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FROM THE CHIEF EDITOR

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Dear readers,

Less than six months remain prior to the beginning of the first stage of a new political cycle, the elections of the State Duma deputies of the Federal Assembly of the Russian Federation. The processes occurring in the country's political life during the pre-election period, show, that the closer day of the elections is, the more vigorously the authorities (to be exact imperious business-elites) work, and intend to provide at the elections in December, 4th, 2011 the result which would allow in the following five years' cycle to carry out the extremely liberal financial and economic policy in the interests of the narrow layer of the ruling business-elite and the structures serving it. President D. A. Medvedev's speech at St.-Petersburg International Forum in June, 17th, 2011 brightly enough confirms this idea[1].

The growing anxiety is caused with the numerous facts of the scornful attitude towards the public opinion from the part of the power structures. The imperious business-elites practically do not react to the discontent of professional communities, mass social groups' by the forms and the methods of the carried out reorganization and "optimization" of economic and social conditions of the citizens' lives.

The particular dissatisfaction in the society is caused by the style and the quality of the federal ministries' and departments' work, especially by the work of the heads of Ministries of Health and Social Development, Education and Science, Finance, Defense. In this line there is also the fact that after all the discovered facts of corruption in the management of the Moscow Regional Office of Public Prosecutor the President again appoints Yu. Chaika to the post of the General Public Prosecutor of the Russian Federation.

Dmitry Medvedev in the article "Russia, forward!", published in September, 10th, 2009, very precisely characterized the ruling business-elite: "They settled their lives perfectly. They have everything. Everything suits them. They are going to squeeze out the incomes from

[1] The arguments which are worth to be paid attention to, and expressed by a writer and an economist N. Starikov, can be found here: http://nstarikov.ru/blog/10235.

the remains of the Soviet industry and to squander the natural riches belonging to all of us till the end of time. They do not create anything new, do not want development and are afraid of it".

Two years have passed. Unfortunately, very little has changed.

In the same Medvedev's article it was written, that "an inventor, an innovator, a scientist, a teacher, a businessman who introduce new technologies, will become the most respected people in the society and will receive everything necessary for their fruitful activity".

It would be desirable to hope, that what was not realized by President D. Medvedev and the State Duma of the current convocation, will be actively carried out by the new structure of the State Duma and by the following President.

For this purpose all economic associations, professional communities, social and political structures should persistently develop the civil society up to the level of the real control over all branches of the authority. So that it really struggled for the acceleration of the society's development, for the increase of the citizens' well-being in Russia, for its innovational development. So that an inventor, an innovator, a scientist, a teacher, a businessman who introduces new technologies, would become the most respected people in the society and will receive everything necessary for their fruitful activity.

j

In May and June ISEDT RAS researched the economic situation and the "social health" of teachers at schools in the Vologda Oblast[2]. Only some part of the data describing economic and social health of teachers in the society is represented here (*tables 1 - 4*).

Table 1. Teachers' estimation of the financial position of a family (in % of the number of the interrogated)

Answer variant	Vologda	Cherepovets	Districts	Region	
				Average in the survey	Average in the population
Good and very good	4.8	6.5	1.8	4.1	8.0
Average	59.6	58.2	33.9	48.2	49.3
Bad and very bad	34.6	35.3	60.1	45.6	33.1
It's difficult to answer	1.0	0.0	4.2	2.1	9.5
Index of the material state*	**70.2**	**71.2**	**41.7**	**58.5**	**74.9**

* For calculating the index of the number of positive answers the share of the negative ones is subtracted, then to the received value 00 is added so as not to have negative numbers. Thus, the completely negative answers would give the general index 0, the entirely positive - 200, the balance of the first and the second ones – the index 100 which is, as a matter of fact, a neutral mark.

Table 2. Social self-identification of teachers (in % of the number of the interrogated)

Answer variant	Vologda	Cherepovets	Districts	Region	
				Average in the survey	Average in the population
Rich	0.0	0.0	0.0	0.0	0.8
Average	48.1	43.4	22.3	35.0	42.4
Poor	51.9	56.6	77.6	65.0	46.8

[2] The total amount is 394 people. The representativeness of the samples was provided with the observance of the proportions among teachers with various experience of work and the proportions among the teachers working in city and rural schools. For the interrogation 8 % of teachers of the number of all school teachers in the area (8 % of teachers of schools in Vologda and Cherepovets and 8 % of teachers of schools in rural areas) have been chosen. The corresponding proportions have been accepted and concerning the experience of pedagogical work.

Table 3. The teachers' answers to the question:
Would you change the job for another,
not connected with education?
(in % of the number of the interrogated)

Answer variant	Vologda	Cherepovets	Districts	Region
Yes, Most likely yes	46.2	58.2	46.4	50.0
No, Most likely not	47.1	31.2	44.1	40.9
It's difficult to answer	6.7	10.6	9.5	9.1

Table 4. The teachers' answers to the question:
Would you your children
to become teachers?
(in % of the number of the interrogated)

Answer variant	Vologda	Cherepovets	Districts	Region
Yes, Most likely yes	2.0	0.0	4.8	2.6
No, Most likely not	87.5	94.3	86.9	89.3
It's difficult to answer	10.5	5.7	8.3	8.1

The data of the tables give the real opportunity to compare the declared official statements for the necessity to support the teachers' high role - the major element of any state which connects the past, the present and forms the quality of the future citizens of the country.

The more a teacher is respected by the society, the more this respect will be returned towards the state from the part of its citizens.

The results of the sociological interrogation eloquently show that the real level of the imperious elite's attitude towards the basic spheres of the state.

Almost 46 % of teachers of the number of all the interrogated people estimate the financial position of the family as bad and very bad, in rural areas 60 %; among all the population of the region 33 %.

65 % of teachers refer themselves to a group of poor people, in rural areas 776 %; among all the population in the region 46.8 %.

50 % of teachers would like to change their job.

But the most important, showing full disbelief in the opportunity of the real revival of prestigiousness of the teachers' status is that 89.3 % of the interrogated teachers do not want their children to become teachers.

If the developed situation is not corrected today, the future of our country is under the question.

j

On pages 10-32 of this journal the article "Influence of the metallurgical corporations proprietors' interests on the national and regional development" on the materials of the research carried out by the ISEDT RAS is published.

The article shows, how the realization of private interests of proprietors of the largest Russian corporation of ferrous metallurgy OAO Severstal constrains the opportunities of the national and regional development.

j

The questionnaire carried out by the editorial board on the results of the 2010 publishing year, in which 79 scientists (doctors and candidates of science, scientific employees of different levels) took part, showed, that more than 80 % of respondents positively estimated all the magazine's releases. About 90 % of respondents found the level of articles published in the magazine as high and rather high. On the average for 89 points the urgency of articles which were published in the headings "Strategy of Development", "Regional Economy", "Social Development", "Young researchers" is appreciated.

At the same time the participants of interrogation gave a number of valuable suggestions on actualization of the publications' subjects. The member of the editorial council Academician of Byelorussia AS P. G. Nikitenko suggests introducing the headings "Economy of Reproduction" and "Housekeeping Economy". The member of the editorial council C. Shuhua (China) recommends publishing the articles showing the value of the Russian economy and culture. Professor F. D. Larichkin (KSC of the Russian Academy of Science) advises to expand the publication of the articles on the problems of pricing, taxation and application of economic and mathematical methods. The editorial board will aspire to realize the stated offers.

Attention!

The terms of holding the conference are transferred!

The planned earlier **VI International Scientific and Practical Conference "Strategy and tactics of realization of the socio-economic reforms: the regional aspect"** will take place on the 7th – 8th of October, 2011 in Vologda.

The program of conference is published in journal № 1 (13) (page 13).

The first 10 articles of the journal in terms of the duration of their views in the past 12 months (July 2010 - June 2011)

Rating	Atticle	The total time of viewing, minutes for the entire accounting period *	Viewed over the entire accounting period*	Viewed over the past 12 months	Viewed over the last 3 month	The average time of viewing, HH: MM: SS over the last 12 months	Issue	Date of issue	Authors
1	The development of regional cluster systems	9462	349	131	87	00:27:33	Issue №1	March 2008	Tamara V. Uskova
2	The strategy of the regional economy diversification	5382	262	145	78	00:21:28	Issue №1	March 2008	Leonid G. Iogman
3	The problems of local budgets and municipal property formation	4023	225	193	108	00:17:36	Issue №1	March 200	Sergey D. Valentey Talia Ya. Habrieva
4	Trends and prospects of the Murmansk Oblast's socio-economic development	3110	171	76	48	00:15:48	Issue №1	March 2008	Vladimir V. Didyk
5	Intellectual resources as a factor of innovative development	2308	105	105	33	00:21:59	Issue №11	September 2010	Vladimir A. Ilyin Konstantin A. Gulin Tamara V. Uskova
6	The dynamics of socio-economic development of the Komi Republic	1746	109	61	21	00:17:26	Issue №1	March 2008	Vitaly N. Lazhentsev
7	The method of comparative assessment of the region's scientific and technological potential	1650	74	73	27	00:21:17	Issue №12	December 2010	Konstantin A. Zadumkin Igor A. Kondakov
8	Small business as an important reserve of company town's development	1523	79	79	7	00:19:17	Issue №11	September 2010	Stepan N. Tkachuk
9	Strategic reserves of labour productivity growth in the regional economy	1045	52	41	4	00:20:14	Issue №9	March 2010	Vladimir A. Ilyin Konstantin A. Gulin Tamara V. Uskova
10	Agriculture of the European North: the results of the All-Russian Agricultural Census	854	42	42	8	00:20:19	Issue №11	September 2010	Valentin A. Ivanov Elena V. Ivanova

* Record of site visits has been conducted since December 12, 2009

A little bit changed rating of articles of the journal is published in this issue according to the duration of their viewing from the beginning of the organization of the visitors' account on the journal's site (12.12.2009). The editorial council will also search and test further methods of ranging the articles of the journal according to the readers' interest.

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The influence of ferrous metallurgy corporations' interests on the regional development*

In the Russian scientific literature there are many papers published in which special attention is paid to the discrepancy between the economic interests of the metallurgical companies owners and enterprises controlled by them, and the tasks of national development and addressing the problems of social and economic growth in the regions and cities where the facilities of ferrous metallurgy industry operate. However, the global crisis that broke out in the second half of 2008 has brought the new plots in this respect.

In this article, the crisis period is seen as the time of the most vivid manifestation of the business owners' interests in the case of metallurgical holding "Severstal". Particular attention is paid to the influence of these interests on the socio-economic development of the Vologda oblast – a region where the powers of the parent company of the holding OJSC "Cherepovets metallurgical plant" OJSC "Severstal", one of the leaders of the domestic ferrous industry are located.

To identify common trends of metallurgical companies' influence on the regional economy, in the study there were used the comparative data on the Sverdlovsk, Chelyabinsk, Belgorod, Lipetsk, and Kemerovo oblasts, where ferrous metallurgy manufactures play a crucial role in shaping the outcomes of the regional economy.

We should also note that the statements reflecting the key indicators of financial activities of OJSC "Severstal" are presented in two versions on the official site of the company: according to Russian Accounting Standards (RAS) and in accordance with International Financial Reporting Standards (IFRS).

In the present paper we mainly used in statements prepared in accordance with international standards and presented in open electronic and other information resources.

Ferrous metallurgy corporations in Russia, owners' interests, social and economic development of the regions.

1. The role of metallurgical corporations in shaping the performance of the Russian economy in crisis

Ferrous metallurgy complex is a leader in the industry of modern Russia. It generates about 10% of Russian export resources. The most important feature of the complex is a high concentration of production in the form of holding companies and business groups. Nearly two-thirds of the iron, steel and rolled steel produced in the country account for 8 major metallurgical works, which are parent companies of corporations and are able to conduct an independent structural and technological, economic and financial policies, including the world market, which received more than half of the rolled metal produced in the country in the pre-crisis period.

* The article presents the results of research carried out in ISEDT RAS under the supervision of Doctor of Economics, Prof. V.A. Ilyin. The research involved Doctor of Economics T.V. Uskova, Ph.D. in Economics M.F. Sychev and researcher A.I. Povarova.

Table 1. Tax revenues received from the metallurgical industry in 2007 – 2009*

Regions	2007		2008		2009		
	mill. rub.	share in the total amount of taxes,%	mill. rub.	share in the total amount of taxes,%	mill. rub.	share in the total amount of taxes,%	% to 2008
Belgorod Oblast	2835.1	16.2	3899.1	20.2	680.4	10.5	17.5
Lipetsk Oblast	12244.6	74.5	15799.1	81.4	1310.1	34.9	8.3
Vologda Oblast	**14710.9**	**74.5**	**14833.6**	**58.4**	**1963.9**	**25.0**	**13.2**
Sverdlovsk Oblast	23362.2	49.0	17808.1	41.7	5541.9	26.3	31.1
Chelyabinsk Oblast	19944.3	63.7	14305.2	53.1	1816.1	22.4	12.7
Kemerovo Oblast	8083.1	36.0	9286.5	26.3	550.6	4.6	5.9
RF (bill. rub.)	180.7	11.0	132.0	7.5	49.6	4.1	37.6

* Income tax and tax on personal income.
Sources: data of the Federal State Statistics Service, calculations of ISEDT RAS.

Metallurgical complex is also one of the main budget sectors in the country. Before the crisis, metallurgy formed 8-11% of tax revenues of the consolidated budget of Russia. In several regions metallurgical production plays a dominant role in raising revenues of their regional budgets *(tab. 1)*.

In 2007 – 2008 metallurgy accounted for 80% of tax revenues in the Lipetsk Oblast, 60-75% in the Vologda Oblast, more than half in the Chelyabinsk Oblast and 42-50% in the Sverdlovsk Oblast. In Belgorod and Kemerovo Oblasts metallurgical production is the second source of tax revenue after the industry of "Mining operations".

The main component of tax revenues from the metallurgical industry is an income tax related to the most volatile source of income of any territorial budget. The worsening economic situation caused by the manifestations of the global financial crisis in late 2008 and in 2009 led to a dramatic reduction of income tax at all centers of metallurgical industry of the country (tab. 2).

Already in 2008 the profit of metallurgical enterprises (before taxation) in the whole of Russia decreased by 55%. The sharpest decline in profits – nearly 4 times – occurred at the enterprises of the Chelyabinsk Oblast. However, due to significant amount of profit for 9 months of 2008, a significant reduction in income tax was not observed.

Thus, in the Vologda Oblast it was managed to maintain a positive trend of income tax growth rate, in Sverdlovsk and Chelyabinsk Oblasts, the growth rate reduced by 21.5% and 15% respectively.

In 2009, the situation with tax payments from the metallurgical industry has deteriorated. According to the results of the year, the enterprises of the Sverdlovsk and Kemerovo Oblasts incurred a loss.

In other regions, except in the Chelyabinsk Oblast, there was a sharp decline in profits: in the Vologda Oblast by 91% compared to 2008, in the Belgorod and Lipetsk Oblasts – by 70-80%. In 2009, the Belgorod, Chelyabinsk and Kemerovo Oblasts failed to supply income tax from metallurgical companies neither in the territorial nor in the federal budget. Throughout the country, income tax from metallurgical production amounted to 7% from 2008 level, in the Vologda Oblast – 3.7%, the Sverdlovsk Oblast – 7% and the Lipetsk Oblast – 11%.

One of the most important factors of such a significant change in the income tax mobilization has been a significant deterioration in the financial position of steel companies.

Before the crisis, the profitability of sales in the steel industry reached very high quantities by world standards (more than 30% in the Russian Federation, 36% in the Vologda Oblast, 44-60% in the Lipetsk Oblast).

Table 2. Profit before taxation and profit tax, received by the consolidated budgets of the RF subjects from metallurgical industry

Oblast	2007		2008		2009		2010	
	mill. rub.	% to 2006	mill. rub.	% to 2007	mill. rub.	% to 2008	mill. rub.	% to 2008
*Profit (+), loss (-) before taxation **								
Belgorod	11303.3	150.3	15337.2	135.7	3188.5	20.8	10156.3	66.2
Lipetsk	53492.8	78.8	90060.1	168.4	24877.2	27.6	39101.1	43.4
Vologda	**59814.2**	**120.6**	**55872.4**	**93.4**	**5184.4**	**9.3**	**22348.0**	**40.0**
Sverdlovsk	93258.3	109.4	67535.8	72.4	-7737.9		51385.0	76.1
Chelyabinsk	98073.6	145.4	26767.2	27.3	31332.6	117.1	46444.9	173.5
Kemerovo	31279.1	130.0	41669.3	133.3	-2329.5		11635.7	27.9
RF (bill. rub.)	726.3	128.3	323.6	44.6	208.5	64.4	469.0	144.9
*Income tax ***								
Belgorod	1992.4	140.9	4380.0	219.8	0		683.8	15.6
Lipetsk	9077.4	76.0	12077.6	133.0	1313.1	10.8	4530.7	37.5
Vologda	**10289.6**	**126.8**	**11676.0**	**113.5**	**433.6**	**3.7**	**4510.4**	**38.6**
Sverdlovsk	6967.0	93.3	5470.0	78.5	382.4	7.0	5551.9	101.5
Chelyabinsk	15452.7	122.0	13163.1	85.2	0		3231.1	24.5
Kemerovo	5857.0	109.0	8605.0	146.9	0		1435.8	16.7
RF (bill. rub.)	134.3	132.3	125.0	93.1	8.5	6.8	71.6	57.3

* Data of the Federal State Statistics Service.
** Data of RF FTSO and its territorial bodies.

With the onset of the crisis the profit margin fell for the whole industry by 14%. At the same time the most profound decrease was noted in the Kemerovo (2.2%) and the Sverdlovsk (9.6%) Oblasts. In the Vologda Oblast, the figure was higher compared with other regions and the Russian average *(tab. 3)*.

Table 3. The level of profitability of goods sold, metallurgical production in 2006 – 2009, %

Regions	2006	2007	2008	2009
Belgorod Oblast	22.8	28.6	39.3	13.2
Lipetsk Oblast	60.7	43.8	50.4	14.4
Vologda Oblast	**38.1**	**34.6**	**37.3**	**19**
Sverdlovsk Oblast	28.3	27.2	21	9.6
Chelyabinsk Oblast	26.3	23.9	20.5	13.4
Kemerovo Oblast	22.2	26.6	26.2	2.2
RF	32.3	31.7	24	14

Source: data of the Federal State Statistics Service.

Favorable conditions in domestic and international markets contributed to the capacity of net profit of steel companies, most of which was used by them to pay dividends. According to the Federal State Statistics Service in 2007 – 2009 more than 33% of net profit was referred to the whole of the country's steel industry for these purposes *(tab. 4)*.

In terms of "regions of metallurgists" there is significant differentiation in the level of income spent on paying dividends. For example, if the metallurgical enterprises of the Chelyabinsk and Lipetsk Oblasts allocated at least one third of net profit for these purposes, the enterprises of the Kemerovo, Belgorod and Sverdlovsk Oblasts – 60%. In 2008 – 2009 the metallurgists of the Vologda Oblast sent more than half of the remaining income available for dividends to their shareholders.

A significant deterioration in the financial position of steel companies was due primarily to a drop in revenue and gross profit as a result of intense curtailing of production and reducing the number of employees *(tab. 5)*.

So, as a result of personnel optimization measures, the average number of employees of the Vologda Oblast's metallurgical enterprises decreased by 5.1 thousand people or 20% by

Table 4. Cash resources to pay dividends in the steel production in 2007 – 2009

Regions	2007		2008		2009		Total of 2007 – 2009	
	Mill. rub.	% of net profit	Mill. rub.	% of net profit	Mill. rub.	% of net profit	Mill. rub.	% of net profit
Kemerovo Oblast	19804.6	63.4	23072.2	55.0	2712.8	313.0	45589.6	61.5
Belgorod Oblast	882.2	7.8	16598.7	104.1	937.9	29.2	18418.9	60.5
Sverdlovsk Oblast	28021.4	29.7	51623.4	66.6	35961.2	159.7	115606	59.5
Vologda Oblast	**19503.1**	**32.6**	**34813.2**	**58.6**	**12457.9**	**57.1**	**66774.2**	**47.3**
Chelyabinsk Oblast	17822.9	21.5	16452.1	41.3	10818.2	26.9	45093.2	27.7
Lipetsk Oblast	17427.5	32.6	24305.3	23.4	2575.8	6.9	44308.6	22.7
RF	146952	22.9	240674	41.5	123871	59.4	511497	33.6

Source: data of the Federal State Statistics Service, calculations of ISEDT RAS.

Table 5. The dynamics of performance indicators of metallurgical production enterprises in 2007 – 2009

Regions	Production, bill. rub.			The number of employed, pers.			Output, thousand rub./pers.		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Belgorod Oblast	68.6	104.8	67.3	11336	11466	10967	6050.1	9141.4	6134.5
to the previous year, %	*133.7*	*152.8*	*64.2*	*97.3*	*101.1*	*95.6*	*137.5*	*151.1*	*67.1*
Lipetsk Oblast	161.1	208.4	133.4	37286	37127	34436	4322.9	5611.9	3873.6
to the previous year, %	*111.3*	*129.3*	*64.0*	*97.5*	*99.5*	*92.7*	*114.1*	*129.8*	*69.0*
Vologda Oblast	**204.2**	**247.0**	**140.7**	**29082**	**27101**	**21989**	**7020.5**	**9114.4**	**6401.4**
to the previous year, %	*120.6*	*121.0*	*57.0*	*90.4*	*93.2*	*81.1*	*133.3*	*129.8*	*70.2*
Sverdlovsk Oblast	468.6	498.6	361.4	129811	115214	99240	3610.1	4324.9	3641.5
to the previous year, %	*122.0*	*106.3*	*72.5*	*94.6*	*88.8*	*86.1*	*129.0*	*119.8*	*84.2*
Chelyabinsk Oblast	416.0	472.6	307.0	79433	78266	68734	5236.5	6037.8	4465.9
to the previous year, %	*128.4*	*113.6*	*65.0*	*99.9*	*98.5*	*87.8*	*128.6*	*115.3*	*74.0*
Kemerovo Oblast	147.6	186.8	115.5	35307	29408	25309	4181.1	6352.7	4562.9
to the previous year, %	*111*	*126.5*	*61.8*	*89.4*	*88.8*	*86.0*	*124.2*	*151.9*	*71.8*

Source: data of the Federal State Statistics Service, calculations of ISEDT RAS.

the end in 2009, in the Sverdlovsk Oblast – by 16 thousand people (14%), in the Chelyabinsk Oblast – by 9.5 thousand people (12%). Labour productivity in the whole steel industry in these regions decreased by 30% in 2009 compared with 2008, and the reduction in the level of output was from 27% in the Sverdlovsk Oblast to 43% in the Vologda Oblast. Such a sharp decline has not been observed since 1995. The result was a significant reduction in financial performance – the revenue from product sales and gross margin *(tab. 6)*.

The most notable revenue decrease was recorded in the Vologda Oblast – 42%. In the Kemerovo, Lipetsk, and Chelyabinsk Oblasts the sales revenue fell by more than 35% compared to 2008. Thus, in all the regions the gross margins falling has been observed. It was most significant in the Belgorod Oblast – 87%, mainly due to a moderate decrease in cost of sales compared to other regions. Gross margin of metallurgical enterprises in the Kemerovo Oblast has fallen by almost 80% in other regions – by 50-60%.

Depressive dynamics was also observed for other indicators of the metallurgical enterprises' financial position. The sharp deterioration in the balance of payments and the slowdown of real sector crediting has worsened the situation with the calculations and the growth of non-payments in 2008 already *(tab. 7)*. In the Vologda Oblast there was observed the most significant build-up of debt liabilities both to the banks and the payment of taxes.

Significant reduction in income taxes and other fees from metallurgical industry to the budget system of the Vologda Oblast is associated with a change in the financial and economic situation in the region's main budget enterprise OJSC "Severstal".

Table 6. The dynamics of financial performance of metallurgical production enterprises in 2007 – 2009

Regions	Proceeds from sales, billion rubles			Cost of sales, billion rubles			Gross profit, billion rubles		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Belgorod Oblast	62.2	81.2	59.4	42.8	51.5	46.6	19.4	29.7	12.8
to the previous year, %	*131.5*	*130.5*	*73.1*	*126.6*	*120.9*	*89.9*	*143.7*	*153.1*	*43.1*
Lipetsk Oblast	165.8	218.1	138.4	103.0	130.1	103.6	62.8	88.0	34.8
to the previous year, %	*111.3*	*131.6*	*63.4*	*124.0*	*126.4*	*79.6*	*95.2*	*140.1*	*39.5*
Vologda Oblast	**233.5**	**284.9**	**164.9**	**159.2**	**190.7**	**121.8**	**74.3**	**94.2**	**43.1**
to the previous year, %	*121.3*	*122.0*	*57.9*	*120.2*	*119.8*	*63.9*	*123.8*	*126.8*	*45.7*
Sverdlovsk Oblast	480.7	595.3	423.6	343.2	452.8	354.3	137.5	142.5	69.3
to the previous year, %	*116.8*	*123.8*	*71.2*	*117.1*	*131.9*	*78.3*	*115.9*	*103.6*	*48.6*
Chelyabinsk Oblast	440.0	496.5	320.4	329.6	385.2	259.8	110.4	111.3	60.6
to the previous year, %	*128.9*	*112.8*	*64.5*	*131.6*	*116.8*	*67.5*	*121.3*	*100.8*	*54.4*
Kemerovo Oblast	158.6	200.6	123.5	116.1	148.6	112.7	42.5	52.0	10.8
to the previous year, %	*110.9*	*126.5*	*61.6*	*105.0*	*127.9*	*75.9*	*131.2*	*122.3*	*20.8*

Source: data of the Federal State Statistics Service, calculations of ISEDT RAS.

Table 7. Metallurgical production's accounts payable in 2007 – 2009, billion rubles

Subjects	The total outstanding debt			Obligations on credit and loan			Arrears payments to the budget		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Belgorod Oblast	41.3	64.5	71.2	34.8	52.8	63.2	0.2	0.4	0.6
to the previous year, %	*122.1*	*155.9*	*110.4*	*116.5*	*152.0*	*119.6*	*144.3*	*170.0*	*141.8*
Lipetsk Oblast	34.1	99.5	87.3	24.5	70.1	69.3	1.6	0.6	0.8
to the previous year, %	*178.2*	*2.9 p.*	*87.7*	*3.4 times*	*2.9 times*	*98.8*	*101.2*	*36.4*	*137.4*
Vologda Oblast	52.3	157.9	169.9	30.1	132.3	145.1	0.54	0.7	1.3
to the previous year, %	*95.1*	*3 times*	*107.6*	*76.6*	*4.4 times*	*107.0*	*75.6*	*122.6*	*195.0*
Sverdlovsk Oblast	190.6	325.4	351.2	117.6	246.4	279.7	2.6	2.6	3.2
to the previous year, %	*131.4*	*170.7*	*107.9*	*128.9*	*2.1 times*	*113.5*	*109.3*	*100.0*	*125.0*
Chelyabinsk Oblast	145.7	208.9	225.1	102.2	141.3	169.7	1.2	1.6	2.0
to the previous year, %	*141.9*	*143.4*	*107.7*	*178.0*	*138.2*	*120.1*	*61.7*	*132.2*	*124.4*
Kemerovo Oblast	33.0	50.4	51.1	13.3	24.7	28.0	0.9	1.3	0.6
to the previous year, %	*132.4*	*152.7*	*101.4*	*192.9*	*186.0*	*113.1*	*168.8*	*143.8*	*47.0*
RF	1004	1521	1602	553.4	1014	1136	13.8	17.0	21.0
to the previous year, %	*145.4*	*151.5*	*105.4*	*139.3*	*183.3*	*112.0*	*93.3*	*123.0*	*123.8*

Source: data of the Federal State Statistics Service, calculations of ISEDT RAS.

2. Factors affecting the financial results of the metallurgical enterprises (on the materials of OJSC "Severstal")

2.1. General assessment of the corporations' financial results in 2007 – 2009

"Severstal" holding is one of the world's largest vertically integrated mining and smelting companies, specializing in the production of flat and long products of ferrous metals of a wide assortment. In 2008, "Severstal" became part of the 20 largest world producers of steel, having taken the 14th place in terms of the volume of production.

Since 2008, the company is divided into three main business divisions: "The Russian Steel", "Severstal Recourse" and "Severstal International", including European and North American segments *(tab. 8)*.

The division "The Russian Steel" is the third company in Russia in terms of steel production. In the Russian market OJSC "Severstal" competes with OJSC "Novolipetsk metallurgical plant" (NLMP) and OJSC "Magnitogorsk metallurgical plant" (MMP).

Table 8. Aggregate structure of OJSC "Severstal"

Segment	Enterprises
The Russian Steel	The steel and galvanizing production in Cherepovets, a rolling mill in Kolpino, Izhora Pipe Plant, hardware companies in Russia, Ukraine, UK, Italy, the scrap metal recycling companies in Russia and various international support trade, service and transportation companies. 51 companies, including 15 abroad.
Severstal Resource	OJSC "Karelian rolled briquette", OJSC "Olcon", OJSC "Vorkutaugol", PBS Coals Ltd. (USA), gold-mining enterprises in the east of Russia, Africa and Kazakhstan. 27 enterprises, including 16 abroad.
Severstal International	Severstal North America (SNA): 5 steel companies, coal companies, tin production. 13 companies in the U.S.A.
	Lucchini (Lucchi ni Group): Two steel production companies in Italy, four factories in France, commercial facilities in Western Europe, an engineering research center in France. Total 17 companies.

Table 9. The role of the OJSC "Severstal" in the formation of income tax in the budget system of the Vologda Oblast*

Indices	2003	2004	2005	2006	2007	2008
Profit before taxation, bill. rub.	24.6	52.7	46.0	47.4	57.2	52.8
The share of total taxable income, %	85.4	86.8	86.3	78.2	76.3	53.1
Current income tax, bill. rub.	4.2	9.3	8.4	8.4	10.3	10.2
The share in of total income tax, %	68.8	76.1	80.6	71.0	66.0	46.7

* The indices for 2009 – 2010 are not given as because of the sharp decline in profits the holding produced estimates of income tax untimely (according to Vologda Oblast FTSO, in 2009, income tax on profits from the region's steel production totaled 0.4 billion rubles. According to the report of OJSC "Severstal" in RAS, the current income tax for 2009 is estimated to total 3.85 billion rubles). In 2010, OJSC "Severstal" has received a loss of 34 billion rubles.
Sources: Form № 2 "Report on Profits and Losses of OJSC "Severstal" in 2004 – 2008; the data of the Russian Treasury; Federal State Statistics Service, calculations of ISDET RAS.

At the beginning of 2011 OJSC "Severstal" united 108 companies and 51 subsidiaries and associated companies which are not essential for the holding.

The main owner of "Severstal" is the CEO A.A. Mordashov who controls its four Cypriot offshore companies, which hold 70.85% of shares. OJSC "Severstal" is the only founder of Ltd. "Holding mining company", acting as a 100% owner of OJSC "Karelian rolled briquette and" OJSC "Olkon". Totally in 2010, A.A. Mordashov had 82.93% of the share capital of "Severstal" under his direct or indirect control.

"Severstal" holding is essential in the formation of revenues of the budget system of the Vologda Oblast; in the pre-crisis period (2003 – 2007) it provides 66-80% of income tax expense in the consolidated budget of the region *(tab. 9)*.

According to the accounting policy of OJSC "Severstal", the amount of income tax payable is calculated by each company from pre-tax profits determined in accordance with the tax laws of the country in which the company is based.

The bulk of the profits of "Severstal" is generated in Russia and is taxed at a flat rate fixed by the law at 24% in 2007 – 2008 and 20% in 2009 – 2010. The segment of Severstal North America is subject to income tax in the U.S., which usually reflects the current tax rate of 35-36% of profit before tax. Most of the profits derived by the segment Lucchini is subject to income tax in Italy and France. In 2008, the tax rate for Lucchini amounted to 35.5%. Other foreign subsidiaries pay taxed determined by the legislation of the countries concerned.

Here are the data describing the formation of the companies' taxable profits *(tab. 10)*.

Table 10. The calculation of the taxable profit of OJSC "Severstal" in 2007 – 2010, million dollars

Indices	2007	2008	2009	2010
Revenues	4895.7	7369.9	1813.5	4648.5
Including: Gross profit	4681.8	5892.8	1698.2	4463
Other incomes	213.9	1477.1	115.3	185.5
Expenditure	2319.5	4790.5	2914.7	2734.5
Including: general and administrative	766.9	1026.8	735.5	638.4
commercial	942.5	1117.8	864.2	990.7
interest	325.6	508.4	601.2	630.8
Other expenses	284.5	2137.5	713.8	474.6
Profit (+),loss (-) before tax	**2576.2**	**2579.4**	**-1101.2**	**1914.0**
To the previous year, %	122.0	100.1		
Income tax	**700.2**	**517.5**	**17.9**	**487.2**
To the previous year, %	110.2	73.9	3.5	
Sources: consolidated statements of OJSC "Severstal" for 2007 – 2010, calculations of ISEDT RAS.				

As can be seen, the analysis of the consolidated financial statements shows that the fall in profits and, accordingly, in income tax, has begun in 2008 already, and in 2009 Severstal holding has finished with a loss of $1.1 billion dollars. Income tax expense has decreased by 96.5%.

The main factors worsening the financial performance of OJSC "Severstal" in late 2008 and in 2009 were:

1. Reduced production due to lower demand for steel products.

2. The high level of production costs, reducing the amount of taxable income.

3. Reducing corporate capitalization and depreciation of different types of assets.

2.2. The impact of damping of market demand for ferrous metallurgy products in the global financial crisis

In 2002 – 2007 steel production in Russia was growing rapidly from 2.3% per year, the production of OJSC "Severstal" was growing annually by 3%. In 2007 the volumes of steel products consumption increased by 11%. An important factor of growth of metallurgical production was strong demand from the construction and pipe companies, which are major consumers of "Severstal" *(tab. 11)*.

Despite the priority of the domestic market in sales policy, OJSC "Severstal" exports 40% of its products. The main consumers in foreign markets are the European countries *(tab. 12)*. In 2009, sales increased in the countries of Central and South-East Asia (primarily China) due to the sharp decline in domestic demand.

Since the 4th quarter of 2008, the decline in both global and Russian steel production has begun. Compared to 2007, global production fell by 1.3%. In Russia in 2008 it was produced 68.7 million tons of steel, which is 5% less than in 2007 *(tab. 13)*. According to the data of the corporation Chermet the consumption of steel products dropped by 14% – from 40 million tons in 2007 to 34.4 million tons in 2008. In 2009, world steel consumption dropped by another 6.5%. Exports from Russia decreased by 9.2% – from 29.5 million tons to 26.8 million tons.

In 2010, the production in Russia has not reached the level of 2007, but approached to the indices of 2008.

In OJSC "Severstal" there also was a decline in production in 2008-2009. However, in the context of the holding divisions it was in differently directed.

Table 11. The distribution of revenue from domestic sales by consuming industries

Name	2007		2008		2009	
	bill. rub.	share, %	bill. rub.	share, %	bill. rub.	share, %
Pipe enterprises	46,4	24	60,9	25	31,8	22
Automobile production	17,4	9	26,8	11	10,0	7
Mechanical engineering	34,8	18	41,4	17	25,8	18
Construction and metal processing	89,0	46	109,6	45	70,3	49
Source: annual report of OJSC "Severstal" on RAS for 2007 – 2009.						

Table 12. The distribution of export sales by geographic region

Name	2007		2008		2009	
	bill. rub.	share, %	bill. rub.	share, %	bill. rub.	share, %
Europe	60.0	31	80.4	33	33.0	23
CIS + Baltic States	65.8	34	80.4	33	30.2	21
North America	5.8	3	12.2	5	1.4	1
Middle East	29.0	15	26.8	11	24.4	17
Central and South America	11.6	6	12.2	5	8.6	6
Central and South-East Asia	17.4	9	21.9	9	37.3	26
Africa	3.9	2	9.7	4	8.6	6
Source: annual report of OJSC "Severstal" on RAS for 2007 – 2009.						

Table 13. Steel production in 2006 – 2010

Index	2006	2007		2008		2009		2010		
		mill. tons	% to 2006	mill. tons	% to 2007	mill. tons	% to 2008	mill. tons	% to 2009	% to 2007
World	1247	1346	107.9	1329	98.7	1229	92.5	1413	115.0	105.0
Russia	70.6	72.2	102.3	68.7	95.1	59.2	86.2	67.0	113.2	92.8

Release of iron and steel in the division The Russian Steel in 2008 decreased by 7%, rolled metal – by 18%, in the European division Lucchini – by 14 and 7% respectively *(tab. 14)*.

The overall growth of major products was achieved through acquisitions of new assets in North America. Decline in production continued in 2009: Russian enterprises have reduced production of the most significant products by 10-13%, and European ("Lucchini") – by 35-42%. In 2009, the total production of rolled metal, cast iron and steel decreased by 8%, 10.5% and 13% respectively.

Reduction in coal production by 20.5% in 2008 is due, in addition to macroeconomic factors, to the sale of "Kuzbassugol" to the American company ArcelorMittal. The holding management acknowledged that with the acquisition of "Vorkutaugol" Kuzbass assets lost strategic importance for the Cherepovets Metallurgical Plant (the revenue of the enterprise "Kuzbassugol" for 2007 amounted to 12% in total sales revenue).

Overall, the year of 2008 recorded a growth of prices for steel and coal, although the selling price for hardware products at the enterprises of "Lucchini" fell by 53% *(tab. 15)*. In 2009, the most significant decline in prices affected the division "The Russian Steel". Thus, the weighted average sales prices for rolled metal fell almost by 50%, for hardware and pipe products – by 28%.

Reduced demand for steel and a collapse in prices appeared under the influence of the following factors:

- first, the decline in production in the steel consuming sectors of economy – construction, automotive and machine building, contributing to a real decline in demand for steel consumption. Thus, in the 4th quarter

Table 14. Production of major products at OJSC "Severstal" in 2007 – 2010*

Divisions	2007	2008		2009		2010		
	thous. tons	thous. tons	% to 2007	thous. tons	% to 2008	thous. tons	% to 2009	% to 2008
CAST IRON								
Russian Steel	8758.5	8125.1	92.8	7223.4	88.9	8689.3	120.3	106.9
Severstal North America	1656.3	3200.8	193.2	3456.4	108.0	3878.1	112.2	121.2
Lucchini	2534.4	2189.5	86.4	1418.8	64.8	1896.2	133.6	86.6
Consolidated	12949.2	13515.4	104.4	12098.6	89.5	14463.6	119.5	107.0
STEEL								
Russian Steel	11898.6	11096.9	93.3	9547.8	86.0	11085.2	116.1	99.9
Severstal North America	1979.7	5099.9	+2.6 times	5455.2	107.0	5955.6	109.2	116.8
Lucchini	3585	3020.6	84.3	1746.4	57.8	2451.5	140.4	81.2
Consolidated	17463.3	19217.4	110.0	16749.4	87.2	19492.3	116.4	101.4
ROLLED METAL								
Russian Steel	9426.1	7747	82.2	6743.5	87.0	7660.6	113.6	98.9
Severstal North America	2386	4417.3	185.1	5143.7	116.4	5698.7	110.8	129.0
Lucchini	2329.7	2151.3	92.3	1254.9	58.3	1761.1	140.3	81.8
Consolidated	14141.8	14315.6	101.2	13142	91.8	15120.4	115.0	105.6
COAL								
Severstal Resource:	9463.1	7519	79.5	9148	121.7	11733	128.3	156.0
«Vorkutaugol»				6679	88.8	8508.7	127.4	
PBS Coals (USA)	0	0		2469		3224.3	130.6	

* Including internal sales between the segments.
Source: annual reports of OJSC "Severstal" for 2007 – 2009.

Table 15. The weighted average prices for basic products of OJSC "Severstal" in 2007 – 2010*

Divisions	2007		2008		2009		2010	
	doll./tons	% to 2006	doll./tons	% to 2007	doll./tons	% to 2008	doll./tons	% to 2009
ROLLED METAL								
Russian Steel	666	118.2	939	141.0	496	52.8	641	129.2
Severstal North America	707	102.2	965	136.5	709	73.5	773	109.0
Lucchini	996	no data	1334	134.0	944	70.7	949	100.5
Consolidated	727	н.д.	996	137.0	588	59.0	711	120.9
PRODUCTS of FINAL REDISTRIBUTION (hardware, pipes)								
Russian Steel	791	113.5	1517	191.8	1091	71.9	1200	110.0
Severstal North America	-	-	1823		1488	81.6	1411	94.8
Lucchini	2671	н.д.	1249	46.7	1017	81.4	1025	100.8
Consolidated	1072	н.д.	1507	140.6	1121	74.4	1207	107.7
COAL								
Russian enterprises	84	113.2	147	175.0	84	57.1	140	166.7
PBS Coals (USA)	-	-	110	-	106	96.4	147	138.7

* Excluding sales within the company.
Sources: annual reports of OJSC "Severstal" in 2007 – 2009.

of 2008, the demand in the automotive industry decreased by 6.3%. As a result of the construction industry crisis the demand began to decline from the first quarter of 2008 already;

- second, reduction of the level of population's income as a result of massive layoffs and rising unemployment;
- third, a strong dependence of the level of metal prices on the level of energy prices (energy costs in the production of metals are up to 30% of the cost price);
- fourth, the introduction of new production capacity. High profitability due to increases in world metal prices in 2005 – 2007 prompted manufacturers to overproduction and to launching the projects inefficient before. Thus, as a result of production growth China turned from the largest steel importer into a major exporter, increasing its share in world production from 23 to 44%.

The drop in demand, prices and sales volumes inevitably resulted in reduction in the main financial results of OJSC "Severstal" – sales revenue and gross profit.

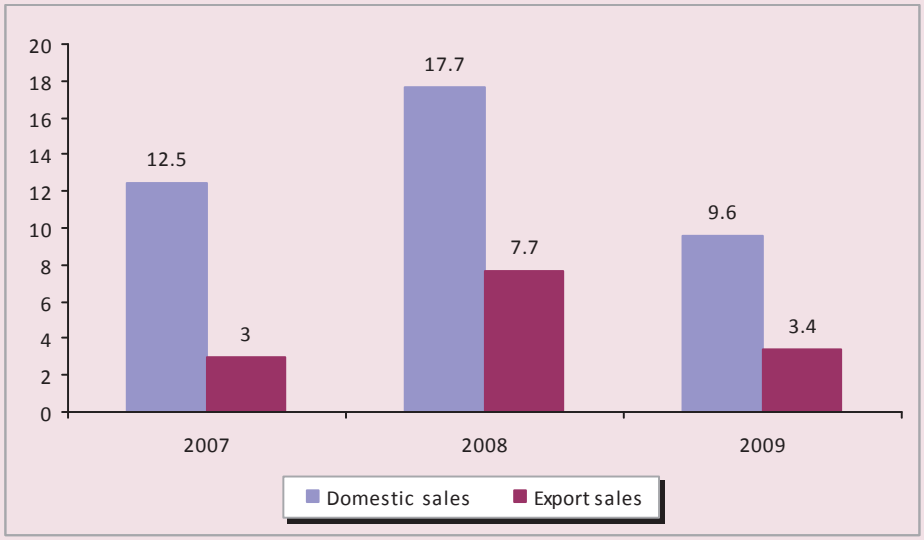
In 2009, revenues from sales in the whole of the holding made up 58% compared to the level of 2008; revenue from domestic sales was decreasing at a more great rate (almost twice). Export sales fell by a third *(figure)*.

In 2009, the decrease in revenues occurred in virtually all types of goods sold. Particularly striking was the decreased sale of scrap, section rolled steel, semi-finished products and iron ore rolled briquettes *(tab. 16)*.

More than half of the proceeds of OJSC "Severstal" were provided by the companies belonging to the division of "The Russian steel" *(tab. 17)*.

The share of "Severstal Resource" in the formation of revenue, increased from 11% in 2008 to 25.7% in 2010. On the contrary, the participation of the European division has declined. As a result of lower demand for rolled products in Europe by 50% which followed the steep recession in the second half of 2008, "Lucchini's" sales in 2009 have not reached even a half of the previous year volume. The share of North American enterprises accounted for one third of revenue in 2009, but in nominal terms its volume was annually reducing and at the end of 2010 the U.S. companies have brought little more than 20% of the total holding's revenue. This was largely due to the stoppage of some metallurgical plants in response to falling demand.

Proceeds from sales of OJSC "Severstal" in domestic and foreign markets in 2007 – 2009, bill. doll.



Source: annual reports of OJSC "Severstal" in 2007 – 2009.

