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FROM THE CHIEF EDITOR



**Vladimir A.
ILYIN**
Doctor of Economics
Professor
Honored Scientist of the RF
Director of ITSED RAS

Dear readers,

Current global trends increasingly support the fact that in the XXI century scientific potential of any country is the guarantor and the principal driving force of its development. In Russia it is the Russian Academy of Sciences that accumulates intellectual resources of the state along with universities. In the world scientific community RAS also maintains a “high reputation”, because “it remains the bearer of deep scientific culture and continues to conduct research on a broad science front”¹.

It is difficult to overestimate the role of journals published by RAS since the publication is an essential element of the scientific information space. “According to the SCOPUS for 2009 the Russian Academy of Sciences takes the 3rd place in the world by the number of scientific publications among the 2080 top scientific research organizations <...> 45% of all scientific publications in the country and almost 50% of citations fell on the share of RAS”².

K

A little more than two years have passed from the time when the leaders of four economic institutes of RAS³, located in the north-west of Russia, decided to organize publication of a joint journal. The editorial board of this journal includes scholars of authority not only from Russia but also from Belarus, China and Finland.

One of the main tasks to be consistently solved by the editors at the first stage of its development is the meeting the criteria of the Higher Attestation Commission, that is necessary for its inclusion in the List of leading scientific journals, in which major scientific achievements of theses for a for the degree of Doctor

¹ Rogov S. Russia should become a scientific superpower. Unclaimedness of science is a threat to Russian national security. [Electronic resource]. – Access mode: http://www.strf.ru/organization.aspx?CatalogI=221&d_no28654.

² Rogov S. *ibid.*

³ V.N. Lazhencev, RAS corresponding member, director of Institute of Socio-Economic and Energy Problems of the North Komi SC of the Ural RAS department; F.D. Larichkin, professor, director of G.P. Luzin Institute of Economic Problems of Kola SC RAS; A.I. Shishkin, professor, director of Institute of Economics of Karelian SC of RAS; V.A. Ilyin, professor, director of Institute of Territories’ Socio-Economic development of RAS.

and Candidate of Sciences should be published. The solution to this problem was associated with the formation of the peer review institute (peer review of all manuscripts was carried out with the second issue of the magazine, from June, 2008); with the strict publication periodicity (once per quarter); with the creation of a full-text Internet version of the journal (the journal site existed since the appearance of the journal); with the inclusion of the journal in the RSCI system⁴, with the obtaining of ISSN and a subscription index in Russia's catalog of «Mail of Russia» (March, 2008); with the creation of the English version of the journal (the full-text English version of the journal appeared in 2009, the first four issues of the journal had in English only annotations, keywords, author information and bibliographies).

On 19 February, 2010 according to the decision of the Presidium of the Higher Attestation Commission our journal was included in the list of the leading peer-reviewed scientific editions. On the one hand, it is the recognition of the fact that the issue has reached a certain level, on the other this determines the prospects of the journal development, which primarily relate to the task to enter the number of journals, recognized in Russia and abroad as well. And although two years is a short period for anyone, especially for the academic edition, it is reasonable to preface the conversation about the prospects of the journal by summarizing some results of its development related to the history of the formation of the first institution of the Russian Academy of Sciences in the Vologda oblast – Institute of Territories' Socio-Economic development of RAS.

K

Historically, the scientific community of Russia has been heterogeneous: the traditional capitals of academic science were Moscow and St. Petersburg. Significant growth of scientific and technical capacity has been reached in the regions such as Siberia, the Urals, Tatarstan, which formed recognized scientific schools. But these schools were developed in large cities (Novosibirsk, Ekaterinburg, Kazan and others), which have concentrated the basic intellectual potential.

A special feature of ITSED RAS position is that in 1990 it appeared in the region, where there were no institutions of the Russian Academy of Sciences, conducting research on economics and sociology. In the absence of scientific competition there was the question about the quality of research and the establishment of academic environment contributing to the constant reproduction of academic research personnel of high qualification. Thanks to the support provided to our Institute at that time (and nowadays) by Department of RAS, the economic institutions of Academy, leading scientists of the Vologda universities, authorities of the city and the Vologda oblast, the Institute succeeded in creating a young (average age is 32 years) and ambitious team. Employees of ITSED seek to compensate lack of experience with the systematic approach in conducting research along

⁴ RSCI – Russian Science Citation Index.

the directions formed at the Institute through sustainable creative contacts with academicians **V.L. Makarov, A.G. Granberg, G.V. Osipov**, RAS corresponding member **N.M. Rimashevskaja** and other reputable scientists, representing leading scientific schools in the country.

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In establishing any scientific school the level of publications plays an important role, because this is an indicator of researchers' skills. As of today criteria and methods for the assessment of this level are not clearly defined. The international system, linked to the citation index (especially in foreign, mostly American editions), is getting poorly acclimated in our country. RSCI, created as an alternative to the international system, does not include a complete database of scientific publications yet, and therefore it can not completely realize its functions. Taking this into consideration, the editorial board, always striving for feedback from their readers and authors, conducted a survey among members of the editorial board, scientists and staff of the Institute to evaluate the development of the journal and its prospects. The results of the survey on the first eight issues were sufficiently informative, that allows to draw some conclusions.

Despite the fact that our journal is young enough, it is the edition that meets modern requirements which are made to scientific editions: the magazine is included in the list of HAC, it has a full-text english version, readers have free access to the articles on the site of the journal. However, we also have the prospects for the development in this direction. It is the inclusion in the SCOPUS database⁵ (journal is included in international databases such as Ulrich's, ProQuest: FBI/Inform Global, Google Scholar). This will allow to a wide range of foreign researchers to apply to the English (electronic and printed) version of the edition. Currently, according to the survey, the Russian version is popular among 95% of readers, though printed and electronic versions are gaining almost equal number of points (96.5 and 95.2 respectively; *tab. 1*).

Survey participants, among whom were both members of the Editorial Board (RAS academician **V.V. Ivanter**, academician of National Academy of Sciences of Belarus

Table 1. Demand for the versions of the journal (results of the poll)

Version of the journal	Total, 85 persons	%
Russian printed version		
Very called-for, called-for	82	96.5
Poorly called-for	3	3.5
Not called-for		
Russian electronic version		
Very called-for, called-for	79	95.2
Poorly called-for	3	3.6
Not called-for	1	1.2
English printed version		
Very called-for, called-for	29	34.9
Poorly called-for	34	41.0
Not called-for	20	24.1
English electronic version		
Very called-for, called-for	35	41.4
Poorly called-for	34	41.5
Not called-for	14	17.1

⁵ SCOPUS – the world's largest single abstract database, which indexes more than 17,000 titles of scientific, technical and medical journals of 4,000 international publishers.

P.G. Nikitenko, RAS corresponding member V.N. Lazhentsev, professor M.A. Gusakov, professor S.V. Kuznetsov, professor F.D. Larichkin, professor A.I. Shishkin) and staff of ITSED RAS, praised the quality of articles: 87.1% of respondents identified it as a high and sufficiently high (*tab. 2*).

Central, passing from issue to issue of the journal, columns – “Social development”, “External relations”, “Development strategy”, “Regional economy”, “Public economics” – also were highly appreciated by experts (8.5, 8.1, 8.0 and 7.9 respectively; *tab. 3*).

One of the important results of the survey was the fact that our colleagues have made proposals how to expand the subjects and introduce new sections in the journal. Thus, from their point of view, the following issues and topics in our edition will be actual: modernization; diversification and innovation development of economy; natural resource economics; raising of competitiveness of the regions; the use of economic and mathematical methods and models; problems of development of industries and regional specialization; the issues of strengthening regional finance and budgets; history of national economy.

From our point of view, results of the site analysis are interesting and require further study. According to the total number of articles views and its total duration (these parameters were selected as evaluation criteria), sections such as “Regional economy”, “Social development”, “Development strategy” took the top position of the rating, i.e. those that were identified by our respondents (*tab. 4*).

The editorial board notes that site visitors are interested in the section «continues the topic of the previous issue». This suggests that the issues that are selected as leading for a discussion are really actual.

The issues № 7 (“Food security and agricultural sector of NWF”), № 6 (“Development of small businesses”) and № 5 (“Tourism”) were the most popular among users of the site (*tab. 5*). We think that the appeal to the possibilities of modern information technologies will be promising in analyzing the results of the journal: a formalized system of data processing of the site, compared with those ones of traditional (questionnaire) survey methods, helps to ensure more objective results.

Table 2. Estimation of the publication level (results of the poll)

Response categories	Total	
	85 persons	%
High, high enough	74	87.1
Average, below the average	11	12.9
Low		

Table 3. Rating of journal sections (results of the poll)

Section	Average point	Rating
Social development	8.5	1
External relations	8.1	2
Development strategy	8.0	3/4
Regional economy	8.0	3/4
Social sector economy	7.9	5
Microeconomics	7.4	6
Scientific messages. Forum	7.1	7
Monitoring of public opinion	7.0	8
Problems of increased reproduction	6.7	9

Table 4. Rating of journal sections
(results of the site analysis)

Sections	Total duration of articles view in a section (min.)	Total number of articles views in a section	Average time of article view in a section (min.)	Rating
Regional economy	45,239	2 428	19	1
Social development	14,512	679	21	2
Development strategy	12,895	716	18	3
Continue the topic of the previous issue	9,596	508	19	4
Environmental economics	2,718	134	20	5
Articles out the section	1,883	107	18	6
Public economics	1,783	103	17	7
Problems of increased reproduction	1,149	76	15	8
Views, opinions, comments	726	55	13	9
Microeconomics	360	25	14	10
Monitoring of public opinion	281	17	17	11
Scientific messages. Forum	222	18	12	12
Scientific life	121	10	12	13
Information economy	89	5	18	14
External relations	41	4	10	15
Actual information	34	2	17	16
Information for thought	2	1	2	17

Table 5. Rating of journal issues (results of the site analysis)

Issue	Total duration of articles view in a section (min.)	Total number of articles views in an issue	Average time of article view in a section (min.)	Rating
Issue №7	17,751	859	21	1
Issue №6	16,224	883	18	2
Issue №5	14,720	893	16	3
Issue №1	13,530	639	21	4
Issue №4	8,416	462	18	5
Issue №2	7,316	407	18	6
Issue №8	7,097	356	20	7
Issue №3	5,195	319	16	8

Concluding the article, I am pleased to note that the results we have achieved over the past two years would have been impossible without the collaboration of the heads of economic institutes of the North-West

and our colleagues from Belarus and China. This work built on trust and exactingness helps look ahead with optimism and solve tasks linked with increased scientific rating of our journal.

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DEVELOPMENT STRATEGY

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Monetary and financial issues of modern Russian economy: regional aspect*

The article deals with the outcome of the meeting of the regional section of the permanent Russian-French seminar on the issues of monetary and financial problems of Russian economy, held in Vologda, in April 2010.

Economic development, financial relations, market, crisis, regions, relationship of global, national and regional processes, crisis management strategy.



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In 1991, the House of the Humanities (Paris, France) and the Institute of Economic Forecasting of RAS (Moscow, Russia) founded Russian-French seminar on monetary and financial problems of the Russian economy. The permanent co-chairs of the seminar are the director of the Institute of Economic Forecasting, of RAS Academician **V.V. Ivanter** and Director of the School for Advanced Studies in the Social Sciences (France), **Jacques Sapir**. Over the years of its work (38 sessions have already taken place) the seminar carried out significant work to study the financial problems of major economic reforms. The basis for this was not only the Russian experience of reforms, but also the experience of other CIS countries, Central and Eastern Europe, Latin America, the postwar experience of Western Europe, etc. According

to the results of the seminar some monographs and articles have been published, a number of recommendations for the Russian government were prepared.

In December 2007, one of the sessions of the seminar was held at the Institute of Territories' Socio-Economic Development of RAS. In 2008, largely based on its experience, the regional section of the seminar was opened, which discussed financial and economic issues from a regional perspective. Since that time, meetings were held in Paris, Maikop and Grenoble. In the period from 1 to 2 April 2010 the fourth meeting of the regional section was held in Vologda on the basis ITSED RAS. It was attended by specialists from the Institute of Economic Forecasting of RAS, Institute of Territories' Socio-Economic Develop-

* This work was supported by the Russian Humanitarian Scientific Fund (project № 10-02-14046g).



At the seminar meeting

ment of RAS, Southern Federal University (Rostov-on-Don), Astrakhan State University, CEMI-EHESS (Paris), University of Lion-III Jean Moulin, the Government of the Vologda region. The main topic of the discussion was the impact of economic crisis on the development of Russian regions, the impact of global crisis processes on the state and prospects of national and regional economies.

The session of the seminar was opened by the research director of the School for Advanced Studies in the Social Sciences (CEMI-EHESS) **J. Sapir**. In characterizing the crisis in Russia, one of the most respected foreign experts on Russia's economy estimated it as very deep, but limited in time (from December 2008 to April 2009). The most significant manifestation of the crisis was a significant fall in production (especially in manufacturing) and the reduction of household income. The causes of the crisis were a significant reduction in the price of oil and aluminum, the reduction in external demand, the fall of the internal credit (which led to declining domestic demand), the specificity of the monetary policy pursued by the Central Bank.

According to Jacques Sapir, the Russian economy is growing stronger in the domestic market and less dependent on external demand. Consequently the domestic market during the crisis potentially should be a factor of crisis

resistance. However, the Russian economy is supported by more exports and imports rather than its domestic market, which is a consequence of the policy of the Central Bank of Russia. Until the beginning of the most active phase of the crisis, it carried out a gradual increase in the rate of refinancing, while major central banks lowered their rates (in November 2008, the CBR refinancing rate was 12%, while the U.S. central bank rate was 0,5%, Japan - 0,1%, European - from 0,5 to 0,75%). Effects of refinancing rates increases immediately reflected on the sale of real estate and loans for consumption. By reducing the inflation rates consumer loans and lending rates for businesses were growing.

The reasons for this policy of the Central Bank are the transition to a policy of inflation targeting, protection of the ruble exchange rate, the effects of previous policy of the Central Bank. The Central Bank of Russia chose the inflation targeting policy too late (only in late 2007, while central banks of Western European countries included such a policy in 1990), and at the most inopportune moment. The problem of inflation targeting means that the central bank should focus on it at the expense of all other tasks. And in that situation, in which Russia was in early 2008, the Central Bank had to act as a lender of last resort, contrary to the policy of the new consensus.



J. Sapir, L.G. logman

Did the crisis cast doubt on the modern model of Russia's development? Until the crisis the investment policy had a relative success the country (in the period from 2003 to 2008, the volume of investments rose from 16,5 to 21% of GDP), which resulted in a dramatic increase in labor productivity (in manufacturing by 48%, in extractive industry by 31%). But this policy needs sustainable funding and more adapted actions of the Central Bank. To get out of the crisis for good and all, this problem must be urgently addressed.

Unlike Jacques Sapir, who has taken growth rates as a criterion for ending the crisis, the head monetary research laboratories of the Institute of Economic Forecasting RAS PhD in Economics O.G. Govtvan expressed the opinion that Russia is still far from ending the crisis. To say yes to this, on the one hand, there must be stable factors and growth mechanisms, on the other the behavior of economic agents must change: risk-oriented behavior must be replaced by behavior oriented on economic efficiency.

Talking about ways out of the crisis it is not enough to rely only on "technical" analysis; we must proceed from the fundamental nature of the crisis. The speaker therefore described the revolutionary changes in the financial sector during the last 100 - 150 years. Totally one can talk about three revolutions. First is the transition to a two-tier banking system, which

fastened to the reference to debt in contrast to the previous reference to the gold. Second is the emergence of financial market, i.e. the evaluation system of private debts, resulting in approaching of real funding to funding needs. And third is the revolution of the last 10-15 years - the emergence of market risks (market risk management tools).

The risks market (allowing a tremendous increase in the accuracy of debt estimation) began to play a significant role in financial processes. The result of this third revolution is a significant increase in funding. The problem is the lack of regulation of this market. While each country controls the cross-border outflows of capital liquidity, no one can control the cross-border outflows of risks. To get out of the crisis on the global level one must take a significant structural decision that would eliminate self-replicating processes on the risks market and to build regulatory instruments.

Today, Russia is characterized by multi-level nature of the economy: it is represented by the subjects of global, national and regional level. However, the anti-crisis policy mainly focuses on the enterprises of global level. At the same time at the regional level self-motivation cannot be detected due to the fact that the economy "runs" from the risks. The possibilities here are seen in the development of a specialized bank credit and refinancing institutions.



Photo for memory

According to **S. Durand** (Centre for industrialization study of the School for Advanced Studies in the Social Sciences), the crisis clearly showed the specifics of Russian capitalism. Its main and most striking distinguishing feature is the dependence on commodity exports, imports of consumer goods and equipment from the international financial turnover. This leads to a high degree of vulnerability of the Russian economy in relation to external shocks.

The second feature of Russian capitalism is the specifics of economic coordination dominated by political and economic bargaining relationship, the weakness of private property rights, ownership concentration, the preservation of the industrial sector inherited from the Soviet period, the high proportion of energy in the economy. These are the elements which illustrate the increasing interdependence between political and economic factors at all levels (national, regional, local). These political and economic networks are involved in the distribution of rents and regulate mechanisms of external shocks absorption.

According to S. Durand, the crisis showed the weakness of Russian capitalism, but it strengthened the role of the state as an economic player. On the one hand, enterprises asked the state for support (including the largest ones). On the other hand, due to the state's actions social shock has been depreciated (in contrast

to the 1998 crisis). In crisis of 2008 - 2009 the social shock was less than the economic one (as evidenced by the increase in the wage share in GDP). And at the same time, we cannot say that the capital paid for crisis itself (reduction of the capital share in GDP, but very small). Restoration was carried out by the state budget that is the state was paying for the crisis due to previously accumulated reserves.

A significant block of presentations was devoted to certain region's experience in crisis situations and on their future development.

Considerable attention was attracted by the report of the Head of Economic Department of the Government of the Vologda region, the first deputy governor, PhD in Economics L.G. Iogman. It was devoted to the influence of financial and economic crisis on the region's economy and its development prospects.

The Vologda region is a region largely embedded in the global economy; it was growing successfully and steadily until October 2008. In the following period, due to a sharp fall in export prices and the corresponding "compression" of demand, a sharp decline in the leading sectors of the economy came - particularly in metallurgical and chemical industry (in October - November 2008, the volume of production there declined by about half). The regional budget declined by a half. The region was among the Russian territories most affected by the crisis.

Building an anti-crisis plan in these conditions, the regional government took into account both Russian and world trends. The guideline to preserve social stability was taken. This required the full range of social obligations, timely measures to promote employment.

A wide range of mechanisms of state support for enterprises was included: trade interventions, ensuring the formation of state order, forward purchasing of goods and services, providing direct financial assistance, provision of regional government guarantees for loans, assistance to sales of products, optimization of tax burden, support of businesses being in a critical situation, subsidizing the transfer of community facilities in the municipal use, active support of small business. With these measures, the active work of the enterprises themselves, as well as changes in the market the economic situation in the region has stabilized by the end of 2009. According to forecasts, in 2010, it is expected an increase of industrial production at 102,5% of the previous year, although it is rather difficult to return to the positions of 2008.

The realization of investment projects and infrastructure development remains to be the most important task despite the difficult financial situation. In this regard, the region managed to retain investment activity of enterprises continued to build and repair roads, energy and municipal facilities, social infrastructure, introduction of advanced telecommunications technologies. A particular area of the regional government's focus is the creation of industrial parks and economic clusters (now there are two major projects of this kind in various stages of implementation – industrial parks “Sheksna” and “Sokol”). Activity aimed at improving the regional economy's energy efficiency is also urgent: the rationalization of energy consumption and reduce of unit costs for these purposes, the use of energy-saving technologies, reduction of FEC product losses.

According to L.G. Iogman, the crisis cannot be measured only in negative categories. A positive aspect is that the crisis contributes to

the so-called «natural selection», which leaves on the market only the most viable companies with strong policy management. This leads to general improvement of economy, sustainability and «flexibility» of national and regional economic systems.

“Academic” view of the problems of the region's development was presented in a collective report made by scientists of the Institute Territories' of Socio-Economic Development of RAS. The Institute, which celebrates the twentieth anniversary this year, conducts research on a wide range of directions, provides infrastructural support to the innovation activities in the region, it is actively engaged in the training of scientific personnel. **V.A. Ilyin**, Professor, Doctor of Economics, director of ITSED RAS told in detail about the tasks and prospects of the development. Heads of departments of the Institute focused on such issues of regional development as monostructural nature of economy, low labour productivity, imbalances in intergovernmental fiscal relations, weak financial capacity of local economies (**T.V. Uskova**, Ph. D. in Economics, Deputy Director, Department Head), low potential for health and growth of social and economic stratification of the population (**A.A. Shabunova**, Ph. D. in Economics, Department Head); reduction of intellectual capacity and quality of labor resources (**K.A. Gulin**, Ph. D. in History, Deputy Director, Head of laboratory). These problems are not peculiar to the Vologda oblast and require significant changes in the policies of the federal center. The strategic work on the formation of new elites (including managerial) is extremely important to the regions along with solving economic problems. One of the possibilities here is the development of modern scientific and educational centers. Experience in establishment and development of such a center was shown by Deputy Director, Department Head, Ph. D. in Philology **M.M. Karaganova**.

The report of **V.Y. Solopov**, Professor, Doctor of Economics, the director of Institute of Economics and Law at Astrakhan State Uni-

versity was devoted to the influence of the crisis on the economy of the Astrakhan oblast and long-term development of the region.

In the long-term development strategy of the region, developed before the onset of the crisis, hydrocarbon production, fishing and hunting tourism, agriculture and shipbuilding were considered as the main growth areas of the regional economy. All these areas remain actual in the crisis. Some sectors of strategic importance for the region (e.g. agriculture and house building), were able to pass through the crisis without losses.

The most significant problems in the region's economy are: a low level of integration processes, the orientation of the major companies in the region to meet the tasks of national and global level; rent seeking of enterprises; new features of work motivation of employees (at a certain stage the decrease in labor productivity with the increase in wages).

The main directions of future development of the region are traditional agriculture, supplemented by the recycling process, recycling of existing and incoming resources, the use of a dominant position in the Caspian Sea in the area of personnel skills, forming of servicing and supporting industries, the production of expensive equipment for the developed industries.

The report of the Director of the North Caucasian research Institute of economic and social problems of the Southern Federal University, Doctor of Economics, Professor **V.I. Ovchinnikov** was dedicated to the problems and resources of the post-crisis stabilization on the macro-regional level, e.g. the regions in the North Caucasus federal district created in 2010.

The main problem is the territorial reticence of the economic space with a high degree of its disintegration generated by the autarkic tendencies. The share of the so-called «etnoeconomic» household structure (55-60%) is high, which is characterized by such features as the dominance of informal institutions and the traditional social and economic structures, extensive type of employment and low level of

population mobility, the organic link between production and employment with the household way of life, etc.

Mechanisms for implementation of the regional social and economic policies of the federal center in the North Caucasus are seen as following: to strengthen the effectiveness of the market-regulated model of economic organization, reorientation of the vector of regional policy from the sphere of distribution and redistribution of national income into its production, change of priorities in the ratio of financial redistribution and incentive functions within the policy of leveling regions development, the use of administrative resources; improvement of the Russian system of fiscal federalism; strict compliance with the categorical imperative «finance follows objectives».

Possible tools to stabilize social and economic situation in the North Caucasus are: implementation of the cluster model of inter-regional inter-industrial production and economic systems; target state support of processes of neo-industrialization and reconstruction of associated forms of commercial agricultural production, as well as infrastructural arrangement of all the clusters and economic and personal safeguarding, forming of special economic zones with effectively motivating financial regime, providing an intensive inflow of capital and «squeezing» of the terrorist underground.

The report of the head of the subdepartment of Economics Department of the Southern Federal University, Doctor of Economics, **N.P. Ketova** was dedicated to the potential of regional marketing tools for post-crisis economic stabilization. Regional marketing is an activity for exploration of the target markets within and beyond the region, stimulation of the production of competitive and called-for goods and services in the formation of channels and tools for increasing sales. We are talking about the competitive advantages created by (the efforts of government, business, population) the territory.

Examples of effective regional marketing are such countries as Thailand, UAE and Egypt established its own tourism industry. According to the speaker, today many Russian territories if there is political will and sense of leadership, understanding the need for coordinated efforts of various groups and sectors of society could, using the instruments of regional marketing, create conditions for overcoming the crisis and stabilization in the future.

For the Russian regions the experience of the development of the region Rona Alpes presented in the report of Professor of University Lyon III Jean Werkey is interesting. Rona Alpes is one of the leading regions in France with the population of 6 million people (about 10% of the country population). It is characterized by such features as the population growth (higher than in France and the EU as a whole), a high level of GDP per capita, the high density of economic space (the existence of a large number of small businesses).

The structure of the region's GDP is quite diversified. Industry and construction take a quarter of value added (in France as a whole - 1/5 parts). Main sectors defining profile of the region are automotive, chemical, mechanical manufacturing and production equipment industries, energy. The result is a strong reaction to changes in economic conditions of the country. Another specific feature of the region is the «international» nature of the economy (45% of the French cargo transit pass through the region), which makes it more influenced by the crisis.

The policy of the regional administration is aimed at increasing economic resilience and focuses on two main directions. One of them is the support of «competitiveness poles» such as producing companies, which products are in demand on the global and European markets. There are 15 poles, among them are chemical industry, automotive industry, biotechnological industries, nanotechnological centers.

Another trend is a realization of the region's own policies on foreign trade, one of the main tasks of which is the increase of the proportion

of small and medium enterprises in regional exports. The mechanisms for such support are the provision of tax holidays for exporting companies; compensation for insurance risks in search of new markets; payment of a part of wages to companies' management engaged in export sales; financing of arranged overseas missions in support of exports.

Companies having objectives can get 300 kinds of public assistance in the regions. The downside of such policies is the possible strengthening of the polarization between the leading territories and less affluent areas. And this is a problem requiring special attention at the national governmental level.

Scientific Secretary of the Institute of Economic Forecasting RAS, Ph. D. in Economics **D.B. Kuvalin** through the analysis of all-Russian polls highlighted the problem of post-crisis development of domestic enterprises in early 2010.

It was noted that the positive side is a recovery in investment activity of domestic companies (the share of enterprises intending to launch new investment projects in the next one - two years rose from 35% in early 2009 to 52% in early 2010). Gradually restores the scope of cooperation ventures with banks (the percentage of enterprises that received loans for 12 years investment projects has risen from 6% in autumn 2009 to 11% in early 2010, for 35 years summer projects - from 10 up to 14%). Marketing sphere improves.

The negative phenomena are deterioration in the production of machinery and equipment, increase of the quality backlog of domestic appliances from overseas. D.B. Kuvalin assumed that independent survival of most branches of the national machinery in the current circumstances is impossible and therefore extraordinary actions to save them or re-profiling are required.

There is a sharp increase in the frequency of complaints of enterprises on corruption in law enforcement agencies (from 31% in 2007 to 55% in 2010). This, according to the speaker, indicates that the national system of protection

of economic rights and economic arbitration is unable to properly perform its functions. At the same time in terms of the economic crisis among Russian enterprises the idea of an active role of the state in the economy is more popular (the proportion of supporters of direct government participation in economic life increased from 11% in 2007 to 20% in 2010).

In general development in the real economy is rather contradictory. Post-crisis reconstruction processes let hope for a gradual return to previous trends, however, signs of return are still fragmented.

Head of Laboratory of analysis and prediction of transport logistic systems IEF RAS, Doctor of Economics, Professor **J.A. Sherbanin** described the features of modern development and transport infrastructure in the Russian regions. The main problems in this area are a critical low rate of input of fixed assets (e.g. from 1990 to 2009 the length of main-line railways fell from 87 to 85 thousand km, and if during the period from 1980 to 1990 20 thousand km of highways was brought in each year, in 2009 only 1 thousand km was brought in), low transport efficiency, weak labour productivity in the transport industry, the high level of shadow component (in trucking it is up to 70%).

According to the speaker, the implementation of transport projects of federal significance could positively affect the economy of the Vologda region. For example, modernization of infrastructure of the Volga Baltic Canal could contribute to a significant increase in cargo traffic passing through the region. This would let expect the increase of jobs related to water transport, the increase of tax revenue derived from transport companies, the increase of demand from shipping companies for goods and services of regional manufacturers, the decrease of costs of large enterprises («Severstal», «Fosagro») through possibilities of river transportation.

J. Sapir summed up the last session of the seminar. He noted that the main positive point in the crisis period of 2008 – 2009 (unlike the situation in 1998) was the fact that Russian authorities succeeded in protecting people from the crisis. The economic situation to the end of 2009 largely stabilized. However, this does not cancel the need for early structural decisions. First of all, it is the economic diversification and decrease of dependence on commodity exports, hence from exchange rate fluctuations of the ruble. For the Russian regions, this could mean reducing of dependence on relationships with the central budget and major corporations, improving the sustainability of development.

On the influence of financial and economic crisis in 2008 – 2009 on the region's economy and prospects of its development in 2010 – 2011



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An innovative way of development, currently defined as a basic scenario for the development of the Russian Federation, creates conditions for the formation of a regional innovation system, strengthening scientific and technical potential of the region, integrating science and education in the region through the establishment of scientific, technical, scientific and educational structures for solving the region's socio-economic development problems.

Using the potential of the Russian Academy of Sciences to identify the promising areas of economic modernization in the Vologda region, as well as a number of projects throughout the region will create a point of growth based on new technological structures, considerably increasing knowledge-intensive regional product.

Ultimately, the cooperation of science and government is investment in human capital and hence in the future the Vologda region. This resource must be replenished, strengthened and developed.

Cooperation of science and government gets particular relevance right now, in times of crisis.

Of course, nobody likes crises. However, the crisis is not just some sort of economic disaster, which we should try to wait till it is over without losses. The crisis is a time when not only the old organizations, ties, game rules are destroyed,

but also a time when the new are determined.

Year 2008 will definitely go down in economic history due to the aroused financial crisis and lots of attendant negative consequences.

The emergence of the crisis is *associated with the following factors*:

- general cyclicity of economic development;

- “overheating” of the credit market and mortgage crisis as its consequence;

and:

- high prices of raw materials (including oil);

- “overheating” of the stock market;

- using new unaudited financial techniques and instruments – credit default swaps and other derivatives.

The current crisis is clearly beyond the *normal cyclical crisis*. There are three of its important features.

First. Having begun in the context of globalization, the crisis is unprecedented in scope, covering almost all the dynamically developing countries and regions. And it has a stronger impact on those who were most successful in the past decade.

In contrast, stagnant countries and regions were affected by it in a less degree. The above is characteristic of domestic economic situation in individual countries, including Russia;

* The article is based on the author's report presented at the Russian and French seminar “The Influence of financial and economic crisis in 2008 – 2009 on the region's economy and prospects of its development in 2010 – 2011”.

the most serious problems occur where there was an economic boom, while the depressed regions almost do not feel the changes. This greatly complicates the process of overcoming the crisis: it is unclear who will become the “locomotive” of growth restoration.

Second. The current crisis is structural in nature, that is, it involves a major upgrade the structure of world economy and its technological base. It's hard to say what structural changes will occur, but the result will be a redistribution of forces in the sectoral and regional aspects.

Third. The crisis is innovative in its nature. In recent years much has been said about the importance of innovation, the transition of the economy on an innovative path of development; that is exactly what happened in the financial and economic sphere. Financial innovation emerged and rapidly spread here - new financial market instruments, which, as it seemed, will be able to establish conditions for infinite growth. But as it turns out now, many leaders of the financial world had a very vague idea about them that led to a twofold effect.

Obviously the final evaluation of the effectiveness of anti-crisis measures is still to come. The leading countries of the world continue to adjust their anti-crisis programs. Nevertheless, there are several consistent trends.

Firstly, is the growing state intervention in the economy.

Secondly, is the marked social dimension of state support.

Thirdly, is strong support for investment and infrastructure projects, strengthening the competitive positions of the national economy in the post-crisis period.

These three directions are prior for Russia.

The first persons of the country say about the criteria for the gradual normalization of the situation. Prime Minister Vladimir Putin said that “the active phase of the crisis was overcome, and, starting with the second half of the year, economic growth has resumed”.

President Dmitry Medvedev is more cautious: “We are well aware that the 2010 does not promise instant joy”, – he said and warned that a withdrawal from the financial crisis will

be gradual. In 2010 the Russian economy will grow by 2.5-5% in the optimistic scenario, he said, inflation will be around 9%, and the fall in GDP in 2009 will amount to 8.7%.

The Vologda region, which is successfully integrated into a single global system, could not get away from the phenomena that violate the usual course of many people's lives and reduce the rate of economic development of the region as a whole.

Up to October 1, 2008 the Vologda region was developing confidently and stably.

For industrial production by 1 resident the region was 2 times the average Russian level. We were the first in the Northwestern Federal District and among the four Russian leaders.

After October 1, the situation began to change profoundly. The Vologda region was among the regions most affected by the financial and economic crisis.

And the active phase of growth gave way to recession.

Export prices have fallen:

– for ferrous metals – 2.1 times (from 1057.0 doll./ton. in August 2008 to 503.7 doll./ton. in January 2009);

– for mineral fertilizers – 3.1 times (from 1029.6 doll./ton in September 2008 to 332.1 doll./ton. in January 2009);

– for timber – 2.4 times (from 243.5 doll./cub. m in December 2008 to 101.6 doll./cub. m in January 2009).

Demand “compression” has caused a sharp, stepwise decline in the economic sectors – metallurgy, chemistry, forestry complex.

Only for 2 months of 2008 (October – November), we have lost more than 53% of metallurgical industry, chemical industry “subsidized” almost by 47%, decline in mechanical engineering – almost by a third, in the timber industry – by 22%. It was more than the whole of 1994 and more than in 1998 – 1999.

As a result the regional budget decreased twice.

Certainly, the economic problems caused structural changes in the labor market. Since November 2008 the number of unemployed and reducing the number of vacancies began

to increase in the region. As of May 18, 2009 (the “peak” of unemployment), the number of unemployed increased by 3.9 times (from 7.4 to 29.2 thousand people).

The Vologda region has built up its crisis management plan in the light of Russian and international trends.

Forging an economic strategy, one must always bear in mind the possibility of adverse developments. We talked several times about the danger of short-term fluctuations in world markets, so we consciously followed sufficiently accurate, balanced fiscal policy.

We talked about the cyclic development of economic sectors and the trends of growth slowing in major tax forming indicators, in particular, of reducing enterprises' profits.

In addition, in the regional budget, as well as in federal, financial reserve was annually formed, which now helps the region to work in difficult conditions of the global financial crisis.

The events of last year showed that our pessimism was justified.

Nevertheless, focusing on maintaining social stability, we have retained all previously existing benefits and social guarantees. The whole complex of measures of social support, ranging from targeted social assistance to the monthly cash payments is calculated in the amount of 7.2 billion roubles.

To fulfill the social obligations in the face of declining revenues austerity policy was enabled. Shaping the 2009 budget, we have “pressed” the expenditure by 8.4 billion roubles. The optimization of the costs of implementing long-term and departmental target programs, for the maintenance of state institutions, bodies of executive power in terms of reductions in labor costs, operating costs, costs of capital nature was made.

Our prompt action and implementation of targeted employment promotion programs helped to preserve the human resources of organizations, to increase competitiveness in the labor market of workers who were at risk of dismissal, including the promotion of entrepreneurial activity.

Many of the former unemployed having got an annual unemployment benefit (in the amount of 58.8 thousand roubles), developed business plans and won a grant of 300 thousand roubles as individual entrepreneurs.

As a result, to a greater extent in 2009, we have stabilized the situation on the labor market.

Maximum number of the unemployed was recorded on May 18, 2009 – 29.2 thousand people. Since that date, the unemployment rate started to fall. As a result, on December 31, 2009 the lowest number of unemployed citizens for the last 9 months – 24.2 thousand people – was marked. The unemployment rate on an annualized basis was retained within 3.7% (target – 3.9%).

In 2009, more than 3 thousand workers being at risk of dismissal were sent to training and retraining on demanded specialties. The number of employed in temporary jobs and employed on public works amounted to 54.3 thousand people. Assistance to 1.63 thousand unemployed citizens to develop small businesses was rendered.

The knowledge and ability to apply the full range of instruments of government support have allowed us to respond quickly to global challenges in the real sector of the economy.

To maintain economic vitality, we put all possible economic mechanisms, ranging from commodity interventions to provide support to enterprises in a critical situation (where it was necessary to correct errors inefficient management).

Support mechanisms for enterprises of real sector of economy:

1. Trade intervention.
2. Ensuring the formation of state order.
3. Forward purchases of goods and services from companies in the region.

In the absence of sales and revenue at JSC “Ammofos” forward purchases of mineral fertilizers for spring sowing in 2009 were carried. For this purpose the budget found supplementary funds in the amount of 164.5 million roubles.

4. Provision of direct financial assistance (subsidizing part of the costs of acquiring technology, equipment, repair, construction, etc.).

5. Provision of regional state guarantees on loans.

Regional government guarantees on loans of JSC "Corporation Vologdalesprom" are surrendered to start the production of chipboard in the settlement of Vokhtoga, "LDK № 2" Ltd. of holding company "Vologda lumbermen" (Vytegra District) to pay customs duties for technological equipment. As of January 1, 2010 regional government guarantees are provided to 20 organizations totaling 3.5 billion roubles.

6. Promotion the marketing of products.

To support the engineering workers in the framework of preserving and further enhancing the portfolio:

- appeals are sent to the leading automotive plants in Russia, enterprises of the Republic of Belarus, and this year to Kazakhstan;

- agreement on cooperation between the regional government and KAMAZ on the expansion range of buses manufactured by JSC "Vologda Machine-Building Plant" is concluded;

- "Olymp" buses (JSC "Vologda Machine-Building Plant") and trolleybuses "Avangard" (JSC "Trans-Alfa Electro") are included in the list of purchases of vehicles and municipal vehicles (using a federal grant) for state and municipal needs. *In 2009, JSC "Trans-Alfa Electro" won a tender to supply 109 trolleybuses in 12 cities of Russia, in 2010, in particular, they concluded contracts with "Tushino engineering plant" to supply 45 trolleybuses in the amount of 385 million roubles.*

7. Optimization of the tax burden:

- rate for a simplified tax system for taxpayers engaged in socially important sectors (food, light industry, folk handicrafts, public utilities, tour operator activity in the domestic tourism) is minimized (reduced to 5%);

- tax burden on tax payers of a single tax on imputed income is optimized. In 2009, the size of the correction coefficient is reduced in 7 municipalities (in Vashkinskiy, Vologda, Kyrillov, Nikolsk, Syamzha, Sheksna districts and in Cherepovetz);

- tax incentives for investors are saved;

- low regional supplements (only 20%) to the rates of payments for forest resources are kept;

- legal persons are given the opportunity to restructure the debt of the regional taxes levied on them, penalties and fines, formed on 1 April 2009.

8. Support for businesses in a critical situation. First of all, these are Ltd. "Monzensky MLC", JSC "Elektrotehmash".

9. Socio-cultural objects owned by JSC "Severstal" are transferred to the gratuitous use of the Cherepovetz municipality. For this purpose Cherepovetz' budget got a grant in the amount of 123.2 million roubles.

10. Moreover, the crisis has prompted us to action aimed at supporting small businesses. Small business as an institutional sector of the economy fulfills two important functions: a social one being the source of employment growth, and an economic one as it creates a competitive environment.

- In addition to optimizing the tax burden for small and medium businesses rates of rent for the use of regional assets are 30% reduced; the priority forms of business support are implemented: subsidies to own business (grant support), for reimbursement of expenses to pay interest on loans.

During the work of the expert council on the development of small and medium-sized businesses 597 grant applications are reviewed, 158 of them are recommended to the grant (the total amount of 46.3 million roubles).

As part of the direction to compensate for the interest rate on loans of 247 applications submitted for small and medium enterprises 173 projects are approved totaling 34.4 million roubles.

A system of microfinance is developed.

- The mechanism of the Guarantee Fund is launched.

Today we can say with confidence that the measures of financial and material support, reducing the tax burden, as well as eliminating redundant administrative regulation have actually worked.

Overall, our anti-crisis policy was adequate arising challenges. We did not allow to collapse in the real sector, “restrained” food market, reduce the tension on the labor market, keep political and social stability.

Through a combination of measures of state support of the real sector of the economy, the work of the enterprises, as well as changing the situation on the market by the end of 2009 we managed to reduce the backlog committed in the beginning of the year.

Index of industrial production in 2009 compared with 2008, amounted to 87.6% (1 quarter of 2009 – 72.4%).

The level of production in steel industry reached 88% by 2008, in wood processing – 92.2%. There are industries where there is a positive trend. In particular, the chemical industry showed a growth of 6.5% in the textile and clothing industry production increased by 8%.

But it is too early to know rest, we mustn't relax.

There are still enough uncertainties in the global economy.

Export prices for ferrous metals, mineral fertilizers have relatively stabled, but growth is not observed.

At the same time, the situation with the restoration of domestic demand is not encouraging.

The financial system is still not strong enough, credit crunch is additional proof.

We estimate that in 2010 industrial production in the region will grow by 2.5%. However, perhaps we won't come out on the level of 2008.

“During the crisis, Russia has fully felt, what turns a lack of economy diversification, weak domestic financial system, infrastructure constraints, low productivity, waste of resources, ineffective corporate governance”, – said V.V. Putin.

The crisis' development showed that the hard time is not a shock crisis' phase, it is not a piece of recession, but the transition to a growth phase.

In spite of the sharp reduction of the opportunities and the sources of financing we should

continue investment projects' realization and should also develop infrastructure for the new economy's subjects.

Even under hard financial conditions it is necessary to continue strategic projects' realization planned for the regional economic development for years ahead.

It was possible to retain the investment activity in the area.

In many branches even during the crisis the investment activity was not interrupted; the new capacities were placed in operation, the equipment enhancement was carried out.

At JSC “Ammophos”, which is the largest manufacturer of the phosphoric fertilizers, the complex on vitriolic production (the last of the four on this product's manufacturing) has been launched. After reaching its designed capacity (2.7 million tons a year), the enterprise will produce 30% of the Russian sulfuric acid release (9.1 million tons), that determines its indisputable leadership among the Russian manufacturers.

At JSC “Veliky Ustyug plywood manufacturing plant “Innovator” large-format plywood production is carried out.

At JSC Cherepovetz Metallurgical Plant “Severstal” the blast furnace № 1 has been started-up.

In Vologda Ltd. “Nestle Russia” started constructing the factory on producing momentary cooked cereals within brand “Bystrov”. The Company “Ice berry” is realizing the investment project on ice-cream production.

The production expansion is also carried out at the enterprises of agriculture, forestry, commerce, catering and services.

In 2009 within the framework of the investment projects' realization about 3.2 thousand new workplaces were created. The spectrum of the newly-created workplaces is rather wide; it's metallurgy, woodworking, mechanical engineering, textile manufacture, food-processing industry, trade and entertainments sphere (2 persons at Ltd. “Immid” and 700 persons at the Company “Ice berry”).

Realizing, that the prospect of the investment partnership exists only in a highly organized territory, we systematically carry out the work on the infrastructure gaining information. Not only engineering, transport, and information infrastructures, but also public health services, education, culture, social policy, and administrative infrastructure are included here.

The construction of the road infrastructure's objects continues (in 2009 25 km of motorways and 3 bridges were placed in operation, 37 km of motorways and 2 bridges were repaired.). The works on reconstruction and major overhaul of the Volga-Baltic hydraulic engineering constructions are being carried out. Power engineering projects (the construction of the fourth largest power generating unit at the Cherepovetz state district power station, the combined-cycle plant in the regional center, and gas-turbine heat-and-power plant in Veliky Ustyug Region) are realized. The advanced telecommunication technologies and services are actively put into practice in the area (the multi-service network with IP-telephony application, service of the wideband access to "Internet", the radio access systems). Municipal economy objects (water pipes, boilers were also placed in operation (from the end of 2008 8 gas boilers were placed in operation).

Budgetary constraints in 2009 did not prevent the completion of schools', kindergartens', medical institutions' and sporting facilities' construction; and co-financing of the constructions of the educational and rescue center "Vytegra" of the Russian Emergency Ministry.

The creation of the industrial parks and economic clusters is a perspective form of interaction among business and authorities aimed at the increasing investment attractiveness of the area.

For this reason one of the priority regional investment projects is the development of the industrial park "Sheksna". The infrastructural satiation of the territory here is carried out at full speed.

Geological and hydrological engineering researches of the territory were carried out,

some part of the grounds (400 hectares) became the industrial grounds, the road to the industrial park was constructed and the in-territory roads are under construction; the waterpipe of drinkable water, the linear part of the technical waterpipe, the household water drain and the gas pipeline were constructed.

The construction of the railway branch line with the attraction of the credit resources of the Russian Bank of Development is carried out. The start-up of the railway is planned to be carried out in 2010.

For the new consumers' steady work in the town of Sheksna it is planned to construct gas piston heat and power plant with the electric capacity of 40 MWt and thermal capacity of 21 Hcal.

As a result, the hi-tech companies become the park's residents. In May of the current year putting into operation the factory on the roll-formed welded shape production by the Close Corporation "Severstal Pipe-Profile Plant – Sheksna" is planned.

The similar design decision is planned to be realized within the framework of the industrial park "Sokol" creation in the town of Sokol on the basis of both grocery and technological diversity. It is priority for the decision of the enhancement matters of the mono-profile cities' economy.

The uniqueness of the new industrial park's territorial arrangement is that in Sokol three important transport arteries converge: the Northern Railway, the water-way (river Sukhona), the federal highway Moscow – Archangelsk. The river transport of the river Sukhona has the outlet to the sea through the lock system of in the Volga-Baltic and Severodvinsk systems leading to the ports of the five seas. Air lines' availability can be measured by a half-hour distance. There are railway terminals and gas mains.

The industrial park's platform makes about 200 ha. The distance from the platform to the ways makes about 110 m; engineering networks and communications are situated within the limits of 1.1 km.

The first resident of the park will be a factory for the production of oriented strand board (OSB). The proposals for placement of a modular housing factory, production of soft roofing materials, insulation and furniture are under study now.

An industrial park along with the cluster approach (in the town of Sokol there are two interrelated powerful clusters being formed – the forest cluster and low-rise industrial wooden housing cluster) are an effective mechanisms to increase investment activity and economic development of the town – an increase in employment, wages, tax revenue in local budgets, rise of resistance and competitiveness of industrial production.

In this regard, future development of the region focuses on the projects of large modern pulp and paper and other wood processing industries.

On the industrial site of JSC “Sokol Pulp and Paper Mill” a large country project “Vologda paper manufactory” is being prepared for implementing. Over the past 25 years there was no such project in Russia. It provides for issue of import-substituting high-quality coated printing papers (lightly coated and coated lined).

