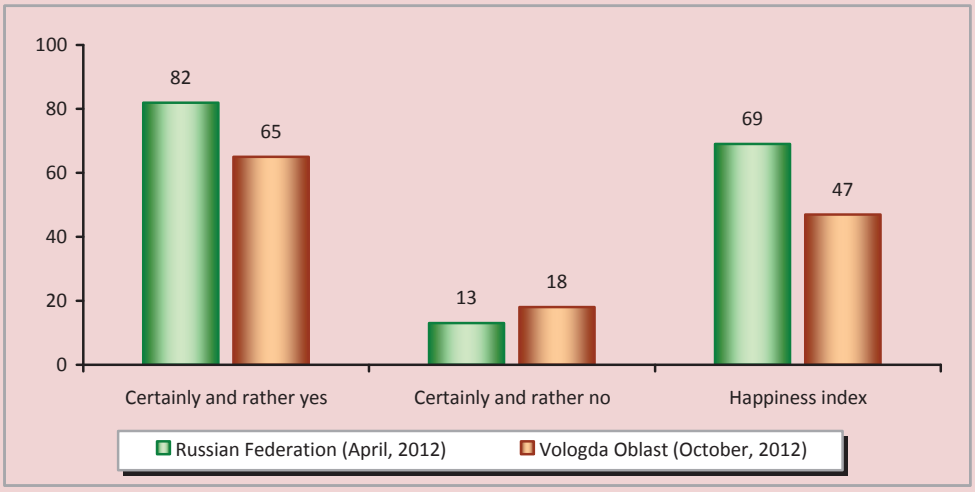
This article presents the results of the happiness level survey, which was conducted in the Vologda Oblast in October 2012 by ISEDT RAS. The survey allowed not only determining Vologda residents' "happiness level", but also specifying the factors influencing their positive emotions and feeling of happiness formation.

Methods and results of the presented investigation

Methodological basis of investigation is the mass sociological questionnaire of the Vologda Oblast's population, conducted by representative regional sampling. The volume of the sampling frame comprised 1500 respondents aged over 18. Representation of sociological information was provided by using the model of multistage district sampling on a quota selection basis of survey units on the last stage. The first stage of sampling concerned district division due to constituencies. The second stage included assignment of such typical subjects in the Vologda Oblast as the cities of Vologda and Cherepovets, and the districts – Babaevsky, Velikoustugsky, Vozhegodsky, Gryazovetsky, Kirillovsky, Nikolsky, Tarnogsky, and Sheksninsky. The third stage is territorial district division inside of the selected subjects. The fourth stage concerned immediate selection of respondents due to specified quotas according to sex and age. Sample error does not exceed 5%.

65% of residents in the Vologda Oblast experience sensation of happiness *(fig. 1)*.

Figure 1. Distribution of responses: "Everything happens in life – good or bad, but generally speaking, are you happy or no?" (in % due to number of respondents)



Sources: ISEDT RAS research; data base RPORC (www.wciom.ru).

According to Russian Public Opinion Research Center's (RPORC) data, the ratio of "happy" Russians is more than 82% [4], while interpreting the results temporal characteristics of public opinion, such as seasonal factor impact (spring – autumn) on subjective self-concept should be taken into account. All in all, it can be noted that the vast population majority in the Vologda Oblast and on average in the whole country experiences sensation of happiness.

However, 30% of region's residents consider that there are more happy people among their acquaintances and relatives (in Russia – 33%), and 13% (24) of residents have the opposite opinion; at the same time 33% (36) of respondents are equally surrounded by happy and unhappy people. Though, a quarter of respondents are undecided, in the whole country the number of those people is considerably less.

Residents of large cities aged 18 – 24 (40%), highly educated people (45%) and representatives of 20% well-off people (30%) state that in their surrounding the number of happy people is prevailing. Country people (20%), people over 45 (16%), low-income residents of the region (24%) are inclined to consider their acquaintances as unhappy.

Defining the notion happiness for themselves, 27% of Vologda residents (in Russia – 28%) marked that it is "family and well-being"; 23% (in Russia – 17%) – "own health and health of relatives"; 12% - "children and grandchildren" *(tab. 1)*. In Russia the third position is taken by "material welfare" – 17%. Region's residents make fewer associations with happiness regarding stable situation in the country, work, youth, and faith in God. It is noteworthy that almost half of respondents (49%) could not give an answer to that question.

The greater number of respondents (67%) could not answer, where the majority of happy people live. Pondering that question, most Vologda residents mentioned Russia (18%), the USA (12%) and European countries: Germany (7%), Switzerland (5%), France (5%), etc. Among Russian cities, Moscow (8%), St. Petersburg (5%) and Vologda (5%) are mainly named. Other respondents mention Paris (4%), New York (2%), Sochi, Los Angeles, and Venice (1%). Opinions of region's residents considerably coincide with the data countrywide.

Among the reasons of "happiness" well-being in family (41%), communication pleasure with children and grandchildren (25%),

Table 1. What is "happiness" for you? (in % due to the number of respondents, who answered the question: "Are you happy or not?"

Variants of responses	Vologda	Cherepovets	Districts	**Oblast**
Family, well-being	29.9	20.8	31.1	**27.2**
Own health and health of relatives	24.4	21.6	24.0	**23.2**
Children, grandchildren	9.8	10.0	13.9	**11.7**
Material wealth, money	4.9	3.3	11.5	**7.3**
Love, beloved	6.1	8.2	4.1	**6.0**
...				
Stable situation in the country and world	2.4	0.0	0.0	**0.5**
Freedom	0.0	1.1	0.0	**0.4**
Work, labor of love	0.6	0.4	0.3	**0.4**
Youth	0.6	0.0	0.0	**0.1**
Belief in God	0.0	0.0	0.3	**0.1**
Can not answer	55.3	28.1	55.5	**48.6**
Source: investigation of ISEDT RAS.				

joy of living in this world (23%) were named more frequently; regular material wealth was mentioned by 13% of respondents. Amidst the circumstances determining the feeling of "unhappiness" price growth (22%), poverty (18%), economic insecurity (9%), sickness and senility (8%) were noted.

In-depth analysis allowed presenting socio-demographic characteristics of "happy" and "feeling less happy" residents of the region. Four blocks of figures were investigated: financial situation; labor activity; interpersonal relations; socio-demographic characteristics (sex, age, education level, place of residence, marital status).

Socio-economic situation

Last investigations in the sphere of income and emotional condition of population proved two regularities [3]:

1. Beyond the threshold in annual income equal to 10 000 U.S. dollars at parity of purchasing capacity, happiness is the function of non-material factors.

2. Beyond the threshold in income equal to 75 000 U.S. dollars per year full saturation with happiness and reverse process take place: growth in prosperity contributes to growth of unhappiness, stresses, sadness, and suicides.

On this basis, material welfare factor loses its significance due to average monthly income level over 28 thousand rubles. Taking into consideration that according to the data of 2011, average income level in the Vologda Oblast comprises 15 467 rubles [6, p. 85], it is worth speaking about the influence of material wealth on the happiness level of its residents.

The data of our investigation confirms these facts. Among happy people the share of those who refer to 20% of least well-off social groups is two times smaller than among those who consider themselves less happy (15 and 36% respectively; *tab. 2*). Moreover, identical feature is observed in all income groups: happy people have the level of actual income higher than those, who feel less positive.

It is noteworthy that in none of the groups the income level reaches that critical point, when the role of material factor in forming the feeling of happiness loses its importance (28 thousand rubles per month).

So, "happy" people identify themselves with "poor" and "beggar" groups more rarely in comparison with the rest population (33% against 76% respectively); more positively characterize their financial situation (10% against 5% respectively); less alarmed by economic problems; possess higher purchasing capacity of incomes *(tab. 3)*.

Labor activities

Among people feeling happy in comparison with the other part of population two categories of people are predominant: working-age employed (70% against 58%) and students/pupils (7% against 3%; *fig. 2*). All the rest categories concerning the character of employment (excepting military men) are mostly represented among of those who do not feel themselves happy.

The reasons of such distribution of employment in groups of "happy" and "unhappy" are explained by their special characteristics. For instance, prevalence of "happy" among students and pupils can be explained by age

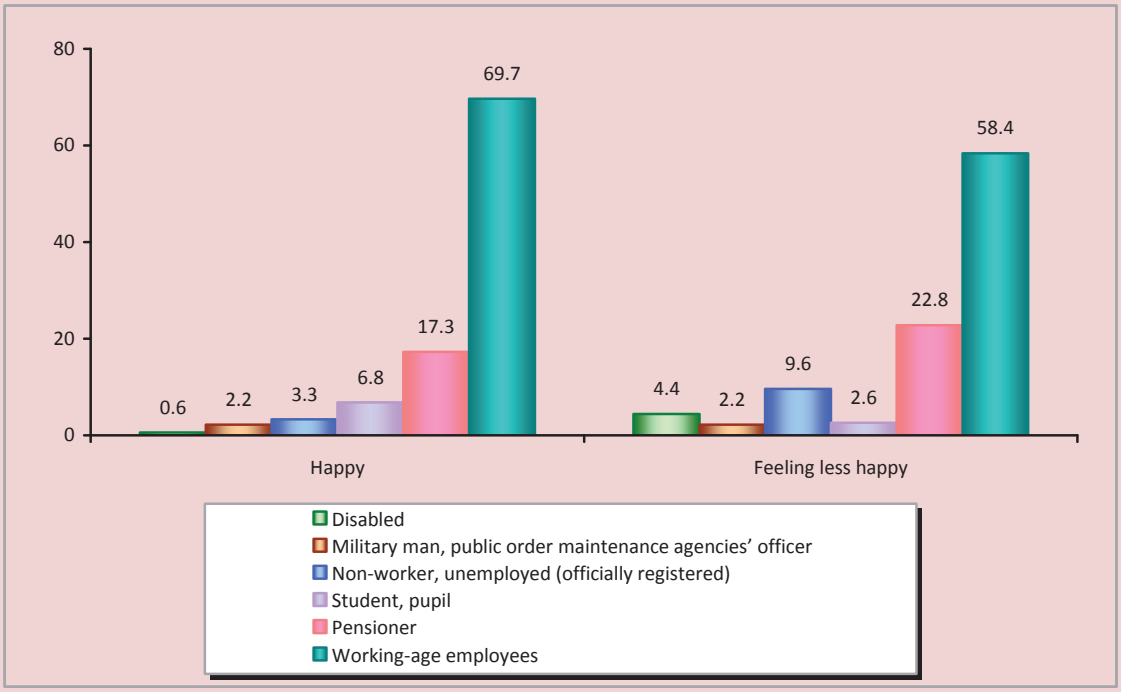
Table 2. Distribution regarding subjective feeling of happiness and income level in income groups

Decile groups	Representation among population *(in % due to number of responses to the question "Are you happy or not?")*		Income level, rub.	
	Happy	Feeling less happy	Happy	Feeling less happy
20% least well-off	15.3	36.0	5042	3031
60% of middle class	60.5	56.2	10 306	7211
20% most well-off	24.2	7.9	22 596	14 510
Source: public opinion monitoring of ISEDT RAS.				

Table 3. Subjective characteristic of financial situation (in % due to the number of respondents, who answered the question: "Are you happy or not?")

Socio-economic aspects	Happy	Feeling less happy
Social self-identity		
Rich	0.8	0.4
Middle-class	56.0	17.9
Poor, beggar	33.3	76.3
Financial situation		
Good and very good	9.5	5.1
Medium	67.2	31.4
Bad and very bad	16.9	55.1
Purchasing capacity of incomes		
Purchasing of various goods does not cause difficulties	13.2	2.6
The amount of money is enough for buying necessary goods	62.4	37.3
The amount of money is enough just for food	24.4	60.1
Source: investigation of ISEDT RAS.		

Figure 2. Estimates distribution among "happy" and "feeling less happy" according to occupation (in % due to the number of respondents, who answered the question "Are you happy or no?")



Source: research by ISEDT RAS.

peculiarities of this group's representatives. The same factor influence the fact that among "unhappy" the ratio of pensioners is higher, because some of them feel psychological discomfort due to the abrupt stop of professional activities, loss of social contacts, realization of oncoming senility [7, p. 89]. Life dissatisfaction amidst the representatives of the senior age category depends on the stated above aspects, and also concerns about their worsening health, appearance, material supplies shortage, lack of physical and moral support, actual isolation [8].

The large number of disabled among "unhappy" is evidently explained by their health problems.

On the territory of the Vologda Oblast job satisfaction is the more significant factor of happiness than in the whole country. This is evident from the fact that among the region's residents feeling unhappy, the share of those who are dissatisfied with their profession is considerably higher than national average share (62 and 46% respectively; *fig. 3 – 4*).

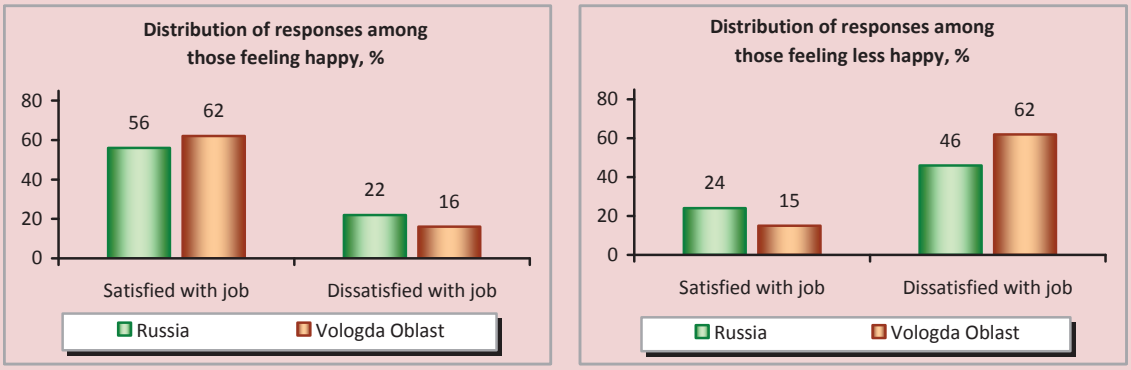
However, it should be noted that estimate of working conditions and social position that also mostly depend on the character of employment, in the group of "happy" people is higher than amidst the rest of population *(tab. 4)*. The same can be said about the opportunities of spending free time and regular vacation that plays critical role as mechanism of relaxation and rise of body's tolerance to physical and mental loads during carrying out professional duties. Therefore, the estimate of professional activities conditions in the group of people feeling happy is higher than among the rest population.

Interpersonal relations

There are a lot of investigations testifying that first of all feeling of happiness depends on quantitative and qualitative characteristics of individual's social contacts, on his sociability and extravertivity [9, p. 6]. Happy people are luckier in relations with other people, whereas for "unhappy" social relations are often the sources of anxiety, annoyance, and contribute to appearance of such feelings as guilt and restraint.

Psychiatry Professor of the Harvard Medical School George Vaillant, director of studies that started even in 1938 and included tracking life cycle of 286 Harvard graduates, marked that warm and close relations were "the most important prologue to good life" [2].

Figure 3 – 4. The share of satisfied with their jobs among "happy" and "feeling less happy" (in % due to the number of respondents, who answered the question "Are you happy or no?")



Sources: research by ISEDT RAS; data base RPORC (www.wciom.ru).

Table 4. Estimation of satisfaction with professional activities conditions (average scores)

Working conditions characteristics	Happy	Feeling less happy
Labor and job conditions	3.4	2.6
Social status	3.5	2.8
Opportunities of spending free time	3.6	2.8
Opportunities of spending vacation, holidays	3.4	2.6
Source: research by ISEDT RAS.		

Table 5. Distribution of emotional states, caused by relations with relatives and close friends (in % due to the number of respondents, who answered the question "Are you happy or not?")

Emotions caused by communicating with friends and relatives	Happy		Feeling less happy	
	Russia	Vologda Oblast	Russia	Vologda Oblast
Happiness, satisfaction	92	85	71	41
Unhappiness, dissatisfaction, disappointment	1	6	15	28
Source: research by ISEDT RAS; data base RPORC (www.wciom.ru).				

Judging by the results of our investigation, among "happy" residents of the Vologda Oblast the share of those, who have positive emotions communicating with friends and family members, is two times more than among people feeling less happy (85 and 41% respectively; *tab. 5*). Moreover, such data correlates with the estimates of population countrywide (92 and 71% respectively) [10].

The average value of satisfaction communicating with relatives and close friends among "happy" and "unhappy" residents of the region comprised 4.1 and 3.4 points respectively, satisfaction communicating with surrounding people all in all – 4 and 3.4 points. In addition, "happy" people – every second in the Vologda Oblast (53%) and the Russian Federation (47%) see the reason of their higher emotional state in relations with relatives and close friends[3].

Socio-demographic characteristics

Analysis of socio-demographic characteristics showed that most of all the representatives of the following social groups consider themselves happy *(tab. 6)*:

1. *People aged 30 – 55 years (44%).* However, it is noteworthy that among the residents under 30 the share of those, who feel unhappy, is the lowest (19%) in comparison with the rest age categories.

2. *Residents of the cities (55%).* It can be explained by their higher social position and financial situation, broad opportunities of qualified employment assistance, leisure activities, and also more comfortable living conditions.

3. *People with complete or incomplete higher education (41%).* From our point of view, it is connected with circumstances that accompany higher education: higher social status and income level, quality of living conditions, profession's prestige, and social environment's culture level.

4. *Cohabiting married couples (58%) having one child (25%).* Such aspect gives evidence to significance of family relations concerning feeling of happiness formation; and also to the fact that the existence of children is one of the conditions to achieve psychological well-being.

Consequently, urban residents, people aged 30 – 55 years, married with children, people with higher education, work bringing satisfaction, and having income above average in the region consider themselves happier. According to the received data, social status considerably determines subjective feeling of happiness.

A happy person is more open to communication, to new sources of information, has more enthusiasm and creativity to his professional activities, more stable to physical and mental loads, etc. At the same time such a person more positively perceives socio-economic reforms taking place in the country, estimates his/her future and prospects for country's and society's development with optimism.

[3] Data of public opinion monitoring conducted by ISEDT RAS and RPORC. In the structure of the question "If you feel happy, can you let us know why?" 16 variants of responses existed. In the article the combined group of the responses is presented "family welfare (everybody is healthy)"; "find my joy in children and grandchildren"; "I have a beloved, love, and I love my relatives"; "I have friends"; "I have parents".

Table 6. Socio-demographic characteristics of those feeling "happy" and "less happy"
(in % of the number of respondents who answered the question "Are you happy or not?")

Socio-demographic characteristics	Happy	Feeling less happy
Sex		
Male	43.3	45.6
Female	56.7	54.4
Age		
Under 30	27.2	18.6
30 – 55 years	44.1	48.9
Over 55	28.7	32.5
Territory		
Vologda	25.1	24.8
Cherepovets	29.7	15.7
Districts	45.3	59.5
Education		
Secondary and incomplete secondary education	27.2	47.6
Vocational secondary education	32.1	30.9
Higher and incomplete higher education	40.7	21.6
Marital status		
Married and cohabiting with husband/wife	58.2	50.4
Married, but not cohabiting with husband/wife	0.6	1.5
Not married, but cohabiting with a partner	6.6	8.0
divorced	6.7	12.0
Unmarried	20.3	16.4
Widowed	7.5	11.7
Number of children under 18		
No children	64.5	72.6
1	24.7	19.3
2	9.5	7.7
3	0.8	0.0
More than 3 children	0.4	0.4
Source: research by ISEDT RAS.		

The results of investigation showed that people considering themselves happy in comparison with the rest population more positively estimate economic and political situation in the country (43% against 27% and 49% against 27% respectively). Amidst happy people the level of confidence to acting government authorities and social institutions is higher *(tab. 7)*.

Happy people are not inclined to conflicts, more tolerant to ongoing events than those who are feeling less happy. The negative stock of patience among people feeling unhappy is 3 times more than happy people (36 and 11% respectively). The share of people who consider protest actions at the place of residence possible comprised among "happy" and "unhappy" 23 and 30% respectively *(fig. 5)*. However, every fourth person among "unhappy" people is ready to take part in protest actions (23%), at the same time among "happy" people the share of those is considerably smaller (13%).

The growing number of scientific data evidencing that happiness contributes to good health preservation is one of the economic reasons why politicians appeal to mental welfare of population. Understanding and taking into account the link between welfare and health presents the important aspect of the World Health Organization's working process. In particular, it helps to work out a policy on health promotion of aging population, which is at risk of rising chronic disease incidence [2].

Table 7. Level of confidence to government authorities and social institutions (the share of trusting, in % due to the number of respondents, who answered the question "Are you happy or not?")

Government authorities, social institutions	Happy	Feeling less happy
President of the Russian Federation	77.0	65.9
Government of the Russian Federation	69.3	61.5
Federation Council	63.8	55.5
State Duma of the Russian Federation	58.2	52.8
Public chamber of the Russian Federation	60.1	41.4
Vologda Oblast authorities	66.2	42.0
Local government	56.5	38.9
Public Chamber of the Vologda Oblast	56.7	38.8
Police	53.9	35.4
The Federal Security Service	662	46.8
Court	67.2	40.7
Public prosecution office	64.1	36.9
Army	59.7	43.3
Trade unions	52.8	47.3
Church	78.1	68.7
Public organizations	55.4	44.7
Political parties and movements	42.5	29.5
Mass media	54.2	43.6
Directors and heads of enterprises	52.5	32.4
Banking and business circles	45.6	26.2

Source: research by ISEDT RAS.

Figure 5. Protest moods level among happy and feeling less happy (in % due to the number of respondents, who answered the question "Are you happy or not?")

Source: investigation of ISEDT RAS.