Table 16. Proceeds from sale by types of products of OJSC "Severstal" in 2008 – 2009

Name	2008, mill. doll.			2009, mill. doll.			2009 to 2008, %		
	Total	Including:		Total	Including:		Total	Including:	
		domestic market	foreign market		domestic market	foreign market		domestic market	foreign market
Hot-rolled sheet	5952.5	4542.7	1409.8	3003.8	1912.7	1091.1	50.5	42.1	77.4
section rolled steel	3794	3310	484	1301.2	1117.6	183.6	34.3	33.8	37.9
Galvanized sheet	2350.3	2219.9	130.4	1920	1809.3	110.7	81.7	81.5	84.9
Cold-rolled sheet	2314.4	1919.6	394.8	1606.3	1270.6	335.7	69.4	66.2	85.0
Semi-finished products	1667.3	1051.1	616.2	582.1	297.4	284.7	34.9	28.3	46.2
Hardware products	1384.6	952.4	432.2	853.8	575.5	278.3	61.7	60.4	64.4
Iron ore rolled briquettes	453.1	252.1	201	217.2	82.1	135.1	47.9	32.6	67.2
Scrap	321.3	26	295.3	58.3	19.4	38.9	18.1	74.6	13.2
Gold	190.4	96.2	94.2	512.3	299.4	212.9	269.0	311.2	226.0
Other	3971.1	3346	625.1	3000	2258	742	75.5	67.5	118.7
Total	22393	17716	4677	13055	9642	3413	58.3	54.4	73.0

Sources: annual report of OJSC "Severstal" in 2008 – 2009.

Table 17. Revenues from sales in the context of OJSC "Severstal" divisions in 2008 – 2010*

Divisions	2008		2009		2010	
	mill. doll.	share in the total volume, %	mill. doll.	share in the total volume, %	mill. doll.	share in the total volume, %
Russian Steel	12063.8	53.9	6179.1	47.3	8814.8	64.9
Severstal North America	2452.7	11.0	1870.8	14.3	3484.3	25.7
Lucchini	5319.4	23.8	4023.1	30.8	2911.5	21.5
Consolidated	3989.5	17.8	1757.1	13.5	-	-
Russian Steel	22392.7	100.0	13054.5	100.0	13573.3	100.0

* The data for 2007 are not given, since the bulk of the assets of the division "Severstal North America" was consolidated in 2008.
Sources: consolidated statements of OJSC "Severstal" for 2009 – 2010, calculations of ISEDT RAS.

Table 18. Product cost in the context of the divisions of OJSC "Severstal" in 2007 – 2010

Divisions	2007		2008		2009		2010	
	mill. doll.	% to 2006	mill. doll.	% to 2007	mill. doll.	% to 2008	mill. doll.	% to 2009
Russian Steel	5781.5	119.5	7388.0	127.8	4081.4	55.2	6003.2	147.1
Severstal Resource	1182.1	124.9	1376.4	116.4	1405.6	102.1	1781.5	126.7
Severstal North America	1348.3	78.7	5841.4	+3.2 times	4687	80.4	2911.6	62.1
Lucchini	3194.4	113.1	3372.4	105.6	1948.0	57.8	-	-
Consolidated	10821.6	122.0	16499.9	152.5	11356.3	68.8	9110.2	80.2

Sources: Consolidated statements of OJSC "Severstal" in 2007 – 2010, calculations of ISEDT RAS

The decrease in production volumes, reduction in prices for basic raw materials, as well as the weakening of the ruble in 2009 helped to reduce the cost of sales by one-third as compared to 2008 *(tab. 18)*.

It should be noted that in the pre-crisis period of the holding's products cost has been growing rapidly. Thus, in 2008 it increased by 52.5%, while in the U.S. division the cost increased 3.2 times.

Of course, such an increase in costs was largely due to Severstal's new purchases in the U.S. market. Also an important factor was the rise in prices for raw materials, fuel and electricity which are the main components of cost. Considering the lack of consolidated data on the cost structure of the holding's marketable products, let us provide it on the basis of the reporting performance of the division "The Russian Steel" (*tab. 19*).

Table 19. Cost structure of marketable products of OJSC "Severstal" in 2007 – 2009, %

Name	2007	2008	2009
Materials	67.6	69.9	58.9
Fuel and energy	7.9	7.3	9.1
Payroll and deductions	8.3	7.4	9.0
Depreciation	4.7	3.9	5.9
Other expenses	11.5	11.5	17.1
Total	100.0	100.0	100.0

Table 20. Gross profit of OJSC "Severstal" in 2007 – 2010

Divisions	2007		2008		2009		2010	
	mill. doll.	% to 2006	mill. doll.	% to 2007	mill. doll.	% to 2008	mill. doll.	% to 2009
Russian Steel	3563.1	133.8	4675.7	131.2	2097.7	44.8	2811.6	134.0
Severstal Resource	667.0	128.8	1076.3	161.4	465.2	43.2	1702.8	3.7 times
Severstal North America	-42.8	-	-522.1	12.2 times	-674.4	129.2	-96.0	-14.2
Lucchini	562.1	98.9	617.0	109.8	-190.9		-	
Consolidated	4681.8	121.6	5892.8	125.9	1698.2	28.8	4463.0	+2,6 times
Sources: consolidated statements of OJSC "Severstal" in 2007 – 2010, calculations of ISERT RAS.								

As you can see, the cost of raw materials and energy resources account for two thirds of the cost of marketable products.

Proceeding to the dynamics of gross profit, we should note that it includes only the cost of production and sales. Other expenses (profit, interest and management) that have a significant effect on the rate of taxable profit are not counted in determining the gross results.

The sharp decline in sales revenue in 2009 led to a reduction in gross profit of OJSC "Severstal" 3.5 times *(tab. 20)*.

In 2009, the main role in the gross margin indices deterioration, on which the tax base depends directly, was played by the foreign divisions which had received a gross loss – "Lucchini" and "Severstal North America". At the same time by the end of 2008 the loss of U.S. companies increased by more than 12 times compared to 2007, and in 2009 it increased by another third. In 2010, the company data also showed a decrease in revenues and gross loss. Thus, the bulk of the holding's gross profit is provided by Russian companies. European enterprises of "Lucchini" division showed an improvement of gross financial results only in 2008, but their growth rates significantly lagged behind the growth rates in the Russian structures.

The deterioration of financial performance in 2009 was typical for all the steel companies, including Novolipetsk and Magnitogorsk metallurgical complexes.

The volume of gross profit in these companies has significantly decreased compared to 2008 – by 63 and 58% respectively. However, the rate of profit decline was slightly lower than at OJSC "Severstal". This is due to a marked decline in cost of sales as the volume of sales revenues at "NLMC" and "MMC" declined faster than at "Severstal" *(tab. 21)*.

2.3. Destructive effect of the owners' interests on costs, profitability and capitalization of corporations

Management, business and interest expenses are the main share of the costs taken into account when forming the pre-tax profit. If we do not take into account the year2008, which was the peak of holding losses on derecognition of assets, the mentioned costs were 70-90% in the cost structure of all the divisions of "Severstal" *(tab. 22)*.

Table 21. The main financial results of OJSC "NLMC" and "MMC" for 2007 – 2010

Indicators	year 2007	year 2008		year 2009		year 2010	
	million dollars	million dollars	in % to the year 2007	million dollars	in % to the year 2008	million dollars	in % to the year 2009
OJSC "NLMC"							
Revenues	7719.1	11698.7	151.6	6139.9	52.5	8350.7	136.0
Costs	3977	6307.8	158.6	4150.4	65.8	5402.6	130.2
Gross profit	3742	5390.9	144.1	1989.5	36.9	2948.1	148.2
OJSC "MMC"							
Revenues	8197	10550	128.7	5081	48.2	7719	151.9
Costs	5710	7835	137.2	3940	50.3	5952	151.1
Gross profit	2487	2715	109.2	1141	42.0	1767	154.8
Sources: Consolidated statements of OJSC "NLMK" and OJSC "MMK" for 2008 – 2010, calculations of ISEDT RAS.							

Table 22. The share of commercial, administrative and interest expenses in total costs taken into account when determining the pre-tax profit of OJSC "Severstal" for 2007 – 2010, %

Divisions	2007	2008	2009	2010
Russian Steel	90.3	70.7	81.0	85.4
Severstal Resources	76.9	43.1	67.0	74.3
Severstal North America	72.9	23.5	80.8	82.2
Lucchini	85.0	84.2	68.0	-
Consolidated	87.7	55.4	75.5	82.6
Sources: Consolidated statements of OJSC "Severstal" for 2008 – 2010, calculations of ISEDT RAS.				

Table 23. Selling expenses of OJSC "Severstal" for 2007 – 2010

Divisions	2007	2008		2009		2010	
	million dollars	million dollars	in % to the year 2007	million dollars	in % to the year 2008	million dollars	in % to the year 2009
Russian Steel	662.2	798.6	120.6	638.7	80.0	780.9	122.3
share in expenses, %	*49.8*	*35.6*		*39.0*		*39.8*	
Severstal Resources	163.7	180.9	110.5	141.9	78.4	210.6	148.4
share in expenses, %	*34.0*	*16.9*		*20.0*		*30.1*	
Severstal North America	2.2	16.4	+7.5 p.	13.5	82.3	-	-
share in expenses, %	*1.5*	*1.2*		*3.1*		-	
Lucchini	118.0	122.0	103.4	72.7	59.6	-	-
share in expenses, %	*26.5*	*27.6*		*18.5*		-	
Consolidated	942.5	1117.8	118.6	864.2	77.3	990.7	114.6
share in expenses, %	*40.6*	*23.3*		*29.7*		*36.2*	
Sources: Consolidated statements of OJSC "Severstal" for 2008 – 2010, calculations of ISEDT RAS.							

Let us consider in detail the dynamics of these expenses of OJSC "Severstal". The main types of business costs are transportation costs. They are up to one third of the total cost on average, taken into account when forming the pre-tax profit. Business expenses occupy the largest share (40%) at enterprises of "Russian Steel". In 2009, in whole of the holding costs decreased by 23%, but in 2010 its growth trend resumed *(tab. 23)*.

General logistic and administrative (executive) expenses are usually salaries and bonuses of management personnel, travel expenses, transportation costs, maintenance of offices, fees for audit, insurance and legal firms, as well as hospitality. In the cost structure of OJSC "Severstal" administrative expenses make up 25% *(tab. 24)*.

The volume of administrative expenses amounted to 50% to the wage fund. However,

Table 24. Administrative expenses of OJSC "Severstal" for 2007 – 2010

Divisions	2007	2008		2009		2010	
	million dollars	million dollars	in % to the year 2007	million dollars	in % to the year 2008	million dollars	in % to the year 2009
Russian Steel	373.6	506.2	135.5	340.9	67.3	423.9	124.3
share in expenses, %	*28.1*	*22.6*		*20.8*		*21.6*	
Severstal Resources	136.8	173.9	127.1	107.5	61.8	138.1	128.5
share in expenses, %	*28.5*	*16.3*		*15.2*		*19.8*	
Severstal North America	70.8	173.8	+2.5 p.	162.1	93.3	78.4	48.4
share in expenses, %	*46.7*	*13.1*		*37.1*		*28.1*	
Lucchini	188.0	176.5	93.9	128.2	72.6	-	-
share in expenses, %	*42.2*	*40.0*		*32.6*		-	
Consolidated	766.9	1026.8	133.9	735.5	71.6	638.4	86.8
share in expenses, %	*33.0*	*21.4*		*25.2*		*23.3*	
To wage fund, %	50.0	49.4		40.8		47.5	
Remuneration of key management	57.2	43.9		20.8		52.8	
Sources: Consolidated statements of OJSC "Severstal" for 2008 – 2010, calculations of ISEDT RAS.							

Table 25. Loans involved by OJSC "Severstal" in 2007 – 2010

Divisions	2007	2008		2009		2010	
	million dollars	million dollars	in % to the year 2007	million dollars	in % to the year 2008	million dollars	in % to the year 2009
The amount of borrowed loans							
Consolidated	3677.5	7542.1	+2.0 p.	4354.8	57.7	3481.6	80.0
Loans and borrowings (long-term debt financing)							
Consolidated	2813.2	6227.2	+2.2 p.	5748.6	92.3	4719.8	82.1
Russian Steel	1139.6	3900.3	+3.4 p.	4198.2	107.6	3731.2	88.9
Severstal Resources	391.9	801.2	+2.0 p.	674.4	84.2	291.8	43.3
Severstal North America	843.5	1452.4	172.2	1097.7	75.6	1370.4	124.8
Lucchini	650.1	1069.5	164.5	1009.3	94.4	-	-
Sources: Consolidated statements of OJSC "Severstal" for 2008 – 2010, calculations of ISEDT RAS.							

it should be recognized that significant reduction in general and administrative expenses in 2009 helped reduce the overall expenses of operations by almost 50%[1].

In 2008, the increase in administrative expenses amounted to 34%, while in the North American division administrative expenses increased by 2.5 times. In 2010 the enterprises of "Russian Steel" and "Severstal Resources" these expenses again show significant growth.

The greatest increase in production costs and decrease in profits was observed due to the increase of interest payments produced by the involvement of a significant amount of loan resources in 2008 and, accordingly, increase in debt *(tab. 25)*.

As a result of increased borrowing interest payments at the end of 2008 increased 56% *(tab. 26)*.

Judging by the data in *table 27*, the main increase in interest costs in the consolidated expenses of the holding in 2008 was provided by North American companies. In 2008, their spending on these projects has increased 3.3 times, and in 2009 – 1.4 times. The significant increase in interest payments was showed by all the holding structures, except "Lucchini".

[1] Operating expenses of the holding in 2009 dropped by 612 million dollars, including administrative expenses – by 291.2 million dollars.

Table 26. Interest expenses of OJSC "Severstal" in 2007 – 2010

Divisions	2007	2008		2009		2010	
	million dollars	million dollars	in % to the year 2007	million dollars	in % to the year 2008	million dollars	in % to the year 2009
Russian Steel	163.7	282.1	172.3	346.7	123.0	469.7	135.5
share in expenses, %	*12.3*	*12.6*		*21.2*		*23.9*	
Severstal Resources	69.0	105.1	152.3	226.5	+2.2 p.	170.4	75.2
share in expenses, %	*14.4*	*9.8*		*31.9*		*24.4*	
Severstal North America	37.5	122.9	+3.3 p.	177.6	144.5	151.0	85.0
share in expenses, %	*24.7*	*9.2*		*40.7*		*54.1*	
Lucchini	72.8	73.0	100.3	61.7	84.5	-	-
share in expenses, %	*16.3*	*16.5*		*15.7*		-	
Consolidated	325.6	508.4	156.0	601.2	118.3	630.8	104.9
share in expenses, %	*14.0*	*10.6*		*20.6*		*23.1*	
Sources: Consolidated statements of OJSC "Severstal" for 2007 – 2009, calculations of ISEDT RAS.							

Table 27. Expenses dynamics for interest payments on borrowings and loans in 2007 – 2009, % to previous year

Regions	2007	2008	2009 to 2007, times
Belgorod oblast	2.5 p.	129.6	2.1
Lipetsk oblast	179.5	4.4 p.	4.6
Vologda oblast	80.1	183.4	3.3
Sverdlovsk oblast	142.5	2.7 p.	4.7
Chelyabinsk oblast	114.1	166.0	2.8
Kemerovo oblast	112.3	176.5	3.2
Russian Federation	135.3	173.0	2.5
Sources: Federal State Statistics Service, calculations of ISEDT RAS.			

Rising interest payments were common to all the "regions-metallurgists" considered by us. During 2007 – 2009, the expenses on interest payments on loans increased by 2.5 times in whole in iron and steel industry of the country. At the same time their most significant increase was observed in the Sverdlovsk, Lipetsk, Volgograd and Kemerovo oblasts *(tab. 27)*.

Cost structure of the Novolipetsk and Magnitogorsk metallurgical complexes also demonstrates a high proportion of commercial, administrative and interest costs (60-80% for "NLMC" and 70-90% – at "MMC"). At the same time on administrative expenses are directed more than 20% of the costs at "NLMC" and more than a third – at "MMC" *(tab. 28)*.

As a result of the fall in metal prices and demand the "Severstal" holding in October 2008 began to reduce power. At the beginning of 2009 workload in Russia amounted to 50%, in the U.S. – 40% in Europe – 60%.

The financial and economic crisis in 2008 led to a significant reduction in capitalization and depreciation of different types of assets. For quite a long period the world has seen a marked increase in the stock market, accompanied by an increase in value of tangible and intangible assets on the balance of organizations. Especially strong growth occurred since 2006 and until mid-2008. During this period the value of the assets of OJSC "Severstal" has increased by 1.5 times (from 15.3 billion dollars to 22.5 billion dollars.)

Table 28. Selling, administrative and interest expenses of OJSC "NLMC" and "MMC" in 2007 – 2010, million dollars

Expense name	OJSC "NLMC"				OJSC "MMC"			
	year 2007	year 2008	year 2009	year 2010	year 2007	year 2008	year 2009	year 2010
Selling	442.7	734.5	654.6	708.9	551	650	429	565
*share in expenses, %**	*52.2*	*31.1*	*45.0*	*55.8*	*44.9*	*35.6*	*38.1*	*37.6*
Administrative	214.8	366.7	297.2	263.1	452	513	349	495
share in expenses, %	*25.3*	*15.5*	*20.4*	*20.7*	*36.9*	*28.1*	*31.0*	*32.9*
Interest	31.4	247.3	1709	15.9	87	110	87.3	140
share in expenses, %	*3.7*	*9.2*	*11.7*	*1.2*	*7.1*	*6.0*	*8.5*	*9.3*
Total	688.9	1318.5	1122.7	987.9	1090	1273	874	1200
share in expenses, %	*81.2*	*55.9*	*77.2*	*77.7*	*88.9*	*69.7*	*77.6*	*79.8*

Sources: consolidated statements of OJSC "NLMC" and OJSC "MMC" for 2008 – 2010, calculations of ISEDT RAS.

Table 29. Depreciation of assets of OJSC "Severstal" in 2007 – 2010

Divisions	year 2007		year 2008		year 2009		year 2010	
	million dollars	in % to profit	million dollars	in % to profit	million dollars	in % to profit	million dollars	in % to profit
Russian Steel	9.9	0.4	42.1	1.6	39.4	5.1	21.1	1.8
Severstal Resources	3.1	1.5	489.9	98.4	48.7	-20.0	15.8	1.5
Severstal North America	0	0	1004.4	-131.6	26.5	-2.4	44.2	-17.2
Lucchini	15.9	9.1	3.9	1.9	104.5	-20.0	-	-
Consolidated	28.9	1.1	1540.3	59.7	219.0	-20.0	81.1	4.2

Source: Consolidated statements of OJSC "Severstal" for 2007 – 2010.

However, the financial and economic crisis in 2008 led to a decline in business activity, downfall of stock market and depreciation of assets – fixed assets, goodwill and other assets[3].

Depreciation of assets of OJSC "Severstal" in the crisis amounted to 1.8 billion rubles. The most significant allowances "Severstal" had to do in 2008 were 1.5 billion dollars *(tab. 29)*.

Judging by the data in table 30, the basic part from the depreciation of assets in 2008 – 2010 took place at the overseas units of "Severstal". For example, North American Division has provided 65% of losses from allowances in 2008 and 55% in 2010.

The contribution of European companies in 2007 and 2009 was half of the losses of the holding.

The result of acknowledgement of losses from assets in 2008 was the reduction in taxable income by 40%. In 2009, the allowances of assets in 0.2 billion rubles increased the loss of the holding by 20%. In the division "Severstal" North America, depreciation of assets was a key factor in losses in 2008. But for the allowances, earnings of the US companies would have amounted to 241.2 million dollars. In the mining segment of the holding losses from allowances in 2008 amounted to 489.9 million dollars, which is almost comparable to the amount of profit (497.8 million dollars).

In two other steel companies – "NLMC" and "MMC" – losses from allowances of impaired assets have not had such a significant impact on the amount of taxable income. Thus, at the Magnitogorsk Complex depreciation procedures were held only in 2008 and

[3] Depreciation of assets can be explained based on the concept of an asset as a resource that can generate income in the future. Obviously, with a decrease in business activity and macroeconomic indicators it may be a situation where future incomes from the assets will be insufficient to recover their cost. In the case of such an assumption the company is obliged to conduct a depreciation test of its long-term assets. If the hypothesis is confirmed, the balance-sheet asset value should be reduced. In this case there is the assessment of recoverable amount. If the balance-sheet asset value exceeds its recoverable amount, depreciation loss is reflected.

Table 30. Depreciation of assets of OJSC "NLMC" and OJSC "MMC" in 2008 – 2010

Name	year 2008		year 2009		year 2010	
	million dollars	in % to profit	million dollars	in % to profit	million dollars	in % to profit
"NLMC"	128.4	4.1	43.7	7.3	58.2	3.4
"MMC"	56.0	5.0	0	0	0	0
Source: consolidated financial statements of OJSC "NLMC" and OJSC "MMC" for 2008 – 2010, calculations of ISEDT RAS.						

Table 31. Financial results of OJSC "NLMC" and OJSC "MMC" for 2007 – 2010, million dollars

Segments	year 2007	year 2008	year 2009	year 2010
Profit (+), losses (-)before taxing				
NLMC	3156.8	3131.7	594.7	1722.3
MMC	1626	1106	257	290
Net profit (+),losses (-)				
NLMC	2247.3	2278.7	215.1	1255
MMC	1306	1081	219	232
Source: consolidated financial statements of OJSC "NLMC" and OJSC "MMC" for 2008 – 2010.				

amounted to only 5% of taxable income. At the Novolipetsk Complex in 2008 – 2010 allowances resulted in decrease of profits by 3-7% *(tab. 30)*.

Slight losses from depreciation of assets allowed competitors of "Severstal" to end 2009 – 2010 profitably, despite a sharp decline in revenues and gross profit. However, net profit at "NLMC" in 2009 decreased by 90.6%, in "MMC" – 80% *(tab. 31)*.

We have examined the basic indicators of OJSC "Severstal", serving a basis for determining the taxable profits and the factors of significant changes during the crisis. What holding structures played a crucial role in the deterioration of the final financial results of its activities in 2009 – 2010? To answer this question we must analyze the data of segment reporting of profits and losses of "Severstal" *(tab. 32)*.

Judging by the data from Table 32, losses of OJSC "Severstal" in 2009 – 2010 were provided by foreign subsidiaries. In 2009, the share of the US companies accounted to 60% of losses, nearly a third of the losses was given by the European companies. But for the losses of foreign divisions, the holding would have got profit by the end of 2009 amounting to 0.5 billion rubles.

In 2010, the bulk of the loss was formed by the division "Lucchini". In general, losses of foreign assets exceeded the profit of the other two divisions by 1.3 times. As a result, up to 2010 the holding got a negative net profit indicator of 0.5 billion rubles (but for the foreign companies the net profit in 2010 would have amounted to 1.8 billion rubles).

Note that in the pre-crisis period, the US companies were unprofitable. Nevertheless, "Severstal" increased its presence in foreign markets by buying up assets. In 2007 – 2010 5.3 billion dollars were used for these purposes. In 2008 capital expenditures of Severstal in mergers and acquisitions in the USA reached $3.2 billion dollars and accounted for 94% of the total expenses of the company to acquirements in 2008. One-third of the acquired assets fell for the 4th quarter, when began the falling of price for steel products and profits. Virtually all the US companies were unprofitable at the time of the transaction and up to 2008 had a negative financial result, which was included in the consolidated financial statements of the holding.

According to the audit report, the earnings of the majority of the acquired companies from the dates of their acquisition are insignificant in relation to the profits of the holding in 2007 – 2008.

Table 32. Financial results of segments of OJSC "Severstal" for 2007 – 2010, million dollars

Segments	2007	2008	2009	2010
Profit (+), losses (-)before taxing				
Russian Steel	2448.3	2621.7	774.3	1183.6
Severstal Resources	200.9	497.8	-242.8	1066.9
Severstal North America	-144.1	-763.2	-1099.8	-256.4
Lucchini	174.0	204.4	-523.1	-
Consolidated	2576.2	2579.4	-1101.2	1914
Profit tax ("Russian Steel" and "Severstal Resources")				
Total	657.5	825.7	143.8	440.5
Including in the budget of the oblast	480.0	602.8	129.4	396.5
Net profit (+),losses (-)				
Russian Steel	1837.9	1979.6	604.6	947.8
Severstal Resources	153.8	314.2	-217	862.3
Severstal North America	-134.6	-373	-1084.3	-1072.8
Lucchini	93.5	136.5	-411.5	-1210.1
Consolidated	1876.5	2061.9	-1119.1	-515.0

* Income tax is calculated by ISEDT RAS according to the Russian tax rate (in 2007 – 2008. – 17.5%, in 2009 – 2010 – 18%).
Source: consolidated statements of OJSC "Severstal" for 2008 – 2010.

Table 33. Outstanding obligations of the companies purchased by OJSC "Severstal" in 2007 –2010, million dollars

Types of obligations	2007	2008	2009	2010
Credit debts	16.2	585.6	0	17.3
Tax liabilities	128.0	387.1	0	93.7
Pension payments	0	410.5	0	0
Debt financing	63.2	579.8	0	107.4
Other short-term obligations	41.9	296.8	0	38.7
Other long-term obligations	16.7	271.6	0	11.3
In total	266.0	2531.4	0	268.4

Source: consolidated statement of OJSC "Severstal" in 2007 – 2010.

In addition, the unliquidated obligations of the purchased enterprises were in 2007 – $266 million dollars, in 2008 – $2.5 billion dollars, in 2010 – 268.4 million dollars *(tab. 33)*.

After all the purchases made by "Severstal" the share of its foreign assets in the capacity of steel production has reached 60%. Consequently, it is possible to speak about the real transnationalization of the company's business.

However, according to the reporting data for 2007 – 2009, the main income source of "Severstal" was the Russian business, as for three years the division "Severstal North America" has been having losses, as it has already been mentioned. The data given in *table 34* can demonstrate the low efficiency of foreign assets purchased by "Severstal".

According to these data, naturally there is a question: for what purpose is it necessary to buy plants with the debt burden in amount of hundred millions USD and almost total lack of net profit? In addition, prospects for such companies are minimal in the highly competitive U.S. market. It is obvious, that the new purchases accelerate capitalization of the holding. Outwardly, this activity in the U.S. market looks like export of hundreds millions and billions USD, but increase in capitalization is used to finance transactions in the foreign market, rather than the new investment projects in Russia. This conclusion is confirmed by the data that characterize the direction and amount of investments into associated companies and joint ventures *(tab. 35)*.

Table 34. The purchasing costs and financial result of foreign business by OJSC "Severstal" in 2007 – 2009, billion dollars

Item	Severstal North America	Lucchini
Purchasing costs in 2007 – 2008	4.4	0.9
Capital investments in 2007 – 2009	2.0	0.67
Net profit (+), losses (-) in 2007 – 2009	-1.6	0.23 (in 2007-2008); -0.4 (2009)
Source: annual financial statement of OJSC "Severstal" in 2007 – 2009.		

Table 35. Investments into associated companies and joint ventures of OJSC "Severstal" in 2007 – 2010, million dollars

Company	2007	2008	2009	2010
Air Liquide Severstal (Russia)	7.5	10.1	13.8	17.9
Intex Resources ASA (Norway)				14.6
Iron Mineral Beneficiation Services (Africa)				7.2
Spartan Steel Coating LLC (the USA)	54.0	51.6	49.1	47.5
Ohio Coatings Company (the USA)		16.6	17.8	
LLC "Gestamp-Severstal-Kaluga" (Russia)			16.3	18.0
Double Eagle Steel Coating Company (the USA)	22.9	19.4	15.6	18.5
LLC "Gestamp-Severstal-Vsevolzhsk" (Russia)			15.9	14.9
LLC "Severstal-Gonvarri-Kaluga" (Russia)				10.0
LLC "Prognoz-Serebro" (Russia)		6.8	6.6	5.5
Bethlehem Roll Technologies (the USA)		4.3	3.9	
Todlem S.L. (Spain)			2.8	3.7
Others	1.3	2.2	2.2	0.7
In total	203.0	110.9	143.9	158.5
Including into foreign companies	**195.5**	**94.0**	**95.0**	**92.2**
Source: consolidated statement of OJSC "Severstal" in 2007 – 2010, estimation by ISEDT RAS.				

Against the background of the Vologda Oblast other "regions-metallurgists" spend more less its funds on the buying new assets.

The data given by Rosstat (the Federal Service of State Statistics) about buying subsidiaries according to the type of economic activity "Steel production" were used for making a comparative analysis *(tab. 36)*.

As you can see, even in the Chelyabinsk and Sverdlovsk oblasts, where production and profit from metallurgical enterprises are higher than in the Vologda Oblast, the amount of money spent on buying assets, was in 7-15 times lower.

At the same time years of 2007 and 2008 were characterized by global consolidation of steel industry. Many leading companies have declared that the increase of self-sufficiency in raw materials is a key strategic priority for them.

Especially, a lot of mergers and acquisitions by one firm of another were in the USA, where many middle-sized companies were bought by some international steel producers from other regions, including from Russia. According to the journal "Finance", in 2004 – 2008 the largest Russian metallurgical holding companies spent 20 billion USD on the buying assets abroad *(tab. 37)*.

The most active buyers are companies Evraz Group and Severstal that made 50 and 30% of all transactions. The most actively buying assets by all Russian holdings was carried out in 2008, when the indicators of industrial and financial activity began to decrease.

Steel companies spent the available resources not only on purchasing new structures, but also on paying dividends.

Table 36. Funds for buying subsidiaries in 2006 – 2009, million rubles

Oblasts	2006	2007	2008	2009	In total in 2006 – 2009	In % according to expenses in the Vologda Oblast
Vologda oblast	31 742.3	25 242.4	50 304.2	31 473.3	138 762	100.0
Chelyabinsk oblast	5 390.3	1 781.4	12 008	177.1	19 356.8	13.9
Sverdlovsk oblast	3 460.4	197.9	1 991.6	3 388.7	9 038.6	6.5
Kemerovo oblast	0.04	1 732.1	0	9.9	1 742	1.3
Belgorod oblast	0	0	162.6	0	162.2	0.1

Table 37. Profile purchases by the steel plants abroad in 2004 – 2008, million dollars

Company	2004	2005	2006	2007	2008	Total in 2004 – 2008
Evraz Group	0	282	110	5800	3315.8	9507.8
Severstal	386	0	30.5	800.9	4502.3	5719.7
Mechel	0	0	0	0	2157	2157
NLMIC	0	0	909	211.6	430	1550.6
MMIC	0	0	0	104	1000	1104
Total	386	282	1049.5	6916.5	11405.1	20039

Table 38. The accrued dividends in the steel plants in 2003 – 2009, million rubles

Plant	2003	2004	2005	2006	2007	2008	2009
Severstal	9425.7	9867	8222.6	10250.9	19247	30956.5	0
In % to net profit	*50.1*	*25.0*	*24.0*	*29.2*	*45.7*	*80.2*	*0*
NLMIC	36229	10787.8	17979.7	17979.7	17979.7	11986.5	1318.5
In % to net profit	*16.0*	*21.6*	*51.1*	*35.6*	*44.4*	*16.7*	*20.8*
MMIC	430.5	14244.5	19708.4	34112.4	10488.8	4268.6	4134.5
In % to net profit	*2.1*	*42.6*	*74.0*	*90.0*	*24.0*	*16.0*	*56.0*

Source: financial statement of OJSC Severstal, OJSC "NLMIC, OJSC "MMIC" in 2003 – 2009, according to RAS (Russian Accounting Standards) and calculations of ISEDT RAS.

The analysis of dividend policy has shown that the considerable part of the net profits was spent on these purposes. For example, if in 2004 – 2006 the dividend shares of "Severstal" was 24-29% of net profit, then in 2007 it was 45.7%, and in 2008 – 80%. At the same time the remaining part of its net profit remained unallocated according to the decision of general meeting of shareholders.

At the Novolipetsk steel plant in the period of 2003-2009 the accrued dividends amounted 16-50% of net profit, and at the Magnitogorsk steel plant – 16 – 90% *(tab. 38)*.

The most significant dividend payments on the Severstal were in 2008. Considering the company's dividend policy in this year, it is possibly to find out the following feature: the extraordinary general meetings of shareholders, where it was declared about dividend payments according to the results of 6 and 9 months of 2008, were held on September 30 and December 26, in other words in the first case, when it was clear that the crisis is unavoidable, and in the second case – when the losses were estimated according to results of the 4th quarter.

On November 13, 2008 the general meeting of shareholders at OJSC Karelian rolled briquette, the subsidiary of "Severstal", decided to set flat dividends, once for 2005 – 2007 in amount of 20.5 bill. rub., although the net profit of the company in 2008 was in 2 times less – only 10.1 bill. rub.

All these facts show that before the crisis the dividends reduced circulating funds of OJSC "Severstal", that is necessary timely to carry out production, financial and social obligations.

Table 39. Dynamics of financial indicators in Severstal, Novolipetsk and Magnitogorsk metallurgical industrial complexes in 2008 – 2010, billion rubles

	OJSC "Severstal"			OJSC "NLMIC"			OJSC "MMIC"		
	2008	2009	2010	2008	2009	2010	2008	2009	2010
Own circulating funds*	-38.0	-52.9	-64.4	41.0	43.1	65.1	18.1	11.2	-11.4
Long-term financial investments	274.6	291.8	252.5	109.1	112.3	96.6	28.3	45.6	66.5
Short-term debts	41.4	39.5	79.1	45.3	28.7	36.2	44.2	27.3	26.4
Net profit (+), losses (-)	38.6	1.4	-39.6	71.7	24.0	32.4	10.1	27.4	24.4
Accrued dividends	35.0	0	0	12.0	1.9	7.7	4.3	4.1	4.1
Unallocated profit**	148.8	150.1	106.2	221.9	246.6	274.0	105.7	129.5	149.8

* Own circulating funds according to ISEDT RAS is the difference between capital of the company and its non-circulating funds.
** According to the letter from the Ministry of Finance, from 23.08.2002 № 04-02-06/3/60 unallocated profit is the rest of net profit remaining at the disposal of the organization as a result of the activity in the last fiscal year and decisions on its use (in the direction of reserves to cover losses, dividends and capitalization, etc.). The index of unallocated profit in the balance sheet reflects the net profit accrued during the time of existence of the organization. The decision to use unallocated profit is made by the general meeting of shareholders.
Source: annual statements of metallurgical industrial complexes in 2008 – 2010, according to RAS (Russian Accounting Standards) and estimations by ISEDT RAS.

Since 2008, the indicator of own circulating capital of OJSC "Severstal" is in the negative zone and is tending to further reduction. Long-term investments at the end of 2008 have increased in 1.4 times according to their amount at the beginning of the year. Two-thirds of long-term investments were used as investments into subsidiaries. As in 2008 about 80.2% of net profit was directed to pay dividends, the amount of unallocated profit in the 4th quarter decreased in 13.2 bill. rub. according to the amount of profit at the end of the 3rd quarter *(tab. 39)*.

Thus, sending capital and reserves of OJSC "Severstal" to dividends and long-term financial investments was the key factors to reduce its own circulating funds before the crisis.

Steady decline in the financial responsibility of the corporation and the synchronous increase in short-term debts continued until 2011. According to the result of 2010 more than 64 billion rubles to finance non-circulating assets by means of own funds of "Severstal" are missing. As a result of its own funds deficit the corporation had to borrow non-circulating funds that inevitably led to increase in short-term debts in 2 times at the end of 2010 compared with the debt at the beginning of the year.

In the 4th quarter of 2010 in connection with loss in amount of 58.8 billion rubles the amount of accumulated unallocated net profit decreased in 63.2 billion rubles against the amount of profit in the 3rd quarter. At the beginning of 2011 unallocated profit as a redundant capital according to the balance sheet of the OJSC "Severstal" is 106.2 billion rubles.

Unlike the "Severstal" the financial responsibility of the Novolipetsk metallurgical industrial complex was increasing during 2008 – 2010. At the beginning of 2011 the plant could send more than 65 billion rubles of its circulating funds to finance non-circulating assets. At the same time debt financing was reducing. In addition, much less net profit (on average 20% against 50-80% in "Severstal") was sent for paying dividends.

In the Magnitogorsk metallurgical industrial complex, on the contrary, the share of its own sources of funding decreased annually, and at the end of 2010 its own circulating capital had a negative value. The lack of own circulating funds was caused by a significant increase in long-term financial investments, costs of fixed assets and incomplete construction.

Table 40. Accrued dividends to the general directors of steel plants in 2003 – 2008

Enterprise	2003	2004	2005	2006	2007	2008
Mordashov A.A. ("Severstal")						
Share fraction, %	82.7	82.7	82.7	82.37	82.37	82.37
Accrued dividends, bln. rub.	7.8	8.2	6.8	8.4	15.85	25.5
Lisin V.S. ("NLMC")						
Share fraction, %	95.5	95.5	89.95	83.16	84.61	86.76
Accrued dividends, bln. rub.	3.5	10.3	16.2	15.0	15.2	10.4
Rashnikov V.F. ("MMC")						
Share fraction, %	No data	No data	97.14	96.98	87.3	86.6
Accrued dividends, bln. rub.	No data	No data	19.1	33.1	9.2	3.7

The major shareholders (the general directors of metallurgical holdings) received the great share of accrued dividends *(tab. 40)*.

Results of the analyzing dividend policy in the largest metallurgical holdings of the country allow to conclude that this policy is based on the principle of maximizing owners' profit and then – stimulating future development. Huge amounts of dividends paid to the major shareholders of steel companies show that in recent years in all of these companies was formed the mechanism of transferring assets from corporate to individual property when their profit is derived abroad according to the dividend scheme.

The newspaper "Trud", the Agency of Political and Economic Communications have been ranking social responsibility of Russian companies since 2009. In August 2009, the social responsibility of the Novolipetsk Metallurgical Plant has been estimated by experts at 6.65 points (on a ten point scale), and "Severstal" – at 5.85. As a result of 2010 Novolipetsk Steel was rated at 5.61 points, and "Severstal" – 4.83. The owners of metallurgical corporations mainly solve business objectives. The objectives of national economic and social development in the logic of their actions are still in the background.

Conclusion

The research of the influence of corporate interests in the steel industry on the regional development allows making some fundamental conclusions:

1. In the Russian regions, where the dominant role in the industry belongs to steel industry, steel production provides more than half of tax revenues to the budgetary system. At the same time income tax is the leading one.

2. The global financial and economic crisis occurred in the Russian economy in the second half of 2008, negatively affected the production and financial activity results of Russian companies operating in steel production. As a result, budget revenues in the federal, regional and municipal levels, as well as the budgetary provision decreased deeply.

3. Social responsibility of Russian companies remains very low. During the crisis, profit of "Severstal" company was used primarily for buying loss-making U.S. companies, for maximizing owners' income and only then for investing profit into the future development.

4. Federal and regional state authorities cannot realize interests of Russian society and territorial communities, and also observe moral norms of behavior which are typical for socially-oriented state. And it is impossible to restrain the desire of private business for a permanent enrichment.

In order to overcome the oligarchic nature of Russian steel corporations, clearly manifested in their activities during the crisis, it is necessary, in our opinion, to correct the existing legislation and to adopt new standard acts. In particular, it should be:

- coming back to the problem of introducing progressive income tax rate. This measure will

reduce the tax burden of poor people and increase tax revenues from the taxation of excess profit, and it can ensure the social justice, as well as stimulation of consumer demand,

• considering the reasonability of establishing single tax rate on dividends in amount of 15%, that will ensure to limit the capital flight and to enrich the state budget,

• strengthening administrative measures according to large-sized business in order to collect debts on payments to the budget and extra-budgetary social f unds,

• radically changing legislation that controls insurance payments to social funds. These payments must be paid from all kinds and from all income levels, as health care, education and social security are a shared responsibility of all members of society,

• adopting standard acts that make investments of corporations in other industries through tax incentives more efficient and profitable,

• restricting right to set up offshore companies by major Russian corporations. In our opinion, it would be useful.

Of course, only the consolidation of all forces in the civil society according to large monopolistic structures will ensure their participation in the socio-economic development of the country and all subjects of the Federation and thus will ensure to increase the social responsibility of Russian business.

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The post-crisis economic development and prospects of innovation activity in the Tomsk region

Completion of the critical phase of the global financial crisis is the need for economic analysis of its possible consequences. The article presents an analysis of key aspects of economic activities of Tomsk region as an example of assessment of the prospects for the region's innovative development. It contains the data on the dynamics of post-crisis economic development and the proposals for innovative orientation of the region.

Innovative economy, economic analysis, innovation technique, development institution, investment, priority national project, special economic zone.

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Introduction

The key industry of Tomsk region is oil and gas complex, which accounts for about 20% of budget revenues and 40% of fixed asset investments. In the period of 2000 – 2004 the volume of industrial production by economic activity in Tomsk region has increased by 1.6 times (in Russia – by 1.25 times), but in 2005 there was a sharp decline in production. The situation in the industry of the region observed in 2006 – 2009 can be described as stagnation. According to the results of 2010, the situation in the oil-production enterprises of the region is estimated by experts as a relatively stable – JSC "Tomskneft" produced 10.3 million tons of oil. However, in connection with the repair of Luginetskaya compressor station the gas production decreased: natural gas and casing-head gas – by 9.9%, fuel natural gas - by 4%. In order to improve the situation in the oil and gas industry we have developed a program till 2020 on geological exploration and licensing of the right bank of the Ob River at the cost of 4.7 billion rubles and carry out the work to improve the efficiency of utilization of associated petroleum gas when developing the field. The index of industrial production in 2010 was 106.1% (in Russia – 108.2%). The share of extractive industries in the structure of industrial production in total amounted to 50.7%, the share of processing industries – 38.4%. There are six universities and about a hundred scientific and technical organizations, including 38 research institutes, 46 industrial research institutes and dozens of high-tech research and production associations of nuclear, defense and other industries in Tomsk.

Completion of the global financial crisis and regional economy

Investment in the Tomsk region. Tomsk region pays special attention to the issues connecting with improving the investment climate. It should be noted that the quality of life, education, culture and health in the region depends on it. For 2000 – 2007 the index of fixed capital investment increased by 2.7 times (in Russia – in 2.3 times). In 2010 the fixed capital investments amounted to 86 billion rubles and reached the pre-crisis level. In the years of 2007 – 2010 there were implemented several large investment projects worth over 15 billion rubles. So, there was put into operation one of the nation's largest plant for the production of wood-based panels, closed corporation "Timber processing complex "Partner-Tomsk" with capacity of 264 thousand cubic meters of MDF boards per year, the plant producing large-size porous block and facing brick with designed capacity of 60 million conventional bricks per year. There is the East Transport Node opened in the city of Tomsk, it is a part of infrastructure of the Tomsk economic zone, a new ice palace as well as the indoor track and field arena, it is the largest one in the Urals, it was built with the support of OJSC "Gazprom" and OJSC "Gazprom-transgaz-Tomsk". Annually for 13 years the innovative forums take place in Tomsk with direct participation of the largest Russian and foreign companies, public corporations and development institutions: Stock Financial Corporation "Sistema", company group "Renova", OJSC "Sibur-Holding", OJSC "Russian Venture Company", public corporation "Rosnanotekh", the Fund for promotion of small enterprises in scientific and technical sphere, OJSC "Information Satellite Systems named after M. Reshetnev", the British auditing company Ernst & Young, Venture Fund "Almaz Capital Partners", Nokia Siemens Networks, the world's largest consulting and auditor network "PricewaterhouseCoopers", the American trans-national company "Cisco Systems Inc".

The regional budget. Since 2007 to 2009 the consolidated budget of the Tomsk region was performed with a deficit. During the crisis a significant factor in reducing the revenue side (it was reduced by 3.7 billion rubles in

comparison with the planned one in 2009) was the decrease in the profitability of enterprises. To eliminate the budget deficit there were reduced not priority costs, in particular, for budget investment, regional and municipal target programs, expenditures to support agriculture and to maintain the executive powers. As a result of 2010 the budget revenues increased by 7.3% and amounted to 34.137 billion rubles. All expenditure commitments budgeted in 2010 were fully implemented (33.985 billion rubles). The core group of expenses (25.1%) was education expenditures. The regional budget has developed a surplus of 152 million rubles. The national debt of the region is 6.962 billion rubles. Self-sufficiency of the consolidated budget in January-November, 2010 was 78.88% (in Russia – 82.28%).

Implementation of the priority national projects in the Tomsk region. Implementation of the priority national projects (PNP) is successful as a whole. As a part of the PNP "Health" there was put into commission a perinatal center with 110 seats (project costs – 1.9 billion rubles) and 4 health centers including children's one working in the region. The issue of building the Regional Oncologic Dispensary equipped with the necessary equipment is still urgent. The implementation of the PNP has improved many health and demographic indicators.

During the implementation of the PNP "Education" 314 general educational establishments of the region have access to educational resources via the Internet, 95% of institutions have broadband access. A significant achievement is the victory of the Tomsk State University and the Tomsk Polytechnic University in the competition for the status of a national research university. The factors of success of Tomsk region are 10 universities, including 3 innovative universities, 2 National Research (TPU and TSU), as well as branch of NRNU MEPI in Seversk (STI). In 2010 – 2014 they will receive a federal subsidy of 1.8 billion rubles. According to the experts' opinion, one of the main obstacles to the implementation of the PNP is the need for open competitive bidding in accordance with federal law, it leads to delays in deliveries of goods and time delays in the use of government finance.

Within the framework of PNP "Affordable and comfortable housing – to Russian citizens" the regional authorities managed to stabilize the housing construction. In 2010 there were 437.068 sq m of housing commisioned. The program "Housing for young families" the region received 112.5 million rubles from the federal budget in order to improve the living conditions of more than 400 families (2.5 times more than in 2009). The commitments connecting with improving the living conditions of the Great Patriotic War veterans who were registered before March 1, 2005 are fully implemented. In 2008 – 2010 the region received some financial support from the Assistance Fund for Housing Reform in the amount of 1.856 billion rubles. 907 apartment buildings were overhauled completely (more than 126 thousand people have improved their living conditions) and the inhabitants form 120 houses under the threat of collapse were shifted to another places.