At JSC “Sokol Woodworking Mill” (“Sokol-sky DOK”) there have launched the modernization projects connected with increasing capacity for the housing production (houses made of laminated veneer lumber – up to 85,000 sq. m per year; modular homes – up to 75,000 sq. m per year).

The modernization project at JSC “Sukhonsky PPM” (reconstruction of the existing paper production and recovery of cellulose cooking) has started. The volume of production – 150 thousand tons of container board annually, 120 tons of pulp for cooking annually.

And I can say with certainty that without these projects the region will remain depending on the results of the metallurgical and chemical industries.

It was their realization that will give a stimulus to the development of mechanical wood processing, as well as provide a multiplier effect on the development of related industries.

In addition, they will contribute to the saturating of domestic market with import-substituting paper and wood-based panel products and to their exporting to Europe, and as for the trade balance of the Russian Federation they will also replace export of unprocessed timber by highly competitive and highly efficient products of deep processing.

In 2010, we'll continue implementation of measures to support and develop small businesses.

The emphasis of government support for small business is shifted to providing subsidies to offset of the interest rate on credit. If in 2009 the maximum amount of subsidy was 400 thousand, but this year its size increases to 800 thousand roubles. Under such circumstances, the borrower can get almost 12 million roubles.

And besides, if last year we staked on preserving jobs and creating new ones in small business, this year the priority is to support business in the innovation sector, in the manufacturing sector and in the services sector.

Our focus for the near term will remain on improving energy efficiency of the regional economy. Namely, reducing the unit cost of production and use of energy resources due to rationalization of their consumption, use of energy-efficient technologies and equipment, reducing the loss of production of fuel and energy complex.

Behavioral patterns “do it as everybody does it” that is virtually “do nothing to save power”, are prevalent so much because they deliver from both information retrieval and making one's own decisions.

In this regard, in the matters of energy saving and increase in energy efficiency we need to organize a strong relationship with the business community as well as to set the human factor in motion, providing information and educational support for our ongoing activities at all levels.

We have taken the first steps in this direction.

We have established Coordinating Council and the six working groups on the energy saving projects, designated by the Ministry of Economic Development of the RF:

1. “Count, save and pay” – implies a massive installation of meters and control electricity, which will enable to use energy economically and pay less.

2. “New World” – provides for the replacement of incandescent light bulbs with more energy-efficient lighting devices and the development of national production in this area.

3. “Energy efficient quarter” – the modernization of entire neighborhoods and towns and replication of their experience throughout the country in future period.

4. “Energy-efficient social sector” – project aims at creating, i.e. the use of energy efficient technologies in public institutions, primarily in clinics, schools and hospitals.

5. “Low energy complex” – includes the production and introduction of energy efficient equipment for the local power sector (this is the replacement of inefficient old technologies with new heating small objects, using the gas turbines).

6. “Innovative Energy Sector” – the implementation of breakthrough projects related to superconductivity, as well as to the use of biofuels.

And we understand that only a consistent and purposeful work can lead to concrete results:

- more efficient use of energy resources;
- development of energy saving in the municipal sector;
- reducing the negative impact of energy on the environment;
- creating conditions for attracting investment in order to introduce energy-saving technologies in the region.

One of the projects implemented in our region can become a United Nations Development Program and the Global Environment Facility (UNDP/GEF) to improve the energy efficiency of buildings in the North-West Russia.

Based on the preliminary agreement, there has determined an experimental ground of the project – low-rise buildings in the village Nifantovo, Sheksna district in area of 50 hectares with the use of new construction energy efficient technologies.

Co-financing of UNDP/GEF project in the period from 2011 to 2015 from the region within developing long-term target program “Energy saving in the Vologda region” is planned in the amount of 120 million roubles (including opportunities for profitable part of the regional budget for the financial year).

Funds from the regional budget will be directed at infrastructure development in the design and construction of energy-efficient district in the settlement of Nifantovo.

In general, except for the negative effects any crisis had some positive moments. The so-called “natural selection” takes place on the economic market. Only the most viable companies with strong policy management are afloat. Uncompetitive companies leave the market. In addition, a general economic recovery takes place, and our domestic producers move to the forefront.

In conclusion, I’d like to note that the crisis sweeps the worst participants out of the market as well as it allows the average participants to improve themselves and the best ones to take higher position and the latter is much more important. The crisis is almost inevitably followed by growth: we all become more cautious, smarter and more economical.

Research of the prerequisites for setting and implementing strategic objectives of Northern cities' sustainable development

In the article the significance and current preconditions for sustainable development of the Russian Northern cities are considered and analyzed. Necessity of strategic management methods use for achievement of sustainable development goals by the towns is proved.

Sustainable development, Northern cities, strategic management.



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The significance of the transition to sustainable development of the Russian northern cities is that they support and form the growing points for vast northern territories (which are more than 60% of the country's area), providing the presence as well as its economic connectivity and the living conditions of small settlements and 10.5 million people or 7.4% of the country's population.

For more than 20 years the sustainable development concept is considered worldwide as both the object of scientific research and the target for practical actions on the national, regional and local levels. The first important step in transferring the idea of sustainable development to the field of concrete international obligations and national plans was United Nations Conference on Environment and Development in Rio de Janeiro in 1992, with "Agendum for the XXI century" having been among adopted official documents. The next important step was the trying to understand the problems of sustainable development on the level of towns and settlements as well as acceptance and realization of "Local agenda for the XXI century".

In 1996 "The concept of the Russian Federation transition to sustainable development"

by the government was adopted in Russia. However, in spite of some positive examples, up to date we can't observe wide movement to realize the principles of sustainable development in our country especially on the local level. Meanwhile in the world theory and practice of realization of the principles of sustainable development it is admitted that it is the local level especially the city level that is "the centers of realization of the principles of sustainable development, and the strategic management is the major technology of their implementation" [1].

We'll try to find out why the practice of acceptance and realization of "Local agenda for the XXI century" didn't become widespread in the majority of the Russian cities including (and perhaps even most of all) in the Extreme North cities. By "Local agenda for the XXI century" we mean those documents where the ideas and principles of sustainable development obtain the concrete plan of actions on the basis of proper long-term strategies.

First of all we'll define the notion of sustainable development in respect to the urban settlements. Summarizing the generally recognized principles of sustainable development accord-

ing to the concept of UN Conference in Rio de Janeiro and the approaches of contemporary researchers of urban development problems [2, p. 34–35], the following definition can be given: *the town's sustainable development is its balanced development under the conditions of associating and conciliation of the interests of different social groups, management agents functioning in town and ensuring the balance of triad "population – economy – nature" which implies the unity of the following principles: social justice, economic efficiency and environmental safety to satisfy the needs of present and future generations of town's population.*

It should be admitted that it's impossible to ensure such sort of development completely and for a long time. It's possible to speak only about aspiration and approaching to the mentioned balance which is the main point of sustainable development. It's a long-run regular process demanding deep insight by all strata of the population, complex solution of political, economic, social and environmental tasks as well as account taken of institutional factors.

To analyze the current preconditions for setting and attaining the strategic aims of sustainable development of the North towns we'll make use of the results of research done with the participation of the author in October and November, 2009 within the framework of drafting of the report on Institute of Economic Problems of Kola scientific centre RAS behalf for the XXIX congress of Towns' Union (the towns situated within the Polar circle and in the Extreme North) on demand of the Union President. The information basis was the data given by 30 towns and municipal districts which are the members of the Union, i.e. 56.6% out of their total number. The information included the system of social and economic development indicators over the period of 2006 – the first half of 2009 (we requested the indicators describing the change of works volume by the principal kinds of economic activity, investment behaviour, migratory movement of population, employment and unemployment, small business development, standard of living, municipal

budget condition) as well as the questionnaire containing the questions addressed to the town executive and touching on the urgent condition issues, the main problems and the town's development potential.

The analysis of economy condition in the northern towns by the indicators of industrial production, construction works content and investments showed that in most towns the situation was characterized by the extreme instability, with the considerable variations in growth (decline) having been already observed in the period of 2006 – 2008. As for the indicators of the first half of 2009, under the influence of the world financial and economic crisis the absolute majority of the towns under review (93%) had negative dynamics of all or some certain economic indicators.

The small business development is of special urgency for the economy of the northern towns, many of them have one main line of business. Judging by the indices of portion of the people working at small-scale enterprises in the total number of employed population and the portion of individual entrepreneurs, there are both leaders (the towns where these indices are much more than the average indices over Russia¹) and outsiders (the towns where the role of small business is not considerable²) among the northern towns. On the whole 45% municipalities have the indices of portion of the workers employed in small business higher than the Russian average level or close to it. More than half of the examined sample of towns is behind the average values of respective indices over the country. The analysis also showed that if the number of people engaged in small business was increasing till 2008 in most towns, in 2009 this tendency changed into decline, it was obviously connected with negative influence of the crisis.

¹ For example, Severobaykalsk, where the portion of the workers engaged in small-scale enterprises in 2008 was 33.8% and including the individual entrepreneurs 40.8%, the respective indices on the average were 13.5% and 18.5% over the country.

² For example, Dudinka, where the values of respective indices were 3.3 and 11.4%, and Norilsk – 4.2 and 7.6%.

The index of average wage and living wage ratio is analyzed to estimate the population's income level. The actual values of this index represented by towns and municipal districts have great differentiation. However in most cases they don't ensure the level which is true to the "threshold value" of the sustainable development indices, i.e. of the extreme critical values. Omission to observe these values leads to the destructive tendencies in social, economic and ecological spheres of the territory, and it threatens its sustainable development [3, p. 19]. In view of the world experience it is considered that such threshold (extreme critical) value of average wage and living wage ratio is 4:1, and the ratio must be higher (i.e. no less than 5:1) in the Extreme North regions where it is necessary to provide the workers with economic living advantages in the North to compensate the hard natural-and-climatic conditions. In fact in 2008 this threshold was exceeded only in three towns out of the examined towns (10%), while in five northern towns (including the town of Apatity) the average wage was no more than by three times higher than the living wage, i.e. the excess was much lower than the extreme critical value.

As for the migratory movement the analysis showed that only in two towns (i.e. less than 10% out of the examined towns) the sustainable migratory increase is observed over the last three years, and in the rest of the towns the migratory decrease is prevalent. This fact worsens the preconditions to solve the tasks of sustainable development of these towns in the near future in view of the great share of young people among the out-migrants and the lack of effective mechanisms of involvement of young experts in work in the Northern regions.

Estimate of the budget indices shows the instability of the financial situation on the municipal level and the situation has worsened under the crisis. According to the results of the year of 2008 55% municipalities executed the budget at deficit and in the first half of 2009 their share has grown still more. In the majority of examined towns (58%) the level of their

own income doesn't come up to 50% out of the aggregate income, and it indicates that their budgets depend on inter-budgetary transfers greatly.

Thus, the analysis of statistical indices of the northern towns and municipal districts revealed the following typical problems: weakness of resource and budget basis, ongoing migrate decrease of population, relatively low level of population's income, poor development of small business, and on the whole these things worsen the preconditions of their sustainable development greatly.

Along with the quantitative characteristics it's interesting to know the results of the survey which was carried out within the framework of the above-mentioned research. The heads of urban settlements were polled by questionnaire which included 8 questions, it was necessary to choose the answer from the variants suggested in four questions (closed question) and to state one's own answer in the rest of the questions (open-ended question).

Since the research purpose was to estimate the condition of the northern municipalities under the conditions of crisis and running anti-crisis measures, so the most questions were oriented to the revealing of the given aspects. Nevertheless the questionnaire has three general questions which were not connected with the worldwide crisis directly. In particular the heads of towns and municipal districts were suggested to name 2-3 current problems in town (district). Altogether the questionnaire included 73 various problem formulations, we classified them in 5 groups:

- housing and communal services problems (the share of this group was 40% out of the total number of answers);
- lack of financial resources and budget income (22%);
- economics problems (20%);
- organizational and institutional problems (10%);
- employment problems (8%).

As is obvious that the housing and communal services problems take priority over the

most acute problems in towns and municipal districts. It is the sphere that determines the settlement's life support, the latter is chiefly the duty of local bodies of self-government and it's extremely hard to accomplish this duty under the conditions of severe resource limits.

The second open-ended question was the following: *“What high priority measures must be assumed to get over or to lower the topicality of the mentioned problems on the level:*

- a) of the regional authority,*
- b) of the federal authority?”*

All measures suggested by the heads of municipalities and expected from the regional authority (in sum there were 35 variants) were classified in 3 groups: measures to support entrepreneurship, employment and social policy (38%); measures to support housing and communal services (31%); measures to improve the budgetary process, to strengthen the economic basis of municipalities (31%).

The regional authorities give the priority of activities to the measures of state support of economy and social sphere of the northern towns and districts as well as the measures to improve the legislative regulation and first of all the taxation-and-budgetary sphere in order to strengthen the revenue basis of local budgets.

One of the state support directions having been mentioned most frequently was the support of mono-towns and enterprises forming a company town, their problems are of special importance under the conditions of the Extreme North.

The last question to the head was the following: define the group your town belongs to:

- “towns having the favourable preconditions for intensive development, attractive to investments”;
- “towns requiring the conversion of the economic basis, its diversification“;
- “depressed towns with lack of favourable preconditions for intensive development, unattractive to investments”.

The most of respondents (64%) referred his or her settlement to the first type, and 36% - to the second type. There were no heads who

describe his or her town or district as depressed ones. This indicates that on the one hand it's possible to keep high potential and possibilities for further development in the northern towns. On the other hand it shows rather high share of towns requiring the conversion of the economic basis. Therefore, there is ambiguity about the condition of the northern towns. Besides the acute social and economic problems and resource limitations that are aggravated by the crisis's negative effect especially in the mono-towns, many northern towns keep the potential for setting and realizing the aims of transition to sustainable development. At the same time more than a third of the examined towns demand for serious conversion of the economic basis, diversification, emergency measures to solve the acute social problems.

Thus, summarizing the results of analysis of the northern towns' condition it can be stated that for most of them solving of the tasks of current survival is still more urgent than setting and sequential realizing the long-term aims of sustainable development and forming the proper strategies based on the principles of “Local agenda for the XXI century”. To get over the existing problems and to create the conditions for their sustainable social-and-economic development it's necessary to take both some special state support measures and living activities of the municipalities themselves. The state measures must include, firstly, the measures to improve the legislative support for local self-government activity and first of all along the line of increasing the revenue basis of local budgets in order to form the preconditions for their transition to sustainable development and to realize the self-development principles. Secondly, it's necessary to make steps of direct support for many municipalities of the Extreme North and the Arctic, first of all for the mono-towns because these towns found themselves in serious trouble under the crisis.

The federal authorities take some certain steps towards the mentioned directions, however they are not enough. For example, the Department of Regional Development of the RF has paid more

attention to the problems of the mono-towns recently. The criteria of such status have been worked out and on the basis of these criteria the list of the mono-towns has been made. The list contains 335 settlements (including 223 places with more than 10 thousand people). The decision about the necessity to work out the strategic plan documents by such towns has been adopted. The documents represent the complex plans of social-and-economic development for the period of 5 – 10 years, after the examination of these documents it is possible to adopt the decision about the financial support for investment projects which are provided for by these documents and realized by the federal agencies. It has been found that the structure and content of the complex plans must meet the uniform requirements, and the appropriate examination procedures were planned to start since January, 2010. But as of the end of February, 2010 the appropriate instructional lines and requirements to the complex plans of development of the mono-towns wasn't approved.

It should be noticed that concerning the content of the given plan document the draft instructional lines make such demands that it's hard to fulfill in most municipalities without any assistance (i.e. without highly skilled specialists). If the draft document is approved as it is, the possibility to get federal support for many mono-towns will be limited artificially. It means that the approaches to the problems of mono-towns will hardly make it possible to solve these problems in the majority of such towns in spite of heightened attention to them. That's why it's necessary to take more drastic measures to create the conditions for all municipalities including the northern towns of Russia. These conditions make it possible not only to solve the current issues of survival but also to set and to solve the strategic tasks of sustainable development.

If we consider the necessary actions of local self-government bodies themselves to develop their settlements, the world and the best domestic experience shows that the best results are obtained by using the technology of strategic planning and management.

For the first time the problems of strategic management became the object of serious researches in respect to the objectives of corporate management in 1960-s. The strategic approach to management became the technology synthesis, i.e. the most successfully established management technologies (system approach to management activity, program-and-target approach, functional approach, applied aspects of problem-solving theory etc.). Globalization of economy, reinforcement of the international competition, complication of the mechanisms of the territorial social-and-economic systems management caused the necessity to use the strategic management methods at the state, regional and municipal levels.

The main characteristics of the strategic approach to management at the municipal level are represented in the *table* (in comparison with the similar characteristics of the traditional (situational and others) management models).

At present about one third of the towns of Russia has their own social-and-economic strategy and applies the elements of strategic management. Strategic management is directed to arrangement of conditions for town's sustainable development in adapting to the requirements of the open international competitive market. It encourages the forming of active local communities which are called to define the goals and priority directions of development under present-day conditions.

The use of methods and technologies of strategic management is of much urgency for the northern towns of Russia. It is caused by the need to get over many existing development problems and negative tendencies which became aggravated under the influence of worldwide financial crisis especially in mono-towns. At the same time the analysis shows that there is lack of necessary preconditions for efficient use of the strategic management methods in most towns of the North. One of the causes is shortcomings of external intutional conditions (chiefly because of normative legal regulation and policy of the federal authorities that don't provide the local self-government bodies with

Comparative description of the approaches to the municipal management [4]

Non-strategic approach	Strategic approach
Priority of short-term goals	Priority of long-term goals
Emphasis on distribution of available material resources	Emphasis on organizational planning as method of organizational resource gain
Mobilization type of use of resources	Planning type of use of resources
Emphasis on situational decision solving	Emphasis on coordinated planning
Departmental type of management structure	Programme and-functional type of management structure
Tasks orientation	Problems orientation
Severe administrative hierarchy	Subsidiary liability, equality and cooperation
Separate solution of the issues of functioning and development	Joint, agreed solution of the issues of functioning and development
Bearing on administrative (compulsory) levers of power	Bearing on authority and power influence
Subordination	Understanding
Civil communities hands off when solving the local issues	Civil communities hands on when solving the local issues
Closed activity of local authorities	Open (public) activity of local authorities
Socio-corporate character of decision-making	Normative legal character of decision-making

real economic independence). Another cause is that the local self-government bodies often are not ready to use the strategic management methods (because they haven't enough proper knowledge and experience). So there must be some special measures of state support and active actions of municipal authorities in order to put the strategic management methods into practice. The state measures must include, firstly, the measures to improve the legislative support for local self-government activity and first of all along the line of increasing the revenue basis of local budgets in order to form the preconditions for their transition to sustainable development and to realize the self-development principles as well as to include the strategic planning and management issues in the list of issues of local importance in Federal

Law №131 that makes no provision for them for the present. Secondly, it's necessary to make steps of direct support for many municipalities of the Extreme North and the Arctic, first of all for the mono-towns because these towns find themselves in serious trouble under the crisis.

In conclusion it should be emphasized that the strategic management makes progress provided the strategic plans are made not to fulfill the "requirements from above" formally but they must be real documents of social compliance and the process of their working out and realization provides for participation of representatives of all strata and groups of local community. It ensures the finding of the best ways to coordinate the interests and that is the most important condition of sustainable development.

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REGIONAL ECONOMY

Problems of energy base development and energy security

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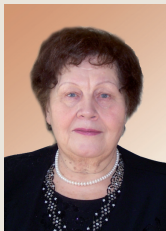
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Economic and social changes in Russia's coal industry during the crisis

In this article the features of the global economic crisis' influence in its sharp phase (the 4th quarter of 2008 and the first half of 2009) on Russia's coal industry are considered. It is shown, that its restructuring in 1994 – 2007 allowed to alleviate the global crisis' influence. Major factors of the crisis' negative influence and basic anti-recessionary actions are formulated. Attributes of the branch's outlet from the crisis are designated. Opportunities and prospects of the coal-mining industry's development are appreciated within the framework of Russia's Power Strategy till 2030 and necessity of the transition from the fuel circuit of development to the coal-mining industry's diversity on the basis of the state innovational policy is shown.

Economic crisis, production changes, innovational development, social and economic problems.



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The world economic crisis which began in 2008, affected all spheres of social and economic activity in Russia. The volume of gross national product reduced, the rate of unemployment increased, the realization of almost

all large-scale investment programs (except for social ones) stopped, the inflation grew, etc. The great scale of the crisis was especially caused by such factors, as the raw branches' dependence on export, the financial and banking system's

weak sides, the unsolved problems in the field of the industrial and the agrarian policy.

The first impact of the crisis was assumed by the export-orientated branches, including the coal industry because of the sharp reduction in demand for the ferrous metallurgy production and, accordingly, for the coking coal.

Re-structuring is the crisis' damper for the coal branch

As a result of the coal industry's re-structuring in 1994 – 2007, unprofitable mines were closed, the number of employees was considerably reduced, technological modernization of the basic mine and open pit facilities was carried out. The coal branch became the effective sector of the market economy. Here significant institutional changes took place; the most part of the coal-mining enterprises' assets was passed to the financial groups, metallurgical and coal-power holdings. Nowadays practically 100% of the coal-mining enterprises are in the private property or in the stock ownership. Five large-scale holdings on extraction, processing and sale of coal were generated; basically it corresponds to the world's practice. In 2008 their share made 75% of the power coal extraction and 66% of the coking coal extraction. The organizational and industrial structure of the coal branch essentially changed due to the non-profile actives' leading-out to outsourcing.

In this connection we can note, that the companies' refusal from the significant part of the subsidiary and attendant productions became characteristic for the heavy industry as a whole. The mentioned process is the reaction to the mistakes of the previous years when the large-scale enterprises aspired to practically absolute technical and economic autonomy. For example, in the structure of the machine-building factories there was metallurgical production, manufacturing of control equipment, repairing, heat power and transport workshops. The same situation was in the coal industry; its basic enterprises acquired repairing and sawing factories, building and electro-power sub-units. All social and agricultural infrastructures were the part of plant and combines management.

It showed the low level of the social division of labor, but that level was also caused by the Russia's geographical features, which led to economic remoteness of the potential participants of the technological and economic cooperation. The problem of the new organization of those manufactures which were considered subsidiary and attendant earlier, nowadays has become rather actual. Their registration as independent managing subjects can be carried out owing to the regional features, for example, with a partial leading-out from the Pechora and the Southern-Yakut coal basins or, on the contrary, with the total allocation on the territories of Kuznetsk and Kansk-Achinsky basins.

At the end of 2008, after re-structuring, 231 coal-mining enterprises, including 138 open-pit mines and 93 mines with the total capacity of 376 million tons a year, 48 concentrating factories and installations with the mechanized rock excerpction with the total capacity of 120 million tons a year functioned. The share of the basic Russia's basins in the coal mining is submitted in *figure 1*.

The enterprises of the basins specified in *figure 1*, have a rather reliable prospects of the development. Other enterprises (the Ural, the Moscow Area's and the Donetsk basins), providing 5% of the total extraction, work in the fading mode. From 1999, and up to 2008 (basically due to Kuzbass) the volume of the extraction annually grew for 15% on the average. In 2008 the volume of the coal mining in Russia made 328.8 million tons; the share of the open-pit mining made 68% (*tab. 1*).

It is necessary to note, that at the first stage (till 2000) not all the basins could cope with the basic problems of re-structuring. So, in the Pechora basin modernization and solution of the social and economic problems caused by the market relations began only with the appearance of such a large-scale proprietor as Public Corporation "Severstal" in the mid-2003.

So, after Russia's coal branch re-structuring the latter achieved positive results: stable country and export providing with coal began; the

Figure 1. The share of the basic Russia's basins in the coal mining in 2008 [1]

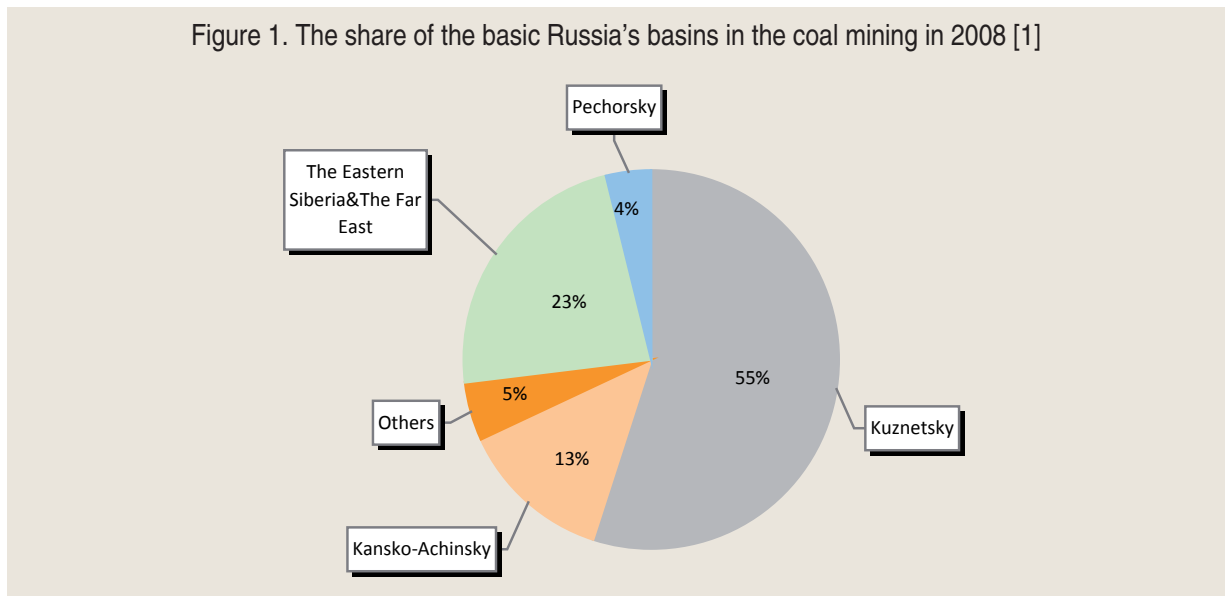


Table 1. Coal production and preparation in Russia, million tons [1, 2]

Indicators	2005	2006	2007	2008	6 months 2008	6 months 2009
Coal production, total Including:	299.8	310.0	314.1	328.8	161.3	137.6
– coal used for coking	69.9	70.5	72.9	68.7	36.9	26.5
– coal used for energy	229.9	239.5	241.2	260.1	124.4	111.1
Of the total production volume of prepared coal	91.8	98.7	114	110.4	58.8	49.6

basic parameters of the coal mining in 2008 improved in comparison with 2005 (among them the growth of the average daily loading of the functioning clearing bottom-hole in 1.34 times, and the integrated mechanized bottom-hole in 1.36 times); integrated mechanized bottom-holes' quantity reduction for 9% (fig. 2, 3); the labor productivity growth for 18%; the coal sector's personnel reduction for 7% (fig. 4); the export growth in 1.2 times (fig. 5).

All the mentioned factors, and also the partial resettlement of the northern coal monocities' population, softened the global crisis' influence on Russia's coal branch.

Crisis' influence on Russia's coal sector

The comparison of the coal industry's data for the first half-year 2008 and the similar period of 2009 reflects the following processes:

1. *Reduction in demand* for the coking coal (in connection with the world reduction of

Figure 2. The average daily loading dynamics of the functioning clearing bottom-hole [1, 2]

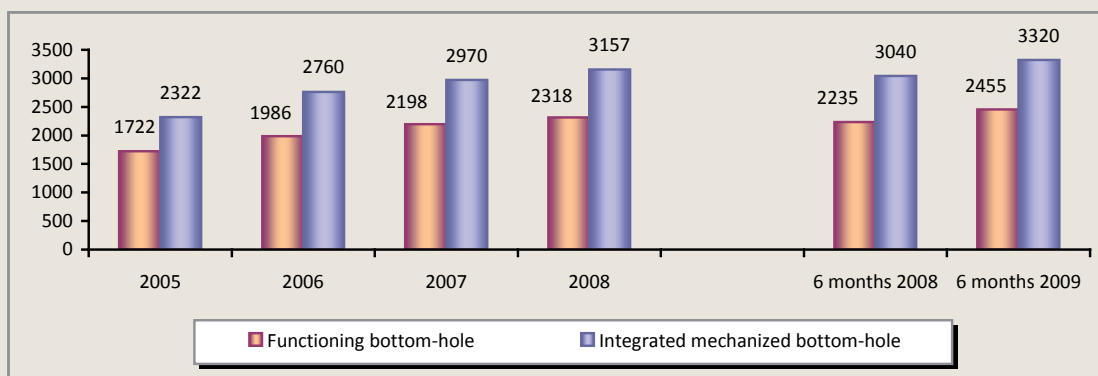


Figure 3. Dynamics of the workers' labor productivity in extraction and average functioning quantity of the integrated mechanized bottom-holes, tons [1, 2]

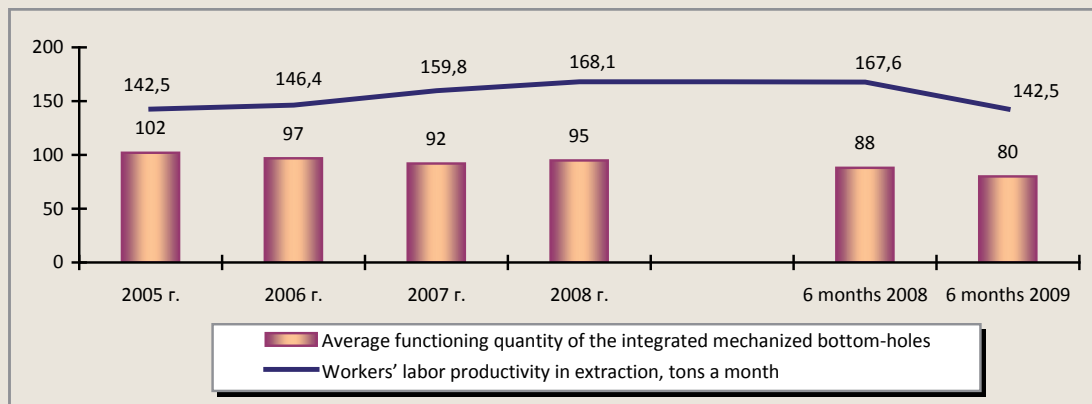


Figure 4. The coal sector's personnel dynamics and the monthly average workers' salary dynamics [1, 2]

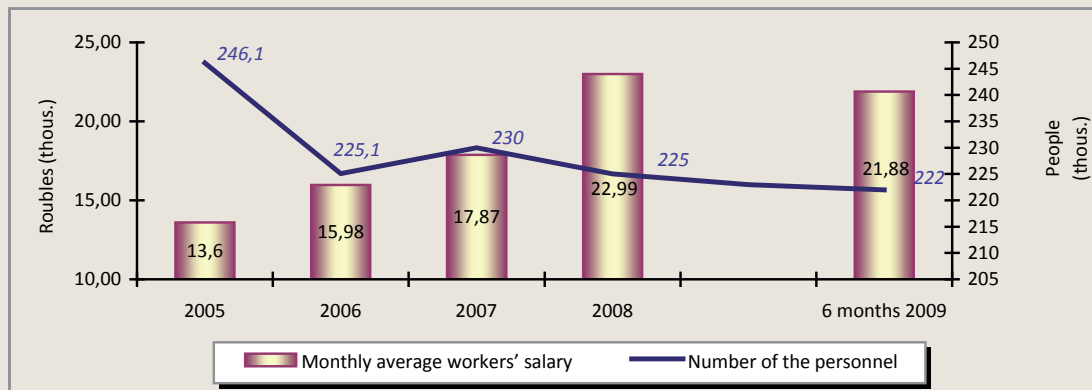


Figure 5. Russia's coal export and import dynamics [1, 2]



the steel production for 30%) in the second half-year of 2008 led to its extraction falling for 28.2% in Russia in the first half-year 2009 [3].

First of all, the crisis influenced independent coal enterprises. So, the mine "Raspadskaya" (the largest coking coal producer) in

November and December, 2008 delivered twice less coal, than in October of the same year (150th ton. of the concentrate against 650th ton. [4]). Subsequently coal-and-metallurgical holdings could not resist the crisis. For example, in 2008 a vertically integrated company “Severstal” refused many suppliers of coal for the benefit of Vorkuta and by that held its positions for a while. But in the first quarter of 2009 the situation with steel selling by the Cherepovetz metal plant worsened so much that the company “Vorkutaugol” had to reduce the concentrate production for 36%.

In the first half-year of the year 2009 in comparison with the first half-year of 2008 the coal extraction in Russia was reduced for 14.7%, including the coking coal extraction for 28.2%, and the power coal extraction for 10.7%. The number of the personnel by virtue of the companies' social obligations decreased less, than for 3%. Accordingly, the labor productivity in extraction decreased approximately for 15%.

The necessity of the optimization of the personnel number employed in the coal sector of Russia's economy, is not only caused by the crisis, but also by the general process within this branch. We believe the personnel number reduction for 10% in the coal industry in 2005 – 2009 to be quite natural.

2. *Export preservation and import reduction of coal.* Russia ranks fifth in the world in coal export, and it ranks third in power coal export. The share of coal export makes 33% of the total coal extraction in Russia. Its main part (95%) falls to the share of the power coal which is delivered from Siberia. In general coal export reduced less than for 4%.

Some reduction in coal export was caused by the fixed custom duties which don't depend on the prices' change in the world market. But the railroad rates are a real problem. So, in the coal price pattern in Russia the share of the railway services reaches 40% and tends to increase. Such circumstance reduces competitive advantages of the Russian coal exporters.

As for coal import during the crisis its reduction is quite normal for the country with

the prevailing coal industry. To support the enterprises, Russia had to reduce coal import for 45%. The basic volume of the imported coal (more than 70 million ton.) was delivered from Kazakhstan for the Ural power stations. In Sverdlovsk area Reftinskaya (about 10 million tons), Verhnetagilskaya and Serovskaya (1.5 million ton. each), Nizhneturyinskaya and Krasnogorskaya (0.5 million ton. each) state power stations completely operate due to Kazakhstan coal. These and other stations owing to the crisis situation began to consume more coal from Kuznetsk, Sverdlovsk and Chelyabinsk.

3. *A great drop in prices.* In the beginning of 2009 Russia's coal industry for the first time since 2001 became unprofitable. The drop in production in the first quarter of 2009 made 17.5%; the drop in the coal consumption by the Russian power-men made 28%. It led to the great drop in prices and to the deterioration of the coal-mining companies' financial position. The price for the coking coal decreased more than twice (from 6th roub. to 1.5th roub. for a ton.), that appeared to be lower than its prime cost (for example, at the mines in Prokopyevsk, Kiselyovsk, Anzhero-Sudzhensk the prime cost makes 2.2 – 2.6th roub. for a ton.). It led to the situation that the part of the enterprises became unprofitable and they should be closed. For 1st of December 2009 the total amount of the coal-mining enterprises decreased to 188 units including 77 mines and 111 open-pit mines. Proprietors consider the “dry preservation” of the liquidated enterprises as one of the ways out from the crisis situation. But it is necessary to take into account that the open-cast mines can be stopped for some time, but the mines undergo bankruptcy, besides they are not included into the program of re-structuring.

According to the data of the “Bank of Moscow”, the price increase for the coking coal in the Russian market becomes possible after the coal mining capacities' increase to 75 – 90% (first of all at more effective enterprises). The increase of the capacities is practically inevitable by the end of 2009. In the optimistic

scenario it will take place due to the growth of the internal and the external demand, in the pessimistic one it will happen due to the full inefficient manufacturers' leaving the market.

Great drop in prices for natural gas in the Russian market (from 2.2th roub. in 2008 to 870 roub. in 2009 for 1 m³) also affected the decrease of coal competitiveness. This long-standing problem of the choice among the production sources of electricity and heat with the use of gas or coal in connection with the crisis was appreciably aggravated, as the low prices for gas constrain the development of coal power. Gas is also used inefficiently. Very often it is burnt at power stations and at boiler-houses without processing that deprives gas chemistry with a raw-material base. Therefore the policy of the price proportions' change is correct: in 2006 in recalculation for the relative fuel the prices' ratio "coal – gas" made 1:1; in 2010 it is expected to be 1:1.4-1.6; in 2020 it can make 1:2. At such ratio coal as fuel becomes much more preferable.

4. *Reduction of the modernization programs.* Dynamics of the exchange rates during the crisis first of all affected the cost of the production modernization programs realized by the companies as the most part of the equipment is imported from abroad. Investment projects realized within the branch are financed for 40% due to own means. Foreign investors' leaving from the Russian market "has frozen" almost a half of the coal enterprises' modernization programs and the development of new coal-fields.

5. *Transport tariffs' increase.* One of the key branch limiters is the transport infrastructure's insufficient development that is aggravated with huge distances. The average distance from the Kuzbass deposits to the ports of the Baltic and the Black seas makes 4,500 – 5,000 km, to the eastern ports it makes 6,000 km. Yakutia coal enterprises are in more favorable position (2,500 km from the Far East ports). Insufficient throughput of the transport network (railways, ports, etc.) and logistical costs of almost 40 % from the final coal price are constant restrictions of the coal branch development. For

this reason in May and July of 2008 when the prices and demand for coal were still high, in the coal-mining companies' warehouses it was accumulated about 14 million ton. of coal, that 3 times exceeded the rules of its reserve.

The decrease of the internal demand for coal during the crisis made coal traders to increase coal deliveries abroad. Additional volumes of coal caused the railway traffic congestion at the Western-Siberian track, and the increase of the coal daily deliveries to the Far East ports exceeded the existing capacities of the processing cargoes in 1.5 times. Yet the main problem of the coal export is high railroad rates that reduce competitive advantages of the Russian coal exporters. Freight expenses of the foreign companies also make about 40%, but during the crisis they considerably decreased.

Measures on overcoming the crisis by the coal industry

Production volumes' decrease is the basic anti-recessionary measure realized in the world coal industry nowadays. According to the experts' opinion, in 2009 coal mining will be reduced to 10% or 15% in the world and, probably, to 20% in Russia, because of the difficulty of the Russian companies' joining foreign markets. In the conditions of reduction of the internal demand for the coking coal only *the increase in export* can support independent coal-mining enterprises. The number of independent companies, the leaders of the previous years, turned out to be in a difficult position such as Public Corporation "Raspadskaya" (for 8 months of 2009 the extraction volume made 82.6% from the level of 8 months of 2008), Public Corporation "Southern Kuzbass" (53.8%), Public Corporation "Yakutugol" (38.3%).

These enterprises had to search *for the new markets* in the countries of the NorthEast Asia. In the second quarter of 2009 they and the other coal enterprises of Kuzbass and Yakutia managed to conclude a number of long-term treaties with Chinese, Japanese and South Korea companies. In the first half-year "Raspadskaya" mine due to three contracts with Japan reached the export rate of 82%.

Operational expenses' decrease for the coal mining was carried out by Russia's coal companies partially, as the basis of their prime cost is made up by the conditionally constant charges (80 – 85%) which cannot be reduced. Nevertheless in 2009 many enterprises lowered their production costs, and with the workers' consent they postponed indexation of wages, and also with a view to regulate employment they took such measures, as incomplete working day, holidays under the administration's initiative, holidays at one's own expense.

For the support of Russia's coal branch development it is necessary to *intensify the role of the state regulation*. The current situation specifies the necessity of the reduction of the return terms of the value added tax (VAT), credit charges indemnity, railroad rates fall and prolongations of the branch re-structuring till 2015. However there exist the matters of the long-term character. The urgent measures of the coal-mining enterprises' state support should provide their protection against competition. It is connected with the toughening requirements for carrying out the auctions on the coal delivery for the state and the municipal needs.

Let's try to generalize all the mentioned facts in the formulations of the basic directions in Russian coal industry's overcoming the crisis and in providing its post crisis development:

1. State regulation [5]:

- granting state guarantees to the system-forming managing companies having coal assets;
- stimulation of investments into branch in the compensation form for the part of credit expenses;

- establishing lowering factors for the railroad rates (the Northern and the Far East directions);

- additional budgetary assignments in the field of assistance to the population's employment for 2009;

- establishing differentiated specific tax rates for coal mining and applying tax deduction for coalminer's safety increase;

- annual indexation of differential coal rates depending on the of market prices' changes;

- development of the national standards for the equipment providing mining safety, branch competitiveness' and energy efficient production' increase.

2. Development of the home market of coal due to its consumption's growth (coal power stations, liquid fuel production), its competitiveness' increase in the inter-fuel competition.

3. Development and introduction of the competitive domestic mining equipment, progressive technologies on extraction and processing of coal, increase in the coal companies' capacities, creation of conditions for the full use of existing capacities and modernizations of the working mining and transporting equipment.

4. Financial support of the scientific researches, in particular gathering, processing and transfer to the industrial sector the information about the latest discoveries.

5. Transformation of the whole system of the vocational training; as after overcoming the crisis Russia will have a different type of the economy, it will need the skilled staff corresponding to the modern requirement of scientific and technical development.

Practical realization of the anti-recessionary program should break the negative tendencies within the branch, stabilize its functioning during the crisis period and provide its effective post-crisis development. The state control is necessary for carrying out the works connected with mines' liquidation.

Social consequences of the crisis for the coal-mining territories

Alongside with the crisis influence estimation on the coal industry it is necessary to estimate its social consequences. As a rule, coal settlements by virtue of their accommodation specificity are mono-profile. 140 mono-settlements, of them 64 cities and 76 city type settlements, and also a plenty of rural type settlements are connected with coal mining. During the crisis the urgent social problems are especially characteristic for mono-settlements [6].

Social disaster can take place in mono-branch coal specialization settlements in case

of stopping mines, open-pit mines and concentrating factories. Kuzbass can become the most vulnerable place as more than 50% of the total Russian coal mining is concentrated in it, and the Pechora coal basin can become a rather problem place owing to the necessity of the population resettlement from Vorkuta and Inta to the other regions of the country.

The crisis condition of labor relations. The production volumes' reduction and the suspension of production at the part of the coal-mining enterprises resulted in significant personnel release. The coal companies reduced about 5 – 7% of the personnel, the part of the personnel works incomplete working hours (fig. 6).

Personnel release at the basic coal-mining companies in Russia shows that the basic reductions fall to the largest companies (fig. 7).

During personnel reductions at a company first of all unfair workers and pensioners were discharged. For example, at the Close Corporation "Russian coal" personnel reduction in connection with the production volumes' decrease made only 8.5% from the average personnel number.

The other form of the manpower resources' management in the conditions of overcoming the crisis phenomena is the production structural reorganization at the expense of amalgamation of several enterprises into a new one. Personnel

Figure 6. Dynamics of the personnel release in the coal industry for the first quarter of 2009 (increasing result), persons [7]

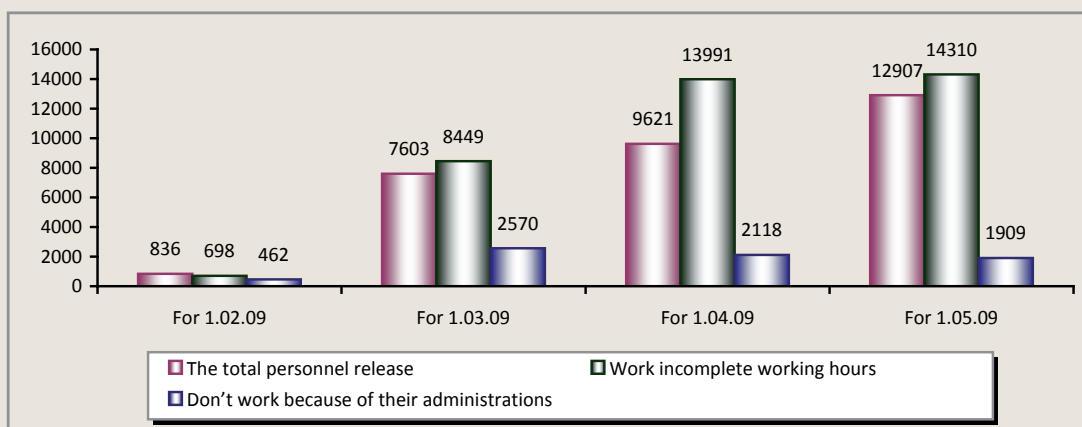


Figure 7. Personnel release at the basic coal-mining companies for 01.05.2009, persons [8]

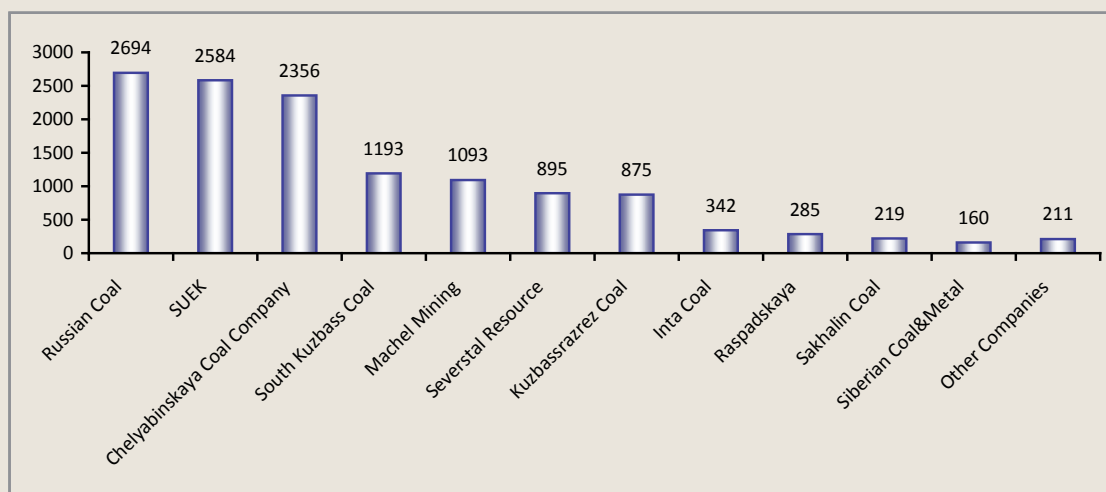


Table 2. Dynamics of the registered unemployment rate in the basic coal-mining regions and the labor markets' intensity for 2008 and for the I quarter of 2009

Region	Unemployment rate*, %		Intensity factor**	
	2008	I quarter of 2009	2008	I quarter of 2009
Kemerovo region	2.0	3.4	2.3	2.7
Primorsky Krai	2.9	3.7	0.9	1.3
Perm Krai	2.0	3.2	4.5	7.5
Komi Republic	2.2	2.9	2.5	4.4
Rostov region	1.3	1.8	1.4	2.2
Sakhalin region	1.2	1.8	0.6	1.2
Tula region	1.01	3.3	1.3	1.8
Chelyabinsk region	1.9	3.5	5.2	8.4
Average in Russia	2.0	2.9	1.9	2.7

* The ratio among the number of the registered unemployed persons (according to the data of the public employment services) and the number of the able-bodied (economically active) population for the end of the considered period (in percentage).
** The ratio among the number of the unemployed citizens registered by the public employment services to the number of vacancies for the end of the considered period.
Made up with the use of the data [8].

release at a number of the coal-mining enterprises of the country led to the unemployment growth in all coal-mining regions of the country (*tab. 2*).

