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

ECONOMIC AND SOCIAL CHANGES:

facts, trends, forecast

1 (13) 2011

The journal is published according to the decision of RAS economic institutions' administration in the North-West federal district

Institute of Socio-Economic and Energy Problems of the North

Komi scientific centre of the Ural RAS department (Komi Republic)

Institute of Economics of Karelian scientific centre of RAS (Karelia Republic)

G.P. Luzin Institute of Economic Problems of Kola scientific centre of RAS (the Murmansk region)

Institute of Socio-Economic Development of Territories of RAS (the Vologda region)

and according to the decision of St. Petersburg State University of Engineering and Economics administration

and other RF regions

Institute of Social and Economic Research of Ufa Science Centre of RAS (Bashkortostan Republic)

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

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ISSN 1998-0698 © ISEDT RAS, 2011

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

CONTENT

FROM THE CHIEF EDITOR

THE ECONOMIC THEORY

DEVELOPMENT STRATEGY

SOCIAL DEVELOPMENT

BRANCH-WISE AND REGIONAL ECONOMY

INNOVATIVE DEVELOPMENT

PUBLIC FINANCE

YOUNG RESEARCHERS

CONTINUING THE THEME OF THE PREVIOUS ISSUE

FROM THE CHIEF EDITOR

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Dear readers,

Last year and at the beginning of the new 2011 the activities carried out by the federal and regional authorities resulted in a certain effect in the post-crisis recovery of the Russian economy. During 2010 in the country gross domestic product increased by 4%, sales volume of industrial production – by 8.2%. However, these results should be assessed carefully. Most indicators have not yet reached pre-crisis level.

Russian economic growth in 2010 is rather satisfactory due to the low base in 2009. It noticeably pales against the background of dynamics that, for example, the other BRIC countries provided, which had in 2009 a significant growth. According to the OECD in 2010 China's GDP increased by 11%, India's – by 8, Brazil's – by 6.5%[1].

At the same time in the Russian economy there are high risks and instability. Thus, with exports growth in 2010 by 4.4% (mainly due to raw materials), the volume of non-primary imports increased by 22.5%. Investment activity recovers extremely slowly: in 2009 the investment volume in comparison with 2008 decreased by 16% and in 2010 their annual growth rate was only 6%. Producer price index of manufactured goods for 2010 was 114.9%. In December 2010 compared with December 2009 the consumer price index rose to 108.8%. In January 2011 compared to January 2010 it was 109.2%, and by a food group – 114.2%[2]. Many other macroeconomic indicators of the current state of the domestic economy generate pessimistic expectations of economic agents.

The concept of modernization of the country was considered in the famous article of the President of the Russian Federation, D.A. Medvedev "Russia, forward!" (September 2009) is aimed at active overcoming of negative trends. It is important in principle as before its formation, the primary objective of the economic policy for decades was proclaimed the doubling of domestic product.

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[1] According to: [electronic resource]. – Available at: http://www.slon.ru.news.397792

[2] The figures are based on data from the official site of Rosstat and calculations of IEF RAS (forecast of indicators of the Russian economy. – URL: http://www.ecfor.ru).

Quantitative approach prevailed in development programs of the Russian economy, developed later for 15 – 20 years. They had clearly insufficient reflection of the dominant approach in the modern world – to consider goals of lifting the economy as goals of not primarily quantitative growth but of qualitative development. Progressiveness of the concept of modernization is that it comes from the need for active influence on economic processes, taking measures of turning importance for qualitative improvement of the domestic economy.

"However, declared today a course to modernization, – K.I. Mikulsky notes – leaves many questions still open about the ways and methods of its implementation, necessary environment and incentives, objective and subjective limiters and opportunities to overcome them"[3]. Other experts give similar estimates [4].

They also agree that comprehensive and effective modernization is possible only if there is rejection of the antisocial bureaucratic and oligarchic system developed in Russia. Simultaneously, experts stress that the possibility of real implementation of modernization depends on the emergence among the ruling elite of people taking responsibility for the fortune of the country and are ready to conduct profound transformation[5]. But the real success can be reached through compound initiatives in the power and progressive movements, thanks to which, as practice shows, civil society is formed.

The current situation in the country more and more insistently calls for urgent, tough and consistent actions against corruption affected the supreme bodies of power and control and virtually all parts of the Russian society as well. These requirements are based on the facts of everyday

[3] See Mikulsky K. On conceptual development of goals of modernizing the Russian economy // Society and economy. – 2010. – № 12. – P. 5.

[4] Sukharev O.S. in the book "Economic policy and industrial development" (Moscow: Finances and Statistics, 2011) writes: "To upgrade means today to make modern, to change in accordance with the requirements of the times, introducing a variety of improvements ... It is necessary to clearly understand modern requirements, what are they, what improvements are needed, how to plan them and in what sequence to conduct. Finally, it should quite definitely say what final result is expected, what the overall strategic goal is and how different groups of agents should behave to achieve this public purpose" (p. 17).

Greenberg R.S. in his article "Is the Russian modernization feasible?" said about it more harshly: "With three-year plans, and even more "manual" control, we will not have real economic effect ... We need to conduct an urgent inventory of ideas and resources of the country and take its results on extensive discussion. It is necessary to develop long-term socio-economic strategy of the state, which will include subjects, mechanisms and terms for their implementation. By the way, it is then there is a chance for creative structuring of post-Soviet space, or at least its most part. It is then our own competitive TNCs begin to form and operate which are able to participate in the globalizing world economy as subjects rather than objects of the process" (Journal of the New Economic Association. – 2010. – № 7. – Pp. 145-146).

Gokhberg L.M. and Kuznetsova T.E. (HSE) added thereto: "But in practice, all undertakings are translated into a set of point measures, which are generally not linked and do not provide the desired results. These measures are often not supported by the necessary analytical basis, long-term and medium-term consequences are not calculated as well. A serious problem is the lack of close, natural and permanent relationship (interdependence) between innovation policy and the basic socio-economic transformations – increase of labor productivity and competitiveness, diversification of the economy, promotion of competition and improvement of the institutional environment for effective business activity"(ibid. - Pp. 14-142).

[5] Bunich A., the president of the Union of Entrepreneurs and tenants of Russia, spoke about it this way: "It is our elite, our managers are to blame for our lack of competitiveness and low productivity. They lost to international competition, have generated a total ineffectiveness. That's the power and the oligarchs collapsed the economy, have paralyzed whole industries, and took the capital out of the West "(Bunich A. We are digging up in wrong direction // Literary Gazette. – 2010. – № 5. – 9-15 Feb. – P. 2).

life, reported by the print mass media, radio and electronic mass media. There is no doubt that they have a bad influence on the dynamics of trust to the power hierarchy. This is clearly evidenced by the dynamics of observational data of public opinion conducted on a regular basis by ISEDT RAS.

Tables 1 – 3 show comparison of some parameters of social well-being and social and political mood of the population of the Vologda oblast. December 2010 was taken as the reporting period. Base of comparison is the averaged data obtained in the course of four measurements taken by ISEDT RAS for time period from January to August 2008[6]. During this period the highest indicators of public trust were recorded since the beginning of the presidency of D.A. Medvedev. In autumn 2008, under the influence of rapidly growing impact of world financial crisis negative trends in estimates were observed. Pre-crisis level of the first 8 months of 2008 has not been reached yet.

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The book "Globalization, transformation, crisis – what next?" by the famous Polish scientist and economist Grzegorz W. Kolodko was recently published, which raised serious problems of world social and economic development. The introductory chapter by the corresponding member of RAS R.S. Greenberg opens the book. He covers the errors committed by the Russian authorities in the course of market transformations and also points to the key problems that must be solved to ensure high efficiency of the Russian economy as well. The scientist emphasizes that "... today, our main interest is a question: what kind of shape in the immediate future of will capitalism have, what is its structure, what theoretical basis and practical skills will it be built and transformed (or upgraded) on? [7]"

[6] Methodical aspects of public opinion studies (see the journal "Economic and Social Change: Facts, Trends, Forecast. – 2010. – № 3. – P. 6).

[7] Full text, with P.S. Greenberg's consent, of the chapter is given below (see page 12-21).

Table 1. Evaluation of activities

Vertical of power	Approval. % of the total number of respondents		Changes rate	Disapproval % of the total number of respondents		Changes rate
	8 months 2008	Dez. 2010		8 months 2008	Dez. 2010	
RF President	75.0	57.7	**0.77**	9.3	25.5	**2.74**
RF Prime Minister	79.4	61.1	**0.77**	9.3	23.5	**2.53**
Vologda Region governor	57.8	47.2	**0.82**	19.9	28.6	**1.44**

Table 2. Evaluation of social state

Percentages to the total number of respondents		Changes rate	
8 months 2008	Dez. 2010		
Normal state, good mood			
70.2	64.7	**0.92**	
Experiencing stress, anger, fear, anguis			
22.1	29.8		**1.34**
It's not so bad and you can live; it's hard to live, but you can tolerate			
81.0	76.7	**0.94**	
It's impossible to tolerate our plight			
10.9	16.0		**1.46**
Consumer sentiment index			
107.5	87.8	**0.81**	
The share who consider themselves poor and destitute			
39.8	46.6		**1.17**
The share who consider themselves middle class			
50.7	42.1	**0.83**	

Table 3. Parties' activities support

Support	8 months 2008	Dez. 2010	Changes rate	
United Russia	40.5	28.3	**0.70**	
LDPR	7.7	8.1		**1.05**
CPRF	6.8	7.5		**1.10**
Fair Russia	5.0	3.8	**0.76**	
Another	1.4	2.0		**1.43**
Any	20.1	36.6		**1.82**
I find it difficult to answer	13.7	13.6	**0.99**	

This issue publishes interesting, in our view, judgments about current and future problems for Russia's development of members of the Editorial Board of our journal - academicians V.L. Makarov and V.V. Ivanter. Academician V.L. Makarov, director of the Central Economic and Mathematical Institute RAS, shows how useful the historical aspect of dealing with the crisis is and what may be applied from this experience for the formation of the future anti-crisis Russian economy.

Academician V.V. Ivanter, director of the Institute of Economic Forecasting RAS, in the proposed to readers review of the text of the speech delivered at an international seminar (Paris, June 2010) presents his vision of ways and mechanisms for socioeconomic advancement of our country in the globalizing world.

In 2010 our journal has been further developed. In four editions 56 articles were published, that is 15% more than in 2009. Among the Russian authors there are 48 Doctors and Ph.Ds, 8 postgraduate students and applicants, 5 managers and employees of the regional government. Works of famous scientists from France, China and Belarus were published.

Dynamics of data of the journal site shows a steady increase in the number of its visitors. In 2010, the average for the month had 170 visits. Table 4 provides a ranking of headings under which the works of authors were placed in the journal.

Table 4. The first ten categories of the journal by duration of viewing for the period from December 2009 to February 2011

Rating	Categories	Total time of viewing, minutes	Total number of views	Average viewing time, minutes
1.	Regional economy	98084	5204	19
2.	Social development	34179	1731	19
3.	Development Strategy	25039	1378	18
4.	Continues the theme of the previous issue	15256	820	18
5.	Economics of Nature	7038	363	19
6.	Public Economics	1814	107	17
7.	Problems of Expanded Reproduction	1639	124	13
8.	From the editor	1275	67	19
9.	Economy sectors	1036	78	13
10.	Innovative development	816	46	17

In 2011 the journal will be issued six times a year (instead of four). Since the beginning of the new year Kuznetsov S.V. – Doctor of Economics, Professor, Director of Institute of Regional Economy Problems RAS (St. Petersburg), Chukreev U.Ya. – Doctor of Technics, Professor, Director of Institute of Social, Economic and Energy Problems of the North of Komi Scientific center YrO RAS, Wu Enyuan – Director of Institute of Russian, East European and Central Asian studies, Chinese Academy of Social Sciences The Editorial Board of the journal have agreed to enter the editorial board of the journal. E.S. Gubanova – Doctor of Economics, Professor (Vologda State Technical University) and S.V. Terebova (ISEDT RAS) became members the editorial board.

Leaders of the Russian Academy of Sciences and the Vologda oblast decided to hold a scientific and practical conference "Strategy and Tactics of implementation of socio-economic reforms: a regional aspect" on 16 – 18 March, 2011 in Vologda. It will have the international status. The main idea of the conference is economic and social modernization of the Russian regions: opportunities, prospects and mechanisms.

Co-chairmen of the conference are **Yu. S. Osipov** – the President of the Russian Academy of Sciences, Academician and **V.E. Pozgalev** – the Governor of the Vologda oblast.

Research supervisors of the conference are A.D. Nekipelov – Academician, the Vice-President of RAS, A.A. Kokoshin – Academician and secretary of the Department of Social Sciences, Director of the Institute of International Security Problems RAS.

At plenary sessions of the conference reports of prominent scientists from Moscow, St. Petersburg, economic institutions located in regions of the North-West will be represented. Speakers from abroad will be scientists of Belarus, Hungary and China.

Sectional work is organized in the following areas:

Section 1. *Problems of sustainable social and economic development of territories.*

Section 2. *Objectives and directions of improving the efficiency and quality of growth of the real sector of the economy.*

Section 3. *The role of intellectual capital and scientific and technical sphere in solving socioeconomic goals of modernization.*

Section 4. *Problems of qualitative growth of the human potential of the Russian regions.*

Section 5. *Activization of social potential and civil society development.*

Planned topics of future issues of the journal this year are as follows:

№ 2 (14), April – Materials of the VI theoretical and practical conference;

№ 3 (15), June – Key issues in the transition of the regional economy in an innovative way of development (in the form of a "round table");

№ 4 (16), August – Problems of ensuring economic security of regional development;

№ 5 (17), October – Issues of efficiency of regional health and education systems;

№ 6 (18), December – Ways to reduce social inequalities.

Thematic issues, of course, will be filled with articles revealing other aspects of implementation of modernization transformations of regional economy and its innovative development. The editors invite readers to actively participate in shaping the future issues and give answers to questions of a special form embedded in the journal.

In this issue, as in the previous two issues, readers can find a list of top ten journal articles on frequency and duration of their viewing over the past 12 months and for the last 3 months. Measured in this manner popularity rating will be published in each following issue.

The first ten articles of the journal by duration of their viewing over the past 12 months (January 2010 – February 2011)

№	Total time of viewing, minutes	Number of views	Average viewing time, minutes	Article	Issue	Authors
1.	4605	175	26	Development of the regional cluster systems	№1 March 2008	Tamara V.Uskova
2.	4492	134	34	Spatial aspects of the region's population socio-economic differentiation	№7 September 2009	Liudmila V. Kostyleva
3.	3284	110	30	Prospects of Small Innovation Enterprises in the Academic and University Sectors of Science in Saint-Petersburg	№6 June 2009	Alexey A. Rumyantsev, Alexey G. Strelnikov
4.	2526	83	30	The tourism industry: administrative levels and methods of forming	№5 March 2009	Tamara E. Dmitrieva Vitaly A. Schenyavsky
5.	1989	88	23	House Building in the Region: Problems and Tracks of Solution	№6 June 2009	Anna I. Povarova Olga N. Gordina Tamara V. Uskova Anna M. Cherevko
6.	1765	84	21	Strategy of region's economy diversification	№1 March 2008	Leonid G.Yogman
7.	1666	102	16	Status and prospects of tourist industry development in the Vologda region	№5 March 2009	Svetlana A. Selyakova Liudmila V. Dubinicheva Kirill V. Markov
8.	1570	90	17	Methodological basics of agrarian and industrial complex innovative development	№2 June 2008	Valentin A. Ivanov
9.	1469	72	20	Prospects for bioenergetics	№8 December 2009	Viktor V. Grachyov Roman B. Markov
10.	1386	77	18	Problems of local budgeting and municipal property	№1 March 2008	Sergey D. Valentey Taliya.Y. Habrieva

The first ten articles of the journal by duration of their viewing over the past 3 months (November 2010 – January 2011)

№	Total time of viewing, minutes	Number of views	Average viewing time, minutes	Article	Issue	Authors
1.	1297	55	24	Intellectual resources as innovation development factor	№11 September 2010	Vladimir A. Il`in Konstantin A. Gulin Tamara V. Uskova
2.	875	49	18	Problems of local budgeting and municipal property	№1 March 2008	Sergey D. Valentey Taliya.Y. Habrieva
3.	473	20	24	The prospective ways for prediction of energy consumption of North	№1 March 2008	Svetlana S. Tuinova
4.	428	8	54	The system of goods promotion as a factor of engineering production development	№9 March 2010	Olga A. Gribanova
5.	394	20	20	Development of the regional cluster systems	№1 March 2008	Tamara V.Uskova
6.	384	12	32	Strategy of region's economy diversification	№1 March 2008	Leonid G.Yogman
7.	339	23	15	Agriculture on the European North: All-Russian agricultural census results	№11 September 2010	Valentin A. Ivanov Elena V. Ivanova
8.	326	26	13	Dynamics of socioeconomic development of the Komi Republic	№1 March 2008	Vitaly N. Lazhentsev
9.	322		16	Social development of rural areas as agriculture stability factor	№11 September 2010	Alexander N. Chekavinsky
10.	304		15	The Vologda region: prospects of territory's demographic development	№11 September 2010	Alexandra A. Shabunova Anton O. Bogaturev

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The contours of the global world: denoting future *

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Not so long ago Professor Kolodko published a book about the problems of the world's development. It has been translated into several languages. The book is entitled "World on the Move" in the Russian edition and it's entitled "Wandering World" in literal translation from the Polish version of the author. The title is successful and accurate.