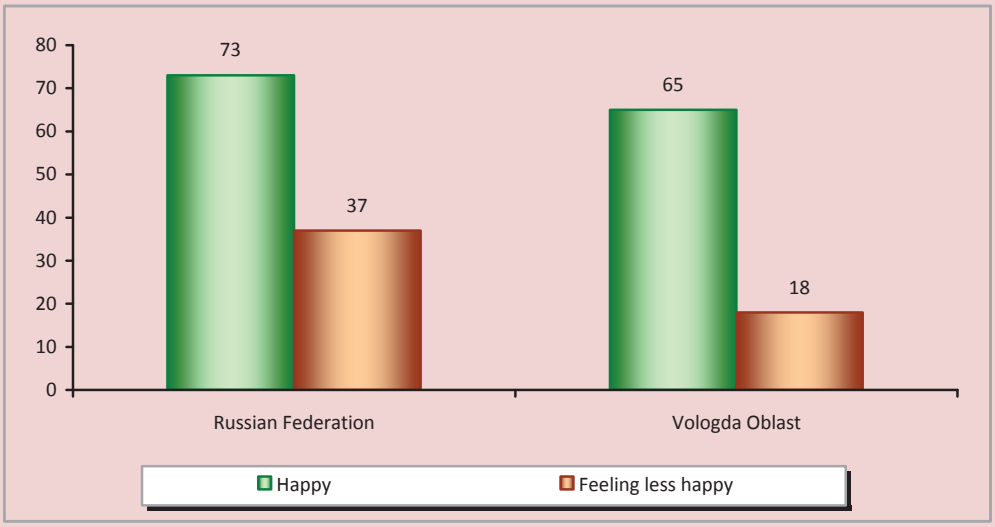
According to the results of the survey (10 thousand people) conducted by the Institute of fiscal investigations relative to London University's College, conclusions about dependence of happiness level on such serious factors of life expectancy as ischemic heart disease and disablement, were drawn [3]. If middle-aged people show life dissatisfaction, then the possibility of the fact that they will live long is very low. People who are fully satisfied with their lives, in comparison with others live 9 – 10 years longer. At the same time in the group of people dissatisfied with their lives, death comes 3 times oftener [11].

According to Ed Diener, Psychology Professor of the Illinois University (USA), who studied the phenomenon of happiness for 30 years, "there are many types of data, pointing at the fact that happiness leads to health and sustains life, of course, besides many other factors. Subjective welfare can sustain people's lives in healthy population, whereas a happy life in comparison with an unhappy one can mean five additional years of life, although it depends on many things, as well as smoking issue" [2].

According to Russian Public Opinion Research Center's data, among happy Russians 73% are satisfied with their health and health of their relatives and friends, among unhappy – 37% [10]. The same results were received during the research conducted by ISEDT RAS. Happy people are satisfied with their health more than the rest people (average estimate of health satisfaction is 3.4 and 2.5 points respectively); they mark that they are satisfied with health of their family, relatives and their own one 4 times oftener (65 and 18% respectively; *fig. 6*).

Happy people characterize different aspects of their personal life and the situation in the society more positively. Therefore, studying of happiness level and consequences determining it, has not only research, but practical character, because support level of political and economic line of policy followed by governmental authorities; character of psychological climate in society, the consequences of which can be such problems as high crime rate, alcoholism, drug addiction, suicidal behavior, etc.; the level of disease incidence and mortality, influencing life expectancy, and other figures of

Figure 6. The share of people satisfied with health of their family, relatives and their own one (in % due to the number of respondents, who answered the question "Are you happy or no?")



Sources: research by ISEDT RAS; data base RPORC (www.wciom.ru).

demographic situation depend on the share of positively-spirited people in the society.

As the investigation showed, more than half of the residents in the Vologda Oblast, as well as Russians all in all, consider themselves happy. Science has research data regarding interrelation between subjective well-being and such categories as income (material welfare level), employment, education, marriage and family, behavior and lifestyle, sex, biological factors, personal characteristics, and subjective satisfaction with some living conditions. However, none of the enumerated figures do not determine the whole level of subjective well-being, but contribute to it [12].

Judging by the results of the conducted investigation, subjective feeling of happiness is determined by the set of conditions: material welfare level, family relations character, satisfaction with professional occupation, etc.

All in all, such indicators characterize individual's social status, determining his level of aspiration, achieving which reflects emotional well-being and subjective environmental perception. Hence, it is necessary to create conditions for vertical mobility and self-actualization of population for maintaining high happiness level in society.

The fact that the majority of residents both in the Vologda Oblast and the Russian Federation link their depressed mood mainly with socio-economic problems, provides evidence of necessity in taking steps for improvement life quality of people at large (primarily vulnerable social groups), and for the decrease of negative effects of those socio-economic determinants (first of all unemployment and wealth gap) that have negative impact on subjective person's perception of his/ her own emotional state.

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Health and living conditions of the rising generation

The article presents the research results of the rising generation's quantitative and qualitative characteristics in Russia and in the Vologda Oblast. The main trends characterizing children's health, their living conditions and lifestyle in their families are revealed in the article. Today the primary task of social policy in terms of child population increase is to provide the rise of their qualitative potential and living standards.

Children's health, living conditions and lifestyle, child neglect, incomes of families with children.

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Nowadays the Government of the Russian Federation pays more and more attention to the socio-demographic development of the country. National priority projects "Health", "Education", "Affordable housing" started in 2005, demographic programmes have positively influenced the country's socio-economic development. All of them are assigned to improve people's quality of life, to preserve and strengthen population's health, to amend the demographic situation. However, the children's health continues getting worse as evidenced by the results of lasting research studies (A. Baranov, E. Breyeva, I. Zhuravleva, O. Kislitsyna, Y. Lisitsyn, N. Rimashevskaya, A. Shabunova).

This article is aimed at quantitative and qualitative characteristics analysis of the rising generation (aged from 0 to 17 years). The emphasis will be laid on health, which is not only the basis of sustainable development of the Russian society today, but influences the country's development in future.

Appealing to the characteristics research of the rising generation, several main trends can be marked:

1. Decrease in child population is noteworthy. From 2000 to 2010 the proportion of children in the total population of the country reduced from 24 to 18%. Similar situation is observed in the Vologda Oblast, where the child population rate over the specified period decreased by 5% (from 23 to 18%) [12].

According to the forecasts of the Federal State Statistics Service, in 2030 the rate of population under working age will remain intact and comprise 16% as in 2011. However, the reduction will be observed in absolute figures: from 2011 to 2030 the population of this category in the Vologda Oblast will decrease by 9% equal to 181 thousand people, national average – by 1.5% (22845.4 thousand people). In the meantime the working-age population rate will reduce by 7% both in national average and in the Vologda Oblast *(tab. 1)*.

Consequently, ageing population process is evidenced and will continue. Rapid growth of elderly and aged people rate involves inevitable structural transformations in the economy, institutional environment, and changes in social benefits flow [13].

As a result of demographic policy carried out by the Russian Government, since 2006, the country's birth rate has increased from 10.4 to 12.5 ‰, in the Vologda Oblast this figure (over a period of 2006 – 2010 has increased from 10.9 to 12.5 ‰) conforms to the nationwide rate. Nevertheless, the birth rate remains lower than necessary even for new generations to replace parental cohorts, which do not allow overcoming population reduction *(tab. 2)*. Hence, over 11 years the population in the region has decreased by 7.6%, comprising 1 201.2 thousand people in 2011 that exceeds reduction pace nationwide (over 4 million. people or 2.7%) [12].

Birth rate increase is mainly connected with introduction of maternity capital and nursing benefit till 18 months in Russia in 2007. Essentially, these measures are aimed at birth support in the families that have children, whereas many families delay first-birth.

Despite the rise in births, uniparous families are predominant in Russia. According to the National Population Census (2010) in households (both in the city and in the country) uniparous families prevail. During the intercensal period the amount of households without children under 18 rose by 15%; the amount of households, which consist of two and more people and have children under 18 reduced by 8% (from 52% in 2002 to 44% in 2010) [12].

Child development in uniparous families is subject to risk. On the one hand, his parents have more opportunities to give a fair deal for the development. On the other hand, adults pay excessive attention and hyper-care to him. As a result, a child's selfishness and steep demands to surrounding people are shaping.

Table 1. Age distribution forecast in the Russian Federation and the Vologda Oblast (VO) for the period until 2030 (average variant of the forecast, in % due to the total population)

Year	Under working age		Working age		Over working age	
	RF	VO	RF	VO	RF	VO
2011	16.3	16.5	61.6	61.2	22.0	22.3
2015	17.4	17.8	58.8	57.9	23.8	24.3
2020	18.3	18.6	55.7	54.6	26.0	26.8
2025	17.8	18.0	54.7	53.8	27.4	28.3
2030	16.4	16.4	55.1	54.4	28.5	29.2

Source: Unified Interdepartmental Statistical Information System. Available at: http://www.fedstat.ru/indicator/data.do

Table 2. Natural population movement in the Russian Federation and the Vologda Oblast

Year	Population, thousand people		Crude birth rate, ‰		Crude death rate, ‰		Natural decline, ‰	
	RF	VO	RF	VO	RF	VO	RF	VO
2000	146 890.1	1 299.6	8.7	8.8	15.3	16	-6.6	-7.2
2006	142 753.5	1 235.4	10.4	10.9	15.2	17.1	-4.8	-6.2
2007	142 220.9	1 227.8	11.3	11.6	14.6	15.9	-3.3	-4.3
2008	142 008.8	1 222.9	12.1	12	14.6	16.3	-2.5	-4.3
2009	141 903.9	1 218.2	12.4	12.4	14.2	16.2	-1.8	-3.8
2010	141 914.5	1 213.7	12.5	12.5	14.2	16.8	-1.7	-4.3
2011	142 865.4	1 201.2	12.6	13.0	13.5	15.7	-0.9	-2.7

Source: Federal State Statistics Service. Available at: http://www.gks.ru/dbscripts/Cbsd/DBInet.cgi?pl=2415019

2. The next trend is child's health deterioration, which plays a critical role not only in demographic development, but it also determines the quality of the territory's human potential. Among all the age-groups of population child's health condition tendencies became the most unfavorable. During 2000 – 2011 child disease incidence has increased by 32% (in 2011 it equaled 1932 cases per 1000 age-appropriate people), in the Vologda Oblast – by 37% (in 2011 – 2533 cases respectively); while among adult population total disease incidence rose by 8% in the whole country, and by 3% in the region [12].

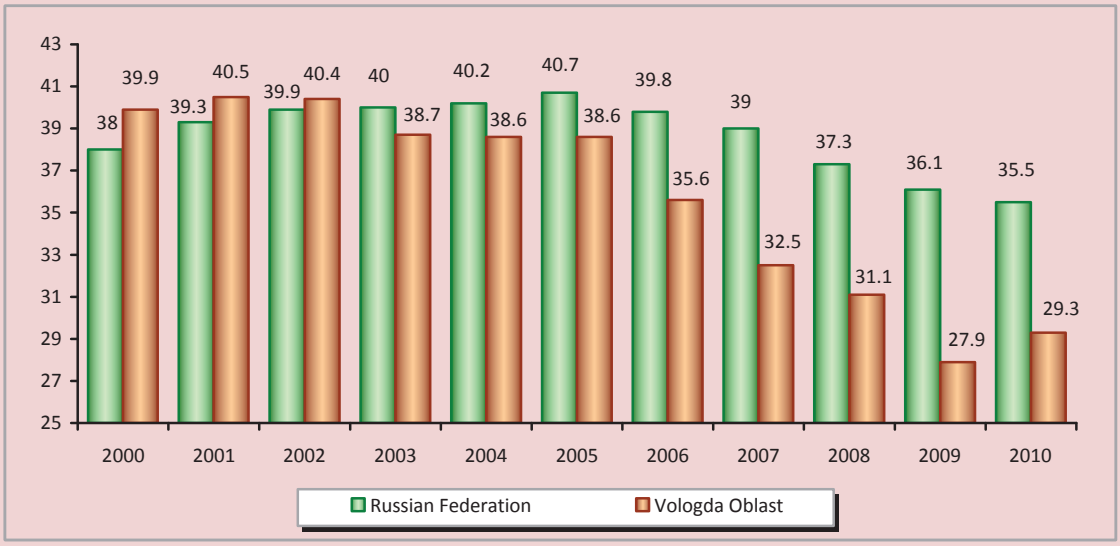
However, it is worthwhile to note certain positive changes in newborn's health condition. As a result of implementing regional target programmes "Healthy child" and the national priority project "Health" [2] newborn disease incidence in the Vologda Oblast has reduced by 27% during 2000 – 2010. At the same time the situation on the country level is a little worse: disease incidence has reduced by 7% only *(fig. 1)*.

Nevertheless, during the growing-up process starting from birth, children's health potential is constantly declining. And, as the scientists note, the most substantial prevalence rate growth of chronic diseases, abnormal physical development, frequency of acute distress and exacerbation of chronic pathology take place during the process of systematic education (while studying in pre-school, general secondary, elementary and secondary vocational educational institutions) [7].

According to the Ministry of Healthcare and Social Development of the Russian Federation, in Russia in 2010 the following figures were mentioned among the school-children due to their health condition: first group (healthy) – 21%; second group (healthy, but with some functional abnormalities) – 59; third group (with chronic diseases) – 18; forth and fifth groups (disabling diseases) – 2% of the children [7].

The main diseases, which are spread among children more often, are: eye diseases (myopia), diseases of musculoskeletal system (postural

Figure 1. Newborn disease incidence (%, to the total amount of quick-borns)



Sources: Statistical yearbook of Russia. 2010: statistical abstract. Rosstat. Moscow, 2011.; Statistical yearbook of the Vologda Oblast: statistical abstract .Vologdastat. Vologda, 2011.

disorder, scoliosis), diseases of digestive system. However, medical workers note that 70% of abnormalities fixed in lower grades transform into chronic form by the graduation from school [10].

Children's health deterioration is confirmed not only by the official statistics data, but also by the results of sampling social studies. In March 2012 the Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences (ISEDT RAS) conducted a research in two schools in Vologda: School No. 1 with advanced study of English, where study load for pupils is enhanced in comparison with ordinary comprehensive school, and School No. 13 (ordinary comprehensive school)[1].

Analysis of grouping according to health condition showed that in both educational establishments the distinct tendency of reducing the proportion of the first group of children to senior school is visible and simultaneously increasing of the children with the third and forth groups *(fig. 2)*.

Unfavorable trends in children's health condition lead to such negative social and economic consequences, as unpreparedness to schooling, academic failure, inability to realize his/her labor potential, elaboration disorder of reproductive function, and diseased generations' birth, etc.

3. Families' income level in Russia continues declining, which influences the children's living conditions. A great number of children live in low-income families. According to a sample inquiry of household budgets, in 2010 families with children under 16 years comprised 57.5% of the total number of households accommodating resources lower than minimum subsistence level (in 2009 – 54.6%), including families with one child – 31.2%, families with two children – 20.3%, families with three and more children – 6%. The same situation is observed in the Vologda Oblast, where families with children under 16 years comprise 55% among low-income population [8]. When a family's living conditions are poor, it does not have an opportunity to offer all the necessary facilities for normal development, to provide good rest during summer holidays, and to organize healthy and proper nutrition, etc.

Analyzing the level of average available resources per capita in the families with various amounts of children gives evidence of welfare decline in the families with three children. In 2010 such category of families had the lowest level of average available resources per family member – 5 460 rubles per month contrary to 12 071 rubles in families with one child and 8 716 rubles in families with two children. However, meal expenses remain the main expenditure item of the family budget. Within consumer expenditure they comprised 38% (in 2009 – 41.3%) [8].

Providing a child with necessary nutrition considerably depends on family's social position and its financial capabilities. Judging by the data from the monitoring of child health forming conditions, conducted by ISEDT RAS from 1995 up to the present day[2], in the group comprising 20% of lower-class families the share of those who pointed out bad provision of children with foodstuff twice or even 5-fold exceeds that of the groups of middle-class and upper-class families *(tab. 3)*.

[1] In both schools the questionnaire was conducted among the students (1st, 5th, 9th and 11th forms). These forms are selected, because exactly these periods are critical for children: beginning of schooling (1st form), beginning of middle school (5th form), and transition to senior school (9th, 11th forms). In both schools 577 pupils aged from 7 to 18 years: in School No. 1 – 324 pupils (1st form – 107; 5th form – 92; 9th-11th forms – 125); in School No. 13 – 253 pupils (1st form – 84; 5th form – 82; 9th-11th forms – 87).

[2] Monitoring of child health forming conditions is conducted by ISEDT RAS from 1995 under technical guidance of ISESP RAS. Medical workers are engaged for evaluation children's health and development. Families, whose children were born in the certain periods: May, 15-30 1995 (first cohort) and March, 1-20 1998, 2001 and 2004 (second – fourth cohorts) take part in survey organized in the Vologda Oblast (Vologda and Cherepovets, district centres Kirillov and Velikiy Ustyug, urban-type settlement Vozhega). Monitoring supposes complex tools usage based on sociological questionnaires.

Figure 2. Distribution of pupils according to their health state, %

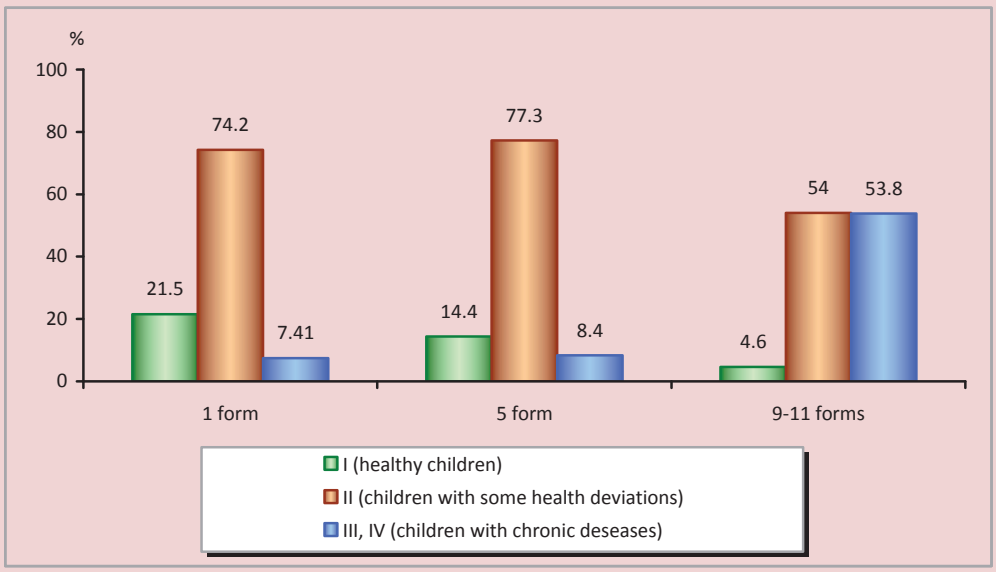


Table 3. Foodstuff provision of children depending on family's financial situation in 2011 (in % of the number of respondents)

Foodstuff provision of children	20% of lower-class				60% of middle-class				20% of upper-class			
	7 years	10 years	13 years	16 years	7 years	10 years	13 years	16 years	7 years	10 years	13 years	16 years
Good	35.7	13.3	15.4	44.4	43.6	45.5	42.6	34.4	64.3	56.3	58.7	60.0
Satisfactory	64.3	73.3	69.4	44.4	53.8	47.7	52.6	62.5	35.7	43.8	41.3	40.0
Unsatisfactory	0.0	13.3	15.2	11.1	2.6	6.8	4.8	3.1	0.0	0.0	0.0	0.0

Source: Monitoring of child health forming conditions. ISEDT RAS, 2011.

Table 4. Influence of foodstuff provision on children's health in 2011.

Foodstuff provision	Health group of children							
	Children born in 1995		Children born in 1998		Children born in 2001		Children born in 2004	
	R1	R2	R1	R2	R1	R2	R1	R2
Good	24.3	75.7	17.6	82.4	15.4	84.6	13.6	86.4
Satisfactory	24.3	75.7	18.2	81.8	6.3	93.8	6.0	94.0
Bad, very bad	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0

R1 – group with minimal risk of health deterioration
R2 – children with various health abnormalities and chronic diseases
Source: Monitoring of child health forming conditions. ISEDT RAS, 2011.

Malnutrition can lead to such negative processes as decrease in immunity, and disorder not only in physical, but also in mental development of the child. According to the results of monitoring, all the children with "bad and very bad" foodstuff provision have health abnormalities *(tab. 4)*.

4. Problems of child neglect and homelessness continue to be relevant in Russia. Orphanhood statistics are inaccurate. Various departments, institutions and organizations mention different figures. For instance, Albert Likhanov, the chairman of the Russian Children's Fund, stated that according to the

Fund's data the number of orphans in Russia is at least 10% more than it is declared in the State report of 2007 [9]. That means not 731 000 but over 800 000 people (2007 – 2008). In contrast: after World War II in USSR the number of orphans was 678 000 children (1945). Today in Russia according to the statistical data there are 2 – 2.5 million homeless children, whereas according to the estimate of the Federation Council, the Public Prosecution Office of the Russian Federation and independent experts their number comprises up to 3 – 4 million.

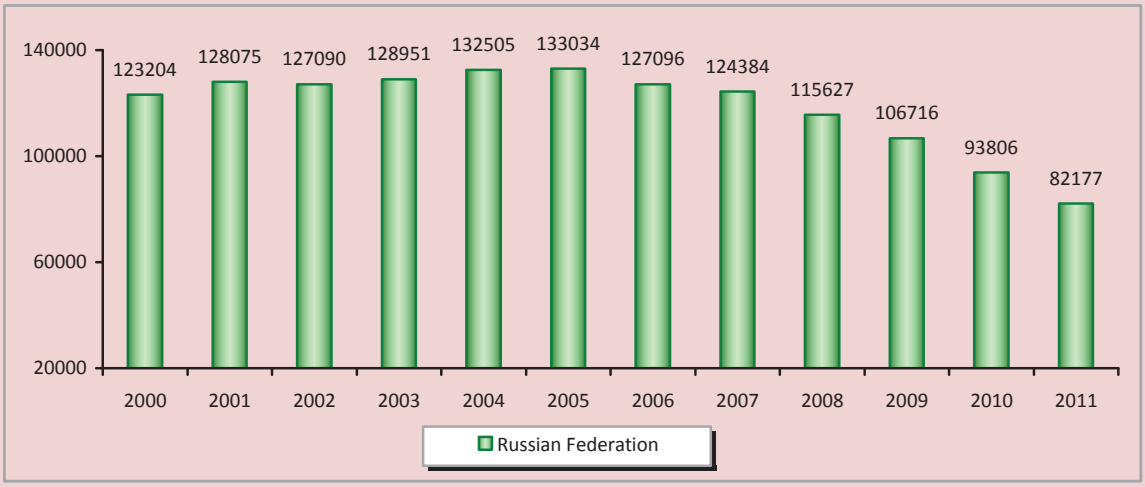
Lack of a clear definition concerning the grade of the loss of control over a child's behavior to consider him/her as neglected and also a formalized procedure of neglect establishment, the absence of the neglected children registration procedure and the single record-keeping body lead to the extremely inaccurate figures of neglected children ratio.