Employment is one of the basic problems for the coal-mining mono-cities. There exist some variants of the mentioned problem decision: production diversity with the new workplaces' creation; creating the conditions for people to work in nearby cities with man power shortage; the excess population's resettlement that is especially actual for the depressive mono-cities located in the northern regions of the country.

As a whole it is necessary to note, that in the conditions of mono-settlements with a weak opportunity of the released personnel employment and corresponding growth of unemployment, conversion of the full-time workers into the incomplete working ones, no-charge holidays – all the mentioned things raise social risks and social intensity. Especially it concerns the personnel of the mines liquidated during the crisis as they do not undergo the program of the coal branch re-structuring so miners will not receive social guarantees either from the proprietor, or from the state.

The excess population's resettlement from the regions of the Far North. The resettlement of the released personnel's families from the liquidated Far North coal-mining enterprises

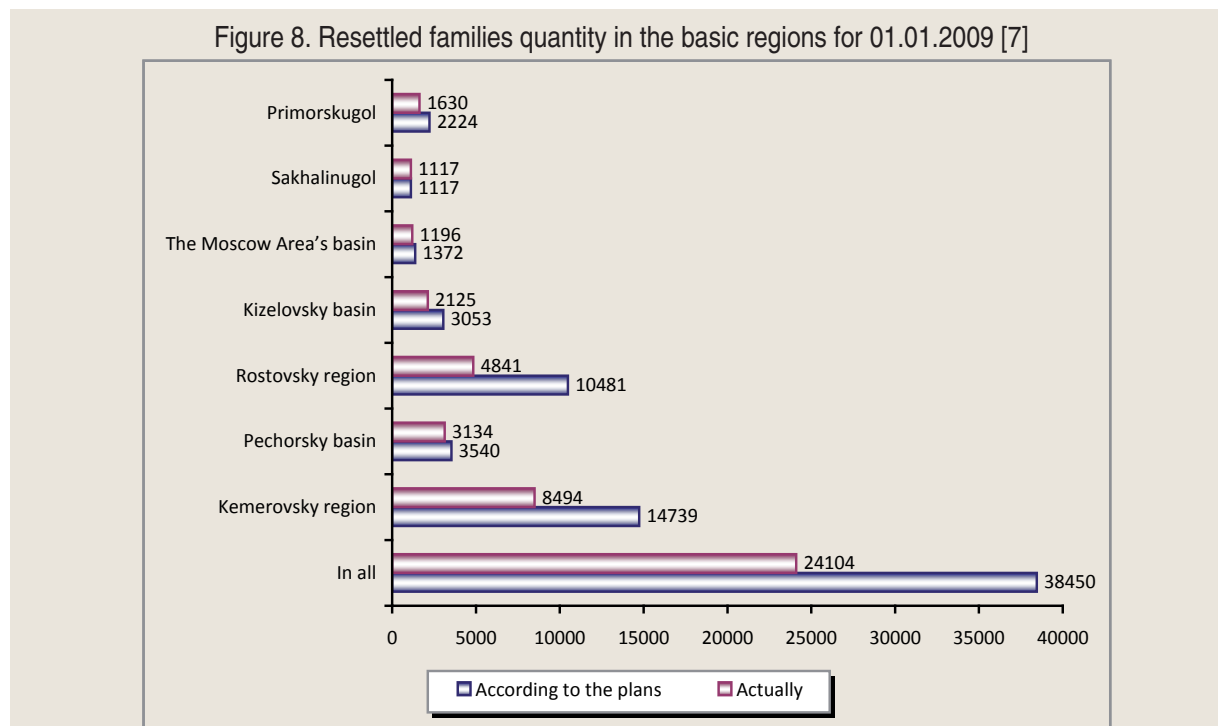
is carried out according to “The Complex of actions in the coal industry re-structuring in Russia in 2006 – 2010”. It was planned to resettle 3,922 families for this period. For 01.01.2008 only 30% of families were actually resettled. As a whole, according to the data of “Sotsugol”, 7,496 families were moved at the period 1998 – 2008, about 4 billion rubles were spent, including 4,758 families at the expenses of 2.6 billion rubles in Komi Republic [9]

The resettlement most likely will proceed till 2015 (the term of the coal branch re-structuring prolongation). It is also necessary to note, that the resettlement financing which is carried out owing to the federal means did not interrupt during the crisis period.

The program of resettlement from shabby habitation. Because of the limited financing the program of resettlement from shabby habitation during re-structuring fulfilled only for 78.2%. For January, 1, 2009 24 104 families moved into new habitation with the expense of 10.9 billion rubles (*fig. 8*).

According to the plans of unprofitable coal-mining enterprises' liquidation 14,346 families will be resettled from shabby habitation with the expenses of 15 billion roubles (in the prices of 2007). In connection with the growth of cost for 1 m³ of habitation these means should be increased.

Figure 8. Resettled families quantity in the basic regions for 01.01.2009 [7]



The important role in overcoming the crisis and smoothing the social intensity in the coal-mining regions is given to the Federal branch agreement (FBA), and to territorial and collective agreements at the enterprises. The crisis showed that the crisis can be much more easily overcome if there is social partnership.

First signs of overcoming the crisis in the coal branch

In the second half-year of 2009 some positive tendencies were planned in the coal industry of Russia. In August coal extraction for coking almost reached the level of extraction in 2008. Since October, 2009 for the first time from the beginning of the crisis the Russian producers of the coking coal have started to raise the price for their production. Mining companies are going to rise the price for the coking coal approximately for 50 – 60%. In June Kuznetsk coal delivery to the power stations corresponded to the level of 2008, and in July it exceeded that level for 6.4%; from January to July Russian power coal export also exceeded the parameter of 2008 [10].

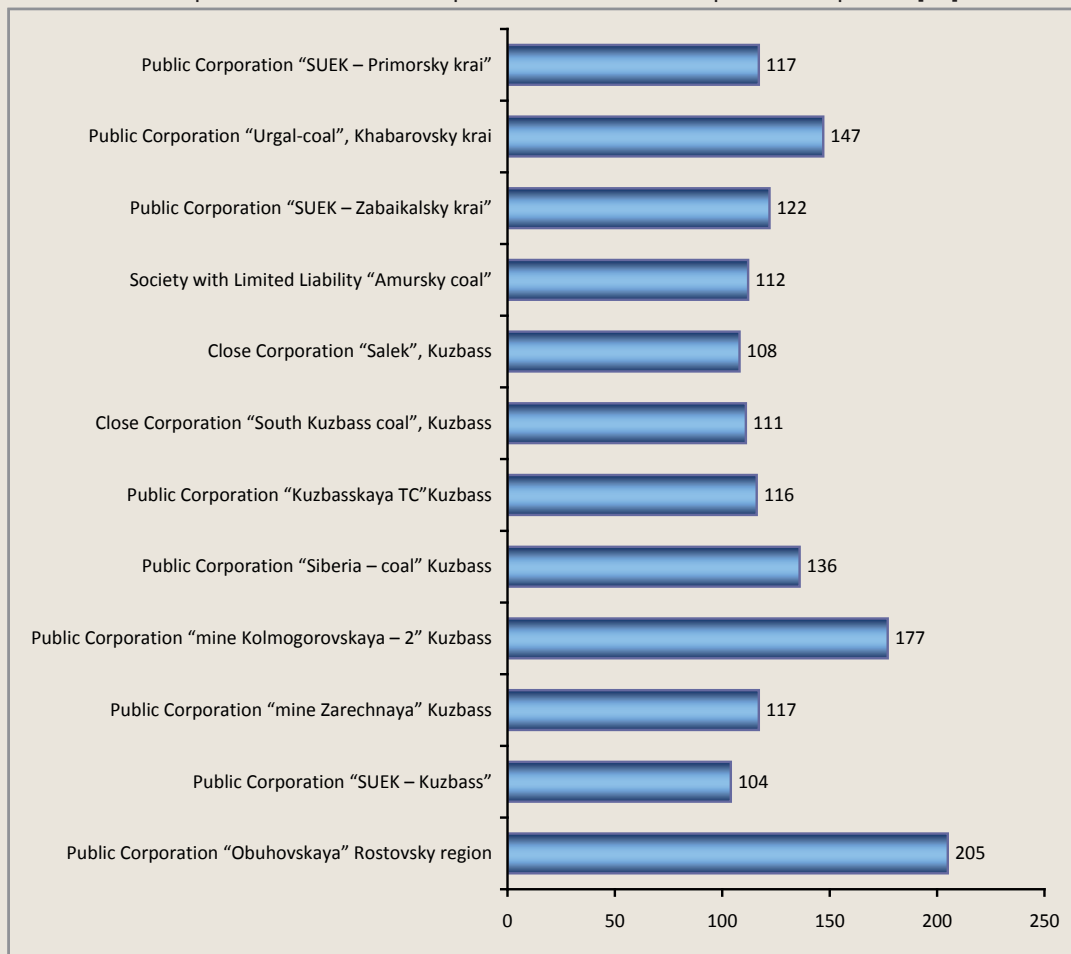
Gradually the backlog of the coal production volumes reduced in comparison with the

previous year. For 8 months of 2009 185.8 million ton. of coal were extracted; it made 86.7% from the level of the period from January to August, 2008 (including the coal extracted – 67.8 million ton. (97%), with the surface way – 118.0 million ton. (81.7%).

Even in the conditions of the general crisis a number of the large-scale coal companies for 8 months of 2009 could essentially increase the coal mining volumes in comparison with the similar period of 2008 (fig. 9). As a rule, these are the companies with the diversity deliveries to the home market and for export.

These are just separate examples. As a whole the branch has not reached the level corresponding to the stable development's requirements. Export still remains its basic point of stabilization. According to the results of seven months of 2009 the export coal delivery is equal to the level of the similar period of the previous year (100.6%) and made 55.7 million ton. In August escalating export deliveries, first of all, from Kuzbass proceeded (the growth made more than 2 million ton.) [11]. At the end of 2009 the new coal-mining enterprises were placed in operation; it provides 820 new workplaces and 2.5 million ton. capacities [12].

Figure 9. Growth of the coal mining volumes for 8 months of 2009 in comparison with the similar period of 2008 at the separate companies [11]



Opportunities and prospects of Russia's coal sector development

After overcoming the crisis Russia's coal industry should receive the vector of the development based on the new extraction technologies, deep processing and complex use of coal. Preconditions for it are available.

The resource opportunities for the coal industry development in Russia are practically unlimited (30% of the world reserves). It is more, than in any other country of the world. However, in the extraction volumes Russia only ranks fifth place in the world after China, the USA, India and Australia. It is necessary for our country to overcome a lot of technological, economic, ecological, infrastructural, etc. obstacles constraining the scale development of the coal branch.

The "Power strategy of Russia till 2030" accepted by the Government of the Russian Federation on the 27th of August, 2009 allows to estimate the scales of the coal branch development in the long-term prospect including three stages.

The perspective levels of the coal mining will be determined by the demand parameters for the Russian coal both inside the country and abroad. It is expected, that owing to the outstripping rise in prices for the natural gas the demand for coal will grow outstripping rates inside the country. The conjuncture of the world power markets will also promote the export growth of the Russian power coal. At the same time the rates of the coal demand growth can be limited: consumers' higher expenses, including transport ones, and the increased ecological requirements.

Table 3. The forecast of the stage-by-stage coal mining development till 2030, one million tons

Parameter	2005 (fact)	2010	2020	2030
Coal mining, total	299	361-364	435-455	530-565
Including the coking one	70	88-101	100-129	102-132
Donetsk	8	7-11	8-13	8-13
Ural	5	3-4	4-8	13-15
Pechora	13	13-17	13-17	22-24
Kuznetsk	165	190-196	211-205	232-230
Kansko-Achinsky	37	44-45	65	108-115
East-Siberian	37	51-52	68-73	70-75
The Far East	32	42-43	60-64	70-80

Made up with the use of the data [13].

As a whole the coal mining in Russia can increase from about 299 million ton. in 2005 to 435 – 455 million ton. by 2020 and to 530 – 565 million ton. by 2030 (*tab. 3*).

The role of coal in the consumption structure for the period till 2030 is shown in *figure 10*.

In the “Power strategy” the significant gain of the coal mining in Kuznetsk and Kansko-Achinsk coal basins is planned. The development of the new deposits in the Eastern Siberia and the Far East, and also in Komi Republic is also presumed. The coal transportation volumes will increase; it will demand railways’ and ports’ transportation capacity increase. The new port with the high-efficiency coal terminal is planned to be constructed on the Black sea coast (*tab. 4*).

The first stage includes the realization of the program measures’ complex for the branch situation’s stabilization; the end of the branch re-structuring actions; coal production modernization and intensification; the further increase in the coal enrichment volumes; accident risk and traumatism decrease at the coal-mining enterprises; branch export potential development.

The second stage includes coal position’s strengthening at the home market; escalating of the extraction volumes; new coal deposits’ scale development; cooperation in innovational technologies’ researches and development; the decrease of the branch dependence on the international coal market conjuncture; the beginning of the branch industrial structure’s diversity.

Figure 10. The weight of power resources in their consumption structure [13]

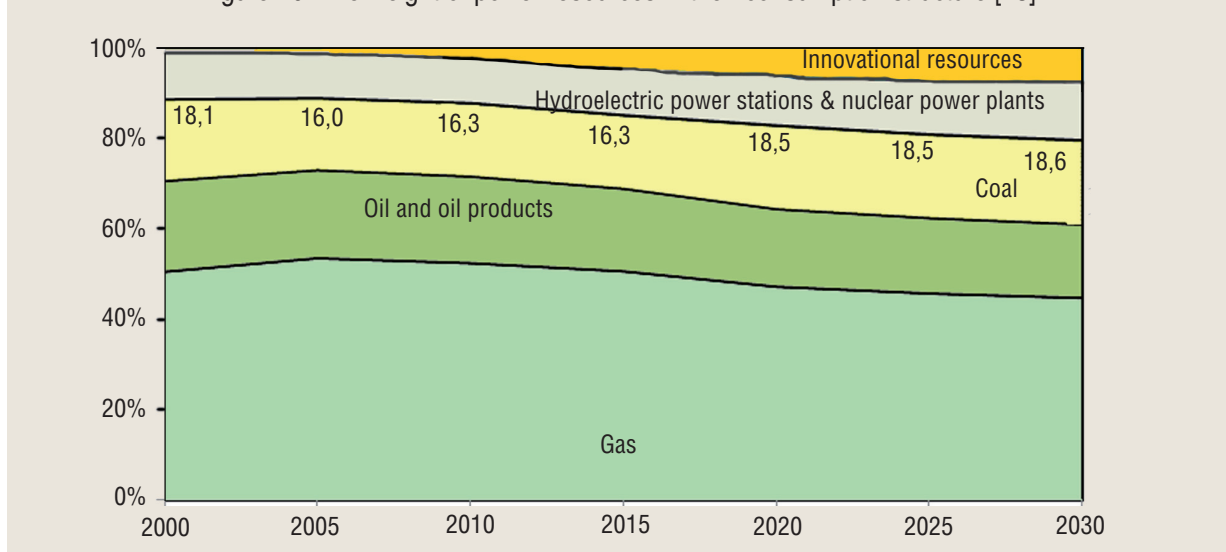


Table 3. The parameters of the coal industry strategic development for the period till 2030

Parameters	2010	2020	2030
Coal mining			
Growth of the extraction volumes (in %) by 2005	17-18	45-52	77-89
The new enterprises' weight in the total extraction amount, %	10-12	30-31	43-45
Coal transportation			
Growth of railways' carrying capacity to the level of 2005 (times)	1.25	1.5	2.0
Growth of terminals' capacities to the level of 2005 (times)	1.25	1.75	2.0
Coal processing			
Enrichment of the power coal, in % of its extraction	35-40	55-60	65-70
The share of the coal used for getting ethanol, in % of the total extraction amount		0.5	5-8
Progressive extraction technologies			
Weight in the total extraction amount:			
- The underground way ("mine – lava")	45-50	60-70	80-90
- The open way (line and stream-cyclic)	30-35	40-50	60
Coal industry's efficiency			
Growth for breakage face loading to the level of 2005 (times)	1.35-1.4	2.0-2.5	4.0-4.5
Weight of outsourcing in the extraction expenses for 1 ton of coal, %	10	15	35
Extraction growth for one worker (times)	1.5	2.5-2.6	3.75-4.2
Made up with the use of the data [13].			

The third stage includes the significant labor productivity's increase in the coal branch corresponding to the world standards of the industrial and the labor safety, ecological norms; industrial getting of deep processing coal products (synthetic liquid fuel, ethanol, etc.) and accompanying resources (methane, underground waters, building materials). The coal branch's scientific and technical development is influenced by innovations in the electric power industry, and also by the power resources' structural optimization. Innovational decisions here can be designated as follows.

In the coal industry they are:

- expansion of the use of the robotized, integrated, line and cyclic-line technologies;
- providing technological processes with automatic safety systems;
- development of the selective and the hydraulic coal mining technologies;
- development of the complex technologies of the coal enrichment, individual defense equipment, landscapes re-cultivation methods and the return laying of wastes;
- development of the miniaturized technologies for exploitation of the low power coal layers;

- development of gasification, hydrogenation and biotechnologies with the use of coal.

In the coal electric power industry they are:

- creation of the condensation power units of supercritical steam parameters;
- creation of the power units with the intra-cyclic coal gasification;
- creation of the firm fuel thermal power stations with the zero emission of hotbed gases;
- creation of the small power on mine methane.

Technological and economic coordination of all parts of the fuel and energy country's complex is an indispensable condition of its effective development. At the same time various industrial circuits' coordination should not be considered as the state controls' activity only, but as the firm strategy. In particular, the coal companies should make for the economic structure's diversity and alongside with the fuel vector of the development explore coal fuel chemistry, gas fuel chemistry and other directions [14].

From the analysis above we can note that the best way of protection against the general financial and economic crises is duly modernization of the production methods and institutional

management structures. Without such work which was carried out at the end of 1990 – first half of 2000, the coal industry could not stand. Probably crises will repeat (the nature of the commodity-money relations in the conditions of disproportion between the real sector of economy and the virtual financial turn-over). That's why it is necessary to improve the ways of protection against them. The

stability measure of the coal industry in many respects depends on its technological “cohesion” with metallurgy, electric power industry and chemistry within the in-Russian market, and also on the coal companies' industrial structure expansion (to use not only firm fuel, but also liquid synthetic, coal graphite, gas, non-conventional kinds of electric power industry).

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Facilities of energy security projection of the Northern region

In the article the significance and current preconditions for sustainable development of the Russian northern cities are considered and analyzed. Necessity of strategic management methods use for achievement of sustainable development goals by the cities is proved.

Problems of perspective estimation of energy security are designated in the paper. Using hierarchies analysis method is proposed for making such estimation; the method allows to rank alternative scenarios of social-economic development of a region by criterion of achievement energy security. The results of the first attempt to apply the method to Murmansk oblast are given. Restrictions of using hierarchies analysis method and the necessity to combine it with indicative analysis method are specified.

Perspective estimation of energy security, European North of Russia, hierarchies analysis method.



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The systems of power supply (electric and thermal energy supply, all kinds of boiling-furnace and motor fuel) anyhow cover all the vitally important spheres of a contemporary individual. The advanced fuel and energy complex is necessary for the normal functioning of all economic branches. It causes the necessity of protection the “power interests” of a person, of the society and the state; guaranteeing their power safety. According to the interpretation given by the World Power Council, power safety means “the confidence that energy will be available in the quantity and of the quality which are required under the existing economic conditions” [9, p. 25]. “The power safety doctrine of the Russian Federation” is based on this interpretation [3]. The analysis of the works on the mentioned issue [3, 6, 8, 9] allows drawing a conclusion, that the power safety as an economy’s component is its basis and is necessary for its retaining at a high level.

In Russia the problems of the power safety increased in 1990th changing-over to the market

economy. At that time the crisis affected all the power sectors, and it proceeded simultaneously with the national economic crisis. It is also necessary to mention that Russia has some special peculiarity. On the one hand the extensive stocks of natural power resources and the existing industrial potential of the fuel and energy complex allow not being bewared of easing the country’s power independence as a whole in the foreseeable future. On the other hand disproportions of the productive forces’ and the power budget’s accommodation cause serious problems in power supply for many regions [9].

Thereupon the questions of diagnostics and providing power safety of the northern regions by virtue of their specific features, namely by virtue of their cold climate and high power consumption of the economy deserve separate consideration. The latter can be explained by the fact that the northern regions are rich in mineral and forest resources that determines the industrial structure with the prevalence of

such branches as the mining industry, black and nonferrous metallurgy, and cellulose and paper industry.

The Far North Regions occupy 11 million sq. km or nearly two thirds of the country's territory¹. Because of these territories' variety it is appropriate to narrow the purview of the analysis. In the given article the northern region can be defined as a subject of the Federation located in the European part of the country. The regions of the Asian North are excluded from consideration as they have their own peculiarities (big sizes of the territory, isolated power supply systems, a smaller degree of the developing, etc.).

The Institute of Economic Matters of the Ural Branch of the Russian Academy of Science develops the technique of the power safety diagnostics, based on the indicative analysis' method which application allows to define the level of the power safety threats quantitatively [6, 8, 9]. This method assumes calculation of the indicators' set grouped in separate indicative blocks. These blocks reflect various aspects of the power activity, among them can be the following ones: the block of the electric energy supply; the block of the thermal energy supply; the block of the fuel supply; the structural and regime block; the block of the basic power reserves' reproduction; the financial and economic block, etc. For each indicator there is the estimation of the existing situation by means of comparison of actual and threshold indicator's value. By means of such comparison the situation can be appreciated as a normal, a pre-critical or a critical one. Further the estimation in indicative blocks and the estimation of the power safety level are made as a whole.

The mentioned technique has spread².

¹ The problems of the North. Scientific analytical report. – Apatity: Kola SC RAS Publishing House, 2005. – P. 5.

² One of the examples of indicative analyses' applying to the matters of the northern regions' power safety is the following research: Barannik B.G., Kalinina N.V., Tuinova S.S. Estimation of the power safety condition of the Murmansk area (preliminary results). – Apatity: Kola SC RAS, 2004. – 34 p.

It allows to reveal the threats for a region's power safety that gives the information for the development of the program-principal actions directed on the improvement of the current situation. However for some reasons application of the indicative analysis for the power safety estimation in the long-term prospect is difficult.

Firstly, the socio-economic development of a region can be carried out according to different scenarios. Realization of some of them can lead to the essential change of the conditions of the electric or thermal energy's or the fuel and energy resources' deliveries, to the sharp change of the demand or the prices for them, etc. In the work [6] it is marked, that for so nice parameters as the numerical estimations of the safety threats' level, the long-term prognosis at the significant work content of calculations will be hardly productive.

Secondly, the power engineering development is determined by many factors, among them are: state, fuel and energy complex's enterprises, somewhat population. In the long-term prospect there can appear new factors, for example, enterprises of the power-intensive branches of the federal or the international levels. While estimating the power safety it is necessary to take into account the influence of these factors.

Thirdly, the multi-variant approach of the socio-economic development essentially limits the opportunity of the perspective power safety's estimation on the basis of the available statistical information. Formalized methods do not work in such conditions. On the contrary, the role of the expert estimations sharply grows. The high-quality informed experts' opinions concerning the regional development in the long-term prospect can appear more adequate, than the existing tendencies' extrapolation.

Thus, it is the extremely difficult to define quantitatively the safety threats' level in the long-term prospect. The other approach is necessary for the perspective estimation. Ranging of the alternative scenarios of the socio-economic development of the northern

regions, revealing of the scenarios preferable from the power safety point of view can become the result of such estimation.

This problem's solution demands the account of the interconnected elements influencing the socio-economic development and the regional power safety's achievement. The brief characteristic of such elements is given below. It is necessary to note, that for each northern region their structure will differ taking into account the specificity of their economic, social, and geographical conditions.

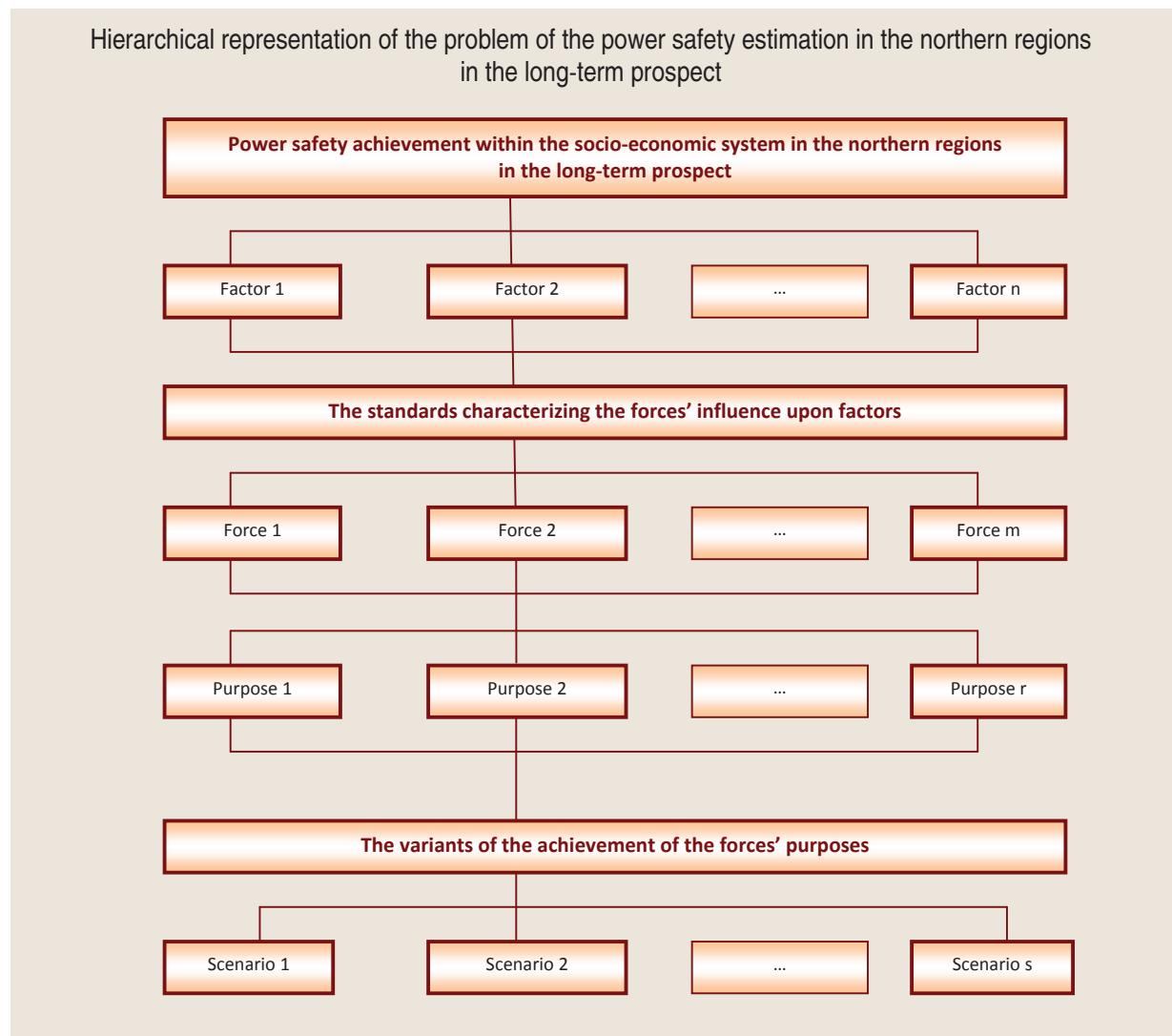
Firstly, it is necessary to take into account the factors influencing the power safety's achievement in the northern regions in the long-term prospect. Among them can be the following ones: the necessity of preservation of the sufficient capacity balances for the electric power industry, the remoteness of a region from the centers of the oil-and-gas processing, the development of the hydropower engineering or atomic engineering in a region, the presence of the fuel and energy resources' deposits and the degree of their developing, the connection of the regional power supply system with the neighbor systems, etc.

Secondly, it is necessary to take into account the factors influencing the power safety achievement. The major factors are the state federal and regional authorities, the population of a region, and the commercial structures. Among the last great role, firstly, the fuel and energy complex and secondly, the enterprise energy-intensive industries that can have a significant impact on forward power. The northern regions' specificity concludes in the fact that the interested economic structures are not only enterprises working in a region, but also holdings integrating them.

Thirdly, the perspective estimation of the power safety demands the account of the purposes which various forces pursue in the mentioned sphere. It can be the purposes in the sphere of their own power safety (industrial enterprises, population) or the power safety of a region (bodies of the government, power enterprises). The actions directed on these purposes'

realization, will influence the economy's and the regional power system's development and, finally, on achievement and maintenance of the power safety. Among the purposes of the governmental bodies is the reliability of the power supply and heating for the consumers under acceptable tariffs, the reliability of the fuel supply for the consumers, completion of the budget due to the tax collections from the enterprises of fuel and energy complex. The purpose of the enterprises electro-and-heating system is its effective work, carrying out their functions of the power supply to the consumers under the condition of getting profits and realization of actions on the renewal and the development of the basic production reserves according to the needs of the developing socio-economic system of a region. The purposes of the enterprises engaged in extraction, processing, transportation of fuel and energy resources (if such enterprises operate in a region) can include the growth of extraction, creation of the capacities for processing and transportations of hydro carbonic raw material, etc. The power-intensive industrial enterprises are interested, first of all, in the reliability of the power supply under acceptable tariffs. Among the purposes of the population it is possible to specify acceptable tariffs for the electric power, heating, household gas, acceptable prices for the motor fuel, and the reliability of the power supply and heating.

Thus, the power safety achievement in the northern regions in the long-term prospect is influenced by the set of elements, and these elements are interconnected by the relations of subordination. It makes for presenting the problem of the perspective power safety estimation as hierarchy (*figure*). In the hierarchy's focus there is "the power safety achievement within the socio-economic system in the northern regions in the long-term prospect". Lower it is situated the hierarchy levels where the elements influencing its focus are represented. The structure of the levels differs from the structure of the elements mentioned above, and it includes:



1. The factors of the power safety achievement in the long-term prospect (they are mentioned above).

2. The standards describing the forces' influence upon factors. (This level is stipulated for the purpose of the more full consideration of the forces which are present at a region or can appear there in the long-term prospect. The force's influence on the factor can be characterized, for example, as "insignificant", "significant", "strong", "very strong". Such characteristics represent the standards, appropriated to the forces at the estimation of their influence on different factors).

3. The economic, political and social forces influencing the factors (they are mentioned above);

4. The forces' purposes in the sphere of the power safety (they are considered above);

5. The variants (the standards) of the achievement of the forces' purposes corresponding to different scenarios of the northern region development. (A purpose can be achieved, can not be achieved or achieved partly. Each of the alternative scenarios of the socio-economic development corresponds to some variant of the achievement of each force's purposes. For example, the realization of a script can provide the diversity of the fuel-and-energy balance of a region due to gasification, but it will not provide a high level of reliability of power supply for consumers owing to the occurrence of the generating capacities' deficiency. The other scenario can mean the

development of the electric power industry's capacities and the strengthening of the connection between the regional power supply system with the neighbor ones, that will positively affect the power supply reliability, but there can be the cost increase for the thermal energy owing to using by some part of thermal power stations and boiler-houses of more expensive kind of fuel. In the similar way each of the alternative scenarios can be compared with the variants of the achievement of the forces' purposes);

6. The scenarios of the socio-economic development of the northern regions.

Hierarchical representation of the problem of the power safety estimation in the northern regions in the long-term prospect.

Representation of the problem as such decomposition allows to apply the method of the hierarchies' analysis (which is described in the work [1]) for its decision. This method allows ranking the alternatives concerning the main criterion (represented in the focus), in this case it allows ranking the alternative scenarios of the socio-economic development of the northern regions by means of the criterion of the power safety achievement in the long-term prospect.

Application of the method of the hierarchies' analysis means comparisons in pairs of the elements of different levels which are carried out with the participation of experts in the fields of economy and power engineering. The pairs of the elements are showed to the experts and for each pair it is offered to specify, what element is preferable (is more important) for the element, connected with it, of a higher level of the hierarchy. When comparing the elements the scale of relations from 1 to 9 is used, where 1 corresponds to a situation when two elements have the identical importance, 9 corresponds to a situation when the absolute prevalence of one element over the other takes place. Experts can also consider the elements incomparable; in this case the estimation 0 is used. On the basis of the results of the comparisons in pairs the relative importance of the elements which is expressed numerically as a vector of priorities is determined. The vectors of priorities show,

what factors influence the focus in a greater degree; what relative importance of the standards characterizing the influence of the factors' forces is; what purposes and what variants of the purposes' achievement are more preferable for each force.

By means of the method described above the relative importance of the elements' majority will be determined. But the relative importance in pairs "forces vs. factors" and "scenarios vs. the forces' purposes" is determined differently. For each force the standards characterizing its influence on all or some factors are given. As a result the vectors of priorities for the pair "forces vs. factors" are revealed which can be used in the hierarchical synthesis after the procedure of normalizations. Each scenario of the socio-economic development of a region is compared with the variants of the achievement of the forces' purposes. As a result the vectors of priorities for the scenarios concerning the forces' purposes are revealed which are also used in the hierarchical synthesis after normalization. For the forces and the scenarios of the regional development it is appropriate to use a method of comparison concerning standards as by means of such approach it is possible to compare a plenty of forces or scenarios, and the addition of some new force or the new scenario will not result in violation of the order of the forces or scenarios ranged earlier. Even in case of the change of the current conditions of the socio-economic development, the comparison concerning standards will enable ranking the alternative scenarios of the development without cardinal hierarchy's reconsideration, it will be necessary just to add (or to remove) the new (or not so actual) forces influencing the factors of the power safety maintenance, or the scenarios of the socio-economic development of a region.

After the relative importance of the elements at all levels is determined, the hierarchical synthesis for the matrix calculations' performance is carried out. The hierarchical synthesis allows determining the normalized vector of the scenarios' priorities concerning the hierarchy

focus. On the basis of the received vector it will be possible to consider the preferable realization of a scenario of the socio-economic development of the northern regions from the point of view of the power safety achievement in the long-term prospect. The received result will give the regulating bodies the information necessary for the development of the actions, directed on the creation of the conditions increasing the probability of the preferable scenario's realization.

The advantage of the considered approach is the integrated estimation that is provided due to involving in consideration a plenty of the various elements revealed during decomposition of a problem. At the same time, the given approach has some limitations. The method of the hierarchies' analysis allows ranking scenarios, but does not state a quantitative estimation of the power safety level. Thus there can be a situation when even the most preferable scenario will not guarantee minimally allowable level of safety (the preferable script can appear only the best one of the worse ones). Therefore the revealed scenario is the subject for the additional analysis, in order to find out whether it will provide the sufficient level of the power safety or not.

As it was mentioned above, getting the exact quantitative estimations in the long-term prospect with the help of the traditional method of the indicative analysis is difficult in view of the ambiguity of the socio-economic development. But the preferable scenario revealed by means of the method of the hierarchies' analysis can be described in more details, that will enable to apply the method of the indicative analysis to this variant of the future.

Thus, the algorithm of the power safety estimation in the northern regions in the long-term prospect can be presented as follows:

1. Definition of the elements influencing the power safety achievement in the northern regions in the long-term prospect, including:

- the factors influencing the power safety achievement;
- characteristics (standards) of the forces' influence on the factors;

- the forces influencing the factors;
- the purposes in sphere of the power safety which influence the forces;
- the variants of the achievement of the forces' purposes.

2. The formulation of the alternative scenarios of the socio-economic development in the northern regions in the long-term prospect.

3. Revealing (by means of the method of the hierarchies' analysis) the scenario of the development of a region, preferable according to the criterion of the power safety's achievement.

4. The more detailed description of the revealed preferable scenario and its checking (with the use of the method of the indicative analysis), whether it provides the sufficient level of the safety.

The given algorithm shows, that the method of the hierarchies' analysis and the method of the indicative analysis do not exclude and do not replace each other. Each of them is used for the decision of the certain task. The complex use of these methods in a certain sequence can help to decide the main task that is the perspective estimation of the power safety in the northern regions.

The attempt to realize the first three blocks of the algorithm mentioned above was taken in the research [2]. The work was based on the materials of the Murmansk area. The power safety's achievement in the Murmansk area in the long-term prospect was placed in the *focus* of the constructed hierarchy. Further the following *major factors* of the power safety achievement in the Murmansk area in the long-term prospect were formulated:

1. preservation of the sufficient capacity's and power's balances in the power industry and heat-power engineering;

2. decrease of the dependence on the fuel-and-power resources' deliveries from the other areas;

3. providing the free overflow of the electric power in necessary quantities between the Kola power supply system and other regional power supply systems;

4. legislative securing the responsibility for providing the area's power safety.

In work [2] the level of *forces* was placed lower than the level of factors and the level of *actors* (concrete "players" who were present in the region and operated in the forces' interests) was placed under the level of forces. The state, the population and the leading companies of the largest holding structures represented in a region (the holding structures of the power-intensive industries, such as ferrous and nonferrous metallurgy, mining and chemical industry were considered) acted as the forces. Both the federal and the regional bodies of the government and the power enterprise, including the Kola nuclear power station acted as the actors of the state. The companies working in the region acted as the holdings' actors. It was accepted, that the population realizes its interests independently and represents itself as the force which doesn't have the actor. Public Corporation "Lukoil" (at the moment of the research's performance this company considered the opportunity of construction of the oil processing plant in the Murmansk area, that directly concerned the power safety of the region) acted as another force which worked directly in the region and did not have its actor.

Actually the only force which had some actors was the state; and later it was decided to refuse the level of actors. At the same time, with the purpose to provide the opportunity of the account of the new forces' influence, the level of the characteristics of the forces' influence on factors was introduced into the hierarchy.

Further in the research *the purposes and the variants of the achievement of the forces' purposes* in the sphere of the power safety were determined. Finally, *the scenarios* of the Murmansk area's development for the period till 2020 were formulated with the conventional names:

1. The "Minimal" scenario did not provide the capacities' replacement in 2018 – 2019 (the first and the second power units) of the Kola nuclear power station.

2. The "Maximal" scenario is connected with the construction of the Kola nuclear

power station-2 (the opportunity of the construction of two power units with the capacity of about 1100 MWt was considered) in the terms, allowing to provide the increase in the power supply system's capacity in the considered prospect. The scenario also provided the area's gasification after the beginning of the Shtokmanovskoye gas-condensate field's development and the oil processing plant's construction.

3. The "Gas" scenario provided the construction of the Kola nuclear power station-2 and the area's gasification after the beginning of the Shtokmanovskoye gas-condensate field's development which would allow diversifying the area's fuel-and-power balance.

4. The "Oil" scenario provided the construction of the Kola nuclear power station-2 and the oil processing plant's construction that would allow lowering the dependence on the oil products' deliveries from other areas.

5. The "Minimal power" scenario meant the only large-scale project in the power industry such as the construction of the Kola nuclear power station-2.

6. The "Extended power" scenario as a whole is similar with the previous one; the difference is that it also provided the wide construction of electro boiler-houses.

7. The scenario "Gas without the construction of the Kola nuclear power station-2" provided the Murmansk area's gasification after the beginning of the Shtokmanovskoye gas-condensate field's development, but did not provide the timely replacement of the Kola nuclear power station's capacities.

The necessary information from the experts was received during questionnaire design, interviewing; also by means of the available publications' analysis, of the annual reports of the enterprises working in the Murmansk area, applications from the enterprises' and government bodies' representatives, programs of the nuclear-power engineering's development [5, 7]. The results received by means of the hierarchical synthesis are represented in *the table*.

Preliminary results of the power safety's estimation in the Murmansk area in the long-term prospect [2]

Scenario	The relative importance of the scenario
"Minimal"	0.040
"Maximal"	0.185
"Gas"	0.190
"Oil"	0.184
"Minimal power"	0.162
"Extended power"	0.178
"Gas without the construction of the Kola nuclear power station-2"	0.061

According to the received results the most preferable scenario by the criterion of the power safety's achievement appeared the scenario "Gas", very close to it are the "Maximal" and "Oil" scenarios. The results represented in the table have just the preliminary character. After carrying out the analysis the conditions of the socio-economic development of the region have changed. The forces' structure has changed too. Public Corporation "Lukoil" refused to construct the oil processing plant in the Murmansk area, later Close Corporation "Synthesis Petroleum" made the same decision. The

terms of the beginning of the Shtokmanovskoye gas-condensate field's development changed, the gas extraction's volumes at it varied, etc. Actually, in many respects all these changes served as the reason for the general hierarchy's reconsideration and for the inclusion in its structure the standards' level describing the forces' influence on factors.

We consider now it is possible to carry out the research completely realizing the algorithm mentioned above for the power safety's estimation in the northern regions in the long-term prospect.

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Financial crisis, economic development, power-saving and the reduction of the hotbed gases' emission are a long-term prospect for the emission's reduction in China

Power consumption causes economic development and becomes the main pollution source, including air pollution. Power consumption appreciably responds to the economic fluctuation. Different historic crises' gravity and abrupt economic recession show up in power consumption and hotbed gases' emission. In this article the analysis of the relations among the financial crisis, economic development, power-saving and the emission's reduction has been carried out and it shows that the financial crisis will inevitably lead to the power consumption's reduction and to the emission's reduction. But the crisis is a short term phenomenon, and the economic growth takes time. As in any developing country, in China the pressure of the reduction of hotbed gases' emission is intensifying. As for power-saving and emission's reduction, it is necessary to discuss these phenomena in details; and it is also necessary to develop the low-carbon way, not to ignore it

Ffinancial crisis, economic development, power-saving, reduction of the hotbed gases' (HG) emission, long-term prospect.



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In 2007 the American hypothec crisis transformed into a financial one which in 2008 affected the industrial branch, grew into the economic crisis extending all over the world. As the China's economy is a part of the international one, China's economic development, power-saving, and the emission's reduction suffered.

In the course of history important crises' events negatively influenced economic development, but at the same time they made for power-saving and the polluting emission's reduction.

In China the high rate of economic growth, power-saving and the emission's reduction is extremely desirable, all the steps of the eleven-year plan are carried out under strict

requirements. According to the practical results for the recent 3 years we can see that the economic development was carried out successfully, but power-saving and the emission's reduction were not achieved. However since August of 2008 economic growth has shifted into low gear, power consumption has abruptly reduced, so power-saving and the emission's reduction don't seem to be a priority problem. In fact, at the times of economic crises power consumption and hotbed gases'¹ emission are considerably reduced, but at the times of economic growth they increase again. It proves that the economic crisis' influence on economic

¹ Hotbed gases' – the gaseous constituents of the atmosphere of natural or anthropogenic, that absorb and re-emit infrared radiation (ents. "Science").

development caused the reduction of power consumption and polluting emission. But it is a temporary phenomenon, the economy will necessarily develop, so power-saving and emission's reduction are long-term strategic prospects which cannot be ignored. It is especially necessary to realize the importance of the hotbed gases' (HG) emission in full measure. The decision on the emission's reduction should correspond to the development requirement concerning the creation of the international climate's mode.

1. Historical figures' interpretation.

In the society based on agriculture the human opposition to the nature was low, power consumption of minerals was limited, so it is possible to exclude the polluting emission's influence of such type of the society. The reasons of the society's fluctuation are natural disasters and struggle for treasures of the soil. After the industrial revolution the economy has undergone rapid development; more minerals' energy was spent, polluting emission accumulated. However during industrialization the natural elements' influence on the economy gradually slackened, and the economic growth changed as a result of the economic crisis. Under such conditions abrupt power consumption's reduction and polluting emission's increase took place.

We studied the dynamic tendency of the hotbed gases' emission per head in some countries of the world for the middle of the XIX century. However, the quality of statistical data of the XIX century was not sufficient to detail the historical dynamics. In the XX century technique to obtain statistical data gradually improved and become more accurate. This allowed the following conclusions.

Firstly, the crisis caused the economic decline, the power consumption's reduction, so the level of hotbed gases' emission changed. In Germany and Japan which participated in World War II, after the capitulation power consumption abruptly reduced, so the hotbed gases' emission decreased to 80%. In 1990 (after the USSR disintegration) the Russian economy declined, and power consumption decreased

for about 40%. In China "three-year natural disasters" took place after the defeat of the "big advance" in 1960, power consumption abruptly reduced and the hotbed gases' emission greatly decreased. Energy crises in 1973 and in 1986 led to the global power consumption's reduction and to the hotbed gases' emission decrease. Owing to the "American depression" in 1920 power consumption and the hotbed gases' emission abruptly decreased for 1/3.

Secondly, the higher is the economic globalization's degree, the more the global economic crisis influences it. The less developed countries lagged behind in economy, less participated in the global international activity, so they were influenced in a lesser degree, than the industrialized European and American countries.

Thirdly, though the quantity of the hotbed gases' emission per head changes under different crises' influence, in general, the tendency is growing up. After crises the emissions quickly accumulate and reach new levels.

Fourthly, the emission's level per head appeared to be in the direct dependence of the development, i.e., the higher is the economic development's level the more is the hotbed gases' emission. In comparison with the advanced European and American countries, in the developing countries such as China and India, the hotbed gases' emission per head is at a rather low level.

Fifthly, when the development reaches the certain stage, the tendency of the HG emission's increase per head slows down, restrains and even descends. For the recent 20 years the Japanese and English HG emission per head practically has not increased, and the German carbon emission per head is at a level of the negative growth.

Why is the economic crisis capable to provide power-saving and emission reduction? In *table 1* the change of the Chinese power consumption during the financial crisis in the Eastern Asia in 1997 is represented. The hotbed gases' emission per head in China in 1997 first grew, then abruptly reduced, and in 2001 rose again. Analyzing the figures in table, it is possible to define the internal

Table 1. Change of growth of the Chinese power consumption during the financial crisis in the Eastern Asia (1997 – 2000)

Year	Coal	Oil	Natural gas	Electricity	General power consumption
1995	8.3	8.0	2.2	9.9	8.3
1996	2.8	9.9	12.1	0.3	4.1
1997	-3.0	10.3	12.7	2.8	0.2
1998	-7.8	1.1	2.9	5.6	-4.9
1999	-15.7	6.5	8.0	-2.7	-9.3
2000	-5.2	7.9	7.9	9.9	-0.3
2001	10.5	2.5	11.5	24.1	9.4
2002	19.5	7.4	7.7	6.7	14.8

Source: China Energy Data Report 2004, LBNL, ERI/NDRC, 2006.

reasons of the emission's reduction as a result of the financial crisis.