However, perhaps the titles "World in Vagrancy" or "Rambling World" would be better. We wouldn't exclude the title "Straying World" but it is too romantic. Though, in my opinion, all variants touch the ground exactly. So, modern sociology guru Anthony Giddens believes that we live in "the eluding world".

Economics and sociology have agreed with one thing: the structure and functioning of the world are not clear, the world is illogical and, therefore, uncertain. Such lofty words as "ambiguity", "vagueness" and "wandering" materialized suddenly in the global crisis, which is very hard not today but because of expectations discovered behind it.

The current crisis is a more terrible omen than the Great Depression of the 30's, though effective casualty area and depth were considerably greater at that time. Then the nature of adversity seemed to be more quantitative: it was enough to correct some proportion to cure the situation. They demanded the radical state intervention. And meanwhile market fundamentalists said "Leave all the problems to the market and it will arrange everything itself".

It seems that now the situation is more difficult. Professor Kolodko, a world-renowned economist, the vice-premier and the minister of finance in Poland, presents a new book to the economic community. It seeks to understand the current situation, sources of the crisis, its development and consequences, causes and remote results.

The author turns slightly erased concepts of "globalization" and "transformation" into several-dimensional and informative notions – he gives them a new life and provides them with new meaning. It is true: these processes are too intense; they make deep and obvious changes in the mankind; they constitute new threats to the stability of the world economy. That's why these processes and the crises and the question "what's next?" are already not only the subject of scientific interest – they have occupied the minds of the public, politicians and ordinary citizens.

Global problems, which humanity can't solve for the time being, are equally important for "new" and "old" Europe, for America and Eurasia. But a clear trend to polycentrism, growing in the modern world, objectively leads to the formation of highly mobile system of interstate cooperation, but it requires qualitatively new mechanisms to ensure global security and sustainable development of the world globalized economy.

* The introductory chapter to the book: Kolodko G.V. Globalization, transformation, crisis – what's next? – M.: Magistr, 2011. – P. 176.

The newest crisis situations are formed under the predominant influence of globalized processes and therefore the world capitalist economy is less rational: G. Kolodko writes in the book "World on the Move" that "the problem is in the absence of global mechanisms of self-regulation which should protect the system from self-destruction". Interweaving economic processes become quirky and difficult because of globalization. So the future both of national and global economy is too indistinct. There are no even approximate answers for many questions and theoretical wandering in the world of modern economics promote such "irresponsibility".

The core of the modern economy is economic philosophy and economic ideology. We can say with some risk of simplification that there are two philosophical schools in the economic theory: Anglo-Saxon and German. The Anglo-Saxon tradition denies the possibility of existence of any preferences, which don't add up to the individual preferences. The German tradition, on the contrary, assumes the existence of the society interests and recognizes the category of "collective needs" as the fundamental basis of economics. This category is legitimate as well as individual need.

The concept of economic theory, in which the state acted the part of a "night watchman", was dominated at the beginning of last century. But such situation became the reason for terrible inequality and it was done with the stock crash of 1929 and the Great Depression. Then the following three models appeared: the Soviet command model with the emphasis on social justice; the German command model of National Socialism period with the aim at national cohesion; the Anglo-Saxon model, or Keynesian – a combination of private initiative with strong government regulation.

The National Socialist and Soviet models showed, as we know, their non-viability. Keynesian concept was very effective, but it had exhausted all possibilities by 1970's. The western world was plunged into a series of crises. The other purpose appeared – "back to Smith, down with government interventions and regulations". Milton Friedman and Friedrich August von Hayek became the "apostles" of neo-liberal school and Ronald Reagan, Margaret Thatcher and Helmut Kohl became the political spokesmen.

Neoliberal economic theory admits the need for continued government support of the competitive environment in the economy – an "effective by nature" market mechanism will do the rest. The main idea is the following: government activity should be limited and phased out, it should be gradually replaced by market forces. The ideology of almost unlimited free market had been dominating for 30 years in the economic policy.

Unfortunately, the world fashion for deregulation coincided with Russian restructuring. The possibilities which were given by the period of restructuring were not realized and the new Russian government with a neophyte passion seized the Western "innovation": "the market will regulate everything itself".

The ideas of liberalism, which is built on the attraction to freedom and democracy, to economic efficiency and social rationality, are popular. But it is impossible to build something using only the thoughts about the priority of the human "original" values. The experience of the countries with transforming economies and not only theirs is evidence of this fact. Why? Mr. Kolodko writes about it clearly and convincingly, assessing such traits of economic liberalism as worship of the "invisible market's hand", inadequate understanding of the government's role in the economy and social sphere.

Liking for a false concept of economic freedom played a nasty trick on Russian followers of doctrinaire neoliberalism: it turned out that the excess of freedom could produce the contrary effects.

The Soviet economic system was largely irrational. But after its collapse we didn't begin to produce good products and almost ceased to produce complete products commercially. The "invisible market's hand" closed everything that didn't concern a quick profit and "pipe economy".

During period of reforms liberalization of public administration turned paradoxically into unprecedented strengthening of bureaucracy, mired in corruption due to the lack of civil society institutions and the lack of a valid model of the "mixed economy".

The reformers "forgot" not only production but also an innovative human resource capacity when they began to build new Russia. Moreover, just the middle class, which was formed in 50 – 80's in the USSR, sustained a deep economic and social injury in the course of reforms. The overwhelming majority of this class was thrown to the margins of social life and its most energetic representatives left the country. One of the main potential key factors to start social market economy and democratic state was a creative resource of the population, but it was dilapidated. Abrupt weakening of the scientific, technical and human potential was the most severe loss for Russia from the economic and social point of view during the reforms.

We added 20 years of manufacturing downtime to the Soviet lag because of our weak will. Demodernization of Russian economic potential, productive potential in general and innovative in particular is a result of recent decades. As a result, raw material component in the structure of the economy has increased appreciably.

In education, which we were rightly proud of Russia has slipped to the 30th place in the world. In paid education we have come almost to the first place – it's a very doubtful achievement. The level of public health has dropped to the 130th place. And just these spheres form human capital and intellectual potential of the state, the state can't develop without them. As a result the current Russian economic reality is characterized by primitive production, labor deintellectualization and social degradation.

Capitalism entered a new phase of its development at the beginning of the XXI century. The world economy came into a difficult turbulent period of its evolution. The following contradictions worsened at the end of last century – at the beginning of new one: contradictions between capital cosmopolitanism and sovereignty of the national state as a form of social organization, between the processes of globalization based on the liberalization of various forms of social and economic communication, their harmonization and unification, and political power concentrated at the state level. They upset the balance between the traditional public institutions of decision-making and new centers that controlled the necessary resources and economic processes to implement them. However, egoism of national states ignores the need for supranational regulation for the present.

This period is characterized by appearance and widespread distribution of new forms of money and new financial instruments which are created by the information and technological revolution: the mechanism of multiplication money is modified. We speak about transformation of financial instruments into electronic records and cash flows into information flows. State money monopoly is broken now; part of the money turnover is taken out of national jurisdiction. The introduction of interbank electronic payment SWIFT, the creation of a private Intersettle company, carrying out all on-line transactions with securities since the middle of 90's in the XX century and derivatives between the world major stock exchanges, contributed to loss of contacts between virtual electronic computer economy and real economy, between financial and productive capital. Within a few seconds vast sums of money can be moved from one bank account to another country, which is located on another continent. So the excessive importance of the financial component of economy is a distinctive feature of "new capitalism". In this case, there is no suprastate body that would control and prevent adverse development of the global financial system and global economy.

Today we can say with confidence that in our time the financial sector is far from production unacceptably, from the real economy as a result of capitalism's evolution. That contradiction has led to the crisis. Recently many Western countries have formed a complex

multi-stage system of mortgage and consumer credit as well as profit earning at the expense of financial speculations, which was served by the giant credit-banking institutions with a huge staff. Provide various financial services has turned into a separate bulky, clumsy, poorly controlled and poorly regulated sphere of activity which began to bring more harm than good to the society.

There are two types of economics in the modern capitalist world: the first one is the economics of the real sector, it creates real goods and services; the second one is the virtual and speculative economics, it concludes trade by different stock-exchange goods and various securities. The real sector of the economy develops according to classical market laws. Its aim is to obtain profits through costs reducing and improving of goods' quality. The virtual economy develops according to the laws of speculation. Its aim is to obtain profits through speculation in the commodity and stock exchanges.

Of course, the virtual economy cannot exist without the real sector: in fact, it parasitizes on it. But modern large speculators have learned to make huge profits through skillful managing of rising and slump in the share market and using them to their advantages. According to various estimates, only 2 or 3% of the money associate with the sector of material production in the modern world. Other tens of trillions of dollars serve themselves. According to the apt expression of the famous Italian journalist and writer D. Chiesa it is an exorbitant and excessive financing of the world economy. IMF shows that the world GDP was approximately 41 trillion American dollars in 2004 and a sum of stock market capitalization, public and private debts, commercial banks' assets was 152 trillion dollars (the ratio of these values was 1:3.7). According to the agency Euronews, appropriate indicators were 50 trillion US dollars and 500 trillion US dollars in 2007 (the ratio of these values was 1:10).

Using of the derivative financial instruments (derivatives) and asset securitization influenced negatively over the stability of the global financial system. Derivatives and securities are often used for speculation. It is difficult to estimate the real volume of the global market of derivative financial instruments. According to the Bank for International Settlements (BIS), its approximate volume on uncompleted transactions was 766.5 trillion US dollars in June in 2008. In this case, more than 89% (683.7 trillion US dollars) of the total deals were ex-pit transactions (mainly interbank market) and 11% of them were stock-exchange deals (futures – 28.6 trillion US dollars and stock options – 54.2 trillion US dollars). Ex-pit market isn't governed by anyone in the world; the organizers of trading in these markets aren't responsible, even though it exceeds the global GDP by more than 10 times in the volume of transactions.

According to Stiglitz, the stock markets are unpredictable by nature. In the USA, for example, the real economical sector, which produces something real, is only 15 – 18% of the economy. The rest part consists of a financial sector, services, etc. The current stage of financial capitalism – I would call this stage "financial and virtual" – is generated by the increasing of globalization in recent two decades. Continued growth of transboundary financial transactions, periodic appearance of new financial institutions (hedge, mutual funds, pension funds, etc.) and tools at the global financial market and especially structured derivatives led to the fact that the world community recognized the need for the supranational regulation of financial and banking activities. The world community recognized it, but not immediately.

In addition to the failures of the Keynesian model the disappearance of the alternative Soviet economic system in the early 90's urged the fashion on liberalism. Demonization of the state was begun.

However, it became clear in 2008 that uncontrolled and unregulated market had led the world economy on the verge of catastrophe.

Neoliberals asserted that free financial markets are self-correcting and self-balanced. But in the reality, the "invisible hand" wasn't in a hurry to help the victims of the crisis.

The Nobel prize winner American economist P. Samuelson noted in the interview with the "Die Welt" that today we can see that the idea by M. Friedman about self-regulating of the market system is wrong. It is also clear that his thinks are too absurd and the solution of the problem by the government is worse than the problem itself. This issue is not in regulation but it is in decision. It is also clear that the problems are getting worse without government regulation.

The global financial crisis and the apparent failure of economic liberalism forced us to recall Keynes and Marx.

Market as a way of economic life has no alternative, its vitality is not doubtful, but its "invisible hand" is obviously should be supplemented with the "visible hand" of the state. Today virtually all nations in the world are trying to pass the global financial crisis through active intervention in economic life. We can see a pumping liquidity of the financial system and partial nationalization of enterprises and companies which have difficult position in almost all countries around the world. Ironically, the Americans, calling on to have a free market, had to use actually socialist measures.

We have passed the thrill of "free" economy; the world is tired of the radical, unrestrained liberalism. It will be replaced by the system which is not received its "ism". While it is obvious that strong and systematic state activity is necessary. "New capitalism" will have its problems, and perhaps they will be as serious as the "old" ones. Economic neo-liberalism has not overcome the organic weakness – the lack of clear criteria for state participation or nonparticipation in the social economic life. So the world can run to other extremes such as exaggerated, abnormal socialization in combination with a vicious protectionism.

The current crisis, which occurs firstly, and dogmatism, which is responsible for many evils of individual countries and the whole world in recent decades, should enter the main problems of the modern economy. But the central unsolved problem I would call the regime of interrelations between public institutions and private entrepreneurship, the state and the market. Other important problems of modern economy and their solution depend in any case on understanding of this issue, its meaning and, ultimately, manipulation with it.

Systemic crisis is aggravated because people try to meet the crisis using the old methods which were being used for many years. But, whether we like it or don't like it's time to speak not about the capitalist system healing the new wounds and existing "in the old regime", but about its replacement.

G. Kolodko writes in the book "World on the Move": "The State is necessary for normal functioning of the economy and the rapid and balanced development of it. The main thing is it would interact with the market. We just have economics as a science because we constantly try to answer the question: what could this interaction base on". However, the recent developments in the global economy clearly show that the relationships between the state and the market are more closely than "interaction". Way out of the crisis will require the formation of a new understanding of development of a new economy model and in particular, a new model of government regulation and new theoretical studies. This is a new foundation, principally new economic model which reflects the current social and economic realities adequately.

Obviously, the permanent repair of pure theory, based on the "common sense" at the expense of introduction of standard designs, new cases of state activity and new anomalies leads to a deadlock. The pure theory has ceased to be "pure". Today economics requires a revolutionary paradigm shift, the transition from the methods of "the common sense" to a new theoretical basis of the mixed economy as the concord of the market and different forms of government intervention that could explain the anomalies in the orthodox theory.

G. Kolodko believes that the answer to the challenges of a new stage of economic development may become a new theory of growth and development, which he called the theory of

concurrence of development circumstances. He – quite rightly – calls to abandon ideological blinkered thinking in the development of theoretical concepts and events of economic policy, persistently drawing the reader's attention to the multitude of emerging situations in economies in various countries, depending on the time, the country and other circumstances, which virtually eliminates the possibility of a template, and even a single repetition in the practical arrangements to solve specific, "here and now", problems of the economy.

The author calls the proposed method the new pragmatism – presenting detailed description in a rough outline, we can say that probably there is more complete account of all the circumstances constituting and surrounding the current economy situation in this country at this time, including reasons, objectives, resources, available tools, the level of the economy, social atmosphere, etc., and development and implementation of economic policies on the basis of such preparation. Nothing could be said against such an approach, but it seems possible only in the distant future. Today, political realities, the exorbitant difference in living conditions, per capita incomes, consumer culture and others will generate an infinite number of deviations from sensible intentions – what we observe in the course of the "anti-crisis measures" – and the result will succeed "as always". And the author himself actually recognizes such possibility.

Be that as it may, the important lesson of the crisis is that the world needs a new model of development, less painful and built on greater integration and solidarity among ideas and countries. Is it achievable? And most importantly, what active approaches – compared to a passive one, not amenable to influence and improvement by the "coincidence" – provide the desired results?

I hope, these results could be reached by applying the concept of economic sociodynamics (CES) developed by me together with Professor Rubinstein (see: Grinberg R.S., Rubinstein A.J. Foundations of a mixed economy. Economic Sociodynamics. M., 2008. – P. 476).

Its meaning is reduced to the recognition of existence of group interests along with the private preferences. But if the market reveals the private preferences of individuals, the preferences of society as a whole in the market process are not involved – they are determined by the political system, public institutions. It is obvious that the interests revealed by the political system cannot be reduced to the preferences of individuals, revealed through the market. In addition, each branch of the public interests claims to a certain amount of resources needed to implement them. Generated by different laws and in different institutional environments, these interests come into the match only at the stage of their implementation – in the struggle for control of scarce resources.

The essence of the concept lies in the possibility of harmonization of social interests and individual preferences. The state as the executive power is a market subject itself, which behavior is determined by its specific interests and resources. There are ordinary market players who have their own resources, and act according to regulations established by the state. And there are government agencies that are using public resources operate by the rules, which the state itself as the legislature imposed. Thus, the concept of economic sociodynamics offers a completely new and original interpretation of the term "mixed economy", not narrowing, and, vice versa, expanding the scope of market mechanisms, "emphasizing" the compatibility of private initiative and public activity.

Economic sociodynamics is not just a theoretical construct. It provides a practical framework for the activities of the state relating, particularly, to the financing of social services, and today it is fully capable to answer many urgent questions of economic life. In the CES the key category is "social utility" of welfare, which substantiates the objective necessity of not sporadic but systematic public funding for culture, science, health and education.

The modern economy of Russia is the market, but asocial, targeted for instant profits with

virtually forgotten and ignored public interests.

There are many critical things needed by society, which do not interest the market – they do not give immediate returns. But healthy society does not exist without them. Science, education, culture, health are the four main positions, which the state should take care of and largely finance – nobody else. Only it is able to create order in which a worker supports an unemployed, a healthy person – a sick one, a young man – an old one. Under the Soviet regime the utopian slogan dominated, as it turned out: "Before think about the homeland, and then about yourself". But the slogan of the day – "Think only of yourself" – does not promote social stability and economic modernization.

The fate of the country depends on how problems of energy, utility systems and affordable housing, level and quality of life, health and demography, defense will be solved. But these problems must be solved at all a reducing "safety margin".