The implementation of the *PNP "The development of agro-industrial complex"* made it possible to stabilize production volumes: in 2010 the agricultural output in comparable prices made up 100.3%, the government support for agricultural enterprises increased by 8% (the regional budget support increased by 24%, the federal budget support decreased by 6%). More than 300 million rubles were directed to the purchase of machinery and equipment. The programs on development of cattle breeding has resulted the production growth in 2010 by 6.5%. By 20% increasing in the acreage planted and improving the technology of flax growing the gross yield of

flax was 1.97 thousand tons. But at the same time under a significant tightening of lending and reduce in credit resources, there were suspended large-scale investment projects on construction of dairy farms Ltd. "Rus", Ltd. "Ovoschevod", agricultural holding "Tomsk milk".

Implementation of the major federal and regional programs. The investment projects of Tomsk region in the raw-materials sector of the economy are represented by two major programs – a project on development of oil and gas fields in the right bank of the Ob River and a project on development of one of Russia's largest iron ore Bakchar site. Today the Russian company "Metropol", which has the license to develop iron ore deposit, limits itself to exploration work. According to the experts' estimate, innovative sector has proved to be more resistant to the global crisis than the raw-materials sector. The region has 30% of enterprises engaged in innovation activity (in Russia – 10%). Tomsk special economic zone (SEZ) of technology-innovative type is one of the most successful developing one in the country, thanks to the university and the scientific environment in the region as well as the active position of the governor, who became a chairman of the Association of Innovative Regions in Russia. Currently 57 resident companies are recorded in SEZ, including 7 residents with foreign capital participation.

As a whole the innovation infrastructure of Tomsk region includes 39 acting elements: the commercialization offices, business incubators (including in each university), innovation and technology centers, technology transfer centers and more than 400 innovative companies.

For 2006 – 2010 the investments in the development of Tomsk SEZ infrastructure amounted to 10 billion rubles, among them 4 billion rubles are the means of private business. The authorities have defined a project on construction of nuclear power plant in the closed administrative and territorial unit (CATU) of the town of Seversk as a priority direction. The main arguments in favor of the construction are the following: the region will be transformed from energy deficient one into energy sufficient one, the direct investment in the region's economy will be more than 170 billion rubles, it is planned to create about 11 thousand jobs. The first block of Seversk NPP is scheduled to be operational until 2020, the second unit – up to 2025. In 2010 the state corporation "Rosatom" partially funded the design work in the amount of 500 million rubles. The promising sector of the economy is the timber industry. In December, 2010 there was open Russia's largest factory for the production and lamination of MDF (CJSC "Timber processing complex "Partner-Tomsk") with an annual processing capacity of 650 thousand cubic meters of low-grade wood. Since 2006 the total volume of investments was 8 billion rubles.

Activities of large industrial enterprises and financial-and-industrial groups. The leading place in the branch structure of industry in the region is oil and gas complex, which accounts for 50.7% of total production. The largest companies involved in extraction and transportation of hydrocarbon resources in the region include: OJSC "Tomskneft" VNC (a subsidiary of OJSC "NC "Rosneft" and OJSC "Gazpromneft"), OJSC "Tzentrsibnefteprovod" (a subsidiary of OJSC "Transneft"), OJSC "Vostokgazprom" and Ltd. "Gazprom-transgaz-Tomsk" (subsidiaries of OJSC "Gazprom"). Despite the curtailment of the investment program, the main oil producer in the region OJSC "Tomskneft" VNC extracted 10.3 million tons of oil up to 2010. Over 100 oil wells were drilled instead of 73 planned. Net income of OJSC "Vostokgazprom" was by 30% more than in 2009 and amounted to 3 billion rubles. The company has the right to develop eight oil and gas license areas. At the end of 2009 – 2010 Ltd.

"Gazprom-transgaz-Tomsk" could improve its production performance. In accordance with the program of reconstruction, until 2012 the company upgrades the six electric drive compressor stations, which will make it possible to go to the automatic control system of gas pipelines. One of the largest enterprise of manufacturing industry in the region CJSC "Sibkabel" in January – September, 2010 achieved net profit of 148283 million rubles against 37112 million rubles of net loss for the same period in 2009. The company issued a marketable product for the 4.114 billion rubles. (by 1.9 times more than in 2009) and reached a production level as it was before the crisis in 2007. There are 91 organizations in the company register of the regional significance, they are supported by the regional administration.

The role of regional leadership in enhancing the innovative orientation of economic development.

The governor of the Tomsk region V.M. Cress has been heading the region since 1991. In March, 2007 on the proposal of the President of the Russian Federation the Tomsk State Duma deputies vested V. Kress with the authority of governor for the fourth term, the end of authority is March, 2012. The economic experts note the actual innovation focus of V.M. Kress's activity and mobilization of all resources to upgrade the socio-political and socio-economic situation in the region. The actions of the governor are supported by the Legislative Duma of Tomsk oblast and the mayor of Tomsk N. Nikolaychuk. According to the experts, the region has a significant industrial, economic and investment potential. The investment growth in 2007 was 265.8% compared to the year of 2000, by this indicator per capita the region passed ahead of the average Russian value and took the lead in the NWD.

However, during the global financial crisis the region management could not keep the upward trend in industrial production. In 2009 the gross regional product (GRP) was 140.5% compared to the year of 2000, with respect to the year of 2008 it fell by 6.3% and amounted to 256 billion rubles. In 2010 there was a growth in industrial production – 106.1% compared to the year of 2009 (in monetary terms – 121.1%), the indicators of housing stabilized (100.8%), the budget revenues increased by 7.3%. In the project "Strategy of Innovative Development of the Russian Federation until 2020" the region is one of the "successful innovation-active subjects".

Problems and dynamics of the economic development of the Tomsk region.

There are a number of the region's development problems that are not associated with the current crises and the measures to overcome them:

Electricity shortage. Currently in Tomsk region 46.2% of electric energy input is produced here. 41 settlements of the region are not connected to a general power grid, 42 diesel power plants with total capacity of 44.075 MW are working there. To solve the problem of energy shortage the construction of nuclear power plant in the CATU of the town of Seversk is actively discussed. Until 2013 it is planned to build the Bakcharsky thermal power station with capacity of 660 MW and 2 power generating units at Tomsk Heat and Power Plant-3 with total capacity of 450 MW.

Among the problems of agro-industrial complex at present are: the difficult financial state of most enterprises of the complex due to the low procurement prices for agricultural products, rising prices for fuel and lubricants, wear and tear of fixed assets (68%) and unavailability of credit resources - halted construction of 5 dairy complexes, as well as production reconstruction and modernization of JSC "Tomskmoloko". Only 64% out of 622 thousand hectares of arable land in the region are used, among them 45 thousand hectares are lost and require remediation.

Growth of indebtedness for utility services. The rates growth outpacing consumer inflation and population incomes has led to an increase in arrears for utility services. So, the total backlog for electricity to OJSC "Tomsk Energy Retail Company" as of October 1, 2010 amounted to 317.9 million rubles. 80% of the fixed assets of the municipal enterprise "Tomsk Power Complex" are worn, their reconstruction requires 1.4 billion rubles.

The problem of dilapidated and dangerous housing. The housing stock of the region is 21.5 million sq m, among them 1053 million sq m is the share of tumbledown housing (by 1.5 times higher than the average Russian level). It includes 7.7 thousand houses, including 5.4 thousand apartment houses.

Health care problems. The region has a high incidence of malignant neoplasms – 372.2 cases per 100 thousand population (by 7.7% more than the national average) and the mortality rate – 218.9 cases per 100 thousand people (by 7.6%). The issue of building the Regional Oncology Center equipped with the necessary equipment is still urgent. Among the key issues the experts note a lack of support of federal health care standards, staffing shortage of young health workers, insufficient prevention efforts and inadequate medical technologies.

Post-crisis dynamics in the region's economy. The financial crisis in the region had the greatest impact on industrial production, construction, investment in fixed assets and balance of the regional budget. So, in 2009 there was negative oil production performance by the major oil producing companies OJSC "Tomskneft" VNK and OJSC "Tomskaya neft". Machinery manufacturing declined by more than 5 times, the growth rate of housing construction fell by 17.3%. The share of unprofitable enterprises in 2009 increased to 36.7%. According to the experts' opinion, the region has sufficiently diversified economy, which reduces the fall risk of the gross regional product (GRP).

One of the factors of stability to the crisis is a powerful scientific and educational complex, which occupies the third position among the major sectors and has a positive impact on the regional economy as a whole. In 2010 the production volumes of 400 Tomsk innovation enterprises grew by 17%. The innovative breakthrough in the region in 2011, according to experts, will be the largest investment project – the creation of the Federal Center for Education Research and Development (INNO Tomsk-2020).

Now the region's economy actively recovers and goes to the post-crisis phase of sustainable development. According to the Federal State Statistics Service, industrial production index by the main economic activities in 2010 amounted to 106.1% (in Russia – 108.2%), including those in manufacturing industries – 109%. Compared with the year of 2009 we can observe a rapid increase in mechanical engineering (242.5%), wood processing and production (123.6%), manufacturing of petroleum products (120%), nuclear materials (106.8%), metal manufacturing (117.4%) and food industry (107%). One of the development factors in the regional economy is the small and medium businesses. Over 40% of the working population of the region, 17.3 thousand small firms as well as 31 thousand entrepreneurs are engaged in this area.

The economic situation in the one-company towns of the Tomsk region. There are two one-company towns in the Tomsk region – the town of Strezhevoy (OJSC "Tomskneft" VNK) and the CATU of the town of Seversk (OJSC "Siberian Chemical Complex", a structure of state corporation "Rosatom"). In Strezhevoy there is a main oil-producing company working in the region. It is a budget-producing enterprise – OJSC "Tomskneft" VNK, providing 67% of oil production in the region. The industrial and technological support for the company is done by 20 companies of Strezhevoy.

The town's budget, which is subsidized, is characterized by financial and economic dependence on the regional budget. In 2010 the budget revenues amounted to 1.258 billion rubles, the items of expense – 1.238 billion rubles. The experts note the absence of housing deficit in the town housing market as well as effective economic ties with the city of Nizhnevartovsk of Khanty-Mansi Autonomous Area. A comprehensive investment plan of modernization of the one-company town includes such major projects as construction of a bridge over the Vakh River on the highway Nizhnevartovsk – Strezhevoy (project costs – 10.11 billion rubles) and modernization of the Strezhevskoy petroleum refinery (1.436 billion rubles).

Another one-company town is the CATU of Seversk. The main enterprise is OJSC "Siberian Chemical Complex". In 2010 the Seversk's budget received 2.842 billion rubles, the expenditures amounted to 2.835 billion rubles. A comprehensive investment plan to upgrade the company town is being developed. Among the housing problems the first place is taken by high tariffs, health problems – a shortage of qualified medical personnel and high prices of medicines, education problems – low pay of teachers. In the experts' opinion, the opening of Seversk may exacerbate a difficult unemployment situation by releasing 1.2 thousand workers from controlled-access enterprises and by eliminating the federal subsidies of more than 1 billion rubles.

The examples of possible directions of innovative development of the technological complex of the Tomsk region.

In 2002 there was created a regional innovation strategy in the Tomsk region, it's the first such strategy in the Russian Federation. The law "On innovation activity in Tomsk region" has already edited twice (the first time - in 1998, the second one – in 2008). Mechanisms for implementing the innovation strategy of Tomsk region:

- inter-agency program "Design and implementation of innovative development of the territory by the example of Tomsk region" (since 2002).

- the Regional Target program (RTP) "Development of small and medium entrepreneurship in Tomsk region" (since 1996).

- the RTP "Development of innovation activity in the Tomsk region" (since 1998) and others.

The Russian President Dmitry Medvedev has supported the proposal to put Tomsk region into the status of the Federal Center for education, research and development. The creation of SEZ, integration of science and education, all these measures should lead to a substantial development of innovative activity in the region. However, the experience of international innovation programs shows that such development is mainly based on small and medium business. At the same time both large enterprises and financial-an-industrial groups should be also involved in innovative development. Below you can see the preliminary estimates of technology areas that enable the innovative development of the regional technological complex.

Producing Complex of the Tomsk region. The largest companies involved in extraction and transportation of hydrocarbon resources in the region include: OJSC "Tomskneft" VNC (NC "Rosneft"), Ltd "Gazpromneft-Vostok" (a subsidiary of OJSC "Gazpromneft"), OJSC "Tzentrsibnefteprovod" (a subsidiary of OJSC "Transneft"), OJSC "Vostokgazprom" and Ltd. "Gazprom-transgaz-Tomsk" (subsidiaries of OJSC "Gazprom").

OJSC "Tomskneft" VNK (owned OJSC NC "Rosneft" – 50% and "Gazprom Neft" – 50%) is the main oil-producing and budget-producing enterprise in the region, it owns 24 licenses for oil and gas production, including 17 licenses for the deposits in Tomsk region,

7 – in the Khanty-Mansi Autonomous District. In addition, the company owns 9 license blocks for exploration and oil production, and it is also an agent for the right to develop 4 licensed areas of other subsoil users. Following 2010, the company produced 10.3 million tons of oil and put into commission more than 100 wells.

OJSC "Tomskaya neft" (owned holding company OJSC "Russneft"). In 2009 the company cut its oil production by 12% compared to the year of 2008. The investment performance of the company for 2009 was reduced by 6 times. In 2010 there was some positive dynamics of oil production at all plants NC "RussNeft" (CJSC "Tomskaya neft", CJSC "Sobolinoe", Lcd. "Grushevoe", Lcd. "Fedyushkinskoe", Lcd. "Stolbovoe", Lcd. "Duklinskoe") – 0.31 million tons of oil.

OJSC "Vostokgazprom" is a subsidiary of OJSC "Gazprom", whose share in the company's share capital amounts to 99.98%, the region's largest gas production company providing a full production cycle from the deposit development, extraction of hydrocarbon raw material to the preparation, making of marketable products and deep processing. Currently the company owns the right of using the subsoil of 8 license areas located in Tomsk region. During its existence the company has produced 34 billion cubic meters of gas, 3.3 million tons of condensate and about 400 thousand tons of oil. The structure of OJSC "Vostokgazprom" includes subsidiaries and affiliated companies: OJSC "Tomskgazprom", Lcd. "Sibmetahim", Lcd. "Gaztransservis", Lcd. "Tomskneftegazpererabotka", Lcd. "Service Center "Vostok".

OJSC "Tomskgazprom" (a subsidiary of OJSC "Vostokgazprom"). It is among the top three of the oil and gas enterprises of the Siberian Federal District. The main activities are geological survey, exploration, extraction and processing of hydrocarbon raw materials; capital construction, development and arrangement of hydrocarbon deposits; sale of gas, condensate, crude oil and refined products. By the end of 2010 OJSC "Tomskgazprom" produced 2.83 billion meters of gas and 0.59 million tons of oil. As the representatives of the company say, the stabilization of the volume of gas production is connected with the effective use of associated gas of the South Group deposit, with the development of gas condensate reservoirs of the deposits of Ostaninski block and with drilling-out the Myldzhinskoye and the North Vasyuganskoye deposits up to the end. The plans of the company are to transport oil from the customs territory of Russia through the Far Eastern terminal Kozmino, which is a part of pipeline system Eastern Siberia – the Pacific Ocean.

Lcd. "Gazprom – transgaz – Tomsk" is a subsidiary of OJSC "Gazprom". It was created in 1977 as a production and gas transportation company of the gas industry. It is engaged in transportation of natural gas in 12 regions of the country (the total length of gas-main pipelines is about 7 thousand km). Among the company's consumers are the West Siberian and Novokuznetsk metallurgical plants, Kemerovo "Azot", Lcd. "Tomskneftekhim", OJSC "Siberian Chemical Combine", Novosibirsk plant "Iskra".

One of the most important areas of socio-economic and energy-efficient development of the region is the gasification of the region. An agreement was reached with Lcd. "Mezhregiongaz-gas Moscow" to start work on gasification of Ob project and Chainski area. In 2009 five gas distribution stations were put into commission. In accordance with the reconstruction program, until 2012 the company will have upgraded six electric drive compressor stations, and it will go to the automatic control system of gas-main pipelines. It is planned to use the resources of Lcd. "Gazprom-transgaz-Tomsk" to create a transportation system Yakutia – Khabarovsk – Vladivostok.

An innovative orientation of the producing complex of Tomsk region can be new geophysical methods of exploration and evaluation of deposits, they can increase the effectiveness of the extractive industries.

Processing Complex of the Tomsk region. OJSC "Siberian Chemical Plant" (OJSC "SCP") is incorporated into the integrated company "Atomenergoprom", and it is one of the leading enterprises of the nuclear industry and a large single set of nuclear technology cycle. The main activities of OJSC "SCP" are to provide services on an operating time of raw uranium hexafluoride and uranium enrichment under the international contracts and the contract with OJSC "TVEL", to process highly enriched uranium (HEU) into low enriched uranium (LEU) under the American-Russian agreement HEU-LEU, to produce chemicals and stable isotopes. The basis of "SCP" is 7 plants, heat electropower station as well as the design office and a number of support units. Last two years the plant has certain orders for the nuclear weapons complex of the country (2.7% – the state defense order), but 38.8% of production is a contract under international treaties. Thus, the plant is one of the main exporters of Tomsk region. Since 2008 the company held events connected with shutdown of the industrial nuclear reactors and with corporatization of the enterprise and optimization of staff size. After stopping the reactor production OJSC "SCP" was guided by the "uranium triangle" (radiochemical preparation of natural uranium or uranium-generated, its transformation into uranium hexafluoride at the sublimation plant and enrichment at the isotope separation plant), which gives at present over 70% of the gross volume and more than 95% of the profits. In May 2010 at the sublimation plant of OJSC "SCP", in the framework of optimization of technological schemes of the nuclear-fuel cycle enterprises, there was successfully put into operation a new technological line for production of raw uranium hexafluoride, it is intended for processing natural uranium materials. During January-September 2010 the net profit of OJSC "SCP" increased by more than 3 times and amounted to 1411 billion rubles. The sales proceeds increased by 15.3% and amounted to 11772 billion rubles. Due to the introduction of new energy saving technologies we received an economic effect of about 3.5 million rubles. In 2010 "SCP" entered into a single fuel company "Rosatom" – OJSC "TVEL" producing nuclear fuel.

Basic petrochemical industry is Ltd. "Tomskneftekhim", it is a part of OJSC "Sibur Holding". OJSC "Zavod Benzol" owns shares of Ltd. "Tomskneftekhim" and Ltd. "SIBUR Finans". Ltd. "Tomskneftekhim" takes one of the leading positions in Russia by production of polypropylene and low density polyethylene, and it is one of the major taxpayers in the budget of Tomsk region. The difficult economic situation has made adjustments to the plans of the company's development. In 2009 the volume of investments amounted to 450 – 500 million rubles. Some expensive projects were suspended. At the same time at the end of 2009 Ltd. "Tomskneftekhim" increased the production of polymer products from 3 to 7% by various items.

The growth of the company's indices is due to reduction in terms of stopping repairs and a number of measures to improve the technological process. In 2010 the company started production of polypropylene of new dedicated brands to produce nonwovens in the Kemerovo Orton (a structural unit of "Sibur").

One of the largest processing enterprises of Tomsk region is CJSC "Sibkabel" (since 1999 it has been a part of the Urals Mining and Metallurgical Company"). It is the leading machine-building enterprise of Russia, its modern nomenclature has more than 60 brands of cables and over 2 thousand mark-size wires.

The company collaborates with the Research Institute of cable "Niki" in Tomsk, which has a testing center and a well equipped pilot production. In 2009 because of the financial crisis CJSC "Sibkabel" suspended the construction project of workshop for production of rubber.

The factors which have influenced the change in the size of sales revenue, were falling of solvent demand for manufactured products, reduction of market value of the basic raw material for production of cable products in the metals market, lower average sales prices in the market of cables and wires. The achieved volumes make it possible to implement the investment programs, to continue the planned upgrade, construction and to carry out social obligations. The biggest investment in mainline production (about EUR 5 million) is planned for 2011, including the construction of a new workshop for production of rubber after the technology of UK Company Farrell.

Energy Complex of the Tomsk region. In the energy sector of the region one of the largest energy companies in Western Siberia is the OJSC "Territorial generating company № 11" (OJSC "TGC-11"). OJSC "TGC-11" is engaged in production and sale of heat and electric power. The company was established on the basis of generating capacity of OJSC "Omsk Electricity Generation Company" and OJSC "Tomskenergo". There are 5 heat and power plants, State District Power Plant and 2 boilers under the management of "TGC-11". The company operates in three regions of the Russian Federation – Omsk, Tomsk and Novosibirsk regions. The installed capacity of "TGC-11": the electric one is 2051 MW, the heat one is 8181.79 Gcal/h. The authorized capital is 5.1 billion rubles. The investment program of OJSC "TGK-11" for 2006-2010 was formed in the volume of 12.5 billion rubles. Tomsk Branch of OJSC "TGC-11" was established in November, 2007 on the basis of "Tomskenergo".

Now the branch operates on the basis of generating capacities of Tomsk GRES-2, Tomsk Heat and Power Plant-3 and peak backup boiler. The total installed capacity of the branch: electrical – 471 MW, heat – 2491 Gcal/h. The preparatory construction and installation works are going on in order to replace obsolete equipment with modern unit of the Italian firm "Sicme" and the Finnish company "Maillefer". The structure of OJSC "TGC-11" and its branches has been optimized, duplication of functions is impossible. The outcome of the 2009 net profit of OJSC "TGK-11" was 326 million rubles. In general, the company has invested about 3 billion rubles into the energy of Tomsk region in 2009, including 2 billion rubles invested in the development of generation energy capacity – the installation and commissioning of new turbine T-50 at Tomsk GRES-2, which made it possible to increase the plant capacity by almost 20%. There was also launched a new boiler for Heat and Power Plant-3. In 2009 1 billion rubles was allocated to build two transformer substations and modernization of electric networks. The investment program of OJSC "TGK-11" for 2010 was formed in the amount of 1.7 billion rubles, among them about 306.2 million rubles will be invested in the reconstruction of the boiler of Tomsk GRES-2 and a heat plot № 4 of heat networks. For the lack of investors the question about the reconstruction of Heat and Power Plant-3 is still free-answer.

Agro-industrial complex of the Tomsk region. The largest company in the production of meat foods and meat is the Siberian Agrarian Group (CJSC "SAG") – a vertically integrated agro-industrial holding company, operating in a closed production cycle. The company owns more than 30 thousand hectares of arable land in Tomsk and Sverdlovsk regions. By volume of production processing, it takes a major share of the regional market (70%). CJSC "SAG" includes a pig-breeding complex in the village

Svetly (Tomsk region), pig complex "Uralski" (Sverdlovsk region), two meat packing plants in Tomsk and another in the city of Kemerovo, Asinovo Feed Mill (Tomsk region), Asinovo City Dairy, CJSC "Sibirsk beer". CJSC "SAG" owns retail chains in Tomsk (60 outlets) as well as opened branches in the cities of Novosibirsk, Kemerovo, Krasnoyarsk. Because of the financial crisis the company has suspended a number of projects. In December, 2010 the company opened two modernized enterprise – Seversky City Dairy and Tomsk combined meat packing Plant. The company plans to expand the pig farm "Uralski" and to build the pig farm "Eastern Siberian" in the Republic of Buryatia, worth over 2.5 billion rubles.

An innovative trend in the development of the Tomsk region.

Tomsk region is one of the leading scientific and educational centers in Russia. Since 2003 a program of innovation development has been implementing in its territory. The major universities having been received the status of national research universities are among the best ten universities in Russia. The research activities of universities and institutes located in Tomsk region are aimed at strategically promising directions, including new materials and nanotechnology, biotechnology, information technology, medical devices, telecommunications and precision engineering and petrochemicals.

The contribution of scientific and educational complex in the GRP is over 7%. Among the Russian regions the Tomsk region has the highest proportion of workers with higher and secondary education out of the workforce. The development of innovation sector as a whole was characterized by a significant increase in the volume of shipped goods of own production, of done work and services of in-house innovation active enterprises – by 1.3 times, including the volume of shipped innovation goods of own manufacturing and done works and services of innovative nature has increased by 18%.

Under the new conditions the intellectual potential is considered as the main competitive advantage of Tomsk region and its primary strategic resource for the development of the region's innovation economy based on the integration of education, science and industry. The confirmation of this potential was the Tomsk region victory in 2005 in a government tender for the right to establish the SEZ of technology-innovative type. The economic zone in Tomsk is located in two plots totaling 197 ha. The following things are planned to develop in the SEZ:

- information, communication and electronic technologies (development and prototypical (experimental) production of software and hardware of digital TV, development of power devices and high-current electronics, radio systems and communications; quantum electronics devices etc.);

- production of new materials and nano-technology (the development of technologies for production of metal nanopowders, sub-micron flour grain of inorganic compounds, inorganic nano-fibers, structural ceramics based on zirconium dioxide; bio-composite materials based on nano-structured titanium, etc.);

- biotechnology and medical technology (the production of stem cells and the provision of services on the basis of cell therapy, production of recombinant proteins and a new generation of pharmaceuticals based on them; biotechnology mining and mineral processing, production of bio-energy in the utilization of biomass (raw waste lumber and bio-organic waste); biological instrument engineering (production of biosensors and biochips), and others).

In early March, 2011 the National Research Tomsk Polytechnic University on the basis of the Institute of Natural Resources opened Siberian Regional Academic Center for SAP. This is the first and only regional SAP Certification Center in the Siberian Federal District.

SAP is the world's leading provider of software solutions for business management. SAP software products meet all requirements of any scale of companies. There are more than fifty organizations using the system SAP in Tomsk.

The new center will provide an opportunity for companies and universities in Siberia to receive advisory support for the software company SAP in logistics, financial management, project management and other business processes.

Currently the efforts of Tomsk region are concentrated in the direction of giving the status of the Center for Science, Education, Research and Development to the whole region. It could be a logical continuation of the way already traversed by the region in order to create innovative developments by Tomsk enterprises, to construct an innovation infrastructure, to create a special economic zone of technical and innovation zone. The creation of both Innovation Centre "Skolkovo" and special tax treatment for the participants of this project will be sure to lead to a breakthrough in innovative development of the country, if it is extraterritorial project, which will be able to interact with other innovative advanced regions.

As to the part of innovative promotion it is important to have a systematical analysis of the relationships, to organize the integration, to take into account the specifics of each individual region, because science and innovation process can not be developed in some sort of administrative or territorial limits. An Interregional "Association of Innovative Regions in Russia" will serve this purpose. Memorandum of its creation was signed in May, 2010 in Tomsk during the XIIIth Innovation Forum "Innovus". In October the region signed the constitutive documents. The association includes eight subjects - Irkutsk, Kaluga, Novosibirsk, Tomsk, Krasnoyarsk regions and Perm Krai, the Republic of Mordovia, Tatarstan, as well as "Rosnano", the Russian Venture Company and the Academy of National Economy.

The list of tasks that must be resolved in the near future in the region for the transition to the innovation-oriented economic development includes:

- formation of a full-fledged regional innovation system in accordance with regional characteristics;
- mobilization of the intellectual potential of educational and research institutions to develop innovative business that can be achieved by both economic and political measures;
- more active attraction of foreign investment in the development of regional economy, establishment of partnership with the world's largest innovative companies.

Conclusion

High-end technology is the most important in the economy based on knowledge. But it's no less important for the future of the region to have notice of another direction, which is associated with the extraction of minerals. When the state policy emphasizes the innovation-oriented economy, they often forget about the improvement of raw-materials industries. It is impossible to increase the productivity and the volume of mining without innovation and technological change in traditional industries.

Innovative type of development of the region requires mandatory support for basic industries (machine building, timber, oil and gas complexes, energy sector) as the basis for the technical reconstruction of the regional economy. The biggest technological advance is in geology and exploration, oil-and-gas production and petrochemistry, timber processing, machine building and instrument making. Transport, energy sector, housing and utilities and public services are provided with research and projects least of all.

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Protest sentiments of the region's population in crisis

One form of social protest is the protest sentiments of the population, i.e., the expression of extreme dissatisfaction with their position in the current situation. In the present paper we make an attempt to trace the dynamics of protest potential in the region, draw a social portrait of the inhabitants of the region prone to protest behavior, identify the most important factors determining the formation of a latent protest activity, and identify the causes of the relative stability of protest potential in the region during the economic crisis.

The study was conducted on the basis of statistics and results of regular monitoring held by ISEDT RAS in the Vologda region.

Social conflict, protest behavior, protest potential, community, monitoring, social management, public opinion, crisis, socio-economic situation.

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In the contradictory trends in the socio-economic development of territories and the population's material welfare, the issue of socio-psychological climate in society, the escalation of internal contradictions and conflicts is being updated.

One form of conflict expressions is social protest. The concept of "social protest" in modern sociological literature covers a rather wide range of phenomena. In its most general form protest means "strong objection to anything, a statement of disagreement with anything, the reluctance of something" [1].

Social protest is considered as "challenging", "denial" of the entire social reality, the very principles of social organization, and the rejection of any individual parts of political life, the resentment of the existing orders and institutions of government in general, and opposition to certain tendencies in politics [2].

Mass protest can be organized or spontaneous, direct or indirect, have the character of violence or nonviolence. There can be the following forms of protest: rallies, demonstrations, picketing, campaign of civil disobedience, strikes, hunger strikes, absenteeism, "protest vote", terrorism, extremist actions, complaints, appeals to the courts, armed struggle, etc. [3].

In modern literature there are various conceptual approaches to the definition of models and forms of protest activity. In this case, the majority of researchers, talking about social protest, mean primarily the phenomena of active social action, real social behavior, focused at more or less profound social transformation, open population's confrontation with the existing structures of authority and actions against the areas of government policy.

However, the peculiarity of the modern period in Russia is the weakening expression of social disturbance at the behavioral level, the development of latent forms of protest activity. So, according to statistics, since 2007 to 2009 the number of workers involved in strikes in Russia decreased from 2.9 to 0.01 thousand people [4].

At the same time, according to the Analytical Center of Yuri Levada, in 2009 – 2010, 27% of Russia's population considered mass protests in the cities (areas) of their residence as possible, 20% did not exclude the likelihood of their participation in these actions [5].

In this regard, the identification and measurement of protest sentiments, i.e., the potential propensity of people to participate in protests are becoming particularly relevant and significant.

Since 1995, within the regular monitoring of public opinion in the territory of the Vologda oblast the Institute of Socio-Economic Development of Territories of RAS has been tracking the major trends in the protest sentiments of the region's population[1]. The protest potential is made up by the respondents who answer the question: "What measures are you willing to take to protect your interests?" in the following way: "I will take part in a rally, demonstration"; "will participate in strikes, protests"; "if necessary, I will take arms, go out to the barricades". The idea is that a person admits the possibility of his or her participation in protests. Thus, the "protest group" is made up with the residents of the region, characterized by a certain emotional mood, which is not always identical to the active social behavior.

The research of potential propensity of people to participate in protest actions allows us to analyze various aspects of the phenomenon of social protest: First, it allows clarifying the nature of protest sentiments, namely, the mechanism of formation of attitudes of social discontent, as well as sources and factors contributing to the accumulation of protest sentiments. Secondly, the study of protest sentiments helps to trace their escalating into aggressive action, to identify trends in public opinion, which stimulate or, alternatively, limit the realization of social discontent at the behavioral level.

[1] The surveys are conducted 6 times a year on the even months. The total number of the polled is 1500 respondents in the cities of Vologda and Cherepovets, the Districts of Babayevo, Veliky Ustyug, Vozhega, Gryazovets, Kirillov, Nikolsk, Tarnoga, Sheksna.

The sample representativeness is provided by the following conditions:

- Ratio between urban and rural populations;
- Ratio between the inhabitants of settlements of various types (rural settlements, small and medium-sized cities);
- Sex and age structure of the adult population of the oblast.

The method of the survey is a poll by the place of respondents' residence.

Sampling error does not exceed 3%.

Table 1. Dynamics of major indicators of economic development of the Russian Federation and the Vologda Oblast, in %

Indicator	2008 to 2007		2009 to 2008		2010 to 2009	
	RF	VO	RF	VO	RF	VO
Industrial Production Index	102.1	94.7	89.2	87.6	108.2	110.7
The index of agricultural products	110.8	99.5	101.2	97.3	88.1	92.8
The volume of retail trade	113.0	106.7	94.5	82.6	104.4	110.9
The volume of paid services	104.9	103.2	95.7	95.6	101.5	97.8
Real cash income	104.7	101.6	103.7	92.8	103.8	104.4
Registered unemployment rate, %	2.0	1.9	2.8	3.7	2.5	2.4
Source: Data from the Federal State Statistics Service (http://www.gks.ru).						

Thirdly, the analysis of protest sentiments is needed to identify the social base, i.e., the category of persons who are likely to be engaged in active protest actions.

In this paper we analyzed the results of opinion polls conducted by ISEDT RAS in the Vologda oblast, which reflect the level of protest potential in the region, its social basis, the factors which determine the formation of a latent protest activity. The article proposes the further development of provisions nominated by the author earlier, contained in earlier papers on this subject [6].

A significant economic downturn, which came at the end of 2008 – the first half of 2009 affected Russia in general, and affected the economic and social development of each region. Among the territories most affected by the crisis, was the Vologda Oblast.

In 2010, mixed trends were observed in the development of economic and social sphere of the Vologda oblast *(tab. 1)*. On the one hand, there was an increase in industrial production, the population's real incomes increased, the situation in the market of consumer goods improved, the level of registered unemployment decreased. On the other hand, the decline of agricultural production continued. With the overall growth of real incomes the volume of paid services to population is reducing, which is an indicator of the dominance of a limited model of consumption.

Despite the measures to overcome the consequences of the crisis taken at federal and regional levels, the pre-crisis values for any of the indicators have not yet been achieved.

To analyze the main trends of socio-economic status, socio-political sentiments and social well-being of the population in the economic crisis, we used index analysis. The method of index constructing allows to reveal the proportion of positive and negative sentiments in society, to track dynamic changes in population estimates, and to assess the current social situation in terms of further development of the country and the region.

9 particular indexes have been calculated. The empirical base for indexes calculation is the data of regular monitoring conducted by ISEDT RAS in the Vologda Oblast.

To calculate each index the proportion of negative responses is subtracted out of the proportion of positive ones, then to the resulting value 100 is added, in order not to have negative values. Thus, totally negative responses would give the general index of 0, totally positive – 200, the balance of the first and second – 100 index, which is a neutral marker per se. Index value exceeding the border of 100 points confirms the prevalence of positive evaluations. Index value below 100 points shows that the negative estimates dominate the positive ones.

Indices calculated by this method are combined into three groups. The indices included in the first group, reflect the Vologda oblast population's perceptions about the economic situation of the country and the

Table 2. The index of estimates of the economic situation of the country, the index of estimates of the economic situation in the region and the index of expectations of the country's economy development

Indicator	2007	2008	2009	2010
The index of estimates of the economic situation of the country (Question: "How do you estimate the country's economic situation?")	105.9	99.6	67.5	75.9
The index of estimates the economic situation of the oblast (Question: "How do you estimate the economic situation in the oblast?")	108.3	103.9	65.3	72.9
The index of expectations of the country's economy development (1st year) (Question: "Do you think the next 12 months will be a good or a bad time or whatever else for the economy?")	124.4	112.1	71.8	94.3

region and prospects for its development. The indices of the second group characterize satisfaction of current material well-being of families, wishes to change their financial position. The indices of the third group record the estimates of the political situation in the country, the attitude of the region's population to the authorities' activities.

As the results of calculations show, for the period from 2008 to 2009, the population's estimates of the current socio-economic situation in the country and the region deteriorated markedly. Thus, the estimate indexes of the economic situation of the country and the region in 2009 were established at the lowest marks for the entire period of measurement (68 and 65 points), indicating a significant preponderance of negative evaluations. In 2010, the rates of these indicators increased slightly, but they did not reach the pre-crisis level of 2007 – 2008. *(tab. 2)*[2].

On the background of worsening estimates of the current state the expectations of the population also become less favorable. The index of development prospects ratings of the country's economy declined in 2009 by 40 points. In 2010 this indicator has improved, but it still remains below the level of 2007 – 2008.

In 2009, there was a tendency to reduce the index of personal financial situation of the population and its prospects. Compared with the previous year these figures had fallen to 34 and 16 points *(tab. 3)*. Deterioration of material well-being assessments is associated with the rising cost of living and lower purchasing power of population's incomes in the region. Thus, between 2008 and 2009, the ratio of per capita income (estimated by the population) to the subsistence minimum decreased from 1.5 to 1.3. As a result the proportion of the oblast's residents with an average level of purchasing power of income ("money is enough to buy necessary goods") fell from 58 to 52% and the proportion of low-income categories ("money is enough in the best case only for food") increased from 30 to 40%, respectively. In 2010, these indicators increased (by 11 and 5 points respectively), but still remained below the pre-crisis level.

In crisis the structure of social self-identification of the region's population has also worsened: in 2009, this index decreased by 13 points and was below the limit of 100 points, indicating a preponderance of individuals with low socioeconomic status ("poor and beggary"). In 2010, the situation has not changed significantly.

Taking into account the significant reduction in indices reflecting the socio-economic situation in the country and the region, own material well-being, the pessimistic trend in the socio-political sentiments of the population should be also noted. Thus, the index rating of the political situation in the country between 2008 and 2009 dropped 20 points and was at 98 points which is below 100 points, reflecting the predominance of negative judgments of people about the socio-political climate in the country *(tab. 4)*.

[2] Tables № 2-9 present the averaged data

Table 3. The index of estimates of current personal financial situation and index of estimates of prospects for the personal financial situation

Indicator	2007	2008	2009	2010
The index of estimates of current personal financial situation (Question: "How do you estimate your financial situation: is it better or worse than it was a year ago?")	101.1	96.3	62.1	72.9
The index of estimates of prospects for the personal financial situation (Question: "Do you think that after a year your financial situation will be better or worse, or about the same as it is now?")	103.6	96.8	80.9	86.2
The index of social identity (Question: "Which category do you belong to?")	106.6	110.3	96.9	96.0

Table 4. The index of estimates of the country's political situation and indexes of estimates of authorities' activities

Indicator	2007	2008	2009	2010
The index of estimates of the country's political situation (Question "How would you assess the political situation in the country?")	109.3	117.8	98.3	109.2
Index of estimates of federal authorities' activities (Questions: "How do you assess the current activities of the Russian President?"; "How do you assess the current activities of the Government of the Russian Federation?"; "How do you assess the current activities of the State Duma?"; "How do you assess the current activities of the Federation Council?")	129.1	137.2	126.8	121.4
The index of estimates of regional and local authorities' activities (Questions: "How do you assess the current activities of the regional governor?"; "How do you assess the current activities of the Legislative Assembly of the Oblast?"; "How do you assess the activities of heads of municipalities?"; "How do you assess the activities of local authorities' councils?")	116.6	120.7	113.7	111.9

The reduction of index of the political situation in the country is due to the deteriorating relations of the oblast's residents to the activities of authorities at different levels. Thus, the index of estimates of federal authorities[3] in 2009 compared with 2008 has decreased from 137 to 127 points, regional and local authorities[4] – from 121 to 114 points, respectively. However, it should be noted that the degree of trust in the authorities among the population of the region in the crisis of 2008 – 2009 remains at a fairly high level compared with the crisis of 1998 – 1999. This may be due to an active anti-crisis policy of the authorities: the adoption on the federal and regional levels of anti-crisis program, including, in particular, the support of enterprises forming a company system and town, measures for conservation and development of small and medium enterprises, promoting employment, etc. In 2010 the assessments of the political climate in the country have become more favorable (the corresponding index rose by 11 points), while the indicators reflecting the population's attitude to the authorities, continued to decrease (by 6 and 2 points respectively).

In general, in 2009 81% of families in the oblast in one way or another felt the effects of the crisis *(tab. 5)*. The first is the increase in prices for goods and services (72%). More than 40% of families faced a decrease in wages and social benefits. Approximately every fourth resident of the oblast indicates the delay of funds (27%). In addition, 29% of oblast's residents noted the depreciation of ruble savings of their families.

[3] RF President, RF Government, the Chamber of the Russian Federal Assembly.

[4] Governor, Legislative Assembly of the Oblast, heads of municipalities, local government councils.

Table 5. The share of the oblast's population who have felt the consequences of the crisis over the past six months (in% of respondents)

Consequences of the crisis	2009	2010	2010 to 2009
Increase in prices for consumer goods and services	72.1	52.0	– 20
Reduction (cutting) of wages and social benefits	41.6	28.5	– 13
Delays in wage and social benefits	26.7	19.5	– 7
Depreciation of ruble savings	28.8	15.4	– 13
Reduction, dismissal from the company	16.2	14.2	– 2
Closure, suspension of business	10.2	7.6	– 3
Total *	**81.0**	**65.7**	**- 15**

* All those who noted at least one of the enumerated consequences of the crisis for themselves and their families are taken into account.

In 2010 compared with 2009 the share of the oblast's residents who have felt certain consequences of the crisis reduced significantly. The number of those who suffered from the increase in prices for consumer goods and services, depreciation of the ruble savings, reduction (cutting) of wages and social benefits significantly decreased. However, despite the gradual overcoming of negative events, 2/3 of the oblast's residents said that over the past six months they had experienced at least one of these problems associated with the crisis.

Analysis of regular observations of the Vologda oblast showed that in the growing crisis processes in the economy of the country and the region in 2009, the residents' protest potential of Vologda oblast has increased slightly (from 20 to 22%), which is somewhat more than in 2007 – 2008 *(tab. 6)*. Compared with the period of economic crisis in Russia in 1998 – 1999, protests of the population in 2009 are less pronounced (22 vs. 37%, respectively). In addition in 2009 the fraction of the adherents of the "peaceful" protest actions ("go out for a rally, demonstration" – 11%) dominated in the "protest group", whereas in 1998 – 1999 most of the "protesters" expressed a willingness to radical action to protect their interests ("if necessary, I'm ready to take arms, go out to the barricades" – 15%). In 2010, under the reductive economic growth the potential protest activity of the population remained at the average indictors of 2007 – 2008.

Analyzing the data from surveys of the oblast's population for the period from 2007 to 2010, we have identified categories of people who differ in certain socio-psychological attitude and have a predisposition to action in the event of a conflict situation. In the years 2007 – 2010 the intention to participate in the protests by gender is much more pronounced with male representatives (on average 24%) compared with women (18%), i.e., men are more prone to dissent than women *(tab. 7)*.

Propensity to engage in protest actions in the period from 2007 to 2010 is approximately equally peculiar to representatives of various age and educational categories (average 20%). Depending on the level of income the highest rate of social discontent is observed in the 20% group of the poorest (in average 24%) and in the 60% category of people with average incomes (21%). In the context of the oblast's territories no significant differences in the level of protest activity of the population is observed. Thus, the protest sentiments in 2007 – 2010 were expressed on the average by 20 – 22% of the residents of Vologda, Cherepovets and municipal districts of the oblast.

It should be noted that under the influence of different manifestations of the crisis in 2009 there were no significant changes in the group of "protesters". There was a slight strengthening of dissent in the age groups of 30 to 55 and older, among people with specialized secondary education, undergraduate and

Table 6. Dynamics of protest potential (in% of respondents)

Answers	1998 – 1999	2000 – 2006	2007	2008	2009	2010
Protest potential	**37.3**	**27.0**	**20.7**	**19.6**	**21.9**	**20.0**
I'll go out for a rally, demonstration	9.4	10.3	9.6	9.7	10.8	9.6
I will participate in strikes, protests	12.7	8.7	5.7	5.4	6.0	6.1
If necessary, I'm ready to take arms, go out to the barricades	15.3	8.0	5.3	5.1	5.0	4.3

Table 7. The dynamics of protest potential in different groups of population (the share of "protesters" in the total number of respondents in each category, in %)

		2007	2008	2009	2010
Gender	Male	23.6	23.2	25.1	22.2
	Female	18.3	16.8	19.3	18.3
Age	under 30	20.2	20.2	20.7	20.4
	30-55	20.8	20.0	22.6	21.6
	over 55	20.9	18.5	21.7	17.0
Education	post-primary and secondary	19.2	20.7	20.7	20.2
	specialized secondary	21.0	20.9	23.6	19.9
	undergraduate and higher	20.4	16.8	21.3	19.9
Income groups	20% of the poorest	23.9	24.8	24.3	23.9
	60% of the average standard	21.2	19.9	22.3	21.1
	20% of the richest	16.1	14.0	19.8	15.1
Territories	Vologda	21.4	21.9	23.5	22.4
	Cherepovets	20.3	17.2	21.2	21.1
	Districts	20.6	19.8	21.4	18.0

higher education, in the 60% group of middle-class and the 20% group of the most wealthy, as well as in Vologda and Cherepovets. In 2010, in terms of the improving economic situation in the country and the region, the percentage of the "protest group" has decreased in all socio-demographic groups of the oblast's population.

The highest level of potential protest activity is among those oblast's residents who evaluate the economic situation in Russia and the region negatively (an average of 32%). Among those who consider the economic situation in the country and the region as "very good or good", the share of "protesters" is an average of 18 and 17% respectively. It should be noted that in 2010 the indicator of protest potential in the category of people with negative assessments of the situation is 3 times higher than that of a category of people with opposing opinions. This was mainly due to the gradual decline in the protest mood of a group of people with positive assessments of the economic environment.