Firstly, the financial crisis lowered the volumes of power consumption. The level of power consumption was reduced from 8.3% in 1995 to 4.1% in 1996, and up to 0.2% in 1997. At the crisis' peak in 1999 the volume of the general power consumption's reduction reached the point of 9.3%. As a result of the general power consumption's reduction the amount of the polluting emissions was reduced.

Secondly, we can see that the crisis more seriously influenced the structure of carbonic energy which is the main polluter. In 1997 the negative growth occurred, and at the crisis' peak in 1997 it reached the point of 15.7%.

However the purer and more convenient forms of energy such as oil, natural gas and hydroelectric power practically didn't undergo the crisis' influence. In connection with the fact that coal as a highly polluting type of energy underwent a stronger economic crisis' impact, its consumption was reduced, and in general energy became purer and the volumes of the polluting emissions shifted into low gear.

Thirdly, after the economic crisis the market conditions worsened and small-scale enterprises with outdated technologies, low efficiency and absence of competitiveness first of all went bankrupt. And large-scale enterprises with up-to-date technologies and high efficiency have the opportunity to cope with the crisis. Thus by macroeconomic means enterprises with low efficiency and high level pollution were eliminated.

Why has the economic crisis caused the general power consumption's reduction and the usage of "pure" types of power resources? The economic crisis has reduced economic activities of the society, the general consumption has shifted into low gear, and the general volume of power consumption reduced. However the change of power consumption differs among different economic bodies. Population's consumption was influenced a little, and public service establishments practically were not influenced. Industry, especially raw material heavy industry, was under the strongest influence. Population and public service establishments use oil, natural gas and electricity. Industry, especially heavy industry, is based on cheaper and polluting forms of power such as coal. That is why during the crisis the general power consumption was reduced and tends to become "more refined".

2. The purpose, its achievement and the effect of power-saving and emission's reduction in the Chinese "eleven-year plan".

Among all the parameters of the "eleven-year plan" the problem of power-saving and emission's reduction is the most difficult. Owing to the fast economic growth in 2006 and 2007 power consumption advanced up-tempo, and it caused great emission of polluters. In the second half of 2008 the global financial crisis affected China; in the fourth quarter of the same year there was economic recession. It looks as if the pressure of power-saving and emission's reduction disappeared after the economic crisis had occurred.

In the beginning of 2006 “eleven-year” plans for the national economy and social development of China were published; power-saving and emission’s reduction program was ratified, it was ascertained that in 2010 power consumption in gross national product will shift into low gear to 20%, in comparison with the year of 2005, as the volume of the main polluter, sulfur dioxide (SO₂) and the volume of chemical oxygen consumption will shift into low gear to 10% in comparison with the previous period. But all these parameters will be realized with great difficulties.

The disputes on the matters of power-saving and emission’s reduction have continued for the recent years. The examples of the years of 2007 and 2008 can hardly be called comforting. Under such conditions the State Committee of Development and Reforms of China carried out the estimation of the middle period of the “eleven-year plan’s” realization (Hu Anjan, 2008). The result showed that the main parameters of the socio-economic development have reached or even have exceeded the established level, but the volumes of power-saving and emission’s reduction has lagged behind the planned ones. According to the State Bureau of Statistics, the figures showed that in 2005 – 2007 the general power consumption for a unit of gross national product has the tendency to reduce, their volumes were 0.57%, 1.33% and 3.27%, this didn’t meet the requirements of power-saving and emission’s reduction.

In the first half-year of 2008 the tendency of the first two years of the “eleven-year plan” proceeded. Since the fourth quarter the turn in the tendency of economic growth appeared, power consumption abruptly reduced. In general, power consumption gradually reduced; in the first quarter the volume of reduction made 2.62%, in the first half-year it made 2.88%, in the first three quarters it made 3.46%. For the first three quarters the emission’s reduction in China was lowered to 2.7% и 4.2% agreeably, in comparison with the similar period of the previous year.

In the fourth quarter of 2008 the global financial crisis affected China so the power

consumption’s reduction was observed. This case was very much alike with the similar case during the financial crisis in the Eastern Asia in 1997; the emission’s reduction ran its natural course. According to the Chinese Union of Generating Enterprises (2009), the figures showed that at the end of the third quarter, in September, 2008 electricity consumption of all China abruptly reduced. The volume of the electric capacity’s increase was only 3.4%. Then the electricity consumption’s reduction grew. In October, 2008 there was a 4%-decrease in volumes of one-month electric capacity. It was the first negative sign of electricity consumption’s reduction for the recent 10 years since 1999, except celebrating Spring Holiday. In November electricity consumption throughout the country reached 257,550000000 kilowatt; in comparison with the previous period the reduction made 7.49%. Regulating facilities of electricity at the power stations which are under the regulation of the nation-wide power grid are reduced for 7% in comparison with the previous period. In provinces of Shanjsi, Hunanj, autonomous Mongolia, Guichzhou, Yunjnanj, etc., where industrial enterprises with a high level of power consumption concentrate, the volume of power consumption reduced greatly, in comparison with the previous period. Among them the volume of the decrease dropped for more than 30% a month in a province of Guichzhou, and it dropped for 20% in autonomous Mongolia. In 2008 at the Chinese kilowatt power stations the average quantity of hours of the equipment’s use made 4, 677 hours, it is 337 hours less, in comparison with the previous period.

In general, in 2008 the volume of increase of the electric capacity and the power consumption by the whole country were 5.18% and 5.23% respectively, it is less than the speed of increase in gross national product of the year of 2008 (9%). It means, that since 1999 the factor the electricity resiliency (production, consumption) for the first time has become lower than “one” (resiliency factor of power consumption = growth of power consumption / growth of gross national product). In 2009 the

structure of power consumption shows the differences in the financial crisis' influence on different branches. According to the Chinese Union of Generating Enterprises, the figures showed that in January and February, 2009 electricity consumption by the first category industry made 11,241,000,000 kilowatt, in comparison with the previous period it increased for 4.88%; electricity consumption by the second category industry made 349,314,000,000 kilowatt, in comparison with the previous period it reduced for 10.19%; electricity consumption by the third category industry made 62,752,000,000 kilowatt, in comparison with the previous period it increased for 7.66%. Electricity consumption by the inhabitants of cities and villages made 73,910,000,000 kilowatt, in comparison with the previous period it increased for 10.91%. The volumes of electricity consumption's reduction by the light and the heavy industries, in comparison with the previous period, made 10.57% and 10.37% respectively. Electricity consumption by different regions has increased. The provinces where the electricity consumption's increase, in comparison with the previous period, exceeded the average level throughout the country (-5.22%), concentrate in the central and in the western parts, for example, Guichzhou (38.24%), Hunanj (11.60%), Yunjnanj (3.91%) and Sychuanj (-2.22%); and in the advanced parts power consumption abruptly reduced. The factor of power stations' start-up in a province of Guangdong was only 70%, and 30% of power stations were stopped.

The general position of power consumption is reflected in the electric branch's condition. In 2008 the total power consumption by China made 2,850,000,000 ton. of coal, it increased for 4%, in comparison with the previous year. Coal consumption throughout the country made 2,740,000,000 ton., it increased for 3%; crude oil consumption made 360,000,000 ton., it increased for 5.1%; natural gas consumption made 80,700,000,000 m³, it increased for 10%, electricity consumption made 3,450,200,000,000 kilowatt, it increased for 5.6%. China imported 179,000,000 ton. of crude oil to the same period, it was 9.6% more,

in comparison with the previous year; the cost made 129,300,000,000 american doll. At the same time China imported 38,850,000 ton. of oil, the increase made 15%, in comparison with the previous year, the cost made 30,000,000,000 american doll.

The total power consumption and the results evidently coincided with the situation during the financial crisis in the Eastern Asia in 1997. The results are that the effect of power-saving and the emission's reduction is undoubtedly remarkable. Though in the first six months of 2008 the effect of power-saving and the emission's reduction was non-comforting, in the second half-year under the financial crisis' influence power consumption in gross national product for the whole year of 2008 was reduced for 4.59%, in comparison with the previous year. The quantity of oxygen chemical consumption's emission and of sulfur dioxides (SO₂) decreased for 4.42% and 5.95% agreeably. Due to the successful effect of the emission's reduction in 2008, the total amount for three years has come nearer to the purpose: power consumption in gross national product should be reduced for 10.08%; the quantity of oxygen chemical consumption's emission and of sulfur dioxides (SO₂) should be reduced for 6.61% and 8.95% agreeably.

The Ministry of the Environment Protection of China (Chzhou Shensyanj) ratified the program on the emission's reduction in 2009: the quantity of oxygen chemical consumption's emission and of sulfur dioxides (SO₂) will be reduced for more than 2 and 3% agreeably, in comparison with 2008; we should also add that it is necessary to reduce 1,900,000 ton. of sulfur dioxide (SO₂) and 1,120,000 ton. of oxygen chemical consumption, to lower them for 9% and 8% agreeably, in comparison with 2005. We can be pretty sure that these parameters will be easily carried out without any special effort due to the financial crisis. Moreover, it is even possible to suppose that the economic crisis provided power-saving and the emission's reduction for China.

However, it is necessary to remember that the crisis' condition will pass, but the problems

will not disappear, and the problem of the reduction of the hotbed gases' emission may become even more serious.

3. The long-term prospect on the reduction of the hotbed gases' emission.

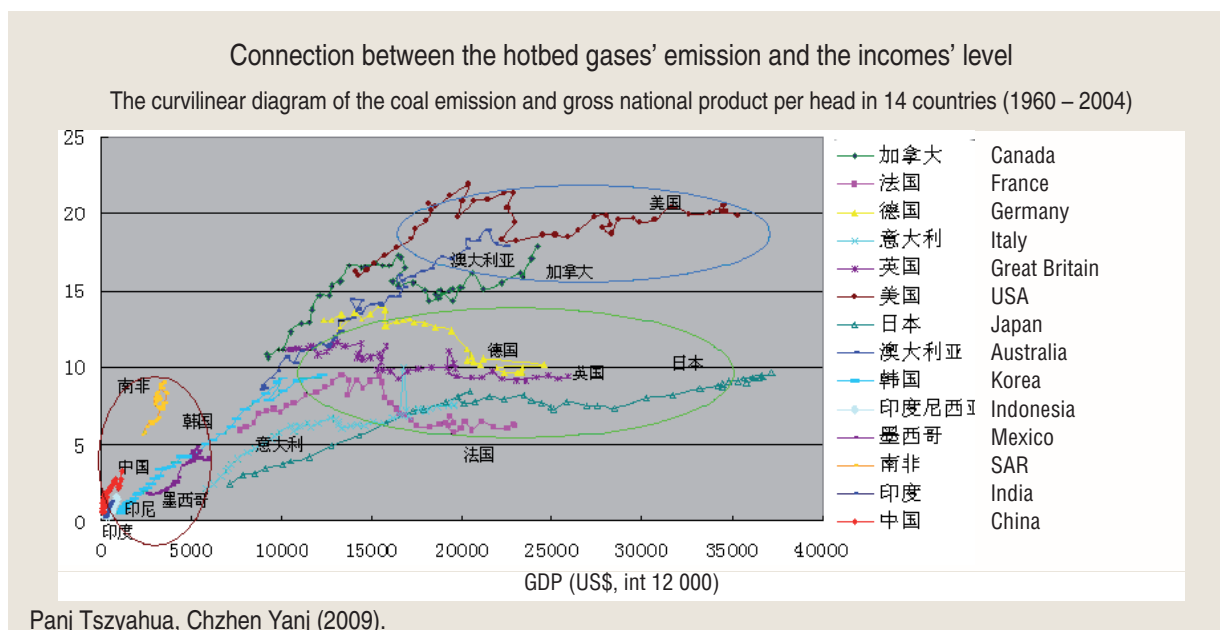
In spite of the fact that the purpose of power-saving and the emission's reduction in China was successfully achieved due to the economic crisis, it does not mean that the long-term objective of the reduction of the hotbed gases' emission in China will be naturally carried out. Objectively speaking, the reduction of the hotbed gases' emission does not fully comply with the emission's reduction by power-saving. Power-saving reduced power consumption and naturally reduced the amount of polluting emissions and the hotbed gases' emission, in this sense they correspond. However sulfur dioxide, dust and other atmospheric pollution can be controlled with technical and engineering ways, for example, by means of the desulfurization equipment. Though hotbed gases can be collect with the engineering way and can be dug in the ground, nowadays there is no commercial basis for that. Besides the norm of the pollution's level by sulfur dioxide can be controlled when the income is about 10,000 american doll. per head. And hotbed gases' emission has been rising for a long time even

in the countries where the income is 30,000 american doll. per head.

In figure the connections between the incomes per head and carbon dioxide's emission per head of 14 main economic objects for the recent years are represented. Some features are evident.

First, the level of incomes per head rose with the increase of the hotbed gases' emission at the incomes' level of 15,000 american doll. When it reached 15,000 american doll., the hotbed gases emission's amount per head reduced. In some countries, for example, in France and Germany, there even were the cases of reduction of the carbon dioxide's emissions at the population incomes' increase. But the general tendency is the direct connection between the population's incomes and the average hotbed gases' emission.

Secondly, on the identical level of the development the levels of the hotbed gases' emission differ. The level of emission in North America and Australia is higher than in Europe and Japan where the level of incomes is equal. The reason is that North America and Australia are rich in natural resources and Europe and Japan aren't, but it is not quite correct. The true reason is in the directing policy. Europe and Japan paid attention to the public opinion, emphasized the power efficiency, raised the tax



for energy and climate. The price for gasoline in Europe is higher, than in America. It is proved, that the difference the ways of production and lifestyle led to the great difference in the volumes of emission.

Thirdly, the incomes' level in the less advanced countries, such as China and India, is low, and it causes the low level of emission per head. In the South African Republic, Korea and Mexico the emission's level has already reached the European one, but the average incomes' levels differ greatly.

Thus, if less advanced countries don't follow the "low-carbon" way, there can be an opportunity of huge hotbed gases' emission which will threaten the world climate. Also it is necessary for the advanced countries to lower the emission's level and to assist the less advanced countries in following the low-carbon way.

The historical figures proved that the emission of the advanced countries were slowed down and even decreased, and the emissions of the less advanced countries rose with the incomes' increase. What about the tendency of emission in the future?

In *table 2* the real emission in 1999 and 2006 in the main countries and the prognosis of the total volume of emission in 2030 are represented. In comparison with the emission's level in 1990, the emission of the advanced economic

objects almost hasn't increased; the negative growth in Russia, EU and other countries with the "turning point" economy has appeared. And in developing economic targets emissions has greatly increased – over 16 years more than once, and in China – in 1.5 times.

According to the prognosis of the International Power Corporation, if 2030 no steps on the emission's control are taken, the volume of emission will stay at the same level, and in some countries such as Japan, continue negative growth. In bright contrast to these emissions in developing countries will increase by almost two, and in India – more than twice. By 2030 in the emission structure the advancing countries will occupy the bigger part. The total amount of the China's emission will be equal to the sum of the USA's emission and the emission of 27 EU countries.

Why does the problem of the hotbed gases' emission in the less advanced countries such as China seem more serious from the prospect point of view?

The oil crisis in 1970 led to the fast development of the low-carbonic power (natural gas and nuclear energy) which replaced coal and oil and reduced hotbed gases' emission. Here the increase of the power efficiency is equal to the reduction of power consumption, i.e. is equal to the reduction of the hotbed gases' emission.

Table 2. Historical change and future tendency of the hotbed gases' emission in the main countries of the world (one million tons of carbon dioxide)

	1990	2006	2030	% total in the world
Total in the world	20,988	28,003	41,905	100%
The Organization of economic cooperation and development	11,083	12,873	15,067	36.0%
27 countries of EU	4,063	3,983	4,176	10.0%
Japan	1,071	1,213	1,182	2.8%
The USA	4,863	5,670	6,891	16.4%
Countries with the "turning point" economy	3,649	2,395	3,230	7.7%
Russia	2,180	1,587	1,973	4.7%
Advancing countries	6,467	12,865	22,919	54.7%
China	2,211	5,606	11,448	27.3%
India	589	1,250	3,314	7.9%

Among the countries-members of OECD there are the EU states, the USA and the new industrial countries such as Korea, Mexico, Singapore, etc.; among the less advancing countries are China and India. In connection with the content of government units and the proportion of countries that they took in the world, more than 100%.
Sources: IEA, 2008, Barbier, E. 2009.

During the same period the incomes' increase and the population's growth caused the growth of power consumption which led to the increase of the total hotbed gases' emissions. In 1980s the opportunity of power structure's regulation and high technologies raised the power efficiency and allowed reducing the hotbed gases' emission. At that time the quality of life improved, the population grew abruptly, so the volume of the world hotbed gases' emission rapidly increased.

Since 1990 up to the beginning of this century the opportunity of power structure's regulation has been limited for a long time, the technologies of power efficiency are the main stimulator of the reduction of the hotbed gases' emission. At that moment the increase of the hotbed gases' emission as a result of the improvement of quality of life was much higher than the increase of the emission as a result of the increase of the population's quantity.

The economic crisis could not settle the problem of the reduction of the hotbed gases' emission in China. Power structure in China is based on coal; the reason is that the nuclear electricity demands large-scale capital investment and some certain term; the increase of the commercial competitiveness of the regenerated power; in particular, the wind power and the sun power, also demands time for its realization.

Thus, the process of power refinement in China is a long and a hard process. The technology of the China's power efficiency has quickly been improved.

According to the eleven-year plan, even without the economic crisis' influence the parameters of the power's intensity will decrease for 20%. It means that under the conditions of the identical development power consumption and the hotbed gases' emission will abruptly decrease.

However, the incomes' increase will result in the improvement of the quality of life, the national brands' automobiles will be distributed, the living space will extend, the city development's level will be raised, and the quantity

of the China's population will increase. The increase of the living standard and the population's increase are the main reasons of the huge increase in the hotbed gases' emission in the less advanced countries. And for the advanced countries, the opportunity of the increase of the living standard is limited; the population's quantity is stable or even goes down. Power refinement and the increase of the power efficiency for the absolute quantity will reduce the hotbed gases' emission. It can explain why in the advanced countries the emission's reduction hasn't occurred.

4. Conclusion and discussion.

Different crises, irrespective of their type (economic crises or political fluctuations), always resulted in economic recession, reduced general power consumption, led to power refinement, increased power efficiency, and as a result the amount of the polluting emission was reduced.

This influence can be proved by the power consumption and the emissions in China during the financial crisis in Asia in 1997. The world economic crisis which transformed from the American hypothec crisis to the financial crisis provides power-saving and the emission's reduction in the present-day China. But such facilitation is temporary; as the prospect shows, the reduction of the hotbed gases' emission in China didn't undergo the crisis' influence. The increase in the population's number and the increase of the living standard will raise general hotbed gases' emission in China. In the structure of the hotbed gases' emission China will take its separate place.

As the financial crisis provides the emission's reduction temporarily, it is necessary for us to cope with the financial crisis as soon as possible, focusing on the economy's recovery and on the further development; to follow low-carbon way, to raise power efficiency, to improve power structure, to master refined power, so as limitation of the hotbed gases' emission wouldn't become strict restriction of the China's economic development.

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Cluster approach as the basis of the region's linen complex development

The article describes the direction of future development of flax complex in the Vologda region on the basis of inter-sectoral and interterritorial cooperation and the formation of regional industrial cluster. Implementation phases of a special pilot project and the expected economic results of its implementation are presented.

The Vologda region, linen complex, rationalization of production location, investment-innovative events, economic and social efficiency.



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Cultivating and processing of long-fibred flax have an ancient background in the Vologda region. Unfortunately, in spite of the great economic and social importance of flax-cultivation the state of things is difficult in recent years. Many traditions and experience were lost. Meanwhile the key sections of the linen complex have remained.

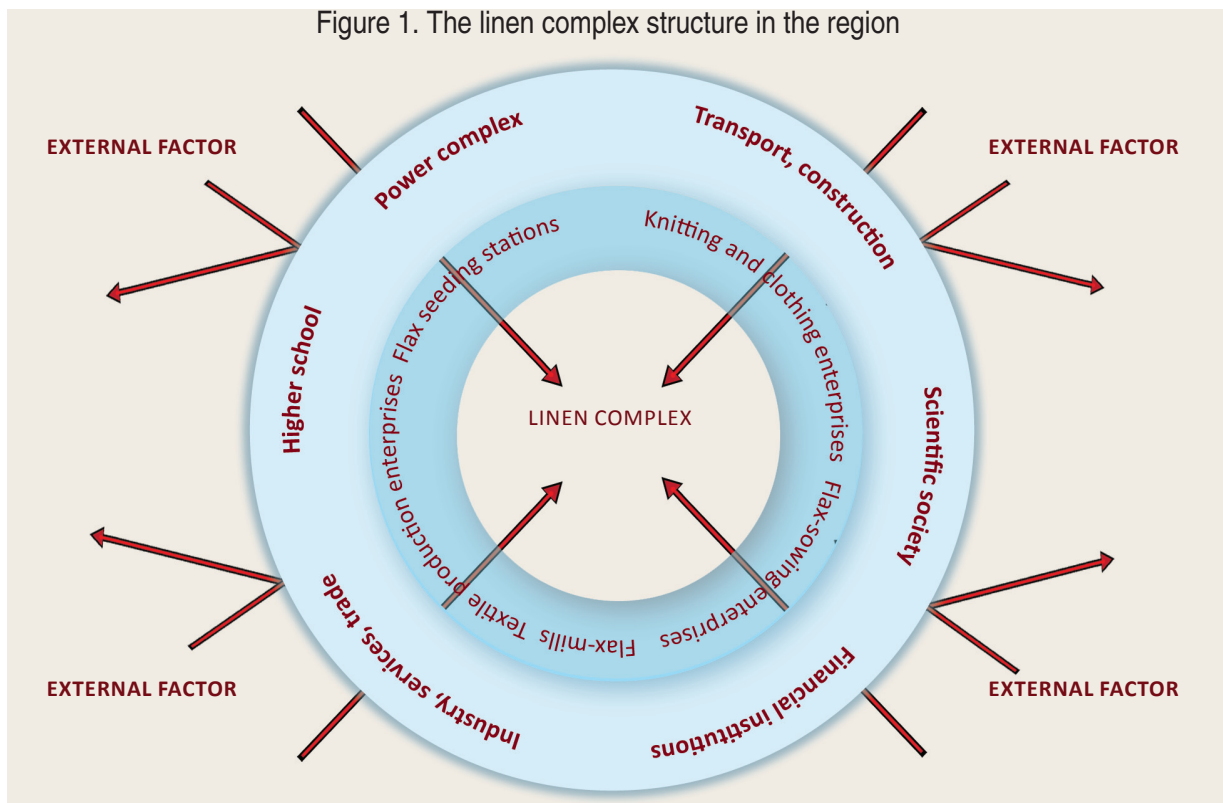
The complex includes agriculture and processing enterprises and various service organizations (*fig. 1*). It is characterized by considerable number of entities that often have different forms of ownership and different interests as well. It is naturally enough that each of them is interested in maximizing of profit.

But the work of the linen complex enterprises is not well coordinated yet, the links of production string is out of connection. It leads to rise in the cost of final linen output and has a negative effect on its competitive capacity and,

of course, on the branch revenue performance in general.

In this connection the main task of the complex's reform is to combine the owners' interests in order to obtain high quality production, thereby creating the conditions for its promotion in the European and world markets.

It is the task that is being solved by the pilot project "Development of the Vologda linen complex by means of intersectoral and inter-territorial cooperation" worked out by the Vologda region government along with LLC "Joint Management Company "Dominion". The project is taken one of the leading positions realizing the first stage of Strategy of light industry development in the RF till 2020. Meanwhile the prospects of project activity are noticed by such federal bodies of government as the Department of Agriculture and the Department of Industry and Trade of the RF.



The principal targets of the project are:

- to create the conditions for economic growth of the Vologda region linen complex on the basis of development of its own raw materials base and production of competitive final output;
- to ensure the social and economic stability of the territories specializing in cultivating and processing of flax.

The project provides for financing of the following directions: investments of the enterprises and investors, the regional budget and the federal financial institutions we want to obtain as a support.

At present the project has been worked out. It is being corrected in view of existing economic situation. The government of the region and LLC “Joint Management Company “Dominion” take some certain steps to realize the project.

Here it's important to optimize the number of enterprises cultivating flax. Because of geographic, technological and other conditions

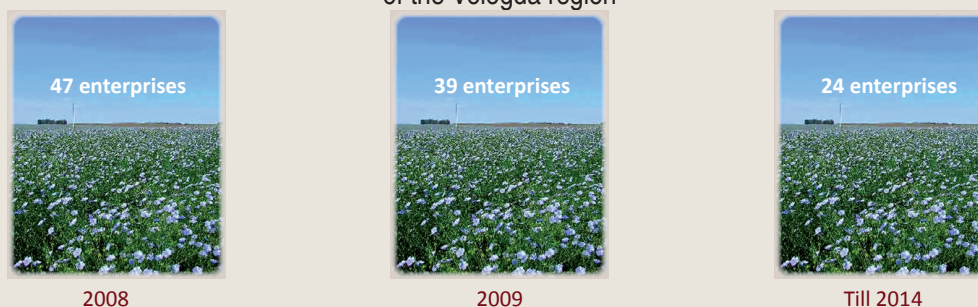
it's necessary to reduce the number of flax-sowing enterprises to 24 in 2014 (*fig. 2*) and flax-processing mills – to 10.

According to this 4 production and raw-materials areas were formed in the districts (Sheksna area, Verkhovazh'e area, Ustyuzhna area and Veliky Ustyug area), the areas are concentrated near 4 base flax mills which must ensure professional agricultural engineering when cultivating and gathering in flax, adjusted system of seed growing and replacing, necessary production capacities of primary processing and qualified personnel (*fig. 3*).

Because of deeper specialization of enterprises cultivating flax the sown areas under flax made up more than 10 thousand ha in 2009. 146 machinery and equipment units for flax cultivation were bought and the regional budget backed this purchase by giving 167.3 mln. roub.

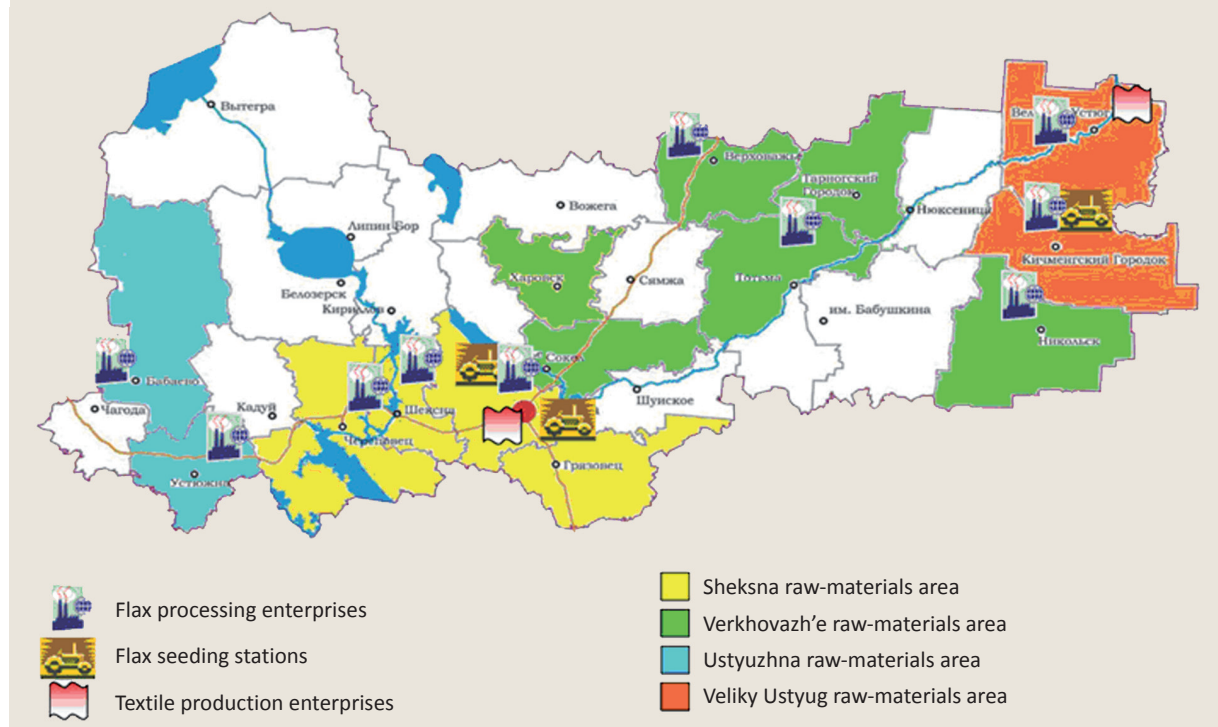
Since December, 2009 a new flax mill equipped with import efficient equipment has been working in the Sheksna district. Nodal breaking-in of the Belgium line for primary

Figure 2. Quantitative optimization of flax-sowing enterprises in raw-materials areas of the Vologda region



The represented project includes 24 flax-sowing sectors instead of 47 sectors that grew flax in 2008. In 2004 – 2014 the cultivation area under flax will make up 10 ha annually owing to deeper specialization of enterprises cultivating flax.

Figure 3. The scheme of zoning and disposition of the linen complex enterprises in the territory of the Vologda region



flax processing “Vanhauvart” is going on in the Verkhovazh’e district. Update machinery for flax-sowing enterprises was bought to the sum of **300 million roubles**.

In two entities (in the Verkhovazh’e and Sheksna districts) flax growing experiments were run under the direction of Holland company “Van der Bilt”. The flax yield indices obtained there are much higher than the average indices over the Vologda region.

The purchase of new efficient technical equipment will make it possible to decrease the period of flax gathering and in this way to increase its quality and when processing to obtain long fibre much more, the latter is the most valuable for the textile industry and in the end to make flax a real profitable agriculture.

The textile sector is being updated actively. In 2008 – 2009 about 800 million rouble. were invested into its update (fig. 4). One of the major

Figure 4. The problem tasks of linen complex modernization in the Vologda region and the course of their solution

Project participators	Problems	Provisions in the project	Funds drawing over 2008 – 2009, measures	
Flax-seeding stations	Depreciation of equipment – 92% Personnel	20,5 million rubles	• Bringing the foundation stock to sowing condition	0,6 million rubles.
Flax-sowing enterprises	Depreciation of equipment – 92% Personnel Pedigree seeds deficit	2143,12 million rubles	• 146 units of new machinery to cultivate flax	269 million rubles
Flax mills	Depreciation of equipment – 80% Personnel	189 million rubles	• Two new flax mills were built	120 million rubles
Textile flax-processing enterprises	Low quality of flax fibre Depreciation of equipment – 85% Minimal introduction of innovations because of limited possibilities of production capacities	7 231,4 million rubles	• 5 spinning machines were bought • The Italian line “Iro” for fabric softening was purchased and put into operation • An Italian tenter machine and equalizer were bought and put into operation	800 million rubles
Clothing and knitting enterprises	Personnel Obsolete technologies	244,5 million rubles	• The Swedish equipment for fabric bleaching was bought and prepared for installation • Sewing equipment was bought and put into operation	

project participators, PLC “Vologda textile”, installed finishing equipment – the line of fabric softening “Iro” (Italy), bleaching machines of the company “Benninger” (Switzerland), tenter machines and equalizer.

The results of the measures assumed are the following: increase in the production quality characteristics equal to consumer demand of population and great expansion of the range of produced fabric and home textile goods.

The channels of product distribution are of special importance for textile sector (*fig. 5*). The task is being solved successfully. The production of PLC “Vologda textile” is famous far from Russia. It is promoted under the brand name “Group “Linum”. For product promotion and increase in its sales the representative companies are starting up, 7 dealer centers have been opened (in Yekaterinburg, Ivanovo, Irkutsk, Nizhniy Novgorod, Rostov-Na-Donu, Samara, Tver’), besides that more than 100 independent agents

are working, the company’s retail chain has been created in Saint Petersburg, it is planned to expand it in other regions of the RF. It should be noted that PLC “Vologda textile” takes an active part in all-Russian and international exhibitions and promotes the sales online (pay attention that the website of the company represents its product in different languages).

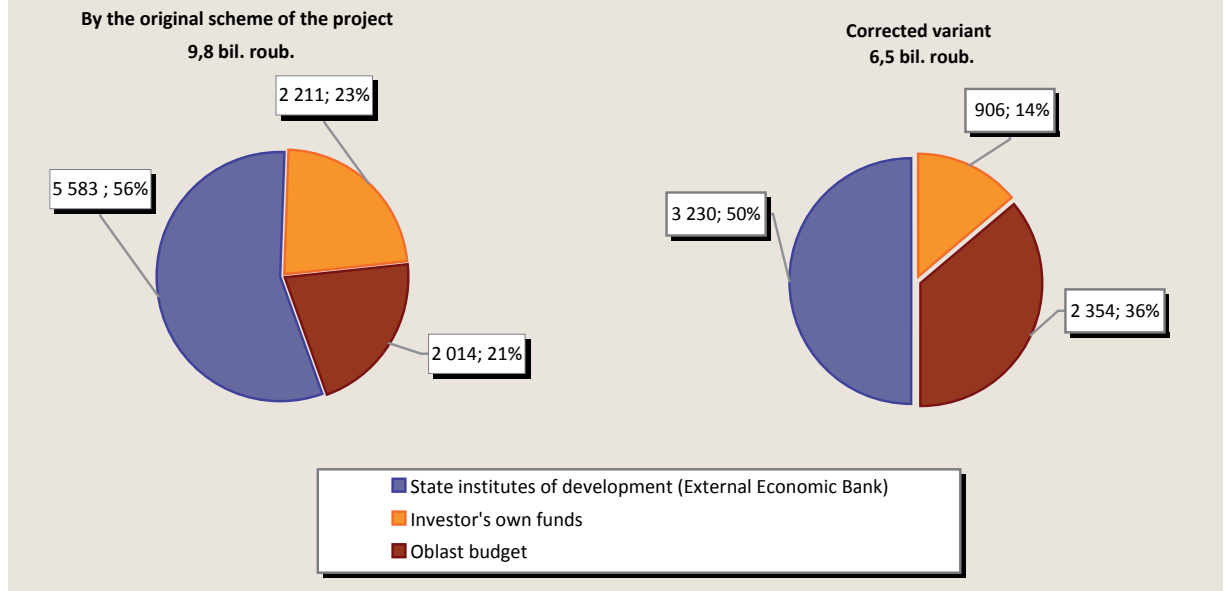
Unfortunately, it’s impossible to solve all problems at the regional level. So, for example, there is a long-felt need for transferring flax-seeding stations from the federal possession to the oblast possession. It will permit all participators of the technological process to interact more efficiently. Besides that the receipt of the financial resources planned to realize the project would renew the technological equipment more actively and would catch up with the leading textile producers faster.

It is necessary to notice that the government of the Vologda region is aware of difficult eco-

Figure 5. The channels of distribution of the Vologda linen production



Figure 6. The volumes and structure of consolidated investment budget of the Vologda linen complex for the period till 2008 – 2013, million roubles; %



conomic circumstances. So there are 2 variants of pilot project financing prepared: 9.8 and 6.5 billion roubles (fig. 6). In 2008 the pilot project was worked out. Its total estimated cost is 9.8 billion roubles including 5.58 billion roubles from the federal financial institute. This pilot project pro-

vides for full replacement of textile equipment with new foreign equipment in all process steps and organization of its own power complex in the textile sector in order to reduce power costs.

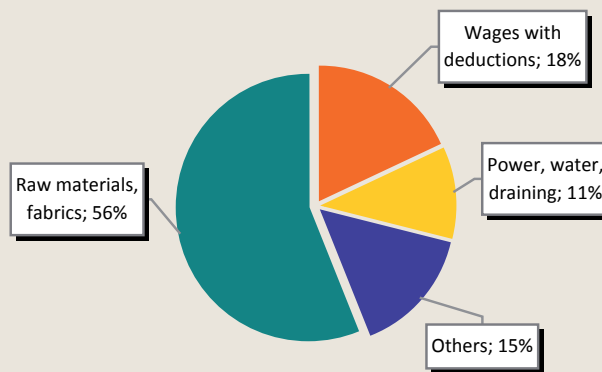
However in crisis the current condition of the sector and the tendencies at the product markets

Figure 7. The expected project efficiency by variants

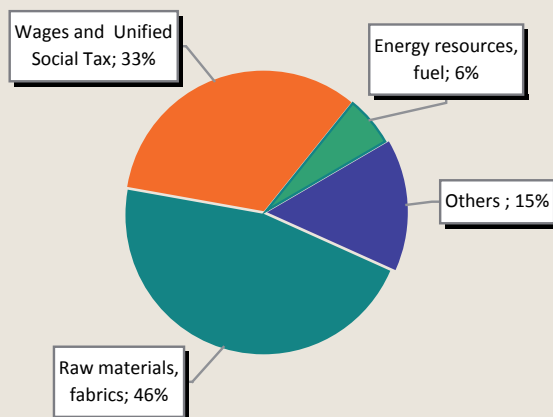
Agricultural sector	Investments 6.5 million roubles	Investments 9.8 billion roubles
Extending the sown areas	Up to 11.5 thousand ha	Up to 20 thousand ha
Raising the level of: – flax fibre yield	Up to 14 centner/ha	Up to 17 centner/ha
– flax seed yield	Up to 6.5 centner/ha	Up to 7 centner/ha
Increasing the quality of ready-made product	By 1.5 – 2 points	By 1.5 – 2 points
Decreasing the costs per an end production	By 35 – 40%	By 25 – 30%
Textile sector		
Increasing the total volume of marketable textile production per year	Up to 3.8 million roubles	Up to 8.3 billion roubles
Increasing the ready-made fabric output per year	Up to 17.5 million sq. m	Up to 43.5 thousand sq. m
Garments output	Up to 1.5 million units	Up to 3.3 million units
Clothes production	Up to 0.4 million units	Up to 1 million units
Manufacture of products of house textiles	Up to 1.07 million units	Up to 2.3 million units

Figure 8. Change in the structure of production costs

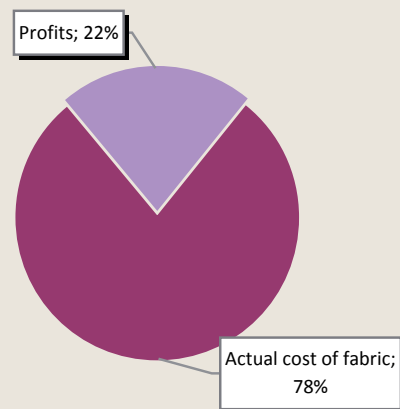
1. The existing structure of linen production cost price



2. Structure of cost price after the project implementation



3. Structure of price after the project implementation



demand to reduce the total estimated cost of the project up to 6.5 billion roubles in order to increase the possibilities of its financial marketability and to decrease the risk. The

ready project is a short version of financing of full version of the pilot project at the expense of the investment program reduction, i.e. the basis for changes is complex, weighted and balanced

Figure 9. The prospective parameters of the linen complex development in the Vologda region under the project

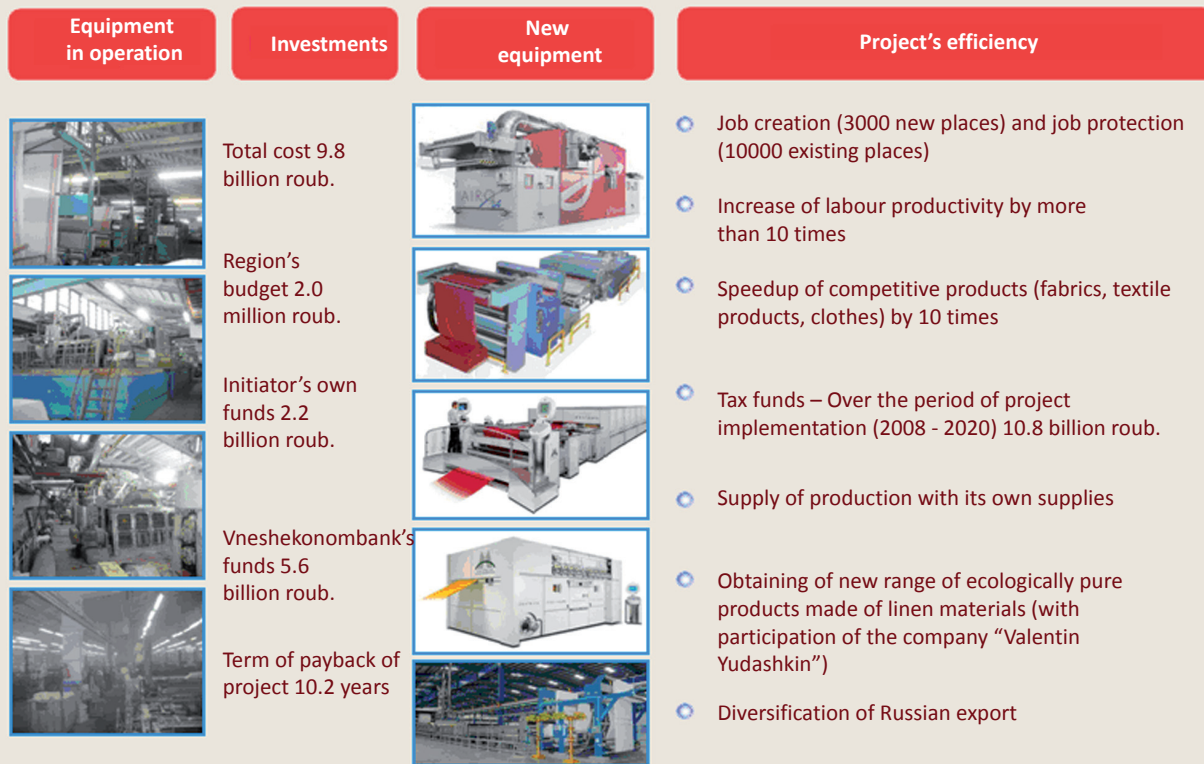
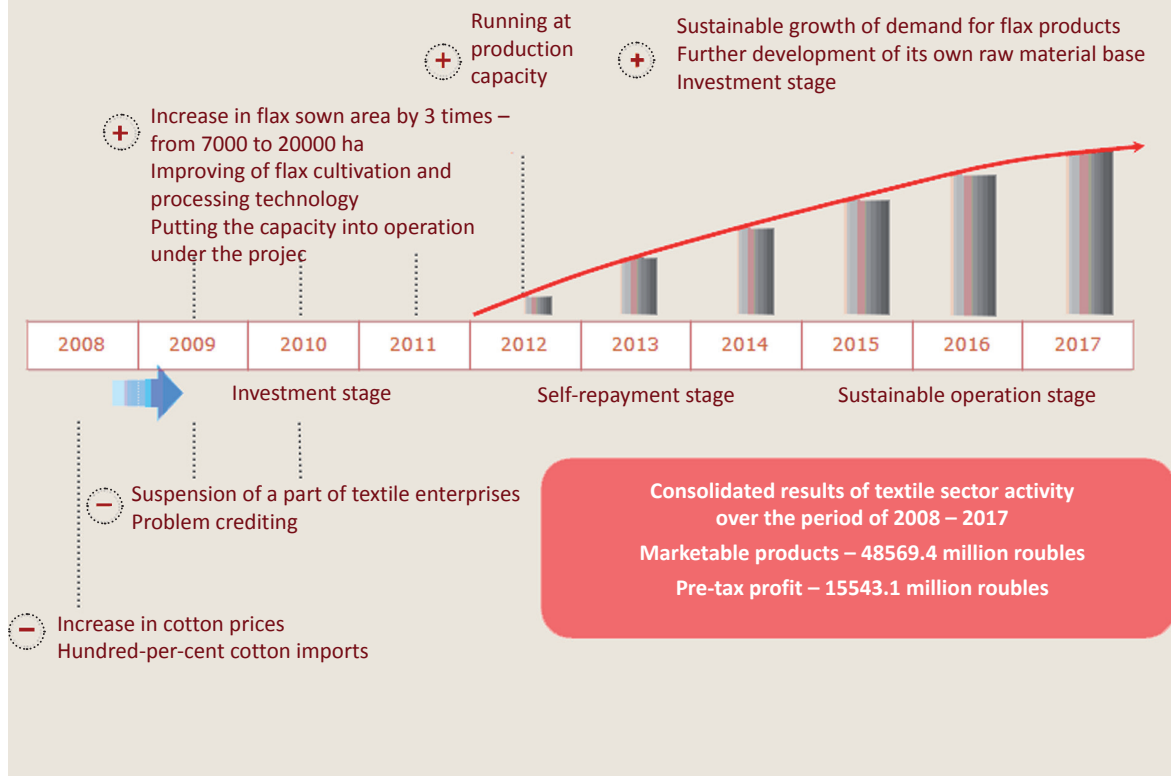


Figure 10. The project development logic by time



calculation of ration use of both available equipment and required equipment.

As it was mentioned above at present we are attracting the funds of Vneshekonombank and Rossel'khozbank and improving the project in accordance with their requirements.

However the further realization of the project will be in progress. The following things are to take place in the near future:

- to open the specialized laboratory for selection works on the basis of the North-West Research Institute of dairy and grassland agriculture, the laboratory will be financed from the oblast budget;

- to open the department for training the specialists in linen complex, it is planned to open it at the Federal State Educational Establishment of Higher Professional Education "N.V.Vereschagin Vologda State Dairy and Economy Academy";

- to keep on putting the successful experience of Belgium and Belorussia into practice;

- to increase in profitability and thereafter in profits of the textile sector enterprises;

- to expand the range of new high-technology fabric with special properties.

By means of structure updating our enterprises will be able to increase in production output of high added value cost, with the stage of finishing works included in the production string. After the corrected project is realized the total volume of textile production output will increase by 8,6 times – up to 3,796 million roubles annually; the ready-made fabric output – by 3 times – up to 17.5 million sq. m annually, the revenue will be over 700 million roubles.

But if the investments are 9.8 billion roubles, the final results will increase almost by 2 times (*fig. 7*).

The structure of production cost price and prices when producing the fabrics (*fig. 8*) and linen products will improve resulting from putting the up-to-date technologies into practice.

The macroeconomic effect of the project implementation by the key indicators is represented in *figure 9*.

It is worth noting that in order to increase the prestige and the image of the Vologda light industry production the oblast government signed the wider cooperation protocol with Llc "Valentin Yudashkin". According to this protocol the Vologda enterprises will be used as a basis for creating some experimental production for putting the innovation technologies into the light industry and for solving another range of tasks as well.