The concept of economic sociodynamics fundamentally changes the concept of "public activity": equal participation of the state in the economic life changes "state intervention", and the place of such a negative "fiscal burden" is occupied by socially justified and reasonable public expenditures on the implementation of the public interests, representing investments in human capital.

One of the key problems for economic independence and security of Russia is the problem of innovative development. Today the world is still divided, but not by ideology, and technology. Ability to generate new knowledge and quickly transform them into new designs, products and technologies are becoming essential condition for economic growth, power and competitiveness of business and the national economy as a whole.

Only modernization of the Russian economy, diversification of its real sector can serve as a material base for long-term strategy of socio-economic development. Without production and real sector, we will not survive as a state. And the main problem is the reconstruction of the technological foundation of the economy.

The economic reality shows that, in principle it is impossible to enter the group of leaders in today's global economy without "machine-building self-development core" – a set of engineering industries, having the ability, on the one hand, to reproduce themselves through their combined action, but on the other – to create tools for other engineering industries, including military-industrial complex and other sectors of the economy. Industrialized countries, bringing some of the engineering industries in the countries of the second and even third tier, keep their machine-building self-development core independent.

Therefore, Russia's claims to a global role in the global economy are feasible only if there is such a technologically advanced machine-building core, even if it is not effective enough in terms of comparative competitive advantages. This requires not narrowly economic, purely market-based criteria, and political and economic imperatives. Any reference to "post-industrial" trend should not mislead. The share of machine building and metal working in developed countries is 30 – 50% of industrial output, while in Russia – 19%.

The result of the backlog of machine-building complex of Russia is the tendency to wear and tear of industrial and technological base of its economy. The prospects for transition to an innovative type of development are reduced: there is nobody to consume innovations in the country, industries disappear, which are able to transform them into products of final consumption. Finally, the technological incompatibility of the Russian economy with industrialized countries inevitably begins to develop.

In China, like in Russia, there is a task in the coming years to move to the path of innovative development. For a variety of indicators China demonstrates the rapid pace of investment in science and technology, creation of innovation infrastructure. According to some experts, the innovative breakthrough of China may take it among the leaders of the future world economic order. While in Russia the

creation of a national innovation system will be left to itself in accordance with the views of representatives of market fundamentalists, the country may miss the historic opportunity to modernize and risks being gripped in a geopolitical vice between new technological giants of the West (the EU, the USA), the South (India) and the East (China, Japan, South Korea).

However, political elites in Russia are not still able to make considerable scientific potential of the country into the development factor. In Russia there is still a huge amount of knowledge not valued economically, and not involved in the scientific, technical and economic turnover. Despite some positive shifts in the government economic policy, the adoption of a new, three-year planning system of the federal budget, the policy of financial hoarding and huge financial withdrawals from the economy, the transfer of potential investment resources to the foreign financial assets is going on. But today, only 8 – 10% of Russian economic growth is achieved through the growth of high-tech sectors (in the developed countries - up to 60% in the US – up to 80%); Russia's share in the knowledge-intensive exports does not exceed 0.5%; the share of spending on science in GDP – 1.5% – is not comparable with the same performance for today's highly developed Western countries, Japan, and in recent years China. It should be noted that the share of savings in Russia's GDP is less than 20%. It is extremely small for a country that claims to speed up development. Here, the lower threshold of the share of accumulation is 25 – 30%, but that's not enough for an innovative breakthrough.

Until recently, we believed that government should not interfere in anything at all. Industrial, structural policies were considered as something backward. Fortunately, there is no longer fashionable idea that the modernization of the Russian economy will come by itself, by strengthening market forces of self-regulation, and today the country's leadership efforts aimed at institution building and creating of favorable investment climate.

But for me it is obvious that only one investment climate if it is created, even perfect – with 2 – 3% of inflation, an independent tribunal and the complete absence of corruption, will not overcome our backwardness.

It is nave to believe that high-tech industries that can compete with imports will appear in Russia by themselves, through a market way – it cannot be done without government support of high-tech industry. Private business will not do that – costs and risks are too high. Society needs long-term investments, but it is burdensome for market; to hope on "innovative" foreign aid is to display crying ignorance of the market: foreign innovators do not need the competition.

Therefore the state to overcome the shortsightedness of the market itself needs to act on it as a full member, with its "long" budget money financing of infrastructural facilities, priorities of structural policy and, most importantly, – the intellectual capacity of the nation. At present Russia has no shortage of young, educated, creative people. The task of the state is to give them a chance to prove themselves.

Meanwhile, for production to thrive, we must establish the best mechanism for regulating the economy: to achieve the right mix of private initiatives and public activity.

In the XX century Russia unwittingly helped the West to become a social and knowingly helped China to become industrial. But today it loses sociality and industry as well.

To solve the problems of the country and a particular person anything new was not found, except the state structural policies and the massive financing of infrastructure projects. In Russia there are industrial enclaves that are still able to get closer to the efficiency and equity of foreign analogues. And we need to focus on such industries.

Both theory and practice point to three reasonable motives of active government involvement in shaping the structure of the economy. The first is to maintain that we can support – potentially competitive production.

Then – for the losers: retrain workers and pay benefits, and then close the non-competitive production. And the third is to support all industries working for the country's security.

Processes of modernization, as history shows, are always accompanied by active government regulation. Today the innovation process requires a developed system of economic forecasting, scenario forecasting, developed institutions of formation and realization of long-term development strategy. Meanwhile, over the past 15 years, the system of long-term forecast on 10–15–20 years was almost lost; only since 2008 the practice of short-term 3-year planning of the federal budget was introduced. The program-oriented planning is gradually lost.

The practice of management of priority national strategic projects have not yet formed stable institutions and is likely in the "manual control", experiencing all the disadvantages to the current practice of public administration, including a high degree of corruption in the state apparatus.

The proven way to update the material base of the economy is structural policies: the state establishing of priorities for economic development and the application of adequate resources to implement them. But it is important to determine the criteria for selection of priorities. It has its own peculiarities.

Firstly, there is hardly perfect and not dependent on the subjective aspirations the mechanism for determining priorities of economic restructuring. As there is no "perfect" market, providing the optimal allocation of resources, so there is no perfect, "scientifically based" government mechanism to identify the needs of the society in one or another structure of the economy. However, the more democratic a society is, with other things being equal the sooner an error in setting priorities will be seen.

Secondly, the priorities of structural and industrial policy should include those lines of development, by which Russia still maintains a competitive advantage – real or now to a considerable extent potential. This question is generally subject to a thorough study of the system with the participation of research teams, comprising representatives of economic and natural sciences.

Thirdly, a number of priorities of a modern industrial policy should not be sectoral but cross-sectoral. Such projects are typically characterized by a high degree of costs, high investment risks and, of course, a long production cycle. In other words, they cannot be achieved without systematic state support due to "weak market incentives". We need only to remember that it is the ability to produce such systems keeps a country in a number of leading industrialized nations.

Effective structural policy in current Russia has no alternative. Only with the help of the country the competitive economics of an innovative type can be formed. We have resources.

After the reforms we were given three economic "Fortune Smiles", the three convenient opportunities for a radical modernization. The first chance was given to Gorbachev's perestroika. But Gorbachev was not successful, the first "Smile" was unnoticed. The second is the surplus of recent years from the sale of hydrocarbons. However, the unexpected huge amounts, literally fallen from the sky, were used to cover losses from the greed and mismanagement of the "new capitalists". Money is spent. Modernization it is out of the question. Now the crisis is a test and another, the third, and perhaps the last "smile" granted to us. Companies' power in Europe stands idle now. High-quality machines and equipment, new technologies do not find buyers. The Russian economy desperately needs all of this right now, and they are ready to sell it, and sell cheaply. The matter depends on us. We need an inventory of all our scientific and technological capabilities, and then the program to update it, including the help of the EU.

Relations between the EU and Russia in all "non-economic" spheres could have a very different than now, tone, if such transactions occur and expand in the post-crisis years - this

has all the chances. Strong and sustained economic ties have always been an excellent basis for building mutual confidence for further in-depth approach and integration, if not de jure, then at least de facto.

This supposed process would discover, I think so many areas for a rapprochement that a return to any confrontation would seem an absurd. On the contrary, a joint way out would be quite natural for Europe and Russia for the formation and consolidation of a new global financial and economic order for the construction of a new international regime for global finance management. Hence new prospects for further expansion of multilateral regional cooperation open up.

Today, the following question is of our main interest now: what kind of aspect will capitalism assume in the immediate future, what is its structure and shape, what theoretical basis and practical skills will it build and transform (or upgrade)?

The whole world is interested in response, but a practical step was taken, it seems, only by Barack Obama.

The essence of his actions is to strengthen controls over speculative financial transactions. He relies on the priority of funding education and science, updating already enough modern infrastructure.

His goal is simple: to save as much as possible common American leadership. To do it in the world of "autonomous" financial transactions and uncontrolled derivatives will be much harder if not possible at all.

Would the American president succeed, would he distribute his line of sound economic policies on the world economy is the question of the near future. It is not clear now that, despite the dancing of "popularity ratings", Obama is the man who is now saving the future of America. France and Germany joined to him with great margin. Other countries also will have to change the policy, but – not in the mainstream of the American way: each country has its own motivation, its circumstances.

In conclusion, we return to the question posed in the title of the book: what's next?

All of us must live and work in very difficult time. The most stupid thing in this situation is to panic and intimidate each other with all sorts of scary scenarios of "doomsday". Many, even the most severe, circumstances are not only threats but they also give a chance that at a sincere desire of co-operating parties can be turned into the benefit for all of them. And the current political and economic situation in our country and in the whole world is favorable for it.

UDC 330.342.172+316.323
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Historical examples of various methods for recovery from crisis*

The crisis creates measures to combat it

The following text (with some abridgements) is the first chapter of the book by Makarov V.L. Social clusterizm. Russia's challenge / M.: Business Atlas, 2010. – 272 p. In the introduction to the book, the author points out the following: In this book the reader will find a set of proposals and arguments about society and economy without devastating crises. People do not like crises, they want them to come to an end, and even better that there would be no crises at all. But on the other hand, crises purify, they mobilize to super efforts. It is after crisis when the world updates. Then is it necessary to strive for a society without crises? I'm trying to convince the reader that it is necessary... We give strong arguments in favor of the fact that it is Russia that can show an example of building such a society to the rest of the humanity (p. 10)... The basic idea of the book is looking for and hopefully finding in relation to modern society the right balance between rigidity and flexibility, which ensures stability of the system (p. 11).

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This chapter has an introductory, in some ways a warm-up character. The given examples should convince of the importance of the problem of softness and hardness combination.

1.1. Rationing system

What saved the people from starvation during World War II? It was **rationing system**. It was an island of stability in consumer chaos. The distribution of cards is a stable layer of the economy coexisting with the rest of the economy. The cards themselves play the role of the second, stable currency, not affected by inflation. And the main idea in the rationing system is the norm. The norm usually depends on the category of the consumer, and this dependence can be fair and not very fair. But that's another problem. Variants of the rationing system exist in a calm peace time perfectly well. These are tickets for the homeless, the so-called special tickets for athletes, for a company, agency or community, the time tickets for participants of any event.

* Published with author's consent.

1.2. Parallel currency

One of the most effective ways to combat hyperinflation is the production of a **parallel currency**, the trust to which is higher among the population. The nature of the parallel currency may be different. For example, in the U.S. in one of the states the governor stamp is put on the usual dollar, turning that dollar in a special currency. In Russia during the NEP there was an attempt to introduce a gold ten-ruble banknote (tchervonets). The simplest and most common way is to use as a more reliable currency of another country as parallel. However, in reality, the latter method does not exceed the stability, but on the contrary, as there arises the dependence on another country.

1.3. Mixed Economy

The transition from one social system to another is as a rule, a crisis, and even a revolution. **Mixed Economy**, by its very name talks about mixing of economic mechanisms of different nature. Mixed economy appeared just by changing the social system. We leave aside the mixed economy born during the transition from a feudal to a capitalist market. But the planned economy that was born in the depths of the market one is the biggest invention of mankind, or more precisely of the post-revolutionary Russia. It is surprising that this new type of economy has remained outside the attention of renowned economists of both that time and the modern ones. Period of War Communism and then the NEP have been studied mainly from a historical point of view. In essence, there was no careful scientific analysis of this new type of economy, a mixed economy, which combined fundamentally different mechanisms: the market and the planned ones. And the planned was the leading one, and the market mechanism was a supporting, a supplementing one. In the prewar years, a peculiar type of economy had been formed, which is sometimes referred to as a "mobilization" one. In the mobilization economy the market mechanism was playing, in fact, the auxiliary role, so that it was almost not noticed. Scientists did not notice it either who would have to analyze this peculiar mixture of the two mechanisms.

Only in the 70-s of XX century, scientists-economists finally paid their attention to the phenomenon of mixing mechanisms. There appeared works in which the planned economy was interacting with the so-called second economy (see, for example: Stahl II D. O., Alexeev M. (1985). The second economy was understood as a legal market share of farms and household chores, and also shadow economy. In the 80-s of XX century there was flowering of studies of mixed economy with a leading planned principle.

1.4. Types of mixed economies and their names

There appeared a lot of terms for defining this mixed economy: two-stage or two-layer economy, double track economy; two floors' economy; double or dual economy. What is this all for? First of all it was done to save the planned economy, but in reality the socialism, socialist system. The proponents of the so-called kosygin's reform understood that the rigid socialist system is not viable. Oskar Lange, Ota Shik and others were developing the theory of market socialism, the essence of which is the introduction of market mechanisms in the planned system. Gorbachev's cooperatives were an attempt of practical realization of this theory. Let me stress again: the purpose of the mixed economy of this type is to save the socialist system in the form in which it was understood by the authors.

1.5. Cooperatives – the creators and destructors

Gorbachev's cooperatives were the creators and destructors.

In the late 80's – early 90's an intense process of establishing cooperatives started. Under Gorbachev there appeared cooperatives in various sectors of the economy, that is legitimate private sector with market prices. Thus a mixed economy was officially recognized. Appearance of a new institution - the private sector – was, no doubt, a revolutionary event. But all the other institutions remained unchanged. For example, the Central Bank, with its technology of money circulation management was functioning as before. As a result, an influx of wages not pro-

vided with goods poured into cooperatives as into a black hole. There appeared a famous "monetary overhang". Instead of pointing the deficit, which was expected (according to the educational textbooks) the introduction of the private sector, on the contrary, caused a sharp deficit aggravation. In China, there was no such reaction to the introduction of cooperatives for the simple reason that the state continued to hold the level of wages under its own control, although it was not easy to do (see, for example: Justin Lin, Fang Cai and Zhou Li (1996). The Russian government went on the line of least resistance. It allowed not only to the uncontrolled growth of wages in the cooperatives, but also the interpenetration of these cooperatives with the state-owned enterprises, which led to the initial phase of stealing the state's property. The first rich have made their capital at the difference between state and market prices as one and the same goods had two prices. An institute, which would have prevented enrichment through the difference between state and market prices, had not been established, again, in contrast to China, which officially recognized a system of dual prices and, accordingly, the reporting and statistics on state and market prices were separate.

1.6. Alternative: cooperativization or double-layer economy

So, the first stage of transition from a planned economy to a market one can be carried out, and is being really carried out in two ways. One of them is through a two-layer economy; the other is through massive creation of cooperatives and joint ventures. With two layers at a single (state) enterprise the management and the staff, however, remain united, with almost a single goal: to fulfill the state order (plan) and make more profit. With the cooperative way the enterprise is split: those who remain in state enterprise live according to their laws, those who went to the family of cooperatives, foraging around the enterprise, live under other laws. As a rule those who are the most enterprising, the most qualified, the most dissatisfied and most unprincipled are leaving.

With a two-layer method the enterprise is trying to use its resources and capacities effectively under a single management. With a cooperativization of parts of resources the interests are different up to the opposite. A cooperative based on an enterprise makes it (enterprise) a grave digger. (The irony is that now in the crisis of the real sector, one way to save a bankrupt or non-working enterprise is to run a small business on it. In this case the area, equipment, and most importantly - the labor force is used at the very least. Unemployment and social conflict can be avoided.)

Therefore the class of cooperatives emerged in the late 80's - early 90's is a rather contradictory phenomenon. On the one hand, these are energetic, enterprising people who can work 24 hours a day. On the other hand, many of them made business not in a productive activity, which would have added economic power to the country, but in the veiled or uncovered stealing the state's facilities and resources.

B.N. Yeltsin and his team who came to power in 1991 faced two economies, living de facto under the different laws. State price for crude oil in late 1991 was about 200 rubles per ton, while the market price was ten times higher. Salary was regularly paid, but there remained less and less goods, even essential ones in the state trade. Ruble was drastically depreciating; the State's foreign exchange reserves were dwindling away. The power once again faced the alternative - either to merge the two economies, allowing them to live under a single law or to leave them on for a while separated, but at the same time ensuring both the conditions of existence and development. The first way that actually went the Russian economy is generally said to be liberal. We'll talk about it a bit later. The second way is double track economy.