The measurement results allow to characterize the protest sentiments of population groups based on different estimates of their financial situation and social well-being.

Protest sentiments are more often inherent in the oblast's residents having negative characteristics of the material conditions of their families (on average – 32%). In the group of people considering their own material well-being as "very good or good" the protest potential is at lower elevations (average – 19%). Moreover, the gap between these categories in terms of potential protest in 2010 was 2.2 times (31% vs. 14%). This was due to reduction of dissent in the group with positive evaluations.

Protest potential is the highest among people who identify themselves to the categories of "the needy" and "the poor" (in the years of 2007 – 2010 on average – 28%). In the group of "the rich" and "having average income" for the period under review only 15% of the oblast's residents avoid the possibility of their participation in protests.

Throughout the whole period the protest potential among "the poor and the needy" exceeded the corresponding figure among the "rich and having average income" 1.2 – 1.5 times. In 2010, the gap was 2.5 times (30% vs. 12%). This was due to a decrease in the share of "protesters" among individuals with high and middle socioeconomic status.

The greatest propensity to protest manifestations in 2007 – 2010 is found among the residents of the region who have low purchasing power of income ("money is enough in the best case for food" – 25%). Moreover, during 2008 – 2010 protest sentiments in this category remained quite stable.

Depending on the assessment of social attitudes the greatest potential propensity to be engaged in mass protests in 2007 – 2010 is shown by people experiencing negative emotions ("stress, anger, fear, depression" – an average of 32%). The share of "protesters" in this category does not change significantly in 2008 – 2010. The share of "protesters" in the category of people who are in "good spirits, normal, smooth condition" averaged over the region during this period 16% and there is a clear tendency to decrease.

Potential protest activity is also characteristic to quite a significant proportion of the oblast's population with low levels of human patience ("it is no longer possible to endure our plight" – 44% on average in 2007 – 2010). Protest sentiments among the part of the population which expressed positive opinions ("it is not so bad and you can live; it is hard to live, but you can tolerate") are 2.5 times lower (17%) and have a downward trend.

Comparison of regular monitoring data allows determining the level of potential protest activity of the oblast's residents, depending on their socio-political sentiments and attitudes to the authorities.

Thus, the Oblast's residents, describing the political situation in Russia as "tense, critical and explosive", are more prone to manifestations of protest than those who consider it "safe, quiet" (30% to 15% on average in 2007 – 2010). Moreover, the level of protest potential decreases in the categories of the population with positive assessments of the socio-political climate in the country and does not change significantly among those who characterize it negatively.

In 2007 – 2010 on average more than 40% of the oblast's residents, negatively evaluating the activities of the RF President and only 17% of the population who "completely and mostly approve" of the policy of the State's head do not rule out their participation in the protest rallies. Moreover, among those who have negative attitude towards the activities of the State's head, protest sentiments reached its highest level for the entire period of measurement in 2010 (46%). Furthermore, about 40% of the Vologda oblast's residents who express their negative opinion about the course of economic reforms of the Russian President are willing to take active measures to protect their interests.

On average, about 40% of the population of the Vologda oblast who have negative attitudes to the activities of the Russian government, admit the possibility of their involvement in mass protests. And the exponent of protest potential in this category has an upward trend. In the category of oblast's residents who have the opposite opinion, the protest group is more than 2 times smaller (on average 16%) and tends to decrease.

The highest level of protest potential, depending on the assessment of regional and local authorities in 2007 – 2010 is found among residents who disapprove of the work of the Governor, the heads of local administrations. The share of "protesters" in the respective categories is respectively 35% and 30% and it remains practically unchanged throughout the period from 2008 to 2010. Among residents of the region who fully and largely endorse the work of the oblast's head and the heads of local administrations, the protest potential is on average 16% and it is gradually decreasing during the period under consideration.

Thus, the studies have shown that in a crisis the highest level of potential protest activity is characteristic for the categories of the region's residents negatively characterizing socio-economic and political situation in the country and the region, and their own financial situation, those who do not approve of the authorities, experience negative emotions. Moreover, in these categories the propensity to participate in protests during the measurement period does not tend to decrease and even increase.

Comparative analysis of a group of individuals prone to dissent, and "the rest" of the oblast's residents shows the conventional boundaries between these two groups *(tab. 8)*.

Thus, in the protest group the proportion of people with negative assessments of the economic situation of the country and the region, of the authorities, their own financial situation and social well-being in 2008 – 2010 is only 1.2 – 1.8 higher. In the period from 2008 to 2009 the gap between the "protesting" and "not protesting" inhabitants of the oblast significantly decreased. This was mainly due to the increase in the proportion of negative ratings among both the "protesters" and the rest of the region's population.

Rather conventional boundaries between these two categories are also shown by the data obtained from responses to a question regarding the impact of different manifestations of the crisis *(tab. 9)*.

Table 8. Proportion of people with negative assessments in the potential protest group and among the rest of the population

2007		2008		2009		2010	
Protest potential	The rest	Protest potential	The rest	Protest potential	The rest	Protest potential	The rest
Proportion of the population assessing the economic situation in the country negatively							
24.4	12.6	29.2	15.4	50.6	38.5	52.4	26.7
Proportion of the population assessing the economic situation in the Oblast negatively							
24.3	11.6	27.4	15.2	52.3	40.3	55.7	28.7
Proportion of the population assessing the financial situation of the family negatively							
35.5	18.8	39.7	20.1	47.4	28.6	50.5	28.5
Proportion of population with a low estimate of incomes purchasing power ("money is enough only for food")							
40.1	35.1	36.6	29.0	45.0	38.9	48.0	32.7
Proportion of the population not approving of the RF President's activity							
21.5	8.9	19.3	8.2	33.1	12.9	43.2	12.8
Proportion of the population not approving of the Governor' activity							
34.5	19.0	35.2	17.6	41.0	20.9	53.6	20.8
Proportion of the population with a negative assessment of their sentiments («feel stress, anger, fear, anguish»)							
42.8	24.6	39.6	23.7	48.3	24.7	53.8	27.7

Table 9. Proportion of individuals who have felt the impact of different crisis effects on themselves and their family members in the protest potential group and among the rest of the population

Consequences of the crisis	***Over the past six months***			
	Protest potential		The rest	
	2009	2010	2009	2010
1. Reduction (cutting) of wages and social benefits	46.7	35.5	40.3	26.8
2. Delays in wage and social benefits	32.0	22.5	25.4	18.8
3. Reduction, dismissal from the enterprise, which employed	18.9	16.2	15.5	13.7
4. Closure, suspension of the enterprise	13.2	8.7	9.5	7.4
5. Depreciation of ruble savings	31.3	16.7	28.2	15.1
6. Increase in prices for consumer goods and services	70.4	54.4	72.5	51.4
Total	**80.5**	**69.8**	**81.1**	**64.6**

Thus, in 2009, more than 80% of the representatives of the protest group, and of "not protesting" over the past six months have felt the impact of the crisis processes on themselves and the members of their families. In 2010, this figure fell among both the "protesters" and the category of "the rest" and made up 70% vs. 65%. In both considered groups, the proportion of the region's residents who have felt the impact of such adverse effects as a reduction and delay of salary, reduction or dismissal from the enterprises, devaluation of ruble savings, increased prices for consumer goods and services are close enough and have a unidirectional trends for the period of 2009 – 2010.

This fact indicates that when a certain situation happens, a category of people expressing their intention to participate in protests could significantly expand. This indicates a potential prerequisite for the preservation of dissent, and also creates a danger of increased social tension even in the case of a slight deterioration of the economy.

Thus, the analysis of statistical data, as well as the results of sociological measurements recorded a fall in the main economic indicators in the Vologda oblast in crisis, as well as a deterioration of the value judgments of the population on socio-economic and socio-political situation, their own material well-being, social sentiment.

Against the background of these processes, the level of hidden protest activity of the population has not significantly changed. In 2010, the rate of the declared protest returned to the level of 2007 – 2008. Low growth rates of protest potential of the Vologda oblast's population, in our opinion, are due to several reasons.

Firstly, the low readiness of the oblast's residents to take part in protests may be associated with the peculiarities of the political culture of the population. In Russia, the dominant political culture is the yielding one which is characterized by the orientation of the majority to the passive attitude towards the political system, to the general recognition of the special authority of the governing body. The bearer of political culture of this kind is instinctively or consciously debarred from participation in political life, as he or she is not ready for it because of ignorance and misunderstanding, or rejection of the mechanisms and principles of the political system.

Secondly, a high level of the population's social patience reserve can be called as a deterrent to the growth of social tension in the region. Even in times of crisis in 2009 the vast majority of people in the region (72%) believed that "it is possible to live" and "it is possible to endure", and only 18% of the population exhausted the limits of their patience (for comparison: in 1998 – 1999 – 42 and 49% respectively). The basis for such attitudes may be a relatively high level of material prosperity achieved by the population during the years of stable development. Even in times of crisis, despite a significant deterioration in welfare and social well-being of the oblast's residents, in 2009, 40% of the population had a low level of income purchasing power, 45% of the oblast's residents identified themselves as "the poor and the needy". For comparison, in crisis times of 1998 – 1999 the respective categories were 71 and 66%.

It should also be noted that in the 2000's rather strong mechanisms for adapting the population to a changing social environment have formed. Therefore, in crisis, transitional period, people consider seeking additional earnings and other income sources, i.e. active adapting and adjusting to changing life conditions as the most important thing. A significant portion of the disaffected is inclined rather to the adaptation than to protest activity. Propensity for social adjustment in this case plays the role of a "shock absorber", a "buffer" of social discontent, which does not allow the

latter to be transformed into a mass protest. According to the polls conducted in 2009, in terms of deteriorating financial position under the influence of different manifestations of the crisis, most people in the region were planning to "find additional sources of income" (42%) or "reduce costs, save on everything" (35%). Thus, people consider the search for additional earnings and other income sources but not being involved in the protests as the main way of solving personal financial problems in a crisis, transitional society.

Thirdly, a high level of trust to the authorities is very important for maintaining social stability. Thus, in 2009, approving evaluations of the Russian President's activity were expressed by nearly two-thirds of the region's inhabitants (in 1998 – 1999 – only 11%), of the Russian Government – about a half (in 1998 – 1999 – 24%). Around a half of the population appreciated the regional Governor's activity positively (in 1998 – 1999 – 30%), the local administrations heads' activity – more than 40% (in 1998 – 1999 – 30%). As noted above, in crisis there has happened a significant reduction in the approval of the authorities at various levels, but this did not entail the protest potential strengthening. The growth of dissent is inhibited by low ability of the Russian system of political representation to integrate the interests of individual groups. The most revealing in this respect is the level of confidence to the parties, which are intended to serve for the interests of different social groups.

Thus, in 2008 – 2009 the proportion of the region's residents, who "completely and basically trust" the political parties and movements, remained at 15-20%. This suggests that there is no public power (or group of powers) which really reflects and is able to accumulate the interests of the general population in Russia and in the region.

The results of the sociological dimensions allow noting the continuing closeness of indicators of economic status and political sentiments of the protest group representatives and "the rest" of the oblast's residents. This indicates a prerequisite for strengthening dissent in the case of deterioration of the socio-economic situation, and creates a danger of increased social tension in the short term.

The study identified the risk groups: the oblast's residents aged 30 – 55 and older, representatives of the 20% group of the least provided for, the residents of Vologda and Cherepovets whose protest potential exceeds the average oblast indicator. Moreover, the protest sentiments are intensified among the oblast's residents negatively characterizing socio-economic and political situation in the country and the region, their own financial situation, who do not approve of the authorities and experience negative emotions.

To prevent destabilization of social relations the government must take effective measures aimed at strengthening the socio-economic status of the population (first of all – the most socially vulnerable categories of the population), reduction of poverty and excessive social differentiation in the region.

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Taxation as the mechanism of regulation of the population's inequality*

The article contains the analysis of the population's taxation in the countries with the flat and the progressive rates of taxation. The information for the research was taken from the materials of periodical press concerning the subject of the research, and also federal and regional statistical data on wages, incomes and taxes paid by the population of the Vologda oblast were used. It was shown, that the redistributive mechanisms existing in Russia do not only reduce the population's inequality, but to the opposite, promote its increase. The author offers the directions of adjustment of the mechanisms of redistribution.

Population's inequality in incomes, redistributive mechanisms, taxation of individuals, flat and progressive rates of taxation, tax burden of the population

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Nothing demands so much wisdom and mind, as definition of those parts, which are taken from the citizens and what are left for them.

S. Montesquieu

Nowadays it is characteristic for the Russian society to have a high degree of stratification into rich and poor that is admitted at the official level and is one of the most actual social problems of the country. Modern researches have revealed, that the excessive population's inequality is not only a destabilizing factor which creates the potential for conflicts' occurrence, but also negatively influences economic and demographic parameters of the country, influencing industrial motivation and causing dysfunction of human behavior.

The problem of the considerable population's inequality in incomes, observed in today's Russia, long ago was overcome by the advanced states, but still exists in the majority of developing and transforming countries. The advanced countries' experience shows, that the certain degree of equality in incomes can exist even at the market economy, and in many respects it is achieved due to the corresponding social policy of a state based on the essential share of social charges into the budget and the progressive population's taxation.

Tax policy of the countries with the progressive rates of taxation. Nowadays in the world more than 200 states exist. In fifteen of them there is

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Table 1. Tax policy characteristic in some countries with the progressive rates of taxation [2]

Country	Income tax's rates, %	Income tax's share, %	
		In the federal budget, %	In GDP
The USA	10 – 33	40.5	11.7
Canada	17 – 29	37.8	14.1
Great Britain	20 – 50	27.5	10.2
Germany	15 – 43	25.0	9.3
Japan	10 – 50	18.8	5.3
Denmark	5.3 – 61	51.6	25.7

Table 2. The list of the countries using the flat rates of taxation [12]

Year of introduction	Country (territory) and the income tax rate, %
Before 1990	Jersey (20), Hong Kong (16), Guernsey (20), Jamaica (25)
1994 – 1995	Estonia (26), Latvia (25), Lithuania (33)
2001	Russia (13)
2003 – 2004	Serbia (14), Iraq (15), Slovakia (19), Ukraine (15)
2005 – 2006	Georgia (12), Kirghizia (10), Romania (16), Turkmenistan (10), Trinidad and Tobago (25)
2007	Albania (10), Kazakhstan (10), Mongolia (10), Montenegro (15; 9 in 2010), Macedonia (12; 10 in 2008), Iceland (35,7; in 2010 the progressive rates were restored)
2008 – 2009	Mauritania (15), Bosnia and Herzegovina (10), Bulgaria (10), Belarus (12), Czechia (15), Belize (25)

no income tax, and more than in 150 countries the progressive rates of taxation is accepted. Arguments "pro" for the progressive rates of taxation's use are the following: 1) one ruble's loss by a needy person is not equivalent to the one ruble's loss by a rich person; 2) the progressive rates of taxation can result in inequality decrease; 3) the unbalanced distribution of state services: the rich receive more benefits. In a result the progressive rates frequently plays a role of stabilizer which reduces economic processes' volatility [12].

Let's pay attention to some aspects of tax policy in some advanced countries with the progressive rates of taxation (tab. 1). The population's income tax in the considered countries is the main or one of the main sources of the state budget, sometimes making up half of its volume. The share of income tax's collecting to the gross national product in these countries makes 8.5 – 14.0% [2]. One of the factors promoting this are high rates of tax for wealthy layers of population; in some countries this rate can be 50 or 60%, as, for example, in Denmark, Japan and Great Britain.

There is the opinion that the progressive rates of taxation operate in a law-abiding society where the laws [12] are correctly applied and are executed more effectively. Also the necessary condition of the progressive rates' use is strong tax administration that is connected to multi-stage character of income tax (up to 9 steps[1]).

The countries with the flat rates of taxation. Since 1990s of the previous century one of the important features of tax system's evolution became the increasing distribution of the flat rates of income tax. If earlier the flat rates were only introduced in rather small countries and in some offshore jurisdictions, in 1990s this practice extended.

For example, in the middle of 1990's the flat rate was chosen by the three Baltic republics, and at very high unified rate. For the last decade the number of the countries with the flat rates of income tax has sharply increased and by the beginning of 2010 it made 29 units *(tab. 2)*.

[1] The nine-stage progressive rates' tax is observed in China.

However the attentive sight at the list of the countries with the flat rates of income tax will allow finding out, that it includes the countries of the former socialist block or different small states. One of the West-European countries – Iceland – tried to introduce the flat rates of taxation, but later after this experiment it refused, and returned to the progressive taxation. Now the problem of the flat rates taxation's introduction is considered in Poland (it is planned to establish the unified rate of tax of 17%), in Croatia, Hungary, Mexico. One general feature for the states which have already introduced or plan to introduce the flat rates is the great volume of "shadow" incomes.

Taxation of individuals in Russia. New tax system's formation in Russia in 1991 was based on the necessity of application of the progressive taxation of the citizens' incomes in 1992. According to the Law of the Russian Federation (December, 7, 1991, № 1998-I "About individuals' income tax") three rates of income tax were defined: 12% at cumulative taxable income in a year up to 10 million rubles, 20% from 10 million up to 50 million rubles, 30% from above 50 million rubles. Besides, employees made the payments to the Pension fund (1%), and the employer paid the following charges on wages: to the Pension fund 28%, to the Fund of Social Insurance 5.4%, to the Fund of Obligatory Medical Insurance 3.6%, to the Fund of Employment 1.5%. For 10 years the model of income tax's collection from the citizens was not principally changed, if so, only in view of inflationary and denominational processes.

The role of income tax in the tax system of that time in comparison both with the industrial advanced countries, and with the most successful transitive economy, was rather insignificant. In overwhelming majority of the countries at that time (1994 – 1999) the share of income tax in the total sum of tax receipts made 25 – 30% (in Denmark – about 60%). The share of income tax in Russia was at the level of 8% [13].

It is possible to allocate some principal causes, determining the fact, that the income tax was not the significant tool of the tax policy at the initial transitional stages. Among them are: 1) the low level of the population's incomes; 2) complexity of legislation and presence of the income tax's privileges; 3) weak administration of collecting and, as a consequence, – mass evasion from taxation; 4) high level of taxation.

One more problem in Russia at that time were extremely great volumes of "shadow economy": according to GosKomStat of Russia, in 1995 they were estimated at the level of 20% of the volume of gross national product, in 1996 – 23%, in 2000 – 40%. The "shadow economy" also generated the population's latent incomes' presence. The peak of latent payments took place in 1999 (38.4%), in a pre-reform year the share of latent payments made 31.0%. Therefore the main motive of introducing in 2001 in Russia the flat rates of taxation was aspiration to remove capitals from "shadow", that is to legalize citizens' incomes [6].

In 2001 Russia, first of the large countries, introduced the flat rates of income tax under the low rate of 13%. Two progressive rates (20 and 30%) for people with the high rate of incomes, as well as one-percentage deduction to the Pension fund, were cancelled. Nowadays Russia as the first large state, having introduced the flat rates, is the country, which experience is analyzed and considered as the argument in the discussion of the flat taxation's problem.

In connection with the transition to the 13% rate of income tax at the first stage the reduction of the tax receipts was expected, but in reality the volume of payments did not decreased, it even increased, and it is essential: in 2001 payments in Russia grew for 27%. But the latent payment's reduction however didn't occur. Usually the result of changes in the tax laws can not be observed at once, but some time later. The cases of immediate reaction to the tax indulgences are exceptions [9].

The similar increase (20 and more percent a year) was typical in the Russian Federation both in 1999 and in 2000. The increase of payments to the budget a little increased in 2001, and this increase proceeded till 2003 when the maximal parameter for the whole period from 1995 to 2008 (11.0%) was observed[2]. This parameter of the consolidated budget in one of regions of Russia – the Vologda oblast – for the whole considered period was at a higher level, than in the country on the whole. In 2001 its share also increased in comparison with the pre-reform 2000 from 13.0 to 15.8% that was the result of the annual growth of receipts for 23%. However, the growth of volumes in 2000, in comparison with 1999, exceeded (in comparable estimation) for 40%[3].

Thus, basing on the statistical information, it is possible to draw a conclusion that in 2001 there was some change in occupancy of the country's budget due to the sums of income tax, however it could affect both tax, and non-tax factors, that especially proves to be true basing on the regional data. For this period, since 2000, the economy had developed actively, the prices for oil had increased, the credit markets had developed.

The increase in volumes of tax receipts for 2001 can be connected with the tax base's expansion as a result of inclusion in the number of payers military men of the Ministry of Defense, employees of the Ministry of Internal Affairs, bodies of Federal Service of Tax Police, Office of Public Prosecutor and other power and law-enforcement structures [9].

Some researchers in the field of taxation have the opinion, that a determinative of increase in tax base of individuals' incomes was the growth of nominal wages which, in turn, could be connected both to the factors of general-economic growth, and with the latent payments' decrease. Really, among the rates of wages growth at the organizations and the tax volumes of individuals' incomes, there is a strong direct relation (it is revealed on the basis of the statistical data analysis).

During the whole post-reform period the steady growth of the latent incomes' volumes of the population was observed. The rates of their growth in some years even exceeded the rates of growth of total amount of monetary incomes. After 2001 the share of the latent incomes in the structure of monetary incomes decreased only for 1 item.

The scientist I.V. Gorsky, specialist in the field of tax-studying, considers, that the transition to the flat rates of taxation was erroneous step on the part of the state: "... our flat tax should be equal to the category of theoretical adventures" [3].

However there are also other opinions concerning the effect from the fulfilled reforms. So, the authors of the research "Myths and reality of the transition to the flat rates of taxation: microanalysis of evasion from taxes' payment and well-being changes in Russia", having become the winner of the National Premium in applied economy, approve, that as a result of tax reform, the positive effect as legalization of some part of "shadow incomes" was observed: the volume of the so-called "shadow economy" was reduced from 30 to 27%. People who received the highest incomes, and assessed before the reform by higher rates, increased declaring their incomes for 10 – 12%. The effect of the productivity growth was observed too, though considerably smaller, in comparison with the effect of reduction of evasion from tax payment [12].

According to calculations, carried by the head of Economic Expert Group, E. Gurvich, the economic benefit from introduction of the flat rates of income tax was insignificant – only 0.1% of gross national product. Moving salaries from shadow, in his opinion, could be connected to restoration after the crisis of 1998.

[2] Russian Statistical Year-Book 2009 / RosStat. – M., 2009.

[3] Statistical Year-Book of Vologda oblast / VologdaStat. – Vologda, 2008 – 2009.

Introduction since 2001 of the flat rates, nevertheless, has not generated the proportional taxation in the country. The use of standard, social, property and professional deductions in the domestic model of taxation in combination with the presence of several tax rates results to that thing, when at low levels of incomes the tax system has feebly marked progressive character, further the proportional taxation actually takes place. The taxation can get regressive character depending on the scales of tax deductions' use, incomes' structures and other circumstances [8].

The establishment of the differentiated tax rates for various categories of incomes results in differentiation of the effective tax rate at the fixed income depending on the incomes structure. So, the higher is the share of dividends in the structure of gross revenues of the tax bearer, the lower is tax rate's effectiveness. The similar thing: the higher is the share of interests under bank contributions to the structure of gross revenues, the lower is effective rate. Accordingly, the higher is the share of incomes from hiring employment, the higher is the effective rate.

The significant disorder of tax rates (13%, 35.0% or 9%) under the certain conditions and the presence of opportunity of the choice of kind of activity and kind of income inevitably generate tax maneuvering with the purpose of reduction of the total size of paid taxes. Moreover, the decision on the activity's character in this case can be accepted by the tax bearer under the influence of the established tax rates, instead of proceeding from actually economic preferences.

In spite of the fact that the tax rate of individuals' incomes in Russia is one of the lowest, the progression in taxation is practically absent, and the share of the tax in gross national product and tax incomes to the budgetary system is the lowest among the European countries, for the population this tax is a heavy burden.

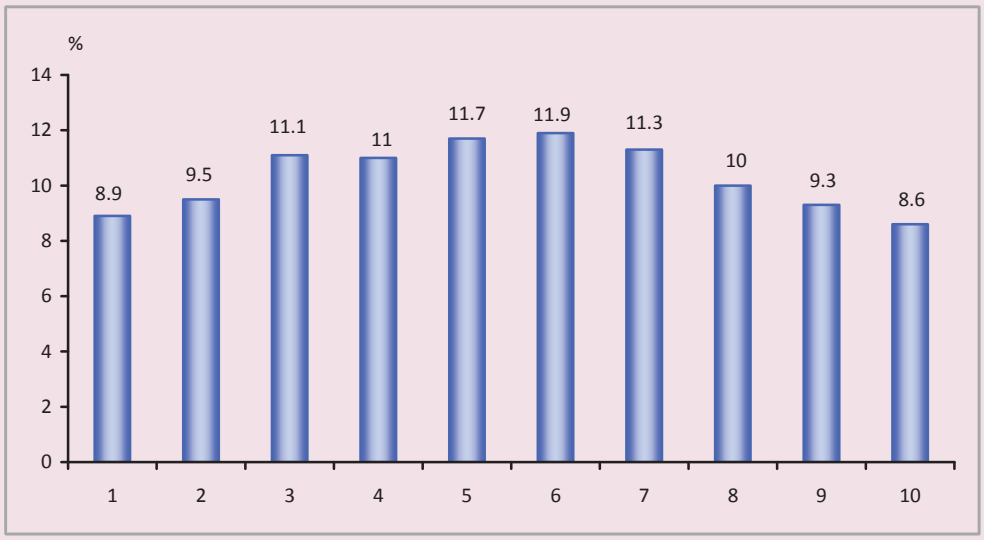
The taxation of incomes at the rate of average wages in Russia (under the effective rate of 12.8%) is higher, than in the USA (11.5%), and also in Switzerland, Spain, Netherlands, Japan, Austria, Germany, Canada, Belgium, where the progressive taxation models operate. It means, that the basic burden of individual income tax in Russia is given to the category of the population with the incomes at the level by the average wages in the country (in 2009 this sum made 18 795 rubles a month), n comparison with the countries where the burden is given to the groups of the population with higher, than average, incomes [8].

According to the selective inspection of the domestic facilities, which have been carried out in the Vologda oblast, we calculated the ratio of the sums of taxes, gathering and payments and monetary incomes of various social and economic groups of the population for the period from 2007 to 2009 *(fig. 1)*.

The generated parameter in the indirect mean (indirect – because besides the sum of income tax it includes taxes for land and property, transport and agricultural taxes, penalties, insurances, etc.) characterizes tax burden for the population. However, the parameter allows revealing, that the most significant tax burden is born by average in income groups from 3d to 7th. The share of taxes, gathering and payments of the wealthiest population is even lower, than the same parameter at the least wealthy. The found distinctions once again confirm a hypothesis about imperfection of the existing distributive mechanisms.

The found distinctions at the level of tax loading can be explained by the distinctions in the structure of monetary incomes of various decile groups of the population. The incomes of wealthy people on the average in Russia for 2/3 will consist of "other" monetary incomes, which the incomes of different kinds of property, dividends, interests and other receipts from the financial system concern.

Figure 1. The share of the sums of taxes, gathering and payments in monetary incomes of various socio-economic groups of the population of the Vologda oblast in decile groups, average for 2007 – 2009, %



At the same time the level of the taxation rates of dividends, bank interests and rent (accordingly equal to 9%, 6% and 13%) is much lower than the level of the double wages' taxation (the worker gives practically 40% of the incomes, paying the Unified social tax[4] from the fund of payment – 26.2% and income tax from wages – 13%) [14]. That is, the incomes of labor activity appear to be in loss, in comparison with the investment incomes.

For revealing the influence of the redistributing mechanisms on the population's inequality the factors of funds before taxation and after it were calculated *(fig. 2)*. During the whole considered period the factor of funds under "pure" incomes is a little bit higher.

Thus, the system of distributive relations existing nowadays in Russia does not only promote the decrease of the socio-economic inequality, but also strengthens disproportions existing in the society.

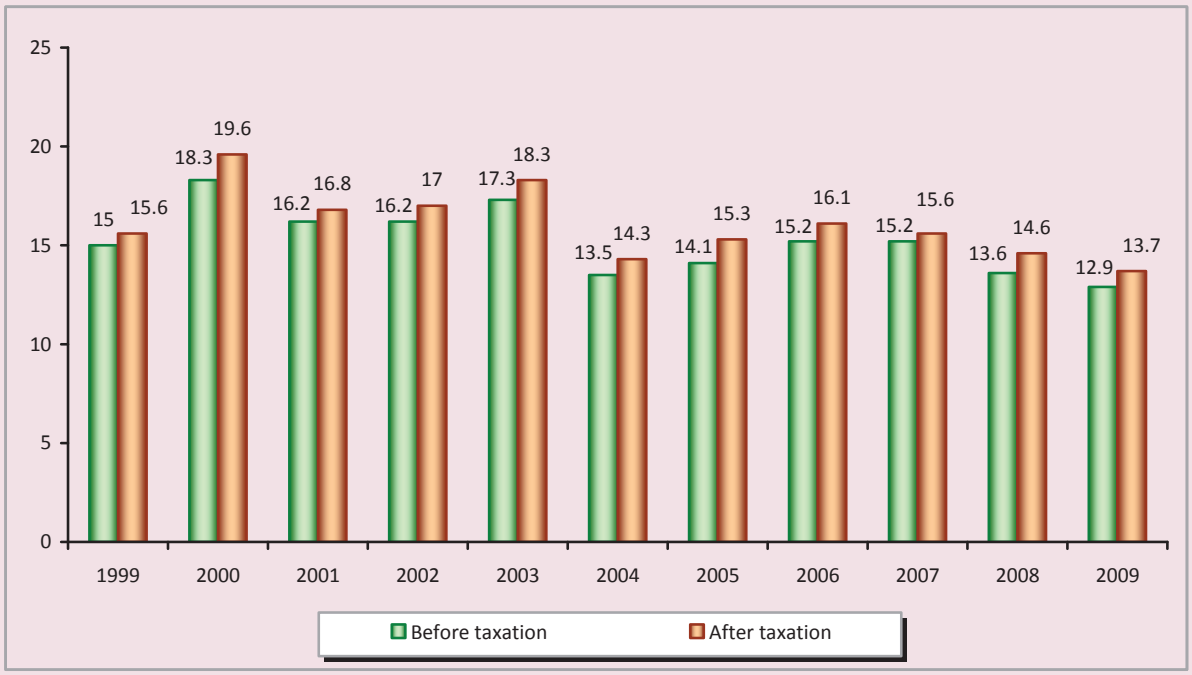
The financial and economic crisis a little "smoothed" the population's inequality, having negatively affected the level of incomes of the most solvent citizens.

However, the unfortunate trends in the structure of the society remained: the share of the population, which incomes were enough for only the purchase of food stuffs, increased to 40%. Thus the basic tax burden falls at the population with the average income that is potentially "middle class".

Proposals on reforming redistributing mechanisms in Russia. For the whole decade of using the flat rates (from 2001 to 2010) the question on the necessity of the progressive taxation's return in Russia has repeatedly risen. And, if in 2004 – 2008 the necessity of introduction of the progressive rates could be explained by the growing social injustice, since 2009 the basic motive of such offers was filling the budgets - both federal, and regional ones. The financial and economic crisis aggravated the given problem: from 2007 to 2009 total transfers to the regions from the center were doubled, and in 2009 the growth of their volume was especially fast.

[4] The Unified Social Tax is cancelled since January, 1, 2010 by the Federal Law from 24.07.2009 № 213-FL "About introducing the changes into separate legislative acts of the Russian Federation and accepting void some statements (legislative acts) in connection with the adoption of the Federal Law "About Insurance in the Pension Fund of the Russian Federation, the Federal Fund of Obligatory Medical Insurance, the Fund of the Social Insurance, and territorial funds of obligatory medical insurance".

Figure 2. Funds' factors according to the population's incomes in the Vologda oblast before and after taxation, 1999 – 2009



According to the budgetary strategy of the Russian Federation till 2023, developed by the Ministry of Finance of the Russian Federation, every year the deficiency of the consolidated budget of the country will increase, up to the level of 2.9% of gross national product in 2023. It was supposed, that the Reserve fund begins to be used for repayment of the formed deficiency and will be spent not earlier 2020. However, now, in connection with the sharp falling of incomes during the economic crisis and the budgetary deficiency's growth up to 5.9% of gross national product (2009), it is expected, that the Reserve fund will be completely used up already in 2010 [1].

The international experience testifies that the income tax can be the major source of the state budget's completion. So, in the USA the income tax brings about 40% of all incomes of the federal budget and 30% of incomes of the consolidated budget. In Russia the receipts from the tax for individuals' incomes make about 10% of incomes of the consolidated budget that testifies to the significant potential of the tax receipts' growth. As a result of the progressive tax rate introduction the growth of incomes of the regional budgets will prevent the occurrence of macroeconomic instability.

In I.V. Gorsky's opinion, "... today the crisis makes the updating incomes' taxation inevitable. Now the government has the moment which is favorable from the economic and political point of view to proceed from correct words to real affairs and to return, in particular, to the tax which is tested by world practice and effectively works" [3].

So, the necessity of introduction of the progressive rates of taxation is now caused by three points. First, the world practice shows, that the flat rates of taxation is the destiny of the backward countries with weak economy, not capable effectively to administer and collect taxes. The second basis for introducing the progressive rates of taxation is sharp falling of incomes of budgets in the subjects of the Russian Federation, threatening their financial stability.

For the recent 10 years the dependence of regions on the financial transfers from the federal center increased. The third basis is prompt growth of the stratification degree of the Russian society according to the incomes.

While introducing the progressive rates of taxation the most discussed question, undoubtedly, is the level of the tax rates. Scientists' and politicians' opinions in this case differ. So, the scientific supervisor at the Institute of Economics of the Russian Academy of Science, academician L.I. Abalkin offers the following division of the population into groups according to the income and the rates corresponding to them *(tab. 3)*.

L.I. Abalkin considers expedient to raise the level of the living wage up to 6 thousand rubles and not to assess with the income tax the incomes below the living wage. The maximal rate of the tax will be referred to the population with the monthly incomes, exceeding half-million rubles [10].

The first deputy head of the fraction of the Communist Party of the Russian Federation in State Duma S.N. Reshulsky in the co-authorship with the fraction comrades I. Melnikov, V. Kuptsov and V. Romanov developed and presented for discussion at the State Duma the bill "About the changes of Chapter 23 of Part Two of the Tax Code of the Russian Federation" *(tab. 4)*.

The maximal rate of income tax in S.N. Reshulsky's offers is a little bit lower, than in L.I. Abalkin's offers (20%), but at realization of such offers the maximal taxation will touch the population, whose incomes exceed 150 thousand rubles a month.

In our opinion, introduction of such actions will be negatively reflected in the position of the middle class – representatives of small business and highly skilled experts.

S.N. Reshulsky promises, that the changes offered by him in legislation will touch only one third of the most provided population, and the effect from their introduction will make 63.5 billion rubles (that is equal to 4% of the receipts' volume in the consolidated budget of the Russian Federation or to charges of the federal budget of the Russian Federation for agriculture in 2009).

The fraction of the Communist Party of the Russian Federation prepared the project of the federal law "About the changes in the article 224 in Part Two of the Tax Code of the Russian Federation".

The developer of the bill, the deputy of the fraction of Communist Party of the Russian Federation A.V. Bagaryakov considers, that the new bill providing introduction of the progressive rates of tax to individuals' incomes, will allow to solve the problem of poverty and to fill the federal budget with additional

Table 3. The progressive rates of taxation offered by the Institute of Economics of the Russian Academy of Science

Income per month, thousand rubles	Income per year, thousand rubles	Tax rate, %
Less 6	Less72	–
6 – 100	72 – 1200	13
100 – 500	1200 – 6000	18
Over 500	Over 6000	23

Table 4. The progressive rates of taxation offered by S.N. Reshulsky [11]

Income per month, thousand rubles	Income per year, thousand rubles.	Tax rate, %
Less 4.33	Less 50	10
4.33 – 50	52 – 600	13
50 – 116,67	600 – 1400	15
116.67 – 150	1400 – 1800	18
Over150	Over1800	20

Table 5. The progressive rates of taxation offered by A. V. Bagaryakov

Income per month, thousand rubles	Income per year, thousand rubles	Tax rate, %	Expected effect, billion rubles
Less 5	Less 60	5	-785
5 – 50	60 – 600	15	90
50 – 125	600 – 3000	25	60
125 – 1000	3000 – 12000	35	85
Over 1000	Over 12000	45	2650

Table 6. Arguments against the progressive taxation in Russia and their refutations

"Myths"	Refutations
1. The flat rates of taxation is the advantage of Russia before other countries, involving foreign investors.	1. Substantial growth of volumes of foreign investments after the change in the tax laws of 2001 was not observed.
2. Application of the progressive rates of taxation of individuals' incomes will increase loading by tax bodies and will demand perfection of tax administration.	2. Addressees of "super-incomes" (over 1800 thousand rubles one year) in Russia, by estimation, are about 420 thousand people, and the control over the finance of such quantity of the persons should not make the big difficulties.
3. Introduction of the progressive rates will affect payments' leaving in shadow (earnings in highly remunerative spheres: financial, oil-, gas and processing hydrocarbons' spheres, power, etc.)	3. Now in tax system the electronic databases are generated under the account of receipt of this tax in the federal budget.
4. The progressive taxation will strike, first of all, the representatives of the middle class - highly paid experts and businessmen.	4, 5. It is supposed to introduce such rates of taxation and to establish borders of profitable groups so that high rates have touched only "super-incomes", instead of the mentioned representatives of the middle class.
5. The motivation and, accordingly, labor productivity will decrease.	

means. A.V. Bagaryakov offered the following tax rates *(tab. 5)*. A.V. Bagaryakov approves that in total as a result of acceptance of the law in the state budget about 2.1 bln. rubles will be received, or about 5% of gross national product that will completely allow to cover the budget deficit (1.9 bln. rubles by the beginning of 2010) and to refuse external loans.

Three basic versions of introduction of the progressive rates of taxation can affect the domestic economy.

1. The economy will be thrown back. The supporters of this version approve, that Russia's transition to the flat rates of income tax appeared to be justified and effective, and the return to the former, differentiated system can return the country back for seven years ago.

2. It will result in positive dynamics. This version is based on the experience of the western countries where the progressive rates of taxation recommended itself as a rather effective means of alignment of the social inequality.

3. Qualitatively it will not affect the development of the country. In the opinion of the experts, any essential changes in the Russian economy in connection with acceptance of the progressive rates will not take place. The cancellation of the tax for poor will not improve their position much; the middle class will continue to pay the tax approximately under the same rate; and the means which are planned to be received from the taxation of the wealthy people's incomes, appear not to be so significant [4].

The opponents of the progressive taxation of the population give the arguments submitted in *table 6*.

Representatives of the financial and economic block of the Government instead of introduction of the progressive taxation system offer the other model of getting the incomes from the wealthy part of the population – by means of taxes for property. However the tax for property though it is accepted, practically does not work in view of the presence of some known ways of evasion from it.

In our opinion, the updating of redistributive mechanisms should occur in the following directions:

1. Introduction of the progressive rates of taxation of individuals' incomes.

2. The Increase of the tax rate for the incomes as dividends: now the tax rate of the incomes as dividends make 9% that is much less, than the rate of the tax for labor incomes.

3. Introduction of the value-added tax for market cost for the real estate. It is necessary to remember, that at introduction of the value-added tax for the real estate one of the principles of the progressive taxation of individuals' incomes should be observed: the raised rates should concern only to the real estate with a very high cost.

4. Introduction of the tax for luxury (subjects of art, jeweler ornaments, and automobiles of extra-class, yachts, planes, helicopters and so forth). In this case it is necessary to determine legislatively – what objects, and of what cost concern to luxury.

The result of redistributive relations' regulation should become the downturn of funds' factor for the incomes up to values 7 – 9: such level of the parameter is not only socially fair, but also optimum in economic and strategic plans as at such parameters of distribution the most part of the population can realize the expectations in economic and reproductive behavior, preservation of the health, escalating of the human capital [14].

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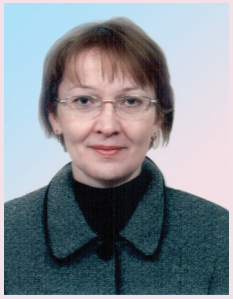
Energy-intensity factors in the Komi Republic's economy

In the article the analysis of energy efficiency of the regional economy are presented for a purpose to indentified quality characteristics its dynamics and factors of relatively low level. Application of comparative statistics and regression analysis methods made it possible to estimate the impact of the most important factors. Results shown that high level of energy intensity was due to "northern" economy and industry specialization. A main factor of energy-intensity dynamics was scale effect of economy production. Structural and technological trends of energy-saving were not found. Selection of energy efficiency index as indicators of quality regional development requires monitoring and analysis of energy-economic dependency, improving information basis.

The keywords: energy efficiency of regional economy, factors of energy-intensity, the Komi Republic.



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The power efficiency's increase is one of the main strategic reference points of the development of Russia's economy [1]. It can be achieved as a result of the structural changes of the economy and technological enhancement. The "structural" power-saving will be carried out due to the outstripping development of the little power-hungry kinds of activity. Production enhancement will allow providing about 40% of the economy in the total amount of the power resources consumed nowadays. As a whole the power-saving development should raise the national economy's efficiency and competitiveness, and ecological and power safety [2-5].

The scientific support of the managerial process by power-saving consists in the methodology's development, toolset development and information base for the economic energy effectiveness' analysis and forecast, its regional and functional components. The analytics should be aimed at revealing the factors of power consumption, determining the power-saving effects and potential, at choosing correct priorities and managing impacts. Methodical issues and the results of the analysis and the forecast of the energy effectiveness' parameters as important macroeconomic indicators are paid much attention in the scientific researches of the Russian economy and power [6-10].

The regional detailed elaboration of the mentioned problem is necessary from the point of view of system approach, decomposition and decentralization in planning and management. In this article the results of the analysis of the Komi Republic economy's energy effectiveness are represented. The accounting data published by the Federal Service of State Statistics of the Russian Federation served as the initial information.

The purpose of the carried out analysis consisted in estimating the factors influencing the level and the dynamics of power consumption in the regional economy. As it is known, economy's power consumption (as a matter of fact, it is a phenomenon opposite to energy effectiveness) depends on the branch structure of production, on the enhancement degree of power-consuming technologies, on the climatic features.

These factors are mentioned as the most significant at the comparative analysis and international comparisons [6-10]. The energy effectiveness' changes occur under the influence of structural and technological factors, production growth. The structural factor as it was already mentioned is connected with transformations of aggregate output for the benefit of increase in a share of more or less power-consuming industries.

Technological changes of the energy effectiveness occur owing to enhancement, introducing new power-saving technologies, and also as a result of worsening or improving production conditions connected, for example, with the quality of raw materials in processing branches or with geological conditions in extractive branches. The scale effect is caused by the fact that some part of energy needs, as a rule, is both a conditional and a constant one, and the other part changes proportionally to the quantity of the released products, therefore with the growth of production output the power consumption reduces.

To determine the importance of the mentioned factors for the regional economy means to reveal its qualitative features and "internal reserves", directions and opportunities of transformation by means of energy effectiveness' growth.

The power consumption parameter is determined by the ratio of the spent power resources' (SPR) volume to the made products' amount. With the reference to the total economy's product, power consumption is the quantity of the initial power resources of all kinds measured in the identical power equivalent (either conditional or oil fuel), falling for a unit of the made total added cost (TAC).

Estimating power consumption in economy in absolute calculation it is important to define what fuel and energy resources (FER) and what volumes of them are necessary to be taken into account. Divergences in estimating the volumes of FER can arise for example, in connection with the account of non-fuel power resources (nuclear and renewable energy sources), the volumes of natural fuel used as raw material, and also FER export (see [7, p. 43]), making a rather essential affect on economic productivity of home economy. Various probable estimations of power consumption in the Russian Federation economy and in the economy of the Komi Republic are represented in *table1.*

If power consumption is estimated by FER expenses for power needs (including transport), in 2005 this parameter of Russia's economy made 47 t c.f./mill. rub. TAC in the current basis prices, or 0.59 t c.f./one thousand doll. at recalculation of the gross national product to purchasing capacity (12.74 rub./doll. in 2005); or in the oil equivalent 0.41 t o.e./thousand doll. While operating with such estimations of power consumption, it is necessary to have in view that for total production both in Russia and the Komi Republic much more power resources are involved (see table 1).

Table 1. FER use volumes and rated power consumption of the total product of the Russian Federation and the Komi Republic

Generalizing parameters	Volumes of use, mill. t c.f.				Power consumption, t c.f./mill. rub. TAC in the current prices			
	The Russian Federation		Komi Republic		2005		2008	
	2005	2008	2005	2008	Russian Federation	Komi Republic	Russian Federation	Komi Republic
Resources FER in total	1,717	1,773	30.3	33.4	93	177	50	113
Including: natural fuel for home and export consumption	1,605	1,659	30.3	33.4				
non-fuel energy resources:	112	114	0	0				
Total consumption of the initial energy resources	1,060	1,132	14.2	15.0	57	83	32	51
including natural fuel*	948	1,018						
Consumption FER for power needs	864	909	10.1	10.4	**47**	**59**	**26**	**35**
including fuel for transformation to other kinds of energy	411	425	6.0	6.4	22	35	12	22
Total FER consumption without taking into account the charge for non-fuel production and needs	960	1,024	10.4	10.7	52	61	29	36
Home FER consumption (according to the data [1])	949	991						
including non-fuel energy resources	106	103						

* Energy, developed by nuclear, hydraulic, geothermal and wind-driven power stations.
Source: according to the data of the stat. coll.: Russia's Statistical Year-Book, 2006, 2009; Statistical Year-Book of the Komi Republic, 2009; Use of fuel and energy resources in the Komi Republic, 2009.