At present the leading fashion designer of the country V.A. Yudashkin is preparing a collection of clothes made of fabrics of domestic manufacturer – plc "Vologda textile". It will make it possible to sell its products in the highest price segments, i.e. with the highest added value cost.

In conclusion we draw readers' attention to the project development logic represented in less detail in *figure 10*.

Provided that all participators of the production string are concerned with the matter, the linen sector is able to achieve the objectives, in particular, to switch over to the production of competitive and innovative textile, to increase the labour production and the output, and therefore to make good its position at the domestic and foreign markets.

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Economic efficiency of innovation production of removable building structures

Open joint stock company «Vologda building designs and road machines factory» realized the innovative program 454.3 million roubles worth of mobile buildings manufacturing in 2007 – 2009.

That made possible to double productivity of block-containers, increase sales volume from 1731.2 to 2183.9 million roubles, increase profit from 260 to 399.4 million roubles and keep personnel size in crisis years 2008 – 2009.

Innovation, mobile buildings, manufacturing, economics.



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Under the market economy conditions the reliability of enterprise activity is determined by the level of innovation activity – capacity to produce high competitive product. Foreign and domestic experience shows that the most stable enterprises at the market are those enterprises which are based in their development on their own scientific and technical potential ensuring the production output of high consumer properties. In the Vologda region one of such enterprises is PIC “Vologda building structures and road machines plant” (till 2007 “Vologda machine-building plant”). The plant was established on the basis of auto repair workshops and in 1917 it was reoriented to the production of road-building machinery: heavy-duty trailers, scrapers and removable buildings for personal services of road builders. In 1990-s in connection with elimination of plan-distribution system of management and country’s transition to market economy there was a sharp drop in plant’s product. The way out of the protracted crisis started with expansion of block-containers production. Since 2002 having taken the experience and the market conditions into

account the plant reoriented its activity to the production of fast-erected buildings of various functionalities.

At present PIC “Vologda building structures and road machines plant” produces one-, two-, three-stored buildings of panel and rack-mount structure under the trademark of “Voldom” and three kinds of block-containers under the trademark of “MobiKon”: welded box blocks (BCS-700), prefabricated demountable structures (BCS-600) and movable blocks with their own undercarriage. Their manufacturing features are given in *table 1*. Over 70% of total production is the share of bloc-containers.

The marketing research established that some buildings are in keen demand at the market. These buildings have such design, technical and performance characteristics which ensure comfort, environmental safety of dwelling in various climatic zones, performance reliability under static and dynamic load, possibility to construct the rooms of different planning, multitasking functionality of use and short terms of building with reasonable prices [1, 2, 3].

Table 1. The technical characteristics of block-containers

Marking	Overall dimensions, m (width × length × height)	Internal height, m	Mass, kg at the most
BCS600	2.438×6.058×2.590	2.2	3,000
BCS601	3.000×9.125×2.810	2.4	5,000
BCS602	3.000×6.058×2.810	2.4	4,000
BCS700	2.438×6.058×2.590	2.2	3,000
BCS701	3.000×9.125×2.810	2.4	5,000
BCS702	3.000×6.058×2.810	2.4	4,000
BCM-4	2.500×6.600×3.768	2.2	7,500
BCM-4.1	2.500×8.000×3.988	2.4	8,500
BCM-5	2.800×8.000×3.988	2.4	9,000

When the competition being intensified in order to extend the product market in 2007 – 2009 plc “Vologda building structures and road machines plant” worked out and realized the innovation-and-investment program for technical reequipment and production of new generation of removable prefabricated demountable block-containers as well as construction of buildings of various functionalities on their basis. The fulfillment of this program made it possible to create cyclic-line production technology, to improve the existing structures of block-containers and to work out new ones in the main as well as to create new planning solutions concerning the erection of panel and rack-mount structure buildings.

The plant has performed high volume of engineering developments, 11 of which have been protected by patents for inventions and useful models in Russia and Germany. The most important engineering developments of the plant are new building elements and their joints ensuring production of removable prefabricated demountable buildings of various planning and different number of storeys [4, 5, 6, 7].

The production has new technological equipment and rigging for the processes of metal blanking, stamping, welding, metal machine working and woodworking.

The most important new technological solutions are the following: reduction of heat conductivity of covering panels by overlaying foamed polyurethane onto the internal elements of the panel metal structure; improvement of corrosion resistance of the external

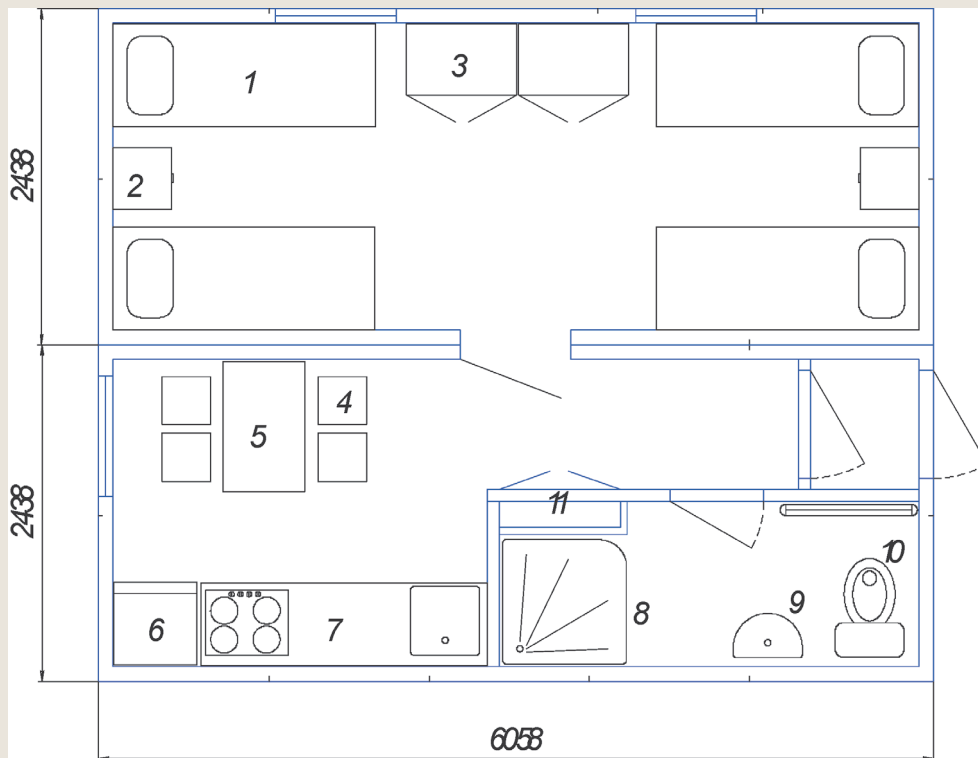
metal boarding of the containers by powder paint spraying; increase in durability of wooden elements of structure thanks to wood preservative and fire retardant; improvement of quality of coating and product design owing to the use of paint-and-lacquer materials with acid hardening. The execution of the modernization program made it possible to increase productivity and labour safety as well as to improve the industrial processing control.

The produced removable structures are characterized by high seismic stability (up to 9 points on the Richter scale) and they can be used under the atmospheric temperature from +45°C to -55°C, they are hard to snow load up to 320 kg per sq. m and wind load up to 85 kg per sq m. The prefabricated building structures ensure the opportunity to transport them knocked-down (packaged) by using different kinds of transport and the block-container buildings can be redeployed many times.

The block-containers can be used both in a detached way and a semidetached way with different spatial planning and different number of storeys. Such structures are equipped with heating utility, water supply and sewerage, ventilation and electrical equipment conditioning.

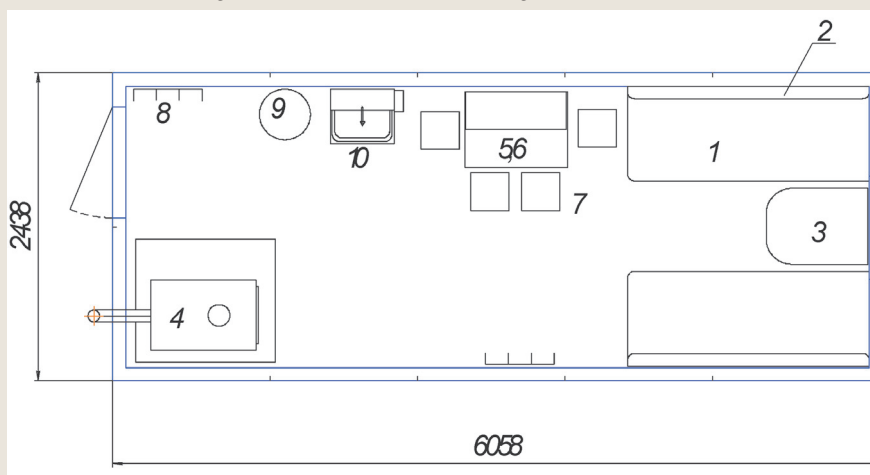
The engineering solutions that are designed in the building structures make it possible to construct the projects with different architecture-planning solutions. The examples of planning decisions in the structures made of detached and semidetached block-containers are given in *figures 1 and 2*.

Figure 1. Block-section composed of two containers for 4 persons



Symbols: 1 – bed, 2 – bedside table, 3 – two-door wardrobe, 4 – stool, 5 – dinner table, 6 – household refrigerator, 7 – kitchen table with fitting kitchen sink and electric cooker, 8 – shower tray, 9 – ceramic wash basin, 10 – toilet bowl, 11 – built-in closet.

Figure 2. The workers' building structure "Lesnik"



Symbols: 1 – bed-chest, 2 – folding bed, 3 – table, 4 – solid fuel stove, 5 – dinner table, 6 – hinged shelf, 7 – stool, 8 – wall hung clothes rack, 9 – water tank, 10 – wash basin and waterheater.

Two- and three-storey building structures are assembled on the basis of prefabricated demountable structures of block-containers BCS-600 (fig. 3). The use of interstorey panels protected by the RF patent №81507 makes it possible to reduce the heat loss at the expense of

absence of interstorey clearance and to cut the costs by 15 – 20% for making and constructing the building structures.

The plant worked out the structures and made habitable complexes, personal services complexes, administrative and production

Figure 3. The prefabricated demountable three-storey building structure composed of block-containers (the city of Sochi)



Figure 4. Camp for shift work with pedestrian tunnels (square is 1880 sq m) in the Komi Republic, Sredne-Timanski mine



complexes: hostels from 8 to 300 and more people, canteens for 20 – 200 seats, offices, medical stations, shops, bathhouses, shower cubicles, laundry and other buildings of different levels of decoration work and kitting-up.

The high grade of block-containers manufacture makes it possible to erect buildings in the natural disaster areas within the shortest possible time and to organize the camps for shift work especially in the places of undeveloped infrastructure (fig. 4).

The execution of the innovation program in the value of 454.3 million roubles enabled the plant to increase in the following: sales of products from 1731.2 to 2183.9 million roubles; production of block-containers from 2,993 to 6,361 units; profit from 260 to 399.4 million roubles in 2009 as against 2007 (tab. 2).

The use of patented workings made it possible to bring down the prime cost of modular building structures by 15 – 20% and to get the economic effect overall 76.2 million roubles in 2009. The plant facilities ensure the production of over 400 block-containers every month and 8,000 sq m building structures of panel and rack-mount construction. The structures produced by the plant have the cost by 20 – 30% less than the cost of the traditional house building (brick, block, cast-in-situ and others).

Being new products of 2009 the block-containers of prefabricated demountable structure and removable model are listed for “The 100 best Russia’s goods” and PIC “Vologda building structures and road machines plant” became a laureate of “The 100 best Russia’s goods” program.

Table 2. The financial and economic indicators of plc “Vologda building structures and road machines plant” activity

Technical and economic indicators of the enterprise	Unit of measurement	Reporting periods by years		
		2007	2008	2009
Sales of products	Million roubles	1731.20	1762.80	2183.90
Production of block-containers	Unit	2,993	3,141	6,361
Average list number of workers	Person	1,141	1,173	1,211
Output per a worker	Roubles/month	126438.80	125234.44	150282.14
Amount of paid taxes	Million roubles	277.00	326.00	340.90
Including:				
in the federal budget	Million roubles	125.00	142.00	152.00
in the regional budget	Million roubles	92.0	118.00	120.00
in the state off-budget funds	Million roubles	60.00	66.00	68.70
Capital investments	Million roubles	111.00	201.00	142.30
Profit before taxes	Million roubles	260.00	310.80	399.40

In 2008 – 2009 the plant got the medals and awards for high quality of its products: at the exhibition “The future building industry – 2008” in Sochi; at the IX All-Russian exhibition “The Russian producers and supplies of armed forces”; at the international show “Complex safety – 2008”.

The production activity of PIC “Vologda building structures and road machines plant” has a great influence over the improvement of social and economic condition of the Vologda region. During three recent years (2007 – 2009) in the region the administrative and personal service complex in the industrial park “Sheksna”, the camp for those who build the compressor station “Yubileynaya” (the Totem district) and the personal service building for the closed corporation “North gas mains” (the town of Gryazovetz) have been constructed with over 300 block-containers being used.

In 2005 – 2009 in the Vologda region the plant built 23 building structures of panel and rack-mount construction at the total square 21,600 sq m including 9 habitable houses at the square of 12,550 sq m besides the buildings of container structure. The plant is the participant of the national project “Affordable and comfortable dwelling – for the citizens of Russia” and built comfortable and low-cost houses in the towns of Babaevo, Vologda, Velikii Ustyug, Harovsk and in the settlements of Vozhega and Sheksna. The projects built by the plant are also the treatment and health-improving building for 100 seats in the town of Velikii Ustyug, the school in the settlement of Turovets and the bus station in the settlement of Nyuksenitza.

In 2007 – 2009 the plant paid the taxes overall 330 million roubles in the regional budget including 120 million roubles in 2009. The number of workers at the plant increased by 70 people in 2009 as against 2007 and made up 1,211 people by increasing the output per one worker up to 150,3 thousand roubles per month (*tab. 2*). To provide the production with raw materials, stock and component

parts PIC “Vologda building structures and road machines plant” make use of services of more than 50 enterprises and organizations of the Vologda region including the Closed Corporation “Severstal-invest”, Society with Limited Liability “Tekhnoindustriya”, Society with Limited Liability “Teplosfera”, the concern “Vologda lumbermen” and the Sheksna fiberboard center. These enterprises and some others render services to PIC “Vologda building structures and road machines plant” every year to the amount of over 500 million roubles and that in turn ensures the additional employment of more than 500 people at these enterprises.

Thus the active innovation and investment development strategy prevented PIC “Vologda building structures and road machines plant” from being involved in economic crisis and from declining in production economy at some co-operating enterprises in the region. All this favoured the improvement of social and economic condition in the Vologda region.

The product produced by the plant is widely used in gas and oil processing sectors, mining sectors, geological survey sectors and building sectors when erecting some temporary camps for builders, camps for shift workers which are composed of the projects of various functionalities: hostels, canteens, administrative and personal service complexes, office blocks, hotels, diesel-engine power plants and others.

The regular consumers of removable block-containers are such famous companies as PIC “Rosneft”, “Lengasspetzstroy”, “Most”, Closed Company “Transstroy” as well as a number of foreign companies operating in the territory of Russia: the French companies “Total” and “Schlumberger”, the Russian and American company “Polyarnoe siyanie”. The plant developed, made and assembled 18 building structures of block-container construction for the corporation “Transstroy” in the Sakhalin Island.

The vigorous innovation and investment activity enabled the plant to become one of the

Russia's leading removable structure producers and to take part in two large federal programs as well: the project construction for the Sochi Olympic Games in 2014 and the Asian-Pacific

economic community summit in 2012. It is planned to build 14 camps with more than 110,000 sq. m of the total square of removable building structures in these projects.

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Small business development as a factor of increasing financial autonomy of municipal entities

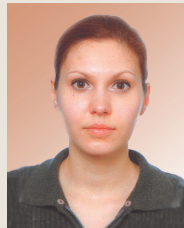
The article examines the main results of the reform of local government. It shows that along with the positive results achieved during the transformation, a number of problems remain unresolved. The most significant among them is lack of financial autonomy of municipalities. Solutions to this problem are proposed. One of the promising directions of formation and expansion of own economic base of the municipality is the development of small businesses.

Municipalities, local budget, financial independence, the development of small and medium business.



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The country has completed the legal stage of the reform of local government institution in accordance with Federal law № 131-FZ “On general principles of local self-government in the Russian Federation”. A uniform two-tier system of local government is introduced, i.e. local governments are formed not only at the level of cities and districts, but also in the settlements. This is a very important step towards the formation of civil society: as a primary element of democracy, local government protects the interests of those citizens who are determined by their living together in a particular area and the inevitable interaction. Local government creates favorable conditions for the activation of the human factor, contributing to involvement in the turnover of unused resources, providing

a potential opportunity to the regions of local life to solve problems at their own expense and on their own responsibility.

However, in the process of implementation of the Federal Law № 131 all the tasks were performed given local government. As it was shown, Institute of Local Government was unable to fully realize its potential. The main reason was the lack of its own economic base and financial independence¹. Local governments can not fully meet the needs of socially relevant municipalities and residents and participate in the economic and social development of territories. Ultimately, studies show [1, 2], this situation entails no change in the

¹ We believe financial independence as provision of municipalities with own funds and possibility to use available resources.

Table 1. Responses to the question: "How do you assess the outcome of the reform of local government in relation to your municipal entity?" (in % of respondents)

Optional responses	Years								
	2006			2007			2008		
	Urban settlements	Rural settlements	Municipal districts	Urban settlements	Rural settlements	Municipal districts	Urban settlements	Rural settlements	Municipal districts
Positive	77.8	63.5	57.1	75	72.2	93.3	83.3	64.9	61.9
The situation has not changed	-	21.2	42.9	25	21.6	-	16.7	24	23.8
Negative	22.2	15.3	-	-	6.2	6.7	-	11.1	14.3

life of the population, progress in land development, preservation of the backwardness of the economy and high levels of poverty.

In this context, search and development of measures, which help create and expand the economic base of municipalities, serve as important practical and research tasks. One of the most promising ways of increasing financial independence of local self-governance and sustainable socio-economic development of municipalities is the development of small and medium businesses. The effective functioning of this sector of the economy allows us to solve economic and social problems of municipalities as well:

- filling of the local budget and the expansion of its revenue;
- meeting of the vital needs of the local population in jobs, services and goods;
- diversifying the local economy;
- employment support;
- improving the quality and standard of living of inhabitants;
- the most efficient use of available resources and involving of significant potential reserves – production areas which are not used in, natural and labor resources, etc.;
- ensuring social orientation of a market economy;
- increasing investment inflows into the economy, etc.

In the Vologda oblast in accordance with the law "On peculiarities of local self-government in the Vologda oblast in the period of Transition" the local government reform is imple-

mented in full from January 1, 2006. During this time a lot of preparatory work has been done: new laws are formed, the municipalities are defined, the heads and deputies are elected, the local Administrations are staffed [3, 4]. However, along with undeniable success in reforming local government, the adoption of FL №131 led to a large number of problems, evidenced by both current practice and the need to transfer to a more remote period adoption of some articles.

According to the heads of municipalities², the results of the reform are difficult to be assessed as unambiguous. However, the proportion of those who welcomed the changes – the majority. Among the heads of urban settlements – 83%, rural – 65%, municipal districts – 62% (*tab. 1*). In our opinion, it can be explained first of all by the independence in disposal of resources to address local issues [5].

However, in comparison with 2007 according to the Heads there are fewer possibilities for governance of the development of the municipal entity. This view is held by a quarter of Heads of district administrations (*tab. 2*).

In many ways, this situation is caused by the failure to resolve several problems (*tab. 3*). Among them are those with which local governments have faced in recent years (lack of availability of financial resources, weak public interest, lack of effective cooperation with district authorities) and those that are caused by economic and financial crisis.

² Questioning of Heads of municipalities is held annually.

Table 2. The distribution of respondents' answers to the question: "In your opinion, in 2008 compared with 2007, had the local government more capacity to manage social and economic development of municipal entity?" (in % of respondents)

Optional responses	Years								
	2006			2007			2008		
	Urban settlements	Rural settlements	Municipal districts	Urban settlements	Rural settlements	Municipal districts	Urban settlements	Rural settlements	Municipal districts
Yes, there are more opportunities for management of development	58.3	45.2	25	41.7	52.5	43.8	38.9	26.7	47.6
Nothing fundamentally has changed	25	41.3	62.5	41.7	30.7	37.5	44.4	49.3	28.6
No, there are fewer opportunities for management of development	16.7	8.7	12.5	8.3	7.8	6.3	11.1	12.9	23.8
Find difficulty in replying	-	4.8	-	8.3	8.9	12.5	5.6	11.1	-

Table 3. Distribution of respondents' answers to the question: "Please, assess the degree of significance of factors that interfere, in your opinion, good governance of municipal development" (in % of respondents) *

Factor	Years								
	2006			2007			2008		
	Urban settlements	Rural settlements	Municipal districts	Urban settlements	Rural settlements	Municipal districts	Urban settlements	Rural settlements	Municipal districts
Imperfection of the legislation (131, budget, tax codes and other regulatory documents)	N/d	N/d	N/d	23.1	41.8	50	43.8	43.3	85
Lack of own sources of revenue	83.3	77.2	87.5	76.9	80.2	86.7	100	83.1	76.2
Lack of asset facilities	66.7	46.9	37.5	58.3	35.6	20.1	70.6	32	26.3
Understaffing of local governments with qualified personnel	8.3	19.5	25	38.5	30	31.3	17.2	22.7	15.8
The limited authority	36.4	24.5	25	46.2	21.6	13.3	25	17.5	26.3
The presence of authority which is not directly related to the institution of local self-government	N/d	N/d	N/d	N/d	N/d	N/d	38.9	31.2	5.3
The weakness of motivation among municipal employees of local governments	18.2	23.6	37.5	50	35.2	20	35.7	15	25
Bureaucratic delays of public services (barriers of approvals, clarifications, a large volume of reporting, etc.)	45.5	44.8	25	30.8	44.3	37.6	82.4	73.8	61.9
Lack of effective cooperation with public authorities	N/d	N/d	N/d	41.7	25.8	31.4	43.8	29	42.1
The passivity of the local population	41.7	45	37.5	30.8	49.5	18.8	58.8	55.1	40
Lack of methodology for assessing the efficiency of local government	N/d	N/d	N/d	27.3	26.7	53.4	31.3	13.8	75
Lack of effective forms of private-municipal partnerships	N/d	N/d	N/d	9.1	N/d	12.2	33.3	14.2	15
Lack of full-scale system of municipal statistics (including information on taxpayers)	N/d	N/d	N/d	N/d	N/d	N/d	77.8	47.5	45

* - the table does not represent answers "in a certain degree significant" and "not significant".
No data (answer choices on the questions in previous years were not available).

The most acute is the problem of inadequate financial resources, primarily of its own resources (100% Heads of rural administrations,

more than 83% of urban and 76% of municipal districts believe). In connection with the establishment of settler-level local self-government

it is necessary to separate the economic base between settlements and districts. This led to a significant reduction in the absolute size of their own revenues at district level, and, most importantly, to reduction of the proportion of own revenues in the budget of the municipal district.

This situation is shown in data on the structure and dynamics of budget revenues of one of the largest rural area – the Vologda district (*tab. 4*).

Thus, in 2008 from its own revenues was generated only a quarter of the district budget, the rest was **gratuitous** transfer, the total volume in absolute figures in 2005 – 2008 increased more than 2.5 times. Among the most significant own income is tax revenue (85%), defining role in this belongs to the four taxes: personal income (59%), organizations profit (16.3%), property (13%) and gross income (11%). The share of non-tax revenues in the budget of the Vologda district in 2008 amounted to 3.9%.

As the data of budgets execution show that in 2008 none of the districts were not able to form from their own expense even half its budget. Only in two districts – Sheksna and

Kaduy – the share of own funds in the municipal budget exceeded 45%. In eight districts it ranged from 30 to 40% in seven – from 20 to 30%, in nine – less than 20%, and in one – less than 10% (*fig. 1*).

However, with the establishment of settler-level local self-government the functions of district level decreased [6]. Its main concern now is to decide the issues between settlements, that is affecting the interests of residents in the district, but beyond the limits of the settlements. The burden of life support lay on the rural and urban settlements. However, the economic opportunities of the major part of municipalities have been very weak.

The most important tax sources for the budgets of rural settlements are deductions from taxes on personal income, personal property and land tax. While their level is clearly insufficient to ensure the financial sustainability of rural settlements.

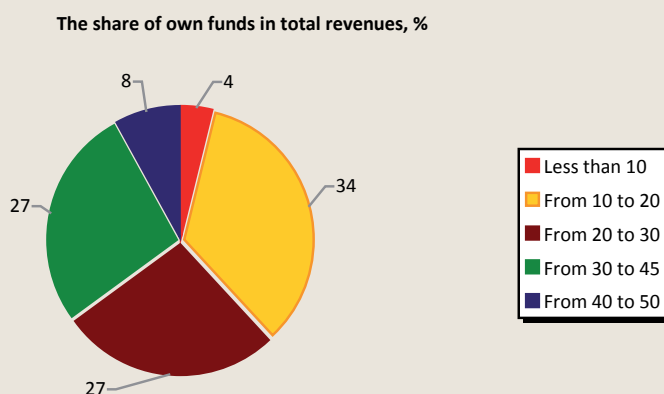
Thus, in 2008 in 20 from 23 rural settlements of the Vologda municipal district gratuitous transfers exceed 50%. Only three settlements – Pryluky, Leskovo and Spasskoye – could generate more than 70% of the budget from its own funds (*tab. 5*).

Table 4. Structure and dynamics of budget revenues of the Vologda district

Indicators	2005		2008	
	Thous. rub.	% to revenues in all	Thous. rub.	% to revenues in all
Tax on organizations profit	39325.0	8.0	30589.0	3.5
Tax on personal income	142998.0	28.9	110461.0	12.5
Taxes on gross income	5380.0	1.1	21218.0	2.4
Property taxes	20668.0	4.2	24910.0	2.8
Other taxes	4340	0.8	-	-
Total tax revenues	212711.0	43.0	187178.0	21.1
Revenues from the use of property in the state and municipal ownership	3674.0	0.7	5541.0	0.6
Payments for the use of natural resources	1000.0	0.2	1552.0	0.2
Revenues from the sale of tangible and intangible assets	2550.0	0.5	24926.0	2.8
Fines, penalties, restitution	2531.0	0.5	2000.0	0.2
Other non-tax revenues of municipal budgets	1186.0	0.2	150.0	0.0
Total non-tax revenues	10941.0	2.2	34169.0	3.9
Total budget revenue of the district	223652.0	45.2	221347.0	25.0
Gratuitous revenues	258737.0	52.3	664179.0	75.0
Total revenues	494559.4	100.0	885526.0	100.0

Source: Federal state statistics service [Electronic resource]. – Access mode: <http://www.gks.ru>

Figure 1. Distribution of municipal districts of the Vologda Oblast depending on the proportion of own funds in total revenues in 2008



Source: Federal state statistics service [Electronic resource]. – Access mode: <http://www.gks.ru>

Table 5. Structure of revenues of rural settlements budgets of the Vologda oblast in 2008

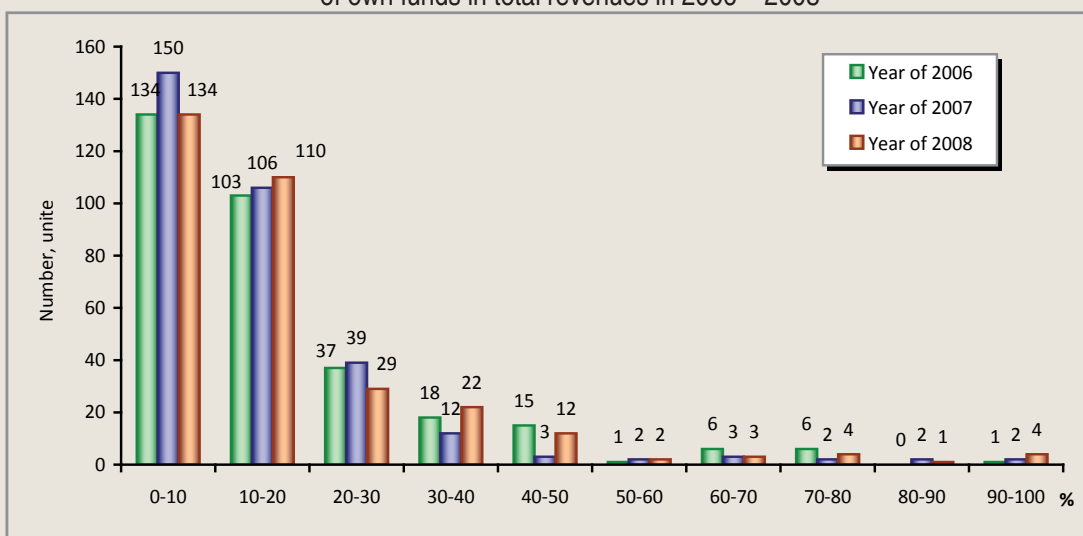
Rural settlements	Total revenues		Tax revenues		Non-tax revenues		Gratuitous and irreversible revenues	
	Thous. rub.	%	Thous. rub.	% to revenues in all	Thous. rub.	% to revenues in all	Thous. rub.	% to revenues in all
Votchinskoye	3316.9	100.0	168.7	5.1	7.9	0.2	3140.3	94.7
Borisovskoye	3308.2	100.0	266.6	8.1	12.6	0.4	3029.1	91.6
Nefedovskoye	2884.7	100.0	236.4	8.2	24.8	0.9	2623.5	90.9
Vysokovskoye	3542.7	100.0	366.2	10.3	11.4	0.3	3165.1	89.3
Nesvoyskoye	3114.3	100.0	397.8	12.8	35.7	1.1	2680.9	86.1
Bereznikovskoye	4078.0	100.0	533.8	13.1	38.1	0.9	3506.2	86.0
Kipelovskoye	4818.2	100.0	846.6	17.6	47.2	1.0	3924.4	81.5
Novlenskoye	5574.8	100.0	982.2	17.6	202.6	3.6	4403.3	79.0
Veprevskoye	4093.7	100.0	744.8	18.2	138.7	3.4	3210.1	78.4
Goncharovskoye	4035.3	100.0	725.6	18.0	294.1	7.3	3015.7	74.7
Fedotovskoye	15071.4	100.0	3950.1	26.2	0.0	0.0	11121.2	73.8
Staroselskoye	4149.2	100.0	1104.8	26.6	132.7	3.2	2911.7	70.2
Sosnovskoye	10812.6	100.0	2816.6	26.0	577.0	5.3	7419.0	68.6
Markovskoye	5644.3	100.0	1772.6	31.4	50.3	0.9	3821.4	67.7
Pudegskoye	3976.6	100.0	473.4	11.9	817.4	20.6	2685.8	67.5
Kubenskoye	7881.6	100.0	2349.2	29.8	294.1	3.7	5238.4	66.5
Oktyabrskoye	6482.6	100.0	2023.9	31.2	174.3	2.7	4284.3	66.1
Semenkovskoye	13487.2	100.0	5017.0	37.2	903.7	6.7	7566.5	56.1
Podlesnoye 1	16355.2	100.0	6911.4	42.3	622.5	3.8	8849.2	54.1
Raboche-Krestyanskoye	7229.9	100.0	3459.3	47.8	151.0	2.1	3619.6	50.1
Prylutskoye	4935.8	100.0	3257.9	66.0	222.9	4.5	1471.1	29.8
Leskovskoye	17035.3	100.0	2842.8	16.7	9139.5	53.7	5053.0	29.7
Spasskoye	8960.9	100.0	5351.6	59.7	1756.4	19.6	1870.5	20.9

Source: Data are provided by the administration of the Vologda oblast.

This is true for other regions: in the majority of rural settlements proportion of own funds in total revenue does not exceed 20% (fig. 2).

In the structure of budget revenues of urban settlements (compared to rural) proportion of tax and non-tax sources is higher, but here

Figure 2. The distribution of rural settlements of the Vologda oblast depending on the proportion of own funds in total revenues in 2006 – 2008



Source: Federal state statistics service [Electronic resource]. – Access mode: <http://www.gks.ru>

irreversible revenues are dominated too. In 2008 the number of municipalities (Krasavino, Zhelyabovo, Chebsara and Khokhlovo), they accounted for more than 80%.

Consequently, the functioning of local government at present is largely achieved through financial assistance from higher budgets. For these purposes, the regional budget of the Vologda region formed following regional funds:

- financial support to municipal districts (urban districts) and financial support to settlements for levelling local budgets;
- for balance of local budgets to provide additional support to local budgets and ensuring their balance;
- co-financing of social expenditures for the equity financing of socially significant costs;
- compensation for the financial provision of certain state powers allocated to municipalities.

Table 6. Distribution of answers of Heads of municipal districts given to the question: “Please, assess the provision of your municipal entity with own and total revenues” (in % of respondents)

Municipal entities	Total revenue provision				Own revenue provision			
	extremely low (0-30%)	low (40-60%)	middle (70-90%)	high (more than 90%)	extremely low (0-30%)	low (40-60%)	middle (70-90%)	high (more than 90%)
<i>Year of 2006</i>								
Urban settlements	40	40	-	20	63.7	27.3	9	-
Rural settlements	40.1	23.4	31.7	4.8	87.2	7.8	4	1
Municipal districts	40	40	-	20	85.8	14.2	-	-
<i>Year of 2007</i>								
Urban settlements	-	33.4	66.6	0	40	20	40	-
Rural settlements	25.4	22.5	38.1	14.2	87.3	6.3	3.8	2.6
Municipal districts	7.7	38.5	38.5	15.4	50	42.8	-	7.1
<i>Year of 2008</i>								
Urban settlements	23.1	46.2	30.7	-	43.7	25	25	6.3
Rural settlements	50	28.7	18.3	3	77.9	14.6	7.5	-
Municipal districts	23.5	47.1	29.4	-	52.9	41.2	5.9	-

The total amount of transfers from the regional budget to district and settlement budgets has increased from 9878.23 million rubles (41.5% of total expenditures) in 2006 to 17223.16 million rubles (43.6%) in 2008. However, despite this positive development, the problem of local government finances remains unsolved.

According to the survey, 80% of Heads of rural settlements consider provision of municipal entities as low and extremely low. About 70% of Heads of urban settlements take the same view (*tab. 6*).

In addition, significant funds of interbudget transfers are allocated for target use. Lack of "free funds" is resulting in limited capacity of local governments in addressing the challenges of socio-economic development of the municipality. In accordance with Federal law № 131 in 2008 the transition period of the reform of local government ended, and its full

implementation began. It was expected that by 2009 the municipalities will have formed its own economic base, which will ensure financial independence of local budgets. But, as it is shown in the analysis, the situation of municipalities with its own revenues is rather difficult. And in connection with the crisis in the economy, the expenditures of higher-level budgets have reduced (in 2009 the budget of the Vologda region was "cut" by 9.1 billion rubles), including the support of municipalities. The issue of the possibility of performing functions carried on local government is remained open. In this respect, it is actual to find and develop measures which will form and expand the economic base of municipalities, "the transfer of the center of gravity to domestic sources calling for funds in" [7].

The Heads of local administrations believe that the most promising measures that contrib-

Table 7. The distribution of respondents' answers to the question: "In your opinion, what measures should the local authorities of the municipal entity take to expand its economic base?" (in % of respondents)

Optional responses	Years								
	2006			2007			2008		
	Urban settlements	Rural settlements	Municipal districts	Urban settlements	Rural settlements	Municipal districts	Urban settlements	Rural settlements	Municipal districts
Raise the efficiency of use of budgetary resources	N/d	4.7	N/d	30.8	9.9	31.3	22.2	14.2	47.6
The identification and inclusion in the turnover of unused resources	33.3	18.7	62.5	30.8	21.5	56.3	38.9	30.6	47.6
Encourage public participation in the economic life of the municipal entity	25	36.4	25	23.1	32.6	25	50	37	28.6
Create conditions for business development	N/d	N/d	N/d	46.2	40.3	62.5	44.4	46.1	66.7
Participate in regional and federal programs	N/d	N/d	N/d	N/d	N/d	N/d	50	47.9	81
Develop municipal connections	N/d	N/d	N/d	N/d	N/d	N/d	11.1	11	19
Intensify work on cadastral valuation of land and inventory of the municipal assets, define the ways of their effective use.	N/d	N/d	N/d	38.5	16.6	25	50	39.3	47.6
To carry out work on the legalization of "shadow wages"	N/d	N/d	N/d	46.2	49.2	62.5	44.4	43.4	61.9
To attract private investment in the economy	16.7	36.4	25	15.4	33.7	43.8	44.4	31.5	85.7

ute to the achievement of this goal are: participation in regional and federal programs (48% of Heads of rural settlements, 50% – urban and 81% – municipal areas), stimulation of public participation in the economic life of the municipal entity (37, 50 and 29% respectively), the intensification of work on land evaluation, land inventory of municipal property and the identification of areas for their effective use (39, 50 and 48%), creation of conditions for business development (46, 44 and 67%; *tab. 7*).

It is evident that high expectations in the municipalities are connected with the development of private business. The most promising according to the administrative Heads are: economically active population, primarily based on the labor of family members (this is indicated by 43% of Heads of rural settlements and municipal districts) and the development of small and medium-sized enterprises, which main activity is the forest industry, tourism, building, etc. (48% of Heads of administration of rural settlements, 72% – urban and 95% – areas).

The forms of self-employment include work in individual farmsteads (especially in rural areas), farming, home-based work, small retail trade, services for processing gardens, harvesting. “All these forms “are useful because they can serve as a “primitive accumulation of capital” and create the material basis transition for their owners to the productive activities” [8]. As for the development of small business, according to the Chief of the Department of Economics, L.G. Iogman, in some districts it brings a quarter of all tax revenues [9].

However, many unsolved problems inhibit the development of small enterprises and individual entrepreneurs. The existing problems are: excessive administrative pressure of monitoring bodies, the high tax burden and rents, poor access to government contracts, the difficulty to connect small businesses to power transmission lines and other infrastructure, difficulties in obtaining bank loans and the need to purchase the leased premises on a shortage of funds.

The main condition for overcoming the difficulties, as emphasized in [10], is a joint coordinated action between the authorities of Russia, the subjects of the federation, as well as local authorities.

Government of the Vologda region has developed and adopted a series of laws aimed at the organizational and economic support to this sector of the economy [11 – 13]. Most significant among them are the following.

- Law “On the development of small and medium enterprises in the Vologda oblast” (from 05.12.2008). In order to stimulate development of small and medium enterprises law defined such forms of state support as financial, property, information, consulting, support in training, retraining and upgrading skills of workers. The measures to promote innovation and production activities of small businesses are included.

- Target Program “Development of small and medium enterprises in the Vologda oblast in 2009 – 2012” (from 27.01.2009). For its implementation more than 65 million rubles were allocated from the budget in 2009. In addition to the regional funding, were received federal appropriations of \$74.9 million.

- The Law of the oblast “On the application by individual entrepreneurs of simplified system of taxation based on the patent within the territory of the Vologda oblast” (adopted 27.11.2009, entered into force 01.01.2010). With the adoption of the law, individual entrepreneurs – small businesses have the right to work on the simplified tax system – based on the patent. The purpose of the law is to simplify the procedure for record-keeping by individual entrepreneurs, to create favorable conditions for their work. Now the entrepreneur can make a choice between a patent, a single tax on imputed income and a simplified tax system and apply the most favorable tax treatment.

In the crisis, the patent system will stimulate the legalization of proceeds from activities traditionally located in the “shadow”, such as the transport of passengers, renting, housing, household services, carried out at home.

However, some problems still remain unsolved. To eliminate them, we should develop mechanisms for increasing the interest of regional administrations in the development of small businesses.

First, it is necessary to improve the existing budgeting and tax legislation. One of their main shortcomings is the lack of direct interest of local authorities in the development of small business in its municipal entity. The first step in this direction is the adoption of the law "On the application by individual entrepreneurs of simplified system of taxation on the basis of a patent on the territory of the Vologda oblast". It is assumed that this law will force municipal governments to work with areas of active individual entrepreneurs, as well as 90% of the collected taxes will remain in the local budgets (this practice should be extended to the settlements). Secondly, we should develop and implement a methodology to assess the work of the municipal administrations to develop

small businesses, aimed at monitoring the effectiveness of ongoing activities of regional and municipal development programs to small businesses.

An equally important task of the local administrations in the lack of its own economic base is to increase the efficiency of cooperation with the government, primarily with the departments and local authorities to create conditions for the development of small businesses. While such interaction, in the opinion of the Heads, can hardly be called effective (*tab. 8*).

The problem of the formation of municipal property requires a fast solution. During the reform of local self-government the government of the Vologda oblast has already taken 38 laws on the division of property of 24 districts. In particular, in 2008 the settlements have been given equipment to perform powers on culture and sport, in 2009 work was conducted on the delimitation of the municipal housing stock, housing and communal services facilities [14].

Table 8. The effectiveness of the interaction of local government and executive authorities in the oblast (estimated by the Heads of municipalities, in % of respondents)

Bodies of executive power	Efficiency of interaction			
	adequate	acceptable	inadequate	extremely low
Department of Finance	18.8	50.6	26.1	4.5
Department of municipal development	16.9	47.9	28.9	6.2
Department of land relations	9.4	44.3	36.2	10.2
Department of Property Relations	9.7	44.3	35.4	10.5
Department of Agriculture	7.7	39.2	36.5	16.7
Department of Forestry	7	35.7	37	20.4

Table 9. Distribution of the Heads' answers on the question: "Please, assess your municipal property provision" (in% of respondents)

Municipalities	Property provision			
	extremely low (0-30%)	low (40-60%)	middle (70-90%)	high (более 90%)
<i>Year of 2006</i>				
Urban settlements	100	-	-	-
Rural settlements	56.6	15	25	3.4
Municipal districts	40	-	60	-
<i>Year of 2007</i>				
Urban settlements	70	20	10	0
Rural settlements	40.1	23.2	32.6	4.1
Municipal districts	14.2	42.8	35.7	7.1
<i>Year of 2008</i>				
Urban settlements	68.8	25	6.2	-
Rural settlements	38.9	31.5	29.1	0.5
Municipal districts	11.8	23.5	64.7	-

However, the Heads of local administrations in the settlements, especially rural, are dissatisfied with facilities with a high moral and physical wear. Currently, most Heads (almost 70% of Heads of rural settlements, 94% – urban and 35% – municipal) evaluate the provision of their municipal property as very low and low (*tab. 9*).

However, increased availability of municipal property will create an attractive environment for small business development, for example, local governments will be able to rent space on favorable terms, to provide land for agriculture or construction, etc.

Also, regional authorities, according to the Heads of local governments, should adopt more effective measures to promote agriculture, forestry, tourism industry, to develop clear rules of volumes, timing and frequency of checks by supervising bodies of small businesses, provide more significant tax benefits, deferral of lease payments.

Municipal authorities have a special role in the development of small businesses. Their activity depends directly on the ground implementation of decisions taken by higher regional authorities. Available resources in the municipality are needed in order to identify areas and mechanisms for their best use for the development of small forms of economic activity and on the basis of information received to develop a comprehensive program for the development of small businesses.

Among its main objectives can be identified (*tab. 10*).

First, the removal of bureaucratic obstacles and barriers from the part of municipal employees (this is indicated 50% by Heads of urban settlements, 28% – rural and 52% – municipal areas). Currently, according to managers of small firms, the most pressing issues are: delays in the timing of consideration of applications from business representatives (on participation in tenders, municipal orders, lease or sale of municipal property, etc.) and transfer of municipal property to inefficient users. Therefore it is necessary to strengthen the responsibility of officials for violation of their duties.

Secondly, the organization of dialogue and interaction with business representatives, during which will be revealed factors that had a negative impact on their activities, and developed recommendations to remedy the situation [15]. At present, the effectiveness of the interaction of governments with local entrepreneurs is very low (*fig. 3*). Particularly difficult situation is in rural areas.

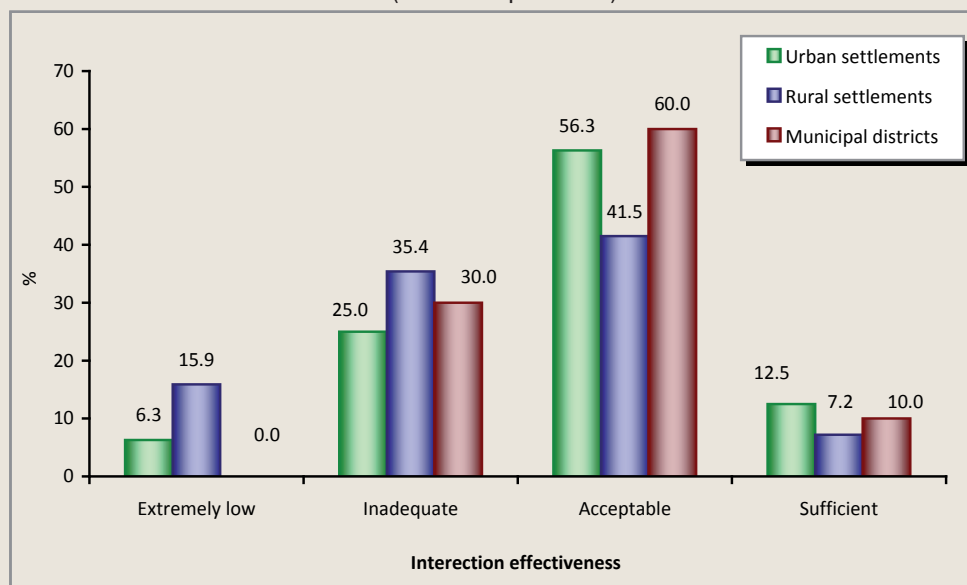
Thirdly, the improvement of information and advisory services for small business, that is the creation on the municipal level of information management system for small and medium businesses, containing information about:

- regulatory framework of small forms of management;

Table 10. Distribution of answers of the heads of municipalities to the question: "What should the local authorities do for the development of interaction between local authorities of your municipal entity and private business?" (in % of Heads who answered)

Optional responses	Municipal entities		
	urban settlements	rural settlements	municipal regions
Create conditions for the legalization of private business	22.2	27.4	52.4
Eliminate bureaucratic obstacles on the part of municipal servants	50	28.3	52.4
Organize dialogue and interaction with representatives of business	50	21	47.6
Improve municipal infrastructure	33.3	26.5	47.6
Provide advice help in establishing inter-farm relations (e.g., the formation of the resource-production chains, cooperatives, etc.)	16.7	11.4	38.1
Coordinate the interests of subsoil, forest, water and land use	27.8	27.4	38.1
Involve workforce in business, to carry out their training	27.8	22.8	33.3
Provide legal support (acquaintance with the normative base, etc.)	5.6	19.6	28.6
Create a database of reliable information about the municipality	22.2	3.7	14.3
Assist in the technological upgrading of enterprises, creating new products	5.6	11	9.5

Figure 3. Distribution of answers of the Heads of municipalities to the question: "Assess the effective interaction of bodies of local self-government of your municipal entity with local businesses in 2008" (in% of respondents)



- associations of small forms of management;
- existing infrastructure support for small businesses;
- bodies of exercising control and supervisory functions;
- existing organizations for training, marketing and other types of services for small forms of management;
- programs and projects of sector development of the economy of the region and municipal entity;
- contests and the conditions of competition;
- organizing and conducting business, for example, choice of tax regimes, sale channels.