1.7. Double track economy

In a double-track economy the public sector lives by its own laws, the private one – by on its own. Technically, it is attained by introducing a parallel currency serving the state part of the economy. People working in the public sector get salaries in a parallel currency, which is spent

on buying goods at government prices. The most subtle point here is the interaction between the two economies, in particular, the establishment of the exchange rate between the currencies, and general organization of monetary circulation of parallel currencies. It is clear that the second way is technically more difficult than the first one; it requires more elaboration and preparation. However, it leaves people a choice: in what economy to work, and, ultimately, what way of life to lead. This way equally takes into account the interests of all population groups, not just its most active part as the first one. In this sense, the second way is more democratic, and less imposed on the population.

It should be emphasized: the very idea of double-track economy involves competition, which is known to be an engine of progress. The two ways, the two sectors compete with each other. They are fighting for people, for the quality of life, for the efficiency of the economic mechanism. In this competition in the evolutionary process must be born a new economy, which will unite the advantages and overcome the drawbacks of both sectors. The search is continuing.

1.8. A liberal or a shock way

Yeltsin and his team decided to follow the first, the simplest and most natural way, the way of least resistance: to merge the two economies into one. This way seemed to be attractive, supported by the West, strongly encouraged by the young liberal economists. This way was followed by the former socialist European countries. At the same time it was a bet on the most energetic part of society, hungry for change, eager to life success and enrichment. And most importantly, perhaps, is that in the minds of the leaders and ideologists secretly a successful American model of economy and society was looming.

With the help of cooperatives and other ways people learned how cheat money income, which led to the well-known "monetary overhang", i.e. to the huge sum of money not secured by commodities. It is natural that, in full accordance with the market economy laws it became unprofitable to trade the products openly in the usual way, because the prices were regulated by the state. Queues, cards, tickets, shadow and half-shadow market were becoming larger in scale. A typical trait of that time: not knowing what was happening, the government did not find anything better than to agree to a humanitarian assistance of the international community that was extremely humiliating for a great power, and what is more important it helped absolutely nothing, quite the contrary. It was the distribution system that was weak generally. There were enough of consumer goods produced at that time, in any case more than now, when there is everything in the stores.

It is now possible to pre-evaluate where this way (the course) led and is leading further. In principle, the liberal way has proven its effectiveness for a stable economy with a formed set of market institutions and the relevant mentality of the population. The most striking example is the United States. The set of market institutions mentioned above includes: a well-established, habitual to the public tax system, banks, including mortgage, investment, etc., insurance companies, financial markets, a developed network of legal, consulting, audit companies, and many other things that we are still having in the initial, and even embryonic state. But the most important thing in a set of market institutions is a legal system with the system of coercion to follow the laws. All this allows the State to provide its citizens a considerable economic freedom to engage in business. Thus, institutions and economic freedom (the second is the main slogan of the liberal economists) are the two sides of one coin. One side is pointless, or completely ineffective without the other. What happens when one - economic freedom – is available, and another - market institutions – is not, you can see with your own eyes in our own country.

Liberalization of prices, foreign trade, business registration, purchase (or distribution) of public property and other liberalization gave the freedom in essence, without frames, without any restrictions. As a result, in full accordance with economic laws the most effective (and let me add, the easiest) business consisted

in the conversion of state property in a liquid form, a form in which state property was easy to put in one's own pocket. Instead of the expected increase of production efficiency the economic freedom has brought an almost countrywide production decline, there is no need to mention its effectiveness. A detailed analysis of this imbalance - economic freedom in underdeveloped institutions - can be found in the book of V.M. Polterovich (2008).

The two-layer economy instead of cooperatives and joint ventures under Gorbachev and the two-track economy at a turning point in 1991 are the historical alternatives which our country went past. It has already gone past. Now there is no need to lament over the missed opportunities. All the more, as they say, history has no subjunctive mood. What happened – that happened, and we need to learn the right lessons from it for the future.

While the debate about the benefits of "shock" and gradual ways to introduce market mechanism still continues. Moreover, there appear reputable treatises criticizing the "shocking" way in general, not only with regard to the transition from planned to market economies (see, for example, a sensational book "The Shock Doctrine: The Rise of Disaster Capitalism" by Naomi Klein (2009)).

1.9. Transitional economy

After the world was convinced, at least in part, that the present-day economy must still be based on market mechanism, the emphasis in the mixing of mechanisms had been changed. There was a notion of **a transitional economy**. It's such economy, which appears in the transition from the planned economy to the market one. It means that saving of the planned economy is out of the question, what is at issue is elimination of the planned economy and replacement of it by the market economy. Question: How does this mixed economy, called the transition economy, differ from a two-storied economy generated by the struggle with the shortcomings of the planned system? It differs in the fact that it is based on no longer the planned start but on the market start. At the beginning of the market transition the market itself was not so much. But in most countries in transition including in Russia it was declared from the very beginning that the goal is a market economy. The exceptions were only China and the countries imitating it, for example Viet Nam.

Therefore, from an ideological point of view it would be appropriate to divide the transition countries into two types according to this feature, because it is decisive. In the meantime, it is accepted to divide the countries into those that follow the principle of "shock therapy" and those that follow the principle of gradualness or gradualism. It is clear that the speed of transition is a secondary feature, determined by the goal. To improve the planned system is one goal, to go over completely to a market economy is another goal. Therefore, the transition economy has led to the crisis in one case and to an accelerated development in another.

1.10. Double track economy in China and in Russia

We'll look more closely at the transition economy of the Chinese type. It is the economy that is called a double-track economy, sometimes a two-storied economy. Incidentally, in China it was possible to observe the phenomenon of two-storied economy, in a manner of speaking, literally. If you go into a big department store, for example in Beijing or Shanghai, you'll see that the essential commodities are mainly sold at low prices on the first floor. The higher you climb, the more expensive items you can see, while their variety and quality grow, the prices grow as well.

The double track economy had not received the recognition and any large-scale spreading in the Soviet Union, although some economists, including your obedient servant, wrote the notes to the higher authority, including Gorbachev, to establish the economy like that. But the first experiences were not bad. There was even semi-political movement which was called "two-storey economy". The enterprises according to this movement remained as they were and they were not reformed. Their main task is to implement the plan. This is the first floor. And then you can

sell the production above the plan at the market prices. This is the second floor. It means that the plan as a stabilizing framework remained. And the market-based relationships developed on the second floor. There the population's demand was taken into account more exactly and subtly. There people pay money for their mistakes. There appeared a new type of investment accelerating the economic growth. But, of course, there could arise some crisis phenomena typical for the market economy. All these were realized in China accurately. Moreover, China has substantially improved the double-track economy (see, for example: Justin Lin, Fang Cai and Zhou Li (1996)).

1.11. More about cooperatives and double layer economy

How did the layering or the creation of two layers happen in the Soviet Union, and later in Russia? The cooperatives were set up within the enterprises, the cooperatives were the organizations with another type of property, namely private property. And this is nothing like stripping, looting businesses. The plan as an institution of stability was destroyed. The cooperatives didn't play a role of creators but they were a tool to transform the tangible assets into cash. This was the initial phase of large-scale crisis, which spread rapidly throughout the country.

Thus, the crisis of the planned economy or, more generally, the existing socialist system, was overcome due to the introduction of market mechanisms, and it led to two types of transition economy. The first one is a combination of planned and market beginnings into steady double-track economy. Another type, unstable by definition, is an accelerated establishment of market mechanisms accompanied by destruction of the planned institutions. No wonder that the second type led not to overcoming of the crisis but to its deepening and broadening.

1.12. The difference between the double track and two-layer economies

Now I'd like to say a couple words about the differences between the two-layer and double track economies. Sometimes these two economies are mixed. In fact, there are significant differences between them. In the two-layer economy the players are institutionally homogeneous. They are state-owned enterprises divided into planned and market parts. It means that the border runs for each enterprise. In the double track economy there are two types of players with different targets and different controlled. The border separating the sectors is set in a natural way. You mustn't confuse the double track economy and the most common in the world mixed economy with the state and private sectors, and even producing private goods and public goods. The production of the latter is financed by the state, and therefore it can be considered as the second layer. You can stay here, taking into account that the transitional period has been written about so many and in different ways, with different estimates. Here we drew attention to the fact that when the soft part (economic freedom) becomes excessive, the crisis arises inevitably. So, the examples of the economy division into soft and hard parts show the natural way to strengthen the stability. In further discussion of social cluster society we'll consider a multilayer economy, however, only one layer remains a soft one - the market layer.

1.13. Isolation: Switzerland

So, here it is logical to make a pause in the discussion of various types of mixing of economic mechanisms as the most striking example of a combination of hard and soft beginnings, stabilizing society.

Now we turn to the isolation, the relative one, of course. A vivid example that immediately comes to mind is Switzerland. Surviving two world wars without serious losses, being almost in the epicenter of events – it is a striking phenomenon. And the basic explanation is the ability to stand aside, not to hamper anyone and to be necessary at the same time. As for the war the Swiss strategy proved to be extremely effective. However, this strategy didn't help to escape from the financial and economic crisis. In particular, the famous Swiss banks does not hurt less than others in the present crisis because they are fully involved in the world financial system.

1.14. Isolation: China

The isolation, the relative one, of course, from the world financial system are showed by China and the Muslim world with its Islamic banks, let alone Cuba and North Korea and, partly, Venezuela. We turn to China first. Yuan is known to be convertible currency only partially, and the conversion itself is under the complete control of the authorities. In addition, China actually has several currencies, they are understood in a wider sense. Namely: formally it is one currency – the Yuan, but the operations with it are not free, they depend on the specific circumstances and goals and they are governed by different rules.

For example, in the same way as in Russia, overflowing from the budget accounts into the commercial ones is prohibited; it is controlled by the Treasury. In China, there are several types of banks that operate by different rules. If the Russian long-term money is practically absent or generated directly by the target programs, in China there are banks, specifically aimed to finance the large projects that require long-term money. It means that we are dealing with several currencies, and it isolates the Chinese financial, particularly banking, system from the world one. I repeat, the matter is not about true isolation but about the creation of additional barriers, which significantly soften the blows coming from the global financial system. Some economists, let's call them the purists, imagine an ideal financial system as a protected one from any state interference where the means flow freely from one agent to another. Therefore, they blame the system of Chinese style in underdevelopment. Once it has barriers, it is imperfect. From my point of view, and from the standpoint of any mathematically minded individual, on the contrary, the ideal system, from their point of view, is only a special case of a more general system. The Chinese have another special case, more flexible one, because it's easy to change the rules and still to get whatever version of the system.

In numerous discussions of anti-crisis measures, including at the level of "twenty", the majority agrees that the stimulation of domestic demand is an effective measure. China took advantage of this measure better than others, in particular, due to greater isolation.

1.15. Isolation: the Muslim world

Now about the Muslim world. It is known that the Muslim religion forbids the use of interest, so in this world there are prevailing banks that don't credit at an interest, they work on other technology, which is less prone to the influence of the global financial system. The Islamic banks lend out money for specific projects under very strict system of control. This is exactly what we need in a crisis. In other words, the Islamic banks are not prone directly to the financial crisis of the type that we are watching now. It does not mean that there are no shortcomings. There are some, but of another kind.

Specific statistics indicate that China and most Muslim countries show economic results, significantly better than the Western countries with lower degree of isolation.

1.16. Isolation of another kind

I'll mention here a different kind of isolation. Namely, the cultural, spiritual, historical identity, which every people, nation, civilization must preserve, maintain and develop. When using the term "identity", there is an image of some patriarchal and old-fashioned thing, although a curious one. This is a completely wrong idea about identity.

From the editorial staff: In subsequent chapters the author sets forth his vision of future society: this is a "federation" of equal social clusters (classes of new type), this federation uses the design economy as a leading economic mechanism.

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UDC 338.984
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The North of Russia: distribution of productive forces and space development *

Following the theoretical standpoints by the academician A.G. Granberg, the author considers the main problem of space development in association with the distribution of productive forces. Each of three positions of the North area (circumpolar, latitudinal and meridian) brings up to date some certain aspects of regional politics, notably its arctic vector, regulation of norms and standards of social and production activity, strengthening of integration in the line of "North – South" in order to form a full-blooded Russian market.

Productive forces, social and economic field, economic and geographic projection of the North, interconnection between mineral and raw material and scientific-technical territorial complexes, real and artificial systemacy in the regional policy.

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Introduction

The economists and the economic geographers digress from the themes of development and distribution of productive forces by mistake. In many opinions, the scientific category "productive forces" is typical for Marxist political economy only. It seems that this position is a consequence of exaggerated market thinking when in the forefront one put the factors and conditions of some certain production, the single corporation (firm) most often, not the factors and conditions of social development on the whole. However one should admit – this category looked a defective one even for the years of planned economy. The general plans of development and distribution of productive forces dated to 1960 – 1980 dealt with Production generally, Economy – less, and Productive forces – least.

At that time the statistics and calculation data touched upon the volume of production, employment number, capital assets capacity, transport capacity and the whole set of information on social infrastructure. The essence of the productive forces as means of transformation of natural thing into social one and as unity

* The basis of the article is the author's report at the 14th Congress of the Russian Geographic society. The article is written within the framework of the RAS Program "Fundamental problems of area development of Russia: interdisciplinary synthesis".

of objective and subjective aspects of labour connected by end-to-end technological systems was out of sighting. Even well-studied and practically realized social forms of production organization (concentration, specialization, combining, cooperation, integration) were examined rather superficially in the distribution plans and it was step backwards in comparison with the Plan by the State Commission on electrification of Russia. These forms as main source of Society Power had a great importance from the theoretical point of view. But in practice of economic planning it didn't find its proper reflection.

As far back as in 1940-s N.N. Kolosovskiy proved that the productive forces have social and territorial character [2]. In his opinion, the concept "productive forces" can be applied without contradictions only to rather large territories, as they say today, – economically self-sufficient ones. In Russia these are large (main) economical districts (LED) in Russia and not the present subjects of the Federation. At the present time the LED are replaced (it's uncertain for how long) by the federal okrugs. They became account-and-statistical units and organizations in the regions ruled by the president. Their authorities might have a perspective to be expanded in relation to social and economic development. On certain conditions it can be regarded as legitimate.

The above said directly concerns our theme. The North zone, picturesquely speaking, has no its own productive forces in the social and territorial measuring, it has only some separate elements. The North is neither an economic system nor a business entity. From the space point of view it belongs to some more organized thing.

It is necessary to stress that the themes of space development themselves which includes the problems of distribution of productive forces have assumed a fundamental character due to efforts and scientific and organizational activity by Granberg Alexandr Grigoryevich. It was he who managed to work out methodology and methods of economic and mathematical calculations of results of economic activity according to their apportionment in space by macro-, meso- and microstructures. Under the direction of A.G. Granberg some optimization intersectoral and inter-district models were created and are used in the strategic planning and it made it possible to close the theory of social geography and regional economics to the practice of territorial structure of our country. It looked like he enlivened the formal geographic constructions and filled them with the dynamic of development, rhythms and modes of operation. Alexnadr Grigoryevich paid attention to the rise in value of global geostructures such as "continent-ocean" and all the rest including land area, water area and air area simultaneously in proper time. He made an attempt to give a methodological base for the opportunity for interdisciplinary synthesis of large size – from geology and astrophysics to history and ethno-culture.

As a first approximation *the space development* can be interpreted as progressive changes in the development and distribution of productive forces, in the population settlement, in the development and reproduction of the natural resources, the preservation and provision of the life activity environment. These changes are agreed at the level of world, national, regional and local social and power-holding structures. The progress is reached on the basis of stable development principles, the main ones are *energy economic efficiency, social justice and environmental safety*.

Actualization of "space development" is determined by intensification of the interconnection between nature and society and, respectively, elevation of the importance of interdisciplinary synthesis. The subject of scientific research becomes geologic, geophysics, hydrological, biological, air, technological, economic, social, political and other spheres. The integration of knowledge on various spheres as collective conditions of life activity is supposed to give additional materials to solve the problems of social development.

As for social and economic sphere the concept "space" is defined concretely in some certain social processes: the development of land area, water area and air area, making the

populated universe habitable, production distribution, population settlement, improvement of economic and geographical situation of districts and towns. The overcoming of distances, coupling of center and periphery, making the configuration of economies and safeguarded landscapes etc. make sense from the economic point of view. Space is appraised as welfare and it is commensurate with other material and spiritual values. The economic science more often uses such categories as "integrated market space", "privatized space", "spatial behaviour", "economic density", "economic function of the locality", "social function of geographical environment" and others. Here the general philosophical interpretation of the space – a form of the matter, structural properties and spread of material systems – gains perfectly a constructive species when one can speak about space planning.

The problems of space development are urgent for all countries, especially for Russia. Its large size and Eurasian situation determine the necessity to connect both the problems of inside system and the problems of interstate relations.

The northern situation is of special meaning for Russia: 11 out of 17 mill. sq km (64.7%) are the districts of the Extreme North and the areas equated to the districts of the Extreme North. Almost 80% of the mineral and raw material potential of Russia, vast zone of boreal forests (5.5 mill. sq km) and other important natural resources are concentrated here. They give a positive rent, due to which about 70% of gold-exchange reserves of our country are formed. The negative rent is connected with other characteristics: low air temperature, long winter, low radiation balance, wide spread of frozen subsoil, weak development, localized population settlement, long distances and high transport costs. The northern territories as a reserve factor of world community development are of great importance. It determines the suitability of their normative distribution taking into account the ethnological, natural-and-resource and ecological functions.

The guideline of science and regional policy is not only development of natural resources of the North, but also civilized exploration of the territories with the established historical and cultural "centers" (i.e. the focuses of population settlement).