The part of them in the system of the national accounts makes expenses – the charge for power (power consumption) and raw needs included in intermediate and final consumption, the other part forms a profitable part – export. But this component of the cost and the power balances can be estimated not in the context of the power consumption analysis, but in the parameters of the economy's qualitative structure, its export and raw orientation, in the degree of single-profile or diversity.

The regressive analysis of the energy efficient parameters' dynamics in the economy of the Komi Republic since 2000 (fig. 1) has shown the statistically significant linear dependence of the fuel-consumption volumes from the rates of growth of the gross regional product (GRP).

More than a half of the total amount of fuel consumption (6 from 10 million t in 2009) is determined by regress as a conditional and constant component; the rest is determined as the variable component dependent on the production growth of GRP. The attribute of linearity specifies the primary impact of the production scale factor. Under the condition of these tendencies' continuation in the nearest prospect it is possible to expect that the subsequent growth of GRP, for example, for 10-15% for three years will be accompanied by power consumption reduction for 4-7% (to the level of the year of 2009).

The comparison of the macroeconomic parameters' dynamics in Russia and in the Komi Republic (tab. 2) shows that the main difference consists in a less intensive real growth of the gross product in the republic in comparison with the growth rate of the national economy: 132% and 166%. Thus, the considerable lag in the rates of power consumption decrease is observed.

Figure 1. Power consumption dynamics in the GRP the in Komi Republic

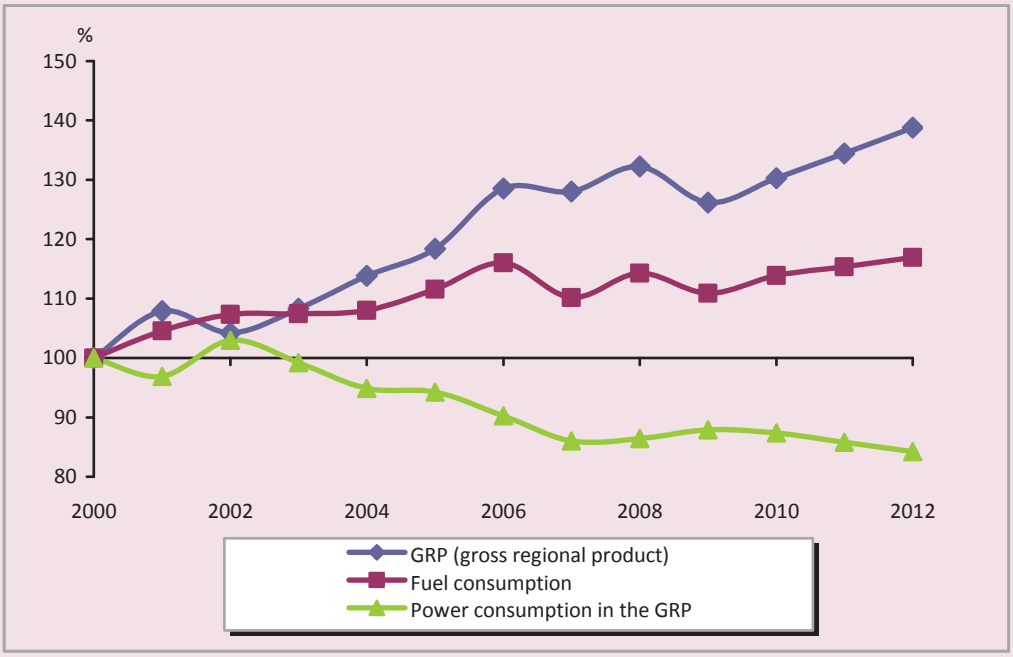


Table 2. Energy economic parameters in the year of 2008 to the year of 2000, %

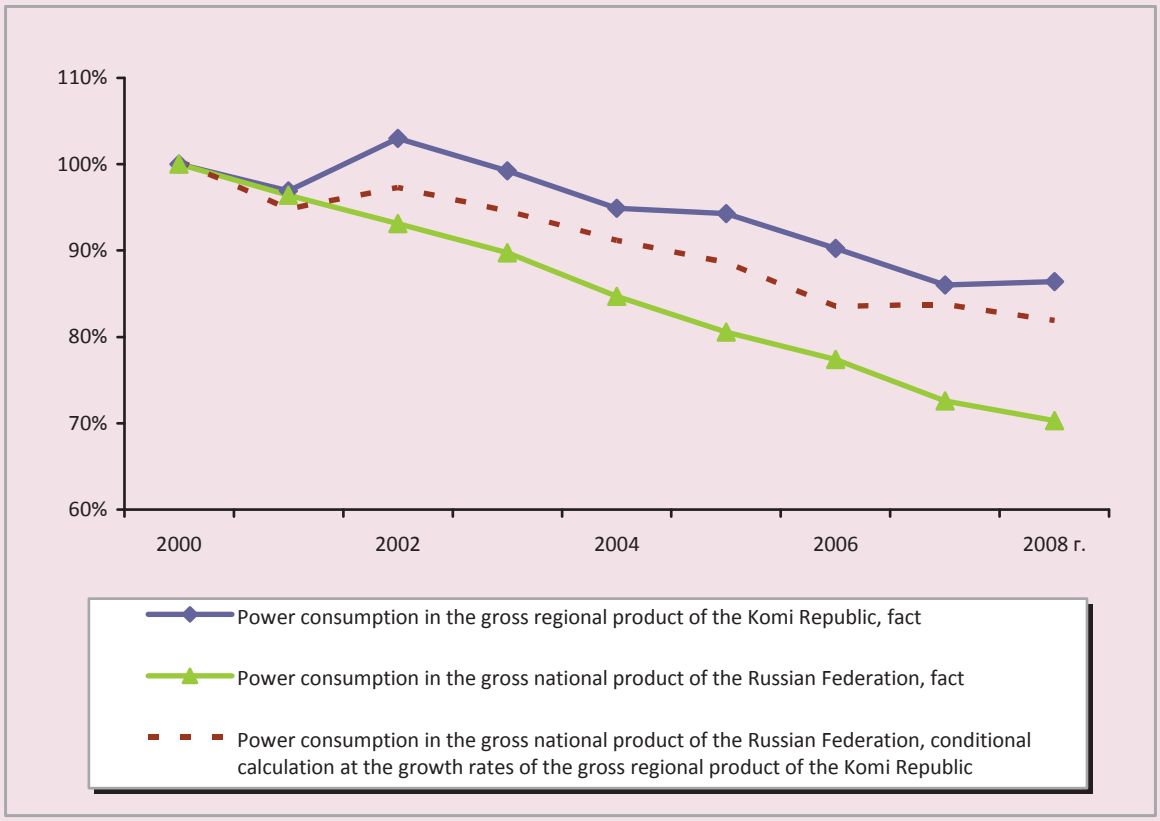
Parameter	The Russian Federation	Komi Republic
Population	97	92
Real growth of the gross national product and gross regional product	166	132
Nominal growth of the gross national product and gross regional product	570	497
Deflator of the total added cost	344	376
Volume of the fuel consumption	116	114
Power generation	118	120
Heat production	94	103
Power consumption in the gross national product and gross regional product	70	86
Electro capacity of the gross regional product	72	91
Thermal capacity of the gross regional product	57	78

It is possible to judge about the lag degree in the power consumption dynamics connected with the rates of economic growth by the results of the regression analysis of interrelation between the dynamics of the initial power resources' consumption in the economy of the Russian Federation and the rates of growth of gross national product. The statistically significant linear dependence for conditional calculating power consumption in the gross national product of the Russian economy was ensued at the growth rates of the gross regional product in the Komi Republic.

The graphic representation of the results *(fig. 2)* shows that the most part of the Komi Republic's lag in the rates of the power consumption decrease in comparison with the all-Russian dynamics is caused by the low intensity of economic growth. But it is also obvious that the considerable number of divergences is connected with qualitative attributes (structural and technological features of the Komi Republic economy).

Power consumption in the Komi Republic economy is higher than the average Russian level; at the period from 2005 to 2008 it made 29%.

Figure 2. Comparative dynamics of power consumption in the economy of the Russian Federation and in the economy of the Komi Republic



The increased power consumption is caused by "the northern character" of the economy, by the climatic and geographical features and it is the consequence of the branch production specialization in the Republic (prevalence of the power-intensive industries and pipeline transport). What factor makes the most impact? To answer this question the energy economic proportions of the regional and the Russian economy in the light of two aggregated segments are determined: power consumption sphere of production where industry and transport are referred, and non-power consumption sphere including the other kinds of economic activities (production of non-industrial goods and non-transport services) and communal-general needs of the population *(fig. 3)*.

Power consumption of the mentioned economic segments was estimated basing of the "reduced" volume of FER which meant the charge of the initial power resources caused by the final use of fuel and the transformed energy.

That is, at calculating power consumption the volumes of the initial power resources spent for electric and thermal energy generation were proportionally distributed among the consumers according to the volumes of the energy used by them in view of losses. In comparison with the economy of the Russian Federation, in the Komi Republic the power consumption segment dominates over the considered parameters (see fig. 3).

Represented energy economic proportions allow to estimate the influence of the structural factor of the economy from the ratio:

$$\frac{0,66}{0,41} \cdot 0,58 + \frac{0,34}{0,59} \cdot 0,42 = 1,18.$$

Figure 3. Production structure of the gross product and energy supplies' use in average for the period from 2005 till 2008

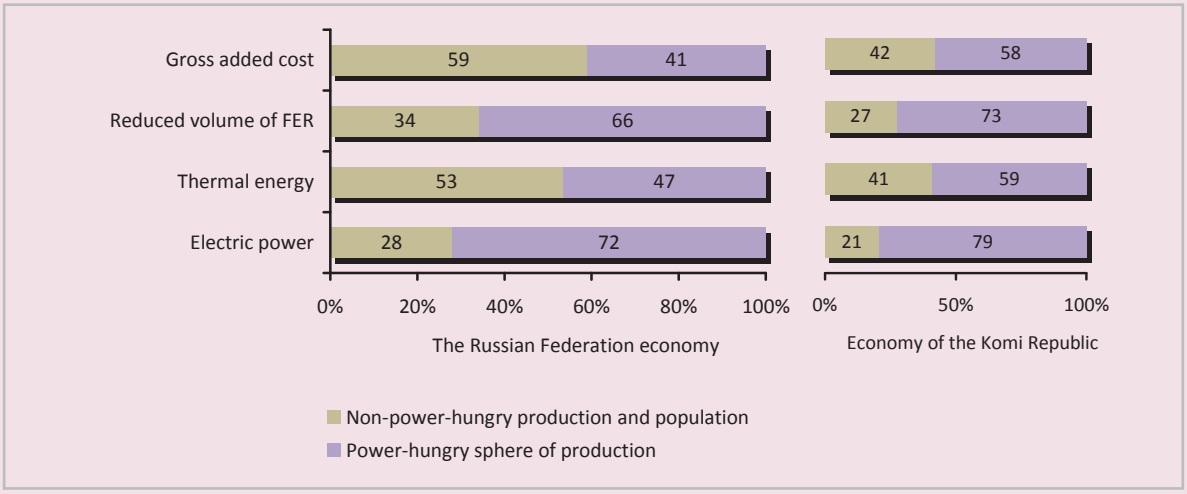
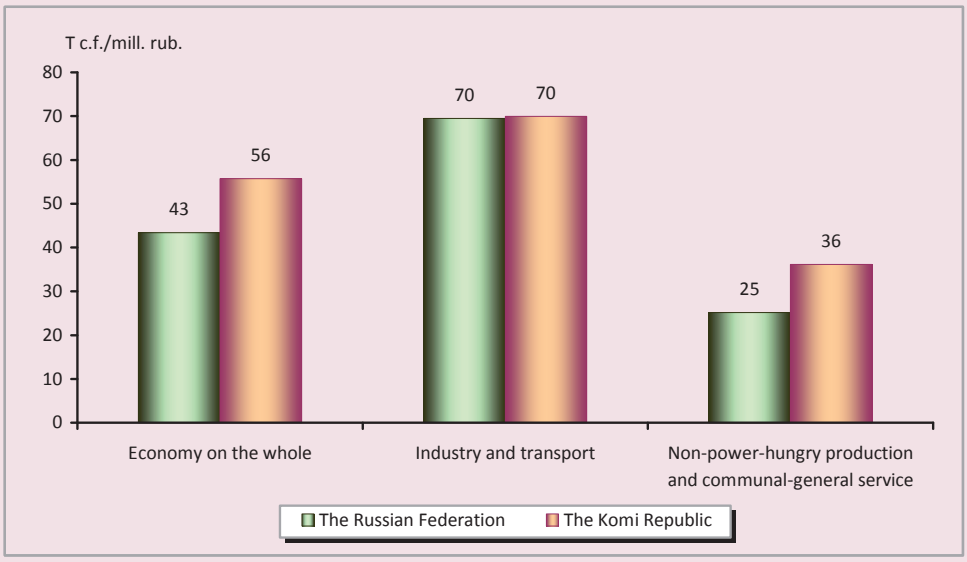


Figure 4. Power consumption of production in the gross added cost in average for the period from 2005 till 2008, t c.f./ mill. rub. in the prices of 2005



Hence, about 18% of the power consumption gain in the economy of the Komi Republic (of 29%, mentioned above) in comparison with the average Russian level can be explained by a more "industrial" structure of the regional production.

The comparative analysis of the production energy effectiveness of the considered economic segments *(fig. 4)* on the average showed the following things for the mentioned period. For the power consumption sphere of production including industry and transport, the republic's parameter corresponds with the average Russian one (about 70 t c.f./ mill. rub. in gross added cost in the prices of the year of 2005). The parameters of the non-power-consuming sphere are much lower, almost to in 3 times (the Russian Federations) and in 2 times (the Komi Republic), and the republic's parameter exceeds the average Russian parameter in 1.4 times. The latter circumstance can be connected with the so-called "northern

character" of the Komi Republic economy, in particular, with high energy needs in the social and communal-general spheres in view of the climatic and settled features.

Thus, on the average for the period from 2005 till 2008 the influence of factors of the production structure and "the northern character" on the production's power consumption excess in the gross regional product in the republic made accordingly 0.6 and 0.4, or in absolute calculation they make additional 8 and 5 t c.f./mill. rub. in gross additional cost in the prices of the year of 2005.

Let's note that for each year of the considered period the results prove to be true with insignificant variations: in 2005 and 2006 the structural factor prevailed, and in 2007 and 2008 the importance of geographical factor began to grow. For the parameters of power consumption in 2008 in the current prices (see tab. 1) the excess of 9 t c.f./mill. rub. is caused by our estimation: 5 – by the factor of the structural specialization and 4 – by "the northern character".

In details the power consumption's estimation in the economy's segments in 2008 is represented in *table 3*, from which it follows that the energy efficiency of the considered units, except for industry, is situated below corresponding average Russian parameters. Especially more than the triple excess of the power consumption by the transport system can be noted. As the basic part of the fuel charge in this segment of Komi Republic's economy falls at the main gas-supplying system, the excessive power consumption of this kind of activity is determining. As for the more energy efficient industrial production in the Komi Republic in comparison with the average Russian level it is necessary to point out the branch specialization feature as the determining factor: minerals' extraction forms the most part of incomes in the Komi Republic industrial production – 68% of the total gross added cost in the Komi Republic industries, in comparison with 31% in the Russian production; and the power consumption of this kind of activity is in many respects lower (see tab. 3) due to the conjunctural features

Table 3. Components of power consumption in the economy of Russia and the Komi Republic, 2008

	Power consumption, t c.f./mill. rub. in gross added cost		Relative excess of Komi Republic parameter, times
	Russian Federation	Komi Republic	
Economy on the whole	25.7	34.9	1.4
Power-hungry sphere of economy, in total and including:	43.3	44.7	1.0
Industrial production	45.8	29.6	0.6
- minerals' extraction	26.1	19.1	0.7
- processing production	57.0	53.3	0.9
- production and distribution of energy, gas and water*	40.8	44.8	1.1
Transport**	32.3	118.7	3.7
Non-power-hungry sphere of economy and population, in total and including:	14.4	22.1	1.5
Agriculture and forestry	11.3	28.5	2.5
Construction	4.4	9.1	2.1
Other activities in services***	4.4	7.7	1.8
Communal-general needs of the population, t c.f./per head for a year	(1.42)	(1.75)	1.2

* Power consumption was estimated under the power resources' charge on own needs.
** In view of the activity "communication", which a priori is necessarily to be referred to non-power-hungry activities but its parameters are incorporated with transport by official statistics. However, the fault of this parameters is slight.
*** Activities in services' sphere except for transport.

of the oil-and-gas market, providing high profitableness of extraction. The parameters of power consumption by industry and resources-providing infrastructures in the Komi Republic do not strongly differ from the average Russian level, within the limits ±10%. The lower energy efficiency of the considered units of non-power-hungry spheres in the Komi Republic economy draws attention. And as it was already mentioned, the main reasons for this are the factors of "the northern character", leading to the relative decrease of economic activities' profitableness. So, concerning the Komi Republic agriculture, it is logical to assume that the high power consumption is caused by a lower efficiency of agricultural production in the north (connected with crop capacity and specialization), and also by the necessity of the power resources' additional charge owing to the climatic and transport conditions. The similar situation – a smaller share of incomes in production cost and additional needs for energy – is characteristic for construction and services of the northern economy. But there still remains the question: what part of the power consumption gain is objectively caused, and what part can be reduced while carrying out power-saving activity? For the proved response a more detailed energy economic analysis on the basis of disaggregated data on economic results and consumption of various power resources in different kinds of activity, typical processes and products is necessary.

It is possible to judge indirectly about the additional power load on the economy because of the climatic features from the comparison of the data on communal-general consumption of the population. The specific parameter of the per head "reduced" FER charge for providing communal-general needs of population in the Komi Republic is higher than the average Russian parameter for 25 % (see tab. 3). Hence, the comparative power consumption in the sphere of non-material services exceeding the mentioned level represents the lag in its economic productivity and the presence of power-saving reserves.

Summarizing the analysis of energy efficiency in the Komi Republic economy, we should underline its basic features.

- A rather high power consumption is caused by the features of the branch production structure and by "the northern character", and the importance of these factors is approximately identical.
- The slow growth of energy efficiency is caused by low rates and quality of economic development. The power-saving effect is mainly connected with the increase in production scales. No steady power-saving tendencies in structural economic transformations and in realization of technological enhancement were revealed.
- Among the basic branch components of the economy the most power-hungry kind of activity is pipeline gas transporting and processing production.
- The significant (more than in 1.5 times) excess of the average Russian level of power consumption of the aggregated kinds of economic activities characterizes transport, agriculture, construction and services in the Komi Republic.

In addition, let's note some expected features of the perspective dynamics of energy efficiency in the Komi Republic. Estimation of technological power-saving potential in the republic carried out earlier [11] showed that it makes about one third of the total amount of the used power resources. Its development, despite the slow rates – for 10 years, would provide doubling nowadays rates of the power consumption reduction and, under the certain conditions, the additional annual 1% gain in gross regional product. In distribution of the general potential to the activity fields in the republic the basic directions are similar to those in Russia: power supply systems' enhancement, power-consuming industry and transport, housing and communal services [11, p. 74].

But the general state of affairs with realizing technological power-saving in the republic does not differ from the all-Russian state. Hence, the purposes and mechanisms of technological enhancement of economy are entirely projected from the federal level to the republican one, and the success of its realization depends on favorable macroeconomic conditions and effective measures of stimulation. As for the structural shifts of the economy, the prognosis researches showed [11, 12], that the mainstreams of economic activities' specialization in the republic – oil-and-gas, mining, wood complexes and transit transport – will keep the basic positions in the future. Realization of the large-scale investment projects, among which there are power-consuming industries, is planned: construction of bauxite-aluminous complex, gas pipeline "Yamal – Center" and an oil pipeline "Western Siberia – Indiga", new capacities in the cellulose and paper industry. While realizing such projects, the macroeconomic dynamics will be accompanied not by the acceleration, but the delay of the rates of energy efficiency growth. Therefore, in the republican economy there are no preconditions for achieving the all-Russian reference point of the perspective development – power consumption decrease for 40% by 2020 (decree of the President of the Russian Federation, June, 4, 2008, № 889).

The new accent of the importance of the energy efficiency analysis in the regional economy is connected with a choice of the parameter of power consumption in gross regional product as an indicator of the executive authorities' activity (Decree of the President of the Russian Federation, May, 13, 2010, № 579). It will make actual both monitoring and the analysis of the energy economic interrelations: it is necessary not only to estimate statistical parameters, but also to determine significant factors of their level and dynamics, to differentiate the results of the "natural" economic processes and the effects initiated by the administration's activity.

It was shown that the economy of the Komi Republic is a more power-consuming economy than the Russian one, and it is probable, that such position will be kept further. But this feature has the objective bases, such as specialization and "the northerness". Alongside with it, the considerable reserve of the energy efficiency's growth – out-of-date production enhancement – is not paid attention. There also can be various reasons of low rates of the energy efficiency's growth: power-saving absence, development of power-consuming industries or decrease of the regional incomes connected with redistribution processes. For the proved choice of the significant factors it is necessary to carry out monitoring of the energy economic dependences, to improve information support and to expand analytical researches on influencing the power basis of economy on the efficiency and the quality of the regional development.

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Modernization trends of forestry complex in the region (the Karelia Republic's case)

The article is devoted to the issue of the traditional branches' enhancement. Karelia Republic's forestry complex is considered as the example of the region's traditional branch. The comparison of Karelia's wood industry and Finland's one is represented. The author chooses labor productivity (the factor of the intensive development) as the key parameter of enhancement. The dynamics of the wood complex's development in Karelia from 1990 till 2009 is considered. The branch enhancement's directions are offered according to the revealed tendencies.

Modernization, forestry and forest industry, competitiveness, labor productivity

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The course to the economy's enhancement, chosen by the country's administration, has the overall objective that is to raise the Russian enterprises' competitiveness. This problem can be especially observed at the enterprises representing traditional branches.

The urgency of the mentioned problem lies in the contemporary economic conditions such branches' enterprises loose competitive advantages such as cheap raw material, energy carriers, and qualified labor, therefore the enhancement's realization becomes the necessary requirement for their survival and development.

At the problems' solution on the enhancement process' management it is necessary to take into account a lot of factors influencing it. It is important to realize, that the enhancement's driving forces can be represented by various groups of interests.

Forestry complex is traditional in the Karelia's economy. About 9.7% of all employed work in the complex' organizations. Export of the complex' production prevails in the Republic's foreign commerce. In 2009 export forestry production made 665 million US dollars (64% of all export deliveries of the Republic). In the commodity export structure of timber and its products the greater share was made by raw wood products. In deliveries newsprint and craft paper prevailed in the cellulose-and-paper production's export [1].

Forestry complex' enhancement assumes movement to modern highly effective use of resources, production of qualitative competitive goods of deep processing. The best samples of forestry can be found in such countries, as Canada, the USA, Sweden and Finland. Traditionally the Karelian forestry complex is compared to the Finnish one.

The woods' structure in Karelia and Finland is practically similar; the wood reserves are also comparable. The Finnish forestry, as well as the Karelian one, is focused on export of the production of deep processing with the high added cost. In the majority of branches from 70 to 90% of production are exported [9].

In 2008 in Finland the cost of the exported forestry products 19.4 times exceeded the similar Karelian parameter ($16.4 billion and $849 million accordingly), in 2009 this ratio made 18.2 times ($12.1 billion and $665 million accordingly) [1, 8].

The main objective of the forestry complex' enhancement is the increase of the complex enterprises' efficiency and competitiveness. The most simple and informative parameter of an enterprise's functioning is labor productivity. In labor productivity the Karelian enterprises lag behind the Finnish ones on processing wood products in 9.9 times *(fig. 1)*, on producing cellulose, wood-pulp, paper, cardboard and products made of them in 8.1 times *(fig. 2)*.

Before the market transformations in 1990s only 10 % of the round timber were delivered for export, the rest amount of it was processed

Figure 1. Annual labor productivity of a woodworker, in dollars

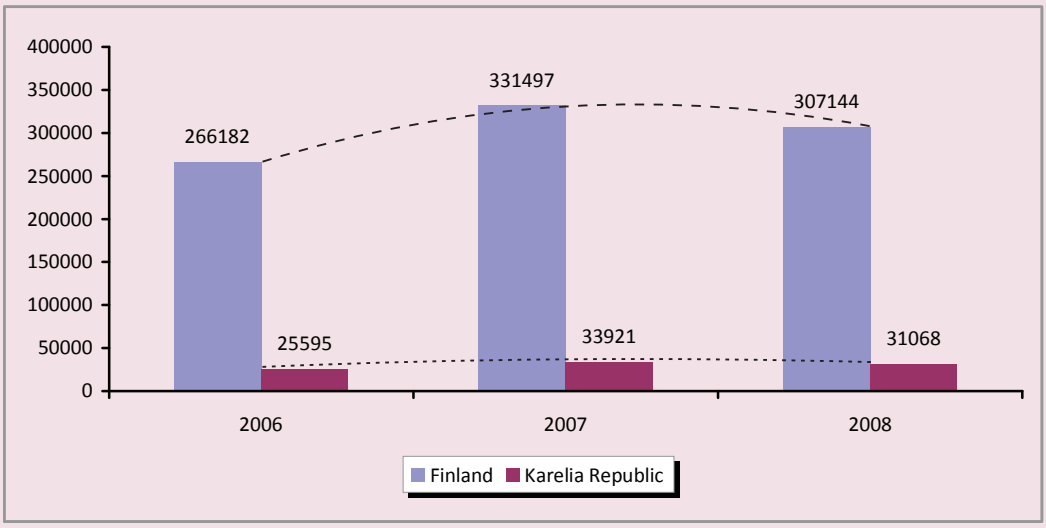
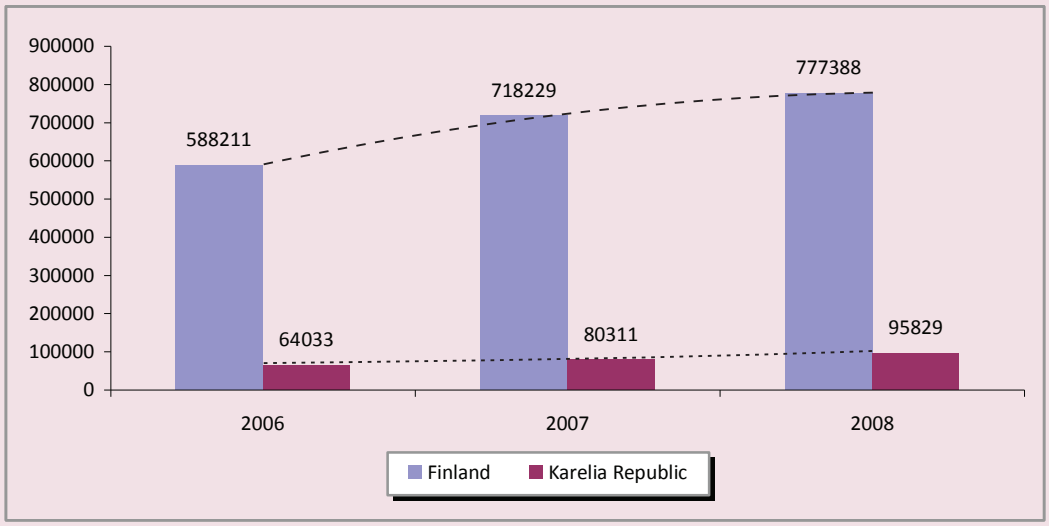


Figure 2. Annual labor productivity of a woodworker producing cellulose, wood-pulp, paper, cardboard and products made of them, in dollars



at the woodworking and the pulp-and-paper mills in the Republic and the country.

At the end 1990s almost 70% of the provided wood in the Republic began to be delivered for export as raw material, from its general volume (97%) to Finland, that resulted in dissociation of the complex – the "raw" enterprises were reoriented to export, and the processing ones – to cheaper raw material from the neighbor regions. As a result the dynamics of the branches' development of the Karelian forestry complex essentially differed.

The requirements to the quality of the wood, provided by the Republic, from the part of the Finnish enterprises, high speed of the capital turnover in logging have resulted in its enhancement, the transition to the sorting technology of wood production which means lumbering complex' use (harvester and forwarder as one). One lumbering complex is capable to operate instead of some brigades of woodcutters with a skidder. Nowadays in Karelia, by experts' estimations, to 90% of wood are provided according to sorting technologies. As a result of transition to the sorting wood providing the labor productivity at logging in Karelia did not reduce in 1990s and has abruptly increased in 2000s, by 2009 it increased more than in 3 times in comparison with 1990s *(fig. 3)*.

At the period from 1990 till 1998 the Republic's wood processing enterprises experienced the significant recession caused by a number of reasons. At the majority of enterprises the out-of-date equipment did not allow to release qualitative production required by the market as it resulted in the over-expenditure of raw material which cost considerably increased in Karelia. In the result the local enterprises faced the wood shortage as they could not pay for wood raw material as much as the Finnish ones did. The efficiency of investments into wood processing in comparison with raw materials' export was much lower.

The period of reforms revealed a low management level at the Karelian enterprises, inability to operate in the changing conditions which were used by unconscientious partners. In 1992, for instance, Ilyinsky timber enterprise lost its production for the sum of 600 000 dollars because of the frauds of the foreign partner from France. At the same time, a number of enterprises becoming public corporations were redeemed from the workers by speculators, specially bankrupted and resold. The decline of the work productivity during this period of time was also caused by the fact that the enterprises did not reduce their staffs, hoping to return to the former political system.

Figure 3. Dynamics of the labor productivity at Karelia Republic's loggings, in % to 1990

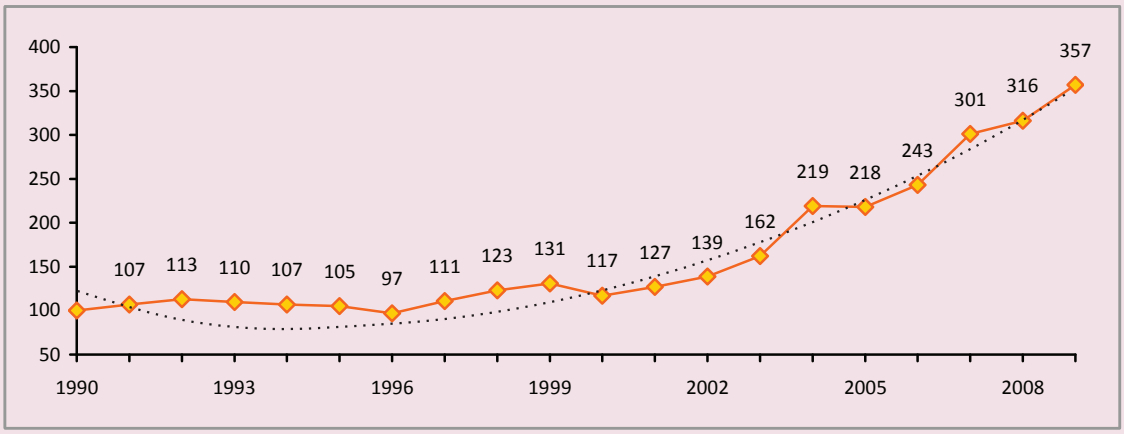
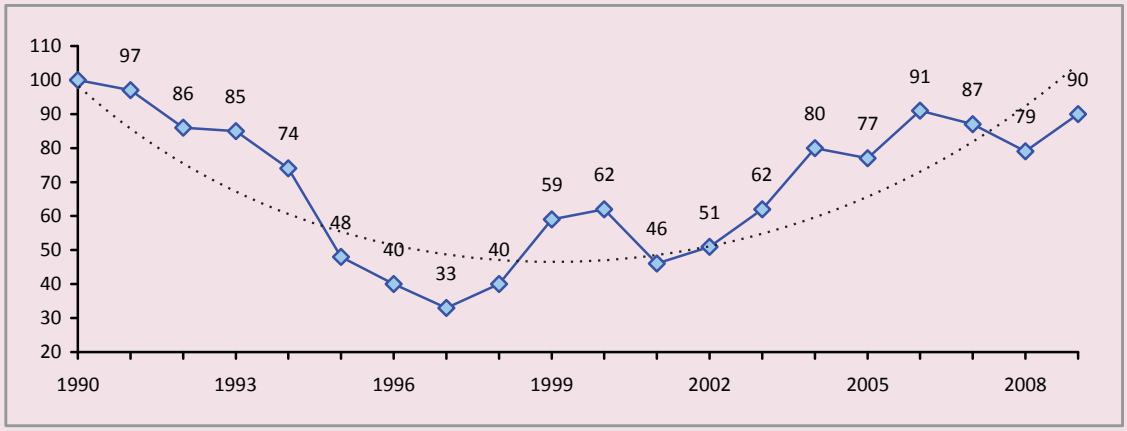


Figure 4. Dynamics of the labor productivity at the wood processing enterprises in Karelia Republic, in % to 1990



By virtue of these and other reasons the Karelian enterprises could not find means for enhancement, and by 1997 the labor productivity had fallen in 3 times *(fig. 4)*.

It is revealed, that the increase in the production volumes from 1998 till 2000 is connected to the ruble devaluation which made Karelia Republic's woodworking profitable for some time, and from rather expensive Karelian raw material due to the modern technologies it became possible to produce competitive production. It is also revealed, that the dynamics of the labor productivity was influenced by several factors. First, the increase in the labor productivity basically took place due to loading unused capacities. Second, the growth of the labor productivity was connected to the new equipment's and technologies' occurrence: highly-efficient lines on manufacturing straughan-molded products; less power-intensive drying chambers; the processing centers on manufacturing windows and other equipment (at the enterprises in Petrozavodsk and Segezha); and the technologies on manufacturing laminated panels. Thirdly, the role of the factor constraining the growth of the labor productivity is played by the artificial restriction of competition, as from 1998 to 2002 the republican authority did not let outside investors into the wood branch. By the year of 2001 the effect of devaluation had been settled.

Since 2003 in Karelia in the sphere of forestry complex the role of competition in development is growing. New wood processing enterprises are created, that in the certain degree caused the enhancement of the old ones. Due to the financial stability (2003 – 2006) the enterprises used credits and leasing circuits, the branch became more attractive for investments.

Till 2006 in Karelia a big Russian investor, holding "InvestLesProm" appeared. The frontier position also assisted to the occurrence of enterprises with foreign participation "SvedWood-Karelia", "SetLes") with the high work efficiency. At the same period in the Republic a new direction of activity – bio-energetics – appeared. Public Corporation "Karelia Profile" (Petrozavodsk) and Closed Joint-Stock Company "North Inter House" (Lahdenpohya municipal area) set the equipment for manufacturing fuel granules (pellets) from waste products of lumbering and fuel chips accordingly. Public Corporation "BioGran" bought a pellet factory in Finland and transferred it to Petrozavodsk. Despite of the new enterprises' occurrence and the enhancement of the old ones the labor productivity in 2006 couldn't even reach the level of 1990.

In 2007 in the USA the hypothec crisis began which developed into the global financial crisis in 2008. As a result of the reduction of individual housing construction in the USA manufacturers of the saw-timbers from Canada, working basically for the USA market, started to deliver their products to Europe. The increase in the offer of saw-timbers in the European market resulted in abrupt falling of the prices, that negatively affected local manufacturers, as the cost price of the wood raw material in Europe is traditionally higher than in Canada. As a result of the toughening competitive struggle the Karelian woodworkers who were basically focused on the European market of saw-timbers, were compelled to sell their products almost 40% cheaper and their losses made hundreds million rubles. As the consequence, the majority of the branch's enterprises had to work in one change; some enterprises stopped their activity (Kemsky, Shalsky and Ilyinsky timber, Kondopozhsky wood-export plant, Public Corporation "Belomorskaya wood processing company").

The only wood processing enterprise of the Republic which in 2009 not only kept but also increased the volumes of production was Solomensky timber plant. This enterprise is one of the advanced in the Republic and is focused on the Japanese market which is very demanding to the quality of the delivered production.

Pulp-and-paper production in the Republic by the beginning of the market transformations was submitted by five enterprises in Kondopoga, Segezha, Pitkyaranta, Suoyarvi and Lyaskelya. The consequences of transition to the market economy resulted in the significant decrease of the industrial parameters at the period from 1990 till 1998. The reasons of decrease were the same, as at the wood processing enterprises. One more specific reason affecting the delay of the branch's development is revealed: the necessity to coordinate the enterprise's development with the requirements of a city (an area) where it settles.

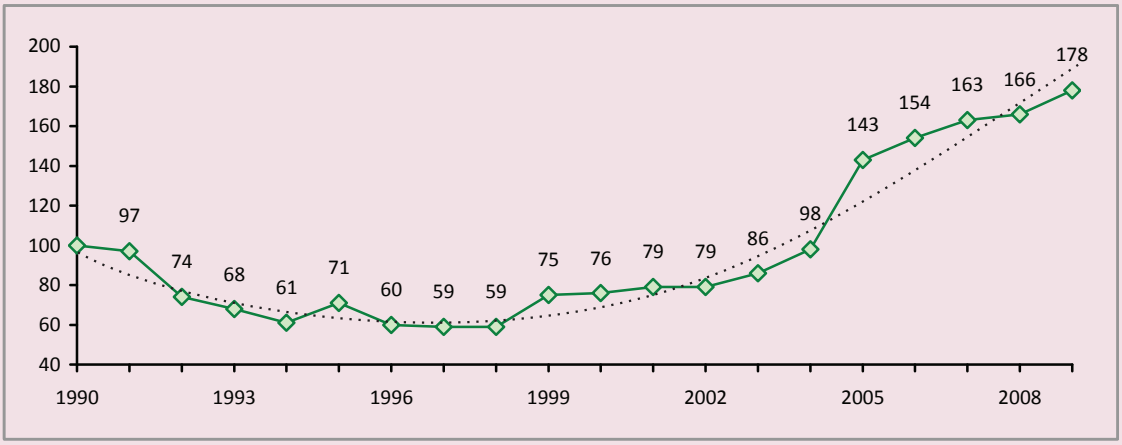
Kondopozhsky pulp-and-paper plant after privatization became the property of the labor collective under the administration of the initiative director V. Federmessera who could adapt for the new conditions quickly. In the result since 1994 the enterprise has increased the output which significant part goes for export, and new projects are realized.

At the Segezh pulp-and-paper plant such team of managers led by V. Preminin appeared only in 1998 then the growth of production and the enterprise's enhancement began. The previous proprietor of this plant, the Swedish firm "Assidomen" could not do business in the Russian conditions and find the way out for the enterprise from the crisis. In the result paper bags' production reduced almost in 11 times, commodity markets were lost.

The increase in volumes of production in 1999 occured due to the ruble's devaluation and restoration of manufacture in Segezha. A relatively slow growth of the parameters of the years 2000 – 2003 was connected with the fact that except for two successful enterprises some enterprises got into the hardest financial position, such as public corporation "North-Ladoga paper-producing plant "Lyaskelya"" and public corporation "Suoyarvi". In August, 2003 public corporation "Kondopoga" launched the high-speed paper-producing machine №10 due to which by 2004 the release of newsprint increased for 20.8%. In the result in 2004 the labor productivity at the enterprises of the pulp-and-paper industry left at the level of the year of 1990. Pulp-and-paper plants in Kondopoga and Segezha began to compete successfully to the foreign enterprises in the world market. For the economy of Karelia Republic this branch has strategic value.

In 2004 the stage of the scale enhancement at Segezha pulp-and-paper plant (modernization of paper-producing machines №10, stream of continuous boiling, sorting and cellulose washing) was completed. At the public corporation "Suoyarvi cardboard containers"

Figure 5. Dynamics of the labor productivity at the enterprises of cellulose production, pulp and paper, cardboard and products made of them in Karelia Republic, in % to 1990



the new proprietors restored the paper-producing machine, and the volumes of manufacture began to increase, that in 2005 resulted to the considerable step of the labor productivity in the branch. From 2006 to 2009 the branch's enterprises continued the enhancement of manufacture that was reflected in the growth of the labor productivity *(fig. 5)*.

Despite of the crisis, the pulp-and-paper enterprises of the Republic continue the enhancement of manufacture. At the public corporations "Cellulose factory "Pitkyaranta" and "Kondopoga" the plans on enhancement are designed till 2015. The primary goals in these plans are submitted as follows: the electric power economy, reduction of the harmful substances' dump, the improvement of cellulose quality and the increase of the production profitability. For the realization of the plans on modernization and expansion of the basic manufacture in the years 2010 – 2015 public corporation "Kondopoga" 741 million rubles are required. By 2013 it is planned to finish the program on reconstruction and expansion of the Segezha pulp-and-paper plant within the framework of the project "Polar Bear". The volume of investments will make about 1 billion euro. The feature of "Polar Bear" is that the birch will be used as raw material for manufacture, instead of coniferous breeds of trees. This wood resource in the region now remains practically unclaimed by the timber industry enterprises. After the completion of the Segezha plant's enhancement it will begin to release the whitened cellulose which is the basic raw material for manufacture of the enamel-paper. Thus, holding "InvestLesProm" owning the Segezha plant becomes the first supplier of the enamel-paper in Russia. The further development of the enterprises should be under the production construction with the high added cost: sanitary-and-hygienic products, enamel-paper, and packages.

As a result of the analysis of the forestry complex development under the influence of various groups of interests it is possible to tell, that three directions of the branch development connected with modernization were generated.

The first is the enhancement at the external interest and accordingly to the external investments. In the result is the fast growth of the labor productivity. This direction is typical for timber cuttings, in which development and modernization Finnish wood-processing enterprises were interested. Now in this branch a high level of work mechanization and workers' qualification can be observed. Due to the development of the sorting technologies in Karelia (in Petrozavodsk and Medvezhyegorsk) the service enterprises appeared, they began to

release the harvester under the brand "Chetra" on the basis of technologies of the Danish company "Silvatec". Thus, it is possible to tell, that the technical modernization in timber cuttings has already taken place.

The second direction is the enhancement due to the internal resources (at gradual occurrence of the external ones) which was typical for the pulp-and-paper enterprises. In the result was the recession of the labor productivity in 1990s and the growth gradually accelerated in 2000. The non-successful experience of the Swedish company "Assidomen" at the Segezha plant considerably lowered the investment rating of the Republic. Just before the beginning of 2000s the enterprise of the branch developed with some help from the Republican authorities. From the middle of the 2000s the enterprise on manufacturing cellulose, paper, cardboard and products of them became very attractive to the Russian investors. Holding "InvestLesProm", which bought the Segezha plant in 2006, began to invest actively into the complex' enhancement.

The third direction is the modernization at insignificant interest of proprietors and consumers. In the result is considerable recession in 1990 and slow growth in 2000s. The mentioned variant describes the development of the wood-processing enterprises in Karelia.

The problems which were faced by the Karelian woodworkers in 1990s, did not allow them to find means for the complex enterprises' enhancement. Foreign investors, basically the Finnish ones, were not interested in this branch's development in Karelia. Even the enterprises which appeared not long ago with the foreign participation on the territory of Karelia pursue the purpose not directed to the development of deep wood processing, but to fastening the enterprise to the resource base. Nowadays the majority of enterprises make production with the low added cost. The transition to a deeper wood processing is necessary for the branch's development. There are certain successes which are already reached: the growing demand for plywood and window blocks resulted in the occurrence of the modern equipment on their manufacturing in Karelia. As to 90% of all saw-timbers are used in the construction, the leader of the branch's enhancement should be the development of the wooden housing construction.

Theoretically the fourth direction is possible, it is the state support, when federal (or regional) authorities within the framework of the enhancement program invest budgetary funds, create the system of privileges for the external investors' attraction and render the necessary support to the enterprises, helping in this way to solve arising problems.

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Integration approach to managing food industry in modern situation

In connection with the economic crisis the problem of creating an efficient algorithm for managing the food industry has recently become more urgent. In this paper we consider integration as an opportunity to improve efficiency and competitiveness of domestic enterprises. During the analysis of economic activity the given food industry, it has been concluded that under the current conditions the integration approach allows us to obtain competitive advantages, take leading positions in the market.

Integration, co-competition, cooperation, partnership, association

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Managing in modern conditions causes a great problem to domestic enterprises of food industry, namely introduction of an effective algorithm of managing their activities as an administrative basis of maintaining stability of functioning in crisis [4].

New economic conditions in which rather new Russian business has to develop are characterized by high dynamism of environment, growing requirements from consumers, intensifying of competitive struggle. Revolutionary changes in technologies, organization and leadership have generated new requirements to a modern effective and, hence, competitive enterprise which is a dynamical, active participant of the economic life of the country and the world as a whole if we take globalization into account, which has flexible internal structure, freely adapts to quickly changing environmental conditions and has general communication relations.