Fourth, the organization of clear control over the use of subsoil resources in the field, forest, water and land use to prevent abuse. Particular attention should be paid to land traffic, as well as the participation of the unauthorized transfer of agricultural land in the land of other categories. This prevents the development of personal subsidiary plots and farms.

Fifth, the provision of certain services produced by public institutions, such as the

strengthening and development of training system for small forms of management.

Sixth, the financial support of small forms of farming, granting, tax credits, project financing, assistance in obtaining resources (e.g., mortgages, loans, etc.), assistance in obtaining provincial, federal and other investments.

Seventh, assistance in finding markets and establishing production and technological linkages, cooperation and integration of small farms, which will improve efficiency, promote cooperation between large and small businesses.

Small business development is possible only through joint and concerted action by regional and municipal authorities, in which businessmen should be able to deal with the material, credit and financial, staffing and other issues in his district. This will facilitate the development of small businesses in the municipalities, on the stability of which depends increased the local budget, expanding of the economic base of the municipality – that is of all that will allow local authorities to achieve the strategic goal of the municipality – to maximize the welfare of their citizens.

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Formation of regional budget in crisis

As is known, in December 2009 Legislative Assembly enacted a law «On Regional Budget for 2010». The budget is formed by the conservative scenario, based on projected economic growth of 2.5%.

The analysis of the main financial area of the law, conducted by ITSED RAS, showed that the current year will be a serious test of the regional budget system. The budget deficit of the Vologda region is the highest among the donors regions. It is 28%. Nevertheless, despite the tense situation, the reserves increase revenue and reduce costs in the area are available.

Regional budget, revenues, expenditures, budget deficits, public debt, fiscal policy.



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Year 2009 was the most difficult for the Vologda region in terms of bringing the regional budgets to the changing macroeconomic conditions. Against the background of other subjects of the North-West the region is one of the regions that reduced their budgets most of all. Income from revenue sources have decreased by 21% compared with 2008, including tax and non-tax payments – in 2 times. The level of budget deficit both as in 2009 and as projected to 2010 is the highest among the other regional budgets (*tab. 1*). In response to falling revenue, the Government of the Russian Federation listed the Vologda region among the 17 most crisis regions.

A conservative forecast of basic macroeconomic indicators of regional economy, which underlies the formation of the regional budget for 2010 indicates that the budgetary problems of the region will grow (*tab. 2*).

According to the Department of Economics of the Vologda region in 2010 it is projected a slight increase in GRP of 1.5% compared to 2009. Basic budget-forming figure – enterprises' profit – will decline by 8%, and this will have a significant impact on fiscal performance. The dynamics of the main parameters of the regional budget approved for 2010, compared with their condition in 2009, is characterized by prolonged reduction of both income and expenditure in relation to pre-crisis period (*tab. 3*).

Table 1. Revenues and deficit of the NWFD subjects' regional budgets, %

Region	Actual execution			2010, plan	
	Revenues of 2008 to 2007	2009		Revenues by 2009	Deficit to own revenues
		Revenues by 2008	Deficit to own revenues		
<i>Vologda Region</i>	125.5	79.0	34.1	83.6	28.65
Murmansk Region	113.2	97.0	7.9	81.6	24.3
Pskov Region	125.4	113.4	8.9	95.6	22.3
Arkhangelsk Region	134.0	94.8	28.7	86.6	16.0
Kaliningrad Region	140.0	125.1	22.6 (surplus)	67.9	14.7
Novgorod Region	144.4	113.8	9.4	87.4	14.6
Republic of Karelia	137.4	93.0	25.3	93.5	11.2
Republic of Komi	130.0	103.4	5.5	84.7	7.7
St. Petersburg	122.0	93.1	2.7	100.9	7.5
Leningrad Region	125.2	97.1	9.8	89.2	3.7
NWFD	123.8	95.9	6.45	93.5	10.3

Table 2. Main macroeconomic indicators for the draft of regional budget of the Vologda region (in% to previous year)

Indicators	2008, fact	2009, estimate	Forecast to 2012		
			2010	2011	2012
Gross regional product *	96.1	86.0	101.5	102.6	103.3
Index of industrial production	95.8	84.0	102.5	103.0	104.0
Profit of profitable enterprises	122.7	22.7	92.0	150.0	126.0
including steel industry	93.2	12.7	110.0	206.9	134.5
Investment in fixed assets	91.2	70.5	92.7	104.4	109.3
Wage fund	124.5	100.8	104.0	105.7	105.4
Real wages	108.3	94.1	95.2	97.6	98.5
Consumer price index, annual average	115.2	112.4	110.7	108.7	107.5

* In comparable prices.

Table 3. Main parameters of the regional budget for the period 2005 – 2010

Indicators	Factual figures					Plan
	2005	2006	2007	2008	2009	2010
Income, bil. roub.	17.7	24.1	31.5	39.5	31.2	26.1
Costs, bil. roub.	19.1	23.8	32.3	39.1	37.7	32.1
Deficit-, surplus + bil. roub.	-1.4	+0.3	-0.8	+0.4	-6.5	-6.0
As % of revenue excluding grants income	-9.0	+1.5	-2.9	+1.3	-34.0	-28.6

The table data again confirms that 2009 was a turning point of major trends in fiscal indicators – this year there was a cessation of long-term dynamics of revenues and expenditures growth of the regional budget. The deficit of the budget system reached a record level – 34% in ratio of tax and nontax revenues.

In 2010, the total resources of the regional budget, as compared with the 2009 contracted in nominal increase of 5 billion roubles. At the

same time, the cost will have a tendency to limit, but remain at a fairly high level.

As a result, a substantial reduction in revenues while maintaining the planned scope of the state commitments the budget will be executed with a deficit with a slight fall compared with 2009, but it will be very significant – nearly 30% of own revenues.

The main reason for the significant deficit growth in 2009 – 2010 is a sharp decrease in

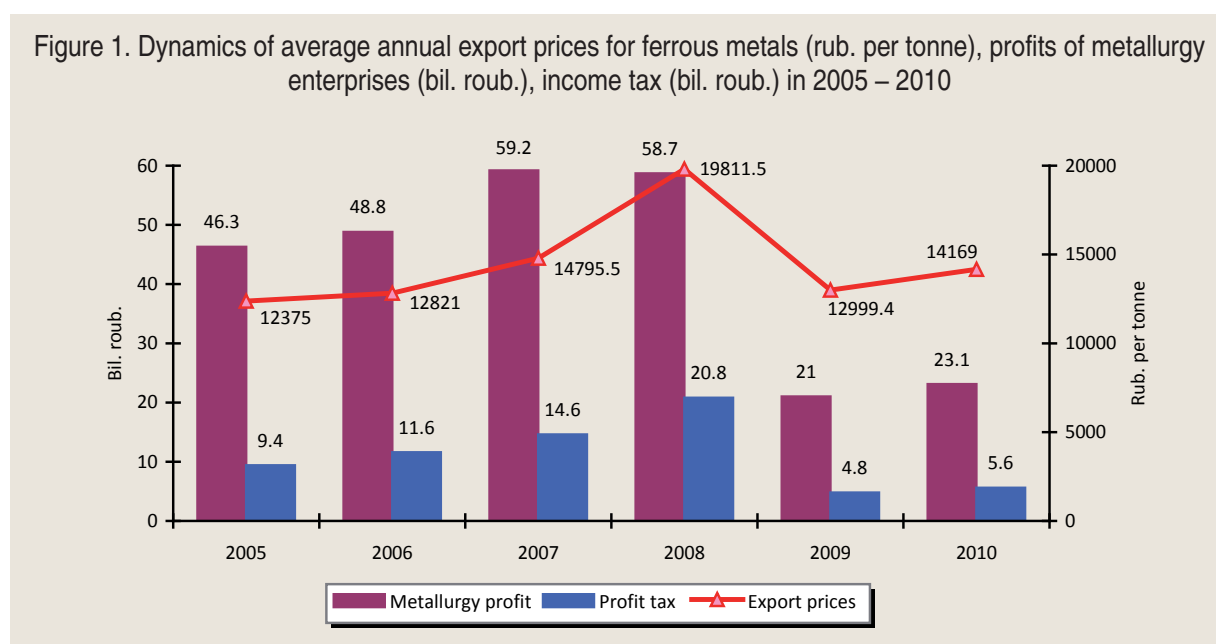


Table 4. Tax revenues and duties of the regional budget in 2008 – 2010

Name	Execution in 2008		Execution in 2009			Plan for 2010		
	mln. roub.	share in income, %	mln. roub.	in % to 2008r	share in income, %	mln. roub.	in % to 2009	share in income, %
Tax revenues, total	33633.8	85.1	18347.5	54.5	58.7	20252.4	110.4	77.6
Including:								
tax on enterprises' profits	20843.9	52.7	4807.0	23.1	15.4	5609.2	116.7	21.5
income tax on individuals	7805.9	19.7	7343.5	94.1	23.5	7787.0	106.0	29.8
excise	1897.1	4.8	2412.9	127.2	7.7	2853.5	118.3	10.9
tax on gross income	711.4	1.8	740.8	104.1	2.4	792.7	107.0	3.0
property tax	2091.8	5.3	3004.0	143.6	9.6	3183.3	106.0	12.2
taxes and fees for the use of natural resources	28.7	0.07	28.15	98.0	0.09	24.6	87.4	0.09

income tax revenues, primarily income taxes as a result of price deterioration for metal production in conditions of maintaining a strong dependence of the regional budget's revenue base on the state metallurgical enterprises. Thus, according to the Department of Economics export prices of ferrous metals in 2009 have decreased by nearly 50% compared to 2008, which resulted in declining profit margins in the metallurgical industry by 64.3% (fig. 1).

In line with the forecast of the Ministry of Economic Development of Russia profit increase of the Vologda region's metallurgy enterprises of 10% is expected in 2010 compared to 2009 [8]. Export prices in the market of ferrous metals, according to the financial

group BCS analysts' estimate will exceed level of quarter IV of 2009 by 4–5% [9]. However, one can hardly expect a substantial increase in fees for income tax since the overcoming of the economic crisis will still continue for some time and, hence, broadening the tax base for that particular payment will occur in the coming years too slowly.

Overall in 2010 the growth of almost all components of tax revenue, including income taxes by almost 17% is forecasted. At the same time the share of this payment in the total fiscal revenue will decline from 53% in 2008 to 21.5 in 2010% (tab. 4).

Against the background of the loss of the tax revenue dominating role in the profit structure

the burden of tax base formation will shift from businesses to individuals. Collecting income tax in 2010 would amount to one third of the regional treasury income. It should be noted that the funds of income tax on individuals in 2009 were more stable compared to the tax on profits and decreased only by 6%.

With regard to the indexation of excise charges on alcohol products excise tax revenues will increase by 18%, their share of income in the regional budget will increase significantly.

Despite the abolition of benefits for property of organizations engaged in investments in their own production facilities in 2010, in general, this set of measures will have no significant effect on the collection of property taxes from organizations – income tax on property

and vehicle tax will rise by 6%. At the same time the shortfall in income from the regional budget conditioned by providing benefits for transportation tax is assessed in the amount of 38.7 million roubles.

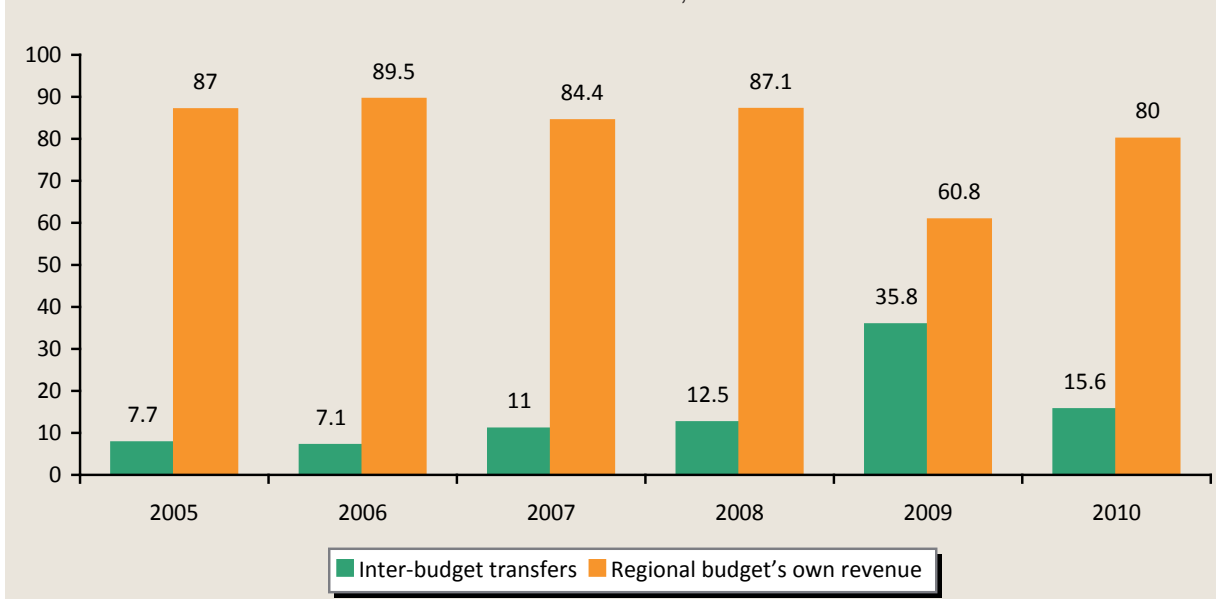
Non-tax revenues are approved in the amount of 600 million rubles that is 72% of the 2009 level. Analysis of the structure of non-tax payments shows that in 2010, significant reduction of all their sources, except for income from regional property will take place (tab. 5).

The sharp decline in regional budget's own revenues, with the growth of social obligations and lack of opportunity for debt financing of the deficit, put the regional budget in terms of high dependence on transfers from the federal budget. In 2009 inter-budget transfers amount-

Table 5. Non-tax revenues of the regional budget in 2008 – 2010

Indicators	Execution in 2008 mln. roub.	Execution in 2009		Plan for 2010	
		mln. roub.	2009 to 2008, %	mln. roub.	2010 to 2009, %
Non-tax revenues, total	811.1	740.0	91.2	600.0	81.1
Including:					
income from the use of property in state property	206.1	140.4	68.1	251.1	178.8
payments for the use of natural resources	320.6	292.3	91.2	181.3	62.0
income from services provision	52.5	59.8	114.0	58.3	97.5
income from sale of assets	33.6	66.8	198.5	54.4	81.4
finances, penalties	11.3	14.2	125.4	7.6	53.5

Figure 2. The share of inter-budget transfers and own revenues in the profitable part of the regional budget in 2005 – 2010, %



ed to almost 36% in the amount of income of the regional budget. In 2010, they will generate the revenue base of more than 15% (*fig. 2*).

The current draft of the law on the regional budget, the inter-budget transfers are cut down almost 3 times compared to their amount in 2009. It is associated with the termination of co-financing from the federal budget of almost all subjects' social powers. However, given that at the time of the federal budget approval a part of the transfer was not allocated by the regions, we can hope for their additional funding in the current fiscal year.

Formation of the regional budget's items of expense was based on the following approaches.

Firstly, unconditional fulfillment of social obligations to citizens while increasing targeting of social assistance.

Secondly, provision of social budgetary subsidies to the municipalities, creation of conditions to maintain the efficiency of economic entities of the regional economy.

Thirdly, concentration of resources on the most significant events, costs optimization of the executive power bodies and budgetary institutions functioning, denial of low priority expenditures.

Turning to the expenditure side of the regional budget, it should be noted that a favorable external environment in recent years allowed the regional authorities to pursue a policy of increasing public expenditure and initiating an additional commitment to social support. As a result, the dynamics of cost increases outpaced the growth of GRP. In 2009 the value of the regional budget expenditures reached a record value for the recent years – 17.5% of GRP (*tab. 6*).

In 2010, the volume of budget expenditures will decline by 3.7 percentage points with respect to the GRP. In nominal terms, expenditure of the budget is commensurate with its size in 2007. Dynamics of limitations of capacity costs budgeted for 2010, is reflecting as stated in the Budget Address of the President of Russia the policy of containment of public spending in times of crisis. Total cost reduction of the regional budget in 2010 compared to 2009 will make 5.6 billion roubles.

The main priorities of fiscal policy in 2010 are illustrated in *figure 3* which shows the aggregate structure of the regional budget expenditure part.

In terms of spending budgetary allocations for inter-budget transfers to municipalities and state extra-budgetary funds take the first place accounting for more than 45% of the total. In this case the vast majority of inter-budget transfers have a social orientation.

The second priority area is the so-called modern expenditure, in other words the maintenance of the social sphere, the various forms of social support, constituting a third of budget expenditure.

A considerable share of 12% is given to the traditional costs of providing public functions (the maintenance of government bodies, the judiciary, security and law bodies).

Slightly more than 9% of funding is expected to extend to state support for economic infrastructure – the individual sectors of the economy, housing and communal services and environmental protection.

Almost 2% of the expenditure part of the regional budget will be used to service debt obligations.

Thus, two thirds of the approved budget allocations for 2010 are clearly social in nature.

Table 6. Dynamics of the regional budget expenditures for 2005 – 2010

Indicators	Actual execution					Plan
	2005	2006	2007	2008	2009	2010
Expenditures, bil. roub.	19.1	23.8	32.3	39.1	37.7	32.1
As % of GDP	9.8	11.4	13.2	13.2	17.5	13.8
As % to previous year	117.9	124.8	135.7	121.1	96.5	85.0
GRP, % to previous year	101.3	107.2	117.4	121.8	72.1	104.8

Figure 3. Aggregate structure of the regional budget expenditures in 2010, %

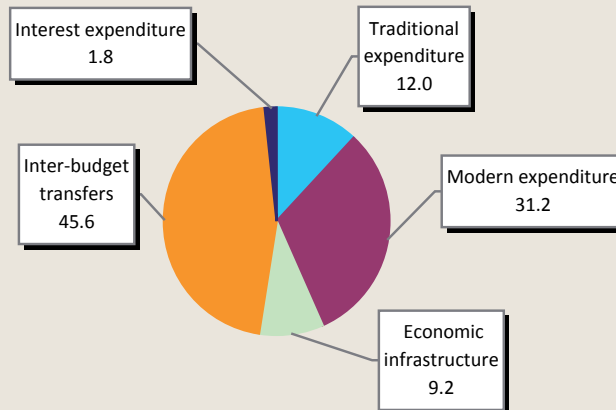


Table 7. Dynamics of change of the regional budget expenditures structure for 2008 – 2010

Sections of budget classification	Actual execution				Plan	
	2008		2009		2010	
	mln. roub.	share, %	mln. roub.	share, %	mln. roub.	share, %
Expenditures, total	39086.5	100.0	37743.3	100.0	32074.5	100.0
Including:						
General government issues	1912.3	4.9	1984.4	5.3	1698.0	5.3
Including national debt service	0	0	161.1	0.4	581.4	1.8
National security and law enforcement	2453.2	6.3	2198.4	5.8	2124.0	6.6
National economy	7232.7	18.5	6251.7	16.5	2640.5	8.2
Housing and communal services	178.0	0.5	686.0	1.8	184.4	0.6
Environmental protection	165.1	0.4	139.3	0.4	115.1	0.4
Education	2330.6	6.0	2160.3	5.7	2057.8	6.4
Culture, media	1018.5	2.6	655.7	1.7	682.8	2.1
Health care, physical culture and sports	2492.6	6.4	2551.8	6.8	2210.0	6.9
Social policy	4101.2	10.5	5109.2	13.5	5048.7	15.7
Inter-budget transfers	17168.9	43.9	16001.3	42.4	14622.7	45.6

To get more information about the main trends in the area of expenditure commitments we consider the composition of the functional structure of the expenditure part of the regional budget in 2010 and compare it with the structure of expenditures in previous years (*tab. 7*).

Amid the general expenditures decline the most noticeable changes are associated with reduction in funding of domestic industries, as well as rising costs for social policy and inter-budget transfers.

State support of the national economy relative to 2008 – 2009 will decrease 3 and 2.4 times respectively. In the branch-wise perspective there will be reduction of cost of all units of the regional economy financed from the regional budget (*tab. 8*).

Spending on agriculture are approved in the amount of 800 million roub., which is twice lower than the 2009 level. Share of costs of this vital industry for the region will amount to just 2.5% of the regional treasury expenditure which is incomparable with any financial year of the last decade (in 2001 – 2003 agriculture was funded by 8% of the financing, in 2004 – 2009 – 4.5%).

Public support for forestry will be cut almost by one-third. Given that this industry was financed by 80 – 90% from federal transfers, it is anticipated that there will be additional subsidies to the exercise of the powers of the Russian Federation in the field of forest relations in the course of budget execution.

Table 8. The regional budget expenditures of the item “National Economy” in 2008 – 2010

Name of the subsection	Actual execution					Plan for 2010		
	2008		2009			2010		
	mln. roub.	share, %	mln. roub.	share, %	as % to 2008	mln. roub.	share, %	as % to 2009
Agriculture	2388.5	6.0	1730.1	4.6	36.5	803.7	2.5	46.5
Forestry	471.7	1.2	474.7	1.3	100.6	331.7	1.0	69.9
Transportation	77.2	0.2	68.2	0.2	88.3	53.5	0.2	78.4
Traffic management	3225.8	8.2	1939.6	5.1	60.1	820.9	2.6	42.3

The most significant reduction in fiscal costs will be on the industry “Traffic Management”. The volume of financial flows to the infrastructure development will be reduced 2.4 times in comparison with 2009 and 4 times in comparison with 2008. The main cause for this decline was the need for the regional budget’s priority expenditures provision by reducing more than half the funding for roads maintenance. In addition, some portion of appropriations under the co-financing from the federal budget to implement the federal target program “Development of the Russian transport system” was subjected to reducing. In our view, such a restriction of federal

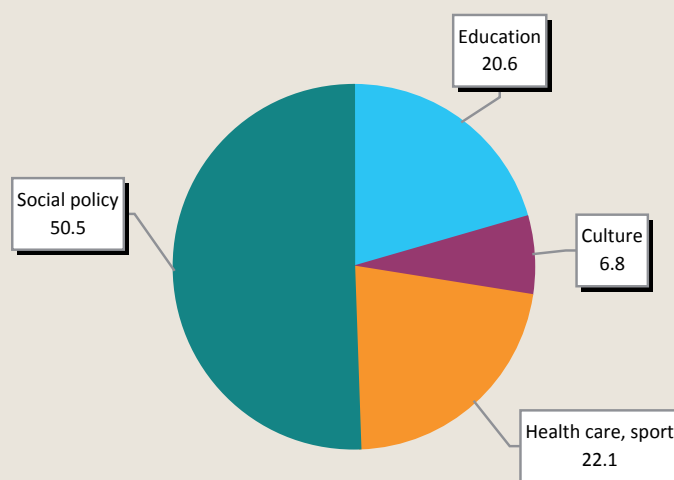
subsidies is not fully justified, since the modernization of the transport system has high social significance for the maintenance of the regions’ territorial and economic space unity. One should also consider that the commitment to implement the major road projects are large enough and cannot be fully funded by regional budgets.

This year 22 billion roubles or 68.6% of regional budget expenditures will be used for the maintenance of the social sphere, including intergovernmental transfers to municipalities. Despite a nominal decrease in costs, their share in total budget expenditures will increase by 7 percentage points (*tab. 9*).

Table 9. The regional budget expenditures for the maintenance of social sphere in 2008 – 2010

Indicators	Actual execution		Plan
	2008	2009	2010
Expenditures, bil. roub.	21.5	23.2	22.0
As % to previous year	103.7	108.1	94.7
Share of budget expenditures, %	55.0	61.5	68.6

Figure 4. The structure of the regional budget expenditures on social services in 2010, %



The main part of budgetary allocations for social sector is composed by the costs of activities in the field of social welfare and social services for citizens - for this purpose it is intended to send more than 50% of social costs. The second branch-wise priority is the costs for health care and sports – 22%. Slightly less will be used for educational activities – 20.6%. About 7% would amount to expenditure on culture and the media (*fig. 4*).

The high proportion of expenditure on social policy is due primarily to the need to increase them during the crisis period to support the most vulnerable population groups. In addition, there is a growing need for funding for the employment program, unemployment benefits payment. Finally, public regulatory obligations, constituting about 40% in the cost structure of the industry should be undoubtedly met.

It should be recognized that funds provided by the regional budget will help keep the entire existing system of social support for veterans, students, orphans, disabled, large families and low income families. Regardless of the economic situation the obligation to pay wages to workers of budgetary sphere will be saved in corpore. At the same time allocations for the maintenance of the existing fiscal network are formed with a view to optimize costs, without which it was impossible to balance the budget for the current year. The total cost reduction, such as payments for telecommunication services, transport services, rent for property use, increase in inventories and other current expenditures for facilities maintenance will amount for about 500 million roubles (*tab. 10*).

Analyzing the social costs of the regional budget, we cannot ignore the issues of fiscal policy in respect to wages. When considering the basic macroeconomic parameters for the budgeting it was noted that in 2010 it is projected to increase the wage bill by only 4% which of course excludes indexation of wages of public sector employees. However, if there appear additional incomes the issues of indexing salaries to employees of government-financed organizations may be considered by regional parliamentarians. Meanwhile, the regional authorities propose optimizing the number of state-financed employees as the main direction of increasing wage.

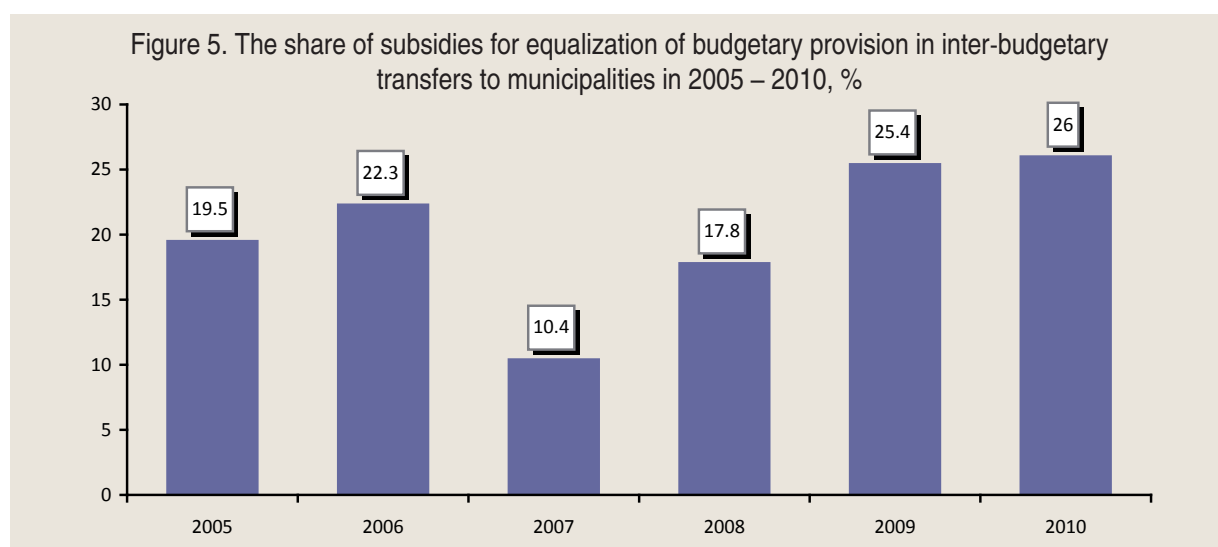
Much attention in the drafting and approval of the regional budget for the next fiscal year was paid to the formation of inter-budgetary relations. 12.2 billion roubles will be allocated to the budgets of municipalities and 2.4 billion roubles to the Territorial fund of obligatory medical insurance out of the total inter-budgetary transfers in 2010.

A characteristic feature of the inter-budgetary transfers' structure to municipalities in 2009 – 2010 is an increase in the share of regional funds support for municipalities, which indicates an increase in the budgetary provision inequality of districts' and settlements' local government. The share of equalization subsidies is about a third of the total financial assistance to local budgets, which is higher than the level of 2005 – 2006 when the preparation and implementation of municipal reform took place (*fig. 5*).

Table 10. Regional budget expenditures to social sectors in 2008 – 2010*

Item of expenses	2008, mln. roub.	2009			2010, plan		
		mln. roub.	changes to 2008		mln. roub.	changes to 2009	
			mln. roub.	%		mln. roub.	%
Expenditures, total	9942.9	10477.0	+534.1	105.4	9999.3	-477.7	95.4
Including:							
Education	2330.6	2160.3	-170.3	92.7	2057.8	-102.5	95.2
Culture	1018.5	655.7	-362.8	64.4	682.8	+27.1	104.1
Health care, sport	2492.6	2551.8	+59.2	102.4	2210.0	-341.8	86.6
Social policy	4101.2	5109.2	+1008.0	124.6	5048.7	-60.5	98.8

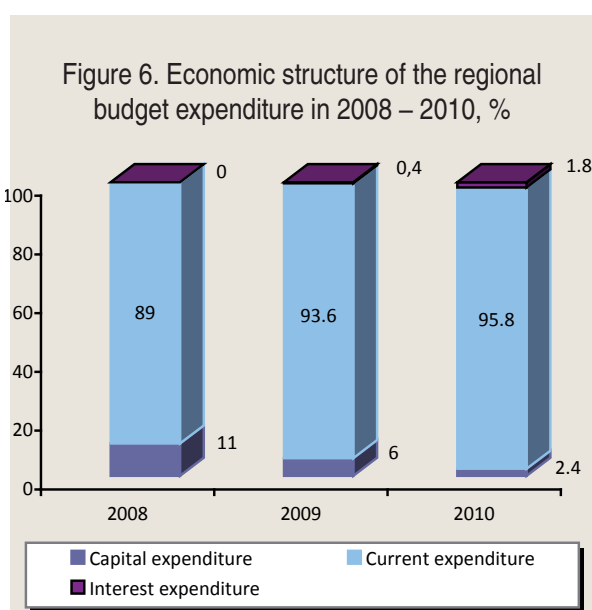
* Expenditures are given net of inter-budgetary transfers.



The regional budget is, except for social and economic function, aimed at stimulating the development of regional economy. Financial crisis has adjusted the economic structure of the budget expenditure, which was manifested in a hard-limiting nature of the investment cost. The structure of the budget for 2010 allocated to them just over 2%, all other appropriations will be channeled to finance current expenditure (*fig. 6*).

Total budgetary investment in capital construction facilities of regional and municipal property in 2010 is approved in a sum of 777 million rubles which is 3 times lower than

the volume of capital investments in 2009, the share of these costs in the expenditure part of the regional budget is reduced from 11% in 2008 to 6% in 2009 and 2.4% in 2010. For the first time in recent years construction of educational, cultural and social purpose has not been scheduled. The volume of capital expenditures allocated to local budgets amount to only 204 million rubles, which is 15 times below the pre-crisis period. Thus, the need for immediate expenses associated with the operation of the population's life support systems, forcing the regional Government to abandon in coming years from the formation of the development budget.



Among the few positive trends of the regional budget for 2010 should include a slight increase in appropriations for the realization of long-term target programs (LTP) to ensure socio-economic development of the region. The share of program funding in the general budget expenditures grows from 8 to 10%, which is comparable with the level of 2008, and of course, describes the qualitative aspects of the regional budget, as targeted programs for the format of budgeting by results should be viewed as a first step in the transition from functional to targeted budget classification (*tab. 11*).

Some of the new programs proposed for funding from the regional budget include target programs to preserve and restore the fertility of agricultural lands, tourism development, the

Table 11. Regional budget expenditures for implementation of long-term target programs in 2008 – 2010

Indicators	Actual execution		Plan
	2008	2009	2010
Number of LTP	22	28	37
Appropriations volume, mln. roub.	4069.8	3070.3	3196.2
In % of previous year	125.5	75.4	104.1
The share of LTP costs in budget expenditures, %	10.4	8.2	10.2

pilot project “Development of social capital in rural settlements”, informatization of the region. 445 million roubles are provided as part of the long-term target programs for state support of agriculture, 73 million roubles for small and medium businesses.

However, out of the 37 approved LTP for 30 of them the volumes of the planned allocations are below the funding levels contained in the Passport program. Total deficit of resource support program activities will amount to nearly 5 billion roubles or one third of the funding required (*fig. 7*).

Concluding the analysis of the expenditure part of the regional budget, we must consider the sources of budget deficit in 2010. In the current economic and financial situation it is justifiably, that the main sources of financing the deficit of the regional budget will be borrowed funds (*fig. 8*).

As you can see, if in 2009 the deficit, together with borrowings, was also covered by the contingency fund and the balance of fiscal

accounts, then in 2010 it is planned to address the problem of deficit by attracting commercial bank loans and credits from the federal budget in the amount of 6 bil. roub. We should note that the Vologda region is resorting to credit for the first time since 2002.

As a result of large-scale domestic borrowings the region’s public debt for 2009 increased by 6.3 times compared with the size of the debt for 2008. In 2010, the debt burden on the regional budget will increase. It is expected that the amount of debt on 1 January 2011 will amount to almost 18 billion roubles or 86% of the tax and non-tax revenues of the regional budget. Thus, the size of the region’s public debt could approach the critical level (100% in the volume of own revenues) and create a clear threat to regional security budget system (*tab. 12*).

The significant increase of the region’s debt commitments for the first time since 2004 will lead to the cost of their services, which will generally amount for about 800 million roubles for 2009 – 2010.

Figure 7. Long-term target programs resource support, mln. roub.

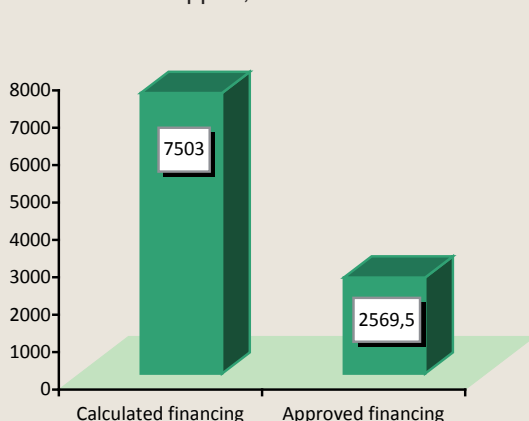


Figure 8. Funding sources of the regional budget deficit in 2009 – 2010, %

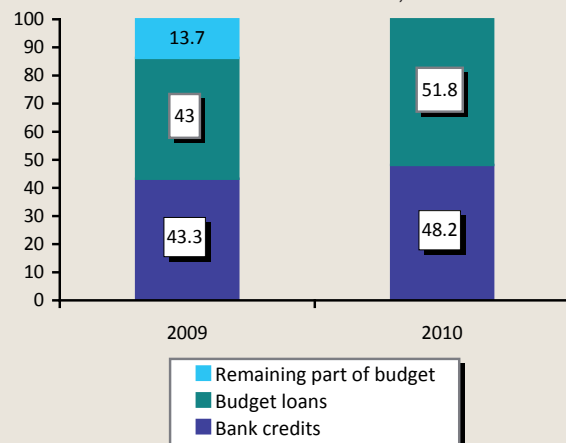


Table 12. Dynamics of public debt of the Vologda region for 2005 – 2010

Indicators	Fact, on January 1					Plan for 01/01/2011
	2006	2007	2008	2009	2010	
The volume of state debt, mil. roub.*	1099	2129	1744	1752.5	7825.2	17935.3
As % of previous year	88.2	193.7	81.9	100.5	446.5	229.2
As % of the regional budget own revenues	7.1	9.8	6.5	5.1	41.1	86.0
Interest payments, mil. roub.	0	0	0	0	161.1	581.4

* Source: Ministry of RF Finance.

Given the severity of the problems with the debt load in some subjects of the Federation, Ministry of Finance of Russia as a federal agency is monitoring the situation with debt. Speaking at the forum “Strategic Planning in Regions and Cities of Russia”, deputy finance minister of RF, A.G. Siluanov ensured that the Ministry of Finance will not allow the regions’ default. This will involve the necessary tools, such as financial assistance, budgetary loans, work with commercial banks to restructure the region’s obligations [10].

Concluding the analysis of the law “On the Regional Budget for 2010”, we can conclude that the main financial document takes into account many realities which exist in the economy and fiscal system of the region for the first year of the crisis and which will determine the budget problems for a long time. The crisis left its mark on many items of income and expenditure of the regional budget. Therefore the main task of fiscal policy in the conceptual plan is limiting the size of budget deficits and creating prerequisites for further sustainable socio-economic development of the region.

The total budget for 2010 is decreasing compared to 2009. However the most important task solved by the regional budget is to carry out social obligations to its citizens, regardless of the state of the budget-forming region’s industry. It should also be borne in mind that the maintenance of approved budgetary allocations is critical to maintaining and expanding domestic consumer demand, which ultimately creates the conditions for positive structural changes in the region’s economy and social sphere.

In the unprecedented deficit of the regional budget system revenue base strength-

ening comes to the forefront. In this regard, we consider it possible to formulate a number of reserves to increase the regional budget’s earnings.

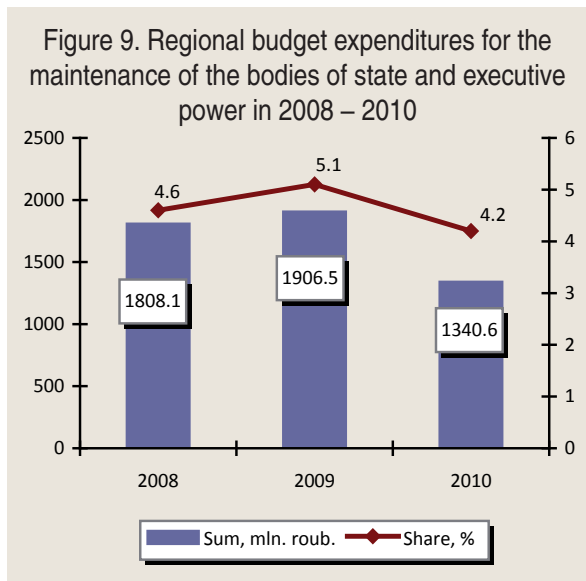
1. Additional incomes to the budget revenue can be achieved by adopting more effective measures to eliminate existing debt on taxes and levies, which amount to 1.9 billion roubles on 1 March 2010.

2. Reserve to increase the regional budget revenue base is a full-scale inventories of benefits providing effectiveness for all compulsory payments, their revision and cancellation in case of poor performance (in 2008 the regional budget lost income as a result of benefits was estimated at about 3 billion roubles).

3. As a source of the budget revenues replenishment should be strengthening of the financial, regulatory and law enforcement field, aimed at the legalization of income from commercial activities, bringing the accounting system to order and collecting taxes and other payments.

4. Additional revenue growth may provide more effective administration in the sphere of non-tax revenues. In the pre-crisis period the increasing collection of these revenue sources neglected. Now, in terms of the objective reduction of tax revenue the problem of non-tax revenue is important. In order to increase non-tax payments it is necessary to improve the management of regional assets, the revitalization of work with tenants, the exclusion of concessional rates of rent, the revision of the fines and sanctions and other measures aimed at improving the efficiency of the regional ownership use.

There is no doubt that the involvement of all the provisions noted above would give some



increase of budgetary resources. However, the key potential source of growth in the revenue base continues to be the diversification of the region's economy. The crisis revealed the vulnerability of the entire budgetary system from the influence of global conditions, so only the persistent implementation of measures aimed at creating a diversified economy, capable to solve the problem of balancing the budget, to ensure a stable filling of regional coffers and to minimize budget risks. These activities may be the development of small business, wooden construction, technological, organizational and managerial innovations.

As for the expenditure of the regional budget, then we should not focus on the mechanical costs cut but to reduce the inefficient, wasteful costs by optimizing them. It is a very tough decision in connection with a high proportion in the structure of expenditures of minimum

social obligations. In this situation, it is first of all necessary to improve the structure and reduce the number of employees of public administration. Despite the relatively large (30%) reduction in budgetary allocations for the maintenance of the departments' bodies, committees and other units of government in 2010, the nominal amount and share of management costs in the expenditure part of the regional budget over the appointment, approved by all sectors of the economy, infrastructure, environment, sport and culture (fig. 9).

Effect of optimizing the management costs may be higher because not all state agencies found the opportunity to reduce costs for the operation of their bodies. For example, if the Regional Government slashed spending by 43%, the Department of Construction, Industry and Energy, Department of road facilities, Department of municipalities, housing inspection did it only by 7 – 12%.

The budget reduction also means limiting state involvement in those areas where its place should be taken by market structures. In our view, in the current situation there is need for the Government and local authorities of developing a special system of measures aimed at improving corporate social responsibility.

Undoubtedly, the implementation of the budget in 2010 will not be smooth. This budget is austerity. The complexity of the tasks that lie ahead in the next few years dictate the need for a new system, fiscal relations, the basic principle of which should be effective and prudent use of financial resources, avoiding disruption of the priority social obligations.

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SOCIAL DEVELOPMENT

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Technologies substituting hospitalization (outpatient surgery) in regional health: economic-organizing aspect

The article deals with technologies substituting hospitalization in the context of the overall structure of health care, discusses the prospects and problems of their introduction into medical practice of public health institutions of the Vologda region from the standpoint of economic efficiency.

Technologies substituting hospitalization, interface, public health, territorial state guarantees program, a method of costs minimizing, economic impact, region.



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The idea of technologies substituting hospitalization care forms¹ development, which are

¹ Technologies substituting hospitalization health care forms (technologies substituting hospitalization, TSH) – in the outpatient clinics providing specialized kind of health care delivery which are traditionally considered to be available only to twenty-four hour stay hospitals.

being discussed now in connection with the on-going health reforms, can be hardly characterized as original even in the Russian reality. Back in 1988 at the All-Union Physicians Congress E.I. Chazov, being the Health Minister of the USSR, said that the day hospital introduction to everyday practice of medical institutions is

important task for the near future [1]. Today, after more than 20 years since that moment, it is necessary to recognize that considerable progress in this direction has been practically not achieved. The statistical data show that for today there is an evident Russian regions differentiation on distribution indicators of low-cost forms of health care. For example, spread between the Russian regions is 60 times as far as providing the people with beds in day hospitals as in organization departments of outpatient clinics [5].

The day hospitals and hospitals in-home are more attractive than the traditional hospitals and the reason for this attraction is in the unity of three effects made by them - medical, economic and social; and analyzing the recent debates about the short-stay surgery in higher political circles, it seems that their utilitarian advantages award increasing attention. Development of short-stay surgery is considered today not only as one aspect of the restructuring of hospital management, but also as an instrument for balancing the Program of state free health care providing to citizens (establishing a correspondence between the planned services volume and the actual financing volume of the Program). At the same time the rationalization of expenses is made by partial replacement of the medical services practices in hospitals by medical care using the short-stay surgery that allows to overcome the existing imbalance between the amount of medical services at pre-hospital and hospital stages of treatment. Let's notice that the last has been declared as one of activity directions to modernize and develop health care services in The Concept of long-term social and economic development of the Russian Federation [2].

Considering the situation, we deem it advisable to analyze TSH functioning and development in key organizational-economic aspect. For this purpose we are going to consider the place and role of the short-stay surgery health care forms in the general structure of health care from the positions of the system approach, and also we are going to estimate those eco-

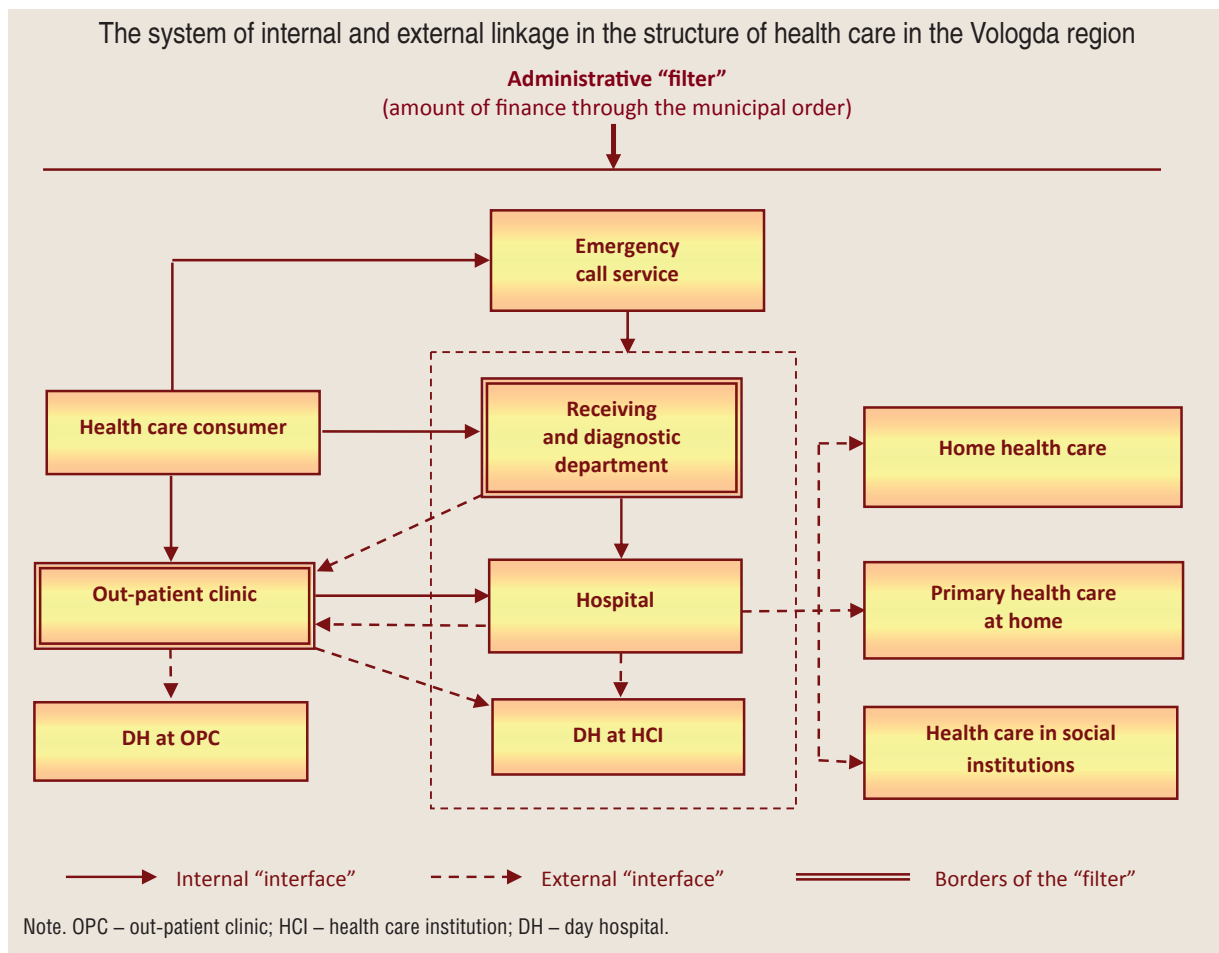
nomical benefits which have been really reached by means of distribution of day hospitals in the Vologda region.