Statistics take into consideration only neglected children who are placed into certain institutions and reside there, but not their real number. So, according to the statistical data by the Internet portal of the Ministry of Education and Science of the Russian Federation "adoptinrussia.ru", the maximum number of children without parental care was marked in Russia in 2005 (133034 people). A gradual decline of this figure is observed: 82177 orphaned children were recorded in 2011 *(fig. 3)*. In spite of incompleteness, it is possible to speak about their significance.

Orphanhood consequences are impossible to overestimate, and it concerns not only physical, mental and moral health and development deterioration of the rising generation, but also socio-economic situation in the country and in a particular region.

5. Changes in the lifestyle of families with children are quite alarming. No doubt, favorable conditions at early stages of their life play a critical role in further development. However, if an adult bears responsibility for his/her health condition by him/herself to a great extent, then children's health virtually depends on their environment. The urgency of the problem intensifies, because over the last years the tendency of polarization of families due to their living standards is observed, as well as instability of marriage, divorce and incomplete families' rate growth, interfamilial tensions and spreading of pernicious habits, in its turn lead to changing of the families' lifestyle.

Figure 3. The number of children without parental care in 2000 – 2011, people



Source: Internet portal of the Ministry of Education and Science of the Russian Federation / Department of youth policy, care and social protection of children. Available at: http://www.usynovite.ru/statistics/2011/1/

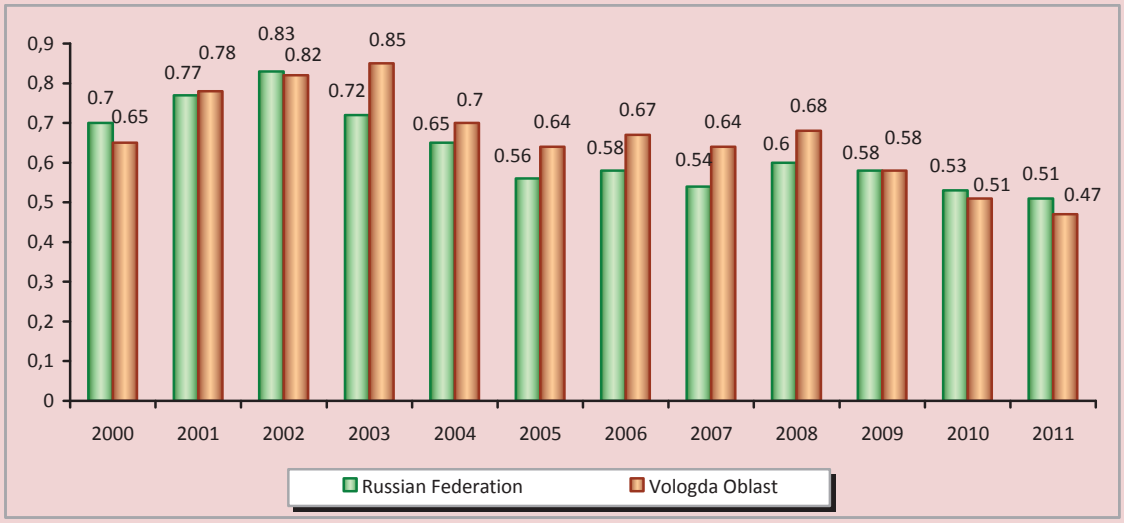
It is known that the main reason of increasing the share of incomplete families is divorce. During 2003 – 2008 the Vologda Oblast in comparison with the whole country took up leading positions in divorce rate due to number of registered marriages. The highest divorce rate was seen in 2003 and equaled 0.85 (divorce rate to the number of marriages), that means the marriage was dissolved by 85% of couples. However, from 2009 the reduction of this figure takes place both in Russia, and in the Vologda Oblast – 0.51 and 0.47 in 2011 respectively *(fig. 4)*.

As for the parents-children relations, judging by the results of monitoring [6], children characterize them generally as "harmonious" or "harmonious with occasional quarrels". Although the number of such estimates among 13-year-old children (93%) is higher than among 16-year-old ones (89%; *tab. 5*).

Psychological and physiological changes of children in the process of their growing up negatively reflect their behavior. Hence, there is no doubt that psychological aspects of family life, mutual relations established between children and their parents, counterparts and general life perception influence children's health.

Psychoemotional state of children aged 13 and 16 was examined on the basis of questions – statements blocks, method elaborated by I.V. Zhuravleva [3].

Figure 4. The ratio between the number of divorces and registered marriages



Sources: Demographic yearbook of the Vologda Oblast: statistical abstract. Vologdastat. Vologda, 2001 – 2011. P. 60.; Demographic yearbook of Russia: statistical abstract. Rosstat. Moscow, 2001 – 2011. P. 116; Russia in figures. 2012: statistical abstract. Rosstat. Moscow, 2012.

Table 5. Character of mutual relations in families (cohort of 1995, in % due to number of respondents)

Variants of responses	Children's age in the family			
	13 years	14 years	15 years	16 years
Harmonious, without quarrels	18.7	29.7	24.2	27.2
Harmonious, with occasional quarrels	74.7	57.6	66.1	61.7
Strained, without quarrels	0.0	3.8	1.9	4.9
Frequent quarrels	6.7	9.1	7.9	4.9
Source: Monitoring of child health forming conditions. ISEDT RAS, 2008 – 2011.				

Different questions were offered to adolescents and due to their responses their mutual relations with parents, counterparts and general life satisfaction were estimated. For every statement it was necessary to choose one variant – from "absolutely agree" to "absolutely disagree". Then Stress-ratio (S) was calculated as the correlation of extreme positions between negative and positive content. The more the share of negative responses, the more the value of the Stress-ratio *(tab. 6)*.

The highest Stress-ratio (1.48 – 2.4) was seen in the block "Life perception". Adolescents aged 13 have total Stress-ratio (4.8) higher than 16-year-old ones (3.15).

Good and comfortable atmosphere at home, at school also has a substantial influence on children's health. Comparing estimates of their own health condition and the Stress-ratio showed that children, who consider their health condition as excellent and good, have total Stress-ratio (2.72) lower than children, who estimate their health as "satisfactory" or "bad" (3.51).

Existence of pernicious habits among the children's immediate surrounding is a risk factor for their health and formation of self-destructive lifestyle. According to sociological data, in such families where at least one member was smoking, 12-year-old children tried smoking four times oftener (17%) than in nonsmoking families. By the age of 16 the number of children who tried smoking increased almost 3-fold (49%) [6]. Even at the age of 10 the share of smoking children comprises on average 4%, that further will have an extremely negative influence on their health. Received data is supported by other investigations too: 11-year-old pupils from Russia are the "leaders" in the

Table 6. Stress-ratios (S) as figures of mutual relations with parents, counterparts and surrounding people

Questions-statements	13 years	16 years
Relations with parents		
Mutual understanding with parents	0.04	0.18
Comfortable atmosphere at home	0.09	0.08
Respecting of adolescent's feelings by parents	0.05	0.11
Frequency of desire to leave the house	0.05	0.06
Pressure on adolescent from parents	0.25	0.05
Total in block	**0.48**	**0.48**
Relations with counterparts		
Self-confidence	0.05	0.04
Confidence in fact that it is joyful to be with him/her	0.08	0.05
Confidence in people's sympathy	0.25	0.14
There are some difficulties speaking to class	1.00	0.63
Popularity among counterparts	0.54	0.34
Total in block	**1.92**	**1.20**
Life perception		
Feeling of life's heaviness	0.04	0.05
Everything had got all mixed up in life	0.15	0.07
Frequent feeling of shame	0.61	0.22
Always show what he/she should do	1.00	0.14
Teachers lets feel shortcomings	0.60	1.00
Total in block	**2.40**	**1.48**
Total	**4.80**	**3.16**
Source: Monitoring of child health forming conditions. ISEDT RAS, 2011.		

European Region in the amount of smokers, at least once a week: 4% of girls and 5% of boys [17]. According to the World Trade Organization (WHO), in Europe almost every fifth adolescent (19.9%) aged 13 – 15 is smoking: boys (22.7%) a little more than girls (16.8%) [18].

One more pernicious habit, which can have a negative influence on the health of parents and their children, is alcohol abuse. The survey showed that if an alcohol consumption practice exists in the family, then 13% of children at the age of 12 and 70% of children aged 16 tried it, which is two times more than in families, where there is no such practice. It means that pernicious habits of parents have a significant influence on their children's health. According to Russian surveys, Russia is just behind Ukraine in level of consuming alcohol by 11-year-old pupils (7% of girls and 10% of boys consume alcohol almost once a week) [16]. Due to HBSC international report, in European countries on average 21% of adolescents aged 15 consume alcohol once a week. By the age of 16, two-thirds of adolescents already tasted alcohol [17].

To sum up, the most urgent problems for the rising generation can be marked:

– depopulation of children;

– children's health deterioration, including the spreading of pernicious habits;

– problem of low income in families with children;

– problem of underage neglect.

Summing up, it is necessary to point out that the main task of social policy is to enhance the children's quality potential and living standards. To improve the situation concerning child health, it is necessary to carry out a complex policy of healthy lifestyle in collaboration with holding activities aimed at improving financial and social status of families with children, revealing factors having influence on children's health. In this case the monitoring is required to help to determine the most vulnerable groups due to health condition, and also the socio-economic factors that influence population's health negatively. In the meantime, the efficiency of preventive actions regarding health care of children and adolescents, including those ones who are deprived of parental care, should increase.

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Typology of employees as a tool of labour behaviour management

The article describes the features of labour behaviour of the region's population on the basis of empirical research conducted by ISEDT RAS in the Vologda Oblast in 2012. The article analyzes the main socio-demographic and socio-economic characteristics of different types of labour behaviour. In addition, it proposes a differentiated system of measures aimed at labour efficiency enhancement.

Labour behaviour, types of labour behaviour, typology of employees, work motivation, needs.

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At present, labour productivity in Russia is extremely low. It lags behind developed countries (Norway, the USA, France, Japan), and developing countries (Estonia, Hungary) as well. Thus, labour productivity in Russia in 2011 amounted to 21.5 U.S. dollars per 1 employee, which is comparable to such countries as Chile (20.9 dollars) and Turkey (17.3 dollars)[1]. This could be also caused by technology challenges, the employees' attitude to labour, and the ability to bring out their physical and mental potential.

Each employee has a specific attitude to work and certain employment behaviour. Some individuals work to gain material well-being; others – for pleasure, or desire to achieve high performance and gain praise and managers' favour; others are interested in enhancement of professional skills and creativity, etc. Therefore, employees with different types of labour behaviour have different productivity.

Since the early 20th century, many scientists (E. Mayo, R. Likert, D. McGregor, D. McClelland, etc.) have been investigating the possibilities of applying management methods and creating conditions in which every employee could achieve high professional results. However, the heterogeneity of motives and incentives to work led to the emergence of various behavioural concepts that, in essence, implied arrangement of employees into different groups.

[1] OECD data base. Available at: http://stats.oecd.org/Index.aspx?DatasetCode=LEVEL

In the Soviet period, employees typology according to their attitude to labour was mostly made up by evaluating their "positive" and "negative" characteristics. The dominating role of social determination and abandonment of psychological approaches led to the fact that employees were considered mainly as an object rather than subject of management. These approaches include the one proposed by V.A. Smirnov who distinguished three groups: *top performers, average performers and underperformers*; and the one proposed by B.G. Proshkin who distinguished five groups: *the best, good, average, bad and worst*, etc. The methodologies were, as a rule, based on the employees performance evaluation by their immediate superiors, which made it difficult to reveal the reasons for some behaviour or other [6, p. 65-66].

We consider that labour behaviour is determined primarily by motivation, therefore, prior to relating an employee to a certain type, it is necessary to consider the composition, diversity and motivation force of labour activity.

Labour motivation is a combination of internal and external driving forces that induce people to act and that orient them toward achieving the goals [1, p. 145].

S.A. Naumova proposes to distinguish types of employees based on the combination of strong groups of labour motives (labour as an inherent worth and labour as a means). It resulted in allocation of 16 motivation types, each corresponding to a certain worker group: from the "harmonious" and "artisans" to "sybarites" and "robots" [5, p. 61]. This methodology, despite its flexibility and management capacity, is, on the one hand, too simplified, and on the other, rather cumbersome, which casts doubt on the practical relevance of the research.

Due to the fact that objective quantitative estimation of employees' needs is unfeasible, we used a methodology that, on the basis of A. Maslow's hierarchy of needs, allows indirect assessment of labour motivation of the region's population. The study was carried out on the basis of the labour potential quality monitoring[2].

The article is aimed at the development of methodological approaches to the typology of employees and the analysis of their labour behaviour types. The research results can be used for the improvement of mechanisms of population's labour behaviour management.

Employees' labour behaviour types were determined on the basis of the survey "For you, your work is, primarily, the way to...". The population's labour activity was evaluated on a five-point scale (from absolute disagreement to absolute consent) according to various motivation aspects.

Table 1 shows that the list of motives proposed for evaluating was formed in accordance with A. Maslow's hierarchy of needs and was expanded according to labour motivation peculiarities. Thus, the total number of components is ten.

The systematization of variables was carried out using factor analysis; as a result, three factors were determined that had the values more than unity. Their sum frequencies explain 73% of the variance.

The use of mathematical tools[3] has shown that the selected factors can be arranged in the following sequence.

The first factor combines the following variables: 'to bring out one's personality potential', 'to achieve success', 'to build a career', 'to gain a sense of accomplishment' and 'to acquire new knowledge'. Thus,

[2] ISEDT RAS has been carrying out the monitoring of labour potential quality of the Vologda Oblast population since 1997. The object of research is the able-bodied population of the Vologda Oblast. Polls are held annually in August – September in the cities of Vologda and Cherepovets and in eight districts of the oblast (Babayevsky, Velikoustyugsky, Vozhegodsky, Gryazovetsky, Kirillovsky, Nikolsky, Tarnogsky and Sheksninsky). The method of survey is questioning at the respondents' place of residence. Sample size is 1500 people, sampling error doesn't exceed 3%.

[3] Orthogonal varimax rotation with Kaiser normalization was used.

Table 1. Question template: "For you, your work is, primarily, the way to…"

Components (variables)	Answer option				
	Completely agree	Agree	Difficult to answer	Disagree	Completely disagree
1. Fend for myself (provide for my family)	5	4	3	2	1
2. Feel secure	5	4	3	2	1
3. Earn love	5	4	3	2	1
4. Earn respect, recognition	5	4	3	2	1
5. Bring out one's personality potential	5	4	3	2	1
6. Achieve success	5	4	3	2	1
7. Make money	5	4	3	2	1
8. Build a career	5	4	3	2	1
9. Gain a sense of accomplishment	5	4	3	2	1
10. Acquire new knowledge	5	4	3	2	1
Source: hereinafter – Monitoring of the quality of labour potential of the Vologda Oblast population, ISEDT RAS.					

an important message, which these components bear, allows this factor to be identified as 'the motives for development'.

The second factor comprises such components as 'feel secure, 'earn love, respect and recognition'. This indicates the need for stability and public recognition. This factor is named 'the motives of stability'.

The third factor includes the following variables: 'fend for myself (provide for my family)' and 'make money', which testifies to the high importance of financial factors and corresponds to the notion of 'the motives of enrichment' *(tab. 2)*.

The hierarchical cluster analysis of factors has allowed for the arrangement of respondents into layers (clusters) and define the types of labour behaviour *(tab. 3)*.

The number of clusters is determined by finding the difference between the total number of observations and the number of steps in the course of agglomeration, after which the coefficient (squared Euclidean distance)[4] is increasing very rapidly. The process of unification into new clusters stopped at step 1325 (the total number of observations being 1327), where the measure of the distance between two clusters increases from 17.9 to 31.5.

This means that after the three clusters have been formed, there is no necessity for us to make any subsequent unifications, and the result of the three clusters is optimal.

When assessing the cluster centres, it should be noted, first of all, that here we speak about the mean values of the factors ranging approximately from -3 to +3. Besides, one should bear in mind that, according to the coding of responses (1 – completely disagree, 5 – completely agree), the factor's high negative value indicates a low degree of its manifestation, i.e. shows low competence, and, on the contrary, the factor's high positive value implies a high degree of its manifestation *(tab. 4)*.

The final results of the cluster analysis[5] indicate the presence of distinct layers.

Having considered the quantitative indicators of each of the clusters, we can conclude that the defined layers represent the employees typology *(tab. 5)*.

The formation of workers typology under the presented approach gives an opportunity not only to identify the particular types of population's labour behaviour on the basis of the strong and weak groups of labour motives, to determine their characteristics related to social status, but also to point out structural changes in social development in future.

[4] Used to add greater weights to the objects more distant from one another.

[5] Result of summarizing the iterative process data.

Table 2. Rotated component matrix (the value of loadings > 0.4)

Component (variable)	Factor		
	Motives of development	Motives of stability	Motives of enrichment
1. Fend for myself (provide for my family)			0.874
2. Feel secure		0.794	
3. Earn love		0.824	
4. Earn respect, recognition		0.616	
5. Bring out one's personality potential	0.783		
6. Achieve success	0.798		
7. Make money			0.805
8. Build a career	0.810		
9. Gain a sense of accomplishment	0.755		
10. Acquire new knowledge	0.788		

Table 3. Simplified overview of agglomeration process

Step	Unification into clusters		Coefficient	Step, at which a cluster first appears		Next step
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	1386	1392	0.000	0	0	3
…						
1317	43	303	6.037	1308	1287	1321
1318	2	17	7.137	1314	1315	1323
1319	115	436	7.171	1295	1309	1320
1320	62	115	9.920	0	1319	1325
1321	43	371	10.049	1317	1289	1323
1322	19	116	10.988	1316	1305	1324
1323	2	43	12.413	1318	1321	1324
1324	2	19	16.091	1323	1322	1325
1325	2	62	17.869	1324	1320	1326
1326	2	1266	31.544	1325	1254	0

Table 4. Cluster centres of ultimate decision

Factor	Labour behaviour type (cluster)		
	Economic ('materialists')	Innovative ('innovators')	Adaptive ('adapted consumers')
Motives of development	-1.178	0.790	0.069
Motives of stability	-0.300	-0.941	0.600
Motives of enrichment	0.813	0.209	-0.432

Table 5. Indicators of the number of observations relating to each of the clusters

No.	Cluster	Number of persons	Share, %
1.	'Materialists'	278	20.9
2.	'Innovators'	355	26.8
3.	'Adapted consumers'	694	52.3
Total number of respondents		**1327**	**100.0**

The first type of employees comprises individuals seeking to improve their financial welfare (enrichment motives loading is 0.813). The motives of stability and development are insignificant for them, which makes it possible to identify them as 'materialists' (their share in the total population is 21%).

Representatives of the second type are characterized by aspirations for personal development and realization of their potential. The enrichment motives are also of some importance (0.209), which may be a reflection of aspirations to build a career. The components related to reasons of stability have a negative loading and don't exert any significant influence on the respondents. Let us designate them as 'innovators'.

The third type comprises the majority of employees (52%). A significant component of this type of labour behaviour is the motive of stability (0.600). 'Adapted consumers' are least of all interested in material values (-0.432), and motives of their development are not stated clearly (0.069).

Judging by the socio-demographic characteristics of these types, the most significant differences between them are observed in the level of education. The majority of 'innovators' and 'adapted consumers' have higher or incomplete higher education (47% and 38%, respectively; *tab. 6*).

'Materialists' are mostly represented by the working population with a low level of education, and especially the representatives of trade occupations (54%; *fig. 1*).

It is noteworthy, that 'innovators' are dominated by young people (65%) and urban population (59%). Thus, 'innovators' are a group of young intellectuals with a wide range of different professions working mainly in urban areas.

Assessment of the quality of labour potential of the considered types of workers illustrates their hierarchy *(fig. 2)*. So, the 'innovators' possess high-quality labour potential, which is reflected by the integral index (social capacity index), equal to 0.705 units.

'Materialists', on the contrary, have the worst values of labour potential components (except for mental health index). 'Adapted consumers' reflect the general state of the working-age population and occupy an intermediate position between 'innovators' and 'materialists'.