Adaptation of the Russian enterprises of food industry to new conditions means, first of all, carrying out some changes inside the organization. It is necessary because the existing control system acts as a brake while the organisation tries to survive. Reconsideration of the company's activities, complex reforms, perfection of the corporate management of the organization [4] are going to be the main factors of success.

There is a great number of theoretical and practical knowledge abroad to decide the problems of organization management in conditions of forming market relations. As the domestic organizations have faced similar problems it is obvious that their management perfection should be carried out on the basis of introduction of the methods and receptions approved. At the same time due to the special features of the Russian mentality, the necessity of the further understanding and development

of the national model of management in organizations and recent trends in the sphere under consideration, there is a possibility to use new approaches, concepts, tools and technologies of management or to transform them according to the situation in the Russian business environment.

In the article it is offered to consider integration approach to management of organization activities as an alternative to the decision of the problems listed above. The integration concept proceeds from the fact that the basis of existence, development and prosperity of any organization is the main principle of economic relations which means interaction with other social and economic subjects.

Since interaction of managing subjects becomes more important in modern market, it is quite reasonable that enterprises of food industry use the concept of integration as a guideline for their activities.

The integration tendency represents a higher level of interaction between subjects when participants entering economic relations alienate part of their sovereignty in behalf of each other. At the same time formation of new globalized world is accompanied not only by integration processes but also creates conditions for exception, neglect of everything that is not capable to join in the networks of similar interrelation.

A vivid example of disintegration is the present financial crisis. "Crisis is a disaster for the weak, but a possibility for the strong. If there are no changes the mediocrity triumphs. To become stronger, to learn to cope with changes quicker and better than competitors we need integration" [1].

It is also necessary to notice that today integration determines basic positive tendencies in the economy:

- integration of internal subsystems in the organization increases the efficiency of its activities;
- integration of the personnel and the client base promotes the development of the client-oriented approach;
- economic integration provides a long-term convergence of the general goals both of the integrating and integrated enterprises;
- integration into business communities creates strong partner relations with other independent economic subjects.

We are going to substantiate and prove the objectivity of the given point of view while analyzing economic activities of one of the key players in the market of fish and seafood – public corporation "Group of Companies "Russian Sea".

The choice of the given company as a platform for research is not random.

1. "Group of companies "Russian Sea" is one of the leading companies in Russian food market. It produces and delivers integrated fish products, cooled and fresh frozen fish and seafood. [6].

According to marketing research of the fish market in 2009 published by Global Reach Consulting the shares of CJSC "Russian Fish Company" and CJSC "Russian Sea" which are the members of the Group are 12% and 10,4% of the market accordingly *(fig. 1 and 2)*.

Apart from OJSC "Group of Companies "Russian Sea" the companies "Rok-1", "Baltic Shore", "Meridian", "Santa Bremor", "Atlant Pacific" and DEFA Group have the leading positions in Russian fish market according to the data of 2009 *(tabl. 1)*.

For the last five years the Group of Companies has appeared practically in all large segments both in the market of cooled and fresh frozen fish and seafood and in the market of finished brand products (redfish, red caviar, caviar of other fishes, preserved herring, seafood, spiced sprats, sea kale, etc.).

The total income of fish and seafood processing, in thousands of rubles, in comparison with the companies-leaders

Figure 1. Structure of distribution in Russian fish market, %

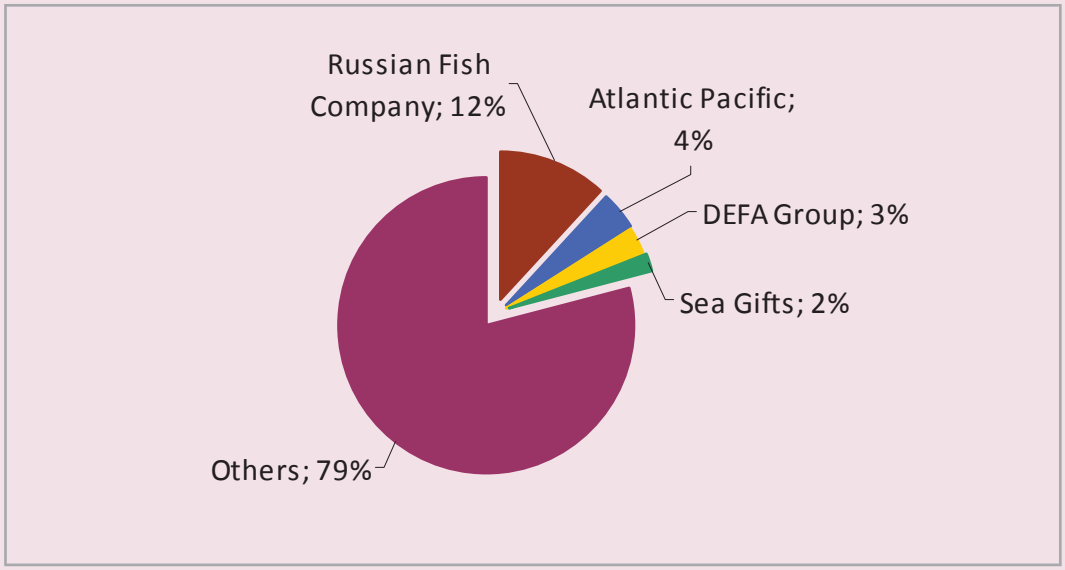
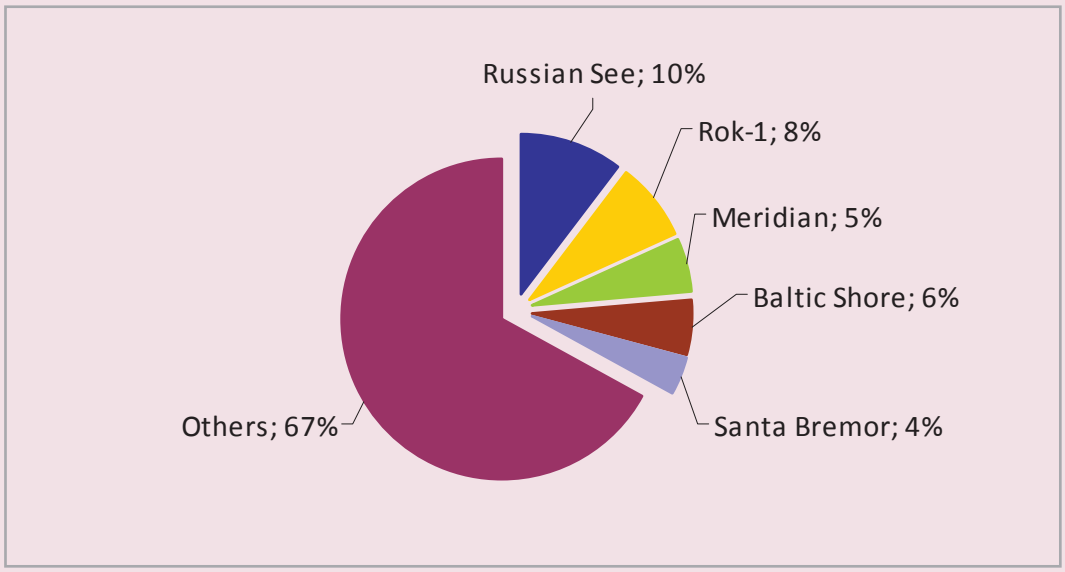


Figure 2. Companies' shares in the structure of the fish market according to value terms, %



(according to the data of the quarterly reports of the issuers of emissive securities) has made *table 2*.

The income growth of the company in 2006 – 2008 is connected with the increase of the sales and the rise of the gate prices of the produce that has become possible due to the proper positioning of the produce in the market.

During the period under consideration the range of the produce has formed and altered. There was both a transition from putting on the market and selling goods with low added cost and weak brand to putting on the market and selling goods with high added cost and simultaneous development of the brand "Russian Sea" and separate trade marks within the brand (for example, preserved filleted herring "Islandka").

Table 1. Distribution of the volume of the fish market among the processing companies in 2009, mill. rubles

	Mill. rubles
Russian Sea	5230
Rok-1	3969
Meridian	2640
Baltic Shore	2800
Santa Bremor (export from Belorussia to Russia)	1954
Others	33851
Volume of the market of processed produce according to value terms	50444

Table 2. Total income of fish and seafood processing, thousands rubles

Company name	2006	2007	2008	2009	2010
Close Corporation "Russian Sea"	2338154	3972895	5222117	4183589	4344196
Public Corporation "Rok-1"	3357050	3671026	3966284	3860364	4508458
Public Corporation "Meridian"	647386	1043021	1967404	2163727	-

In turn a considerable decrease of receipts in 2009 in comparison with the same period in 2008 (by 19.9%) is connected with the changes in the economic situation in the country (decrease in purchasing capacity, trade turnover reduction in trading networks). In 2010 the economic situation in the country was stabilized that in turn has entailed increase of receipts by 3.8% in comparison with 2009.

2. "Group of Companies "Russian Sea" is a balanced vertically integrated company which works in three basic directions *(fig. 3)*: ready fish production ("Russian Sea" company), delivery of cooled and fresh frozen fish and seafood ("Russian Fish Company") and an aquaculture ("Russian Sea – Aquaculture").

3. The group of companies has 30 offices and branches on the territory of the Russian Federation. OJSC "Group of Companies "Russian Sea" delivers its produce in more than 85% of regions of Russia [6].

4. The group of companies actively cooperates with the largest foreign and Russian suppliers of fish and seafood. Today the import share of fish produce in the company makes 60% and domestic one – 40% (5).

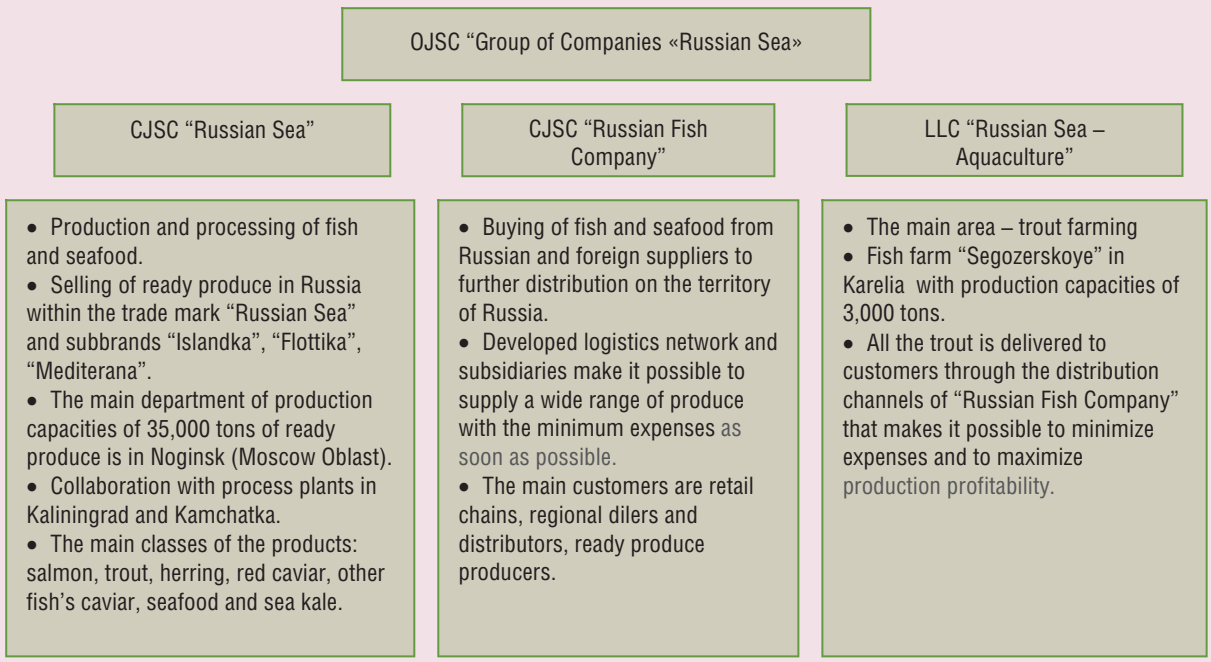
It is necessary to notice that the organization has reached high competitive advantages of realized production and key positions in the market of fish and seafood by means of the efficient control based on the integration approach of the business policy.

Integration approach is directed on both internal business processes of the company and relations in the external business environment.

Thus, the holding structure of the organization has made it possible to get the following competitive advantages:

- a scale effect (the main suppliers of the primary product have the most favourable prices and terms of payment);
- a vertically integrated business model (regular deliveries of the primary product for finished goods production, while delivering ready cooled and frozen produce at the same time, the company is protected from demand fluctuations between the given categories of the goods);
- a wide retail network (30 offices and branches on the territory of the Russian Federation);
- a wide range of the produce (almost in all large segments of the market);
- modern modes and high quality standards of production (in 2008 the factory was modernized and its floor spaces were enlarged that made it possible to increase productivity and optimize costs);
- effective production technologies.

Figure 3. Organization Structure of OJSC "Group of Companies "Russian Sea"



In an external business environment the company acts to consolidate partner relations that leads to mutual benefit, helps to form and realize the programs and strategies which result in commercial success of all the participants of the market.

The Group of Companies cooperates with the largest foreign suppliers of fish and seafood for a long time: Shetland Catch, Marine Harvest, Norway Pelagic, Atlantic Pelagic. For some suppliers, such as Shetland Catch, Marine Harvest, the Group was and is a unique importer of their production to Russia.

The relations with all the clients are oriented to the development of long cooperation and strengthening of relations. The production of the Group of Companies is presented in the largest Russian retail networks such as: Magnit, ASHAN, Copeika, Lenta, Metro, X5 Retail Group.

The company uses integration approach focused on cooperation not only when constructing its internal structure, interacting with suppliers and clients, but also with the main competitors.

Being one of the largest participants of the market, having a strong brand and adjusted connections with foreign partners OJSC "Group of Companies "Russian Sea" seeks to interact with other companies of the branch. The Group of Companies is an active member of the Association of the industrial and trade enterprises of the fish market in which the leading players of the branch work in close contact to the state structures on the development and establishment of civilized branch regulation and functioning.

The share of the produce of the members of the Association it is about 80% of fish production imported to Russia.

The members of the Association distribute about 90% of fishes of pelagic breeds, and 80% of salmon ones in the home market. The developed trading networks of the companies of the Association make it possible to realize the produce in all the regions of the Russian Federation.

The Association of the industrial and trade enterprises of the fish market is the open non-commercial organization which unites the

companies that have key positions in the field of import, processing and realization of fish and seafood. Such integrated organization helps all the members-organizations to get essential competitive advantages in the market.

For example, this integration community gives its members a possibility to work in close connection with the state structures on the development and establishment of branch regulation and functioning. The Association takes an active part in the legislative activity directed on the perfection of the normative basis which regulates the questions connected with customs and veterinary control and registration of fish production.

Its partnership with the Commercial and Industrial Chamber makes it possible to attend to the construction of the close meaningful dialogue between business and the state which leads to the state's efficient control and management of the fish branch and also to the creation of equal competitive conditions in the given segment of the market. The Association takes an active part in the legislative activity directed on the perfection of the normative basis which regulates the questions connected with customs and veterinary control and registration of fish production.

Within the bounds of the aquaculture they carry out the development actions for the introduction of progressive technologies of cultivation of fishes in order to meet the requirements of the national market in qualitative produce, to increase the volumes of the internal production.

In addition, the Association assists the participants in searching potential partners and commodity markets, gives the advisory help. Favour the distribution of professional knowledge and experience, the Association organizes and takes various actions devoted to fish subjects.

At the international level the Association develops relations with the companies which are the world leaders in catching, processing, cultivating fish and seafood.

The Association mission: the Association of the industrial and trade enterprises of the fish market is created by the largest Russian companies in order to consolidate their enterprise activity, to assist the efficient state control in the fish branch, to increase its investment appeal, to protect the legal rights and interests of its members.

The development of the domestic fish market is its participants' direct business, but it is ineffective if only this or that company's interests are taken into consideration.

Therefore, the Association sets the following task – to unite the efforts of the industrial and trade enterprises which are interested in the branch development and formation of the civilized market relations.

The goals of the Association are:

- formation and realization of the target programs of the Association directed on the development of the fish market;
- organization of the interaction with public authorities and local governments;
- representation and protection of the general interests of the members of the Association in legislative, executive and judicial organizations, noncommercial and commercial organizations;
- increase of investment appeal of the branch on the whole;
- representation activity on Russian and foreign markets;
- support and organizing the actions of cultural and other socially useful subjects connected with charity that proves social responsibility of the branch community;
- accumulation of means for realization of the projects connected with the purposes and problems of the Association on a voluntary basis.

The creation of the Association is caused by the objective necessity to overcome the factors constraining the development of the fish branch on the basis of the coordinated and concentrated efforts of the active participants of the fish market.

The priority of the Association is to assist in formation of civilized relations and equal competitive conditions in the internal fish market. The realization of this problem makes a reliable basis for the food security of the country, promotes efficiency of the state control in the field of the production quality, dynamic development and increase of investment appeal of the branch.

The Association realizes the basic areas of activity:

- develops and promotes the realization of economic and social programs;
- represents and protects general interests of the members of the Association in legislative, executive and judicial organizations, noncommercial and commercial organizations;
- gives advisory help to the members of the Association;
- organizes various forms of information interchange between the members of the Association;
- develops relations with foreign organizations, takes an active part in international thematic exhibitions and conferences extending cooperation of the Russian and foreign enterprises [2].

Thus, while analyzing economic activities of OJSC "Group of Companies "Russian Sea" we come to the conclusion that its concept of integration as the basis of the organization management makes it possible to increase the efficiency of its activity, to strengthen its positions in the market and competitiveness of the production.

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The methodical basis of estimation of flax cluster elements' competitiveness

The article examines the problems of formation and development of flax cluster in Vologda region by inter-branch and inter-territorial cooperating. The effectiveness of this cluster is primarily determined by the level of competitiveness of its products, it depends on the rate of development of advanced technologies of agricultural production, industrial primary processing of raw flax and textile industry. Basing on the data available in the system of state statistics and manufacturing accounting, the author suggests the technique to reveal the competitiveness of major products made of flax and the competitiveness of flax cluster as a whole. The algorithm of this technique for vertically-oriented formations in regional flax complex has been worked out.

Vologda region, cluster, flax complex, competitiveness, flax fiber, linen fabrics.

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As is known, competitiveness is defined in a broad sense as an object property to meet in a certain extent the specific needs of different subjects, compared with other similar objects. All variety of competitive relations arising in the economic sphere by the degree of concentration of various subjects can be roughly divided into three levels:

macro-level (economic complex of the region, country, union of countries);

meso-level (industries, associations of enterprises, organizations or firms);

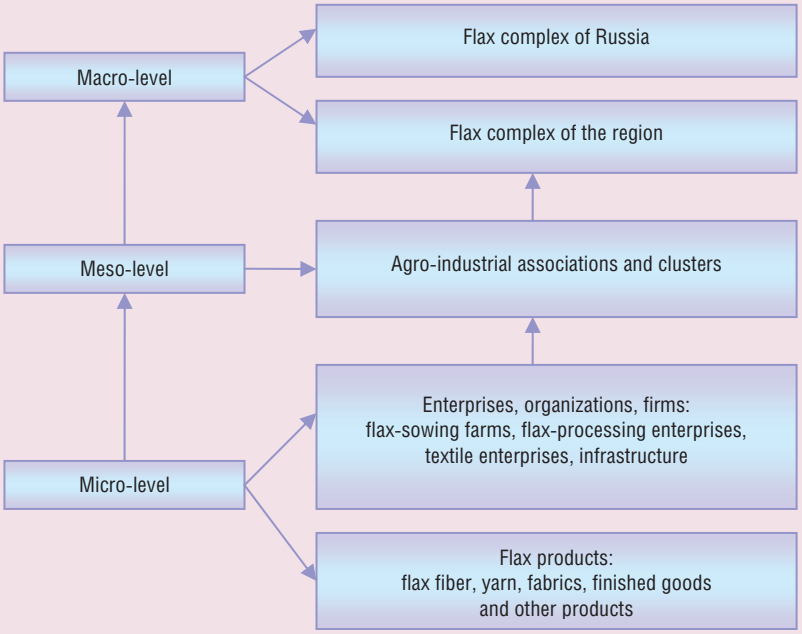
micro-level (specific types of products, productions or enterprises).

Basing on the selected hierarchies of objects of competitiveness we identified the following hierarchy levels of competitiveness in the flax complex *(fig. 1)*.

It must be noted that while the created agro-industrial associations (clusters) inside a separate region being established, operated and consolidated, the competitiveness of its flax sub-complex will be associated with the competitiveness of the created cluster. Thus, the regional flax complex in the form of its economic clustering is a subject of meso-economic structuring.

Modern economic literature pays enough attention to the issues of methodology for assessing the competitiveness, but in our view, the choice of assessment methods should be determined by the choice of the level and the objects of analysis, as well as the researcher's approach to interpretation of the term "competitiveness". The economic literature lacks for agreed definition of the category

Figure 1. Hierarchy levels of competitiveness in the flax complex



"competitive enterprise", and it is proved by, for example, more than 30 definitions identified by H.A. Faskhiev [8]. In addition, A.P. Dorogovtsev and A.V. Maklakhov [4] noted that enough frameworks for forming regional clusters have already been formed in Russia, and to estimate the regional clusters and to determine the nature of control actions upon the competitiveness of the region one can use the analysis of competitive forces of the cluster participants, the evaluation of the results of its operation, the internal motivation of initiation and maintenance of clusters, etc.

Competitiveness of flax production depends on many factors, which can be divided into external and internal. This stage of development of the flax cluster assumes possible, first of all, to have a directorial impact on the internal factors, but with the influence of environmental factors. The factors determining the competitiveness of the flax cluster are shown in *table 1.*

To assess the cluster competitiveness we have adopted the technique based on the assessment of product competitiveness as a priority technique.

Despite the objective shortcomings of the existing method, we believe that the higher is the competitiveness of production manufactured by enterprise (cluster), the higher is the competitiveness of enterprise (cluster). On the other hand, the consequence of what products the company produces is its economic and financial conditions, that is, the product competitiveness is determined by its performance of economic and financial situation, as well as marketing activities to promote the product on the market. In this regard, we share the view of many contemporary economists voiced N.S. Yashin [9], L.P. Dashkov, I.E. Sorokina [2] and others that the commodity competitiveness is a relative characteristics of the capacity of the enterprise and the conditions of its operating.

However, the relatively healthy financial state of enterprise can be largely determined by, for example, non-productive activities which sometimes can't take into account the current market competitive advantage.

The flax fiber is almost a unique (except for the flax seeds) article in the structure of sale

Table 1. The factors determining the competitiveness of the flax cluster

External factors	Internal factors
Climatic conditions	The variety of flax and its qualitative characteristics
The state of the world market of flax and flax products	The condition of material and technical base
The state of the world market of textile fibers (artificial, synthetic, cotton)	The level of costs for growing, harvesting and processing of flax and production of finished goods
Fashion trends in textiles and clothing	Use of modern technology and equipment
The level of state support and regulation of industry	The self-sufficiency of cluster participants with the raw flax
The standardization and certification level	Cluster control system
The solvency level of consumers	Marketing activity of cluster participants
The level of scientific and technical developments in the flax industry and allied industries	The provision of the cluster participants with qualified personnel
The level of regional support and regulation of the industry	

goods in the agricultural sector of flax complex, the fabric – in the textile sector, respectively, the competitiveness of these products largely determines the competitiveness of enterprises in the cluster, as well as its financial and economic state and reputation.

Interpreting the opinion of N.S. Yashin [9], the correlation of hierarchy levels of competitiveness in the flax complex of the region is akin to an iceberg in the ocean: its tip (external display) is the competitiveness of flax products, its inner essence is the competitiveness of the regional flax cluster, and the ocean is the region's competitiveness.

In summary, the interdependence between the levels of hierarchy of competitiveness in the flax complex of the region is shown in *figure 2*.

Further we will believe that the competitiveness of the flax cluster is **an ability of the final product of the cluster to satisfy the needs of external demand and to be in demand at the market which is external to the cluster, provided the best supply of domestic demand for intermediate products.**

According to generally accepted basis for determining the competitiveness of products it is expected to use economic (price) indicators such as production cost, selling price, consumption price, etc. along with the complex quality index. This point is indisputable, if the product is the commodity which is completely ready for sale and consumption.

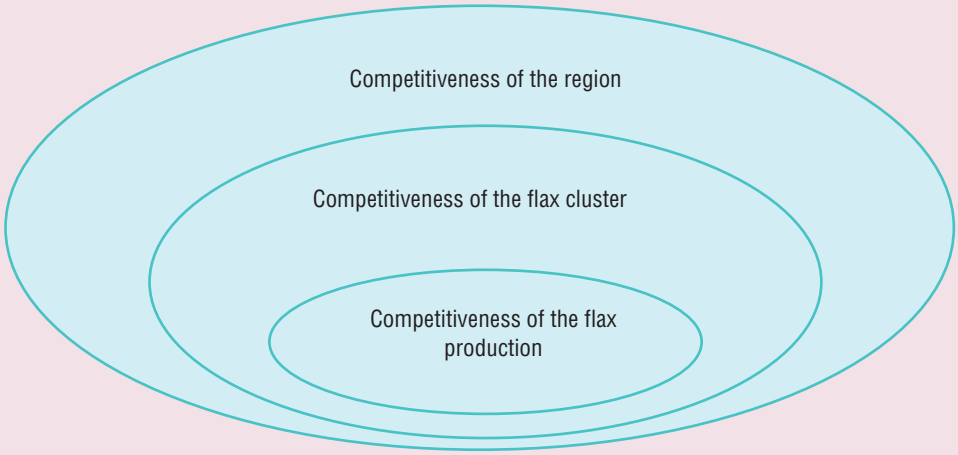
Due to the nature of flax production and the flax cluster chosen by us as an assessment object, the calculation of the index of economic characteristics of the price of various types of flax products seems to be difficult to perform because of the following reasons:

- firstly, the flax industry is currently subsidized, that's why we consider it is incorrect to use the cost of sales excluding subsidies as valid values of the price indices;

- secondly, the estimating of the amount and the rate of subsidy is currently related to the competence of the regions, and the order of payment of subsidies in a given region is changing and improving almost every year, so the use of price indices of flax products including subsidies, in our opinion, distorts the results and makes the price indicators including subsidies incomparable to assess the competitiveness of products in the dynamics or in the comparative assessment of product competitiveness of different regions.

Analysis of the methodological developments of competitiveness assessment shows that they disclose mainly the methods for assessing the quality of industrial products, while the specific features of production of agro-industrial associations haven't been researched enough.

Figure 2. The interdependence of levels of competitiveness in the flax complex of the region



As for the assessing the competitiveness of flax production it is necessary to take into account the number of process stages in its production and the complexity of manufacturing processes for its processing. In addition, the fact that the flax cluster combines both agricultural sector for growing and producing the flax fibers and textile sector for producing the finished products made of flax.

Based on our economic analysis of the flax farms and processing enterprises of the Vologda region and the revealed factors of low competitiveness of products manufactured by them, we suggest the following author's method of assessing the competitiveness of the flax cluster.

Table 2 represents the individual indicators of competitiveness for each type of flax products, which have, in our opinion, the greatest influence on the competitiveness and efficiency of the flax cluster.

So far as the end products of the agricultural sector is flax fiber and those of the textile sector (at this stage of the cluster) is fabric, we consider it reasonable to exclude the intermediate items of agricultural products and secondary products of textile sector from the calculation. While creating the in-sourcing clothing production in the flax factories and introducing the technologies of deep processing of flax and wastage of in-house production, these figures will have a significant impact on the competitiveness of the cluster as a whole.

According to the author's definition of the cluster competitiveness, to calculate we use the following criteria as the basic criteria of competitiveness:

– the criterion of the competitiveness of major products of the cluster (flax fiber, flax seeds and flax fabrics);

– the criterion of provision of the cluster textile sector with flax seeds and flax fiber produced by local agricultural and flax processing enterprises (hereinafter –the own raw material).

Calculation of criteria and rate of the competitiveness of the cluster is carried out in accordance with the formula of weighted arithmetic mean:

$$C_{cl} = C_{ffiber} \times a_1 + C_{fs} \times a_2 + C_{ffabr} \times a_3 + C_{prov} \times a_4, \quad (1)$$

where C_{ffiber} – value of criterion of the competitiveness of flax fiber;

C_{fs} – value of criterion of the competitiveness of flax seeds;

C_{ffabr} – value of criterion of the competitiveness of flax fabrics;

C_{prov} – value of criterion of provision of the cluster textile sector with its own flax fiber;

a_1, a_2, a_3, a_4 – coefficients of criteria weight.

Table 2. The individual indicators of production competitiveness of the flax cluster

Cluster sector	Item of production	Competitiveness indicator	
		Name	Measurement unit
Agricultural sector	Flax straw	Crop capacity per sown area	centner/ha
		Quality	№
	Rotted straw	Crop capacity per sown area	centner/ha
		Quality	№
	Flax seeds	Crop capacity per sown area	centner/ha
		Quality	Reproduction, class
	Flax fiber	Crop capacity per sown area	centner/ha
		Quality	№
		Share of long fiber	%
Textile sector	Yarn	Blend composition	Number of kinds
		Fineness of yarn/titer	№/tack
		Tensile strength	cH/tack
		Colour gamma	Number of kinds
	Fabrics	Fiber composition	Number of kinds
		Fabric weight (minimum and maximum value)	g/m^3
		Kind of weave	Number of kinds
		Colour gamma	Number of kinds
		Type of finish	Number of kinds
		Width (minimum and maximum value)	cm
	Finished goods (cloths, table linen, bedclothes)	Conformance to fashion	score
		Variety of styles	Number of kinds
		Variety of sizes	Number of kinds
		Brand (vogue)	score
	Other products	Item of production, including the products made from enterprise's own waste	Number of kinds

Algorithm for calculating the competitiveness of the cluster by the proposed procedure includes the following steps:

1. To determine the coefficients of criteria weight of the competitiveness of the cluster.

The coefficients of criteria weight are defined by the author on the basis of her own studies considering the experts' opinions of the Department of agriculture, trade and food resources of Vologda region:

$a_1 = 0,2$; $a_2 = 0,1$; $a_3 = 0,6$; $a_4 = 0,1$.

2. To choose the optimal unit index of the competitiveness of products.

3. To determine the basic (optimal) value of unit indices and their weight.

When assessing the competitiveness the following things can be used as a basis for comparison:

- a particular product having the largest share of sales in the market;
- a competing product;
- a group of analogue goods;
- the value of the required useful effect;
- a hypothetical example;
- the needs of customers, etc.

In order to assess the competitiveness of flax products of the cluster we propose to use the needs of cluster members (for the intermediate products) and the requirements of customers (for the end products) as basic samples.

In view of the fact that the performance of the cluster at its initial stages is determined, above all, by the degree of provision with the intermediate types of products of each successive link of the cluster due to the supply of the previous link, the base value of competitiveness indicators of intermediate products (flax fiber etc.) may be determined based on the participants' needs in the regional cluster and the national average figures (for products

supplied to the domestic market) and the world average figures (for exports) of flax industry of Russia in a number of recent years. However, in this study as a basic value of unit indices of the competitiveness of flax production we have taken their quantitative values which allow the flax industry to operate with positive profitability. For instance, B.A. Pozdnyakov [5] believes that the conditionally permanent costs for the cultivation of long-fibred flax are compensated by proceeds from the sale of the fiber only if the yield is at least 7 centner / ha, and the acceptable level of profitability can be achieved if the quality of long fiber is not less than number 12 and the yield of flax seeds is not less than 3 centner / ha, provided a half of seeds has sowing condition. The researches of A.A. Simonov [6] show that flax growing is efficient if the yield of flax fiber is not less than 6.5 centner / ha, and the calculations of N.A. Belyakova and P.M. Sovetov [1] argue that the profitability of flax production is positive if the rotted straw yield is not less than 17-18 centner / ha, which corresponds to the yield of flax fiber of 7 centner / ha on an average. Based on these researches and adjusted for the regional peculiarities of cultivation of long-fibred flax and the needs of cluster members we have generalized and suggested the following values of basic indices of the competitiveness of flax fiber and flax seeds in *tables 3, 4.*

The basic indices of end products (flax fabrics) and their weight are determined in consideration of the needs of external customers of the cluster as a whole (by the structure and the volumes of sales of flax fabrics produced by the public joint-stock company "Vologda Textile") (*tabl. 5*). For the calculation we have used the results of researches carried out by the publishing and consulting firm "Alt" in 2007 [7], the author's own research and the data of the official site of the OJSC "Vologda Textile".

Each basic value of the unit indices of the competitiveness of linen fabrics for compatible assessment is given 1 point, all indices are positive (their increase involves an growth of the competitiveness level). The weight of each unit index is calculated by the author on the basis of its importance for consumers, their sum is assumed to be 1, the group distribution of the values of indices weight are shown in *figure 3.*

4. To determine the actual values of unit indices.

The purpose of this evaluation phase is to analyze the dynamics of the competitiveness of flax production "before the project" and "during the project". For a comparative assessment we have used the data from the author's research for the period of 2003 – 2008 (before the project) and for 2009 – 2010 (during the project).

The value of the actual unit indices of the competitiveness of flax fiber and flax fabrics is defined as:

$$g_i = \sum \frac{\Pi_i}{\Pi_{i\,basic}} \times 100\% \qquad (2)$$

where Π_i – the value of i index of the competitiveness;

Π_{ibasic} – the basic value of i index of the competitiveness.

Table 3. The basic values of indices of the flax fiber competitiveness and their weight

Index	Value of index	Note	Weight of index
Yield of flax fiber (in terms), centner/haa	7 centner/ha	No less	0,4
Quality of long fiber, №	№ 12	No less	0,3
Output of long fiber, %	8 %	No less	0,3

Table 4. The basic values of index of the flax seeds competitiveness

Index	Value of index	Note	Weight of index
Yield of flax seeds, centner/ha	3 centner/ha	No less	0,1

Figure 3. Distribution of the weight values of unit indices of the competitiveness of linen fabrics

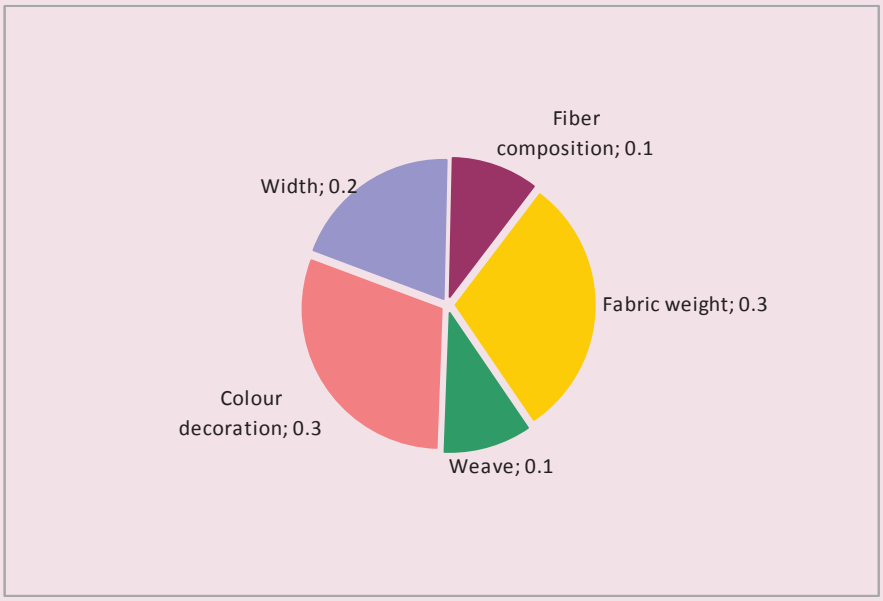


Table 5. The basic values of indices of the flax fabrics competitiveness and their weight

Index	Value of index	Note	Weight of index
Fiber composition	1	Flax 100%	0,02
	1	Flax + cotton	0,02
	1	Flax cotton	0,02
	1	Flax+ wool	0,02
	1	Flax + lavsan	0,02
Total by fiber composition			0,1
Fabric weight		Vesting (Fabrics for shirts)	0,15
110 -130 gr/m^3	1	Fabrics for costumes	
130-190 gr/m^3	1	Fabrics for household linen and	0,08
more than 200 gr/m^3	1	underwear, tapestry and others	0,07
Total by fabric weight			0,3
Kind of weave (number of kinds of each type)	1	Linen weave	0,02
	10	Armure	0,04
	10	Large pattern weave	0,04
Total by weaves			0,1
Colour gamma and kind of finishing (number of kinds of each type)	1	Unbleached	0,00
	1	Bleached	0,03
	20	Tapestry	0,10
	20	Printed	0,10
	10	One-coloured	0,07
Total by finishing			0,3
Width (minimum and maximum value), cm	40-100 cm	Fabrics for towels	0,02
	150 cm	Fabrics for clothing	0,05
	200 cm	Table linen	0,06
	300 cm	Bed linen	0,07
Total by width			0,2

The main end product of the agricultural sector in the cluster is flax fiber, its length and quality is expressed by its number. Long fiber number 12 and above is the most valuable one and of high quality. Such fiber is necessary for producing thin lightweight linen and semi-linen fabrics. Short fiber (№ 3 – 8) is used to produce technical fabrics and fabrics for special purposes, and it also can be processed into flax cotton and other types of flax products. To generate fabrics of mixed structures it is also necessary to have cotton fiber, wool fiber, chemical fibers and other textile raw materials, so the need of textile plants for fibrous materials can't be fully satisfied by domestic products of the cluster. Consequently, as a base value of provision of the textile sector with flax fiber we have taken the planned percentage of provision with its own fiber in 2012, according to the long-term regional program "Development of flax complex of Vologda region in 2009-2012" it is 88% [3].

5. Calculation of index of the cluster competitiveness according to the formula (1).

The calculations show that the creation of the flax cluster in Vologda region has already made it possible in the first two years to increase the index of the flax production competitiveness by 1.6 times, and it is a clear evidence of positive trends in the industry.

Thus, the proposed technique allows us to assess the competitiveness of some certain elements of the flax cluster in the form of its major products competitiveness criteria and the provision with them within the cluster. While developing the flax cluster in Vologda region and creating a vertically-oriented groups in other regions of Russia, the use of this technique will give us an opportunity to conduct a comparative assessment of competitiveness, to reveal the strengths and weaknesses of the cluster and to propose some concrete measures to improve its effectiveness.

In addition, as far as the cluster being expanded and the new flax products being produced (chaff, medical cotton wool, nonwovens, etc.), this technique can be supplemented by the criteria of competitiveness of these products, and the use of their own raw materials including less valuable species and processing products of its own waste to manufacture them will have an impact on the increase in the criterion of provision with raw materials of the companies in the cluster.

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Problems of management accounting formation at domestic enterprises

The article is devoted to the consideration of theoretical problems of the formation of management accounts at Russian enterprises. The article contains an analysis of interpretations of management accounts and consideration of its multifunctionality. Following is the author's point of view on the process approach to the realization of management accounts at the company; the problems that arise during the formation of management accounts practice are presented. Finally, the need to create a unified concept of the formation of managerial accounts is given. It is proposed to study and comprehend the concept of controlling. To remove the contravention between scientific treatment of "management accounts" and its practical contents it is proposed to integrate the concepts of management accounts and controlling.

Management account, controlling, managerial decisions, information supply of managerial decision-making process, business management structure.

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The development cost of thinking in the management of private and state-governmental companies is becoming an urgent problem of innovation trajectory of the Russian economy. This view allows to increase its competitiveness in today's complex environment significantly. Often success, as many authors consider, is determined with a system of qualitative and sufficient information for decision-making – the system of management accounting.

The main problem, that exists in the implementation of managerial accounting in the company, according to the authors, appears the ambiguity of interpretation and guidance in the practical sphere mainly in the calculation of the cost themselves, and control of financial results (so-called traditional models of managerial accounting) [5].

This article is an attempt to analyze the contradictions of the formation of managerial

accounting at Russian facilities. The authors see their task in revealing the fundamental views on managerial accounting, the characteristics of targets in the operation of the system within the organization. The main hypothesis-term data is that, for the successful management of modern enterprise in the market conditions it is necessary to expand the traditional understanding of managerial accounting and make it as an integrating and coordinating center for management decisions.

In the recent years the problems of managerial accounting has received considerable attention from scientists and practitioners. There is no common view on the concept of managerial accounting as a discipline or practice among the theorists [9]. In this case there is a wide range of opinions on managerial accounting - from complete denial to its wide interpretation as a conglomerate of a number of management functions: planning, accounting, monitoring, analysis, business organization, a justification of investment and other management decisions *(table)*.

Sometimes, for simplicity, managerial accounting is limited with tasks of collecting, grouping of information and management reporting, i.e. with the formation of information environment for managers, who make managerial decisions [6]. Some authors see it as a system, which manage enterprise profits during costs management [12].

Scientists, considering managerial accounting very wide, include in its scope not only the formation, which is necessary for routine management of the organization, standard-setting, accounting, reporting, marketing, financial and other information, but they include the functions of planning, accounting and control, analysis, justification of managerial solutions. Thus, we cannot ignore the multi-functionality for executing the managerial accounting.

Each of the existing points of view on the implementation of managerial accounting is worthy of attention in order to identify and use a reasonable and rational proposals for the further development of Russian economy.

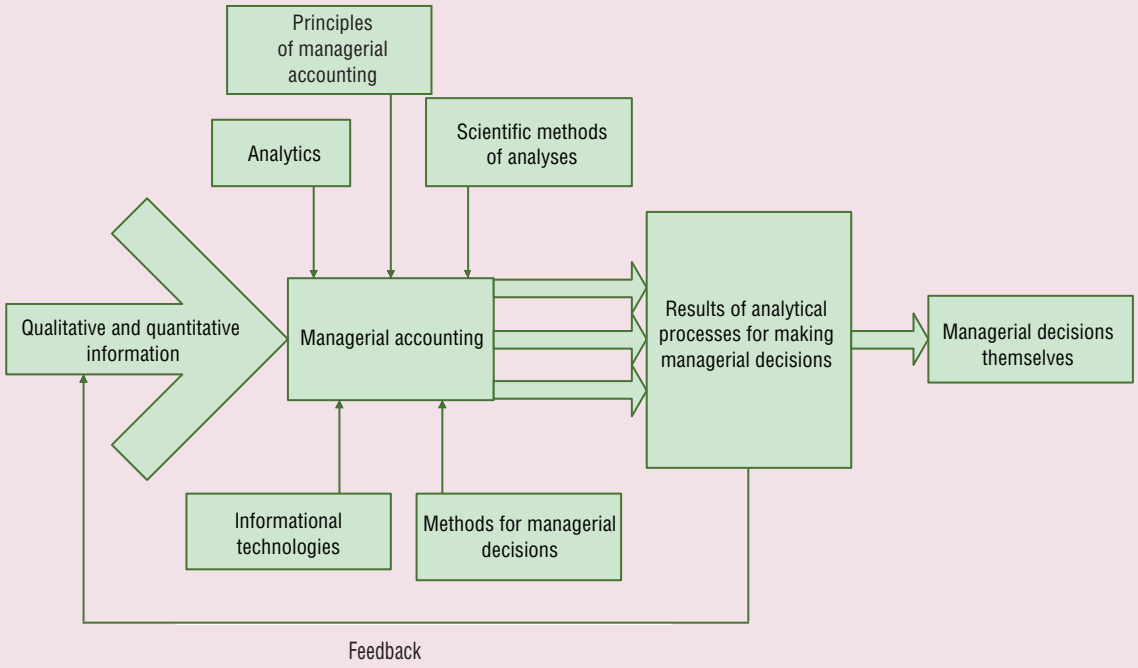
Figure 1 shows the author's point of view on the process of implementation of managerial account at the enterprise. In our opinion, it is broader than the information-analytical function, usually attributed to managerial accounting at enterprises.

Incoming qualitative and quantitative information comes from variety of sources: it is formed in various subsystems of organizations, as well as in foreign business – environment.

Functions of managerial accounting in consideration of various authors

Author of conception	Basic management functions
Khorngren CH.T. and Foster J.	Identification, measurement, data collection, collation, analysis, decomposition, interpreting and communicating information necessary to manage any objects [11].
Sheremet A.D	Provide information used for planning, managing and controlling of the organization activities; identification, measurement, data collection, analysis, preparation, interpretation, transmission and reception of information to management staff for performing its functions [9].
Drury C.	Provide information on which basis decisions are made [4].
Nikolaeva S.A.	Collection, planning, control, analysis of data on costs and results of economic activities for the quick management decision-making [9].
Kasyanova G.Y.	Collecting and analyzing of information on costs of enterprise, budget management (i.e. planning) and evaluation of units activity [9].
Volkova O.V.	Information sharing in an organization dedicated to making management decisions aimed at achieving the objectives of the organization [9].
Karpova T.P.	Costs and revenue accounting, regulation, planning, control and analysis, systematization of information for operational management decisions and coordination of challenges for the future enterprise development [9].
Kaverina O.D.	Collection, measurement, classification, analysis and data, which are necessary for businesses and divisions management and for operational, tactical and strategic management decisions [9].

Figure1. The process approach to implementation of managerial accounting



The process of implementation, of managerial accounting is made by professionals through informational technologies, taking into account the established principles, as well as the sequence of decision-making. At the output of a managerial accounting system there are the proposals of professionals in the use of scientific methods of analysis in specific functional areas of business activity.