From the standpoint of space development the beginning positions of the North research are also the diversity of the north territories, wide range when estimating their place and role in the internal Russian and world economy. The North is neither an economic system nor an economic entity. The northern and arctic territories are taken as a comprehensive whole only relative to their cold climate, natural-and-resource richness and ethnical peculiarities. As for all the rest attitudes they are different. In the physical and geographical dimension – many latitudinal zones, azonality of mountain territories, solid and localized frozen ground, relict landscapes etc. In the geo-political dimension – national community belonging of the northern territories. In the economic and geographical dimension – different degree of development and exploration of the northern areas, considerable spread of norms and standards of economic activity, mosaic structure of production distribution and population settlement and others.

Under these conditions the system approach to the North study is possible in the whole only when putting some certain elements of artificiality in it, i.e. the point is not actual things but artificial systems. The latter are three projections: circumpolar, latitudinal and meridional.

The circumpolar projection

The Arctic is usually represented like this in the system of the world and national economics and geo-politics.

To the definite degree it presents the positions of Russia advantageously to the part of territory (34.1%), population (48.9%) and volume of gross product (66.7%) *(tab. 1)*.

The circumpolar projection of the Arctic space is interesting from another important aspect. Above we showed that if the minerals of the continental North needs to have closer link with national economy for formation of

Table 1. Territory, population and gross product of the Arctic
(the US dollars – purchasing power parity (PPP) in 2002 – 2003

Country/district of the Arctic	Square		Population		Gross product	
	Thousand sq km	%	Thousand people	%	mill. dollars	%
Total	12575.0	100.0	4058.0	100.0	230.1	100
The USA: Alaska	1516.0	12.1	648.2	16.0	28.6	12.4
Canada: the arctic districts	4191.0	33.3	130.3	3.2	4.3	1.9
Denmark: Greenland	2176.0	17.3	56.7	1.4	1.0	0.4
Iceland	103.0	0.8	288.5	7.1	8.1	3.5
Denmark: the Faeroe Islands	1.0	0.008	47.7	1.2	1.1	0.5
Norway: the arctic districts	107.0	0.9	462.7	11.4	10.2	4.4
Sweden: the arctic districts	99.0	0.8	253.6	6.2	11.0	4.9
Finland: the arctic districts	93.0	0.7	187.8	4.6	12.2	5.3
Russia: the arctic districts	4289.0	34.1	1982.5	48.9	153.6	66.7

Source: The report on the human development in the Arctic: translation from English / ed. A.V. Golovnev. – Ekanerinburg – Salekhard, 2007. – Pp. 27, 70.

full-blooded all-Russian market [5] it should be followed by displacement of external economic connections in the part of the fuel-and-energy and other mineral and raw material resources to the Arctic. The natural conditions are so complicated here and the resource is so large-scale that it certainly needs for wide international cooperation but along with mobilization of the Russian scientific and technical potential and with establishment of legal economic order defending the interests of the country. The Arctic and the management – a problem that G.P. Luzin and his colleagues paid a special attention at [8].

It is necessary to pay attention also at the original interpretation of the Arctic as a new center of human collaboration. A.N. Pilyasov considers that the world cooperation with the common features of economic behavior will be formed around the Arctic Ocean as it took place around the Mediterranean Sea some time [9].

The Arctic vector of national economy certainly has a great influence on the productive forces distribution. If one estimates approximately in the minimum volume the investments in the current economic projects at 150 milliard the USA dollars and the term of their realization at 10 years, it can be 15% out of the investment potential of the North-West federal okrug, 10% – The Ural okrug, 10% – the Siberian okrug and 26% – the Far East okrug. The developed regions will demand a construction of new production bases as well as technical means and technological complexes adapted for the Arctic conditions. Thereupon one should notice that the idea of competition between the towns and districts concerning the service of the arctic projects isn't important for a while. For example, it is impossible to contrast Arkhangelsk with Murmansk. The former is supposedly a winner in the arctic vector of economy. No, it isn't so. Here it is important to specialize to definite technological directions taking into account the advantages of economic and geographical situation of concrete production bases not only the ones of Arkhangelsk and Murmansk but also some other towns.

The latitudinal projection

So far the formation of territorial structure of Russia's economy was generally connected with the theory of economic zoning and the models of program target territorial and production complexes; at less – with the idea of transport and production structures and development tracks; by a negligible margin – with the latitudinal organization of economy (like physiographic zoning). The scientific explanation of the processes of study, development and exploration of the northern territories showed an equal worth of the mentioned approaches.

The latitudinal social and economic zoning in Russia was carried out at the beginning of

Table 2. The social and economic indices of the north situation (the central part of Russia = 100%)

Indices	The Arctic	The Far North	The Middle North	The Near North
Norm of physiological indices in the energy and food materials	130.0	115.0	110.0	105.0
Norm of clothes sets, %	High quality fur	Short fur coats	Clothes with heat-insulating layer	Clothes with moderate heat insulation
Optimal period length, by days	365.0	350.0	250.0	225.0
Region coefficients and long-service bonus (total maximum value), %	N/d	370.0	220.0	170.0
Pension age, years old: male (in Russia 60 years old)	55.0	55.0	55.0	55.0
female (in Russia 55 years old)	50.0	50.0	50.0	50.0
Additional leave, days	More than 24	24.0	24.0	16.0
Actual days for open air workers, by % of days lost (according to the facts in the Komi Republic)	35.0	20.0	13.0	5.0

Table 3. The production and economic indices of the north situation (the central part of Russia = 100%)

Indices	The Arctic	The Far North	The Middle North	The Near North
Rise in the cost of construction-and-assembling operations*:				
centre	Not fixed in the documents	183.0	156.0	143.0
periphery		250.0	182.0	163.0
Coefficients against the norms of construction period	more than 2.0	2.0	1.7	1.4
Season stock of retail commodities, by days**	220.0	180.0	117.0	90.0

* T.E. Dmitrieva's calculations [1].
** Some of the examples taken from the northern territories (in the central part of Russia – 30–35 days).

1990-s under scientific supervision of G.P. Luzin who gave full characteristics of geographic, climatic and medical-and-biological conditions of life [11]. At present there are four northern zones of discomfort: the Arctic (absolutely discomfort, extremely unfavourable), the Subarctic (extremely discomfort, very unfavourable), the zone equated to the districts of the Extreme North (discomfort, moderate unfavourable), the zone equated to the districts of the North (relatively discomfort, relatively favourable). We believe that it is possible to nominate the northern zones not only in the scientific studies but also in the official documents in the following way: the Arctic, the Far North, the Middle North and the Near North.

The most important social and economic problems for the Arctic and the Far North are unsatisfactory condition of social mediums of smaller peoples and difficulties in the organization of expeditionary, shift and district methods of development of natural resources; for the Middle North – strategic uncertainty when forming the support production and trading bases as well as the centers for training of experienced personnel for the whole Northern zone; for the Near North and to a definite degree for the pre-northern regions – difficulties when performing the functions of natural and historical functions – to be a new springboard for distribution of processing industry on the basis of both the raw materials of the northern territories and the innovation technologies created in our country and abroad. Taking into account only the ecological factor of distribution of productive forces one can make a conclusion about the inevitable promotion into the zone of the Near North. It also may be a reference to the electronic industry being close to clean air. The example is distribution of the Nokia factories in Oulu, in the north of Finland.

When measuring the northern situation in the latitudinal aspect the starting point is norms, standards and different kinds of correction coef-

ficients. Their social content is connected with the recovery of incremental expenses for life conditions *(tab. 2)*; production and economic content – with the costs and their optimization for construction and functioning of the capital assets and the service of capital turnover *(tab. 3)*. The geographic expertise is of great importance here, its scientific foundations were created by K.P. Kosmachyov [3] and T.E. Dmintrieva [1; 4].

The meridional projection

To our mind, it is necessary to mark out the meridional mega-structures especially, since they determine the perspective position of the North in the distribution of productive forces of Russia. They are taken as a result of natural and historical movement towards "South-North".

One can see at the economic map of Russia that when organizing its space the intersections of the latitudinal railroads with big rivers of meridional direction, the northern and the Pacific Ocean sea ways are of great importance. The intersection points are profitable for placement of both the enterprises of all-Russian value and the enterprises with the North development focus. Such construction of the space will be strengthened by the construction of new main railroads, first of all – the North Siberian one, and by the modernization of the present ones – the Trans-Siberian Railroad and the Baykal-Amur Railroad. The North seaway recovery program fits in it well. The program makes it possible to develop new territories in the direction "North-South" [12]. The combination of railway and water ways is complemented by the construction of highways of latitudinal and meridional direction and in some places – by new railroads connecting the southern and northern territories. "Belkomur" is of great importance in the European Russia, the Amur-and-Yakut railroad – in the Asian part of Russia.

Such mega-structures of meridional direction as the Pacific, the Lena, the Yenisei, the Ob'-and-Irtysh, the Eastern Ural, the Western Ural and the Barents-and-Baltic structures can be very important in the integration of space of Russia. They are marked out not to be a classic economic districting but to actualize the problems of development of transport and production framework of Russia and improvement of territorial structure of economy. They are the problems of development of large Russian river navigation, the Pacific Ocean and the North seaway navigation taking into account new institutional organization of economy in the sphere of transport and new approaches to distribution of productive forces in the pre-northern and near-northern zones with the aim of ecological relief of base industrial belt of Russia.

The example of the Western Ural "meridian" (form the Pechora basin to the Caspian Sea) shows that its separation is joined with new economic matters: the northern orientation of the industrial Urals, the Komi Republic and the Perm territory development balanced by resources and ecological capacity, the optimization of territorial and production structure of oil and gas economy sector (from Naryan-Mar to Orenburg), the development of transport network from the North to the South and others.

The integration within the mentioned meridional structures is somewhat a counterbalance to disruption of Russia's space and distribution of its separate parts in the world political and economic blocks [6]. To strengthen the integration of such direction is a subject of common state policy as well as a function of four federal okrugs: the North-West, the Urals, the Siberian and the Far East ones. It is their structure where the North is represented as a considerable part, especially as for the square and gross regional product *(tab. 4)*.

All target programs of the federal and okrug scale consider the northern territories specifically, for example, concerning the scientific-and-technical, social and ecological problems.

The interdependent formation of territorial complexes: mineral-and-raw material and scientific-and-technological ones

A significant part in the organization of the space development belongs to the theory of growth poles (J.-R. Budvil, F. Perru, L. Daven and others). It is based on the agglomeration effects and innovation diffusion (G. Hagerstrand). The theory wasn't recognized for a long

Table 4. The North in the territorial and economic structure of Russia and its federal districts (in a nominal way)

The RF and federal okrugs	Territory		Population, as of 01.01.2009		Gross regional product (the year of 2007)	
	million q km	%	thousand people	%	milliards rubles	%
The Russian FD	17.10	100.0	141904.0	100.0	28254.8	100.0
including the North	10.7	62.6	9834.0	7.2	4556.0	16.1
The North-West FD	1.69	100.0	13462.0	100.0	2788.3	100.0
including the North	1.33	78.7	3750.0	27.9	826.0	30.0
The Urals FD	1.82	100.0	12255.0	100.0	4276.0	100.0
including the North	1.50	82.4	2414.0	19.7	2600.0	60.8
The Siberian FD	5.15	100.0	19545.0	100.0	3027.5	100.0
including the North	2.44	47.4	1100.0	5.6	380.0	12.5
The Far East FD	6.17	100.0	6460.0	100.0	1292.0	100.0
including the North	5.25	85.1	2570.0	39.8	750.0	58.0

* The areas of the Extreme North and the areas equated to them.

time in Russia. It was contrasted with the principle of even distribution of productive forces and equalization of levels of large economic district development. As a result both positions (the European one and the Russian one) were subject to serious scientific criticism since they unfairly claimed to be universal.

At present the problem of distribution of Russia's productive forces is represented the most clearly in two directions.

The first one is formation of mineral-and-raw-material complexes. The most part of them is situated in the north of the country. This direction is connected with faster development of geology, geological technologies and recovery of geological exploration as a large sector of economy [7].

The second direction is formation of large urban agglomerations and innovation scientific-and-technological complexes. The strategic plans on Russia' development include a creation of some large technology towns specializing on "breakthrough" technologies and innovation products. One has made an attempt to bring them out specifically within the areas of Vladivostok – Khabarovsk, Novosibirsk – Tomsk – Krasnoyarsk, Yekaterinburg – Chelyabinsk, Samara – Kazan, Rostov-na-Donu – Krasnodar, Moscow – the Moscow oblast (the example – Skolkovo), St. Petersburg – the Leningrad oblast'.

The Department of regional development of the RF believes that formation of the mentioned structures is its principal task. "Concept of the long-term social and economic development of the RF" (the variant by the Department of economic development of the RF approved by the Russian Government in 2008) includes this area too but it has some more detailed network of territorial and production clusters.

In this case the key issue for the northern regions is the following – aren't they intended for the role of extensive, traditionally raw material development for the sake of intensification and modernization of the mentioned production and technological complexes?

It might happen under the limited human and financial resources. So, along with the plans on formation of large technology towns within the base spatial framework of Russia, it is necessary to declare appropriateness and efficiency of the resource-and-innovation development of the northern periphery having its own scientific-and technological clusters and "growth poles" coinciding with the mentioned mineral-and-raw-material complexes from the territory point of view.

It is possible on the basis of high technologies in the field of energy sector and power saving, mining operations and processing (geological technology), liquid synthetic fuel generating from coals, adsorbent production,

complex use of paraffin, ethane, butane, propane, stink damp and organizing the production of polyvinyl chloride, plastic material, gas sulphur and other products on this basis. It is promising to produce different kinds of ceramics, stone casting, to output basalt and optical fiber and synthesized crystals. Biotechnology and dendrochemistry can be a safe basis for social and economic development of taiga territories [12].

There is no doubt that higher level of technological development of natural and resource sector of economy and diversification of production structure will play a positive part in preservation of the North not only as energetic and raw materials base but also as specific life space for local population.

The economic profit of space integration and the north production experience as its additional condition

The scientific explanation of the laws of geographic division of labour and distribution of productive forces made it possible to interpret the integration as a final stage of all other forms of social organization of economy: concentration, specialization, combination and cooperation. The theory recommends the practice to understand the meaning of objective preconditions for the integration, they are the following: as the development of productive forces progresses some sectors lose the opportunity to focus only at the optimal variants of production distribution; it is getting to be impossible to conduct the isolated placement of the separate enterprises as well as the isolated planning of some regions development [10].

The integration doesn't go on its own account but as a result of target activity with the help of special institutions and particular methods of economy regulation, for example, of coordination and stimulation. The mutual interest of the enterprises and the regions is to obtain a synergetic effect of common activity.

Only the noncontradictory sequence of integration is useful for practice: first – vertical link on the technological basis, then – its horizontal adjustment according to the opportunities of territories' potential consolidation for solving the common economic tasks, and further – working out some joint projects.

On the basis of this explanation the northern and the Arctic resources are necessary to be included the through technological chains over the whole all-Russian space according the geographical peculiarities of latitudinal and meridional mega-structures. It touches not only the main mining and processing industries but also the science, the methods of construction on the frozen grounds, the northern fishing, hunting, farming and raising vegetables under glass, shift development of natural resources, building and operating the winter highways (snow roads), working out and mastering the equipment for winter conditions, winter clothes and footwear etc. The things that are studied and made special for the North can be used in other places efficiently, first of all, in the eastern regions of the country and pre-northern western ones: the Perm' territory, the Kirov, Kostroma, Yaroslavl', Vologda, Tver', Novgorod, Pskov and Leningrad oblasts.

A special position is taken by the interrelation in the field of human population. The pre-northern neighbors are more adapted than the southern regions for settlement and dwelling of the northern migrants. It has been proved by many years' experience and the recommendations of doctors and physiologists who consider that it is not reasonable to change the climatic life conditions dramatically when moving. On the other part, the same regions must be base ones when training the personnel for the North.

Conclusion

The certain northern and arctic territory can obtain some additional impulse of its development if it is examined in different space systems: circumpolar, latitudinal and meridional ones. The distribution of productive forces in the North of Russia will be conditioned in future by not only natural resources of the world and national importance but also formation of infrastructure in the shape of "lattice", i.e.

intersection of latitudinal land ways with large rivers running from the south to the north. Buildup in the existing transport and production framework of Russia with new northern elements is a necessary condition for the integration of its economic space and the formation of full-blooded domestic market.

As for methodology one can make a conclusion that sometimes it is reasonable to use the method of "artificial systemacy" in geography and regional policy. In the North only local, more seldom, regional economic systems are real ones. But that is not enough for understanding of some common principles and strategic directions of productive forces distribution and legal regulation of social and economic processes. So some special well-thought-out space constructions are necessary.

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UDC 001.83(470+476)
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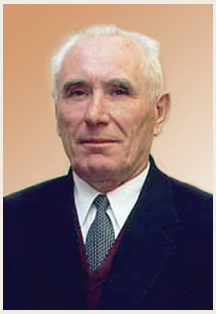
The formation of unified scientific and technological space in the Union State of Russia and Belarus within the union programs

The article reveals the content of work conducted through the cooperation of scientists and specialists of both countries to build scientific and technological potential, priority areas of work of mutual interest.

Union State of Russia and Belarus, scientific and technical cooperation, the priorities for cooperation, space research, nanotechnology.



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Scientific and technical cooperation within the Union State is one of the most important ways of economic integration, which is aimed primarily at the coordination of the unified solution of the most important socio-economic issues of mutual interest.