As the survey results prove, the second and third types of employees show the best level of labour potential realization than the first one *(tab. 7)*. It is necessary to note that in their labour activity 'adapted consumers' use such qualities as physical health (37%), knowledge, erudition, qualification (37%) and creativity (28%) to a greater extent, and 'innovators'

Table 6. Comparison of the types in view of the socio-demographic characteristics (in % of the number of respondents, 2012)

Criterion	Group	'Materialists'	'Innovators'	'Adapted consumers'
Territory	Vologda	24.1	23.1	25.8
	Cherepovets	30.2	36.3	22.6
	districts	45.7	40.6	51.6
Sex	male	50.0	45.6	49.9
	female	50.0	54.4	50.1
Age	under 35	46.0	65.4	50.7
	over 35	54.0	34.6	49.3
Education	lower than secondary	40.7	22.7	32.0
	specialized secondary	29.5	30.6	29.7
	higher and incomplete higher	29.8	46.7	38.3

Figure 1. Distribution of employees by the type of employment
(in % of the number of respondents, 2012)

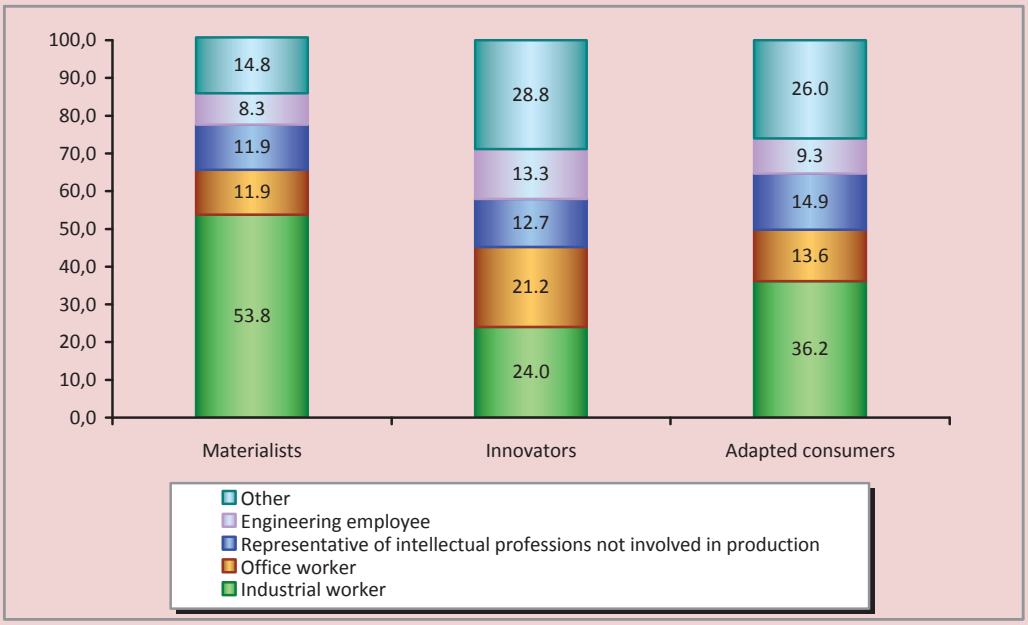
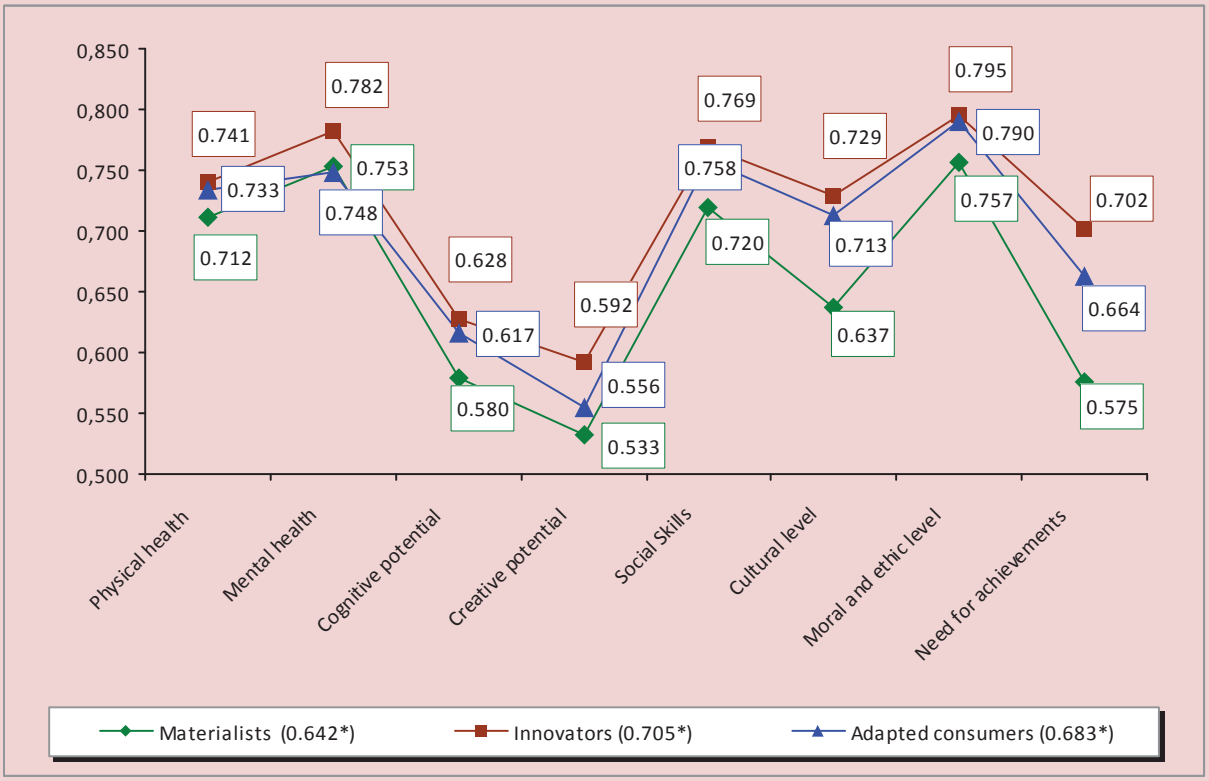


Figure 2. Quality of labour potential (2012)



* Social capacity index, units.

Table 7. Distribution of answers to the question: 'How much do you 'extend yourself' at work? To what extent do you use your qualities and abilities?' (answer option: 'to the fullest') (in % of the number of respondents, 2012)

Answer option	'Materialists'	'Innovators'	'Adapted consumers'
Physical abilities and health	33.3	32.4	**37.3**
Psychological resistance	25.7	**38.6**	**38.9**
Knowledge, erudition, qualification	19.7	34.8	**37.5**
Creative abilities	11.4	23.4	**27.9**
Sociability, interpersonal skill	32.8	**47.4**	41.0
Manners and behaviour in general	28.0	**40.3**	38.2
Moral and ethic qualities	32.5	**39.9**	38.4
Desire to be promoted	12.5	**30.0**	**30.5**
Average level	*24.5*	*35.9*	*36.2*

use such qualities as sociability (47%), good manners and behaviour (40%) and moral and ethic qualities (40%). This may be conditioned not only by specific features of the performed functions, but also by the working conditions at a particular workplace.

Among the qualities, most often used by 'materialists', one can point out physical health (33%), sociability (33%) and moral and ethic qualities (32%). This is likely explained by the essence of their employment. Only 11% of representatives of this type use their creative abilities to the fullest.

The analysis showed that the employees, who have adapted to the modern economic environment, bring out their potential to a greater extent. Thus, 'consumers' and 'innovators' are very eager to 'extend themselves' at work, which is reflected in their labour contribution in the region's economy (the average level of labour potential implementation is 36%).

Considering wages and salaries as a measure of employees' labour input compensation, we can point out that 'adapted consumers' are the lowest-paying group. Their earnings reach the top in about 11 – 15 years and account for 13015.6 rubles *(fig. 3)*. 'Innovators', on the contrary, are distinguished by the greatest earnings (peak falls on the employment term of 6 to 10 years). The change in earnings with an increase of employment term, as in the case of 'consumers', doesn't show any significant negative deviations, i.e. the salaries and wages tend to grow.

The remuneration of 'materialists' is determined in many respects by the load of the work performed. By realizing their physical health potential to the greatest extent, they are able to earn more in the beginning of their career, than the representatives of other groups. However, as the health deteriorates, they find it more and more difficult to cope with labouring work; consequently, the amount of earnings at the end of their career accounts for 11889.5 rubles, which is the lowest figure among all the types of employees. Therefore, the issue of proper working conditions for 'materialists' is a priority one [9, p. 609].

Having studied the characteristics of work activities, we can state that 'innovators' show the greatest labour activity. They hold the leading positions by all the indicators reflecting labour efficiency (fulfillment of performance standards, production quality, labour-saving activities) *(fig. 4)*.

'Materialists' and 'adapted consumers' are less active. The former are characterized mostly by the in-time fulfillment of their tasks (53%) and high-quality performance of their work (44%), and the latter are distinguished by the over-fulfillment of performance standards (30%) and introduction of rationalization proposals (14%).

Figure 3. Dependence of remuneration on the total employment term (2012)

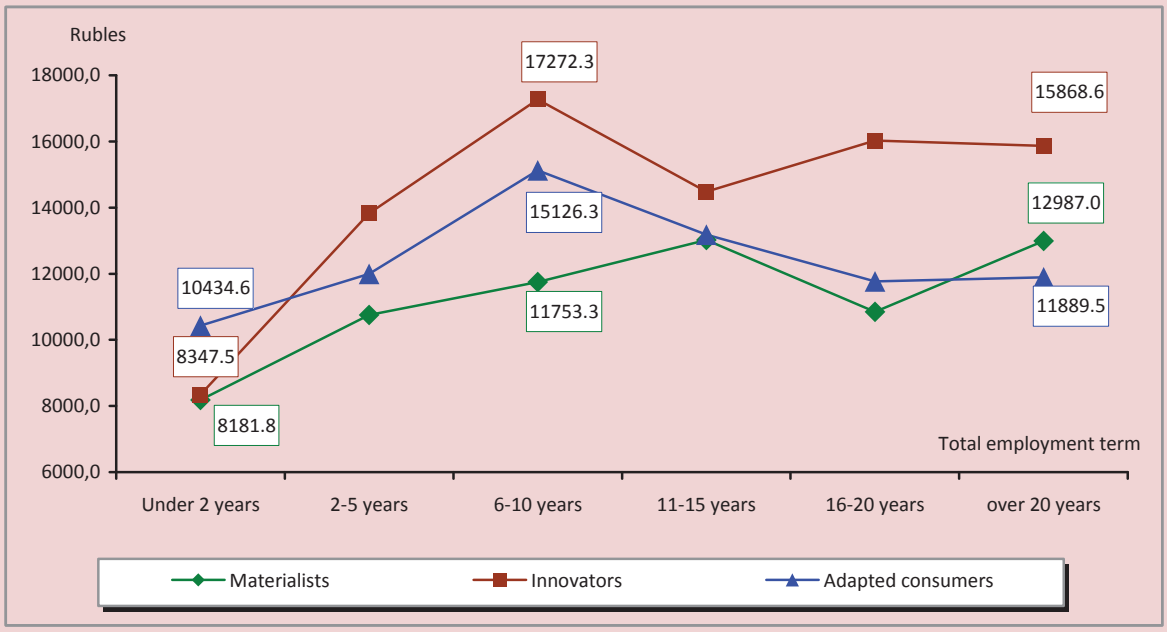
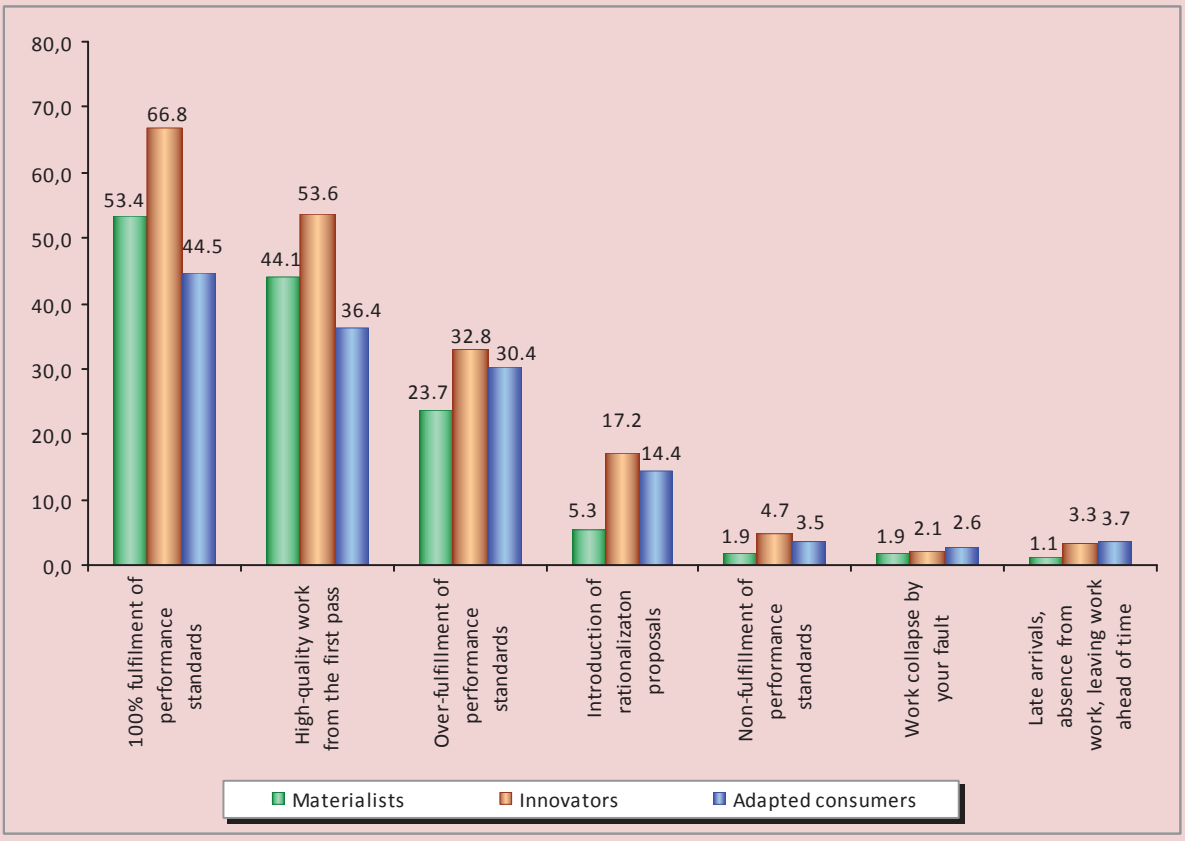


Figure 4. Distribution of answers to the question: 'Which of the following characterizes your work most accurately?' (answer option: 'it happens frequently') (in % of the number of respondents, 2012)



It is worth noting that 'materialists' are characterized by the best discipline among all the types of employees.

The current labour activity can in many respects be conditioned by the fact that some of performed functions don't correspond to the professional qualities of employees. Among the 'materialists' the majority of respondents point out that they don't work within the specialty, which they had obtained at professional education institutions (48%; *tab. 8*). The given circumstance is less typical for the remaining two types of employees (their share in the total population is 41%).

This can be explained by the fact that 'materialists' don't work within their specialty because of the poor working conditions offered by employers; as for 'innovators' and 'consumers', there is a lack of demand for their professions on labour market (33% and 38%, respectively).

In general, we can point out that the jobs of a great number of employees don't correspond either to their vocation, or their personal qualities that are the subjective conditions of successful labour activity *(fig. 5)*.

It is 'adapted consumers' who find labour market conditions most suitable to themselves. Representatives of this group (60%) believe that they work by vocation (this share is 48% among 'innovators' and 40% - among 'materialists').

Despite the importance of financial factors when choosing a job (labour remuneration, the company's stability and social benefits; *tab. 9*), the incentives of the different types of employees vary considerably.

Table 8. Distribution of answers to the question: 'Do you work within the specialty, obtained at a professional education institution (university, technical school, college)?' (in % of the number of respondents, 2012)

Answer option	'Materialists'	'Innovators'	'Adapted consumers'
Yes	42.2	47.9	47.0
No	47.7	41.5	41.4
Didn't obtain a specialty	10.1	10.6	11.6

Figure 5. Compliance of the profession (main activity) with a person's abilities, inclinations and vocation (in % of the number of respondents, 2012)

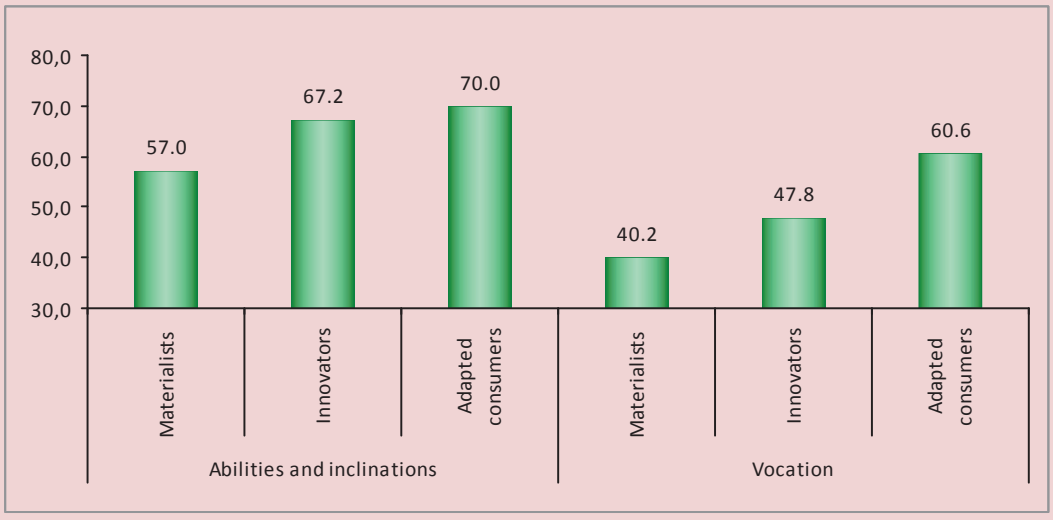


Table 9. Distribution of answers to the question: 'Which of the following is important to you?' (answer option: 'very important'; in % of the number of respondents, 2012)

Answer option	'Materialists'	'Innovators'	'Adapted consumers'
High remuneration	63,3	65,4	40,8
Company's stability	39,7	48,2	34,8
Decent social benefits	37,5	47,0	32,5
Proximity to one's place of residence	19,6	17,3	20,2
Promotion opportunities	10,5	34,4	22,9
Acquisition of new experience and knowledge	9,8	37,9	24,0
Opportunities to self-realization	8,7	38,4	23,3
High intensity of work	8,0	16,1	19,6
Self-sufficiency and responsibility of decisions	7,6	20,8	23,0
Company's size	5,1	13,7	16,6
Company's credibility / image	5,1	16,7	18,5
Participation in management issues	4,0	18,3	18,2
Note. The degree of relevance of each factor is marked in colour (green – high, yellow – moderate, red – low).			

As table 8 shows, financial factors play a decisive role for 'materialists' and, in fact, explain the choice of a job.

'Innovators' prefer to have the opportunity for self-realization (38%), acquisition of new experience, knowledge (38%) and promotion (34%).

For 'adapted consumers' financial factors are less important and non-material factors are gaining importance as well as for 'innovators'. However, they point out a greater role of independence and responsibility of decisions (23%), the company's proximity to the place of residence (20%), the intensity of work (20%), etc.

No doubt, the relevance of certain factors for different types of employees is reflected in their views of the future as well *(fig. 6)*.

Thus, 'innovators' possess high willingness to entrepreneurial, creative and other activities, which is expressed in the desire for spiritual growth (33%), for establishing partner relations in the work sphere (32%), for acquiring new knowledge (29%), etc.

'Adapted consumers', as well as 'innovators' seek to make their work useful to people (22%), work for the country's welfare (18%) and improve their qualification at the expense of their own means (14%).

'Materialists', in turn, are distinguished by labour passivity, which is reflected in the pessimistic views on the prospects of professional activity *(tab. 10)*. Only 40% of the respondents appreciate their relevance in the profession, 28% - the improvement of their qualification, 25% - decent salaries, etc.

'Innovators' and 'adapted consumers' are in more favourable conditions. The development of personal qualities leads to the fact that nearly one person in two is confident in professional growth.

Thus, the socio-status characteristics of different types of labour behaviour have been determined using the analysis of empirical data. It has been revealed, that a large part of working population in the Vologda Oblast are conservative in their views and they require sustainable, consistent development. Vologda residents, which include the representatives of all socio-demographic groups, have low financial demands and, given comfortable working conditions, are ready for professional growth.

But not everyone is able to disregard the amount of remuneration in favour of personal development. 'Materialists' try, in general, to satisfy their priority needs: to earn money and

Figure 6. Distribution of answers to the question: 'How eager are you to...?' (answer option: 'to the fullest') (in % of the number of respondents, 2012)

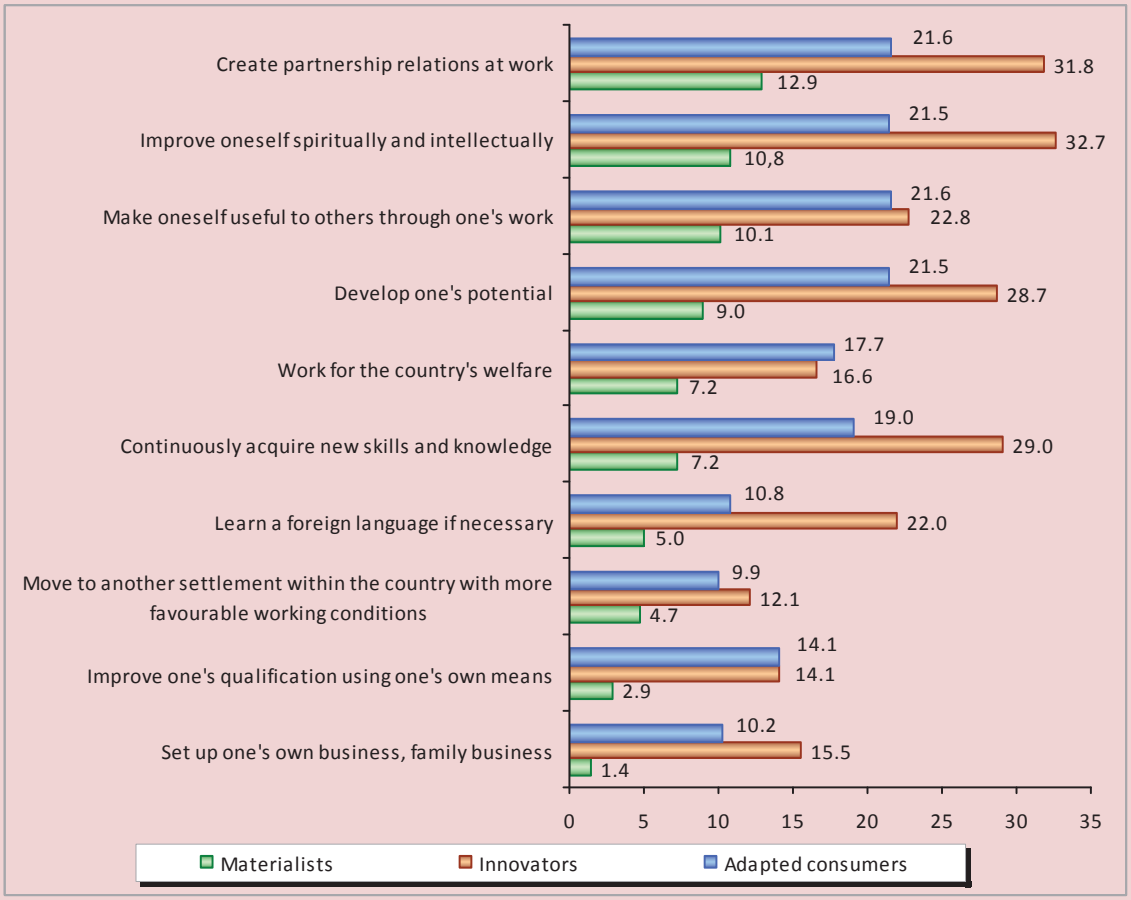


Table 10. Distribution of answers to the question: 'How do you evaluate your professional prospects?' (answer option: 'highly'; in % of the number of respondents, 2012)

Answer option	'Materialists'	'Innovators'	'Adapted consumers'
Demand for the profession	39.6	55.8	55.2
Improvement of one's professional qualification	27.7	52.1	54.3
Decent remuneration	25.5	45.6	44.8
Self-realization in the profession	22.3	52.4	47.0
Promotion prospects	17.3	45.9	41.4

provide for their families. As a rule, they are the representatives of trade occupations with basic and secondary education.