In the above description of the process-managerial accounting the directly activity for its implementation has a view of a "black box". Attempts to determine the content of managerial accounting in terms of formal logic is not able to disclose the holistic properties of managerial accounting because of its complicity as an object of study because of non-obviousness boundaries, heterogeneity of elements, variety of connections [2].

Considering the managerial accounting as a system the authors are guided by the definition of Bulgakova S.V. [2]: the system of managerial accounting represents an integrated connection of components (elements) to create a process for making of operational, tactical and strategic decisions, implementation of management functions for interested users of informational support. This definition, in the first place, has sufficient generality; and secondly, directly or indirectly includes the above representations about managerial accounting; and thirdly, describes the managerial accounting within the framework of a systems approach.

Among the subsystems of managerial accounting we can give the following [6]:

- subsystem of forecasting;
- subsystem of planning;
- subsystem of control;
- subsystem of analysis and evaluation.

Directly the process of managerial accounting is realized as one of the main mechanisms of support for management decisions and consists of the following phases: analysis of available information by using the corresponding scientific methods; identifying of problem areas required managerial intervention; developing of solutions and assessment of their feasibility; obtaining of information related to the implementation of management decisions.

In the process of managerial accounting its characteristics play the main role, and they can be grouped as follows [2]:

- accounting and calculation;
- analytical characteristic;
- control characteristic;
- organizational characteristic.

All this helps to make reasonable decisions within the functional subsystems of the enterprise in the figure below *(fig. 2)*.

With the support of management decision-making the specialists and analysts began to meet with the following duality. On one hand, they have to know the methodology of decision making in functional areas, on the other hand, they form a similar methodology. In other words, there is a dichotomy between process and object management.

Below it is given a place of managerial accounting in the system of enterprise management *(fig. 3)*.

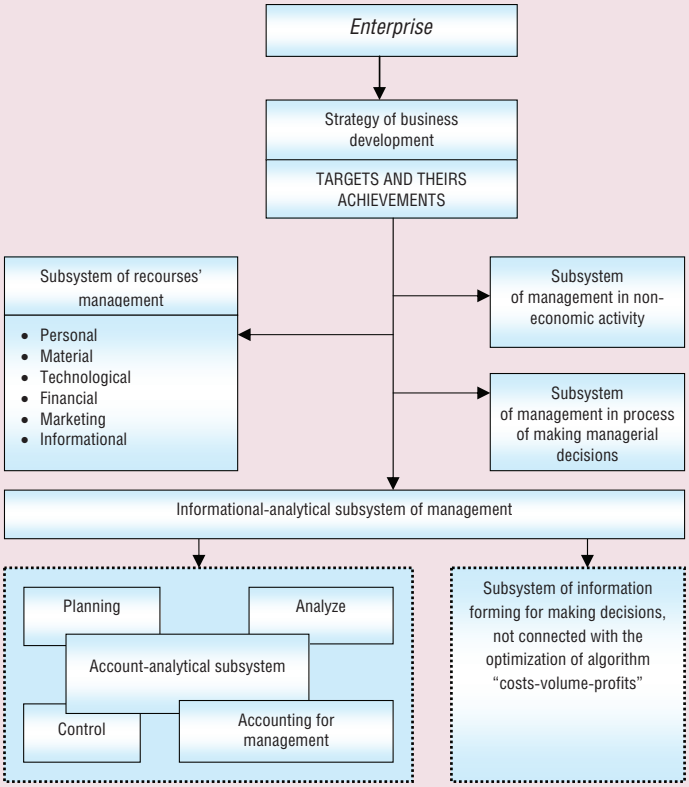
Analyst-experts besides his immediate subordinate managers, as a rule, still have a functional subordination of financial service enterprises. This solution of administrative tasks gives a minimum of capacities in independent informational leadership providing to support in administrative decisions.

It's hard not to notice the obvious discrepancy between the understanding of the discipline "Managerial Accounting" and its contents into practice. This methodological question leads to a number of negative phenomena. But practice of implementation of managerial accounting confirms our findings.

The main problem is that the entire responsibility for management functions, united by the concept of "managerial accounting", falls on the employees of accountancy profession, who can not afford a quality of execution, because the specialists in planning, pricing, marketing, economic analysis and other management processes don't take part in the implementation of managerial accounting [12]. In addition, by the dual interpretation of managerial accounting, on

Figure 2. Functional subsystems of implementation of managerial accounting (Source of methods to support decision-making)

Figure 3. A typical place of managerial accounting in the system of enterprise management



the one hand, as the complex of administrative functions, and with another – as a subsystem of the accounting [9], the boundaries of the account blur, its different objects are opposed to each other, all this does not correspond to the historical traditions of Accounting in Russia.

Also the secondary effects of this attitude to managerial accounting are:

1. managerial reports do not always contain the necessary information in a convenient form;
2. only one solution of some problems in business (local problem) doesn't give a significant effect of the whole management for the company;
3. at each stage of the business the managerial accounting faces different problems of management;
4. many specialists of different spheres of activity in one company involved in the managerial accounting and reporting, that's why several people aimlessly duplicate each other's work.

To avoid the above disadvantages, it is necessary to apply a uniform formation concept of managerial accounting. Very useful in solving this problem can be learning and understanding the concept of controlling.

Under controlling should be understood the concept of management of the organization, which relies on a complex connection of processes in planning, controlling, accounting and economic analysis, on coordination of measures in achieving the objectives of the organization [8]. This definition of the controlling has many similarities with the wide interpretation of managerial accounting as an activity, connected with decision-making.

Controlling appeared at the turn of the economic analysis, planning, managerial

accounting and management. In Russia, the interest in controlling began to emerge in the early 90s of the twentieth century, when the economy began to include principles of market economy. The greatest interest in controlling both in theory and in practice has been shown by the banks – particularly dynamically developing sector of economy in our country at that time.

Managerial accounting is still not being developed or very weak at most domestic enterprises [10], this is due to many reasons. However, the development of market relations in Russia contributes into increasing of the managerial accounting role in operational, tactical and strategic management of enterprise. Managerial accounting supports as a part of the information system [6], on which depends the effectiveness of company management in production.

Thus, during the period of market relations the process of integration of managerial accounting and controlling is very actual; they form the interaction of two concepts:

- managerial accounting as an informational system designed to solve the questions of cost formation and efficient use of available resources;
- controlling as the system of cost and profit management based on the wide use of informational resources.

The main feature of controlling is the system communication of managerial functions, in the relationship between them, the forming of a unified informational basis, the coordination of measures to achieve the goals of the organization. At the same time, managerial accounting in its traditional form represents a conglomerate that is the mechanical connection of disparate, poorly connected to each other managerial functions. Many writers on managerial accounting don't set a goal – to integrate to unity the functions of planning (budgeting), accounting, controlling, analysis and substantiation of managerial decisions, and others [12].

Controlling prefers prior but not the further analysis, and control [7]. At the same time various options for achieving the goal are being viewed and evaluated, prognostic balance sheets and reports are being developed, which are directed toward strategic and tactical goals of the organization, and the system of informational providing of all management services of the organization is being created.

The activity of the organization is focused on a niche market, the demands of users and customers, system sales, and advertising, stimulating demand and at the same time – at a profit. Therefore, the bases of controlling concludes the orientation of all organization to market demands, the demands of consumers, and therefore considerable attention is paid to monitoring system of consumer demand, the level of competition, prices and other marketing indicators [7]. Planning of production volumes and sales of products, goods and services, income, expenditures and financial results is based not only on marketing analysis, but also on researches of the break-even business, on search of the firm reserves at the planning stage to reduce fixed and variable costs, opportunities for optimizing the level of selling prices etc.

In the controlling system, as well as in managerial accounting, a significant role belongs to the accounting for cost centers, the centers of responsibility, cost centers, elements and cost items, and other necessities for the management of the organization [12]. However, in contrast to the traditional managerial accounting in controlling system more attention is paid to a valuation of costs validity, the search for causal relationships between inputs and outputs, differentiation of the level of expenditure responsibilities and revenue [7].

The logic of suggestions leads to the conclusion about the feasibility of establishing

in enterprises the special research departments or staff positions, it allows to organize the practical implementation of management decision making better.

The powers of the analyst-experts shall be given, based on given problems [1]. Determination of the authorities causes the need in organizational position of managerial accounting / controlling [8].

First of all, it should be noticed that this structural unit, together with accounting, finance and planning department is part of the economic and financial services of companies. Analyst-experts should have the opportunity to obtain all necessary information and transform it into recommendations for decision-making by senior management of the enterprise and herewith the department of managerial accounting / controlling must be independent from financial and economic services, such as the headquarters by the highest agency control imposed on the scope of the functional services of the enterprise *(fig. 4)*.

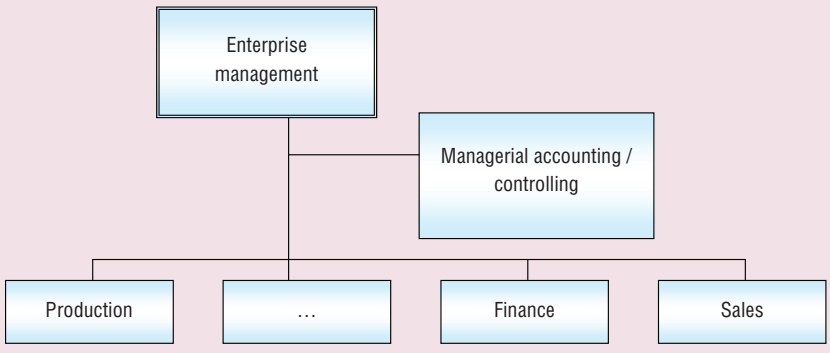
Chief Controller reports directly to the top manager of the enterprise. This makes the controller as independent in relation to other financial and economic services of the companies, allowing to perform coordination and informational support of interested managers better. Service managerial accounting / controlling in this case, can monitor the implementation of analytical problems by other structural units. In some cases, this control can be only as a reference, but not a policy [8].

In the case of a Staff Organization the managerial accounting / controlling empowered to advise and prepare findings for the linear parts of the enterprise. This should help to reduce the load on the linear sections and increase the effect of their work. Because controlling is being understood as a special form of support management [7], the creation of a staff service managerial accounting / controlling, which is subordinated to senior management level, should be considered an effective solution for securing enterprise hierarchy in the way of thinking, oriented in consistent results.

Organically integrated into the system of economic enterprise management the service of managerial accounting / controlling optimizes the activity of all financial and economic services:

- the company's management is being informed quickly as well as the information is concentrated in one specialized department;
- uniform rules for planning, accounting, and control are introduced and uniform forms of providing information in all divisions are used;
- coordination of the various plans and process of their implementation focus on the ultimate goal of the company, which allows pre-check their reality and ensure the rationality of the goal.

Figure 4. Staff organization of managerial accounting / controlling



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Scenarios of ecological modernization of mining corporations on the basis of innovation

The article considers the objective and subjective reasons interfering with the innovative modernization of the mining and mining and smelting companies on the basis of the analysis of the external and internal environment of the Russian mining corporations, during the post crisis period. On the basis of theoretical notions about the economic category of "modernization" and the analysis of ecological corporate policy of the mining companies, the scenarios of ecological modernization of the basic manufacture and main funds of nature protection appointment and the condition of their implementation taking into account the specificity of mining manufacture are proved.

Mining, mining and smelting companies, innovative development, ecological modernization, factors and scenarios.

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Due to the revolutionary events in the Middle East and North Africa unexpected by most politicians and economists, the largest natural disaster in Japan and the anthropogenic disaster caused by it, the experts develop the forecasts and scenarios for recoveries of various countries and global economy from the today financial-and-economic crisis less actively. It is impossible to estimate the implications of the impact of these events on the global economy for the present, but their negative character is obvious.

Since the middle of 2009 the world prices for fuel and energy resources are increasing and now they have reached almost the pre-crisis level. The growth of prices are going on against the background of slow recovery of the major economies of the world, "debt crisis" of some countries in the European Community and "overheating" of Chinese economy (the fact is considered by many economists), which in fact has not reduced the growth rate of gross domestic product during the crisis. Therefore, the danger of collapse in prices for oil and

natural gas still remains, all scenarios for our country's economy in the post-crisis period up to 2013 are built on the prognosis of these prices. The world markets also observe a high volatility in prices for metals, their concentrates, agrochemical raw materials and other natural material and the products of its enrichment exported by Russian mining and mining-and-metallurgical companies, such volatility also reflects the continued macroeconomic instability in the world's leading economies.

Monitoring of financial and economic situation of Russian mining and mining-and-metallurgical companies during the crisis has showed that the majority of them could managed not only to avoid bankruptcy, but to remain profitable and they also gradually reached pre-crisis output of main production since the second half of 2009, and some of them even increased their earnings compared to 2008 [1]. During the crisis almost all export-oriented mining enterprises in Russia have actively implemented the policy of multiplying assets at the expense of mergers and takeovers of companies, which were in a difficult situation, besides it the assets grow at the expense of purchasing the deposits abroad. The state support for mining industry during the crisis has played a positive role in mitigating its impact on businesses, especially for those who had debts to foreign banks or lost opportunity to use their credits because of the crisis. In order to prevent the shortage of finance for the real sector of economy the state has provided loans to Russian banks. Despite the fact that Russian banks failed the mission designed by the state for lending to the real economy, almost all enterprises in the mining industry during the crisis did not abandon the plans to expand their own resource base, i.e. they continued to construct some new quarries and mines and increased the current capacities. The analysis of production and economic activity of the enterprises of the Kola mining complex during the crisis has showed that the increase in capacity of its own mineral resources base of enterprises occurred against the total saving of all types of costs.

The analysis suggests that the major mining companies have implemented the most logical strategy for a market economy during the crisis: they bought up the assets of weakened competitors and suppliers; exercised tight savings of costs for working capital, first of all for salaries, and for socio-economic and environmental programs, using its monopoly economic and political situation in the region, where the enterprises are located.

The reports on the introduction of ore production or the increase in ore production at some mining enterprises during the crisis confirmed that some companies intend to implement its growth strategy in the future, and others whose field life-cycle has already been completed, intend to stabilize production. In both cases, greater production or production of earlier level of main products of the company will witness an increase in production of ore in the future. If the technology of ore-dressing treatment is constant, it means an increase in production volume of other natural resources used in the technological process (water, air, fuel and energy resources, land, etc.). In accordance with the known pattern of interaction of production and nature with using the current technology, that is, with the constant quantitative ratio of consumption of natural resources per a unit of main product, the volume of waste production will increase in proportion to the volume of output. However, when using poorer ores and keeping its enrichment technology without radical changes, the volume of waste will be significantly higher, even if the output of main products will remain the same.

As the statistics of environment protection shows the crisis falling of output of main production of the mining and mining-and-

metallurgical companies became the reason for smaller volumes of pollution [2]. However, the rates of decrease in pollution were lower than the rate of decline in production volumes. For example, the average annual rate of decrease in water pollution made by the industrial effluents of the enterprises of the Kola mining complex was lower than the average annual decline in production of its core products. So the volume of apatite concentrate production by an annualized basis decreased by 6.2% and the volume of its discharges - by 5.2%. However, in 2009, that is with increased production, we started to observe an increase in the atmospheric emission at the enterprises of the Kola Mining and Metallurgical Company, JSC "Apatity", at JSC "Kovdorsky mine", as well as an increase in the discharges at JSC "Pecheganikel" and others [3].

Thus, it is possible to suppose with a high degree of probability that the anthropogenic load of mining enterprises on the environment will grow under any scenario of economic recovery. The targets of "Strategy of socio-economic development of Russia until 2020" adjusted for the effects of the crisis and "Strategy of development of the Arctic zone of the Russian Federation until 2020", the targets of the strategies of the federal districts (the Southern district and the Urals district, the Far East district and the Baikal region, North-Caucasus district, North-West district), the targets of the subjects of the federation, of the federal strategies for the development of infrastructure industries, selected industries and other documents of a strategic and territorial planning are based on the realization of investment projects to further development of fuel and energy complex, mining complex and other resource extraction complexes. This is especially noticeable in the strategies and programs of social and economic development of the subjects of the federation, in which, unlike the federal strategic planning documents, the development of five areas of innovation development (energy efficiency, nuclear, space, medical and information technologies) is given little importance.

An exception is the state program of energy saving and improving of energy efficiency in Russia until 2020, its implementation will undoubtedly help to reduce the risk of growth of pollution. However, the regional and municipal projects on improvement of energy efficiency concern mainly the budget sector and the enterprises of regional and local subordination, and the federal law on energy efficiency provides for the stimulation effects for them too [4].

As for the privately owned enterprises under federal jurisdiction, which include almost all mining companies, the state program for energy efficiency has the character of the document of indicative planning, that is, its role is limited to information and orienting function. It is also necessary to mention about the lack of interrelationship between the development and the implementation of the indicative plan to increase energy efficiency and the innovative-and-industrial policy of the country, the strategy of which has not yet been developed.

Energy saving and improving of energy efficiency of production was and is still a major and permanent direction of restructuring of large mining and mining-and-metallurgical companies, since they are characterized by the highest costs for fuel and energy resources. However, the feature of the present stage of efficiency is that it is regarded as a part of the innovative technological and technical modernization of the Russian economy.

Upgrading or renewal of the Russian economy on the innovation basis is understood as a general and non-alternative direction of its development which is necessary to achieve the objectives of Strategy 2020. The renewal of the production base is also necessarily because of its deterioration in kind. However, there is a

significant difference between the technical, technological, environmental and other types of modernization and its types of innovation basis. According to universally accepted definition of "innovative development" by J. Schumpeter we understand it as five new combinations: use of new techniques or new technologies, introduction of products with new properties, use of new raw materials, changes in the organization of production and the emergence of new markets. All these combinations should provide some additional profit to the enterprise, but in this case it will be motivated to upgrade [5].

A feature of the mining and mining-and-metallurgical companies is that they have higher profit rate than the companies of processing industry, which is indirectly confirmed by the indicators of profitability, which were approximately 2.9 times higher in the sectors of mining production (excluding the fuel and energy sector) than the average for the economy in 2009 [1]. In other words, these companies can get extra profit without innovations, as their subject of work is free natural material. The second major cause of unresponsiveness of mining companies to innovations is their monopoly position in the Russian market of natural resources. Various authors refer to several causes of poor perception of the Russian economy of innovation: a focus on short-term income by controlling the financial flows, the low efficiency of tax incentives, the lack of an optimal balance between private and national economic interests [6, 7]. It should be noted that all of them are inherent to the mining companies.

The mining companies also have specific characteristics that prevent their innovative modernization. As you know, the mining and mining-and-metallurgical companies belong to the so-called "old" industries, in which the restructuring of production is been carrying out since the Industrial Revolution of the 18th century. Therefore, for these industries the "disruptive technologies" is simply impossible to imagine, in order to implement we have only those innovations that improve the efficiency of production, but they do not change the fundamental technology.

Among the major obstacles to innovation development we should also mention the deposits' life cycle, which must be at least 40 years according to the method of making a decision on the establishment of the enterprise. An expensive and long-term modernization of the production makes economic sense for only those companies that are provided with raw materials for several decades. The rest companies have the following combinations of innovative ways of development: introducing the products with new properties and using new raw materials. It doesn't require any explanation that during the economic crisis to implement both of these ways interlinked closely with the possibility of the emergence of new markets, is problematic. In our opinion, the main reason is the lack of long-term strategy and program of innovation and industrial policy in the country, which are necessary for specifying the directions of development and production of new materials and products and their volumes in the long-term strategy.

However, it should be noted that the uniqueness of mineral resource basis, geological, mining, hydrological and ecological conditions of each deposit can serve as a reason for the development of specific, individual and original technologies of mining production and ore-dressing treatment, which differ from the standardized technologies. It can be concluded that the innovative technological upgrading is possible, firstly, at all newly created companies of mining complex and, secondly, at the existing enterprises during the transition to a new (by mineral composition) raw materials (for example, when developing the man-made deposits) or to a new product.

As you know, our country is one of the first in the world since the mid 60-ies of XX century, that started to carry out nature-conservative activity that is to use some technical and technological means to prevent or neutralize the damage done to the environment. Currently, according to the data of the Russian Federal State Statistics Service, the annual average value of fixed capital for nature conservation in the country is 617 billion rubles or 1.37% out of the total value of fixed assets. In the Murmansk region, where the second largest in the country mining complex (the Kola mining complex) is situated, the share of funds for nature conservation is 2.28% [2].

In 2000 the Model List of fixed assets for nature conservation was defined more exactly, their composition lost the installations and devices, which were the elements of technological scheme, and the employees on a priority basis for getting the products and related profits and for creating normal sanitary and hygienic conditions in the workplace [8]. In line with this approach now the environmental fixed capital may be only buildings and installations, the main functioning objective of which is related to the protection of environment.

Besides, depreciation of fixed assets for nature conservation is not included in current environmental protection cost which is the part of the production price. Consequently, unlike other fixed assets of the enterprise the nature conservation funds do not keep their value during the production process, and they lose it.

Thus, at the enterprise the modernization of basic technology and technologies for treatment of the environment from pollutants can be carried out on their own, independently from each other. In other words, the fundamental ecological modernization of basic technology of main products and ecological modernization of environmental facilities and equipment as processes can be separated in time. In this regard, for ecological modernization of the nature conservation funds on an innovative basis, there are no obstacles specific to the decision to do innovative change of basic technology of the mining company, except one: a source of environmental investments is a company's profit.

The companies don't want to invest the modernization of environmental funds and this fact is largely due to existing economic mechanism of payment for environmental pollution, and most of all, to the institution of "temporarily agreed emissions/discharges". Cancellation of this institution is at the forefront of environment public administration reform, announced by President and Government President of the country after the May meeting (2010) of the State committee on state regulation of environmental protection. Starting from 2012 the consequences of the abolition of "|temporarily agreed emissions/ discharges" will be the penalties from the company's profit with the coefficient of 100 for exceeding of regulatory emissions / discharges and 25 – for the placement of solid waste. According to the calculations of the Russian Union of Industrialists and Entrepreneurs (RUIE), only the penalty coefficients will increase the payment for negative environmental impact from 125 to 2000 times, and this payment will come from company's profits. First of all, the new system of regulation and payment for environmental pollution will affect the mining and mining-and-metallurgical companies, which are among the environmentally dangerous industries, their share of the anthropogenic pollution is more than 50% of the anthropogenic pollution of the country. Therefore the economically reasonable scenario for them will be the scenario of ecological modernization of the environmental funds. The probability of this scenario will largely depend on the development and practical application of public incentive mechanism or various measures of "green amnesty" to which the government intends to allocate 18 billion rubles [9].

Neutralizing the harmful effects of industrial activity on the environment, the environmental funds are involved in the production process, i.e. without the operation of the main production the environmental funds are not required.

Therefore, the cardinal direction of the ecological modernization of the main production is supposed to be transition to the 2020 system of "technical rationing", in which the environmental requirements are based on technical regulations.

The transition to the system of the best available technologies (BAT), based on the latest scientific and engineering developments and having sufficient practical application taking into account the economic and social factors, will mean a guaranteed reduction of negative environmental impact. It is also expected to borrow the best foreign technologies, their ecological safety and efficiency have been already proved.

The likelihood of this scenario for the ecological modernization of the mining and mining-and-metallurgical companies are dependent on the effectiveness of government measures to reduce basic and specific obstacles to innovation. A significant place among these measures must be taken by institutional changes to reform the government management of the environment protection. A package of three bills that would mean the beginning of the reform was expected at the May session of the State Duma (2011). However, they were not included in the agenda of its meetings because of continuing disagreements within the government, first of all, the disagreements concerning the assessment of their impacts on revenue and expenditure budgets, as well as in connection with lobbying by the representatives of large industrial corporations, who are satisfied with the current economic mechanism that is favorable to profit of business entities without the risks of innovation.

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Region's agrarian and industrial complex: lessons of reforming and conclusions for prospect

The article considers the consequences of reforming of economy of agrarian sector and social sphere of rural territories of the Vologda region for last 20 years. The author has analyzed the tendencies of formation of multi-structural agriculture in region. On the basis of integrated index the region's municipal formations are differentiated by the level of agrarian potential. Taking into account the lessons of market reforms, domestic and foreign experience the author brings out the ways to overcome negative consequences of transformation processes in agrarian sector for the near-term and medium-term prospect.

Transformation, agriculture, agrarian potential, social sphere, rural territories, market relations, Vologda region.

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In the late 1980's – early 1990's a spiraling processes of infiltration of environment and technical approaches into the agro-industrial complex of the country had to go faster in the course of new agro-economic reforming, which was based on the principles of freedom of ownership and entrepreneurship. However, in practice the chosen methods of state regulation of rural life did not yield the desired results. Most farmers could not use the declared freedoms because of the undeveloped market infrastructure, lack of initial capital, unsolved credit problems and the disorder of land relations. Keeping to the tactics of single-stage destruction of the old system, the state practically retired from the solution of these problems in the wake of the ideology of market self-regulation of the economy [3]. If in 1990 almost 50 rubles of budget funds was per 100 rubles of the product of agricultural organizations, in 2009 – only 7 rubles. It is a multiply less than in the countries of northern Europe and in other countries with developed agriculture. The lending of production and

investment costs have not reached the necessary level. The followed pricing policy was destructive for most agricultural enterprises. The impact of other negative factors has increased, especially those related to social policy in the countryside. All these have given some sad results, which is clearly illustrated by the Vologda region.

During the years of market reforms and agrarian reform the production volume in the agricultural region decreased by 42% *(fig. 1)*. Despite the increase in productivity, croppage of grain fell by 39%, croppage of potatoes - 40%. Although we managed to increase productivity of milking cattle, now the agricultural enterprises (ACE) of the region produce by 30% of milk less. In 2009 meat production (in carcass weight) did not achieve half of what was produced in 1990. These processes were determined by curtailing the base of agricultural enterprises, who could not adjust to new conditions of management.

During the first five years of reforming in those areas of the region, where the agricultural enterprises were destroyed, the villagers expanded their households to have at least some source of income: the livestock, milk farming and vegetables growing were increasing. During this period the volume of production of personal subsidiary plots (PSP) increased by 57.6% (in comparable evaluation). However, in subsequent years due to the rising costs of cultivation of agricultural crops and stock keeping and the expansion of retail variety of foodstuffs, many villagers lost the desire to farm. The lack of cooperatives (procurement ones, marketing ones, credit ones, etc.), of outsourcing relationships with the organizations of the agro-sector also contributed to reducing the role of PSP in agricultural production. As a result of these processes, there was a decline in growth rate in the PSP, and it continues at present *(fig. 2)*. In 2009 this category of households produced just more than a quarter of agricultural production of the region.

Another result of reforming was the development of farming lifestyle. From 1991 to 1994 the number of individual entrepreneurs engaged in farming has increased by almost 5 times in the region. The farm movement developed the most rapidly in Veliky Ustyug,

Figure 1. The volume of production in the agricultural enterprises of the Vologda region

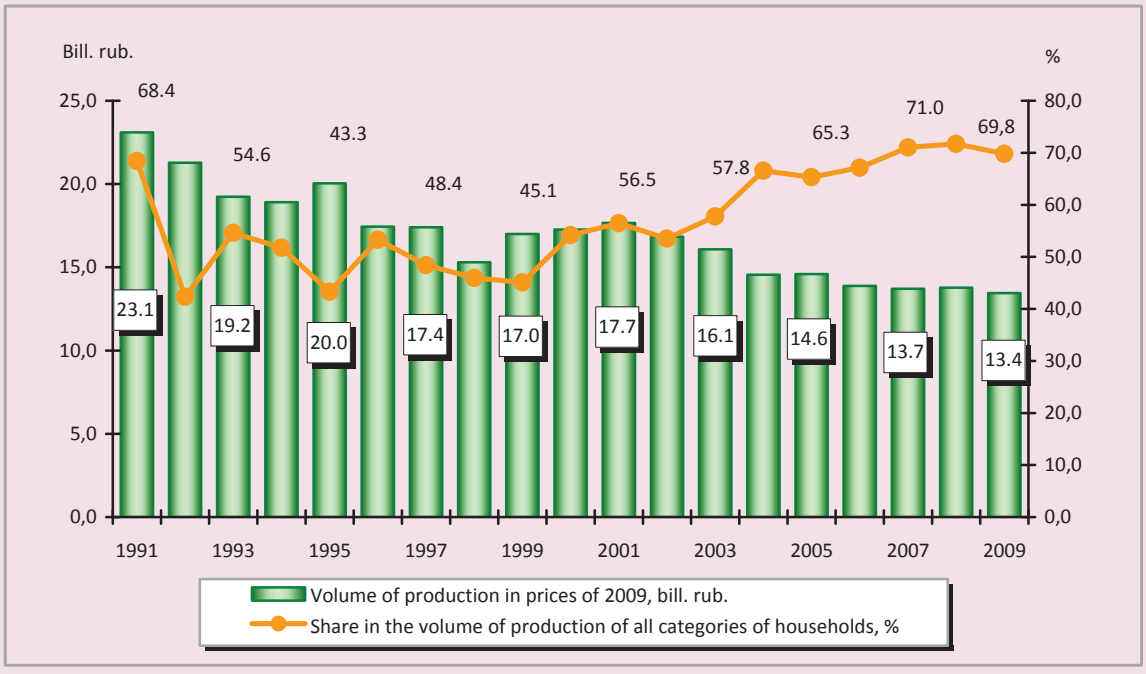
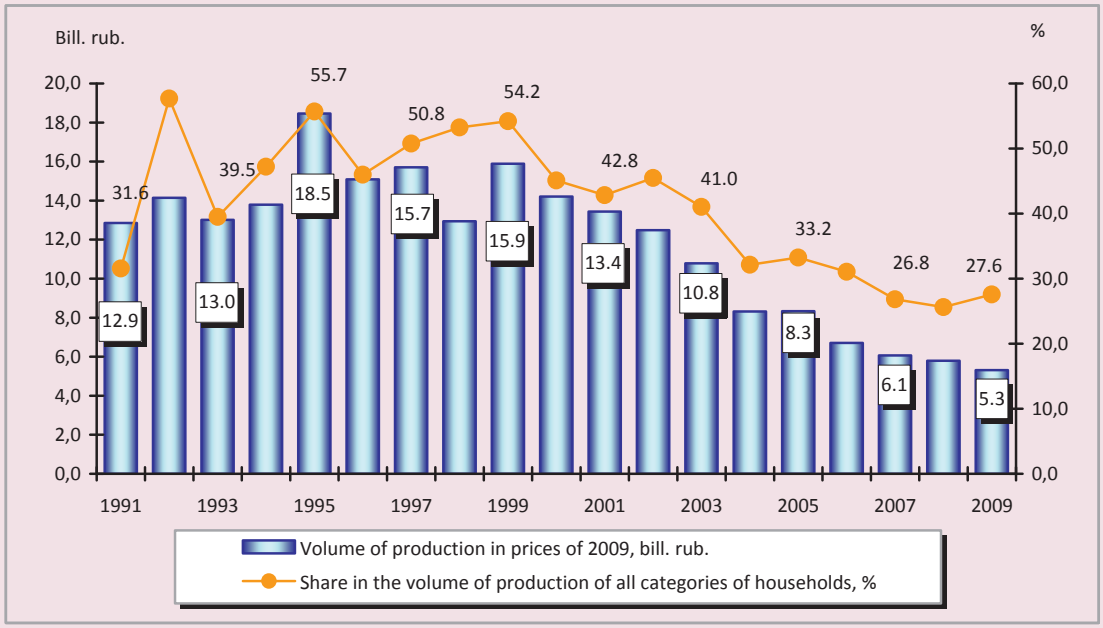


Figure 2. The volume of agricultural production in the personal subsidiary plots of the Vologda region



Harovsk and Vologda districts of the region. However, since 1995 the number of private (peasant) farms (PPF) began to reduce. At the end of 2009 there were 1288 peasant households (farms), 185 of which were in agricultural production in fact. Despite the 12.5 times increase in the volume of agricultural production produced by the PPF over the reform years, the role of small forms of management in developing the agricultural sector still remains insignificant (fig. 3). The share of PPF in gross output of agricultural sector does not exceed 2.6%.

For the years of market reforms the acreage in all categories of households decreased by 337 thousand hectares (41%). Grain crops decreased by more than 2 times, their specific weight in the total area of crops decreased from 35.3 to 27.6%. This is a serious concern because the level of grain production is an important indicator of the crop farming intensity. Flax crops decreased by 3.3 times, forage crops – by one-third *(tab. 1)*.

Compared with the pre-reform level the mineral and organic fertilizers were introduced by 4 times less, the volumes of liming of acidic soils reduced repeatedly. Consequently, in 2009 approximately 11% of arable land had low provision of soil with phosphorus and nearly a third of land had low provision of soil with potassium, the area of 246 thousand hectares (56.6%) required a chemical land reclamation. All these facts had an effect on the crop yields, which was by several times lower than for the potential level.

Transformation processes in the agricultural sector of the Vologda region had a significant negative impact on stock keeping. For 20 years the number of cattle in all categories of farms reduced by almost a third, pigs – by 41%, sheep and goats - by 9 times (tab. 2). In some areas the agricultural enterprises cut down their dairy herd by many times. For example, in Babushkino district only 277 cows remain in the ACE, in Vytegra district – 170 cows, respectively it is by 25 and 32 times less than it was before the market transformations.

Figure 3. The volume of agricultural production in private (peasant) farms of the Vologda region

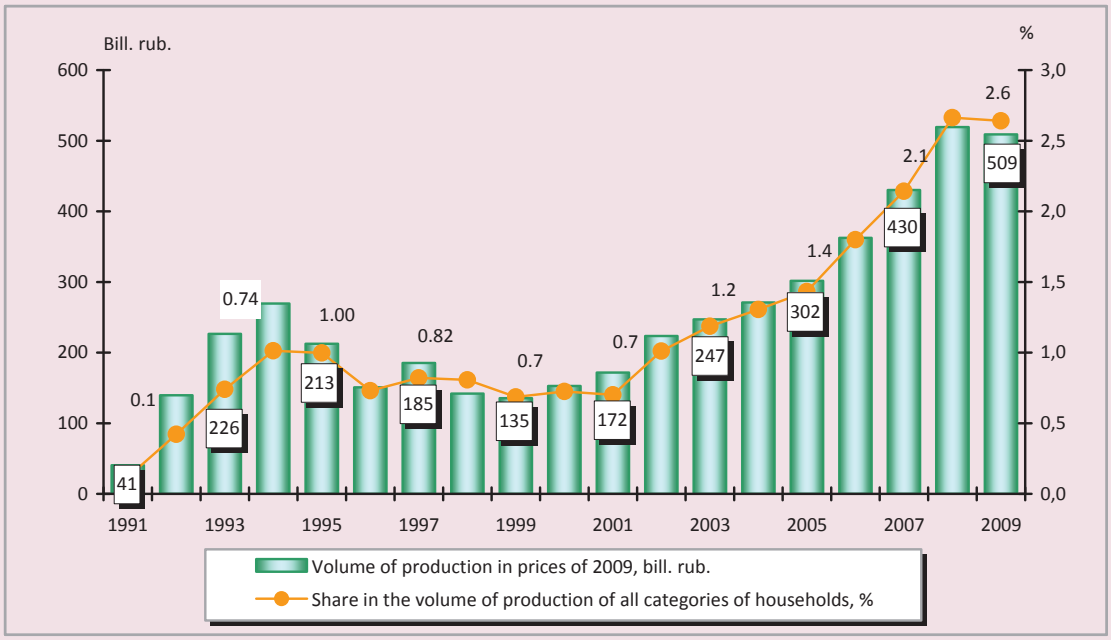


Table 1. Sown area under crops (in all categories of households)

Crop groups	The year of 1990		The year of 2000		The year of 2009		The year of 2009 to the year of 1990	
	thousand ha	in % to the total	thousand ha	in % to the total	thousand ha	in % to the total	%	п. п.
The whole sown area	**815.1**	**100**	**686.1**	**100**	**478.3**	**100**	58.7	**x**
Grain crops	287.6	35.3	169.7	24.7	132.1	27.6	45.9	-7.7
Fiber flax	33.8	4.1	10.1	1.5	10.1	2.1	29.9	-2.0
Potato	23.0	2.8	29.9	4.4	19.6	4.1	85.2	1.3
Vegetables	2.1	0.3	5.5	0.8	2.1	0.4	100.0	0.2
Forage crops	468.5	57.5	471.0	68.6	314.3	65.7	67.1	8.2

The greatest shocks were observed in the sector of PSP: there the livestock decreased by 3.5 times, pigs – 3.6 times, sheep and goats – by 8.7 times.

The poor financial condition of the ACE, the difficulties in obtaining loans, the low level of state support, the lack of development of leasing – they are the core causes of significant backlog of agricultural sector of the region from the advanced countries by the level of technical and technological development.

Thanks to the implementation of priority national project "Development of agro-industrial complex" some households could buy a high-performance, reliable, resource-saving technical equipment. However, the overall situation in the sector is still difficult. For 1990 – 2009 supply of tractors declined from 21.2 to 9.4 units, supply of grain combine harvesters – from 8.6 to 4.9 units, at the same time the energy supply decreased by almost half (tab. 3). Over 70% of tractors from the fleet of tractors and machinery of the ACE are meant for the average power of mobile power vehicles with 70 – 75 hp, that is they cannot be aggregated with multi-operation attached implements, which eventually leads to the low-quality seasonal field work out of season and to the reduction of labor productivity and crop yield.

Table 2. Livestock population (thousand heads at the end of the year)

Category of households	The year of 1991	The year of 1995	The year of 2000	The year of 2005	The year of 2007	The year of 2008	The year of 2009	The year of 2009 to the year of 1991, %
Cattle								
Total	594.3	438.9	317.0	233.1	226.4	215.4	204.5	34.4
ACE	521.2	357.9	253.6	196.8	194.7	186.9	186.9	35.9
PSP	72.6	77.0	60.9	32.5	24.5	20.7	20.1	27.7
PPF	0.5	4.0	2.5	3.8	7.2	7.8	8.2	by 16.4 times
Pigs								
Total	237.3	251.2	187.9	149.9	141.5	135.3	139.3	58.7
ACE	170.0	195.3	150	123.6	115.3	113.5	117.6	69.2
PSP	67.2	54.2	37.1	25.2	23.7	20.0	20.3	30.2
PPF	0.07	1.7	0.8	1.1	2.5	1.8	1.4	by 20,0 times
Sheep and goats								
Total	198.2	113.6	61.4	31.7	26.5	24.2	22.3	11.3
ACE	15.0	0.1	-	0.1	0.4	0.4	0.2	1.3
PSP	182.8	111.8	60.7	31.2	25.2	22.6	21.0	11.5
PPF	0.4	1.7	0.7	0.4	0.9	1.2	1.1	by 2.8 times

Table 3. Material and technical basis of agricultural enterprises of the Vologda region

Index	Year							The year of 2009 to the year of 1990, %
	1990	1995	2000	2005	2007	2008	2009	
Number of tractors per 1000 ha of arable land, units	21.2	18.5	14.9	10.2	10.1	9.8	9.4	44.3
Number of combines 1000 ha of grain crops, units	8.6	9.3	8.9	7.5	6.1	5.1	4.9	57.0
Power supply, hp per 100 ha of arable land	541.4	513.4	367.8	272.3	289.1	308.4	298.4	55.1

The transformation processes in the agricultural sector of the Vologda region occur with varying intensity in different municipalities. The results of calculations of the integral index of agricultural potential[1] make it possible to assert that before reform period and in 2009 among all municipalities of the region Vologda, Sheksna, Gryazovets and Cherepovets districts had the greatest possibilities for agricultural production *(tab. 4)*. This can be explained to a large extent by their geographical proximity to the regional center, markets and material resources, as well as by higher level of social and engineering infrastructure in rural areas.

For the years of market reforms only 7 districts managed to improve the level of agricultural potential. Great decrease in possibilities to farm was observed in the northeastern and western areas of the region.

Demographic problems of the village have worsened significantly too. The rural population of the region decreased by 86.8 thousand people (18.6%) over the study period. One fifth out of the total number of settlements has no residents, about 60% of villages of the region are considered to have small population. Thus, we can state the fact of depopulation of rural areas and reduction of the economic development of the area. It has a negative effect to a certain degree on not only the state of the agricultural sector, but also on the possibility of preserving the cultural heritage of the region, its identity.

The rural areas have an ultra-high mortality. In 1990 its level exceeded the birth rate by 1.04 times and from 1994 to 2005 the number of deaths in the villages of the Vologda region was by 2 – 2.6 times more than the number of births.

[1] It was determined by summing the following indices correlated with the average regional value: the share of agricultural lands in the total area of municipality, fund supply, specific weight of arable land in the area of agricultural lands, rural population density, number of agricultural workers per 1000 ha of agricultural lands.

Table 4. Grouping of municipalities of the Vologda region by the level of agricultural potential in 1990 and 2009*

Vale of integral index	The year of 1990	The year of 2009
High	Vologda (11.18), Sheksna (8.37), Cherepovets (6.86), Gryazovets (6.15), Ustyuzhna (5.46) districts. **Average value – 7.60**	*Vologda (14.36), Sheksna (8.86), Cherepovets (7.88), Gryazovets (7.35), Kaduy (5.88)* **Average value – 8.87**
Above average	Verhkovazhye (5.19), Ust-Kubinski (4.87), Tarnoga (4.85), Vashkinski (4.83), Kich.-Gorodok (4.80), Sokol (4.80), Veliki Ustyug (4.66) districts **Average value – 4.83**	*Sokol (5.36),* **Ustyuzhna (5.14)**, **Ust-Kubinski (4,79)**, *Chagoda (4.76),* **Verhkovazhye (4.68)**, **Vashkinski (4.57)**, **Tarnoga (4.42)**, **Veliki Ustyug (4.23) districts** **Average value – 4.74**
Below average	Chagoda (4.65), Nikolsk (4.57), Harovsk (4.52), Kirillov (4.44), Syamzha (4.24), Kaduy (4.20), Vozhega (4,15), Babaevo (4.13), Mezhdurech'e (4.09) districts **Average value – 4.29**	**Kirillov (3.98), Harovsk (3.88), Tot'ma (3.87), Kich.-Gorodok (3.81)**, **Mezhdurech'e (3.51), Nyuksenitsa (3.33), Syamzha (3.18), Belozerski (3.18)** districts **Average value – 3.59**
Low	Nyuksenitsa (4.09), Tot'ma (4.00), Babushkino (3.97), Belozerski (3.85), Vytegra (3.59) districts **Average value – 3.90**	**Vozhega (3.11), Nikolsk (2.93)**, **Babaevo (2.64), Babushkino (2.22), Vytegra (2.18)** **Average value – 2.62**

* **Bold text** denotes the districts of the Vologda region, where the level of agricultural potential decreased in 1990 – 2009; ***italics*** – municipalities, where its growth was observed.

Currently, the bulk of the rural population (more than 53%) are people of pension and retirement age. The younger generation tends to move closer to the district center (or the city), where the level of development of social sphere is higher than in the countryside, and it is possible to find well-paid job. "The number of young people among the members of private farms is extremely small. Fattening the cattle for slaughter in their peasant households, the parents often try to push out their children from the village to the city by all means... There is no continuity as a tendency in the transfer of private households from fathers to their children [2, p. 14].

The reduction and grinding of settlement network caused the weakening of the capacity of social infrastructure determined by the decline of financial basis of its content and development. During the years of market transformation the rural social sphere narrowed by high rates. In 2009 compared to 1990 the number of schools in the districts of the region decreased by 291 schools (38.3%), preschools – by 749 (62.7%). As a result of closure of small schools the students from remote villages have to spend a considerable amount of time to get to the place of study (transportation of students to one school is carried out by one bus to 2 – 4 directions with an average radius of coverage of 7 – 9 km).

During 1990 – 2009 the number of village medical stations in the region reduced by 232 units (28.4%). This led to increased servicing zone and lower quality of health care for villagers. As a result of optimization processes, the number of beds in health-care agencies of the region reduced by: while in 1990 there were 160 hospital beds per 10 thousand rural population, then in 2009 there were only 80. In 2009 the number of doctors in the rural areas was by 2.15 times lower than in the urban areas. The villagers often have to go 70 – 100 km in order to remove the tooth (without mentioning more complex operations).

The rural network of cultural and leisure establishments narrowed much in 1990 – 2009. The number of clubs and cultural houses decreased by several times, the number of libraries – by more than 20% *(tab. 5)*.

Table 5. The number of objects of social infrastructure in the rural areas of the Vologda region, units

Objects of infrastructure	Year					2009 to 1990, %
	1990	2000	2005	2008	2009	
Nursery and daycare facilities	1195	518	477	453	446	37,3
Daytime educational institutions	760	712	575	516	469	61,7
Village medical stations	818	696	674	611	586	71,6
Cultural institutions	1090	789	741	301	314	28,8
Public libraries	799	685	666	637	621	77,7

Because of traffic, financial and other difficulties, the possibility of familiarizing rural resident with theater, museums, exhibition is more theoretical than practical.

The level of improvement of rural housing stock is still low. In 2009 only 31% of its area is equipped with running water, 21% – with sewerage, 20% – central heating, 14% – hot water and only 13% – natural gas. About half of rural roads require capital and maintenance repairs. Because of the poor condition of roads it is difficult to provide the population with medical, cultural, consumer and trade services. Many settlements have no bus service in spring and autumn.