1. Technologies substituting hospitalization in the light of the theory of "interfaces"

The successes of scientific and technological progress, changing public opinion and reforms in the sphere of health care have led to noticeable transformations in the traditional system of views on the structure of health care and, in particular, the relationship between its inpatient and outpatient kinds. Now the boundaries between the main sectors of health care have become less clear and more moving at the same time, but in this structural mobility we can see hidden potential and a significant factor of improving health care.

In this context, in the science and health care practice, beginning in the second half of XX century, there is an update of scientific interest to the theory of links, the main element of which is the notion of interface ("interface") – transition border of patients from one type of treatment to another, or point of intersection between different levels of health care [7]. In the here presented *figure* are shown two types of such linkage: 1) internal, directed from the consumer of health care to its supplier, and 2) external, directed from inpatient care to treatment in the conditions of short-stay surgery and out-of-hospital health care. In this case there are two types of system mechanisms: restricting the flow of patients to the hospital ("filters"), and compensatory mechanisms through which health care is provided to patients not requiring to be admitted to hospital.

Interfaces contain the boundary points, allowing reorientation and filtering patients, and they are regarded as organizational platforms for creating filters to control the level of hospitalization on the basis of evaluation of its validity. Organizational mechanisms called also as filters, mark the boundary of transition to a stationary link of health care, where the control of hospitalization applicability is being realized. These filters are the out-patient departments, in which responsible for referring the patient



to hospital are the first contact physicians and departments of diagnostic (DD) formed on the base of hospitals and receiving patients which are admitted to hospital, bypassing the clinics. Finally, administrative and financial barrier serves as a filter reducing the spread of hospital health care: the volume of health care provided in health facilities of the region is paid only in the extent limited by the municipal order of health care, which is based on general federal standards for key resource indicators [3]. In the presented scheme the compensatory mechanisms are technologies substituting hospitalization (in this case – day hospitals – DH) and also social assistance providing in the specialized facilities etc.

All filters created on the internal interfaces and operating in the system of external relations serve for the same purpose – to streamline medical care, reviewing some of the patients to

the outpatient agency profile hospitals. However, despite the unity of objectives, principles of internal and external filters operation are different. Internal filters allow to restrict admission to hospital in the pre-hospital stage, by the permanently-situational assessment of the validity and usefulness of hospitalization in the special case of the patient treatment to the hospital. It solves one of the issues: has a patient to undergo hospital treatment, or will a set of outpatient procedures be quite sufficient for his clinical case. The subject of such admission system, as a rule is a primary care clinician (general practice doctor), acting as an interpreter of medical information and a porter at the border of transition "primary – secondary care".

Western experience of health care demonstrates a great economic attractiveness of this model: empirically it is proved that the level

of costs in the system, where the patient can the right to appeal directly to the specialist, is higher than in the systems characterized by the existence of the separation level (presided by general practice doctor) between patients and a specialist. However, if not all researchers and persons who are responsible for decision making in health care policy have reached a consensus in the issue that some of the patients are being provided with treatment in hospital unnecessarily, then virtually all experts associate themselves with possibility and necessity of reducing the in hospital stay length by increasing the intensity of health care and attracting modern technologies of diagnosis and treatment [7].

In this context, more perspective and probably associated with less risk of social tension emergence it seems to create external interface filters. Their function is to reduce the unreasonable long periods of stay in hospital for persons who are already patients of hospitals. Despite an unpopular color of this wishes, it means the intensification of the therapeutic process and improvement of health care efficiency, that does not contradict the principles of social justice². Moreover, the development of medical technologies and new tools for diagnosis and treatment provides wide opportunities for this.

It is known that the application of the TSH is aimed to limit the inefficient health care expenditures associated with expensive hospital treatment. In particular, the use of the TSH can reduce costs by increasing the bed turnover, reducing the labor costs of medical personnel (for the abolition of night duty medical personnel), reducing the cost of housing and communal services and food in the organization of shift work day in the hospital [4]. But are these advantages so great? And can an outpatient care be a real competitor to hospital care at least in a part of economic success? Using an economic

² We are talking about the growing expectations of citizens for the quality and conditions of health care. And this trend will intensify in the future, as economic development is accompanied by increasing citizens' welfare and the expansion of the category of middle class, which will raise fundamentally new demands on the level of treatment and medical services.

assessment tool and based on data from Vologda region, we will try to answer these questions.

2. Assessment of the economic impact by using technologies substituting hospitalization in the region: "CMA" method

Traditionally, economic analysis is reduced to a comparative evaluation of several alternatives for resource allocation when we estimate invested money and anticipate the expected results, and then we conclude what scenario of decision making is more preferable. However, if the costs have quite concrete expression in the currency, effects in particular the social effects are measurable, but more difficult. Ultimately, the success of economic calculations in health care is determined by that how effectively achieved results will be determined.

In this article, as a basic means of investments inpatient treatment is considered, as an alternative – the TSH, which economic effect is calculated in terms of costs which are avoidable due to the particulate substitution of hospital care to outpatient day hospitals care.

In fact, this is a proper economic analysis using the classical method of minimizing the cost (*Drummond M., – cost-minimization analyses, CMA*). It reflects one of the key principles of health economics: in making managerial decisions regarding the preference of a particular treatment (medical programs, business operations, etc.) of two or more "competing" alternatives, then the choice falls on the option, which is associated with the lowest expenses, provided that their achieved effects are equivalent, in addition to economic [6]³.

Savings from reduced treatment costs by short-stay surgery using are calculated as the difference between the value of comparative medical technologies (in this case uses the cost per bed-day in the day-and-night hospitals and

³ It may seem that this approach is close to the analysis of "cost-benefit" because the achieved effects are expressed in value terms, but the latter implies the assessment of not only and not as much saving money but possible economic impact of the project (for example, productivity and disability maintaining by using minimally invasive technologies of interventions or by outpatient treatment).

Table 1. The scale of economic benefits from the technologies substituting hospitalization use in the Vologda region

Source of financing	Indicator	2004	2005	2006	2007	2008
CHI	Difference in value	227.77	289.31	492.11	562.5	681.78
	$Q_{p.d.}$ total	361,760	428,960	490,280	536,760	767,840
	$\sum E_e$, roub.	82 398 075.2	124 102 418	241 271 691	301 927 500	523 497 955
	Share E_e of \sum TPSG, %	2.3	3.1	5	5	8
Budget	Difference in value	132.35	111.81	99.95	468.19	530.45
	$Q_{p.d.}$ total	100,800	102,200	109,760	108,080	103,600
	$\sum E_e$, roub.	13,340880	11,426982	10,970512	50601975.2	54,954620
	Share \mathcal{J} of \sum TPSG, %	0.4	0.3	0.2	0.8	0.8
Total, budget + CHI	$Q_{p.d.}$ total	462,560	531,160	600,040	644,840	871,440
	$\sum E_e$, roub.	95 738 955.2	135 529 400.0	252 242 202.8	352,529475	578 452 575.2
	Share \mathcal{J} of \sum TPSG, %	2.7	3.4	5.2	5.8	8.8

Where: $Q_{p.d.}$ – a number of patient-days in the day-hospitals; \mathcal{J} – economy effect size; TPSG – state guarantee territory program size.
Source: It is calculated according to the Health Department of the Vologda region.

patient-day⁴ – in the day hospitals) per volume of actual cases of medical care assistance during the reporting period:

$$E_e = (C_{b.d.} - C_{p.d.}) \times Q_{p.d.},$$

where E_e – economic effect;

$C_{b.d.}$ – average cost per a bed-day in the day-and-night hospital;

$C_{p.d.}$ – average cost per a patient-day in the day hospital;

$Q_{p.d.}$ – the number of patient-days in day hospitals for the year.

As the cost of bed- and patient-days in the budget and insurance varies, the analysis of the economic TSH effect is realized in two sections to reflect the existing channels of funding. *Table 1* shows the results of these calculations: the size of the economic effect is presented here as in absolute value and as a share on the total amount of funding TPSG (hereinafter – the territorial program of state guarantees). For example, in 2008 due to the work of day hospitals in regional health facilities, it was succeeded to save public funds (about 9% from all the finances of TPSG) predominantly due to the

⁴ Hereinafter, the term “patient-day” is used as a unit of medical care in DH (as opposed to the term “bed day” traditionally applied to the day-and-night hospitals).

costs of compulsory health insurance – CHI. In general, in the Vologda region TSH functioning provided substantial savings in public resources and strong growth trend throughout the analyzed period.

But it is more important to show not only effect from the use of new technology and also its economic efficiency, so to express the effect relation to the costs with which its accomplishment is entailed. To do this, there is the coefficient of technology efficiency (profitability): it expresses the effect in the form of savings generated by each unit of invested funds. In this case, reducing the cost to implement the therapeutic process through the SSS opportunities (alternative technologies) is regarded as an effect; the cost of the technology application itself has the cost:

$$K_e = \frac{C_{b.d.} - C_{p.d.}}{C_{p.d.}},$$

where K_e – index of efficiency;

$C_{b.d.}$ – average cost per a bed-day in the day-and-night hospital;

$C_{p.d.}$ – average cost per a patient-day in the day hospital.

According to a 2008 investments to the short-stay surgery are in 1.7 times more effective than to day-and-night hospitals, and in 3 times more effective when it comes to health care costs in the CHI funds.

Thus, *ceteris paribus* (especially in achieving equal health outcome), technologies substituting hospitalization are more effective than the stationary ones. Similar calculations for a number of years show the rise in the TSH efficiency for the Vologda region health care, particularly in regard to insurance resources (*tab. 2*).

Speaking on the method of cost minimizing, however, we must recognize that the comparison of two alternative methods of treatment based only on cost indicators conceals important methodological assumption of the quality and health outcomes equivalence of considered alternatives. In other words, realizing economic assessment, we assumed that the provision of medical care in day-and-night hospitals and day hospitals will not vary in the quality and treatment outcomes. In practice, this can be achieved by such means as standardization and development of practice to protect patients' rights, etc.

However, such a simple but reliable way of estimating the economic benefits of the TSH, in our opinion, can be used as a tool to assess the executive authorities activities of Russian subjects, the basic methodology of which were approved in 2007 by the Commission under the President of the Russian Federation on the improvement public administration and justice, pursuant to Decree of the President of the Russian Federation on June 28, 2007 № 825 [3].

In our opinion, the development of new health care forms is much more significant factor to improve health than to reduce hospitalization incidence or simple to reduce bed resources and the number of ambulance calls, which were included in the practical part of this technique. Moreover, the development of the TSH has not only the substitute or compensatory role, but also an important social function, as it meets many changing expectations of patients, which are less interested in a prolonged stay in hospitals, being separated from familiar social and consumer protection. This is a socio-psychological effect of the TSH.

Conclusion

In "The economic way of thinking" the American economist P. Hayne noted that by the economic analyzes of costs it is important to take into account not only economic but ethical and also political aspects. The truth of these words is particularly evident in relation to expenses for protection and strengthening of population health. Therefore, it is important for those people who are responsible for decision making in health care, to achieve a balance between the principles of economic viability and social justice in their activities. It seems that the low-cost forms of health care discussed in this article can play a positive role in this tendency, because with proper methodological and technological support they meet both requirements.

In summary, we think it is very important to consider some of the use complexities of the TSH in Russian practice. Among them a special place is occupied by low availability of these technologies for the rural population living in conditions of transport distance from

Table 2. The treatment costs in day-and-night and day hospitals (roub.) and the effectiveness factor DH

Indicators	2004		2005		2006		2007		2008	
	Budget	CHI	Budget	CHI	Budget	CHI	Budget	CHI	Budget	CHI
$C_{h,d}$	254.91	397.89	240.03	462.59	281.06	669.59	744.87	762.27	843.17	909.25
$C_{p,d}$	122.56	170.12	128.22	173.28	181.11	177.48	276.68	199.77	312.72	227.47
K_p	1.08	1.34	0.87	1.67	0.55	2.77	1.70	2.80	1.70	3.00

Source: It is calculated according to the Health Department of the Vologda region.

major cities and district centers. A low level of road infrastructure and transport development makes difficult the access to health care in day hospitals, so as always, hospitalization remains the only available way of treatment for residents of the Russian countryside. We cannot ignore such nuance as the difficulty in providing with free medicine to preferential categories of citizens, who will receive medical care at the outpatient stage of treatment in the new conditions.

Finally, it is difficult to agree with the view, which is widespread among officials that the main function of technologies substituting hospitalization is only to substitute. To confirm this only Russian specificity let's remember that in

foreign medical practice there is not any term like "technologies substituting hospitalization" (although some domestic authors often translate it in this way or "hospital-replacing technologies"), they use the following terms: "day care surgery", "short-stay surgery", "major outpatient surgery".

In this connection it is worth emphasizing that the real aim of TSH in the short term should be the development and widespread use of modern diagnostic equipment and advanced technologies outpatient surgery, which can be a revolutionary improve health care, and not just "redistribution" of patients from one level of health care to another, albeit less costly.

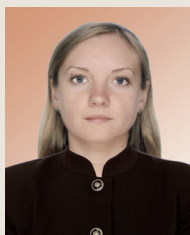
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Social wellbeing of the Belarusian youth: a sociological analysis*

The article considers the concept «social wellbeing» from the point of view of the theory and a technique of its sociological studying. Results of empirical research of social state of health of the Belarus youth in comparison with other age groups are given. Conclusions concerning the social wellbeing of modern youth in the conditions of world financial and economic crisis are made.

Social wellbeing, youth, world economic crisis.



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Since the end of the last century, study of social wellbeing has become particularly relevant in the field of domestic and foreign sociological science. Such appeals are associated with a growing interest in this subject not only from scientists but also political leaders. In his annual address to the Belarusian people and the political structures the Belarusian head of state stressed the special role of social state of health in the establishment of social order in society and state, because viability of the society depends on how comfortable its citizens feel. “Citizens’ state of health – specified A.G. Lukashenko – is determined by the manner and quality of life, as well as the extent to which they feel comfortable in society and the state they live and work. The stability of the state itself depends on this as well”¹.

The study of social wellbeing in the world and home sociological practice is largely due to its consideration as an important factor, which, along with objective indicators shows

¹ Annual Address of the President of Belarus to the Belarusian people and the National Assembly of the Republic of Belarus. – Access mode: http://www.lukashenko2008.ru/articles/stat_i/608. (Access date: 12.11.2009.)

* The sociological data is received during the implementation of joint grant of BRFFR “Monitoring of economic situation and population’s social wellbeing in the North-West Federal District of the RF and Belarus” dated 15.04.2009 ГО9P-031.

the level of development, welfare and wellbeing of citizens. A sociological analysis of social state of health should be targeted to receive information about the current state of social well-being of both the population as a whole and its main categories, of reasons (factors) causing it; it should be aimed at finding ways (mechanisms) of positive influence and compensation of adverse factors which lead to destructive phenomena in the social situation, expressed in the form of deviant behavior, suicide, protests and tension, fears about their future, mistrust of the social and political institutions, political, absenteeism, etc. That is why the need for treatment of sociological knowledge to issues of social wellbeing is defined by its impact on social stability.

Modern Belarus, like most countries in the world, is affected by the global financial crisis, which entailed a number of negative consequences – unemployment, declining living standards and quality of life, the tensions and fears about the personal future and the future of the country. As is shown by the results of the research carried out by the Institute of Sociology in the summer of 2009, the majority of the Belarusian population have felt this influence in

various forms: delayed wages and welfare benefits (16.2%), dismissals and reduction from enterprises (33.3%), rising prices for consumer goods and services (76.4%), depreciation of ruble savings (30.6%), including, deteriorated (injured) social well-being of the population, instantly reacting to the ongoing processes in the country, and to change of its position in modern society. 55% of respondents among the surveyed population expect the negative impact of the crisis on the country's welfare, 60.2% – on the welfare of their own family. "Contribution of the crisis" was also different for different social groups and categories of the Belarusian population.

Youth appeared to be the most vulnerable, as primarily affected by the crisis (24.1%); then the impact of the crisis was felt by the middle generation (18.2%); the older generation sensed the crisis less than the rest (8.6%). The knowledge of the social well-being of young people, considered as a positive force in society, its main potential can build a sound long-term forecasts of changes in social well-being. On the one hand, young people is one of the most vulnerable groups, on the other it is the leading group, as it is open to the new, capable of non-traditional, innovative solutions in its nature.

An analysis of the sociology of theoretical development, accumulated on the problem of social condition and its related categories, suggests that, despite the undeniable advances in this field, there are still a lot of unresolved issues. To our mind, definition of the studied concepts are rather abstract, the structure of the social wellbeing, its factors and indicators are not adequately studied. And in general, such studies are fragmented.

Studying the process of conceptualizing the notion of "social wellbeing" in domestic and foreign science, one should make in it two stages: the latent stage and the stage of explication. In the first, the studied category in the scientific circulation is still missing; issues affecting the scope of wellbeing, i.e. perception of reality and position in society are in line with its related concepts - social attitudes, lifestyles, social consciousness, prosperity and comfort – in various fields of knowledge (B.D. Parygin,

A.G. Zdravomyslov, V.A. Yadov, B.F. Porshnev, N.S. Mansurov, N.I. Lapin, T.A. Zaslavskaya).

Explication period contributed to realization of social wellbeing as a self-contained category; the conceptualization in the scientific literature; understanding of its nature, reflecting the degree of individual's (groups') satisfaction of their position in society; the development of methodological grounds for the study of social wellbeing; introduction to sociological practices: Yu.A. Levada (social wellbeing of the RF population), Zh.T. Toshchenko, S.V. Kharchenko (social wellbeing in the context of public sentiment), I.S. Kon, A.A. Rusalina (issues of social wellbeing of people in the modern world) I.A. Dzhidaryan, E.I. Golovakha (mass measurement of social wellbeing), E.V. Davydova (social wellbeing of youth), L.Ya. Rubina (social wellbeing of teachers), O.A. Hasbulatova (gender dimension of social wellbeing), L.E. Petrova, O.L. Barskaya, N.V. Panina (indices of social wellbeing), M.A. Gurevich (social health as a leading indicator of social adaptation), L.V. Filinskaya, L.A. Soglaeva (social wellbeing of the population of Belarus), D.G. Rothman (social wellbeing of students), G.N. Sokolova (job satisfaction), R.A. Smirnova (social wellbeing of the rural population), and others).

Despite the significant contribution of the above-mentioned authors in the theory and practice of social wellbeing, their fragmentary nature can still be noticed, i.e. lack of an integrated approach to the study of social wellbeing, based on the principle of interdependence of the three spheres of the phenomena – of cognitive, emotional and behavioral – based on which social wellbeing is formed as the integral characteristics of the individual, social group, community, society at large.

Interdisciplinary retrospective analysis allows us to define the concept of social wellbeing as an integral entity, comprehensive description of personality, social group, community, a composite estimate of emotional state that results based on the perception of environmental reality and position in society in terms of satisfaction, identity and activity.

The sociological approach in contrast to the general psychological and others emphasizes the dual nature (dualism) of the phenomenon of wellbeing, i.e. its ability for attributing (to be an attribute of) both the individual and various levels of community – family, study group, job team, sports team, military unit, the society as a whole. Methodological individualism overemphasizes the first side of the duality, and methodological realism – the second. We proceed from the integrity of this phenomenon and see its dualism on the logic of the ratio of the total and the individual (similar to the dual nature of labor), according to which the total appears in / through the individual, but the essential features of the individual enter the total, separating this phenomenon from those in line. This means that the community's wellbeing (the collective according to E. Durkheim) is not anthropomorphism (ill society), but a real fact (according to E. Durkheim), reflecting the empirical complementarity (the complementarity, coherence), the most important and common features of an individual wellbeing.

In turn, the total (collective) wellbeing affects the individual through the mechanisms of imitation, infection, irradiation (prevalence), induction, etc. The total (collective) wellbeing can be called social. However, the social factor has a large proportion individual in the wellbeing – the objective conditions of life, the position of man in society (collective), relationships with people and institutions, expectations and possibilities of their implementation, although their weight varies depending on the emotional states arising from ascription, natural inclinations, etc. (health). It is the social aspects of individual wellbeing which are the substrate (content) of social wellbeing.

The structure of social wellbeing includes cognitive, emotional, behavioral and evaluative elements.

The cognitive element of social wellbeing is actual knowledge, the awareness of people on public life, the knowledge that the individual is guided in daily life, which affects the adoption of certain life decisions.

The presence of *the emotional component* of social wellbeing is based on the fact that it contains the emotions, feelings, sentiment, i.e. mental human states, which are generated in the social reality and are the highest product of emotional processes in social conditions.

The behavioral component is revealed through the individual's activity, through a willingness to act in certain situations under certain conditions, it also includes self-actualization, and protest actions, as a result of negative feeling and life dissatisfaction. Selecting indicators that measure social wellbeing, is conditioned by its ternary structure.

Firstly, cognitive sphere of social wellbeing is studied by: 1) assessment of the economic situation in the country; 2) assessment of the problem field in the country (current problems); 3) self-assessment of economic status and financial situation of the family; 4) self-identification with certain social strata.

Secondly, emotional spheres of social wellbeing correspond to: 1) self-assessment of life satisfaction; 2) self-assessment of happiness; 3) self-assessment of mood.

Thirdly, the behavioral component is measured by: 1) assessment of the prospects of changing the economic, professional and educational status; 2) the choice of behavioral strategies in certain situations.

Empirical analysis of cognitive sphere of social wellbeing of youth.

Describing the economic situation of their own family, the majority of young respondents characterized their position as “middle” (51.0%); one-tenth as “good”, and 24.6% – as “poor” (*fig. 1*).

It was found that, describing the economic situation of Belarus, the youth rate it as middle – 42.7%, which is 5% lower than among the middle generation and 7% lower than among the “older” population; as good – 10 %, there are 2.5% more of such responses among the “older” respondents (12.5%), and 2% less in the group of middle age (8.4%); as poor – 31.9%, i.e. negative assessments of the economic situation of the country are more frequent in this

Figure 1. Distribution chart of youth responses to the question: “How would you estimate your family’s economic status?”, %

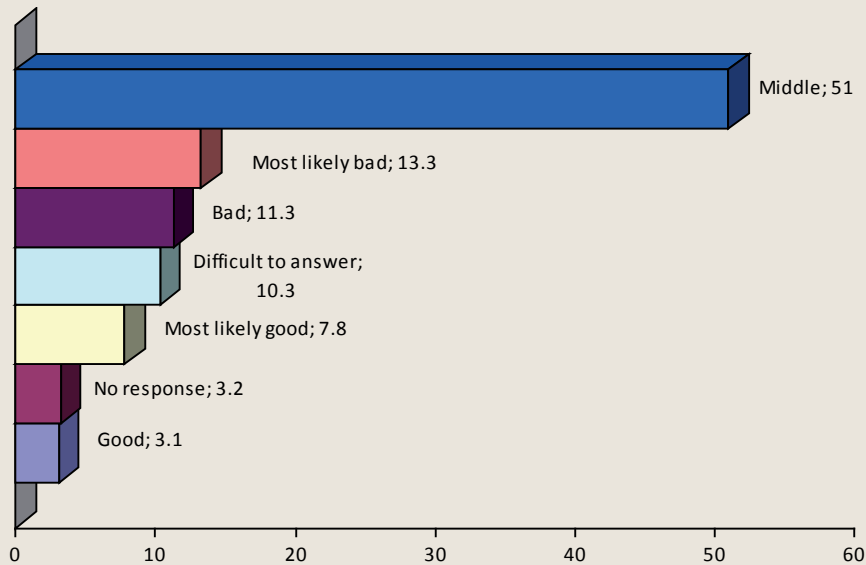
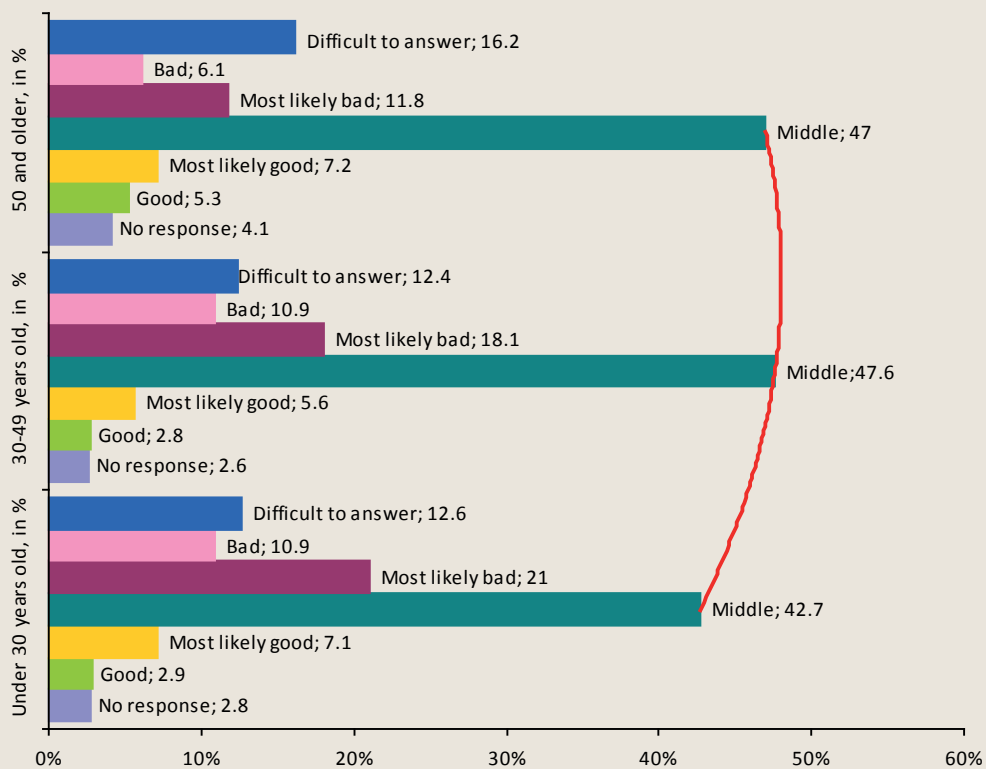


Figure 2. Distribution chart of responses to the question: “How would you estimate the economic situation in Belarus?”, %



group of respondents, because only 17.9% of “older” and 29% of middle age called it bad; among this category of people there are such who could not define it accurately – 12.6% found it difficult to answer this question (fig. 2).

Thus, performance estimates of the economic situation of the Republic of Belarus and their own family, characteristic of young people, are notable for neutral values with a shift toward negative, which is due to modern global

economic crisis affecting the country. Concerning the acute problems of the contemporary Belarus, the opinion of youth can be represented as the top ten (from the most current): growth of alcoholism (62.9%), constant rise in prices (62.1%), low living standards (52.4%), unemployment (45.1%), bad ecology and environmental pollution (43.8%), low availability of housing (43.6%), corruption (41.7%), poor quality of health care (40.4%), high tariffs for communal services (40.3%), sharp stratification of the population by income (36.7%).

The least typical of the country, in the opinion of young people, is ethnic strife; the problem took the last place far behind the others. The described “top ten” of problematic background of the country is different from those which, according to young people, is characterized by personally interviewed and their families, and is as follows: high tariffs for communal services (37.5%), rise in prices (30.6%), low affordability of housing (28.9%), low living standards (23.8%), poor quality of health care (20.8%), lack of social protection of citizens (15.7%), delays in payment of salaries, pensions and scholarships (15.0%), environmental problems (13.6%), rising alcoholism (10.4%), unemployment (10.2%).

Defining their place among the social groups, the majority of the young respondents

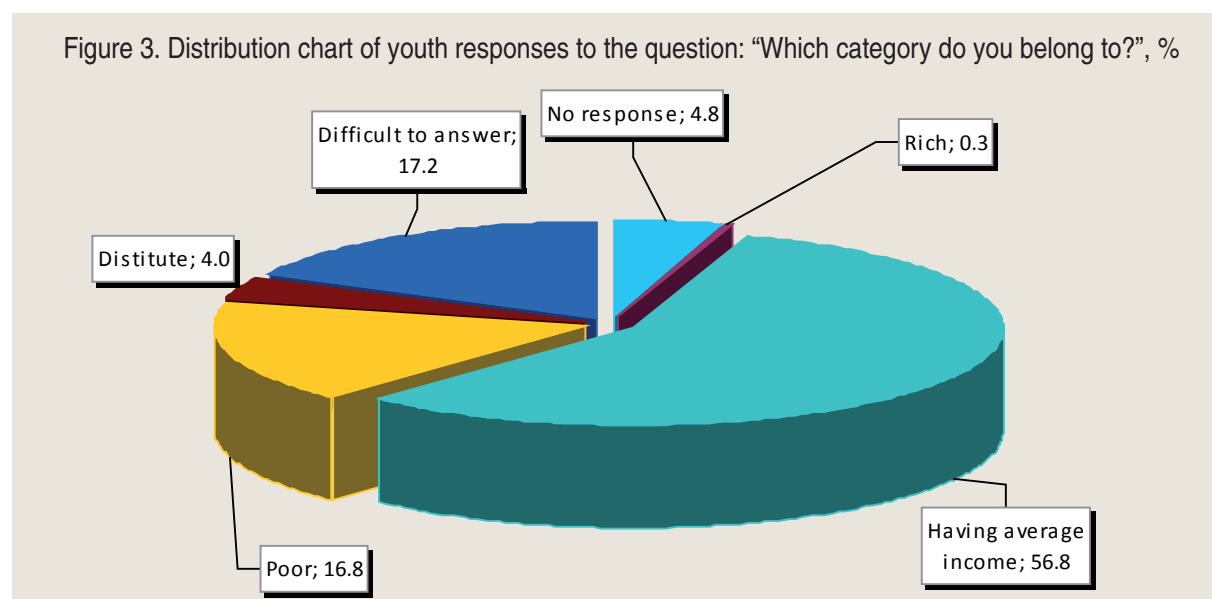
identify themselves with people of average income, including 56.7%, which is 7% higher than among the middle generation and 14% – compared to the “older” generation; 16.8% ranked themselves to “poor”, and the elderly people rank themselves to “poor” two times more (33.0%) compared with the young, and among the “middle generation” there are 10% more of such people; 4% of the respondents consider themselves as destitute, 17.2% found it difficult to determine their position among the above-mentioned categories (fig. 3).

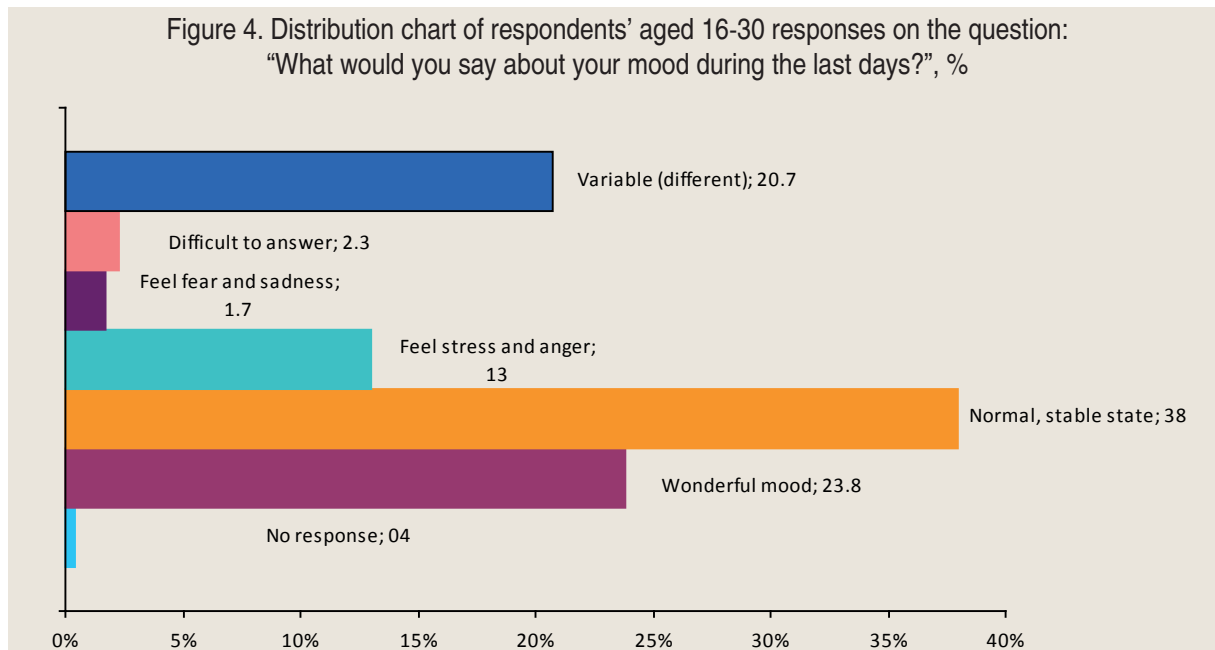
Characteristics of emotional sphere of the youth social wellbeing

Data of the survey conducted by the Institute of Sociology of NAS of Belarus in June – July 2009 showed the following results.

Firstly, the self-sentiment, which is mainly experienced by young people in recent years, is characterized by a predominance of positive values (61.8%), among them 23.8% have good mood, 38.0% are in normal and smooth state; 13.0% experience stress and anger, fear and sadness is characteristic for less than 2% and one-fifth of the youth were not able to pinpoint their mood neither as positive nor as negative, because it (the mood) is variable (fig. 4).

Secondly, concerning self-assessment of life satisfaction, as well as the mood it has a positive background, because there are three times





more of those who are fully and most likely satisfied than those who are at all or rather not satisfied with their lives – 67.1% and 21.2%, respectively, but there are those young people who do not know if they are satisfied with their lives or not, they are 11.6% (table).

Responses to the question: "Please rate the extent to which you are satisfied with life in general?" (in % of young respondents)

Answer	Up to 30
No response	0.2
Fully satisfied	17.7
Most likely satisfied	49.4
Most likely not satisfied	17.2
Not satisfied at all	4.0
Do not know	11.6

Characteristics of wellbeing revealed the following results: 34.7% of young people surveyed feel well, 10.2% feel that they are happy, 26.9% feel satisfactory, and 5.7% identified their feeling as poor (fig. 5).

Thus, the emotional sphere of social wellbeing of youth in all three of its components, demonstrates the positive evaluation, compared with its cognitive element. These indicators of social wellbeing of young people are characterized as very optimistic as opposed to the middle and older generation. Determining the factors

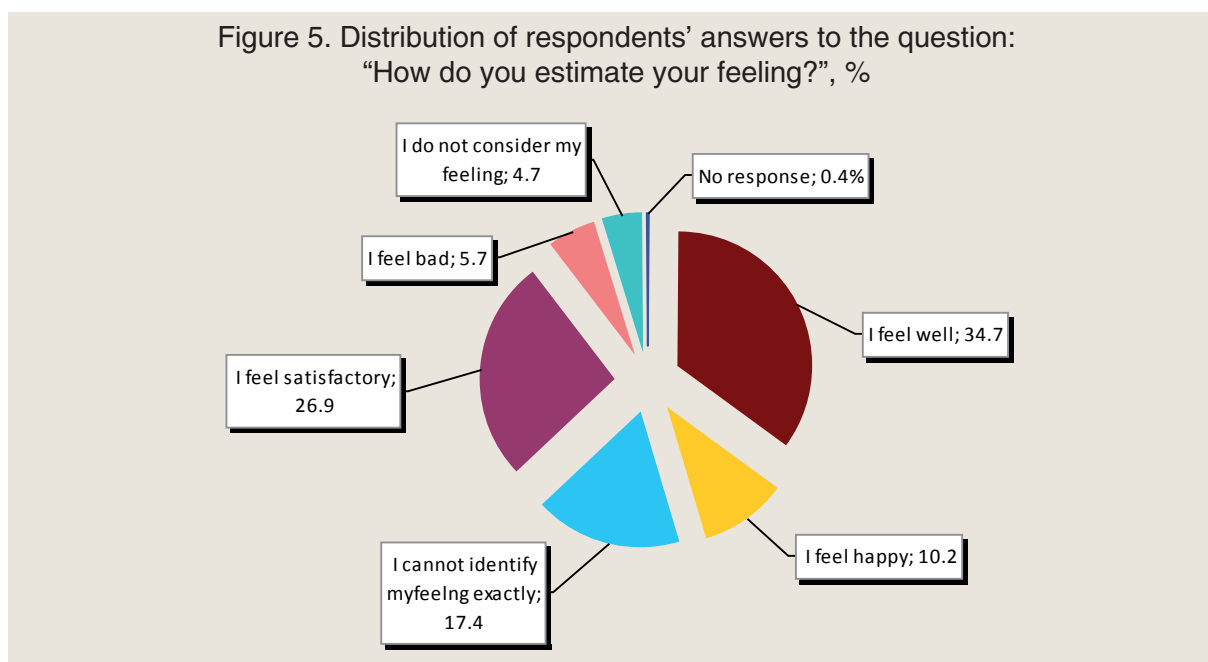
affecting life satisfaction, on the one hand, and wellbeing, on the other hand, some differences have been recorded.

Thus, the hierarchy of factors in life satisfaction is as follows: 1st place – self-assessment of own state of happiness ("eudaemonist" type – 31.5%), 2nd place – assessment of goals achieved ("goal focused" type – 21.5); 3rd place – a comparison of personal wellbeing with the wellbeing of others ("materialists" type – 18.7%), 4th place – a comparison of own lifestyle with lifestyles of others ("realists" type – 14.3%); 5th place – evaluation of family welfare and/or personal relationships ("family focused" type – 11.0%), 6th place – trust and recognition from others ("glorious" type (from the Latin. gloria – glory) – 7.2%), 7th place – evaluation of achievements in work (service, studies) and the prestige of job ("careerists" type – 9.1%).

Moreover, to middle and older generation evaluation of welfare and standard of living was a decisive factor, which is not much ahead of a factor associated with a sense of happiness. Factors-outsiders for all age groups were those related to work, study or service, namely, their prestige and achievements.

Concerning the determinants of wellbeing, the top five was allocated. For young people,

Figure 5. Distribution of respondents' answers to the question: "How do you estimate your feeling?", %



it depends mainly on relationships with close people, on the state of health, on the financial situation of the family, on personal financial situation, and the fifth place went to such a factor as family wellbeing. Last places were shared between the confidence of others and the state of personal security. Unlike the middle generation, whose financial position played a decisive role, the secondary was family wellbeing, and health took the third position. But among "older" respondents self-assessment of health prevails greatly: nearly three times as compared with the importance of other factors.

The results of sociological research suggests that, despite the current global financial and economic crisis affecting the Republic of Belarus, in young people's estimates of their own mood, wellbeing and life satisfaction positive values dominate. Studying the dynamics of young people's wellbeing showed that it has not changed for the last time for the majority of young people surveyed, not that in other age groups. However, there are differences in the ratio (for each age group) of those who have it improved and those who have it worse. Positive changes of wellbeing are mainly characteristic of youth compared with the middle and, increasingly, the older generation, most of whom

have it worsened. Young respondents associate changes of wellbeing with changes in the family (personal) life, and in the material sphere.

Sociological analysis of today's youth behavioral strategies

The analysis of young people's social qualities self-evaluation demonstrated a reasonable degree of individual initiative, the need for self-education, self actualization, enterprise, ability to achieve goals, ability to take risks, i.e. those that underlie the internality behavioral strategies. It should be noted that in case of changes in life situation and well-being in the direction of their deterioration young people demonstrate active behavioral strategy of a positive nature.

For example, a leading behavioral strategy in case of living standards deterioration is to look for additional sources of income (60.3%), the second place took the position associated with savings and costs reduction (50.1%), the third place took the answer "I'll rely on care from near relations" (10.8%), the fourth – "I will defend my rights" (7.6%), the fifth – a bank loan (6%), young respondents chose the following alternatives equally and least of all: "pawn valuables" (0.7%) and "try to get reimbursement for personal insurance" (0.6%).

Almost a tenth part (9.2%) of the young people surveyed believe that mass demonstrations expect the country in the case of price increases and deteriorating living standards, 46.1% think that they cannot take place, and 42.3% found it difficult to answer this question. Moreover, 11.5% admit their participation in such protests, 22.6% did not answer, and 63.0% rather or definitely will not take part in them.

But when something affects young people's interests protest reaction are shown in their strategies in a significant proportion. Sociological data showed that over one-tenth part (11.5%) among the young respondents admit their involvement in mass protests against rising prices and poor living conditions, a fifth of young people (18.9%) are ready to use any opportunity, including extreme ones to protect their own interests in a life deteriorating situation, 12.1% are ready to go to another country, 9.6% will apply to labor union organizations; outsiders are alternatives associated with such strategies as the hunger strike and joining the party.

The results of sociological research suggests that, despite the current global financial and economic crisis affecting the Republic of Belarus, positive values dominate in the estimates of young people's own mood, well-being and life satisfaction. However, sociological data demonstrated that against the positive background of the emotional sphere of social well-being alarming trends are also manifested. It is revealed that the performance estimates of the economic situation of the Belarusian society and their own material well-being shift from neutral values to negative.

Defining their place among the social groups, the majority of the young respondents identified themselves as people with average incomes. The scope of actual problems, most affecting young people, include high tariffs on utilities, rise in prices, low availability of housing, low living standards, poor quality of health and social insecurity. These issues reflect the perception of the major "dissatisfaction" that affect the immediate sphere of individuals' life.

HISTORY OF NATIONAL ECONOMY

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The Vologda region's economy in the period of Great Patriotic war

The article covers the organization of the regional industrial and agricultural functioning, shows the labor feat of Vologda's inhabitant in wartime.

The Vologda region, the war of 1941 – 1945, economy of the war years.



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The Vologda region was established by the decree of Central Executive Committee of the USSR as of September, 23, 1937. The territory of the region was 145.5th km as of January, 1, 1940 (here and further according to the Vologdastat data), according to the census in 1937 the population was 1,599 thousand people including the rural population – 1311.7. The population density – 9 persons per km².

The region consisted of 42 districts, 13 towns, 16,001 settlements, 769 Rural Councils.

In the pre-war year of 1940 the Vologda region's economy worked stably. The state plan of industry development was fulfilled, the volume of gross industrial production made up 356.4 million rubles by the prices of 1927 – 1928. By the forms of subordination the enterprises were divided into the union ones (42.7%), the republican ones (37.6%), the regional ones (18.1%) and other (1.6%), the average full list of industrial and production personnel was

16.67 thousand people. The timber industry was the leading one, the removal of logs made up 8836.0th m³.

There were 5,871 kolkhozes and 17 sovkhoses and 222.7 thousand kolkhoz farms in agriculture. Sown areas in all categories of farms made up 979.8 including grain areas – 661.3, fibre flax – 78.4 thousand ha. Crop yield was 6.7 centners per ha. In all categories of farms cattle stock made up 622.9 thousand heads including cows – 336.8. Milk yield per one fodder cow was 961 kg in the public sector. In 1940 in all categories of farms there was produced the following: cattle and poultry – 34.1th tons, milk – 384.1th tons, sheep's wool – 640 tons, eggs – 97.1 million.

As of the end of 1940 the operational length of public railroads made up 667 km. The railways to Moscow, Leningrad, Murmansk, Arkhangelsk and Kirov passed through Vologda. The railway workers of the Vologda region

serviced the railways, accepted and dispatched freight, did passenger transportation. Over the year of 1940 there was dispatched 3.2 million tons of freight. The water transport workers sent 3.14 million tons and accepted 1.7 million tons of freight. The stretch of hard-surfaced motor-car roads made up 962 km. There were 34.4th relaying radio sets including in the countryside – 11.7th sets.

The main direction of capital construction was to strengthen material and technical basis in the timber industry, to build enterprises for agricultural products processing. The principal objects were the Volga-Baltic and the North-Dvina water ways construction. Housing construction was put on a wide scale. Over the year of 1940 the volumes of capital investment made up 48.1 million rubles by estimated cost.

There were 3,790 sales outlets of state trade and 2,297 sales outlets of consumer's cooperation in operation. Retail turnover made up 101.7 million rubles by established prices.

As of the beginning of 1940 – 1941 academic year there were 2,312 schools including 1,857 primary schools where 301.6 thousand people studied. There were 4 higher educational establishments with 3.1 thousand students.

There were 139 hospitals and 579 first-aid stations and obstetrical services where 424 doctors and 3,542 nurses worked. Over the year of 1940 the number of newly-born babies was 30.6 per 1,000 people, the number of dead – 25.8.

The region's economy developed in accordance with the state plan of region development and the plans of towns and districts, enterprises, organizations, kolkhozes and sovkhozes taking into account the splitting into quarters and months. The oblast committee of all-USSR Communist Party (of Bolsheviks), the oblast council of deputies of working population conducted the organizational and mass and political activity about the plans to be fulfilled, they started up socialist emulation in order to achieve certain results, using the moral and material stimulation. The similar work was conducted among work collectives in the towns and in the countryside. The third 5-year period

was passing on. In the country and in the field the Stakhanov movement for early completion of plans was being put on a wide scale. But progressive and constructive development of the country and the region was broken off by Great Patriotic War of 1941 – 1945.

War is a great disaster of nations, devastation, economic and political crisis. Fascist Germany set the goal: to annihilate Soviet government, to plunder our country and to occupy our lands, bread, subsoil and cultural treasures. The Soviet Union was in great danger. It was important to realize it, to make it clear to population's consciousness, to prevent panic and to transfer the economy to war condition. The Vologda region was announced to be front-line area, there was imposed a state of emergency in the region. The oblast committee of all-USSR Communist Party (of Bolsheviks), the oblast executive committee were responsible for territory defense, socialist property protection, delivery of the human and material resources to the front, supply of the population, good organization and order. The demand of that time was "All is for the front – all is for the victory!"