At the same time, the society has a layer of highly motivated, enterprising people who can sustain the region's economy modernization. These are mostly young, highly educated urban intellectuals [2, p. 123].

The assessment of the actual situation and prospects for each type of employees requires consideration of their strong and weak points, as well as opportunities and threats on the basis of SWOT analysis *(tab. 11)*.

Proceeding from the obtained results, a differentiated system of measures for labour intensification can be developed.

Tabl e 11. SWOT analysis of employees typology

'Materialists'	
Strengths	Weaknesses
Mental stability Moderate labour activity Consent to do 'any' work with an appropriate remuneration	Low creative activity Priority of financial factors Low level of education and general self-development Low self-esteem and lack of interest in personal development Absence of clearly formed plans for the future
Opportunities	Threats
Creation of the layer of highly qualified personnel in trade occupations	Poor professional prospects in labour sphere Deterioration of economic situation in the region (country as a whole) can result in marginalization of 'materialists'
'Innovators'	
Strengths	Weaknesses
Comprehensive development, high education level High labour activity Innovative / labour-saving approach to work Desire for personal growth and well-being of the country as a whole	High material incentive due to personal ambitions
Opportunities	Threats
Excellent professional prospects: promotion, high level of labour remuneration, etc.	Inability of the country (of the economy in particular) to meet the requirements of 'innovators' may cause their migration to developed countries
'Adapted consumers'	
Strengths	Weaknesses
High adaptability to modern economic conditions Rationalization activities Conformity of the chosen profession with their abilities and vocation Interest in work for the benefit of the country and society	Negligence in work Significant part of their labour potential is in a state of 'conservation'
Opportunities	Threats
Wide employment opportunities (mainly due to the fact that remuneration doesn't play a decisive role) Actual measures aimed at stimulating professional growth can become a factor of transforming 'consumers' into 'innovators'	Destabilization of economic, political and other spheres can lead to disorders (strikes, protest actions, etc.) Absence of actual measures of personal activity stimulation may become a factor causing the development of labour passivity

'Materialists':

- modernization of personnel training system;
- maximum balancing of the demands of labour market and professions that specialists get; enhancement of activities of employment agencies and career guidance systems for young people;
- establishment of safe working conditions, health care and work efficiency of employees;
- improvement of the system of labour remuneration in the private sector of economy (the possibility of increasing salary depending on labour efforts, fairness in payment, conformity of payments with the labour contribution of an employee, etc.) [7, p. 172].

'Innovators':

- assistance in the establishment of labour performance standards and the creation of favorable conditions for the realization of population's creative potential, especially in the fields of science, culture and education;
- provision of decent financial conditions to the representatives of creative professions (teachers, researchers), promotion of rationalization activities, social guarantees and measures for copyright protection;
- creation of favorable conditions for the development of small and medium-sized businesses, promotion of innovation entrepreneurship [3, p. 54].

'Adapted consumers':

- provision of continuing professional education, which implies multi-level stage-wise training;
- standard increase of the importance of a practical part in the training for all education levels;
- promotion of actual participation of employees in production management;
- adoption of a regional policy of quality management, aimed at improving the quality, of both the outcome and process of work.

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Tools for state regulation of the region's agriculture

The article analyzes the issues of providing state support to agricultural enterprises in the Vologda Oblast. It classifies its municipal districts according to the production potential of agriculture. On this basis, the article proposes the ways of reducing the differentiation of the districts according to the level of their capacity development by using the tools of budget support, lending, leasing, and insurance. Furthermore, the article provides calculations of their efficiency.

Vologda Oblast, branch of agriculture, typological classification of municipal entities, territorial differentiation, tools of financial support.

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The research [1, 2, 3, 4, 5, 6] shows that the four central districts of the Vologda Oblast: Vologodsky, Gryazovetsky, Sheksninsky and Cherepovetsky have the most developed agricultural production in the oblast. Their agricultural enterprises, possessing 32% of the total agricultural land in the oblast, produce about 73% of the total volume of agricultural production. All these enterprises are provided with advanced equipment and machinery, highly qualified personnel and, as a consequence, they enjoy high crop yield, animal productivity and relatively high financial performance. Accounting for the remaining 27% of the volume of agricultural production, the rest twenty-two districts are characterized by a high share of unprofitable enterprises, in which the number of employees, number of livestock, agricultural areas, volume of agricultural production have been decreasing significantly.

These problem economic entities incur great losses resulting from the increase in prices for the tariffs, services and products of the sector. If their deferred debt were included in the performance evaluation system, such enterprises would fall within the bankruptcy law. This is mainly the result of unsatisfactory state regulation in the development of agricultural production. Due to the limited amount of available financial resources, investments are made primarily in the agricultural enterprises of the four leading districts. The data in *table 1* indicates that over the 5 years of the analyzed period (2006 – 2010), the oblast's leading districts has accounted for more than 65% of the amount of state financial support.

They account for over 80% of the amount of all the taxes paid. In this case, the return in the form of paid taxes in these districts more than 1.5 – 2.5-fold exceeds the government investment in them.

Thus, the state financial support for agricultural producers is an essential prerequisite and primary measure of state regulation, along with other conditions of the sector's development.

We consider that the typological classification of the oblast's municipal entities according to the level of support provided for the development of their production potential can contribute to the elimination of territorial differentiation in the development of agricultural production.

Municipal entities can be classified according to the condition and utilization of their agricultural potential [8].

This requires grouping the municipal formations by two criteria: *the level of available resources* and *the performance results*, and then comparing them.

The list of criteria for grouping the region's municipal entities by *the level of available resources* should include indicators characterizing the level of all factors used in the production, including the number of workers employed in agricultural production, the volume of production assets, energy facilities, and financial resources. We worked out the classification based on the following indicators:

- number of workers employed in agriculture per 100 ha of agricultural land, pers./ha;
- provision of agricultural enterprises with fixed assets, thousand rubles/ha;
- capital/labour ratio, thousand rubles/pers.;
- number of cattle per 100 ha of agricultural land, head/ha;

Table 1. Share of the leading districts of the Vologda Oblast in the general indicators of the oblast in 2006 – 2010, % [7]

Indicators	Year					Deviation of 2010 from 2006, p.p.
	2006	2007	2008	2009	2010	
Share in general indicators						
In the total area of agricultural land	32	33	32	35	36	4
In the average annual number of employees engaged in agricultural production	54	55	57	57	59	5
In the total value of fixed assets by the end of the year	69	68	64	67	65	-4
In the total amount of production facilities	51	53	51	52	55	4
In the total number of cattle	53	53	53	55	56	3
In the total number of agricultural enterprises	28	30	29	30	32	4
Share of investments in the leading districts						
In the total volume of state financial support	62	65	67	69	64	2
In the total sum of subsidizing of interest rates on investment and attracted loans	90*	78	79	76	75	-15 **
In the total sum of crop insurance subsidies	53*	68	74	86	100	47 **
In the total number of machinery leased by the agricultural enterprises	n.a.	56	39	69	63	7 ***
Share of return from the leading districts						
In the total amount of taxes paid (taking into account individual income tax)	78	78	77	78	79	1
In the total amount of taxes paid (regardless of individual income tax)	79	80	79	80	80	1
In the total volume of gross output	75	73	73	74	76	1
In the total volume of commercial output	74	72	70	73	73	-1
In the total amount of revenues	59	66	61	76	71	12

* For 2005.
** Deviation of 2010 from 2005.
*** Deviation of 2010 from 2007.
Source: calculated on the basis of the data of the Vologda Oblast Department of Agriculture, Food Stocks and Trade.

- provision with energy, HP per 100 ha of agricultural land, HP/ha;
- application of mineral fertilizers per 1 ha of crops, kg of application rate/ha;
- volume of subsidies and compensations from the budgets of all levels to the oblast's districts per 100 ha of agricultural land, thousand rubles/ha.

A multivariate comparative estimation (MCE) of each of the seven factors according to the results of 2010 was carried out in advance for each municipality. According to the methodology of G.V. Savitskaya [9], this assessment is carried out according to the following algorithm. First, the standard value (maximum or minimum depending on the nature of the indicator) is determined for each of these indicators. Then, the so-called standardized coefficients reflecting the ratio of the reference indicator to the indicator for each district of the region, raised to the second power, are calculated for each unit of the set. Further on, squared standardized coefficients for each unit are summed up and the square root is taken from the sum, the result is the value of the multivariate comparative estimation.

The results of these calculations are presented in *table 2* and *figure 1*.

The highest value of the multivariate comparative estimation corresponds to the best unit in the selected list of indicators, and the lowest value – to the worst unit, accordingly.

By *the level of resources available* for agricultural production, the oblast's districts, as the table shows, are divided into three groups: 1) below average; 2) average; 3) above average. About half of the municipalities (12 units) are included into the first group, with the availability of resources for agricultural production below average. At the same time, the availability of resources is above average in five districts.

We used indicators, characterizing agricultural production efficiency for *grouping according to the performance results of agricultural enterprises* in municipal entities. The list of these indicators is as follows:

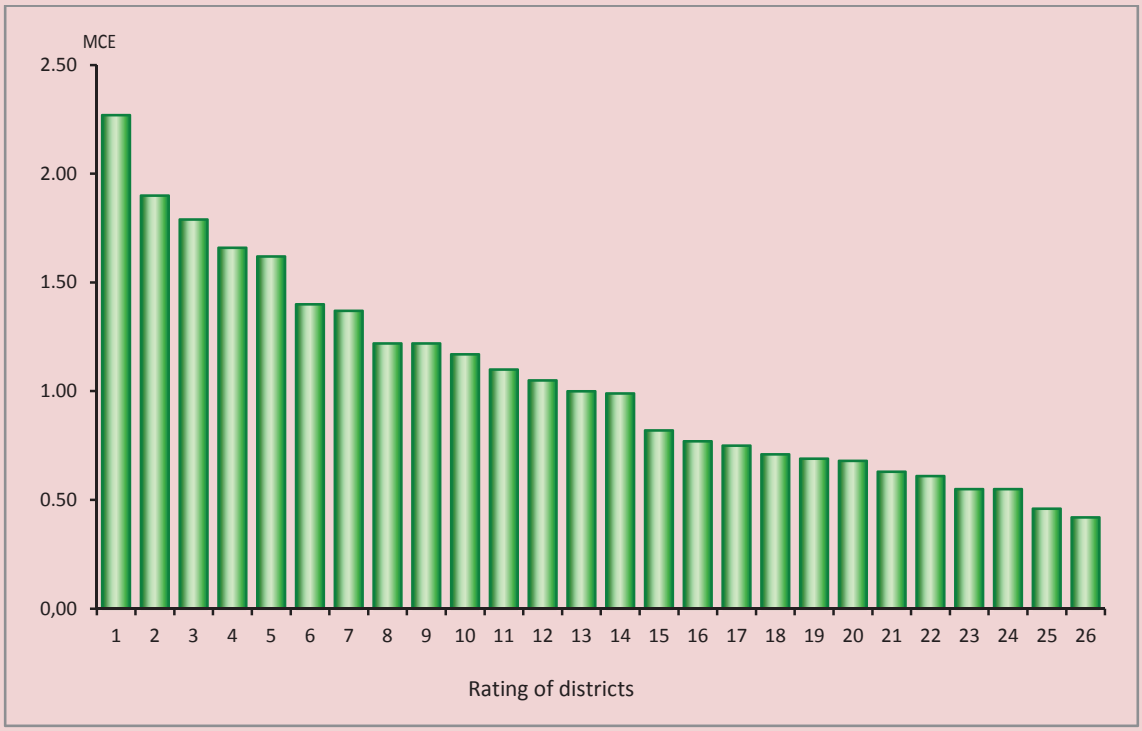
- yield of grain crops (harvested area), centners/ha;

Table 2. Grouping of the Vologda Oblast's municipal districts by the level of resources availability for agricultural production, 2010

Level of resources availability	Value of MCE, units	Number of districts, units	District and its rating according to MCE*
1. Below average	Under 0.99	12	15) Ust-Kubinsky, 16) Vashkinsky, 17) Tarnogsky, 18) Belozersky, 19) Babayevsky, 20) Kichmengsko-Gorodetsky, 21) Nikolsky, 22) Vytegorsky, 23) Babushkinsky, 24) Vozhegodsky, 25) Syamzhensky, 26) Nyuksensky
2. Average	From 0.99 to 1.40	9	6) Sheksninsky, 7) Mezhdurechensky, 8) Velikoustyugsky, 9) Totemsky, 10) Chagodoshchensky, 11)Kirillovsky, 12) Verkhovazhsky, 13)Kharovsky, 14) Sokolsky
3. Above average	Over 1.40	5	1) Vologodsky, 2)Cherepovetsky, 3) Kaduysky, 4) Ustyuzhensky, 5) Gryazovetsky
Total		26	

* MCE – multivariate comparative estimation; see fig. 1.

Figure 1. Rating of the oblast's municipal districts according to MCE, characterizing their provision with resources for agricultural production, 2010



- average milk yield per 1 cow, kg;
- fat content of milk, %;
- production of milk per 100 ha of agricultural land, centners/ha;
- volume of cattle and poultry sales per 100 ha of agricultural land, centners/ha;
- yield on capital investments, rubles/100 rubles;
- average monthly salary of employees, rubles.;
- labour productivity (gross agricultural output in comparable prices of 1994 per one worker, thousand rubles/pers.;
- profitability of products with subsidies, %;
- share of profitable (cost-effective) farms in the total number of farms in the district, %.

The distribution according to the performance results was different from the distribution according to the availability of resources. However, the same districts, Vologodsky, Cherepovetsky and Gryazovetsky, headed the list.

Judging by *table 3*, which consolidates the classification results, the districts are divided into 9 groups. However, due to similarity in the characteristics of some districts, they can be divided into five types *(fig. 2)*.

Final distribution of the Vologda Oblast's municipal districts by the type of production potential is represented in *table 4*.

Table 5 describes activities aimed at improving state regulation of agricultural production in municipal districts depending on their type. These activities cover the issue of state regulation, including the formation of prices for agricultural products, budgetary investments, compensations and subsidies, loans. Special attention, in our viewpoint, should be paid to the creation of agricultural insurance system. For financing the activities stated above, we propose to create *an Oblast Fund for support to agricultural producers*. The procedure for the fund's formation can be entrusted to the Vologda Oblast Department of Agriculture, Food Stocks and Trade.

Table 3. Results of typological classification of the Vologda Oblast's districts according to the level and degree of utilization of agricultural production potential

Level of available resources	Level of obtained results		
	Below average	Average	Above average
Below average	1. Ust-Kubinsky 2. Vashkinsky 3. Tarnogsky 4. Belozersky 5. Babayevsky 6. Kichmengsko-Gorodetsky 7. Vytegorsky 8. Babushkinsky 9. Vozhegodsky 10. Syamzhensky 11. Nyuksensky	Nikolsky	
Average	1. Totemsky 2. Chagodoshchensky 3. Kirillovsky 4. Verkhovazhsky 5. Kharovsky	1. Sheksninsky 2. Mezhdurechensky 3. Velikoustyugsky 4. Sokolsky	
Above average	Kaduysky	Ustyuzhensky	1. Vologodsky 2. Cherepovetsky 3. Gryazovetsky

Figure 2. Representation of groups and types of municipal districts according to the level and degree of utilization of agricultural production potential

Level of resources	Level of results		
	Below average	Average	Above average
Below average	1	2	3
Average	4	5	6
Above average	7	8	9

– 1 type – 2 type – 3 type – 4 type – 5 type

Let us consider in more detail the above mentioned tools of state regulation.

Insurance. It is necessary to introduce a system of compulsory crop insurance at the federal level. Consequently, insurance tariffs will be lower and enterprises will be able to carry out wide-scale agricultural insurance. At the oblast level it is proposed to carry out livestock insurance with the use of the oblast budget funds. At present, the voluntary insurance of farm animals is not carried out due to the fact that agricultural enterprises lack financial resources for the implementation of production activity (crop insurance is effected to a very limited extent for the same reason).

There are exceptions in cases related to receiving loans when the insurance of animals, presented in the form of security, is carried out upon the request of the bank. We suggest that animals should be insured in OJSC Rosgosstrakh, as it has low insurance rates. In addition, the sum of unconditional franchise (the policyholder's losses that are not subject to compensation by the insurer under the insurance terms, [10]) is minimal (not more than 1%). Insurance terms and conditions are as follows. Insurance should cover the full package of risks. The tariff rate in this case is 0.97% of the sum insured. According to Rosgosstrakh, enterprises insure livestock animals mainly in the range of 40% up to 60% of the insurance value.

Table 4. Types of the Vologda Oblast's municipal districts according to the level and degree of utilization of production potential

Type of municipal district	Districts
1 type High level of resources – high performance results	1. Vologodsky 2. Cherepovetsky 3. Gryazovetsky
2 type Average level of resources – average performance results	1. Sheksninsky 2. Mezhdurechensky 3.Velikoustyugsky 4. Sokolsky
3 type Low level of resources – low performance results	1. Babushkinsky 2. Babayevsky 3. Belozersky 4. Vashkinsky 5. Vozhegodsky 6. Vytegorsky 7. Kichmengsko-Gorodetsky 8. Nyuksensky 9. Tarnogsky 10. Syamzhensky 11. Ust-Kubinsky
4 type Do not use the available resources to the fullest extent	1. Totemsky 2. Chagodoshchensky 3. Kirillovsky 4. Verkhovazhsky 5. Kharovsky 6. Kaduysky 7. Ustyuzhensky
5 type Good performance results at the low level of resources	Nikolsky

At that, we propose to carry out insurance in the amount of 40% only in regard to the enterprises of the first type (Vologodsky, Gryazovetsky and Cherepovetsky districts). In other districts of the oblast it is required to carry out insurance in the amount of 60% of the insurance value. It is suggested that only cattle should be insured, and not all the herd, but only the young and fattening stock. The second option of the rate, 7.09%, concerns livestock insurance for a policyholder – an individual person.

Lending. At present, only financially sustainable organizations, can afford to take loans; three-quarters of agricultural enterprises due to their unsatisfactory financial situation are not yet able to take long-term bank loans. It was long ago proposed to create the oblast collateral fund at the oblast level. Such funds are already functioning in a number of Russia's regions. However, economically weak enterprises do not receive the guarantees of this fund. In such case it is necessary to provide financial support to such enterprises at the oblast level e.g. through futures contracts for the delivery of production. It can be proposed as an alternative to develop the system of price regulation using the resources of the Fund for support to agricultural producers of the oblast. It is necessary to compensate for the costs of agricultural producers in these districts (minimal prices, guaranteed prices, etc.). Crediting secured on land is not considered as the way out, because today this system is not working, the land is not transferred to the ownership. Besides, the registration of land into property, which is an expensive procedure, is a problem for agricultural producers.

Leasing. According to estimations of Rosagroleasing, leasing for the utilization of agricultural machinery in recent years has become cheaper and more profitable than credits.

Table 5. Proposals for enhancing state regulation of the activities of agricultural enterprises according to the types of the Vologda Oblast municipalities

Type of municipal entity	Brief description of district types	Proposed activities
1 type	Agricultural enterprises in these districts are better adapted to market conditions and they use the available production potential rationally. But their performance can be higher, if they are provided with additional resources.	These enterprises are suitable for investments, as the funds that are already at their disposal, produce economically successful results. In addition to the existing system of state support, it is proposed to carry out livestock insurance in the amount of 40% of the insurance value at the expense of oblast budget funds, to promote innovations implementation and to carry out lending with the participation of the oblast government.
2 type	The enterprises of this group are characterized by the average level of provision with resources, which hinders the achievement of better results.	In order to get better performance results, the agricultural enterprises of this group should receive financial investments, which will contribute to the renewal of fixed assets. In addition to the already applied tools of state regulation, it is also proposed to insure livestock in the amount of 60% of the insured value at the expense of the oblast budget.
3 type	The enterprises of this group have a very low production potential. Agricultural production in such conditions is unprofitable. Additional funding of such enterprises can turn out useless.	These enterprises can be recommended to develop other directions of activities. It is necessary to take into account social importance of the enterprises included in this group. Gaining profit, as well as preserving agricultural production should become strategic goals. That is why it is only small enterprises that can be shut down or oriented toward other activities; and large enterprises require the development of specific action programmes. In addition to the already utilized tools of state support, it is proposed to insure livestock in the amount of 60% of the insured value at the expense of the oblast budget.
4 type	The two most likely reasons for the current situation in such enterprises include flaws in their industrial and organizational structures and poor performance of the department distributing the manufactured products.	The enterprises of this type should improve the structure of production and organization of management, and implement the achievements of advanced farms. Such enterprises should be given an opportunity to insure livestock at the expense of the oblast budget in the amount of 60% of the insured value.
5 type	Such enterprises should strengthen their production facilities. But in this case, not only material and financial support, but also active innovation activity is necessary.	In addition to strengthening their material base by the infusion of investments and innovations, this group of farms requires state support in the form of higher purchase prices for agricultural products or special compensations. Besides state support, it is proposed to carry out insurance of livestock in the amount of 60% of the insured value at the expense of the oblast budget.
For farms of all types we propose to implement, besides the existing system of subsidies, the compensation of losses at the expense of the Oblast Fund for support to agricultural producers. It is proposed to compensate the losses on the sales of milk and cattle meat through the establishment of guaranteed prices.		