Currently in order to enhance allied collaboration between scientists and experts of Russia and Belarus, the Academy of Sciences together with its long-time Russian partners have identified priority directions – capacity building, first of all in the field of space research, computer science and technology development in several directions, including nanomaterials and nanotechnology, biotechnology and etc.

A perfect example of this is purposeful cooperation of the parties presided by governmental customers of NAS of Belarus and the Federal Space agency of the Russian Federation on the development and use of long range space vehicles and technologies for national economies.

Thus, the successful completion of the first project "Cosmos-BR" (1999 – 2004 years) in which implementation were involved 10 Belarusian and 16 Russian organizations, an experimental sample of space information reception center and a new antenna system appeared, technology for decoding of space images and an experienced navigational and communicational terminal and other significant know-how developed.

All this was the basis for further partners cooperation within the program "Cosmos-SG" (2004 – 2007).

It involved more than 50 companies, academic and training institutions from both sides. Information and image processing technologies, design of facilities for testing spacecraft and simulation of different situations were priority at this stage of cooperation. All sorts of devices were made for Baikonur. Also the navigation system using satellite signals developed.

Today, within the current program "Cosmos-NT" (2008 – 2011) are developing a pilot sample of the unified microsatellite platform and the experimental model of a microsatellite of a new generation on the basis of long

range technologies that provide its enhanced term of active existence for at least 10 years. In the future, if you create a multifunctional space system of the Union state on the basis of microsatellites can be provided the phased deployment of an orbital constellation and the possibility distribution of global ground infrastructure technologies, carrying out reception, processing and dissemination of information from space. It is planned to establish the first Russian-Belarusian group – Belarusian and Russian spacecraft, "Canopus", which will together deliver the information and for Russian and Belarusian consumers.

This system building will expand the scope of its services to the mass consumer of space profile: Earth's natural resources studying, environmental monitoring, warning of emergencies, forest fires.

The result of collective fundamental and exploratory researches is that the cause of restraint of further development of rocket and space technology is the lack of possibilities to reduce the mass and dimensions of products, minimization of which is only possible by creating new lightweight materials and coatings with specified characteristics.

In this regard, a new collective project "Nanotechnologies-SG" has developed, which was launched in the fourth quarter of 2009 and its aim is to form components of unified scientific, technological and information environment in the use of nanomaterials and nanocovers by spacecraft building.

The design and operation system of space technology is a complex socio-technical system. Cases of its failure can lead to incorrect data results by space researches even to the accident and man-made disasters, severe economic, environmental and social consequences. Therefore logically it was necessary to develop another program of the Union state – "Developing a unified system of standardization and certification within the collective space projects of Russia and Belarus" ("Standardization-SG"). Its implementation will eliminate the technical and organizational difficulties arising from the ineffective use of normative documents on standardization and certification of space technology by each party. The results of macro-economic analysis show that the economic benefits of standardization make about 1% of state GDP.

The next stage of space cooperation in the near future will be will be connected with creation of experimental sites of the complex monitoring focused on the solution of applied thematic problems in interests of the Russian and Belarus consumers of the information using the information from space technologies in a combination to air and ground technologies (systems) – "Monitoring of the SG".

This cooperation of Roscosmos and NAS of Belarus suggests a number of projects for the future.

Use by the leading countries of the world supercomputing capacity to solve the special challenges of science, education, economy, and a significant backlog of our states helped to determine the following significant priority for our countries.

As the future government customers the National Academy of Sciences of Belarus and the Federal Agency for Sciences and Innovations of the Russian Federation supported a suggestion from the initiative groups of the United Institute of Informatics Problems of NAS of Belarus and Program Systems Institute RAS on the revival of the computer industry in the allied countries, industrial production of a number of software-compatible models of supercomputers with a wide spectrum of performance.

As a result, the first stage of collaboration between scientists of the States Parties from the Union State made a significant contribution to the concept development of creation and development of industrial production "SCIF" supercomputers.

Five "SCIF' family supercomputer, which entered the world ranking of five hundred most powerful machines in the world were created in 2004.

The next stage in the development of the collective project "SCIF" since 2007 is being

implemented the Federal program "SCIF-GRID" (The development and use of software and hardware GRID-technology and high advanced (supercomputer) computer "SCIF" family systems).

Today, referring to the implementation of the Belarusian part of the program up to 2009, it could be argued that for the first time in the world for the middleware UNICORE were developed suites of software and software documentation system for monitoring and testing sites; analysis systems, resource statistics and accounting; resource broker; batch processing system for the OS Windows platform; services and file sharing UNICORE distribution facilities. This made it possible for the Republic of Belarus to increase organization participation in European grid-projects.

As part of the supercomputer technology development for the first time in the Commonwealth of Independent States was created hybrid architecture supercomputer of MC "SCIF-OIPI", a prototype of a hybrid architecture at the computer node cluster configuration using special processing elements like GPU (Graphics Processing Unit). Supercomputer "SCIF-OIPI" resources are included into the grid-infrastructure.

Given the fact that at the present stage the necessary condition for the world information economy functioning is the availability of global information computing infrastructure based on a set of technologies in which the dominant position are occupied by high-performance computing resources (supercomputers), telecommunication technology and software for efficient use of infrastructure, Russian and Belarusian Scientists and specialists are planning to devote the next phase of cooperation to this issue.

It is assumed to create and conduct operational tests of basic high-performance computing space of the Union State and the technology for its effective use within the future collective project "SCIF-Union" – "Development of technologies for the creation and effective use of information and high-performance computing space (cyber-infrastructure) of the Union State".

In the near future the Belarusian and Russian developers plan to start working on forming a new program – "ORBISS", which is aimed at development and implementation of effective mechanisms for introduction of high performance computing technologies into the industry.

The program realizes the creation of specialized software and hardware infrastructure, software-based with open code, focused on the solution of applied problems in the domestic industry, as well as on the solution of the most relevant for the largest domestic companies' practical problems, based on this infrastructure. Such infrastructure creating will make possible the implementation of key strategic development objectives of the states-parties from the Union State.

The "ORBISS" program is aimed at creating conditions for accelerated development of high-tech machinery on the basis of the most efficient domestic information technologies and high-performance hardware solutions to create a branch innovative scientific and technological base to solve current practical problems of designing and conducting various tests of engineering products.

Within the future program "SCIF-Nedra" scientists and experts are planning to develop a set of information and computing technologies on the advanced supercomputing "SCIF" family platforms focused on the solution of the complex intensive geological and geophysical problems, providing increased efficiency of exploration and use of the resource potential of hydrocarbon in Belarus and Russia. This will significantly reduce the dependence of domestic oil and gas service on the foreign presence, increase the competitive advantages of domestic oil and gas service companies and as a result strengthen the energy security of the Union State.

In addition, as a result of this collective project we will receive stable multiplicative effect of high-tech development in related industries, which will help to solve some tasks of energy efficiency and conservation in Belarus.

National Academy of Sciences of Belarus, the Ministry of Health of the Republic of

Belarus and the Ministry of Health and Social Affairs of the Russian Federation supported a number of collective projects of a technological nature. One of them is a project to create drugs of a new generation based on human proteins derived from milk of transgenic animals. Primary transgenic animals from human lactoferrin gene were created within the first joint program "BelRosTransgen" (2003 – 2007). The scientists got a number of important and innovative research results related to the creation of genetically engineered structures that provide an economically significant production of biologically active drug human proteins in milk of transgenic animals, and also developed the technology of agricultural transgenic animals.

Taking into account the strategic importance of pharmacology industry and created genetically engineered drugs it is regular that we a suggestion to develop the second scientific-technical program – "BelRosTransgen-2" (2009 – 2013).

From 2009 to 2013 it is planned to perform substantial work on the 4 basic areas:

1. Development of technologies for high medicines and food products derived from milk of transgenic animals containing human lactoferrin;
2. Scientific developments and researches on optimization and verification of gene structures that provide implantation of human lactoferrin genes into animal-producers;
3. Experimental work on the production and reproduction of animals;
4. Organization of pilot production of medicines and food products containing human lactoferrin.

Future collective projects to develop new methods and technologies of restorative therapy of pathological changes of tissues and organs using stem cells ("Stem cells"), and to develop and introduce next-generation technology for the production of radionuclides and radiopharmaceuticals for diagnosis and therapy of oncological diseases ("Nuclide") are socially important for Belarus and Russia.

The first project developing is due to the necessity of solving problems to provide adequate treatment for patients needing transplants of vital organs and with this purpose to the possibility of unification of the scientific potential of Belarus and Russia. According to estimates of experts in the world by 2010 the number of potential patients needing replacement and regenerative therapy with stem cells will be about 2.5 million people. The introduction of methods and technologies to produce, cultivation and transplantation of stem cells will make possible to solve this problem and improve the quality of these patients life.

During three years it is planned to develop the technological protocols. Clinical trials of cellular therapies will take another three years. In the near future in Belarus and Russia it will be possible to treat skin lesions, diabetes and cardiovascular diseases.

The second project – "Nuclide" – is aimed at the development accelerating and introducing new generation technologies of radionuclides and radiopharmaceuticals for diagnosis and therapy of cancer.

In the future these technologies development and implementation will allow to reduce the foreign exchange costs twice as more and better and to provide the population of Belarus and Russia with advanced isotopic methods of examination and treatment.

With the above mentioned projects, by the organizations of the National Academy of Sciences of Belarus with the Russian partners were developed and are in the process of domestic agreement of proposals for the development of new most relevant projects.

Together with colleagues from Saint-Petersburg the scientists within the project "Pramen" set a task to design and create promising technologies in the field of inorganic semiconductors: technologies of quantum-well heterostructures growth, microwave transistors manufacturing, high-power pulsed and continuous lasers in the green, near-and mid-IR spectral regions.

The project "Koval" is aimed at the development and implementation of high-tech laser

technologies of materials processing, also for use in critical conditions (high temperature and pressure, aggressive chemical and radiation-intensive environments, etc.) in Belarus and Russia.

Current global trends in the development of plasma physics and plasma technology reflects a new project – "Plazmateh", which is aimed at development and creation of plasmodynamic systems and plasma technologies, which are competitive on foreign markets.

By future state customers – the National Academy of Sciences of Belarus and the State Corporation "ROSATOM" were supported two new and for both states important software development.

Some collective proposals are considered in the development of mechanical engineering. So scientists from Belarus and Russia are planning to improve the competitiveness of manufactured automotive products to the world level within the future program "Autoelectronics" on the basis of new organizational and technological solutions.

The current long-term cooperation of the National Academy of Sciences and the Federal Space Agency and in recent years developing business relationship with the Federal Agency for Science and Innovations of the Russian Federation, the Ministry of Health and Social Development of the Russian Federation, Ministry of Industry and Trade of the Russian Federation, the state corporation "ROSATOM" contribute more and more the effective implementation of collective projects on the one hand and on the other hand, the development of the immediate and long-term perspectives in the integration business. This, in turn, has beneficial effects on the expansion and strengthening of bilateral relations between our subordinate organizations.

UDC 327(510+470)
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Global peace and the mission of the Chinese and Russian social scientists *

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Continuing from the end of the Cold War, the global campaign against terrorism, as well as a series of provocative "color revolutions" pushed the issue of democratization into the foreground of the international agenda. Since the beginning of the new millennium, we are witnesses of ardent political sermons under such slogans as "Democracy as a universal value", "Democratization as a global trend" and so on.

In recent years, economic development and politics of China and Russia attracted the attention of the Western countries. In particular, in late 2007 and early 2008, leading Western media described a lot about the growing economic power of China and Russia, arguing that "the rise of China and Russia turns out to be a problem and even provides a threat to the entire Western world"[1]. It is necessary to be noted that, instead of serious analysis of the unity and features of Chinese and Russian paths of development, Western scholars cautiously or with irritation consider China and Russia as "challenges". Some Western media reproach Putin's Russia with the suppression of freedom and democracy, the restoration of the dictatorship, while the number of experts and think tanks has released some publications, arguing that "political model of China and Russia is a problem and a threat to the Western model of freedom and democracy"[2].

In fact, both China and Russia are searching for political and economic development, adapted to their particular national peculiarities. Naturally, as a potentially neither Western nor American way of development, this process indicates a larger scale of way search to national development, which can enrich the forms of all mankind. Western society has to overcome the installation of superiority and take calmly national development and democratization in other countries.

Collapsing building

The year of 2008 can be reliably recorded in the textbook of World History as symbolic and significant. All we witnessed the remarkable organization of Olympic Games in Beijing, the Russian-Georgian military conflict in South Ossetia, as well as the global financial crisis with far-reaching and not completely predictable consequences.

Scientists in different disciplines have given different interpretations of international events. Experts on military security tried to substantiate appearance of a new confrontation between

[1] Henry Porter. The new world order that threatens Uncle Sam // The Observer. – 2007. – December, 23.

[2] Thierry Wolton. Pour comprendre oú va la Russie, regardez la Chine // The Observer Le Figaro. – 2008. – January, 5.

* The text is a revised version of the report made at the fourth China-Russia Forum on Social Sciences (Beijing, June 2009).

Russia and the United States in the context of a five-day Caucasian War. Experts on international policy tried to interpret changes in global geopolitics, caused by the war and the economic crisis. Economists searched their mind, hoping to find a means of salvation of the world economy after the financial tsunami and the collapse of the market. Experts on culture and communication have focused on the differences between civilizations and ideologies, stating a lack of national ideas and the insufficient level of intercultural communication.

Chaotic international situation has undoubtedly increased the differences and disputes between the Eastern and Western thinkers. It touched judgments on globalization, opinions on "universal values and the universal way", estimates on the American way of economic, political and social management, approaches to capitalism and its method of production and consumption, and expectations of socialist perspectives and definition of China's role.

In the article "The Great Crash, 2008: A Geopolitical Setback for the West", published in "Foreign Affairs" in early 2009, ex-deputy minister the USA Treasury Department Roger Altman noted that "the financial and economic crash of 2008, the worst in over 75 years, is a major geopolitical setback for the United States and Europe. Over the medium term, Washington and European governments will have neither the resources nor the economic credibility to play the role in global affairs that they otherwise would have played. These weaknesses will eventually be repaired, but in the interim, they will accelerate trends that are shifting the world's center of gravity away from the United States"[3].

Altman also said that "a brutal recession is unfolding in the United States, Europe, and probably Japan – a recession likely to be more harmful than the slump of 1981 – 1982 ... This damage has put the American model of free-market capitalism under a cloud. The financial system is seen as having collapsed; and the regulatory framework, as having spectacularly failed to curb widespread abuses and corruption. Now, searching for stability, the USA government and some European governments have nationalized their financial sectors to a degree that contradicts the tenets of modern capitalism. Much of the world is turning a historic corner and heading into a period in which the role of the state will be larger and that of the private sector will be smaller. As it does, the United States' global power, as well as the appeal of the USA style democracy, is eroding, ... and the crash of 2008 will carry the world away from a unipolar system regardless".

At the same time Altman did not say definitely whether "the Great Crash" is the end of the USA financial system or a model of American free market style? Does this mean that neo-liberalism and the capitalist mode of production are deadlocked? Or should it be seen as a failure of American (and generally Western) hegemony and the restructuring of the international system as a whole? He also did not explain what this disaster will lead – to the widespread destruction or, conversely, to the busy scenario of a new stage of human development.

Ideology and history: end, embodiment or nirvana?

Two decades ago, when the Berlin Wall fell, an American scientist of Japanese origin Francis Fukuyama presented a theory of "the end of history". He announced to the world that the Western model of freedom and democracy won a historic victory and since that time the ideological differences in a society have disappeared forever. According to him, the world entered into a unique era marked by the triumph of capitalist democracy and freedom. Nevertheless, recently the same Fukuyama has taken a diametrically opposite point of view, opposing American conservatism. He destructively criticized the practice of armed imposition of USA of "free and democratic model" in Iraq, arguing that each country should move on its own path of development in accordance with certain historic circumstances.

[3] Roger C. Altman. The great crash, 2008: a geopolitical setback for the west // Foreign Affairs. – 2009. – January – February.

Over the past two decades, the power and advantages accumulated by the West for centuries reached its climax. In the atmosphere, caused by the collapse of the Soviet Union and a temporary setback in the socialist countries there was "verbal hegemony" of the Western world. Following the September 11, 2001 loud anti-terrorist operations and provocative "color revolutions" were held. However, now the armed parade on behalf of "freedom and democracy" has come under question. By the end of 2008, the large-scale financial crisis embraced the world and especially the Western economic system. As the Western scientist pointed out, "the current crisis is potentially comparable with the period of "the Great Depression" in the years 1873 – 1896 and the World economic crisis in 1929. This crisis is "general", reflected in Western systems, ideologies and models, even though it may not last as long as 20 years as it did in the previous two depressions in the late 19th century and 30-ies of the 20 century. Crisis is also a sign of "the failure in the Western theories, failure of regulation and market failure"[4].

Recently, Russian leaders President D.A. Medvedev and Prime Minister V.V. Putin, having in mind primarily the USA, noted that only selfishness and irresponsibility of some Western powers, led the world to the current global economic crisis. They assumed that these countries are unlikely to remain leaders in the global economy, therefore the existing international political and economic order should be reformed.