It should be noted that in this period there were some positive trends. Thus, in many villages and settlements of the region there appeared fixed location phones, cellular phones, satellite television, Internet. The transport links to regional and district centers were improved, the range of goods at retail was expanded. Some settlements were supplied with gas, the objects of engineering infrastructure were set into operation.

In recent years the issues of agricultural development were examined by the Russian power at all levels as priority issues. The national project "Development of agro-industrial complex" is implemented, and it is transformed into "State program of agricultural development and regulation of markets of agricultural products for 2008 – 2012", the Federal law "On development of agriculture", Federal target program "Social development of the village until 2012" and other federal and regional programs have been adopted. Although the manifestation of global economic and financial crisis having been started in Russia in mid-2008 slowed down significantly the solution of planned objectives, the country finds the resources for the gradual modernization of the agricultural sector. However, to overcome the consequences of the fatal destruction of the country's agriculture it is necessary to move from half-measures and declarations to full-scale practical solutions for resource provision while implementing the principle of priority of the agro-sector development.

Much more needs to be done in order to make the village attractive for young people. Mainly, it is necessary to solve one of the most acute problems – poverty and poor living conditions of rural populations, deepening social inequality between urban and rural areas. In 2009 about half of the residents of the village had an average per capita income below the living wage. The wage level in agriculture was lower by 32% than the average regional value. The disposable resources per a household member in rural areas accounted for 8859 rubles, and it is lower by 1.4 times than in the city.

Thus, the liberal idea that after allotting the farmer with land he would feed the country did not materialize. First of all, because there were no conditions for introduction of modern agricultural techniques and technologies into the agro-industrial complex, and the market and social infrastructure did not develop.

For the years of market reforms the rural areas no longer perform the full bulk of a number of functions which are strategically important to the society. This was reflected in a decrease in production volumes of agricultural raw materials, as well as fostering of settlement disproportion, resulting in a decreased level of both development of out-of-town area and social control over it. The reproductive function of village partially stopped to be realized, which led not only to reduce in population, but also to the loss of possibilities to transmit skills, experience of rural household production, way of life with historical traditions and customs from generation to generation. Preservation of the negative trends in the agricultural sector development and rural areas of the region under the pressure of inefficient market transformations may lead to new social loss.

Based on the lessons of market reforming, the domestic and foreign experience we denote the priorities of agricultural policy, which will lead to a qualitative and quantitative growth in agro-industrial complex in perspective:

1. It is necessary to provide the conditions for increasing the yield of agrarian entities by forming the equivalent bargaining relations in the agro-industrial complex, by cooperative development and vertically integrated structures (including clusters). In this case, the farmers will have an opportunity to conduct large-scale modernization of production, to improve labour conditions significantly, to raise wages and competitiveness level.

2. One should provide adequate budgetary support to small forms of economic activity, which effectively run their business (especially in peripheral areas of the region, where the role of PPF increases).

3. In the near future it is necessary to create an institutional environment ensuring the intensification of innovation activity in agriculture. It is necessary to develop the degree of interaction between production, universities, research institutes, experimental stations.

4. It is important to establish an effective service to provide information and consultancy services, the experts of which could participate in developing and implementing projects to modernize agricultural production, to give legal and commercial information.

5. The substantial upgrade is necessary for the system of training and retraining of personnel for agriculture, specialists for consulting services, who should have advanced knowledge in the field of management, marketing, investment and innovation and law.

6. In the corridors of regional development it is reasonable to create a technically-equipped engineering infrastructure of agro-production service which includes the service of machine-technological service, maintenance and technical basis, the system of agro-chemical and reclamation services.

7. It is necessary to develop (rather than to optimize – to fold) engineering, social, traffic and domestic infrastructure in rural areas rapidly.

8. For the qualitative performance of all functions by the village it is necessary to diversify the rural economy. This primarily concerns the revival of folk crafts, the involvement of a variety of entertainment resources (air, curative mud, mineral springs, etc.) into economic circulation, the accommodation of industrial enterprises (based primarily on processing of agricultural products) in rural area.

On the basis of interdependence and the importance of social, economic and environmental factors for the development of the village all above named directions of agricultural policy should be implemented comprehensively, systematically. Only in this case we will obtain synergistic effect, overcome the negative consequences of ill market reforms in the agricultural sector of the region, raise the living standard of the rural population.

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Organization of medical equipment service in the region

This paper presents the results of the research of medical equipment servicing in the region based on the survey by questionnaire of the head doctors and service organizations managers in the Vologda Oblast. Due to the fact that regional medical institutions haven't their own technical services, the author has analyzed the key indicators of the institutions' development registered in the Vologda Oblast and engaged in the service of medical equipment. The author has identified the factors constraining the development of regional infrastructure of the medical equipment service as well as he has identified the areas of the public authorities' activity to ensure the effective work of medical equipment under the limited finance conditions.

Public health, service, region, medical equipment, service organization, engineering service, health-care agency.

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Community health is an important condition for social and economic progress of the region and it depends on many factors. One of the main factors is health care. This sector is aimed to ensure the preservation and improvement of health by force of highly skilled therapeutic and prophylactic mutuality which is currently impossible without the use of modern types of medical equipment[1]. Health-care agencies commonly use complex high-tech medical equipment to heighten the interest both to the sphere of production and to the field of maintenance (service)[2]. In this aspect, there are such important questions as ensuring of equipment operation and safe application of the worn and outdated medical equipment which is exploited by many Russian medical institutions.

In 2009 the Roszdravnadzor officers checked the use of diagnostic equipment purchased by more than 1550 health-care agencies within the framework of the national

[1] Medical equipment includes the following medical products: instruments, apparatus, equipment, facilities, installations, kits, systems with software tools, devices, mechanical and other tools designed for individual or compatible medical application and which should be provided with maintaining production service according to the maintenance documentation (Maintenance of medical equipment: guidelines: approved by the letter of The Department of State Control over Drugs and Medical Equipment of the Ministry of Health of the Russian Federation, 27.10.03 № 293-22/233).

[2] Maintenance of the medical equipment (ongoing and planned) includes identifying and preventing of medical equipment failure by force of timely completion of works to ensure their functionality during the planning period (OST 42-21-9-80 "The system of maintenance and repair of medical equipment. Basic provisions").

project "Health" [3]. The audit showed that 660 health-care agencies (43% of the total audited institutions) didn't use that medical equipment. 1197 incidents of idle medical equipment were registered. The reasons were the following: medical staff wasn't trained to use the medical equipment in 443 cases (37% of the total number of registered downtimes); there were no consumables for medical equipment in 156 cases (13% of the total number of registered downtimes); the equipment was broken during three months and more in 300 cases (25% of the total number of registered downtimes). Moreover, 94 medioprophilactic institutions (6% of the total number of audited organizations) couldn't organize the out-of-warranty maintenance of their medical equipment. Thus, today the population of medical equipment is not used in corpore because of ill-timed medical equipment service.

We analyzed the logistical support of diagnostic and treatment process in the health-care agencies of the Vologda Oblast in 2009 [4]. According to the statistics those medical institutions[3] exploited 67759 units of medical equipment in 2008.

Municipal hospitals were well provided for the domestic medical equipment and regional hospitals were well provided for import medical equipment. More than half of medical equipment had 100% of physical depreciation and obsolescense. It clearly reflects degree of inadequate approaches to the financial support of the health system and malfunctioning of hospital equipment system based on these approaches[5]. Extremely high level of ageing of medical equipment which is forced to use by health workers leads to a number of serious negative effects and reduces the final efficiency of the health system [5].

The supplies of expensive laboratory and diagnostic medical equipment are prevalent in the structure of medical equipment in the health-care agencies of the Vologda Oblast. Therapeutic, surgical and sterilizing instruments are purchased to a lesser extent. The medical equipment of regional health-care agencies is operated by 91 – 96% because only part of medical equipment is in working condition. The share of operated medical devices can be increased by timely and quality technical service and training of medical personnel in proper use of new medical equipment For example, according to the monitoring of failures and malfunctions of medical devices, which was carried out by the State health-care agency "Vologda Regional Hospital № 1", medical equipment downtime was caused by medical personnel's mistakes (60%), faulty maintenance (25%) and factory defects (5%).

The system of regional state-owned enterprises "Medical Equipment" had been operated until 1992 in Russia. Those enterprises maintained the centralized deliveries of new medical equipment in accordance with the health-care agencies' applications. They also serviced the equipment. However, the volume of the planned budgetary funds allocated for the purchase of medical equipment later and services reduced and effective functioning of this system was breached.

As a result the system of regional state enterprises has ended and maintenance of medical equipment in the health-care agencies in out-of-warranty period is realized on the basis of a contract with a licensed contractor or by own technical service. Nowadays 94% of medical equipment in the Russian health-care agencies on average is serviced by the service organizations and 6% of equipment is served by the engineering and technical services of the medical institutions and service subdivisions of the companies which produce the medical equipment [6].

[3] The survey involved 40 head doctors from the health-care agencies (including 9 regional, 5 municipal and 26 district hospitals); it is 68% of the total number of heads of medical institutions.

Table 1. Comparison of forms of medical equipment service

	Service organization	Technical service of the medical institution
Advantages	1. Competitive environment allows to choose cheaper services 2. Independent solution of human, technical and logistical issues, responsibility for harm to patients and medical staff by malfunction of medical equipment. 3. Service organization's staff training is held in the field required by the regional health-care agency.	1. Training of engineering staff is held on the base of certain medical equipment that is operated in this health-care agency. 2. High reliability and quality of the duties reduce the cost of work performed.
Disadvantages	1. High-cost services at the expense of the upkeep of the management contractor apparatus. 2. Unreasonably high service prices owing to the monopoly position of the contractor (in the case of complex medical equipment).	1. The service of all the operated medical equipment is impossible (in the major medical institution). 2. Sometimes the use of repair resources is insufficient. 3. The costs of technical service organization are high.

The main advantages and disadvantages of the medical equipment service [7] are presented in *table 1.*

The main condition for the service of medical equipment is acquisition of license by a service organization in the Office of Licensing and Legal Service of the Federal Service on Surveillance in Healthcare and Social Development. The licenses are issued by Roszdravnadzor to service 23 types of medical equipment. A service organization must obtain a license to maintain the medical equipment (duration – 5 years) and a health-care agency must obtain a medical license to confirm the competence of technical service).

According to the Federal Law № 128-FL of 08.08.2001 "On licensing of certain types of activity" [9], licensing authorities form the open and generally accessible government information resources that contain the information from the register of licenses. Information from the site of Roszdravnadzor (www.roszdravnadzor.ru) allows us to make a list of the registered in the Vologda Oblast organizations that maintain the medical equipment. They are CJSC PF "Vologdamedtehnika" (Vologda), CJSC "Medprombyt" (Cherepovets), LLC "Vologda. Medicine.Service" (Vologda), LLC "Delrus-B" (Vologda), LLC "Medtehnika 35" (Vologda), LLC "TD "MedGasService" (Kaduy), LLC "ECO Group" (Vologda), LLC "Antey-Pharma" (Vologda), LLC "Medpharma-Vologda" (Vologda).

The results of the head doctors survey which was carried out in the state health-care agencies in the Vologda Oblast in 2011 show that service of medical equipment is implemented generally by the regional service organizations both during the warranty and post-warranty periods. The medical institutions haven't their own technical services *(tab. 2)*.

CJSC PF "Vologdamedtehnika" was retaining leadership from 2007 till 2010. But at the same time the number of the organizations served by that company decreased by 15%. The other regional service organizations increased the volume of medical equipment services. It is evidence of the competitive environment's development in the regional market. As a result, a medical institution can choose the most optimal conditions to maintain the medical equipment.

The regional service organizations are able to service the medium- complex medical equipment. It is necessary to conclude the contracts with authorized distributors of such producers as LLC "SpektrAp", LLC "GM and Helskea", CJSC "TKF MONO-M", etc. to maintain the complex systems. These contracts lead to considerable expenses.

Table 2. Maintenance of the medical equipment in the health-care agencies in the Vologda Oblast in 2007 – 2010, per unit

Service organization	Number of the health-care agencies whish are served				2010 as compared with 2007, in %
	2007	2008	2009	**2010**	
Warranty maintenance (service)					
CJSC PF "Vologdamedtehnika"	27	26	24	**23**	85
LLC "Delrus-B"	15	16	15	**16**	107
LLC "Medpharma-Vologda"	1	3	6	**6**	By 6 times
LLC "Medtehnika 35"	3	4	6	**4**	133
LLC "ECO Group"	3	4	4	**3**	100
LLC "Vologda. Medicine. Service"	0	0	0	**1**	–
LLC "TD "MedGasService"	0	1	1	**0**	–
CJSC "Medprombyt"	0	0	1	**0**	–
LLC "Antey-Pharma"	0	0	0	**0**	–
Post-warranty maintenance (service)					
CJSC PF "Vologdamedtehnika"	26	26	23	**22**	85
LLC "Delrus-B"	8	8	12	**14**	175
LLC "Medtehnika 35"	1	2	3	**4**	By 4 times
LLC "Medpharma-Vologda"	1	1	2	**3**	By 3 times
LLC "ECO Group"	2	2	3	**2**	100
CJSC "Medprombyt"	2	2	1	**1**	50
LLC "Vologda. Medicine. Service"	0	0	0	**1**	–
LLC "TD "MedGasService"	0	1	1	**0**	–
LLC "Antey-Pharma"	0	0	0	**0**	–

The public opinion poll of the leaders of these organizations[4] has been conducted in 2011. It is aimed to identify the existing problems in the maintenance of medical equipment and find the areas for further development.

According to the statute of licensing [10], specialized service enterprises can service the medical equipment when the right to maintenance is received from the producer. This requirement allows the service organization to receive the service documentation, spares and consumables from the producer or his authorized representative. Only two organizations are the authorized distributors of the producers. They are CJSC PF "Vologdamedtehnika" (CJSC "AMIKO", NIPK "Electron", Chirana Co., Dr ger Co., CJSC "Rentgenprom", CJSC "DIACON", etc.) and LLC "Medpharma" – Vologda (LLC "MEDIN", B. Braun Medical Co., Chirana Co., etc.).

However, the regional service organizations have the problems with the provision of spares and consumables. The leaders of the organizations providing maintenance and repair of medical equipment (CJSC PF "Vologdamedtehnika" and CJSC "Medprombyt") point out the following reasons:

a) producers of medical equipment set high spares prices, so sometimes it is unreasonably to repair the equipment;

b) spares are sold only in large lots but a service organization usually doesn't need such number of spares;

c) foreign producers of medical equipment refuse to ship the spares because they are interested in maintenance and repair by themselves;

d) there are no catalogs of spares and consumables that's why sometimes the orders are drawn incorrectly;

c) long delivery terms of spares and consumables.

[4] The leaders of five service organizations were polled (62.5% of the total number of organizations maintaining the medical equipment). LLC "Medtehnika" 35 doesn't service the medical equipment.

Table 3. The number of medical equipment service contracts which were signed in 2010

Service organization	Health-care agency				Total
	regional	municipal	district	other	
CJSC PF "Vologdamedtehnika"	11	38	25	131	**205**
CJSC "Medprombyt"	11	22	0	34	**67**
LLC "Delrus-B"	5	25	6	4	**40**
LLC "Medpharma-Vologda"	3	4	0	0	**7**
LLC "Vologda. Medicine. Service"	3	1	0	2	**6**

One of the ways to solve this problem is to create the regional basic organization of the Russian Association of Enterprises to sale and repair medical equipment[5] in such areas as service of the centrally received medical equipment, post-warranty maintenance, supply of spares and consumables [11].

Another important issue is the loss of services efficiency and quality due to the lack of maintenance documentation as well as refusal of the companies which produce medical equipment to provide it. It is possible to change contracts for the supply of medical equipment and include a requirement to provide maintenance documentation with a service instruction for medical personnel and a registration certificate of medical device to solve this problem.

We have analyzed the activity of service organizations in the Vologda Oblast to identify the trends in the development of the regional market which services the medical equipment. CJSC PF Vologdamedtehnika was in the lead (205 contracts) by the indicator "The number of medical equipment service contracts which were signed" in 2010 *(tab. 3)*. The company took such position because it was created on the basis of the regional state-owned enterprise Medtech. That's why it kept not only maintained production facilities and skilled electricians in the stuff, but also strong links with the regional medical institutions. In addition, this organization had an atypical structure of medical equipment service for the Vologda Oblast. The qualified electricians, electrical engineers and the engineers maintained X-ray machines and laboratory equipment carried out the service on the basic of the central production sector CJSC PF "Vologdamedtehnika". In addition, each of the central regional hospital had a specialist from CJSC PF "Vologdamedtehnika" which maintained the sophisticated medical equipment.

However, the head doctors from the district hospitals in the Vologda Oblast (according to a survey in 2011) note that competition in medical equipment service is virtually absent in the districts. The poll results of the managers from the service organizations also confirm this information (Only two organizations CJSC PF "Vologdamedtehnika" and LLC "Delrus-B" have the contracts with the district health-care agencies).

According the information from the official website of the Committee of Public Order of the Vologda Oblast, the average contract price for medical equipment service was 285 thousand rubles for the period from May to November in 2010.

Staffing is an important component of the organization of medical equipment service. Only the specialists which are 18 and elder are admitted to service medical equipment if they have appropriate vocational training [1]. The technical service must have the specialists to service all types of medical equipment specified in the license.

[5] In November 2010 the self-regulatory organization RAPMED consisted of 84 Russian service organizations; 8 of them were located in the North-West Federal District.

Table 4. Staffing of the service organizations in the Vologda Oblast in the first quarter of 2011

Service organization	Average age	Number of technical services employees		
		Permanent employees	By-workers	**Total**
CJSC PF Vologdamedtehnika	47	28	13	**41**
CJSC Medprombyt	25	15	4	**19**
LLC Delrus-B	45	9	2	**11**
LLC Medpharma-Vologda	28	3	1	**4**
LLC Vologda. Medicine. Service	30	2	0	**2**

Table 5. Qualification of the service technicians which maintain medical equipment

Service organization	Technical education		Qualification rate of access	Certificate of education
	Higher	Secondary		
LLC "Delrus-B"	19	0	15	15
CJSC PF "Vologdamedtehnika"	11	30	5	41
LLC "Vologda.Medicine.Service"	4	0	2	4
CJSC "Medprombyt"	2	9	2	0
LLC "Medpharma-Vologda"	2	0	2	2

Staffing of the service organizations is characterized by the indicators from *table 4*.

CJSC PF "Vologdamedtehnika" has the largest technical service department (41 persons); the average age of its personnel is 47 years. This fact demonstrates the rich professional experience of the staff. LLC "Delrus-B" and have 19 people in its technical service department; there are 11 people in the technical service of LLC "Medprombyt". The average age of employees in these companies is 25 and 45 years, respectively.

Table 5 shows the proficiency level of the service technicians which maintain medical equipment. Taking into account the average age and educational level of the service technicians from the regional service organizations we can note that nowadays primarily young people with higher technical education are hired for the positions of electricians and engineers. This fact is explained by the opening of a new specialty "Engineering in Medicobiologic Activity" at Vologda State Technical University in 2001.

According to the estimate of the managers from the regional service organizations, average capacity utilization is 74%. Capacity utilization is above the average rate in CJSC PF "Vologdamedtehnika", LLC "Medfarma-Vologda", LLC "Medprombyt" have; it is down the average rate in LLC "Delrus-B" and LLC "Vologda. Medcine. Service" *(tab. 6)*.

An important advantage of the service organization in comparison with its competitors is availability of metrological and transport services as well as the quality management system.

Metrological service is the service that is established in accordance with the law to ensure traceability and implement metrological control and supervision [12]. Metrological service staff carries out a test[6] and calibration[7] of measuring instruments. Only two service organizations in the Vologda Oblast (CJSC PF "Vologdamedtehnika" and LLC "Medprombyt") have metrological services in their structure which are accredited by the Federal Agency for Technical Regulation and Metrology (Rosstandart).

[6] Test is ascertainment of measuring instruments' aptitude to be used on the basis of experimentally determined metrological characteristics and confirming of their compliance with regulatory requirements.

[7] Calibration a set of operations that correlate the value of a quantity obtained with this instrument and the respective value of a quantity defined by the standard to determine the actual metrological characteristics of measuring instruments.

Table 6. Capacity utilization of the companies and availability of services

Service organization	**Capacity utilization, %**	Availability of service/ system		
		Metrological service	Quality management system	Transport service
CJSC PF "Vologdamedtehnika"	**85**	yes	yes	yes
LLC "Medpharma-Vologda"	**85**	no	yes	yes
CJSC "Medprombyt"	**80**	yes	yes	yes
LLC "Delrus-B"	**60**	no	yes	yes
LLC "Vologda.Medicine.Service"	**60**	no	no	no

The effectiveness of the medical equipment service[8] is provided by fulfilling of the requirements of the existing quality management system. Nearly every service organization in the Vologda Oblast has a quality management system (with the exception of LLC "Vologda. Medicine.Service"). Technical service plans and implements activities to bring the quality management system in accordance with applicable national and international standards for quality management systems, as well as it monitors the maintenance of medical equipment.

The quality of repair work is confirmed by the warranty obligations:

a) the medical devices, which don't reach the end of their service life, are provided with the guarantee for 3 months;

b) the medical devices reached the end of their service life are provided with the guarantee for 1 month.

Various forms of contact with the consumers are used during maintenance of medical equipment. Organization of service support in the areas of medical equipment placement is very important as a form of professional relationship. This form is popular because modern medical facilities are difficult to transport and dismantle. The results of researches [13] show that 90% of medical equipment services are carried out in the health-care agencies and only 10% of services are carried out in the production workshops of service organizations. Sometimes some spares required for the equipment can be produced in these workshops. If it's impossible to produce spares in the workshops they can be ordered from the company which produces the medical equipment. Almost all service organizations in the Vologda Oblast have transport service (with the exception of LLC "Vologda.Medicine.Service") to deliver the medical equipment.

The results of the questionnaire in 2011 allow us to obtain such qualitative information as opinions and expert assessments by the head dictators (33 pers.) of Vologda hospitals and managers of service organizations (5 pers.) about the factors which hinder the development of regional infrastructure of medical equipment service[9] (*tab. 7*).

92% of experts note that the main factor constraining the development of the infrastructure of medical equipment service is a lack of financial assets. The low efficiency of existing mechanisms for public purchases in the medical equipment service takes the second place (34% of experts point out this factor).

[8] The poll of the head doctors from the health-care agencies in the Vologda Oblast in 2011 has showed that they rate the quality of medical equipment service provided by the regional service organizations to 3.92 points on a five-point scale.

[9] The infrastructure of medical equipment service is a set of specific, interrelated and complementary elements which are necessary and sufficient to detect and prevent failures and malfunctions of medical equipment in the region through timely execution of works ensuring their functionality during the planning period (Shcherbakova A.A. The essence and structure of the regional infrastructure and medical equipment service / A.A. Scherbakova // Problems of the territories' development. – 6 (52). – 2010. – Pp. 61-66.).

Table 7. The factors which hinder the development of the nfrastructure of medical equipment service

Thus, we can conclude that the infrastructure of medical equipment service in the Vologda Oblast isn't developed well. So, today it's necessary to elaborate the measures that will ensure trouble proof and safe operation of the medical equipment in the health-care agencies in our region and improve structural, organizational, financial effectiveness of healthcare. The state authorities and health management should have an important role in solving of these problems. The can obliged the head doctors of the medical institutions to pay due regard to medical equipment service. Also, the priority areas of work in this area in limited financial support will be the following:

a) more rapid implementation of the Automated information system for monitoring of medical devices (It is going in test mode in 60 regions of the Russian Federation);

b) creation of the technical services based on the regional and municipal health-care agencies;

c) purchase of unified medical equipment to reduce the time of its technical service.

the basis of individual degrees of preference, selection of the problems of partial and general equilibrium. In their opinion, the main purpose of economics is studying of social laws which determine the individual and psychological motives of the economic entity. Public laws are manifested as an arithmetic sum of the actions of all isolated members of society.

John Maynard Keynes (1883 – 1946) believed that economics studies the process when people make choice in the distribution of rare resources which have the alternative use and produce, exchange and consume the economic benefits to satisfy their unlimited needs.

Approval of Keynesian views on economics is related to the concepts of modern liberalism in the form of monetarism. The monetarists focus on the mechanism of influence over inflation processes by means of changes in money supply and money turnover. The subject of economics is associated with the study of the motion laws of money supply which are the fundamental principles of the economic development. Rational expectations theory appeals to the ability of subjects to adapt to the realities of the market economy. Public choice theory tries to overcome the weakness of economic regulation by the state and refers to the principle of individualism as the basis to make public decisions. Institutional economics considers mainly organizational and economic relations.

A number of domestic and foreign economists, particularly I.P. Nikolaeva [6] and V.D. Kamaev [7], note that there were various views on the subject of economics during different periods of our civilization. However, the most common definition of the subject of economics relates to the late XIX – early XX centuries. It is associated with the study of laws governing rational use of limited resources to meet competing goals. The economists focus on the problem of choosing the direction to use rare benefits. V.D. Kamaev writes: "The subject of economics is people behavior in the process of production of goods in the world of limited resources and their management. The aim is to achieve maximum satisfaction of unlimited human needs through the provision of profit".

However, if we consider this problem from the viewpoint of the modern civilization's development, it is hardly possible to agree with these statements. The reasons are the following:

- it is impossible to reduce economics to the functional analysis; it follows from the conceptual positions which were explained above;

- the social and economic analysis can't be excluded in spite of it is neglected by some authors because the society is a certain social environment within the scope of studying of the economics' subject.

Marxism is an economic trend which proves that the main motive power of the civilization development is social productive forces which are based on the personal factor of production and real-valued elements of the material world. World outlook and society are formed under the influence of the human life conditions. Ignoring of these facts and circumstances by economics reduce its subject to scholasticism, i.e. to superficial judgment, vain philosophizing and knowledge detached from life.

Our rich historical experience has proved it. A lot of different plans for social expansion are adopted instead of elaborate state social and economic policy. And as the final result they are not implemented.

The President of Russia Dmitry Medvedev has suggested an idea in terms of social modernization. However, there were at least three major modernizations in our country: during the reigns of Ivan the Terrible and Peter I and in the period of industrialization in the middle of XX century. All these modernization periods were characterized by the rigid chain of command, forced labor and a significant social base of power in the society. Has the President such possibilities today?

Endless reforms in Russia have led to apathy of the Russian citizens and caused enormous damage to the reproduction of the national genotype especially in recent times. This implies that the management methods which were used previously can't be used in reforming of the Russian society because we don't know how we can make our nation to have self-respect and be respected in the world civilization. There is the only answer and it is simple. It isn't necessary to modernize our society, but we need "modernization" of public consciousness! Vladimir Lenin pointed the low level of proletariat's consciousness and wrote about it in his paper "Current tasks of the Soviet government" [8] in 1918, "Russian people are bad workers as compared with the advanced nations". What has changed over the past century and especially over the last two decades? Has Russia found its place in the modern world despite the titanic efforts of our people in modernizing of our society? Russia has been transformed into a raw material adjunct of the developed capitalist countries including China, hasn't it? What can we please ourselves? There is low working efficiency and poor quality of products generated by low technological and production discipline, lack of interest in the work of Russian citizens, tolerable standard of living, isn't it? List of the negative tendencies in our society can be continued! And it's impossible to pay no heed to it. The Russians should solve these problems because it would be fatal to hesitate.

It should be recognized that modern economics, the conceptual provisions of which are implemented in practice, does not cure the society but at the same time it destroys it. Liberalism in the form of monetarism is preached as the heart of economic policy of the state. The current leadership of our country worries about only the inflation rate in economy. However, the Russian government stimulates increase in food prices and service prices of natural monopolies setting the inflationary spiral in recent years. The result is profitable for business which uses inflation as a means of enrichment and for government because macroeconomic indicators grow up and GDP increases at the expense of prices hike in economy and ultimately alleged image of general welfare is created.

And it follows the conclusion that economic science should serve not only ideological, cognitive, methodological, practical, but creative function!

What is the essence of the creative function of economics? Of course, it is necessary to formulate the purpose of social development. And the main purpose is the development of fully developed personality, the formation of society but not profit and gold and foreign currency reserves as the end in itself. It is difficult to understand the Minister for Finance Alexei Kudrin and his mentor, the supervisor of the Higher School of Economics, Doctor of Economics E. Yasin who believe that petrodollars shouldn't be spent, i.e. we must renew gold and foreign currency reserves, petrodollars shouldn't be used in the economy because they race inflation. Are there any benefits in this situation? It is known that such major reserve currency as dollar and euro undervalued by 25% and 23% respectively over the past 8 years. And we can only guess how much will these currencies depreciate in future because both dollars and euros are printed a lot today. Thus, the Russian Federation is the donor of the developed countries in these conditions. At the same time the real sector of the economy can't use the credit resources of the banking system in view of very high interest rates on credit. Why not establish an exchange of resources between Russia, the EU and the USA on the latest technologies and know-how that would actually spur the STR in the country? They say that it is impossible. The public sector of economy is not effective. The President of the Russian Federation Dmitry Medvedev said at the economic forum in Davos

that its enterprise would be privatized and our country would gain for a few tens of billions dollars. According to A. Kudrin, these financial resources shouldn't be invested in private business because it steals money. That's a bad luck. Meanwhile, V. Popov notes correctly, "There is no unambiguous evidence of greater efficiency of the private sector in comparison with the state sector in the economy". More "privatized economies don't show better results often than the economies with a significant portion of the public sector". Currently, the share of private sector in Russia is estimated at 65%; it is close to the share of private sector in the Eastern European countries. In the former Soviet republics the share of public sector has remained at over 50% only in Belarus, Uzbekistan and Turkmenistan. Over the past 20 years the production growth was 50% or more in these countries in comparison with the pre-crisis peak (1989). At the same time GDP growth hardly accounted for positive value in the more "privatized" countries in 1989-2009. There was even negative GDP growth in some countries, for example, it was minus 40% in the Ukraine [9].

There was a famine in the USSR for lack of ample foodstuffs in 1929 – 1934. Part of grain was intentionally sold abroad in exchange for currency which was used to purchase technological equipment for the industrialization of the country. There are the figures confirming the deaths of 7 million people in the Soviet Union. It is too difficult to justify these actions by the leadership of our country. However, we should take into account the fact that it was too hard to win the WWII without the military power of our state which was created in the interwar period. Today our country sells oil, gas, metals, grains, it is engaged in miserliness, but our government doesn't worry about the current state of the country. How can we characterize these actions? What will future generations say about this "survival" period?

However, we will not go into greater details. Let's keep to the point. Indeed, what defines vitality of the nation? Common sense suggests that it is a high standard of living, i.e. the quality of life which can be achieved as a result of creative labor. What determines the quality of life? Of course, it is the quality of goods and services! Naturally, the goods must be cheap and affordable. Thus, we should reduce the costs of their production. There will be enough goods; that's why it is necessary to raise productivity of labor! All three indicators are linked together in the economic system including capitalism. And what about the revenues? What prevents us to implement this mechanism in practice? The action mechanism of these laws is objective in the system of capitalism, but they manifest themselves in the elemental form. Recurrent ruinous crises are the backbone of the capitalist economic system. And it follows from this that, certainly, capitalism as an economic system has given a powerful boost towards the development of the productive forces of the existing world civilization, but its lifetime is not infinite! So, the solution of urgent issues in the Russian society is possible if our economy has a creative function, i.e. we should change economic relations!

The economic reforms initiated in 1960s in Russia had been carried out for about 50 recent years. As the final result they had cloned capitalism in Russia as a new but old and forgotten economic system which transformed into idée fixe with serious social consequences for the overwhelming majority of population in our country.

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On fundamental and applied research of the Vologda Institute of Socio-Economic Development of Territories of the RAS**

Andrey A.
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The Social Sciences Department of the Russian Academy of Sciences considered the results of fundamental and applied research of the Vologda Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences for 2006 – 2010. The Members of the Bureau of the Department have highly appreciated the research activities and quite a number of concrete results from the studies of this institute, headed by Professor, Doctor of Economics V.A. Ilyin.

The obtained results of the Institute include the following lines.

It is established that the economic crisis has made adjustments in the course of socio-economic processes in the region and the value priorities of the population. The value of the order has become more significant than sociability; the importance of well-being value has increased. The value of tradition has increased, the value of morality has decreased. The crisis has forced people to show their potential, the intensity of upholding the rights and innovative activity have increased, a large regional cohesion has revealed.

It is shown that the proportion of people experiencing psychological problems has reduced, the number of people solving their psychological difficulties on their own is gradually increasing, population's satisfaction with the services of public mental health protection has increased.

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Negative changes appeared especially brightly among the most well provided people.

The factors influencing the spread of neglect are determined; its relationship to the region's socio-economic state is revealed. A method of economic evaluation of losses due to children and adolescents neglect is proposed. Positive and negative changes characterizing the moral state in the region for the period of 1998 – 2009 are identified.

The priorities for regional policy are formulated; a set of practical recommendations to reduce the level of children and adolescents neglect is developed.

The factors having the greatest impact on the processes of knowledge creation are revealed, the key issues existing in the environment of knowledge generation in the Vologda region are identified. The general directions and specific mechanisms to improve the institutional environment of knowledge generation in the regions are formulated and substantiated.

The unacceptably high degree of differentiation among the Russian regions in terms of scientific and technological development is revealed. The basic problems in the formation and use of intellectual, scientific and innovative potential of the Russian regions are revealed.

The notion of "monitoring of scientific and technological potential" is formulated, the basic principles of its conduct are considered. The nature and structure of scientific and technological potential of the region is determined, its components are identified. There has been developed a technique of comparative assessment of scientific and technological potential of the region based on the calculation of integrated index – the index including three sets of indicators: "Science and innovation", "Education", "Information infrastructure and communication".

The priority aims of the population and the main reasons for reproductive behavior are revealed, the permanence of the population's ideological attitudes and mental sets at reduced fertility is shown within the theme of "Problems and mechanisms to ensure economic, social, ecological security of the Russian Federation".

The algorithm for assessing science and innovation sector at the regional level is proposed. The strategic directions of science and innovation sector development in the region are formulated; the mechanisms for the development of scientific and innovation sector in the region are developed.

The basic indicators characterizing the region's development level, and an integrated indicator based on the construction of the development level taxonomic indicator are proposed. The scheme of assessment of the extent of transformation of the territorial structure of the national economy is developed. Using the integral indicator there has been conducted the analysis of interregional differentiation on the basis of the region's construction. The clustering of Russian regions in terms of socio-economic development is performed.

The effectiveness of the vocational education sector is evaluated; the discrepancy of the vocational education structure to labor market needs is shown. Based on the objectives of increasing the economic competitiveness of the Russian regions the directions and measures to improve the functioning of the sector of vocational education and training are justified. The prospects of highly qualified personnel training in the new formation of iterated systems of research and education are considered.

It is concluded that the current mechanism of income redistribution does not reduce but increases the degree of the population's inequality. The directions of changes in the redistribution processes are justified, a number of forms of redistributive relations adjustments are proposed.

The socio-economic development of the Vologda region in comparison with the regions of the North-West Federal District is assessed; the main factors of regional economic growth and the degree of production intensification in the region are identified. A number of socio-economic problems hindering the region's transition to sustainable development are revealed. It is shown that the stability assessment should be based on the integral index.

The technique of assessing the sustainability of the territories, allowing to reflect its position among the regions is developed. The levels of sustainability of the regional socio-economic system are determined. The necessity of development of the complex potentials (production, finance, innovation) to ensure competitiveness and sustainability of the territory is sounded.

The features of the regional labor productivity are revealed, the level and dynamics of labor productivity in individual sectors and the regional economy as a whole are defined. The labor productivity in the industrial sector of the region compared with the subjects of the North-West Federal District is assessed; the factors that have the greatest impact on labor productivity are identified.

The capabilities for increasing labor productivity in terms of financial and economic crisis are revealed, the measures to increase labor productivity in the key sectors of the regional economy are designed.

The prerequisites of transition of the Vologda region's forest complex to an innovative type of development are revealed, the tools of stimulating innovation in the regional timber industry are identified. The possibility of creating a regional forest cluster is studied, the clustering potential is defined.

In 2000 – 2010 there were conducted sociological measurement of the level and dynamics of the economic situation and social well-being of the Vologda region's population. It is revealed that under gradual overcoming the financial crisis the region residents' assessments on the basic parameters have improved considerably, the characteristics of the current socio-economic situation in the country and the region have become more favorable.

The Institute of Socio-Economic Development of Territories of the RAS takes a prominent position among Russian scientific and research centers of the sociological and economic profile.

It is gratifying that a large number of young scientists work at this institute.

Health of the population: the problems and the ways for their solution

on the II International Scientific and Practical Seminar

In May, 19-21, 2011 the II International Scientific and Practical Seminar "Health of the population: the problems and the ways for their solution" took place in Minsk (The Republic of Belarus).

The seminar's organizers were the Russian Academy of Science represented by the Institute of the Socio-Economic Problems of the Population of the Russian Academy of Science, by the Institute of the Socio-Economic Development of Territories of the Russian Academy of Science and by the National Academy of Science (The Republic of Belarus) represented by the Institute of Sociology NASB at the support of the Trade Unions' Federation of Belarus.

The supervisor of the seminar's studies was N.M. Rimashevskaya, the Corresponding Member of the Russian Academy of Science, Doctor of Economics, Professor, Honored Worker of Science of the Russian Federation, Honored Head of the ISERS of the Russian Academy of Science, Adviser of Presidium of the Russian Academy of Science.

The Russian representatives at the seminar were the scientists of the Institute of the Socio-Economic Problems of the Population of the Russian Academy of Science (the corresponding member of the Russian Academy of Science N.M. Rimashevskaya, Doctor of Economics V.G. Dobrohleb, Ph.D in Technical Science E.V. Molchanova, Ph.D in Economics E.I. Medvedeva, PhD in Technical Science S.V. Kroshilin), of the Institute of the Socio-Economic Development of Territories of the Russian Academy of Science (Ph.D in History K.A. Gulin, Ph.D in Economics A.A. Shabunova, Ph.D in Economics G.V. Leonidova, Ph.D in Economics M.V. Morev, junior staff scientist N.A. Malanicheva), the Institute of Economics of the Karelian Centre of Science of the Russian Academy of Science

(Doctor of Economics T.V. Morozova), Petrozavodsk State University (senior lecturer, the doctor of the supreme category E.N. Bazarova).

The Byelorussian representatives who took part in the seminar's work were the scientists of the Institute of Sociology NASB (Doctor of Sociology Kotlyarov I.V., Doctor of Philosophy Sokolova G.N., Doctor of Philosophy R. A. Smirnova, Doctor of Sociology S.A. Shavel, PhD in Sociology Shuhatovich V.R., junior staff scientist. O.N. Obrazhey, post-graduate student S.A. Pushkevich), of the Institute of Economics NASB (Doctor of Economics A.A. Rakov, Doctor of Sociology L. P. Shahotko, post-graduate student A. G. Bobrova), of the Research Economic Institute of the Ministry of Economics RB (PhD in Economics N. N. Privalova, staff scientist L. S. Stanishevskaya), of the Byelorussian State University (Doctor of Geographic Studies Antipova E.A., Doctor of Mathematics E.I. Zborovsky, Ph.D in Mathematics K. E. Zborovsky, Ph.D in Sociology I.V. Levitskaya), of the Grodno State Medical University (Ph.D in Medicine M.Yu. Surmach), the Committee of public health services of the Minsk Municipal Council (Ph.D in Medicine S.V. Davidovsky), the Byelorussian medical academy of post degree education (PhD in Medicine V.E. Sushinsky), of the Republican Scientific and Practical Center of Medical Technologies, Information, Management and Economics of the public health services (Doctor of Medicine M. M. Sachek), the Byelorussian Trade and Economic University of consumers' cooperative society (PhD in Economics Zlotnikov A. G.).

Also the scientists from Poland took part in the seminar's work: Professor of Psychology of the Lublin Catholic University K. Popelsky and Doctor of Psychology L. Suhotskaya.

The subjects of the plenary reports reflected the most actual problems of health in both Russia and Byelorussia which were considered in the context of the world demographic processes and tendencies. The seminar's work was organized according to the following basic directions: concept, measures and dynamics of the population's health; health research at macro- and micro-level; social health; factorial health determinations; problems of children's and youth's health; problems of reproductive health; ethical bases of health; work and the population's health; self-saving behavior of various groups of the population; ageing of the population and the ways for its longevity; modern way of life and health; gender features of health. During the seminar's work 27 reports were listened and discussed.

The basic talk at the seminar was given by the Corresponding Member of the Russian Academy of Science N.M. Rimashevskaya. In the report the state of the Russia's population health for recent years is considered, and the disturbing tendency of its is deterioration marked. Three factorial units which have crucial importance at the formation of the population's health as a whole and for each person separately, starting with the moment of birth are determined. The first complex is the new generations' vulnerability connected to a high share of born sick and a fallen ill right after, that results in high infantile and children's death rate, low health of children and youth during life cycle, finally distributing to the condition of adults and even aged. The second complex is connected to the loss of the effective labor motivation which resulted in a sharp health decrease and the death rate growth. The shock model of the socio-economic transformation in the Russian society contradicted with the medical and biologic adaptation of a person to varying conditions of life, causing the excessive stress which lowers an organism's resistibility.

The third complex of the socio-demographic factors of health is based on low evaluation of

human life which has partly arisen under the influence of the theory of "the population's economic efficiency" introduced in the country. In the result the main thing is not a person, but economic growth determining all the aspects of the social policy, including enhancement intensity of the public health services.

In the author's opinion, for overcoming this negative trend and for preserving the national human capital it is necessary to modernize the existing distributive relations and to reorient the mechanisms of redistribution towards the poor population. It can be realized on the basis of the formation of the Program "Healthy People", just as in Japan where there is the Program "Intelligent People".

ISEDT of the Russian Academy of Sciences was represented by 5 scientific employees.

Ph.D in History K.A. Gulin presented the experience of the Institute of the Socio-Economic development of Territories of the Russian Academy of Science on the organization of the monitoring researches in the sphere of public health. Monitoring sections are: conditions of the healthy generation's formation (since 1995); public physical health and the conditions of its protection and strengthening (since 2000); public mental health and suicide risk (since 2000); reproductive health and reproductive behavior (since 2003); the efficiency of the resource expenses for protection and strengthening of health (since 2003).

Ph.D in Economics Shabunova A.A. in her talk showed, that the best way of the diseases' prevention is the healthy way of life. Thus the greatest difficulty consists in the creation of motivation for keeping a healthy way of life for the majority of the Russia's population. The author convincingly proved that in Russia there exists such style of life, at which health is value and an inviolable private property; at the same time it does not represent real value for its owner. In the conclusion the ways of overcoming the developed situation are shown.

In the report of the Ph.D in Economics Leonidova G.K. health is characterized as a key component of the territories' labor potential. The analysis carried out by the author shows, that the tendencies of labor potential development in the Russian Federation have negative trends expressed in the population decline and its low quality.

At the same time the requirements of economy to the quality of the working population grow, that testifies at a high degree of deterioration of the fixed capital at the enterprises and their low innovational activity that people work «from last forces».

The innovational way of the development in Russia demands a basic change of opinions on the labor potential quality, the development of adequate measures directed on the increase of its use efficiency.

Ph.D in Morev M.V. presented the picture of the dynamics of public mental and social health of the Russian society and the factors its causing. Recommendations on preservation and strengthening social health are offered.

In her report the junior staff scientist Malanicheva N.A. considers the condition of public health and demographic development in Russia and Byelorussia in comparison with the advanced West-European countries. The important role of the sociological data for estimation of the population's health is marked. The necessity of carrying out the joint comparative researches directed on the search of ways for the increase of demographic potential and improvement of the population's health in Russia and Byelorussia is proved.

At summarizing the seminar, the participants of this seminar noted that, in comparison with the last year, the circle of participants of the seminar and the spectrum of the discussed

problems has extended. Consideration of the participants' structure at the seminar showed, that doctors, economists, philosophers, sociologists, psychologists, geographers and mathematicians took part in the seminar.

In a significant part of the reports the methodological and theoretical-conceptual positions generated within the framework of various disciplinary traditions that allows to consider the problems of health in a wide interdisciplinary context were submitted, to develop the coordinated approaches for studying the problems of the population's health at the stage of formation of the researches' methodology. In the participants' opinions, its carrying out allows to improve the coordination of the researches on studying health in the post-Soviet space, to develop methodical base of the researches, promotes the reception of the comparable data and the development of the coordinated strategy of social policy.

By the results of the seminar the following decisions are accepted:

1. The Institute of Sociology NAN of Byelorussia in 2011 is to prepare and issue the collection of the materials of II International Scientific and Practical Seminar "Health of the population: the problems and the ways for their decision".

2. To continue regular holding of the seminar with periodicity once a year and to plan holding the III International Scientific and Practical Seminar "Health of the population: the problems and the ways for their solution" in 2012 in Lublin (Poland).

3. To continue the international research "Health of the youth: the comparative analysis", having expanded the geography of its participants: Lublin (Poland), Moscow (Russia), Vologda (Russia), Petrozavodsk (Russia), Minsk (Byelorussia).

4. To initiate in Karelia and Byelorussia holding the research "Monitoring of the healthy generation's formation" by the experience of longtitude, carried out in the Vologda Oblast since 1995.

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