However, only financially sustainable enterprises have an opportunity to conclude agreements on the delivery of machinery and equipment for lease. Banks do not cooperate with economically weak farms. It is suggested that the Oblast Fund for support to agricultural producers should allocate funds to the enterprises of the 3 and 5 types so that they could purchase the necessary equipment (to create machine and tractor fleets (MTF) in some districts) and use it. In the course of the study, conditional calculations were made concerning the volume of the expenses necessary for the formation of MTF. In particular, according to the all-Russian agricultural census data of 2006, the performance of agricultural activities in the Vologda Oblast required the employment of machinery and equipment of third-party organizations. The number of attracted equipment for one organization was 3 tractors and 2 combine harvesters (in the period from 1 July till 30 June of the following year) [11].

According to the information of the Vologda Oblast Department of Agriculture, 85 such organizations functioned in the 11 districts of the 3rd type in 2010. In addition, it is suggested that the MTF Fund should include the machinery and equipment for Nikolsky district, falling into the 5th type in 2010. This is explained by the fact that this district has a very low level of resources. The total number of enterprises including Nikolsky district was 93 units in 2010. Therefore, the total amount of equipment required for the establishment of MTF, is 279 tractors and 186 combine harvesters. The ratio of forage harvesters to grain harvesters (46% and 54%, respectively) was calculated on the basis of the 2010 data provided by the oblast Department of Agriculture; i.e. 87 forage harvesters and 99 grain harvesters will be required. According to Rosstat, the average cost of a tractor is 2 million rubles, a grain harvester costs 5 million rubles, a forage harvester – from 2 up to 4 million rubles. The maximum price of 4 million rubles was chosen for the calculations. Therefore, the total amount of funding required for the formation of MTF, according to our calculations, is 1401 million rubles. Tractors for MTF were chosen with the drawbar category 1.4, which corresponds to the capacity of 80 – 130 HP, since, according to the census, the share of such tractors in the oblast accounts for about 70% of the total tractor fleet.

The economic benefit from the implementation of the proposed activities will be expressed in the observance of scheduled timeframes of all agricultural works by the enterprises, in reducing downtime due to breakdown of the equipment, in the growth of total energy supply and energy potential by more than 9%.

Subsidies for livestock production. A system of guaranteed prices for the sold milk and meat of cattle in live weight was proposed and developed in view of the foreign experience of prices introduction [13, 14, 15]. These prices take into account the required minimum profitability level (in the amount of 15%) for the further development of agricultural production. The amount of additional payments (the amount of subsidies) was determined on the basis of conducted calculations. The calculations were made according to two options. The difference between them lies in the fact that in the second option no additional payments were effected when selling cattle meat to the enterprises of the 1st type. This is explained by their greater financial stability and a greater amount of subsidies in the total distributed volume. If the amount of financial resources is limited, the additional payments by this indicator are unnecessary.

The total economic impact from the activities on the insurance of farm animals and the establishment of guaranteed prices for the sold milk and meat of cattle will be as follows: in case of the first option, the total amount of additional payments will be 1 053 285.7 thousand rubles, in the second case – 527 373.8 thousand rubles. At that the profitability of primary activity of agricultural enterprises in the oblast in general will increase by 8.7 and 4.4 percentage points, respectively. If we determine the economic impact only from the introduction of guaranteed prices for milk and livestock insurance, then the profitability in the oblast in general will increase by 1.2 percentage points.

As the economic impact is not reduced to the indicators of profitability alone, we considered it possible to estimate changes according to other indicators. In particular, we calculated the increase in revenue per each ruble of additional investments. At that, we didn't take into account the amount of funding allocated for the creation of machine and tractor fleet, since it remains the property of the oblast, and considering livestock insurance, we took into account the amount of received insurance benefits.

Table 6. Calculation of economic benefit from the implementation of proposed activities for the oblast in general, in the prices of 2010

Indicators	Actual value, 2010	Project (1 option)
1. Amount of the state financial support (subsidies and compensations) without taking into account the creation of MTF, thousand rubles	1474222	2527507.7
2. Increase of the amount of state financial support, thousand rubles, including:	x	1053285.7
in the sector of milk production and distribution	x	88490
in the sector of production and distribution of cattle meat in live weight	x	905474.6
in the sector of livestock insurance (compensation)	x	59321.1
3. Increase of the amount of state financial support, including:		
absolute increase, thousand rubles	x	1053285.7
increase rate, %	x	71.45
4. Sales revenue, thousand rubles	12758247	13694928
5. Revenue increase, including:		
absolute increase, thousand rubles	x	936681
increase rate, %	x	7.34
6. Labour productivity as calculated per one employee engaged in agricultural production, rubles per person	641859.8	688983.6
7. Labour productivity increase:		
absolute increase, rubles/person	x	47123.8
increase rate, %	x	7.34
8. Profitability of the main activities, %	6.5	15.2

The pair correlation was worked out between state financial support (x) and sales revenue (y) based on the data of the oblast Department of Agriculture. The analyzed period was 12 years (from 1999 to 2010). Regression equation was as follows: $Y = 6.228x + 2502.2$. The coefficient of determination was $R^2 = 0.8407$, which indicates that the equation is statistically significant. Therefore, each ruble of the investments leads to an increase in revenues by 6.23 rubles. This indicator has been calculated for the oblast as a whole. Further, using the method of forecasting from the general to the particular, we estimated the growth in revenues for each municipality and the oblast as a whole, the growth of labour productivity, as well as the aggregated PSE.

The economic benefit from the implementation of the proposed activities for the oblast in general will be as follows *(tab. 6)*:

- increase in revenue growth rates and labour productivity up to 7.34 percentage points per year;
- improvement in the profitability of the main activities up to 8.7 p.p. per year.

The implementation of the above recommendations will facilitate the equalization of business environment, the elimination of disparities in socio-economic development of the districts by enhancing the performance of agricultural organizations.

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Industrial policy as a mechanism of regional development

The article reveals the essence of industrial policy and determines its role in ensuring the region's sustainable development. Furthermore, it substantiates the importance of industrial policy in the rationalization of the region's economy structure and enhancement of its performance. The article also proposes an algorithm for the development of active regional industrial policy.

Region, strategic planning, industrial policy.

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Industry is the most important part of national economy. Its share in the Vologda Oblast accounted for 44.2% of GRP in 2010 [10]. The industrial complex, among all the branches, is capable of creating the greatest volume of products with the highest value added.

Meanwhile, the industry has been experiencing the most acute consequences of market reforms of the domestic economy. Over the last eleven years the volume of industrial production in the Vologda Oblast increased by only 36%, while in Russia as a whole it grew 1.5-fold, and in the North-Western Federal District – almost twice *(fig. 1)*. The characteristic features of the region's industrial complex included the slowdown of positive changes in its structure, the stagnation in the level of economic efficiency and exposure to external and internal negative trends.

The industrial complex structure in 2000 – 2011 was still based on metallurgy *(tab. 1)*. The 2009 – 2011 period witnessed some reduction of its share caused by the decrease in production volumes, as well as in demand and prices for metal products in the world markets.

The share of industries and, first of all, mechanical engineering, producing high-tech products, accounts for only 3%. The share of such an important industrial branch, as woodworking industry decreased 2-fold in 2011 as compared to 2000, and as for light industry, its share accounted for less than 1% in 2011.

Unsustainable industrial development is confirmed by other indicators as well. Thus, the output profitability for the oblast in 2009 proved to be lower than the national average *(fig. 2)*. It remained low even in 2011, when the economy was recovering after the financial crisis.

The consumption of fixed capital is still extremely high. The volume of investments in the fixed capital of enterprises in 2005 – 2011 reduced almost twice. The share of those employed in the industry in the total number of economically active population is decreasing

Figure 1. Dynamics of industrial production in the Russian Federation, the North-Western Federal District and the Vologda Oblast in 2000 – 2011, % [10]

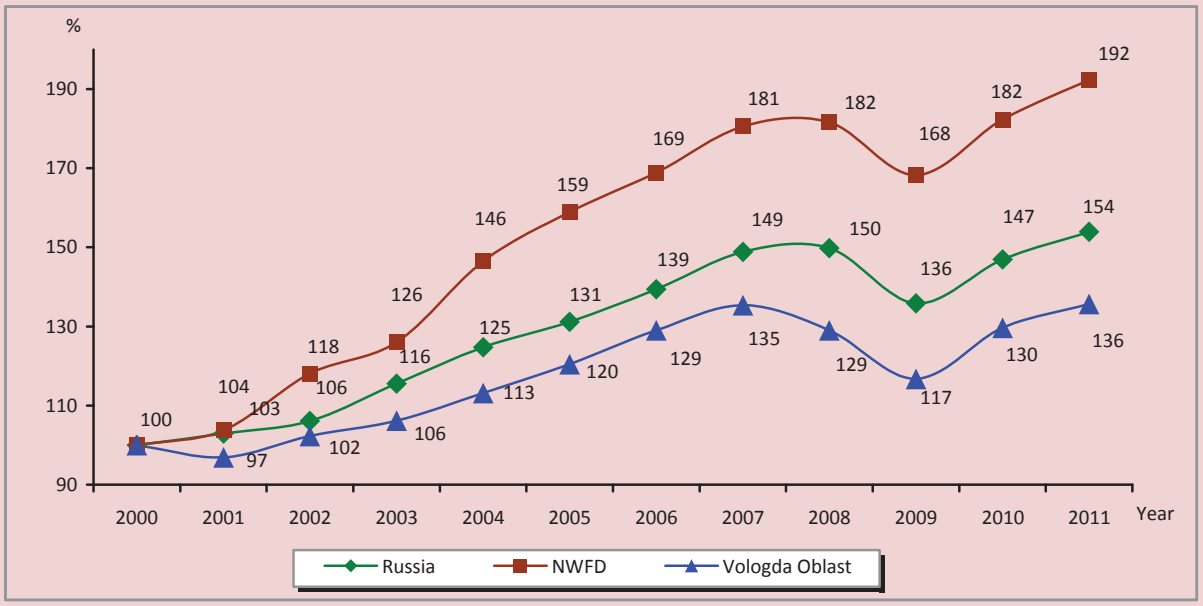


Table 1. Structure of industrial complex in the Vologda Oblast in 2000 – 2011, %

Branch of industry	2000	2005	2007	2009	2010	2011	Absolute deviation of 2011 from 2000
Metallurgical	68	72.0	69.8	59.9	63.2	62.5	-5.5
Chemical	9	9.3	10.0	15.5	19.3	19.7	10.7
Food processing	5	6.4	6.0	9.5	7.0	7.1	2.1
Mechanical engineering	3	4.3	5.7	5.5	2.9	3	0
Woodworking	6	4	4.2	4.6	2.9	3	-3
Light	1	0.3	0.2	0.3	0.2	0.2	-0.8
Other	8	1.6	3.7	4.5	4.5	4.6	-3.4

Source: Official website of the Federal State Statistics Service. Available at: http://www.gks.ru/wps/wcm/connect/rosstat/rosstatsite/main/enterprise

because of the labour outflow to the services sector *(tab. 2)*. The level of innovation activity of the oblast industrial enterprises is less than 10%. This figure contradicts the main international trends: for instance, in 2009 the share of organizations engaged in innovation activity in the total number of organizations reached 79.9% in Germany, 52.2% – in Finland, 50.2% – in France [11].

The situation in the region urges government authorities to take active measures concerning industry and its transition to innovation development.

The experience of economic reforms in developed and developing foreign countries highlights the importance of industrial policy development and implementation, as it is the main institutional and economic basis of successful comprehensive transformations.

Academic literature contains many interpretations of the concept "industrial policy". The analysis enables us to identify its main features, defined by the authors [1, 5, 6, 9, 13, 14, 15]. Firstly, industrial policy is implemented by state and local government authorities. Secondly, the creation of new hi-tech industries

Figure 2. Output profitability at industrial enterprises of the Russian Federation, the Vologda Oblast in 2000 – 2011, % [10, 17]

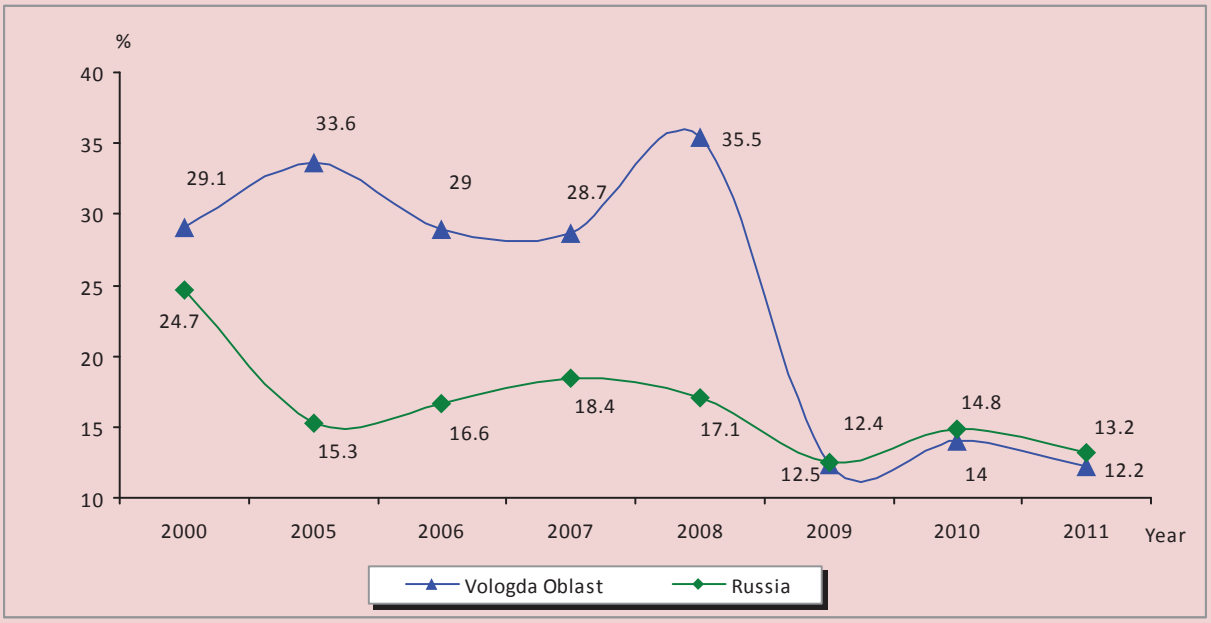


Table 2. Main performance indicators of industrial enterprises of the Russian Federation and the Vologda Oblast in 2000 – 2011, %

Indicator	2000	2005	2009	2010	2011	Absolute deviation of 2011 from	
						2000, p.p.	2005, p.p.
Russia							
Consumption of fixed capital	50.4	47.1	45.7	46.1	46.7	-3.7	-0.4
Share of persons employed in the industry in the total number of economically active population	22.6	21.7	19.9	19.7	19.7	-2.9	-2
Level of innovation activity	8.8	9.7	9.3	9.5	9.6	0.8	-0.1
Vologda Oblast							
Consumption of fixed capital	45.5	50.1	36.6	40.6	43.2	-2.3	-6.9
Share of persons employed in the industry in the total number of economically active population	26.7	21.7	19.7	19.4	18.1	-8.6	-3.6
Level of innovation activity	11.0	8.4	7.6	7.4	9.3	-1.7	0.9

Source: Official website of the Federal State Statistics Service. Available at: http://www.gks.ru/wps/wcm/connect/rosstat/rosstatsite/main/account/#

should become the main guideline in the development of a competent industrial policy in modern conditions. Thirdly, it should influence all the aspects of industrial complex, providing its harmonious and efficient development.

In this respect, we believe that the essence of industrial policy is described most comprehensively by Academician A.I. Tatarkin. He considers that industrial policy is a system of relations between state authorities and municipal authorities, economic entities, scientific and public organizations concerning the formation of a structurally balanced, competitive industry with its intellectual core represented by the latest technological mode [12].

This definition allows highlighting the major objective of industrial policy that consists in ensuring the country's sustainable economic development, enhancement of domestic producers' competitiveness and, as a consequence, citizens' welfare.

Enterprises, corporations and production complexes are the objects of industrial policy, and state authorities are its subjects.

Using the tool under consideration, regional authorities carry out the management of individual industries and enterprises for enhancing their commercial and budgetary efficiency and social responsibility.

Development and implementation of regional industrial policy includes a whole range of legal, economic and organizational measures promoting the formation of a competitive industrial complex, ensuring its efficient performance and dealing with the region's social problems [12].

The main mechanisms of realization of industrial policy are the restructuring of declining industries, development of knowledge-intensive industries and creation of compensation mechanisms, aimed at reducing the negative impact of proposed solutions. The constituent parts of regional industrial policy are as follows: the creation of conditions for improving investment climate; establishment of a favorable tax regime; provision of benefits on loan rates to enterprises, simplification of a crediting system as a whole; increase of investments in R&D; other measures aimed at introducing innovations and achieving scientific and technological progress [3].

The principles of industrial policy are usually contained in various official documents. The most important document is the concept of industrial policy, since it is an ideological and value landmark that forms the basis of strategic, tactical, and operational activities aimed at the development of the region's industry.

However, due to the absence of documents, regulating industrial policy at the federal level, the concepts of industrial policy, already adopted in 40 Russian regions, coordinate with each other rather poorly and they do not have common principles and a clear purpose. Besides, these documents do not contain the mechanisms of federal industrial policy implementation. Therefore, in our opinion, the time is right to work out a balanced federal industrial policy, which will form the basis for the concepts of industrial development of Russia's subjects.

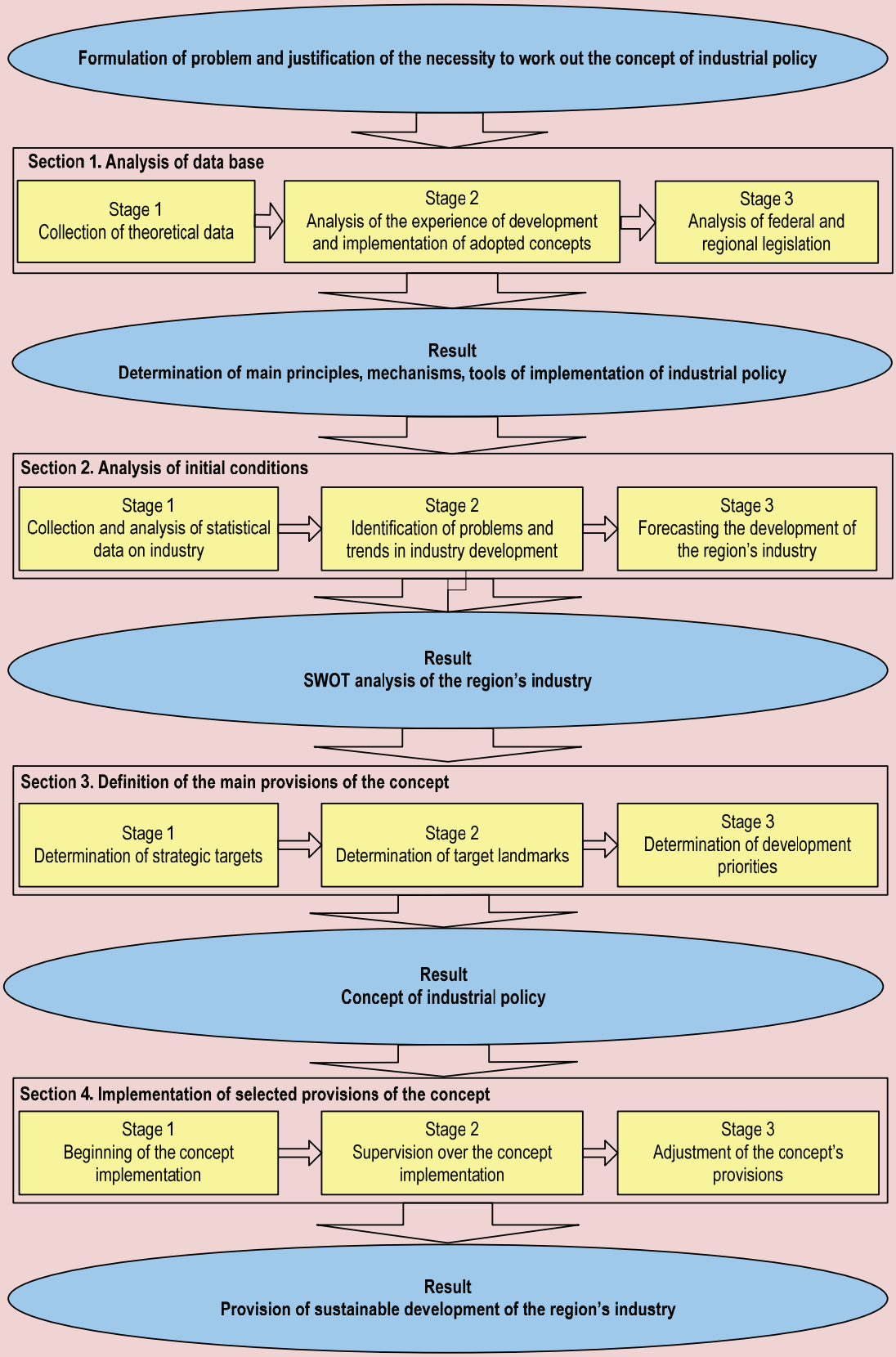
The so-called "strategic" approach is applied most frequently in the elaboration of regional industrial policy. It is based on a specific algorithm of creation and realization of the policy project. Here we consider it possible to use the following algorithm *(fig. 3)* with regard to the peculiarities of development and organization of the region's industrial complex.