On the background of drastic changes that took place in the world economy, politics and military in 2008 the theme of Chinese and Russian models of development has become particularly acute. Feeling issue in special Chinese ways and the Russian revival, some leading Western media tend to call them related to the models of authoritarianism or even dictatorship. Some think tanks launched a series of reports in which there is serious discussion about whether it is worth to convert or assimilate China and Russia, or use a deterrent, and suppression, to separate or even destroy them. As a result of the global financial crisis in early 2008, China and Russia were in the thick of international events. The whole world is watching whether these two countries do come from the crisis and thus make a successful turn in their own development.

The world is diverse, a path is multifarious

Despite harsh statements in the world media in 2008, we are glad to see some encouraging predictions for the fate of the world. This does not mean hotly debated topic, which the Western media covers, whether the new president will save the American economy from disaster. We pay attention to the research report, prepared in a U.S. think tank. In September 2008 the National Intelligence Council of the United States issued a report under the name "Global Trends of 2025: transformed world". As it is stated in this document, the appearance of the multipolar world is expected soon. The world political situation will undergo substantial transformation. The influence of certain Western powers will diminish, while many of the developing countries will gain international or regional recognition. In this case, one of the brightest moments in the proposed the noosphere will be changes of Russia and China's development.

Since the 1980's, China has achieved great successes in building socialism and implementing reforms. Russia, being plunged into crisis and confusion at the end of the last millennium, is also gradually returning to the path of stability and development. It is not only great pleasure for long-suffering, but never losing heart two great nations, but also great contribution to the development of human society. Unlike some countries – admirers of western democracy – China and Russia are seeking ways of political development, adapted to their own national circumstances.

[4] Shenming Li. Analysis of today for the current economic crisis // Socia Sciences Academic Press. – Beijing, 2009. – Pp. 42-43.

China and Russia: from interaction to co-development

We must assume that such forecasts of world development will attract attention of many scholars, especially philosophers and political scientists. There are strong reasons to expect the emergence of more research in the fields of political philosophy, geopolitics, international relations, military security. Therefore, Chinese and Russian social scientists should make joint efforts to develop academic exchanges, deepen mutual understanding, and expand its influence in the political and economical processes in the world.

1. Intensification of scientific exchanges in the social and human sciences between China and Russia for expansion of the spiritual foundation of bilateral relations.

The system of academic exchanges can play an indispensable role in the development of China-Russian relations. Being revived after the time of failure and bounce the theoretical value is the fruit of wisdom and laborious survey of two peoples. In order to summarize and learn lessons from the recent past, Chinese and Russian social scientists should enhance mutual trust and implement extensive exchanges in the region's fields of linguistics, culture, history and issues of democracy, development, legal system and administration. Such exchanges are relatively easy, because we have many common interests. China and Russia will dispel unnecessary doubts about each other and become closer strategic partners. Establishment and strengthening of such relations will not only be beneficial for the development and prosperity of two nations, but also help maintain peace, development and prosperity worldwide.

2. Maintaining an active intellectual and political dialogue in response to a common external challenges.

In recent times, such characteristic phenomena of the modern hegemony as intimidation and interference in the internal affairs of other countries were a major obstacle to the democratization of international relations. Arguments in favor of "a clash of civilizations", "neointerventionism", "pre-superiority of human rights over sovereignty" and "theory of limited state sovereignty", "new democratic colonialism" not only harm the process of democratization, but also pose a serious threat to the world development. Ardor of some Western strategists to create "democratic unions" or impose "western model of democracy" on countries puts the world on the brink of a new Cold War. Some western countries have found it possible to appeal on behalf of democracy to the armed forces, ignore the decisions of the United Nations Organization, abuse international law and intervene in the internal affairs of other states.

China and Russia respect the diversity of world cultures and social systems, and try to build an international political and economic order based on the ideas of equality, justice and rationality. Today the fate of the world should be in the hands of all the nations of the globe. Democratization of international relations is a necessary path for the harmonious development of the international community. Therefore, in addition to contacts at the official level, China and Russia must create conditions for joint theoretical work. Some results can be obtained only by the academic community. At this Forum, the Chinese and Russian scientists exchanged ideas, demonstrated theoretical advances and innovations in methodology. I would suggest that similar mechanisms of interaction have been used at full strength to strengthen the influence of the international community. Of course, Chinese and Russian social scientists have a long way to be able to resist Western "word hegemony" that lasted for over three centuries.

3. Chinese and Russian social scientists should have sufficient courage for the formulation of their own ideas about international politics and international economic relations.

On the one hand, China have quiet and skeptical attitude to the recent provocative ideas of the United States on "Chinese savior", "Chinese-USA joint management" and "G2". On the other hand, the global financial crisis

forces Western society to remember the "values of China and China's role" and to be attentive to the voice of Russia. The sources of evil in the modern world are economic imperialism, liberal hegemony, democratic fundamentalism and governing of international financial oligarchs. Against this backdrop, China and Russia are strong healthy force in the international arena for reconstruction of rational and justified international political and economic order. Chinese and Russian scientists should have sufficient courage to assess the status quo and make their own assessment of what is happening, and give each other support to strengthen the role of the international political and economic life.

4. Creating of favorable environment for the Sino-Russian friendship and promoting of practical cooperation between China and Russia.

China and Russia should strengthen cooperation in infrastructure and large projects such as energy, transport and investment. It should also be strengthened by cooperation in capital markets and restructuring of enterprises, procedures for bilateral trade should be adjusted and simplified, judicial coordination should be improved as well as coordination of regional cooperation and promotion of integrated industrial development.

5. Chinese and Russian social scientists should make efforts for training.

The bottleneck for further development of economic and cultural cooperation between China and Russia today are the problems of lack of knowledge of language and lack of professional staff. Training and selection of required personnel are included in the agenda of the Russian government. In the future, China and Russia could sign an intergovernmental or interagency agreement for the joint training. Relevant Chinese and Russian experts will have to organize regular training and practice for young and promising personnel in the field of geography, law, language, culture, management, communication and information. Responsible similar task of Chinese and Russian scientific community is to enrich cultural exchange and prepare a new generation of specialists.

The great Confucius more than two thousand years ago said: "Virtue is not left to stand alone. He who practices it will have neighbors". We sincerely hope and belief that fair demand and voices of Chinese and Russian scientists will find greater understanding and meet a positive response in the world.

Dear colleagues and friends! In Chinese culture 60 years is a complete zodiac cycle. On the anniversary of the establishment of Sino-Russian diplomatic relations let us wish the everlasting friendship between China and Russia. "If you wonder why the water in the reservoir is so transparent, it is because it is continually and vividly comes from a source" as the great Song Dynasty philosopher Zhu Xi (1130 – 1200) figuratively reflected.

We believe that the Chinese and Russian scientists will be able to clear the way for strategic cooperation between China and Russia. Let us put together our minds and efforts to cultivate the tree of friendship! The big tree will put down deep roots. The deeper are the roots, the thicker are leaves.

Let the tree of Sino-Russian Friendship become evergreen and flowering!

UDC 316.346.3(470)
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Child population in Russia: main problems of development

The article presents a comprehensive analysis of the problems of childhood in modern Russia, the relevance of which determine the severity of the socio-economic transformations of a society in which this part of the population is most vulnerable. At the same time investments in children's development – an investment in future human capital of the country. The results of this study allowed the author to highlight three laps problems associated with "the field of childhood". First round – problems related to the scope, size and structure of children. The second set of problems related to analysis of conditions and institutions of formation of childhood. The third set of problems of the younger generation in Russia – is an unprecedented deterioration in health. Thus, the main objective of social policy is to improve the quality potential of children in the context of reducing their numbers. In the first place in this context is the task of improving health, from birth, followed by education and socialization throughout their internal relationship as a foundation for the development of system programs of public policy with regard to childhood.

Children's demographic crisis, the conditions and institutions of formation of childhood, reducing the number of children, the deterioration of child health.

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Research studies of childhood are of particular importance today which is determined by two reasons. First, in 2010 (if children is the population under 18 years old) the first cohort of "crisis" children enter their adulthood, these children were born in the period of demographic crisis, the beginning of which (1992) randomly coincided with starting point of socio-economic reforms which in their essence, had a revolutionary character. The changes having come into the country, together with the transformations had a dramatic impact on all aspects of the life of Russian society – political, economic, social, national, ethnic, and cultural. They in some way touched every citizen and still have an impact on all struc-

tures of society. There can be no doubt that this influence having not only positive but also significant negative character was manifested in the field of demographic processes, defining all aspects of human reproduction.

Secondly, the socio-economic structure of the population changed fundamentally, having formed two acute problems. One of them was that there was a significant layer of the poor and the poorest, while poverty as a special phenomenon was generally absent in the earlier period of the society's life. Another problem, closely related to the first is deep social differences that led to actual formation of "two Russias": a small-scale one (3-5% of the population) that captured the bulk of the country's wealth at their disposal, and the most significant (35-40%) suffering in poverty. The acuteness of the situation lies in the fact that these major socio-economic problems after twenty years of reforms are not reduced in their strain, but tend to increase. Of course, children proved to be under the double negative impact to a greater extent than any other population groups; they will transfer characteristics of their condition to future generations with the lag in the demographic processes.

Reformations of socio-economic nature significantly affected the quantitative parameters of population dynamics increasing the mortality curve increase with decreasing birth rate. In 1992, there was their intersection, which can be conventionally regarded as the "beginning" of the demographic crisis that led to the emergence of areas of natural loss, which still persists to this day despite the weakening of the process. During the period from 1992 to 2010 natural loss amounted to about 13 million people, part of which (about a half) was compensated by positive surplus of migration. But the greatest losses were in "the field of childhood", particularly in the bent of quality.

At one time, Petrie Sorokin[1] pointed out that major reforms (revolutions) act as an instrument of "topsy-turvy" humanity selection, killing "the best" elements of the society by their hereditary and contributing to the survival of "the worst". As a result of these processes, "people who are biologically more healthy, energetically more able-bodied, mentally – the most strong-willed, talented and intellectually developed, morally – the most steady, having strong moral reflections" are mostly killed. This cannot but effect on that the gene pool of the country changes for the worst and the positive properties of the people are reducing, it contributes to degradation and degeneration. Decrement of health and viability of the surviving elements of the population operate in the same direction.

In addition to direct effects, causing a negative state of the gene pool of the country, there is an indirect one, resulting from political exile mainly not only of better educated, living in mental work and an "outstanding" part of society. Under the influence of direct and indirect effects the reforms become an instrument of "negative selection" of population reproduction in the "topsy-turvy" format "Biologically inherited fund" weakens and loses its quality in all respects, as one cannot expect first-class descendants from the deteriorated producers. Researchers have shown that the average age of the leaders of revolutionary and reformation periods rarely exceeds 40 years, and the principal payments on the bills of these events come later. Russian authorities of the first half of the 90-ies should have understood this when they widely used slogan: "Soon all will change for the better, but now we need to tighten our belts". In life, there is no way to get something today, without any payment for this later. Payback will certainly come. This refers to the young generation born at the time in general. "They pay their own health and their degradation for the sins of their fathers", for the "achievements of the revolution", for all its crimes and deeds"[2].

This is particularly clear, and clearly defines the need for in-depth analysis and assessment of state of the children who came into this world with the socio-economic crisis which Russia is

[1] Sorokin P. Revolution sociology. – M., 2005. – P. 183.

[2] Sorokin P. Ibid. – P. 200.

experiencing today. "The field of childhood" itself, having a steady trend towards reduction, is multifariously, dimensionally, and constantly being transformed in different directions, which are not only positive but also negative. Of course, it is impossible to cover all aspects of life of the younger generation in one research study, but we managed to still stay on those that are the most relevant and socially critical, largely determining the promising movement of childhood.

The first set of problems concerns the scale, size and structure of children. The main conclusion is that "the field of childhood" shrinks as "shagreen skin". Over the past 15 years (1995 – 2009) the number of children aged 0 – 17 years old has decreased by almost 12 million, or by about a third.

However, according to demographic projections of Rosstat in the next ten years, their number will grow significantly and it is not only a result of fertility decline, but also of high mortality rate. Having divided children into five socio-biological groups: infants aged under 1 year, early childhood aged before 3 years, preschool children aged 3 to 7 years, first stage pupils aged from 7 to 14, second stage students aged from 14 to 17, we see that the first group is 6%, the second is 13%, the third is 22%, the fourth is 40% and the fifth is 19%. The need to develop an appropriate service infrastructure depends strongly on this structure. Current projections of the Russian population indicate that in the period up to 2030 the number of children varies, but not significantly.

In modern conditions of deep post-Soviet socio-economic reforms realization, not only the quantitative parameters of "the field of childhood" change which are predominantly related to demographic processes in the country, but, what is more ominously, the quality characteristics of the younger generation are declining. Against this background, social and demographic problems of this most mobile segment of society are clearer.

The most important and the most acute problem of children in the Russian Federation is the low level of health which does not improve over time. Only 27.1% can be considered healthy (i.e., less than one-third) representing the first group, 51.7% have functional abnormalities or risk factors for disease (group II), 16.2% having chronic diseases (groups III, IV, V).

Of particular concern is infants' health, among which 37.3% were born sick or became ill immediately after their birth in 2008. One in twenty (5.3%) was born prematurely.

The number of reported illnesses among children in the first year of life is growing (2982.8 thousand in 2000, 4 120.2 in 2008). Per 100000 children aged 0 – 14 years the disease incidence in 2000 was 146 236, and in 2008 – 182,714, i.e. two diagnoses per a child on the average. The relative disease incidence among older children is also increasing: for the period 2000 – 2008 the ratios have increased by almost half.

One of the most serious problems in Russia is the disability of the child population. In 2008, there were registered more than half a million children with disabilities, among them almost half received the disability status due to mental insanity, behavior and nervous system disorders. Education is available not to all of them. As a result of the low level of health 30% of youths aged 17 are recognized as unfit for military service every year.

The problem of alcoholism and non-medical drug use among children and the younger generation is not less acute: more than half of children aged 11 – 18 regularly consume alcoholic beverages and beer.

Another problem is the inequality of children in receiving educational services which significantly increased over the past two decades and is the result of increase in income differentiation and the degradation of a significant segment of knowledge acquisition.

The problem of inaccessibility of preschool education has exacerbated. The coverage of preschool for the period from 2000 to 2008 has increased from 55 to 59%, but the waiting list for placement children in preschool institutions increased 7 times. These institutions play a role not only of a training tool for school, but also determine the possible participation of mothers in full and gainful employment.

The sign of recent decades is a significant number of children (7 – 18 years), not enrolled in school. The reasons are illnesses, as well as a substantial proportion of adolescents isolated from society. There is an essential part of the adolescents who are orphaned or left without parental care, limited in their rights or even deprived of them.

Of special significance is the problem of violence against children. In 2008, 126.5 thousand of minors were subjected to these impacts.

More and more intensive decrease in the number of children and their proportion in the population, which actually determines not only the intensifying of technological processes of society modernization, but even more substantially – the development of innovative technologies, greatly exacerbates the reduction in "the field of childhood". That is the younger generation and youth, who first of all have a creative potential and higher creative activity in the sphere of economy. The efficiency and quality of labor resources depend on its real extent in human capital.

A new component to increase fertility will occupy its significant place in demographic process – it is assisted reproductive technologies (ART), based on in vitro fertilization, as observed in many developed countries. It is no coincidence that the opening of these technologies, and its author was awarded with Nobel Prize in 2010. Essentially ART is nothing but the use of new bio-innovations in demographic processes of society, defining fundamentally different aspects of demography as a science.

The condition of children, their socio-biological characteristics are the basis for building human capacity and human capital in modern society. The environment of the younger generation such as the family, the mechanisms of socialization, the availability and quality of education, social values affect the formation of the labor force in the country.

The generation of "children of reforms" is influenced by a strong social stratification according to the criteria of welfare, education and culture. As a result, one and the larger part of the children appeared in a great poverty, and another one is "experiencing" their families' prosperity. This prevents the spread among the youth the processes of tolerance with all the ensuing consequences.

Statistics show that according to the parameter of education the generation of "children of reforms" differs significantly from other age cohorts. In no generation (except for the oldest cohort, 65 – 72 years old) there was such a high proportion of poorly educated and often illiterate workers, as among today's young people aged 20 – 34. Childhood is an unmet stage in the formation of human capital.

On the one hand, the increased demand of a young generation of "children of reforms", titled "Revolution of claims" due to the impact of consumer society, served as a powerful incentive to achieve success in life, on the other hand – the lack of legitimate opportunities for the realization of the increased demand has led to an increase in drug abuse and crime among a certain part of this generation.

Of particular importance in connection with the negative shift in gene pool of the Russian population and a large emigration (brain drain) is the study and understanding of the socio-demographic processes associated with the existence of gifted children in Russia. Featuring the latest scientific developments, experimental sites and experiences in creating models and socio-pedagogical techniques to identify and support gifted children in our country unfortunately there has not been established social order and national idea of development and conservation (demand for) talents. Russian teams are giving up their positions in the international comparison of intelligence, international competitions, which is a sign of backwardness of Russia on gifted children. School-leavers entering the departments of Computational Mathematics and Cybernetics are lower and lower in their level of preparedness. Despite the fact that the "cream" comes there, this "cream" is becoming more liquid.