Following the directions of Central Committee of all-USSR Communist Party (of Bolsheviks), Council of Peoples Commissars of the USSR and State Defense Committee the oblast committee of all-USSR Communist Party (of Bolsheviks), the oblast executive committee worked out the measures to transfer the region's economy to war production; they conducted the activity to mobilize the resources. The district committees of all-USSR Communist Party (of Bolsheviks), district (city) executive committees received the letter about organization of mass-political work among the population in order to clarify the political situation, about the fact that the country is in great danger, about true fascism's goals, about necessity to defend the manufacturing entities, about protection of communications, bridges, water reservoirs etc. There was stressed the importance of replacement of the men having gone to the front. There was introduced double-shift work from 6 to 23 o'clock in enterprises, from 6 to 22 o'clock

in trade. In kolkhozes the working hours were fixed from necessity (sometimes 16 hours).

The Vologda region was an agricultural region that's why the main task of the whole war period was production, processing and supply the country with farming products. It was very important to prevent reducing the sown areas, cutting down the livestock and its productivity. And it was a very difficult task.

The mechanization of farm works was at the low level even in the basic year of 1940. In kolkhozes being at the service of machine and tractor stations, fallow land was ploughed by the tractors in 52% of areas, land ploughed in autumn for spring sowing – in 33%, winter crops sowing – 14%, spring crops sowing – 6%, crops gathering – in 6% of areas. Flax, potatoes and vegetables were grown by horses and by hand.

All high-powered caterpillar tractors and the most of trucks and 74 thousand horses were directed to the army from the machine and tractor stations, kolkhozes and sovkhoses. Workload per horse increased and in 1944 it made up: arable land – 11.8, haying – 10.3 ha. For ploughing in spring people had to use bullocks (bull that has been castrated) and even cows.

The year of 1942 appeared to be especially unfavourable one for agriculture because of drought. Crops yield made up 5.8 centners, potatoes yield – 65.9 centners per ha. But the region performed the agricultural produce plan. However in 1943 tensional situation arose connected with supply of seeds in all categories of farms. The state issued repayable loans to kolkhozes to supply them with seeds. In all towns and districts the region executive committee established collection of "eyeholes" (an apical part of tuber with future sprouts) to get potato seeds. It is the example of problem solution and way out of the situation.

The arable land load increased because 85 thousand horses, 66 thousand cattle heads and 50 thousand sheep were taken from the evacuated regions in 1941. Under the instructions from the region executive committee they were distributed among kolkhozes and population households at material liability and

with payment for care. The region performed the task by Council of Peoples Commissars of the USSR, and in 1944 there were 68 thousand cattle heads and 3000 horses sent to the liberated territories. It is the evidence of both kolkhoz peasantry's patriotism and assistance to border regions.

The region's authority controlled the provision of population with foodstuffs permanently. The region lacked for bread. There remained too little to its own use. There introduced a card system to distribute some staple foods for industrial and office workers. The rural population was fully self-sufficient during the whole war period. To improve the nourishment of townspeople the region executive committee allotted some plots of land for individual and collective gardening (for potato growing) in the suburban zone, the area of this land reached 7,876 ha by the end of 1943. It was a serious help, you might say, you might say, salvation from famine.

When taken in the harvest the kolkhozes got a great help from townspeople, industrial and office workers, housewives, secondary school students, technical school students and higher school students. By-turn under the instructions from the district executive committees on the termination of threshing the kolkhozes sent their people to the logging enterprises for logging and removal of logs, they also worked off animal-drawn duty which was free of charge till February, 1941. According to the mobilization young people (teenagers and young girls) from villages were sent for peat stocking and for studying to the trade schools.

In the region the main producers of agricultural products were kolkhozes, their total number was 5,871 as of the beginning of war. They were small. At the average there were 155.2 ha of arable land per farm and 41 kolkhoz farms, 1,429 kolkhozes had no more than 10 horses and only 130 kolkhozes had 40 horses. Agricultural bodies gave great consideration to labour organization in kolkhozes. There were worked out and recommended for introduction some working standards and remuneration of

labor in horse-hand and manual operations. Field-husbandry teams and stock-raising farms became the main production units in agriculture, their number was constantly increasing. Specialized groups on flax cultivation, potato and vegetable growing were set up in the field-husbandry teams. All these measures promoted the growth of labor productivity and the increase of product quality, especially flax fibre. In 1945 by the beginning of spring-and-field works there were 8,960 groups created in the region including 4,554 flax-growing groups.

In war time there was a very acute question connected with managerial personnel and mass professions personnel training instead of those who went to the front. This problem was solved by organizing different courses for agriculture and economy training of personnel. There were regional and district courses, courses at the machine and tractor stations as well as mass professions teaching groups in the farms. The performed analysis showed that the peak of organizing training of personnel fell on the year of 1944, during this year 2,767 chairmen of the kolkhozes were qualified, 2,133 tractor drivers, 165 foremen tractor team, 126 mechanics, 3,670 foremen field-husbandry team, 4,375 group leaders and 2980 storekeepers were trained. Over 16,000 people were trained in the agriculture circles.

The Vologda region's contribution of into agricultural production of the USSR was considerable. In 1943 the region took the third place by the number of cattle head and the fourth place by cow head. In spite of war time complexity and lack of resources and experienced personnel the kolkhoz peasantry of the region secured the delivery of agricultural products to the country (the front) and kept the sown areas up; the productive livestock was preserved.

The positive work of the region's agriculture was recorded in the decree of Central Committee of all-USSR Communist Party (of Bolsheviks) and Council of Peoples Commissars of the USSR "On the state plan of agriculture development for 1943" in 1943 and in the materials of Supreme Soviet of the USSR in 1944.

In war period the industrial enterprises of the region worked under difficult conditions, there was lack of raw material, electric power and fuel. The skilled workers were sent to the front. The leading branch was timber and woodworking ones as well as pulp and paper industry, the latter had logging as a main part of work. The volumes of logging were declined drastically. In 1942 they made up 4,167 thousand cubic metres, and it was twice as little as the pre-war time. So the principal task of the region and timber industry leaders was to supply Moscow, Leningrad and rail way with raw material of special users and woodworking mills and with firewood. The performance of task on timber delivery was under constant control of Peoples Commissariat of timber industry of the USSR.

The oblast committee of all-USSR Communist Party (of Bolsheviks) and the oblast executive committee worked out measures for performance of logging plans: according to the mobilization plans the logging enterprises got the season work force from the kolkhozes, brigade form of labour organization was introduced, "icy" roads were built, the payment for animal-drawn duty was introduced, allocation of pieces of woodland was allowed near rivers and forest settlements. The timber workers took part in all-USSR socialist emulation for early fulfillment of the stocking plans, the front ten-day periods of high-powered work were announced constantly.

Wood and converted timber need increased greatly while liberating the USSR territories from the German invaders. In 1944 the region supplied with wood to restore the national economy in 39 regions, 3 union republics and 3 autonomic republics. The region took the fifth place among the USSR regions in the volumes of logging. During the war years the region fulfilled the plan of wood delivery for railway transport. In such way the freight followed the roads of the regions. In February, 1945 the Vologda region was rewarded with the challenge Red Flag of State Defense Committee for successful performance of this task.

In war time the enterprises of light industry were transferred to production output under war orders. By August, 1945 there was organized the production of sheepskin, sewing of soldier's blouses, overcoats, raincoats, quilted jackets and short sheepskin coats. Later the task on repairing of war uniform was fulfilled. The tasks were intense, the work shift lasted ten hours. Under acute shortage of resources the most rigid austerity policy was introduced at the enterprises. The progress schedule of production was brought to the notice of every enterprise, shift, workshop, production area and work place. Any disruption of schedule fulfillment was examined by the commission. If there were no objective factors of non-fulfillment an enterprise leader was called to account in accordance with war time. The share of engineering enterprises in the industrial production was small. The production of mortars, mines, shells and other components was organized on their basis.

The role of local industry increased greatly in war time. Its share in the industrial production reached 47% by 1945. The advantage was that the production was made of local raw material, at the same time the folk crafts and small producers' artels and handicraftsmen were attracted. Local industry enterprises produced some special goods for the front and consumer goods. The product mix was wide: sledge, trelga, churn, ski, brick, lime, harmonica, saddlery, felt boots etc. The volume of industrial production of local enterprises increased by 10.6% for 1941 – 1944. 29 district food centers and 9 district integrated industrial plants worked in the region. There was a branched chain of various small producers' artels.

In war period there was capital construction in the region. 44.9 million rubles by estimated cost were contributed in the region's economy for 1941 – 1945. It was by 24 million rubles less than for three and a half pre-war years (1938 – 1940). The following construction projects were put in commission: the plywood plant in Sokol, the bread-baking plant in Vologda, the power station at the Vologda flax-mill, the soap factory

in Vologda. The shipyard in Cherepovetz and some other projects were under construction. Besides it under the orders of the region executive committee 20 thousand people were sent to build lines of defense in the region's territory (Vytegra, Sholsk and Kirillov districts). Each forth had a horse and the others used spades and saws.

After the men had gone to the front the problem of their substitution arose at the industrial enterprises. The women and teenagers took their workplaces on-site. An additional chain of trade schools was put in place, factory-and-workshop training was extended. For 1941 – 1945 21.3 thousand young workers were trained, it was by two times as much as in pre-war five-year period. The pure "male" workplaces were substituted by the women. For example, the share of women in the payroll of the Vologda railway department reached 54% by the end of war.

Putting the slogan "All is for the front – all is for Victory!" in practice the oblast committee of all-USSR Communist Party (of Bolsheviks), the oblast executive committee, the oblast committee of all-USSR Lenin Communist Union of Young, the trade union committees expanded socialist emulation for achievement of high labour results by working people, early fulfillment of the plans and the tasks. They organized Stakhanov's movement for acquirement of leading labour methods, conducted intensified watches, ten-day periods, month – periods in honour of outstanding country's events and military victories of the Army and the Navy. Creative initiatives, undertakings of working innovators and Stakhanov followers were covered widely by the regional mass media, the district press and the large-circulation educations and the creative teams.

The participation of the Vologda region's population in fund-raising for air connection as a present for heroic city of Leningrad was a bright display of patriotism and expression of willingness to give all their strength and resources to the front. Over 150 million rubles were collected in all [1, p. 16]. The peasants

of the Vologda region widely supported patriotic initiative of collective farm workers from agricultural artel "Builder" of Velikiy Ustyug district about fund-raising for tank column "Vologda collective farm worker". At the earliest possible date 67,0 million rubles and 175 thousand poods of bread were collected [1, p. 16]. The population constantly collected warm clothes, tobacco pouches and handkerchiefs for the soldiers of armed forces. As of June, 23, 1944 the Vologda region's population sent: 17.0 thousand short sheepskin coats, 60.0 thousand pairs of felt boots, 7.0 thousand fir waistcoats, 143 thousand pairs of mittens,

23.0 thousand sets of warm underwear, a great number of tobacco pouches and handkerchiefs [1, p. 16].

The USSR government appreciated the labour contribution of the Vologda region's people in supplying the Army and the Navy and the USSR regions with timber, firewood, outfits and provision in a proper manner. In war period of time 545 residents of the Vologda region were decorated with orders and medals for their feat of labor, 162 thousand workers of the region were decorated with the medal "For valorous work in Great Patriotic War of 1941 – 1945" [1, p. 15].

The key indicators of national economy work of the Vologda region in 1940 and 1945

Indicators	1940	1945	1945 as against 1940 in %
Volume of gross industrial production, million rubles (in prices of the years 1927/1928)	356.4	286.47	80.3
Average annual number of workers, thousand people	103.4	82.09	79.6
Production of the most important kinds of industrial production in physical terms:			
- removal of logs, thousand cubic meters	8,836	5,590	63.2
- saw timber, thousand cubic meters	403	133	33.0
- paper, thousand tons	46.9	25.2	53.7
- fuel peat, thousand tons	53.8	144.5	268.6
- building brick, million bricks	26.4	7.0	26.3
- windowpane, thousand square meters	2,032	711	34.9
- electric power, million kilowatt-hour	124.2	88.0	70.8
- linen cloth, thousand meters	5,447	2,938	53.9
- meat, thousand tons	10.9	7.2	72.1
- animal oil, thousand tons	6.6	3.5	53.0
- tinned meat, million tins	12.8	25.3	197.6
- leather footwear, thousand pairs	203	152	74.8
- felt footwear, thousand pairs	181	227	125.4
Arable land in all categories of farms, in total, thousand ha including:	979.8	998.1	101.8
- leguminous plants	465.2	427	91.7
- flax	78.1	82.7	105.8
- potato	58.4	38.5	65.9
- vegetables	7.6	5.5	72.3
- winter crops	196.1	250.0	127.4
Livestock population in all categories of farms, in total, thousand heads:			
- horses	199.2	120.1	60.3
- cattle	622.9	559.3	89.7
including cows	336.8	297.0	88.2
- pigs	142.1	65.9	46.3
- sheep and goats	631.3	709.9	112.4
Procurement in all categories of farms :			
- cattle and poultry, thousand tons	16.8	18.1	107.7
- milk, thousand tons	153.0	82.9	54.1
- wool, tons	172.0	242.5	141.0
- egg, million eggs	12.4	10.9	87.9
- bread, thousand tons	80.81	109.50*	135.5

* For the year of 1944.

You can see the main results of national economy work of the Vologda region in 1945 as against the pre-war year of 1940 in *table*.

On the basis of the analysis above we can draw the following conclusions:

1. Under the conditions of war time and crisis and with lack of resources the Vologda region economy kept the main parameters. Using the available material and technical basis the region performed the major task – to supply the front with outfit and provision, to support the life activity of region's population and to protect its property. The field of production was kept.

2. Under the conditions of crisis the government greatly increased its influence while working out the plans and mobilization tasks, developing the strategy and the tactics of economy maintenance, allocating funds, controlling over fulfillment of the plans and searching for some additional resources. At the same time the importance of local factors increased: local authorities responsibility for fulfillment of the finished plans and tasks, searching for additional sources, activation of local industry, training and retraining of personnel. In war

time all these factors were used by the Vologda region authority actively.

3. The slogan "All is for the front – all is for Victory!" was simple and clear, it was apprehended by the region's population, young and old with all their heart. For victory the people of the Vologda region worked at full stretch, suffered hardship and destitution, rendered additional assistance to the front with their personal savings, warm clothes, took, fed and warmed the population of the occupied regions.

4. After the military operations had finished the Vologda region authority set a new task to restore the economy and to help it out of the crisis. In September, 1945 the departments of the region executive committee started to work out the forth five-year period plan for the national economy restoration and development for 1946 – 1950, later this plan was approved at the session of the oblast board of deputies of working people and realized. By 1950 the region's economy had been restored, the war level of social and economic development had been surpassed in all indicators. It was the period of high rate of economic development and complex approach to the solution of goal tasks.

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YOUNG RESEARCHERS

UDC 631.1+336.221(470.12)

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The system of taxes and taxation is an important tool of state regulation of agricultural enterprises

The legislative framework of taxation of agricultural producers in the Russian Federation is considered. Based on the analysis of taxation of agricultural enterprises of the Vologda region a conclusion about the imperfection of state tax regulations in the agricultural sector is made. Ways of improving the unified agricultural tax, allowing increasing the profitability of this regime are suggested.

The Vologda region, taxation of agricultural enterprises, improving the practice of single agricultural tax.



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The state has an extensive set of tools to regulate the activities of agricultural goods producers. One of these tools are the taxes. The imperfection of the current tax policy in Russia and particularly in the agricultural goods producers taxation leads to a significant financial resources outflow from this industry. This is a real problem in view of the difficult financial situation in this area of economic activity. The answer to the question “How many and what taxes have agricultural good producers to pay?” is fundamental on matter of improving the agricultural enterprises taxation. In order to give correct and motivated recommendations to improve the studied issue, it is necessary to analyze the current taxation system in this industry. In this regard, it should to evaluate various parameters characterizing the taxation system of agricultural enterprises in the Vologda region. In our view, all the calculations relat-

ing to taxation must be made in two versions: including the amounts of personal income tax (PIT) and excluding this tax. According to the RF legislation, personal income tax is paid not by the enterprise, but by the employees; in this case the enterprise acts only as a tax agent. However, in our opinion, because of industry characteristics, it is also necessary to consider this tax in the aggregate payments. *In this case the total fund outflow from the village will be assessed.* To this end, the structure of tax payments in agricultural enterprises of the region is presented (*tab. 1*).

The largest share in the tax payments structure (42.3% in 2008, including personal income tax and 54.1% excluding personal income tax) makes up value added tax (VAT). For five years, its share has increased by 5 percentage points (excluding personal income tax by 8.8 percentage points). The second place is taken by uni-

Table 1. The structure of the tax payments in agricultural enterprises of the Vologda region to the budgets of all levels and budgets of the territorial state non-budget funds in 2003 – 2008, %

Taxes	2003	2004	2005	2006	2007	2008	Basic growth rate in 2008 to 2003, percentage points
The structure of payments including the amount of personal income tax (PIT)							
1. VAT	37.2	29.4	38.9	46,2	43,1	42,3	5,1
2. UST	37.0	36.1	30.3	26,3	28,5	29,5	-7,5
3. PIT	17.8	15.3	22.0	19,8	21,0	21,9	4,1
4. Land tax	2.5	2.5	2.2	0,7	0,7	0,6	-1,9
5. Other taxes	5.5	16.7	6.6	7,0	6,7	5,7	0,2
Total	100.0	100.0	100.0	100.0	100.0	100.0	x
The structure of payments excluding the amount of personal income tax (PIT)							
1. VAT	45.3	34.7	49.8	57.7	54.7	54.1	8.8
2. UST	45.0	42.6	38.9	32.7	36.1	37.8	-7.2
3. Land tax	3.0	3.0	2.8	0.9	0.9	0.7	-2.3
4. Other taxes	6.7	19.7	8.5	8.7	8.3	7.4	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	x

Source: compiled by the author on the data from Department of Agriculture of the Vologda region.

fied social tax – UST (29.5% in 2008, including personal income tax and 37.8% including personal income tax). Reducing the proportion of UST for this period is attributable to lower tax rates from 26.1 to 20%. The fifth of the tax payments makes up personal income tax, which accumulates in the regional and local budgets of the Vologda region. Land tax reducing (from 2.5 to 0.6%, including personal income tax and from 3.0 to 0.7% excluding personal income 2003 – 2008) is attributable to in 2006 changing legislation regulating land tax payment, and to increasing debt on this tax.

In the context of fund recipients, this structure is presented in *table 2* the largest share falls on the federal budget – about 50% during the analyzed period. However if we analyze the data excluding the amounts of personal income tax, it may be noted that 60% of all tax revenues paid by agricultural enterprises of the region are credited to the federal budget. From 20 to 25% of all tax payments go to the regional and local budgets of the Vologda region, the remaining amounts go to the budgets of the territorial state non-budget funds of the region (about 30% in 2008). If the value of personal income is excluded from the

Table 2. The structure of the taxes recipients paid by agricultural enterprises of the Vologda region in 2003 – 2008

Year	Federal budget		Consolidated budget of the Vologda region		The budgets of the territorial state non-budget funds		Total	
	Sum, mil. roub.	Ratio, %	Sum, mil. roub.	Ratio, %	Sum, mil. roub.	Ratio, %	Sum, mil. roub.	Ratio, %
The structure of the recipients including the amount of personal income tax (PIT)								
2003	438.3	49.8	176.5	20.1	264.5	30.1	879.3	100.0
2004	480.4	37.3	190.1	14.7	618.9	48.0	1289.4	100.0
2005	482.2	46.6	200.6	19.4	351.0	34.0	1033.8	100.0
2006	683.4	50.9	261.3	19.5	397.6	29.6	1342.3	100.0
2007	729.2	47.6	368.6	24.0	436.1	28.4	1533.9	100.0
2008	816.6	45.9	445.7	25.1	516.1	29.0	1778.4	100.0
Структура получателей excluding the amount of personal income tax (PIT)								
2003	438.3	60.6	20.2	2.8	264.5	36.6	723.0	100.0
2007	729.2	60.2	45.5	3.8	436.1	36.0	1210.8	100.0
2008	816.6	58.8	55.5	4.0	516.1	37.2	1388.3	100.0

Source: compiled by the author on the data from Department of Agriculture of the Vologda region.

calculations, then the company transfers no more than 4% of all tax revenues to the consolidated budget of the region.

Analysis of the data presented in *table 3* makes possible to conclude that the proportion of indirect taxes in the total amount of obligatory payments paid by agricultural enterprises of the region is high. At the same time the share of VAT accounts from 70% to 92% of the total value of taxes paid by agricultural enterprises to the federal budget. If we consider the share of VAT in the structure of all tax revenues, then it

is possible to identify a similar situation. So, if in 2003 it accounted 37.2% of the total tax revenue, then in 2008 this figure increased to 42.3% (see *tab. 1*). The reason for this situation is the growing value gains of agricultural goods producers.

The high share of indirect taxes indicates inefficient state fiscal policy in regard to agricultural goods producers.

Let's consider the situation with a ratio of public assistance sums from the budgets of various levels with the amount of tax paid by agricultural enterprises (*table 4 and figure*).

Table 3. The share of indirect taxes in total tax payments from agricultural enterprises of the Vologda region, 2003 – 2008

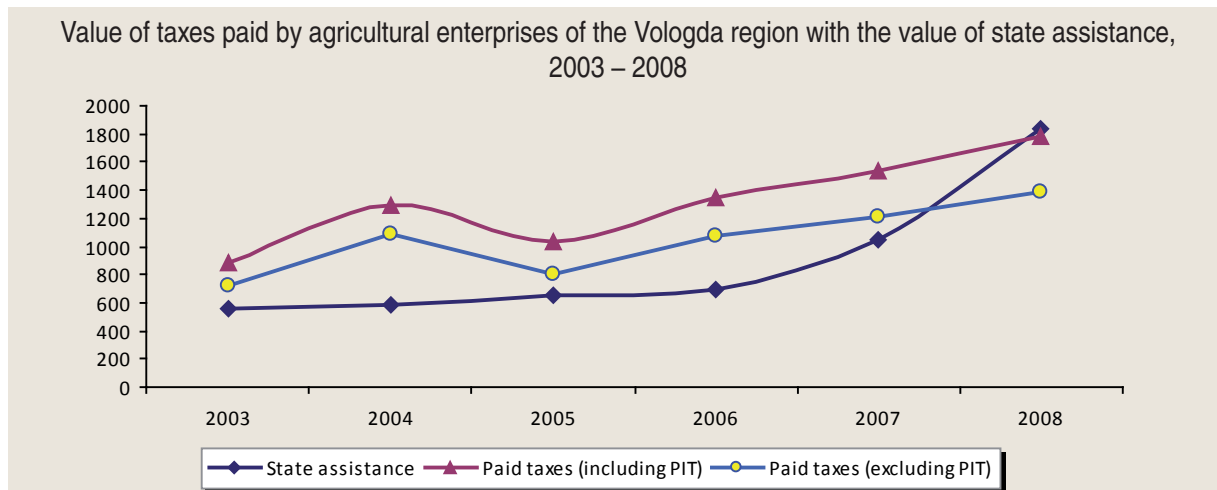
Years	The share of indirect taxes in total sum of paid taxes (including PIT), %	The share of indirect taxes in total sum of paid taxes (excluding PIT), %
2003	38.5	46.8
2004	29.5	34.8
2005	38.9	49.8
2006	46.2	57.7
2007	43.2	54.7
2008	42.3	54.1

Source: compiled by the author on the data from Department of Agriculture of the Vologda region.

Table 4. Value of tax payments to the budget paid by agricultural enterprises of the Vologda region in 2003 – 2008 with the value of state assistance, mil. roub.

Indicators	Years					
	2003	2004	2005	2006	2007	2008
1. Funds received in the financial year – total	558.8	591.6	646.6	697.4	1053.9	1835.5
2. Taxes paid to the budgets of all levels and of the territorial state funds – total (including PIT)	879.3	1289.4	1033.8	1342.3	1533.9	1778.4
2.1. Taxes paid to the budgets of all levels and of the territorial state funds – total (excluding PIT)	723.0	1092.8	806.6	1076.3	1210.8	1388.3
3. Taxes excess (including PIT) paid to the budgets of all levels and of the territorial state funds on the total amount of state assistance	320.5	697.8	387.2	644.9	480.0	-57.1
3.1. Taxes excess (excluding PIT) paid to the budgets of all levels and of the territorial state funds on the total amount of state assistance	164.2	501.2	160.0	378.9	156.9	-447.2
4. Funds received from the federal budget	70.7	89.7	85.1	133.1	296.7	622.4
5. Taxes paid to the federal budget	438.3	480.4	482.2	683.4	729.2	816.6
6. Taxes excess paid to the federal budget on the amount of state assistance from the federal budget	367.6	390.7	397.1	550.3	432.5	194.2
7. Funds received from consolidated budget of the Vologda region – total	488.1	501.9	561.5	564.3	757.2	1213.1
8. Taxes paid from consolidated budget of the Vologda region (including PIT)	176.5	190.1	200.6	261.3	368.6	445.7
9. Received funds excess on paid taxes in the region (including PIT)	311.6	311.8	360.9	303.0	388.6	767.4
10. Taxes paid to the budgets of the territorial state funds	264.5	618.9	351.0	397.6	436.1	516.1

Source: compiled by the author on the data from Department of Agriculture of the Vologda region (2003 – 2008).



Analysis of the data presented in table 4 shows that the main taxes sums from agricultural enterprises of the region are sent to the federal budget (46% in 2008 including the amount of PIT and 59% excluding the amount of PIT). In regard to the regional level it can be noted that the funds received by agricultural enterprises from the budgets of different regional levels (consolidated budget) exceed the tax amounts paid to the regional budgets (in 2.7 times in 2008). If PIT is excluded, which is fully accumulated in the regional budget and local budgets of the region (consolidated budget), then such amount excess is in 22 times in 2008. Thus, the concept of “donor region” extends to the region not only because of the availability of developed industrial base, but also of the reallocation of funds through the agricultural enterprises.

These data presented in the figure show the excess of taxes paid by regional agricultural enterprises to the budgets of different levels and of the territorial state funds. This situation is typical for the period from 2003 to 2007. Only in 2008 there was a fracture of the situation in connection with the implementation of government programs for agriculture development.

Thus, we come to the following conclusions about the current taxation system of agricultural enterprises in the Vologda region:

1. The largest share in the tax payments structure of regional agricultural enterprises is

VAT, but its share increases annually, what indicates about the imperfection of state tax policy.

2. The amount of taxes paid by agricultural enterprises of the region to the budgets of different levels and to the budgets of the territorial state funds, often exceeds the amount of state assistance from the budgets.

3. The basic amount of taxes paid by agricultural enterprises of the region are sent to the federal budget and the amount of funds allocated from the federal budget to agriculture is much less than the amount of taxes paid. The contrary situation we can see in the regional level: here the amount of funds allocated from the regional and local budgets is much almost in 3 times then the amount of paid taxes that transfers the region in the level of donor regions.

Currently the state implemented a series of steps aimed at the tax burden easing for agricultural goods producers. In particular, many benefits to the traditional system of taxation are provided for them, and also a special tax system – the unified agricultural tax (UAT) is introduced. This system is controlled by Chapter 26.1 of the Tax Code, that came into effect in 2002. The rules of this chapter established a single agricultural tax at the regional level. On January, 1, 2004 UAT was transferred to the federal level, the level of special tax systems. A short comparative characteristic of existing systems of agricultural producers’ taxation, established by the Tax Code of the Russian Federation, is given in tables 5, 6.

Table 5. Comparative analysis of taxation systems for agricultural goods producers in Russia

Taxes and contributions paid in various systems	
General system	Special system for agricultural producers
<p><i>Corporate Profit Tax</i> Profits from sales produced and processed their own agricultural production is taxed at the following rates (№ 110-FL from 06.08.2001 in ed. 158-FL from 22.07.2008): 2004 – 2012 – 0% 2013 – 2015 – 18% since 2016 – 20% By laws of the regions of the RF tax rate may be reduced for certain categories of taxpayers.</p>	<p><i>Unified agricultural tax</i> (Income – Cost) × 6% Note. The list of UAT costs, unlike the list of income tax, is closed.</p>
<p><i>Corporate property tax</i> The rate is up 2.2% from the average annual value of fixed assets. In number of major regions for agricultural goods producers have been introduced incentives for the organizations' property used in the production and processing of agricultural products.</p>	Exempted from corporate property tax
<p><i>Value added tax</i> 0 – 18% of added value or amount to the return from the budget. The amount of the tax to be paid to the budget fluctuates around zero, because the “incoming” VAT is paid at a rate of 18%, and “outgoing” VAT for producers of most agricultural products – at a rate of 10%. In addition, the amount to repay is presented in households that acquire the basic tools and involved in construction. At such taxpayers the amount of compensation can be several tens of millions rubles.</p>	<p><i>Value added tax</i> 10 – 18% of material costs. Under the legislation, are exempted from this tax. In fact, VAT is paid because there is “incoming” VAT paid by the suppliers of petroleum products, raw materials, machinery, etc., which cannot be brought later to the deduction or refund from the budget and ultimately increases the cost of the taxpayer.</p>
<p><i>Unified social tax</i> For taxpayers – agricultural goods producers – maximum rate is 20% from payments to employees. However, in view of the deduction of contributions to pension insurance, which paid for all the special tax systems (maximum rate – 10.3%), total rate of UST will not exceed 9.7%.</p>	Exempted from unified social tax, with the exception of contributions for compulsory pension insurance for employees.
Compiled by the author on the data from resources: [5, 6, 7].	

Table 6. Main taxes and contributions paid by agricultural enterprises in all tax systems

Federal taxes, contributions
<p><i>Premiums for compulsory pension insurance for employees.</i> The maximum rate is 10.3% of salary payments. <i>In connection with the abolition of UST in 01.01.2010,</i> agricultural companies become payers of insurance contributions 1) for the compulsory pension insurance; 2) in compulsory social insurance, temporary disability and maternity, and 3) the compulsory medical insurance. However, in 2010, <i>agricultural producers</i> pay fees on the aggregate rate of 20%, and <i>payors UAT</i> — on the rate of 10.3%. From 2011 to 2012 agricultural enterprises and payors of UAT pay contributions on the reduced rate of 20.2%; in 2013 – 2014 – 27.1%. In 2015 for both considered categories a standard rate is 34% (Law № 212-FL).</p>
<p><i>Value added tax, paid in the customs charges.</i> For exporters rate is 0%. From 01.01.2007 to 01.01.2012 import of breeding farm animals to the RF be exempted from taxation (№ 118-FL from 05.08.2000, in ed. From 24.06.2008., art. 150 of the RF Tax Code).</p>
State fee. If there is the object of taxation.
<i>Tax on the extraction of commercial minerals.</i> If there is the object of taxation.
<i>Water tax.</i> Water facilities for irrigation of agricultural lands destination, service and watering of livestock and poultry is not considered as a taxable object.
<i>Fees for the use of wildlife objects and for the use of aquatic biological resources.</i> If there is the object of taxation.
<i>Performing duties of a tax agent to withhold personal income tax.</i> At late tax withholding and transferring the organization pays the fines and penalties at their own expense.
Regional taxes
<i>Transportation tax.</i> Most of the agricultural machinery is not subject to taxation.
Local taxes
<i>Land Tax.</i> Has been paid since 2006 on a reduced rate – 0.3% of the cadastral value of land.
Compiled by the author on the data from resources: [5, 6, 7, 8].

Analysis of tables 5 and 6 shows that agricultural goods producers are provided with many rebates in taxation. How published data show the use of the tax system in the form of UAT can reduce the tax burden by at least 30%. This is the minimum limit of the tax costs reducing. Our calculations showed that the tax burden reducing by the transition to UAT can make more, for example 46.5%. It means that everything depends on the particular enterprise, using this system. However, comparing the advantages and disadvantages of transition to UAT indicates that the question of the appropriateness of the general or special system using remains controversial today.

The main problem hindering the transition of agricultural goods producers to this mode is the denial of amends to them for value added tax. This leads to a significant loss of financial resources [1, 3, 4, 9].

Since 2004 the agricultural enterprises of the Vologda region have been using a special tax system – the unified agricultural tax (UAT). The distribution of agricultural enterprises of the region on the using tax systems is presented in *table 7*.

The data presented show the increase in the number and proportion of enterprises using UAT. In 2008 the figure was about 40%. However, for Russia as a whole the share of agricultural enterprises using this taxation system is almost 60%. This situation is explained by the fact that for many enterprises in the region this system is disadvantageous because of failure to refund VAT.

Distribution of enterprises paid UAT according to districts of the Vologda region is shown in *table 8*.

The data presented in table 8 show that the proportion of enterprises using UAT from 2004 to 2008 has increased by 11.5%. However, the districts using credit resources for investment use this system in a small percentage. In particular, in the Vologda region the share of agricultural enterprises using UAT increased from 5.6% (in 2004) to 21.2% (in 2008). In the district of Cherepovets this figure is higher – 45.5% (in 2008), however, it is less than half of the total number of enterprises. The districts of Sheksna and Gryazovets do not use this taxation system.

As noted in several researches [1, 3, 4, 9], for businesses actively leading the technical re-equipment (which is particularly relevant as part of the National project “Development of agro-industrial complex”, which was transformed in 01.01.2008 to the State program of agriculture development and regulation of markets for agricultural products, raw materials and food for 2008 – 2010), the use of UAT is unprofitable because of the non-adoption of VAT to offset. According to calculations, the effect of the UAT introduction for an average enterprise in 2005 lost by acquisition of fixed and current assets amounting to more than 35 million roubles. [3].

The main suggestions made by some authors to reduce this problem are addressed to two points of view. The **first** point of view is a rejection of the VAT liberation, it means that this tax is to delete from the list of payments, from which VAT taxpayers are realized. Thus, the enterprise is entitled to a refund this tax from the budget. The **second** point of view is to give the taxpayer the right to choose when he pay VAT in order to receive compensation (e.g., if building is being realized, etc.) and refuse to pay VAT, which is not expected to

Table 7. The distribution of agricultural enterprises of the Vologda region on the taxation systems in 2004 – 2008

Indicators	2004		2005		2006		2007		2008	
	Unit	%	Unit	%	Unit	%	Unit	%	Unit	%
The total number of agricultural enterprises, unit	365	100.0	342	100.0	348	100.0	317	100.0	291	100.0
Including: using UAT	95	26.0	106	31.0	118	33.9	112	35.3	109	37.5
using other taxation systems	270	74.0	236	69.0	230	66.1	205	64.7	182	62.5

Source: compiled by the author on the data from Department of Agriculture of the Vologda region.

Table 8. The proportion of agricultural enterprises of municipal districts in the Vologda region using the unified agricultural tax in 2004 – 2008, %

Municipal districts	2004	2005	2006	2007	2008	Difference between 2008 and 2004, p.p.
Babaevo	0.0	33.3	40.0	62.5	57.1	57.1
Babushkino	23.8	33.3	25.0	28.6	33.3	9.5
Belozersk	60.0	75.0	60.0	50.0	60.0	0.0
Vashki	87.5	87.5	75.0	83.3	83.3	- 4.2
Veliky Ustyug	28.0	36.8	36.8	35.0	38.9	10.9
Verkhovazh'ye	35.7	7.1	27.3	41.7	54.5	18.8
Vozhega	35.3	55.5	80.0	84.6	66.7	31.4
Vologda	5.6	11.1	15.4	18.4	21.2	15.6
Vytegra	0.0	0.0	0.0	0.0	0.0	0.0
Gryazovets	0.0	0.0	0.0	0.0	0.0	0.0
Kadui	0.0	0.0	10.0	14.3	40.0	40.0
Kirillov	14.3	28.6	42.9	28.8	14.3	0.0
Kichmengsky Gorodok	4.8	9.1	4.2	15.0	15.0	10.2
Mezhdurech'ye	12.5	11.1	14.3	16.7	16.7	4.2
Nikolsk	55.6	50.0	66.7	44.4	44.4	- 11.2
Nyuksenitsa	28.6	28.6	28.3	23.1	30.8	2.2
Sokol	12.5	16.7	28.6	40.0	40.0	27.5
Syamzha	42.9	40.0	44.4	42.9	42.9	0.0
Tarnoga	57.9	72.2	85.7	82.4	87.5	29.6
Tot'ma	10.0	10.0	27.3	10.0	25.0	15.0
Ust'-Kubinskoye	60.0	75.0	50.0	33.3	20.0	- 40.0
Ustyuzhna	60.0	60.0	64.3	64.3	71.4	11.4
Kharovsk	0.0	0.0	0.0	0.0	0.0	0.0
Chagoda	83.3	83.3	83.3	100	85.7	2.4
Cherepovetz	30.4	45.5	42.9	50.0	45.5	15.1
Sheksna	0.0	0.0	0.0	0.0	0.0	0.0
Regionwide	26.0	31.0	33.9	35.3	37.5	11.5

Source: compiled by the author on the data from Department of Agriculture of the Vologda region.

invest heavily, and the amount of “input” VAT is low. The author suggested another activity to improve the studied issue – in particular, **to exclude VAT from the list of taxes, which are exempt from the UAT tax payers, and enter on this tax a zero rate for them.** This system (zero rate of VAT) has long been used in the Russian tax legislation for exporters. Let us turn to the study of tax effects (*tab. 9*), which are expected by VAT benefit recipients and the taxpayers paid this tax on the zero rate.

Analysis of table 9 showed that the operations which are taxable at zero rate, and operations that are exempt from taxation, VAT is not paid. However, these differences in these modes lead to the fact that the application of zero rate has significant advantages over the exemption

from VAT. However, these differences in these systems lead to that fact that the use of zero rate has significant advantages over the exemption from VAT. They mean that the use of VAT zero rate allow not to pay the tax to the budget and at the same time to recover it from the budget on purchased goods, works and services (compensation of “incoming” VAT). Taxpayers who use tax privilege, are obliged to treat “incoming” VAT on the costs of production and circulation. This leads to an increase in production costs and reduce its competitiveness.

Thus, our analysis shows that the state finances the taxpayers who use a zero rate of VAT. This becomes particularly relevant for agricultural goods producers because it allows them to:

Table 9. Comparative characteristic of the value added tax calculating system under the Tax Code of the Russian Federation

Use of the zero rate of VAT	Use of the VAT release (the incentives use)
For operations which are taxable at zero rate, which in the preparation of invoices in the column "VAT tax rate" we indicate "0%", is formed the tax base. Amounts of "incoming" VAT paid on goods (works, services) are deductible.	For operations that are exempt from taxation (in the preparation of invoices in the column "VAT tax rate" we indicate "No Tax (VAT)"), the tax base is not formed. Amounts of "incoming" VAT paid on goods (works, services) are not deductible, but they are included in the production and circulation costs .
Compiled by the author on the data from sources: [2, 6].	

– first, to apply the privilege special system (UAT) and to reduce the tax burden by at least 30%;

– second, to receive additional working capital in the form of compensation "incoming VAT" and to use them to carry out its activities, that reduce the need for credit resources.

In the legislation may be specified the need of targeted financial resources use for the implementation of mandated activities, or a specific list of operations. However, in general, these changes in tax legislation will allow agricultural producers to release substantial financial resources (to reduce tax burden by

one-third and to replenish working capital at the expense of VAT paid compensation to suppliers by 18%).

This is extremely urgent in the national policy on state regulation of the agricultural sector, as the access to credit resources for the financially unstable companies is difficult. The loss of federal budget from the VAT gap will be overridden by the productive base expansion of financially sustainable goods producers and by financial budget support of loss-making enterprises. In turn, this will increase the output of domestic agricultural production and reduce import substitution.

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SCIENTIFIC LIFE



Luzin's Lecturing – 2010

From 8th to 10th of April at the G.P. Luzin Institute of Economic Problems of Kola scientific centre of the RAS (IEP KSC RAS) in Apatity with the financial support of the Social Studies' Department of the Russian Academy of Science and the Barents Institute, within the frameworks of the RAS Presidium's Program "Fundamental Problems of the Russian Federation's spatial development: interdisciplinary synthesis", the Vth International Practical & Scientific Conference "The North and the Arctic Regions in the New Global Development's Paradigm. Luzin's Lecturing – 2010" was held.

175 scientists and experts from Russia, Armenia, Norway, Finland, Denmark, Sweden, Canada, Great Britain, Germany, the heads and representatives of the Regional Government and the Municipal Administration, the mining and metallurgical industry's experts participated in the Conference.

The Conference was devoted to both fundamental and applied aspects of the Russia's Northern and Arctic territories' development connected with the increase of these territories' value, caused by their unique geopolitical, resourceful and socio-economic potential and by that fact that they are Russia's strategic interests' zone.

Conferences held in the frameworks of "Luzin's Lecturing" in 2001, 2003, 2005, 2007 grew into the traditional forum, allowing to generalize the experience and the efforts of both Russian and foreign scientists, experts, public figures participating in the development of the strategic reference points of the Northern and Arctic regions' steady development.

Conference had on its list the key plenary reports of the leading Russian and foreign sci-

entists and experts (among whom there were 2 academicians and 2 members-correspondents of the Russian Academy of Science), invited by the Conference's Organizational Committee, and also the sections' and round-table discussions concerning the following directions:

1. Global processes and the Arctic regions' problems in the conditions of the economic instability's growth.

2. Efficient nature management's economy and preservation of the environment.

3. The Northern and Arctic regions' social development: problems and strategic priorities.

4. The Northern economy's innovational development.

5. The Northern Russian regions and municipalities: the present-day processes and the steady development's strategy.

6. Tendencies of the state and the corporate financial policy in the present-day economic conditions.

7. The North in the new macroeconomic conditions: the young researchers' views and a round-table discussion "Young scientists' schooling" – "Urgent problems of the higher education in the Northern regions".

8. Callot-Academy – 2010. Far North in the world politics and economy. Round-Table Discussion: "The housing sphere's development in the Northern and Arctic regions".

13 plenary reports, 145 section reports, 23 bench-top reports were presented at the conference's sessions.

Such program gave an opportunity to all interested persons and organizations to make their contribution to the formation of the scientific and practical vision of the Russia's Northern and Arctic regions' future development.

The Conference's Participants noted the urgent and interesting character of the discussed problems and the necessity of the expansion of fundamental and applied researches in the priority-driven directions of the steady socially-directional, innovational, resource-economic spatial development of the Northern and Arctic regions of Russia.

In the Conference's Resolution the necessity and practicability of the following offers to the scientific organizations and governmental bodies is marked:

1. To carry out the systems analysis and the development prognosis of the global power resources' markets for elaboration of the Strategy of oil-and-gas shelf deposits' development, taking into account the power-saving program, made up by the European Union and activating the slate gas' extraction in North America.

2. To develop the new national project – Federal Purposeful Program – “Resources of the North for the innovational development of Russia” and other FPPs on the efficient and complex power-balanced development of the mineral raw material of the Northern and Arctic regions of Russia.

3. To develop the concept of the natural-resourceful and industrial clusters' organization, in particular on the creation of the national strategic materials' reserve, first of all regarding rare-earth elements.

4. To carry out the researches on the available resources' generalization and on the economic efficiency's estimation in the recycling of the mining waste products amassed by the North along with the development of the Program of their involving into economic circulation.

5. To work out the development concept of the Northern Sea Way as the main element in oil-and-gas' extraction and transportation, having reflected in this concept the transit opportunities of the NSW along with providing both the national priorities and national safety.

6. To carry out the continual monitoring and the prognosis of the foreign countries' activity in the Arctic regions (political approaches,

scientific researches, economic and military presence) for revealing potential opportunities and threats and for distributing corresponding recommendations to the Russian state and enterprise structures.

7. To order the northern legislation concerning the criteria of the territories' reference to the Northern and Arctic regions and to accept the set of socially focused political, legal and strategic documents (first of all, the laws “About the territories' division into districts of the North”, “About the bases of the state socio-economic policy in the districts of the Northern and Arctic regions”, the Strategy of the socio-economic development of the Northern and Arctic regions).

8. To develop and to introduce tax and non-tax mechanisms of more fair distribution of northern natural-resources' rent, its redistribution for the benefit of the northern regions, native ethnoses and local communities; more fair taxes' distribution among the budgets of different levels; development of the mechanisms stimulating and realizing business' social responsibility, including large-scale resource corporations; development of various forms of state and private partnership in the social sphere, including the use of the agreements' mechanisms between the Federal Government, regional administrations, institutions of local government and native ethnoses with the large-scale companies.

9. To form the state northern youth policy directed on youth retaining in the North, attraction of the young staff of the innovational type to the Northern and Arctic regions, taking the steps directed on stimulation of the northern regions' and municipal formations' self-development, on the local communities initiatives' support, on the development of the civil society and the social capital of the North;

10. To elaborate the measures on the support of the social sphere's (public health service, educations, housing and communal service, physical training and sports, etc.) development, on the social and transport infrastructures'

development; on the realization of the special large-scale northern projects directed on fast enhancement of the northern social infrastructure and allowing to provide the standards of its availability and quality comparable with the achieved ones in the developed regions of the foreign North.

11. For the transition of the economic development of the North from the resource-exporting model to the innovative-technological one it is necessary both at the macroeconomic and at the regional levels to provide positive dynamics of the commercial activities' results in the sphere of intellectual activity, to provide the risks' reduction for the investments into the basic industries. The increase of the regional economy's competitiveness should become a determinant of the improvement of the population's quality of life, of providing socio-economic stability and national safety.

12. The activation and the increase of the regional power structures' efficiency in providing innovational development of the northern territories' industry are necessary. The regional management requires scientifically proved recommendations of the strategic character, as any practical measures in the sphere of the production's innovational development, not supported by the scientific basis, have unsystematic character and do not bring the noticeable results.

13. It is necessary the further enhancement of the legislation in the sphere of science and innovations, including modifying the financial legislation with a view of stimulation of the activity's effectiveness of the scientific organizations and business in particular:

- the opportunity of the research and development expenses' reference to the charges of the accounting period when they are made, instead of the tax period, – within one year;

- for the scientific organizations and the innovational business' enterprises it is necessary to restore the right not pay the tax for the first two years from the date of their foundation, and for the following three years to pay at a lower rate;

- to introduce the immunity from taxation for the organizations' incomes received from the sale of products which are made with the innovation technique for the first two or three years after innovation's introduction;

- to introduce the immunity from taxation for the banks' profits which are the result of crediting of the started by these banks innovational projects;

- educational establishments and organizations engaged in the research activity should be given privileges in the property tax and the ground tax;

14. To develop and to introduce into the Russian tax laws the norms stimulating investment into venture industry: considering the venture industry's subjects (innovational companies) as the small-scale business' enterprises, also retaining of the investments by granting tax privileges on the conditions of the incomes' reinvestment.

According to the Conference's subjects and to the program of the Russian Academy of Science's Presidium "Fundamental problems of Russia's spatial development: interdisciplinary synthesis", the scientific-analytical report "The Northern and the Arctic regions in Russia's spatial development" and the collection of the Conference's reports are published.

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