The Vologda Oblast industrial policy concept for the period of 2003 – 2010, elaborated in the framework of this approach, turned out to be inefficient in the conditions of the financial and economic crisis of 2008. The new concept of industrial policy is still under development. In the meantime, a number of measures aimed at the development of industry are being implemented in the region.

The Directorate for Industry and Science under the Department of Economy of the Vologda Oblast Government carries out organizational and legislative support of industrial policy. This structural division is focused on the regulation of investment activity and provision of government support to innovation activities in the industry.

The Vologda Oblast has developed and is now implementing the programmes on providing support to individual industries in the short and medium term. In particular, a number of investment projects are being carried out in the primary sectors of industry, advanced

Figure 3. Development and implementation algorithm of the region's industrial policy concept



wood processing, house-building, production of transport and electronic equipment, food production. Industrial parks Sheksna and Sokol have been established and are now developing, the project of Industrial Park Vologda – East is currently under development.

Besides, a Guarantee Fund has been established with the main goal of providing securities for bank loans to small and medium-sized businesses. And although the amount of guarantees can't exceed 70% of the sum set in the credit agreement, establishment of such a structure allows organizations that lack resources to provide loan guarantees to receive funds necessary for their development. However, it can be noted that the provision of guarantees by the Fund is a very complicated and time-consuming process, which requires collecting a large set of documents. The fact, no doubt, reduces the attractiveness of this tool of state support.

Such organizations as the Union of Industrialists and Entrepreneurs of the Vologda Oblast(UIEVO) and the Vologda Chamber of Commerce and Industry (VCCI) have been already functioning for a long time.

UIEVO is mainly aimed at establishing efficient cooperation with power and administration bodies on the issues of the region's industrial development. At the same time, the Union should participate in the implementation of active regional policy by considering the oblast legislation and developing recommendations on its improvement. The Union should also promote the establishment of competitive environment in mechanical engineering and other industries. Today almost 100 enterprises are included in the registry of the regional employers' association.

In 2012, the Union of Constructors and Designers of the Vologda Oblast was established on the initiative and with the assistance of UIEVO. Organizational activities have been carried out for establishing the sectoral association of employers in the fuel and energy complex. Consultations are going on concerning the transformation of such organizations as the association "Machine-Building Enterprises of Vologda Oblast" and the non-commercial partnership "Housing and Communal Services of the Vologda Oblast" into sectoral associations of employers. The Agreement on the regulation of social and employment relations for 2013 was signed between the Vologda Oblast Federation of Trade Unions, UIEVO and the Vologda Oblast Government in the framework of the extended session of the oblast tripartite commission.

But in practice, the activities of UIEVO are only of a formal, consultative nature, the majority of the Union's decisions haven't been reflected in the oblast legislation.

The Vologda Chamber of Commerce and Industry provides on a commercial basis assistance in drawing up the documents for registration of trademarks and intellectual property, participates in the certification of goods, carries out training seminars on the issues of taxation and business, as well as marketing research. The chamber organizes the annual contest "Silver Mercury" with the nomination of titles "best enterprise in the sphere of industrial production», "best enterprise in the sphere of construction", "best enterprise in the sphere of consumer goods production".

However, it should be noted that the tools used by the authorities to support the industrial complex are not always interrelated and sufficient. It is consistency and comprehensiveness that are necessary to make industrial policy a more efficient mechanism of regional development.

In our viewpoint, the development and implementation of active regional industrial policy should become one of the priority directions ensuring the region's transition to innovation development.

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Influence of capital and costs on the evaluation of transfer prices

The present article deals with the methodology for defining the optimal transfer price in commercial structures. The paper contains the examples and analysis of assessing transfer prices taking into account the specifics and characteristics of organization's costs and capital. The novelty of the work consists in the fact that it analyzes approach methods based on a detailed classification of expenditures with a purpose of practical implementation of the transfer pricing system.

Banking, profitability, fixed and variable costs, opportunity costs, value of capital, transfer price.

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Introduction

The era of globalization is characterized by the formation of single information, economic, cultural, political and legal space. Globalization produces new opportunities, positive as well as negative, connected with the change of established systems and relations. The expansion of financial market, along with increasing number and volume of transactions, leads to the change of its conditions and manifold increase of financial risks.

Under these conditions, commercial multidivisional banking structures, having representative offices in local markets, are becoming more competitive. The stability of such large structures depends on their interdivisional commercial activities, transfers of banking products and services. The study of transfer pricing and the practical experience of its application proves that, at present, transfer pricing, which is, in fact, an outcome of globalization, is a necessary prerequisite for the successful development of large multidivisional commercial banks. Practical research also proves that the introduction of transfer pricing is relevant for any international commercial structures, in particular, in the sector of industry and services [1] .

Therefore, a fundamental goal, faced by top managers of modern commercial multidivisional banking structures, consists in practical definition of an optimal transfer price and introduction of a transfer pricing system among its divisions. This objective implies the solution of certain tasks.

These include, firstly, the allocation of structural units, generating profits of the whole structure, the so-called profit centres, which were first identified and subsequently studied by P. Drucker [2, 3]. It should be noted that a profit centre of the structure can be a specific division, as well as its products and services, or a structural unit specially created on the basis of available resources.

Secondly, the proper determination of an optimal transfer price, as a rule, requires the use of mathematical modeling.

In addition, the implementation of a transfer pricing system and establishment of an optimal transfer price requires a thorough analysis and consideration of actual market conditions, market prices and the multitude of factors and costs that affect the structure's income.

The present article considers the influence of costs on the determination of an optimal transfer price.

Assessment of a transfer price with regard to fixed and variable costs

Costs are cash expenditures emerging in the process of production and circulation of a product or service due to the consumption of various economic resources (raw materials, labour, fixed assets, services, financial resources). Costs are one of the most important economic factors of any commercial organization, since they have direct influence on profits maximization in creating and selling competitive products or services. At present, the growth of costs can be found in almost all types of business. The banking sector witnessed a significant increase of operational costs, including administrative and manpower costs. A considerable growth of expenses is conditioned by the necessity of introducing new technologies.

The information (official statements according to International Financial Reporting Standards – IFRS) on operating costs of Sberbank, which includes both variable costs and fixed (administrative and other operating profit), as well as net profit and pre-provision operating profit *(fig. 1)*.

The graph shows, that as the bank develops, its expenditures increase in general with the increase in its operating profit, therefore, it is most relevant to estimate the types of costs properly when determining the transfer price.

As for 2009, the fall of net profit was the result of increased allowances for loan loss provisions. This event does not contradict the correlation between the increase of the bank's expenditures and profit in the context of transfer pricing and cost optimization, and refers to the sphere of credit risk.

To illustrate the correlation mentioned above, let us consider a graph of balance sheets of two main products of a commercial bank on the example of Sberbank, on the basis of its official statements according to IFRS *(fig. 2)*.

The graph shows that the growth of expenses over time indicates their dependence on the increasing volume of rendered services.

Let us consider a model of a basic business structure, existing in various countries. As mentioned above, any such structure contains profit centres – structural divisions, which gain profit on their own, being an independent source of a specific part of the whole structure's total profit; and cost centres – structural divisions, which are a source of costs and which support other units of a company [4].

The whole company's activities are aimed at profit maximization, which can be expressed analytically as the solution of a standard linear problem of profit maximization and the creation of a system, in which the structures' owners will gain the greatest possible profit.

Solving the problem of profit maximization implies that an analyst, who faces the task of simulating a transfer pricing system and determining an optimal transfer price, can make up a mathematical representation of the function of profit and costs. But it is very difficult to implement in practice.

Essentially, the company's managers either focus on the state of variable and fixed costs for assessing transfer prices, or just use market prices without solving the problem of profit optimization.

When considering fixed and variable costs in practice, one mainly focuses on two areas:

1) comparison of specific costs with the particular type of goods;

Figure 1. Sberbank's financial performance indicators in 2005 – 2011

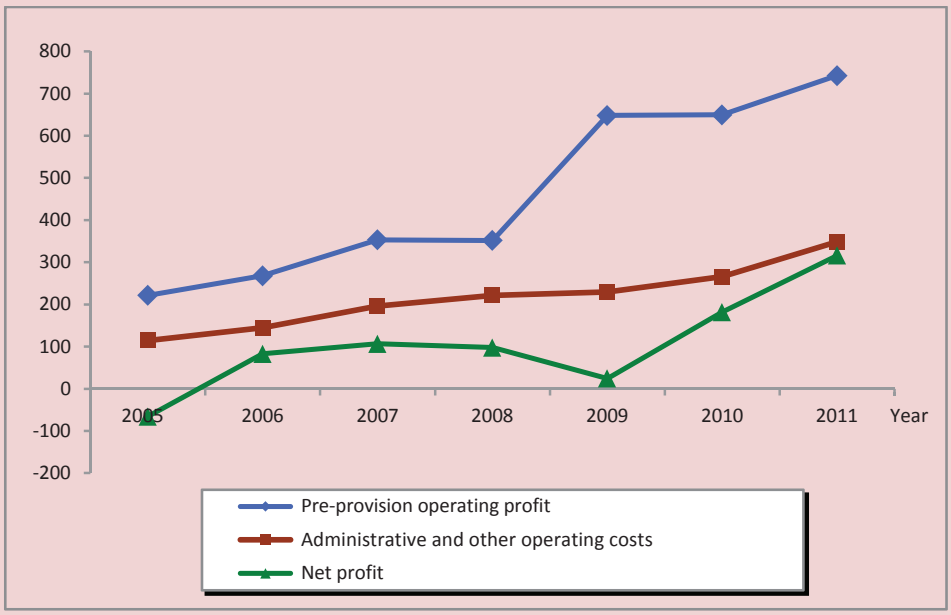
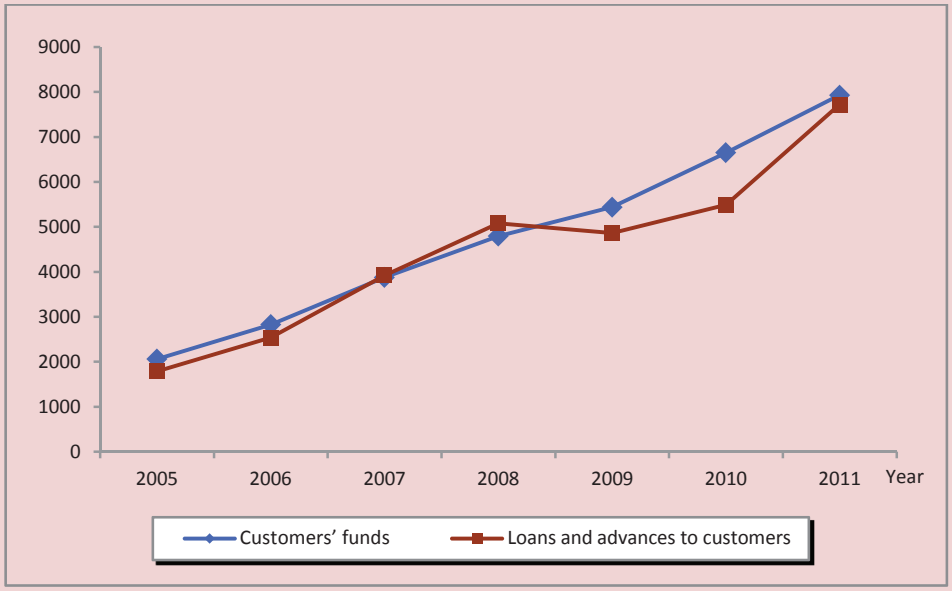


Figure 2. Dynamics of Sberbank customers' funds, loans and advances in 2005 – 2011



2) clear differentiation between fixed and variable costs, proceeding from the fact that fixed costs do not depend on changes in the volume of production, and variable costs change in proportion to this volume [4].

Some companies prefer to regard costs as the items attached to a certain type of activity (for example, an advertising campaign for the group of goods), rather than to a certain type of goods. The implementation of this approach results in certain difficulties when attempting to make a clear distinction between variable and fixed costs. In this case, costs can be viewed as the values of elements in a set, which cannot be divided on a temporal basis (variable or fixed).

It should be noted that under this approach the variance of costs (as a statistical measure of dispersion of their values) from the viewpoint of their division by the type of goods increases, since the elements of the set vary depending on the type of activity, rather than the type of goods. Furthermore, there are other problems in costs accounting with regard to the determination of transfer prices. They are caused by the differences in understanding of the costs contained in transfer pricing models, as well as the costs described in accountancy.

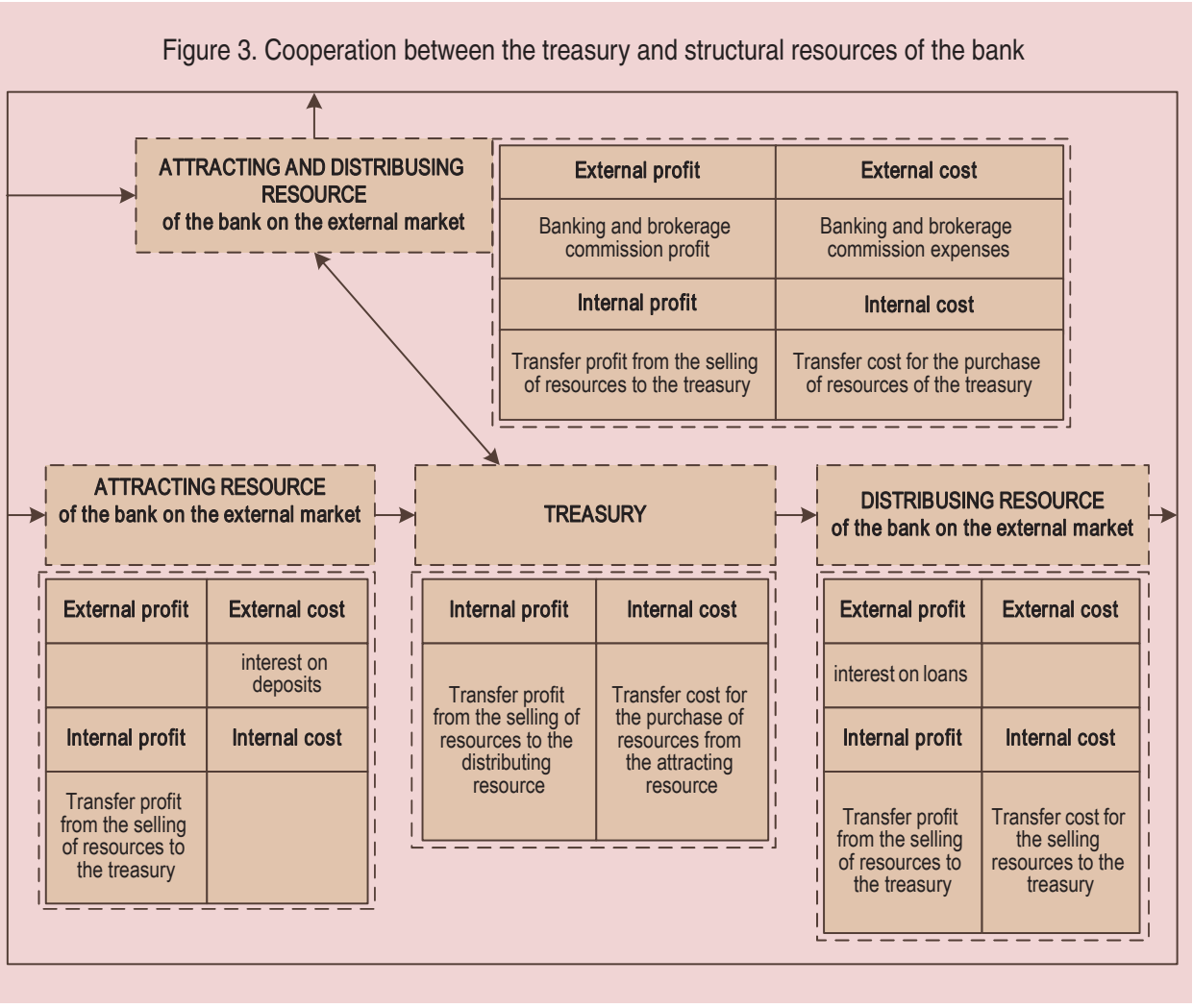
In the banking sphere, the treasury is most frequently the centre of inner market among the divisions of a structure *(fig. 3)* [5].

The treasury not only manages the bank's liquidity, providing an optimal assets/liabilities ratio, but also purchases the resources from attracting structural divisions and sells them to distributing divisions.

In large banks, working with a wide range of financial products and tools, carrying out internal control and accounting, the treasury is the profit centre of the entire organization, it defines buying and selling transfer prices for its structural divisions, taking into account market prices and costs.

In the absence of an internal accounting system in small banks, where the asset and liability management is carried out on the basis of their portfolio grouping, the treasury

Figure 3. Cooperation between the treasury and structural resources of the bank



sets transfer rates for each type of assets or liabilities with regard to urgency and currency denomination, but it does not have its own profit and it is the centre of costs. Its profits-expenditures item on the redistribution of bank resources is determined by the difference between the revenues from sales and expenditures on purchasing the bank's resources, without redistribution for the centre of the bank's profits and without affecting the total financial performance of the bank as a whole.

Evaluation of a transfer price with regard to opportunity costs and the cost of capital

In this context, one should consider opportunity costs and the cost of capital separately. Alternative costs in a broad economic sense (and with respect to the simulation of transfer pricing systems in particular) can be represented as a profit that was lost due to the disuse of economic resources in the most profitable of all possible types of activity. For example, for the owners of the company described above, opportunity costs are the maximum salaries, which they could get, working for hire.

In economics, the concept "opportunity costs" is used in the analysis of resource allocation efficiency. So, in the example above, when evaluating the efficiency only on the basis of business profits, a company can be considered efficient only if its income exceeds the highest alternative earnings of its owners. Business accounting regards costs as actual and clearly identifiable expenses and in its essence it cannot deal with opportunity costs.

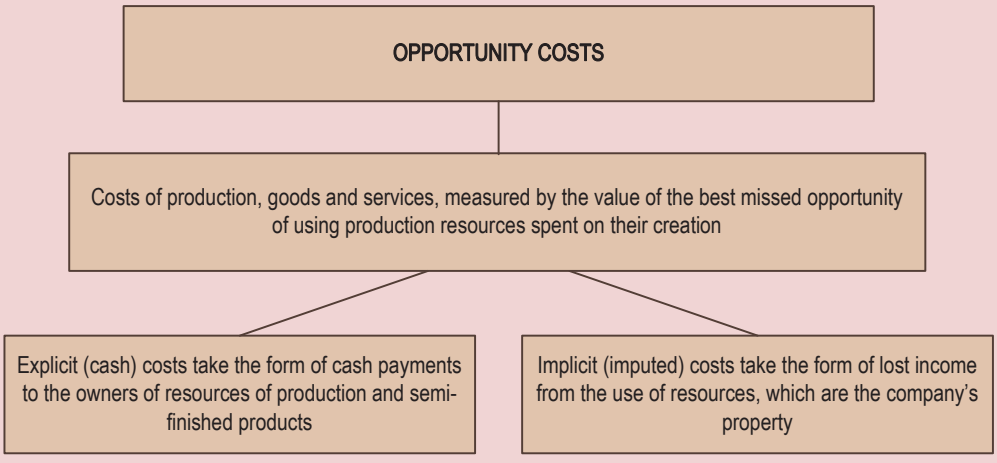
The following diagram *(fig. 4)* provides an overview of the types and characteristics of opportunity costs.

Let us consider the second example, in which we will examine the cost of capital. In itself, the term "capital" has many definitions. In order to define the capital accounting methodology, it is necessary to understand and define the main concepts and terms, which characterize capital and its components [6].

Capital, as the aggregate sources of property forming organization's assets, can be determined by the fundamental equation of accounting: *Assets* is *Aggregate capital*. Sources of the organization's property, which should be presented in the assets of accounting, may include both its own sources, and the sources equivalent to them, as well as borrowed funds.

At the same time, the notion "capital" has a different meaning in market economy, since any borrowed capital in the market conditions is considered as a liability. In this case, the notion of capital may include only equity capital

Figure 4. Opportunity costs



– the owner's capital. International financial reporting standards adhere to market-based understanding of capital, which is reflected in the Russian edition of IFRS in the section *Principles of compiling financial statement*s. Here capital is defined as part of a company's assets remaining after deducting all of its liabilities. Then the fundamental accounting equation takes the following form: *Assets* is *Obligations* plus *Equity capital*.

The normative system regulating accountancy in the Russian Federation does not provide a clear definition of the term under consideration. The concept of accounting in Russia's market economy defines "capital" as "investments of owners and profit, accumulated for all the period of organization's activities" [7].

Therefore, given the fact that the term "capital" has many meanings, one can observe that at present there are certain differences between accounting and models used in economics to estimate transfer prices. In order to measure the expected cost of new (or borrowed) capital, it is necessary to use market-based valuation of each of the components, rather than the data of accounting statements, which can significantly differ from the market ones.

In addition, accounting lacks a formal permanent rate of payments on shares, and the assessment of transfer prices requires the calculation of the weighted average cost of capital, which is represented by the weighted average cost of debt obligations and shares of a company's owners. In short, the calculation of transfer prices requires permanent accounting of the clearly specified percentage indicative of dividend payments on equity shares.

Weighted average cost of capital allows companies' owners to evaluate the attractiveness of certain investments, comparing the yield rate of investments to the weighted average cost of capital. An investment can be considered profitable, if the rate of its return exceeds the weighted average cost of capital.

Weighted average cost of capital (WACC) takes into account the cost of equity and borrowed funds, and can be calculated as follows:

$$WACC = R_e(E/V) + R_d(D/V)(1 - t_c),$$

where:

R_e – rate of profitability of equity (joint stock) capital, calculated, as a rule, with the use of Capital Asset Pricing Model;

E – market value of equity (joint stock) capital; it is calculated as the product of the number of equity shares of a company and the price per share;

D – market value of borrowed capital, which in practice is often determined according to the financial statements as the amount of the company's loans (if these data are not available, one can use the available information on the ratio of equity capital to borrowed capital of similar companies);

$V = E + D$ – aggregated market value of company's loans and its equity capital;

R_d - rate of return of the company's borrowed capital (the costs for raising debt funds), such costs are interests on bank loans and corporate bonds of a company; in this case the value of borrowed capital is adjusted with regard to profit tax rate (the adjustment lies in the fact that the interest on credits and loans servicing is referred to the cost of products, thereby the tax base for profit tax is reduced);

t_c – profit tax rate [8].

If the capital includes preferred shares with their own value, then the formula should include additional components for each source of capital. Other, more rare sources of funding, such as convertible bonds, convertible preferred shares, etc. will be additionally included in the formula only in case, if they are present in significant volumes, since the cost of such financing is usually different from the value of standard bonds and shares [9].

Considering the practical application of WACC rate in the formation of a transfer price

of capital, one should bear in mind that there is no standardized model of their relationship. Essentially, the company's top managers decide upon the use of WACC as a transfer price of capital if the borrowed capital can't be definitely associated with a specific set of financial products on the side of assets. In practice, this means that borrowed capital has been used, for instance, for investing in the bank's infrastructure rather than for granting loans. Thus, the issue of "who will pay" for capital, is settled by dividing the balance of capital (debt and joint-stock) at the WACC interest rate between the bank's profit-centres.

The highest share will be allocated to the profit-centre that has the most urgent demands for the infrastructure, mentioned above. In the second place, attention will be paid to the motivation issues of employees, whose incomes on management accounting are small because, when allocating the capital to the profit-centre, the management deliberately underestimates EBIT of this profit-centre, which is not always in the interests of management, as the staff will start losing motivation because of a formally poor performance of their department. The question arose: why the joint-stock capital rather than debt capital was considered when using WACC as a transfer price of capital. The answer lies in the fact that, in practice, joint-stock capital can't be definitely bound to specific assets – in the notion of the bank's management it is a basic buffer, which performs, among other things, mandatory regulatory requirements and for which, as a consequence, all the profit centres of the bank "pay" in the proportions established by the management. Thus, if the debt capital is nonetheless allocated to specific assets, then the separate transfer rate of debt capital (not WACC) will be paid for it by the profit-centres that own these assets, and the profit-centres of the bank in general will receive only the distributed joint-stock capital at the rate of joint-stock capital (not WACC) in the proportion specified by the bank's management.

Accounting methods of determining transfer prices

Let us consider the various methods developed from the viewpoint of accounting in order to estimate the optimal transfer price in a commercial structure. Their classification is given by Kaplan and Atkinson [10]. We shall study in greater detail some types of costs and their impact on the transfer pricing system.

Marginal costs in the transfer price evaluation. Marginal costs include the expenditures for producing one additional unit of production.

If the transfer price is chosen so that it corresponds to the marginal costs (optimal transfer price. – *L.G.*), this helps the company reach economic self-sufficiency and allows all the departments to participate in the production and sale of goods to the necessary extent. If the transfer price is set above the value of marginal costs, then it increases the motivation of the producing department to produce as many goods as possible and sell them to the selling department, because the marginal profit of the producing department will exceed the marginal costs of the goods production.

If the transfer price is set below the value of marginal costs, it reduces the motivation of the producing department to sell goods to the selling department, but it can increase the motivation to sell the same goods in the foreign market, if the external price exceeds the transfer price.

One should also take into account the fact that purchasing and selling departments can turn their attention to the external market. If the transfer price exceeds the average market price, then the heads of the selling department will be more eager to bring the transfer price closer to the market one, and the producing department will strive to optimize marginal costs with a purpose of their reduction.

Marginal costs exist mainly in financial institutions along with fixed expenses, which are allocated to departments according to reporting periods. This allows accountants

to assess the distribution of profit by the departments and justify the decrease in profit of one department in favor of another.

Variable costs in the transfer price evaluation. Variable costs are operational expenses, which change in direct proportion to the change of production or sales volume, capacity utilization or other kinds of activity, e.g. consumed materials, direct labor expenditures, production electricity, as well as sales commissions.

Accounting, according to Kaplan and Atkinson, makes a clear distinction between transfer pricing systems, based on marginal and variable costs. In fact, the difference between the two approaches consists in the practical complexity of distinguishing between fixed and variable costs.

For example, some types of expenditures may be fixed in the short term, but variable in the long term. Some of the costs, e.g. manpower costs, can be hanged depending on the volume of production only with the consent of the company management. In general, the number of types of variable costs exceeds the number of marginal costs and includes the types of costs, which are considered fixed from the viewpoint of marginal costs. The advantages of transfer pricing systems, based on marginal costs, can be described in the framework of a simple mathematical model. The transfer pricing system, based on variable costs, will lead to optimal transfer prices only if marginal costs are equivalent to variable costs.

Total costs in the transfer price evaluation. Transfer pricing systems based on total costs imply the accounting of all the expenses of a company for determining the transfer price. The transfer price is defined as the aggregate total costs of a company, divided by the quantity of goods produced. This approach is characterized by a greater degree of randomness in the distribution of costs according to the types of goods, if there are goods of more than one type.

The difference between this approach and the approach, which takes into account variable prices, lies in the fact that in case when full costs are considered, fixed costs will be definitely taken into account. Marketing activity of a sales department can be an example of fixed costs that are connected with production. The study of external market is a company's function, which is not related to the number and, sometimes, the type of goods and, consequently, it is an independent item of fixed costs.

Transfer pricing systems, based on full costs, are, in fact, a borderline case of transfer pricing systems, and the more complex the business, the worse the performance of one of the main functions of such systems, which is the reflection of objective analytical data on centres of profit and costs.

In case of choosing such an approach, top management will not be able to assess objectively the efficiency of individual departments. Despite the lack of support on the part of scientific community for this type of transfer pricing systems, many companies choose it, since it is easy to implement and is designed for simple structures. It is obvious that the simpler the company's structure, the more objective this approach. Some scientists consider it the best [11].

Variable costs in view of markups in the assessment of transfer prices. This type of transfer pricing is a special case of transfer pricing systems that are based on variable costs. The difference from the standard approach in this case consists in the addition of a fixed markup to transfer prices. This increases the profit of a producing department, but reduces the profit of a selling department. This method is suitable for the company, in which its producing department produces goods with a low level of variable costs (in comparison with the average market price. – *L.G.*). In order to show the margin that the company saves due to the activities of this department, one can put together the transfer price and the value that doesn't exceed the difference between the market transfer price and the level of variable costs of the producing department. The situation being directly

opposite, namely, in case when variable costs exceed average market prices, a markup can be set as a negative value in order to reflect the efficiency of the selling department correctly. In this case, its efficiency is considered to be the profit, which the selling department will be able to make with regard to the average market price. Obviously, in this case the producing department will suffer constant losses from the viewpoint of transfer pricing. But it is justified, because, in fact, the producing department is non-competitive in the market.

Agreed transfer prices. Transfer prices can be set by the company's management with or without regard to the approaches described above. This forced decision may be conditioned by special market conditions and the management's desire to shift motivation from one department to another.

Conclusions concerning banking structures

The present article studies the influence of various costs and capital on the determination of an optimal transfer price for a structure, consisting of producing and selling departments. Such structure can comply with the banking structure if we draw the analogies:

1) between the producing department and profit centre for the attraction of monetary funds;

2) between the selling department and profit centre for the allocation of monetary funds.

The task of profit optimization can be solved mathematically by establishing transfer prices equal to marginal costs. This decision is applicable to any business structure, as it leads to its self-repayment.

But in practice, the accounting system in banks is the most detailed and developed in comparison with other business systems.

The accountants working in banking structures are much more pragmatic and closer to reality in their assessments than economists. In the vast majority of cases, the former rely on approved and acknowledged practical methodologies in contrast to the latter who rely mainly on a variety of abstract approaches.

Therefore, banking structures should take into consideration, first of all, an accounting point of view on the bank's costs. This will promote the introduction of the most efficient models of transfer pricing.

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Foreign experience of technology transfer and its application in Russia

The article provides an overview of foreign experience in technology transfer and commercialization. It describes the peculiarities and drawbacks of organizing technology transfer in Russia. In addition, the article proposes the directions for applying foreign experience in the country's innovation system.

Technology transfer, foreign experience, Russian practice, innovation infrastructure.

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During the current period of economic globalization the role of scientific research, formation and implementation of new mechanism technologies, and methods of stable economic development is increasing. Technology transfer is one of the main components of economic development. The extent of countries' involvement in the process mostly defines the possibilities of their technological progress and competitiveness. At present, great interest in technology transfer in Russia is linked not only with the improvement of market relations in the economy, but also the country's accession to the World Trade Organization. In order to characterize the development of science and innovation, the term of scientific and innovation potential is widely used in national and foreign practice.

For evaluating innovation development, domestic and foreign practice uses the notion of scientific and innovation potential. The analytic subdivision of the journal "Economist Intelligence Unit" worked out the system of indicators of innovation activity and integral index of innovation development that comprises many factors. [1]. The survey has been held since 2007, and at the moment it provides the most complete set of indicators of innovative development in different countries of the world.

In 2012, the international business school INSEAD and the World Intellectual Property Organization submitted analytical report "Global innovation index of 2012". The survey covered 141 countries, which produce 99.4% of the global GDP [2].

In 2012 Russia ranked 51st in the list *(tab. 1)*, moving 6 points up as compared to 2011. However this position is far from desirable.

According to 2012 results, the rating of the countries by the level of innovation capabilities is headed by Switzerland; Sweden and Singapore are still among the top three countries.

The report notes [2] that BRIC countries should continue to invest in the development of innovations, to bring out their potential to the fullest extent.

Table 1. Global innovation index of some countries in 2012

Rating	Country	Index	Rating	Country	Index	Rating	Country	Index
1	Switzerland	68.2	**10**	USA	57.7	**54**	South Africa	37.4
2	Sweden	64.8	**15**	Germany	56.2	**58**	Brazil	36.6
3	Singapore	63.5	**25**	Japan	51.7	**63**	Ukraine	36.1
4	Finland	61.8	**34**	China	45.4	**64**	India	35.7
5	Great Britain	61.2	***51***	*Russia*	*37.9*	**78**	Belarus	32.9

China is second only to Switzerland, Sweden, Singapore and Finland according to the indicators of knowledge and technology development, however, like India, it has its weak points in innovation infrastructure.

In this respect, it is expedient to consider the experience of Sweden and Switzerland, the leading countries in technology transfer according to the level of innovation capacity and performance.

Switzerland is making great efforts to commercialize its scientific and technological potential. The Swiss government annually increased its expenditures on education, scientific research and technologies on an average by 6% in 2004 – 2007 [3]. The State Commission for technology and innovation (KTI) is implementing a motto 'Science to market' [4]. Serving as an agency for innovations and development at the state level, KTI supports applied research and development (R&D), contributes to the promotion of newly established companies and the development of entrepreneurship in general.

The innovation R&D commercialization in Switzerland is not backed by direct state investments. Private sector plays an important part in R&D funding. Innovation technology transfer into industry takes place along with the provision of support to firms, mainly in the conditions of technology parks. Due to the lack of direct state support to innovations in the business sector, innovation policy tools are focused primarily on applied scientific research. The Swiss association of technology transfer "swiTT", founded in 2003, carries out the exchange of scientific and technological information between national research institutions and private sector [4]. Special centres for the commercialization of R&D results function under Swiss universities.

Sweden is distinguished by the high level of education and qualification of public sector employees, the efficient performance of state institutions and a sustainable political system. The country has a well-developed venture capital market. However, the system of support and incentives to R&D results commercialization through the creation and development of new enterprises is still developed insufficiently.

This resulted in the creation of a whole chain of organizations responsible for the implementation of the policy related to the development of business. Innovation Bridge supports the commercialization of R&D results and provides (limited) funding. ALMI Business Partner provides support to business (not conducting R&D). Industrial Fund is a state venture capital investor. Invest Sweden contributes to the inflow of investments [3].

The main feature of a typical Western technology transfer centre (TTC) consists in the creation of a complete innovation chain, allowing a project to be developed from an idea to a small enterprise with growth prospects. TTC work according to a standard scheme. At the initial stage, the demand for this technology on the market is evaluated, the options for protection are checked. After the research is finished, a detailed marketing analysis is carried out, including the search for potential customers. If the development is considered to be promising, then the key point is to make up a patent application and receive a patent. The next stage

is the decision on the transfer option: the issuance of a license, the creation of a subsidiary or joint venture, the sale of the patent. If a scientist decides to develop an enterprise on his/her own, TCC will help him/her to work out a business plan, register the company, calculate the cost, find suppliers and customers, etc.

In some countries (USA, Finland) technology transfer is legally established as the "third mission of universities" along with education and R&D [7]. If a university does not fulfill this obligation, it is deprived of the rights to its own intellectual property.

In the world practice most universities determine potential intellectual property rights and the distribution of license income between the university, department, inventor and centres. TTC receives 30% of the net license income, which is directed to cover patent costs and other legal costs for property management. At the same time, the economic benefit from TTC activities consists not so much in making profit, as in creating new small and medium-sized enterprises, well-paid jobs for highly qualified personnel, and also in increasing tax revenues of the budget in the course of commercialization.

Independent technology transfer centres, as well as those created on the basis of universities, are united in the networks of technology transfer and support to innovation business. For example, at present, the European network for business support (Enterprise Europe Network – EEN) unites about 250 syndicates, 600 organizations from 50 countries [8]. They provide enterprises with integrated support to business and innovations development, including information services, support to business cooperatives, internationalization of enterprises, knowledge and technologies transfer, participation of small and medium businesses in the European Union framework programmes.

The U.S. has been interested in the issues of technology transfer and commercialization for several decades already, which, according to American experts, was caused by two main factors: firstly, by escalating competition in high-tech sphere on the part of foreign companies; secondly, by the desire to enhance the efficiency of commercial use of research results, obtained in the course of development of federal budget allocations to R&D. The U.S. accounts for 35% of the global R&D expenditures according to purchasing power parity [9].

In the early 1990s the U.S. established the National Technology Transfer Network consisting of the principle national technology transfer centre and six regional centres located in the different parts of the country. The general supervision over their activities is entrusted to the National Aeronautics and Space Administration (NASA) that is aimed to enhance economic performance of the implemented large-scale space projects. The network is of national importance and it provides the necessary support in technology transfer to other interested departments.

All this boosted technology transfer activities at all levels. Positive effects include the increase in the number of applications for inventions involving federal laboratories, the increase in the number of granted patents and the increase of private sector expenditures on scientific research in universities.

The government does not provide direct financial support to technology transfer centres. However, at the initial stage of TTC formation (usually 5 – 10 years), national laboratories and universities provide them with significant financial support, from their own resources directly. Subsequently, as soon as TTC start gaining profit from the R&D results commercialization, the volume of subsidies on their activities is gradually reduced and, ultimately, universities are relieved from the necessity of providing direct subsidies to these centres. In some cases TTC may receive direct or indirect (through a university or national laboratory) financial support from industrial organizations as well.

In Germany the functions of technology intermediaries between laboratories and companies are carried out by various scientific societies and joint research associations in industry [10]. A leading organizational role belongs to the Fraunhofer Society, which includes 58 research institutions [11]. Their activity is funded by the federal government subsidies and revenues from the contract R&D.

The main goal of the society is to promote the introduction of new technologies in industry and carry out nationwide research (for instance, in the sphere of environmental protection and energy conservation). For promoting the access of small enterprises to its services, the government provides them with subsidies in the amount of up to 40% of the full value of the ordered R&D [11].

Local authorities, first of all, the governments of the Länder take active part in technology transfer. In particular, they contribute a lot to the establishment of science parks and innovation centres, considering this activity a most important direction in solving regional development problems.

Many of the state-subsidized intermediaries depend on the financial assistance of third parties as well, and, in order to stay afloat, they explore a broader segment of the market besides the market of technology transfer services. A great number of such agencies, for example, provide the services on organizing training seminars, trade exhibitions and financial consultations, using public promotional programmes. This is why, transfer agencies differ in their structure. In Germany there are over 190 transfer agencies and several hundred other sources of technological information [10] (business-incubators, demonstration and application centres, technology transfer departments under universities, the National Research Centre, the Fraunhofer Society, the Max Planck society, etc.).

The Japanese experience in establishing TTC is also noteworthy, since the country has achieved significant progress in the field of science and industry integration and reflected its cultural traditions in the choice of technology transfer type. The Japanese system of supporting the appropriate level of technology transfer is quite efficient.

The Japanese innovation model has the following structural elements:

a) a clear planning system has been formed (since 1996 the five-year plans for science and technology have been implemented, the so-called Science and Technology Basic Plan, in the framework of which there is a separate strategic programme "Intellectual property", as well as a comprehensive strategy for the promotion of science);

b) venture business laboratories in 45 universities have been established;

c) the agency for science and technologies, the society for the promotion of science have been formed;

d) a comprehensive interaction mechanism "industry – academic science – government" is being implemented [12].

It is considered important to promote the commercialization of R&D results for their practical application by scientific-research institutes: for the last five years the number of joint R&D projects of universities and industry has doubled. Over the last three years almost 450 venture companies have been established [12] that use the results of university R&D. considerable importance is attached to the organization of technologies licensing, creation of special organizations, which transfer the university R&D results into industry.

The experience of the countries, which have achieved considerable progress in technology development and R&D results commercialization, may also be of particular interest.

In China in 1998, technology transfer centres existed only in Tsinghua University and Peking University. At present, every major research university has a technology transfer department, initially financed by the Chinese

Government from the total funds allocated to the university by the Government. This model of TTC funding has been changing in recent years. Today, the majority of TTC function as associated private companies, owned exclusively by universities [3].

The current Russian innovation system follows the Soviet approach to innovation, which can be described as "building on technology" [5]. It envisages such phases as: research and development, pilot production, industrial production, marketing.

However, such an organization does not reach the marketing stage in most cases. This model works only in the conditions of guaranteed demand for the product, existing on a highly regulated market. The innovation process is more complicated in an open market economy. As a rule, it begins with the assessment of business opportunities rather than with R&D activities. This is the model of "attracting demand", that includes a number of stages from a concept to a product with a high demand on the market: a study of opportunities for business, preliminary assessment of the market, preliminary technical assessment, market research, business / financial analysis, product development, design and technological documentation (this is the stage when R&D activities begin), internal testing of a product, market testing, pilot production, pre-production business analysis, launching of a product and its entrance to the market.

The "building on technology" model has several weaknesses. Firstly, it requires significant volumes of investments in a large number of potential innovation processes, only few of which will reach the market stage. Secondly, the "building on technology" focuses on the initial research stage of innovation activities when there is a high risk of scientific work becoming an end in itself. Thirdly, technological process, essentially, starts from scratch and ignores the lessons learned in other areas of activity.

In Russia, the model of "building on technology" in R&D commercialization is used in the activities of TTC operating under institutes and universities. One of the main tasks of TTC consists in "project packaging", i.e. in the transformation of scientific research into a business-project using international standards. Technology transfer centres introduced rare and well-represented technologies to the market. And all of them found a potential buyer only by accident. For the successful commercialization, the process of technology transfer should be based on market demand.

There are two main complementary ways of improving technology transfer and accelerating the innovation process in Russia. The first one envisages the creation of new organizations (or "organizational structures" such as networks and partnerships) for the association and cooperation of existing organizations in order to implement technology transfer.

The second one consists in the creation of efficient tools and mechanisms managing and supporting the interaction between innovation organizations. This includes, for example, a contractual base of intellectual property licensing, the use of contracts, etc. In practice, both approaches are often used simultaneously: in order to license technologies efficiently, many universities and research institutions create technology licensing offices or technology transfer offices.

In recent years the development of the market of technology transfer and commercialization in Russia has received significant information, material and resource support. The main initiatives in the science and technology development have been recognized by the wide scientific community. To illustrate the development of a new market in the country, we can mention the following:

– creation of the databases of scientific and scientific-technological projects, which are based on innovations;

– carrying out the state-subsidized annual selection of promising innovation projects having patent clearance and industrial applicability;

– implementation of activities aimed at explaining the importance of intellectual property rights to the objects created as a result of such projects implementation;

– adoption of the laws on special economic zones, focus on the organization of technology parks in these particular regions [6].

However, the development of innovation economy requires not only an innovation component, but also financial, administrative and marketing infrastructure. Now the RF Government proposes the establishment of several state venture funds that will invest in high-tech enterprises. Such a decision can be relatively efficient. But in order to get high performance, private financial institutions should be also involved, as they can work more efficiently than government venture capital funds.

A complex investment, marketing and management support to the projects of commercialization and technology transfer is a promising direction of the activities for private financial organizations. In this case, the process of technology transfer is considered as part of commercialization process, one of its components, necessary for the promotion of science-intensive, innovation products both on the domestic and international markets. At that, export is particularly important: the expansion of export structure due to the transfer of domestic high technologies creates the conditions for long-term international cooperation. Establishment of the balanced system of technology transfer in Russia will provide a reliable barrier for selling abroad our latest technologies for a song. A Russian developer gets access to foreign investment and acquires the experience of international cooperation necessary for the development of domestic production.

Thus, the development of the country's economy requires the increase of the pace of unique and progressive technologies transfer, the attraction of financial resources for boosting innovation activity. At that, the introduction of innovations at enterprises should be arranged on a systemic basis.

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