A child as an individual person, endowed with rights, entered the Russian legal framework not so long ago. In most cases, the rights of children are violated by their parents – 38.3% and other relatives – 9.4%. There were a significant number of cases of violations of the child's legitimate interests by representatives of agencies and organizations of the executive power – 39.3%. The weakening of educational functions in a certain part of Russian families is due, among other things, to their poverty, which leads not only to material deprivation, but is often accompanied by moral degradation of parents – alcoholism, drug addiction, immoral life, the rejection of the maintenance and upbringing of children.

The second set of problems related to the analysis of conditions and institutions of childhood formation. Among them special attention, of course refers to the family, including its incomplete forms, to preschool and school education, assessing the role of CT and substantial potential of entrants, receiving vocational training, as well as socio-psychological problems of adolescents.

Significant changes in matrimonial behavior such as reducing marriage and increasing divorce rates, replacement of marriage by free partnerships, transfer of children birth to a later date, and abandoning them at all increase the proportion of single-parent, predominantly maternal households, which significantly weakens the process of socialization of the younger generation and leads to unstable family structures. Alternative forms of marriage are proliferating: "open" families in which each partner has relations on the side, "swinger" families engaged in temporary exchanges of partners, "group" families where all children are considered common, as well as polygyny and polyandry. The younger the respondent, the more he or she agrees with the assertion that marriage is outdated, but a union without formal registration is standard of living. However, the traditional monogamous family retains its position in the mass consciousness, but under the influence of the changed conditions of life it is transforming. From half to two thirds of family men and women have negative attitudes to non-traditional forms of marriage.

According to the 2002 census there are 39% of families without children, 61% having children, half of which (31%) have one child, 24% – two children, 6% – three and more children. The form of marriage significantly affects the number of children in the family. Among the common-law marriages nearly two-thirds have no children.

In accordance with the law the preschool education is not compulsory, but its reception is guaranteed by the state. The decision of the Government of the Russian Federation from September 12, 2008 states that preschool educational institution provides education, training and development, as well as the supervision, care and rehabilitation of children aged from 2 months to 7 years, and the state guarantees its being accessible and free. Unfortunately, these obligations are not met. Meanwhile, the development of high-quality preschool institutions available to most families has a positive impact on demographic processes, increasing fertility, contributing to the effective employment of women and is an important factor in increasing productivity. Status and importance of preschool education and training in modern conditions change radically. And this is a global trend.

It is necessary to recreate the pre-school education system that existed in the pre-reform times. We are not talking about the restoration of institutions of the Soviet period, but about the formation of a system of a new type.

Education system is a unique social institution designed to develop and increase social capital in society. Social future is designed and reproduced through this system. Success of education's fulfillment of its functions depends on the ideological foundations of its organization. In this case the two ways are possible: either the total construction is outlined today by political ideology of the society, when formal knowledge begins to dominate over their meaning, not allowing not only know but also

understand them, or the future is constructed by social practice of amateur and free people, and education advocates as a developmental factor that reduces the risks of failure and inefficient decisions. A striking argument of the first direction of the education system formation is the introduction of CT as a tool for knowledge evaluation. The main motive of its introduction was to get a powerful lever for the financial impact on universities, implemented through the establishment of SPFO (state registered financial obligations), i.e. introduction of market mechanisms in education. CT proved to be an ideal preparation for life in the "consumer society", the ideology of which is not formed in schools and universities but by the media. It is an element of mass manipulation by people who simply have a lapse of brains. Moreover, the cessation of funding education of "mediocre students" can only mean one thing – reducing the availability of higher education. The introduction of CT has not overcame bribery when admitting to universities, but even has provided the mechanism of "social boomerang", resulting in that one corrupt system has been replaced by another, from the university corruption moved to the school.

Demographic dynamics (today it is "demographic hole") has a significant impact on the scope, structure and quality of education at all levels, bearing in mind general and professional. The emergence of teachers "surplus" (according to the Minister A. Fursenko), as a consequence of the old rules of the number of pupils per teacher, which has arisen from a decrease in the number of students, is happy circumstance, as it helps to improve the quality of education, bringing our standards to European ones at least for this indicator. We must rejoice at this, and not think about how to use the "extra" 200 thousand teachers.

In fact, the same can be noted with respect to the desire of the officials to limit the number of universities, because the number of school-leavers and the potential number of places at institutes of higher education, we can say, has equalized. So, this process has a great reason to raise the quality of education because it opens new possibilities for its expansion. Of course, in this case, it needs a special organization. And it is not at all enough for Russia mechanically to join in the Bologna Process. In addition, experience shows that additional education (one, two, three) and diplomas evidencing this have never been able to degrade the quality of professional employee, regardless of his or her job. But if the state strives to save its resources on education, then it should not expect quality. Every school-leaver must imagine a system of professional knowledge acquisition, including bachelor, specialty, master and postgraduate study, and also see the opportunities to obtain diplomas of foreign universities.

It should be borne in mind that in Europe, as well as in Russia there is a process of humanization of education when young people do not want to "stretch their brains" in the field of exact sciences. But China and India demonstrate other patterns of young people's behavior, whose share is high in programs for technical and engineering sciences. In Russia "to reverse" the students to the exact and natural sciences it is necessary to create a demand of the state and society.

Value orientations are not the last in the behavior and attitude of adolescents and youth. Typological values and value orientations are divided into three types:

- gender-neutral, i.e. not depending on cultural sex;
- gender-oriented, depending on cultural sex;
- latent gender neutral – when the typological values (indices) are neutral, but values that make up the index are gender-oriented.

For boys and girls the most important typological values are Independence and Benevolence, and the least is Traditionalism. Value associated with the achievements at the expense of others people's success (power – control over others, dominance, domination, leadership, public image), and also due to modesty and moderation, finished last. In the first place there are values to be achieved through own efforts.

Socialization of children and youth in the post-Soviet period is characterized by variability caused by differences in traditions, style and way of life of individual families, which differs it significantly from the high degree of uniformity in the Soviet era. By the turn of the new century there had not yet occurred profound changes in public opinion, determining the formation of the new modernized system of values and the corresponding to it samples of civil behavior, as well as the mass of social practices. During the period of social transformation the divergence in children's and parents' views about life increases sharply. Moreover, the gap between generations of children and parents increases significantly. On this basis, the crisis tendencies in the functioning of key institutions of socialization – family and school – are manifested.

Attention is drawn to the progressive reduction of grandparents' role in family education, which had been the main "translators" of cultural norms and values for decades of the Soviet era. As despite the fact that in post-Soviet period there was a renaissance of the ideology of the family with the husband-breadwinner and the wife out of work, most young mothers are working and willing to work outside the home. This explains the increase in babysitting services, which replace the lacking children's institutions. Commercialization of concerns for children's socialization pulls the whole train of new challenges for both parents and child.

Overloaded parents are unable to devote sufficient attention to the children responsibility, self-control, curiosity, emotional responsiveness and attention to others, and this, in turn, significantly increases the likelihood of deviant behavior in children and adolescent environment. Drastic stratification of Russian society, increasing risks of poverty for a large number of families are also acting in the same direction.

Liberalization in attitudes towards teenage sexual activity has led to a decrease in age of beginning of sexual life. Following this is activation of alcohol, tobacco and drugs consumption. The significance of parents' education level as a factor of adolescents' socialization is declining, but the role of religiosity is growing. The main danger lies in the fact that most teenagers do not find any solutions to their problems. A special place in this process belongs to single-parent families, most of which were maternal nuclear organizations. The problems of marital behavior of young people leads to a gradual increase in single-parent families and increasing fertility out of wedlock, which entails a high risk of poverty. And this actually does not depend on employment or unemployment of mothers. Economic stability of single-parent families is substantially lower than of two-parent ones. And the point here is not only that the ratio of the number of employees and dependents is unfavorable. Of particular importance is also the health of the worker, which is a factor of occupational mobility, and the presence of disability of working age people is an insurmountable obstacle to his or her employment. An additional poverty risk factor for single-parent families is unemployment; it significantly increases the state of poverty.

The third set of problems of children and the younger generation in Russia is unprecedented health deterioration. Here it is necessary to consider two important circumstances.

Deterioration of children's health is due to the sustained trend in downward women's health, increasing pregnancy and childbirth pathology. There is a "pathological cargo accumulation in generations". Here appears a vicious cycle: ill woman – ill fetus – ill child – ill teenager – ill parents. Medical advances partly contribute to this process ensuring the survival of premature, underweight children, children with severe perinatal pathologies.

The second factor is reduced to the fact that throughout the life cycle the child's health is deteriorating on all types of diseases. For the period 1990 – 2008 there was an increase in incidence. The indicators of physical development are deteriorating: normal weight is reduced, the number of undersized children is increasing, functional abilities are lowering. The proportion of children with chronic diseases is increasing. The actual number

of disabled children in Russia is higher than the official, it makes up 1 – 1.5 million. The main causes are diseases of the nervous system (32%), psychiatric disorders (24%), congenital anomalies (19%).

Child health deterioration in the process of life is determined by many cross-cutting factors that can be divided into environmental factors (social and physical) and behavioral. Their relative role is constantly changing. All they come under various influences and their overcoming requires urgent intervention of the state and society.

High morbidity and mortality of children and adolescents forced to implement a special longitudinal study of the dynamics of health and health-factor dependence in real time, having chosen four cohorts in the Vologda oblast. The study showed:

- for the period from 1998 to 2007 the overall incidence increased by 43%;
- for the period from 1995 to 2004 the proportion of completely healthy newborns (group 1) has decreased significantly, and the proportion of infants with a history of identified functional abnormalities has increased (29% to 34%);
- gender analysis shows that girls' health is better than boys' health;
- according to doctors' estimation the health of urban children is worse than in the regions; the share of children with chronic diseases in urban areas is 2 – 4 times higher; a similar situation is noted in relation to the assessment of physical development;
- the major risk factors, which have a significant impact on children's health include: poor maternal health during pregnancy, mother's and other relatives' smoking, adverse environmental conditions, abnormal living conditions, family's inadequate health activity; risk factors are concentrated primarily in low-income families, which leads to a deterioration of meals, inability to acquire the necessary things for child care or visit paid professionals;
- reducing of children health potential at birth occurs gradually and stepwise, the main critical periods are marked in the first year of life (at birth there are 60-40% of healthy children, by the end of the first year this figure is reduced to 20-15%); and 6 – 7 years, when the proportion of children with chronic diseases is increasing by 5-6%.

Generalization of health factors shows a marking of four major groups: medical and biological (maternal health, low hemoglobin level) conditions, the level and style of families' life (parents' bad habits, working conditions, nature of feeding, nutrition, level of parents' socio-hygienic literacy and medical activity), environment quality (living conditions, ecology in the area of living).

The health of children and adolescents is in the internal relationship with their level of their achievement at school. A certain part of school-age children is not only unable to attend the annual classes because of their ill health, but cannot and is not ready to learn at home. Curriculum complications lead to the fact that only 10% of school graduates can be considered completely healthy. There is a clear trend towards deterioration of mental health of children and adolescents.

On the other hand, it is clear that school performance drops steadily, and one of the main factors of this trend is health deterioration and spread of the following diseases: scoliosis (25%), myopia (12.5%), neuropsychic disorders (25%), gastritis (15.63%). Almost half the students say they have the effect of fatigue.

Widespread of bad habits is also marked, such as drinking, drugs, smoking, which covers ever more significant range of children and adolescents. Experts believe that, given the intensity of the consumption such behavior concerns 1 million teenagers.

Appearance of psychogenic conditioned somatic disorders in childhood and adolescence due to the high frequency and severity of deconditioning impacts leads to a significant reduction in mental health, promotes more rapid formation of psychosomatic diseases in the early age stages and in adulthood. Triggering factors in shaping children's and adolescents' psychological and mental distress are: the poor

family, hygienic and social climate generated by parents' excessive employment (parents' selfishness, their responsibility and authority reducing, wrong approach to education and child-rearing, poor housing, nutrition, poverty); children's overload in schools or, alternatively, lack of opportunities for additional training to meet child's needs and interests; computerization and, especially, "internetization" of schools at the expense of studies and development of the national classical heritage.

Generalized level of mental health of the population reflects the prevalence of its mental illness, alcoholism and drug addiction, mental retardation, and suicide. Mental health of the entire population and especially children is alarming.

Problems of social reform of modern society, the transformation of socio-economic behavior, moral values, quality of life, priorities of psychosocial factors in shaping children's and adolescents' mental health require urgent multidisciplinary measures, timely prevention, treatment and rehabilitation of mental health disorders of the younger generation. Insecurity and the rapidly changing "rules of the game", which lead to difficult life situations, dissatisfaction with life, especially among youth have significant impact on young people's development and behavior.

Today in Russia, youth subcultures are widespread; they cause destructive phenomena of drug use, hooliganism, crime, suicides. Russia ranks first in the world in the number of suicides among children and adolescents. Prevalence of subcultures, the variety of their modifications and various degrees of "contamination" of these movements' participants require society's attention and the use of good practices to assist them.

Synthesis of the main childhood problems allows us to formulate the main directions of social policy, the implementation of which is now urgent from the demographic, economic and political points of view. The target is that in the context of reducing the number of children we should ensure the improvement of their quality potential. In the first place in this context there is the task of improving health, beginning from birth, then follows education and socialization throughout their internal relationship as the foundation of the development of system Program of public policy with regard to childhood.

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UDC 316.342.2(470.12)
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Estimates of the middle class scale in the region *

The objective to form the middle class is an acute problem in the period of social and economic modernization in Russia. Rapid growth of the middle class in the structure of society can speed up the solution of many social problems due to the high responsibility and civic awareness of its representatives. Therefore, research of the middle class scale is a priority in the studying of the social stratification of the population.

In this paper the research of the middle class was based on the empirical estimates of the sociological survey of the population in the Vologda oblast which was conducted in 2010. During the work we gave a concept of "the middle class", we represented a number of approaches which were notable for a set of criteria to estimate the middle class size. We determined an optimum set of criteria and estimated the middle class scale in the region in accordance with them and gave the social characteristics of its representatives.

Stratification of society, the middle class, the criteria, the identity, social characteristics.

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The effective development of Russia depends on its modernization in accordance with the requirements of the time. Bearers of the modernization ideology and the most important motive social and economic powers are representatives of the middle class. Therefore, the question of the middle class is actual in modern Russia.

Class structure of society is represented by dividing into three main classes: upper, middle and lower. They differ in role in the economic life of society. The role of the middle class in society is the most important.

The concept of "the middle class" includes a wide range of criteria, covering not only financial but also political, cultural and social life.

* This work was supported by the grant of the President of the Russian Federation for State support of young Russian scientists (№ МК-3284.2009.6)

But there are no well-defined, conventional criteria of this notion. Hence it appears the debate about the real representatives of the middle class. The concept of "the middle class" has been used for more than 100 years. It has been changed because of the social and economic life. At the moment, in spite of existing disagreements scientists still believe that the basis for determining of an individual in a particular class is its economic status. It is assumed that the modern middle class consists of innovators supporting social and economic dynamics [1].

It is recognized that the middle class is a guarantee for social and political stability and a legislator of the norms of social, economic and cultural behavior. The representatives of the middle class are characterized by independence and critical thinking, promoting the development of civil society and efficient state administration. High occupancy of the middle class provides the structural stability of social order, preventing violent conflicts between the rich and the poor, thereby it alleviates economic and political situation. The middle class, affecting the mental set of the whole society, creates the ideas about the forms of labor and leisure activities [2]. Consequently, the middle class is a fundamental stratum of society, regulating the rules of social foundations to improve the welfare. The absence of the middle class indicates undeveloped society.

The representatives of the middle class according to the population's opinion[1] should have the following characteristics: money to pay for food of high quality, services and goods; such types of property as a comfortable accommodation, a cottage in the country, a car, savings; travelling means including the overseas trips; the high occupational status or social significance of labor; morality that defines a way of life and social circle.

We add that the representatives of the middle class are notable for involvement in active social (clear civic stand) and cultural life (visiting of cultural sites).

Therefore, following a business magazine "The Expert" we should agree that the Russian middle class consists of the people who can adapt to the modern market economy and provide their families with a consumption level and a way of life based on their education and professional skills [3].

According to various estimates the middle class ranges from 3% ("perfect middle class") to 30% or even to 60% ("promising middle class") in Russia [4]. The researchers use the following criteria for attribution of the middle-class: self-identification, financial status (income, property and savings), cultural and professional skills (education level, job status, type of employment, cultural values).

In this article we have attempted to determine the share of the middle class in Vologda oblast and characterize them using different approaches *(tab. 1)*. Each approach implicates applying of the specific criteria. When we use the each approach the technique of calculations is based on the incremental subsample of variables of mentioned criteria. The approaches, presented in the article, are traditional and widespread, or approved at the state level (for example, an approach based on the criteria of the Concept of long-term social and economic development of the Russian Federation). We used the data of a sociological public inquiry in the Vologda oblast, conducted by ISEDT RAS in May 2010 [2], to estimate the middle class.

We considered five approaches to identify the middle class and took into consideration the certain criteria in every case, so it appeared that the number of the middle class in the region varied (from 0 to 51%), that coordinated with

[1] The results of the advanced interviews conducted by ISEDT RAS within a project "Social and cultural portrait of the Vologda oblast" in April and May in 2009. The sample is stratified. 65 people were interviewed in the typical population aggregates in the region.

[2] Sample size is 1500 people. Residents of two cities – Vologda and Cherepovets and eight municipal districts of the Vologda oblast were involved in the survey. Representativeness of the sample is ensured by compliance with the sex and aged structure of the adult population, proportions between urban and rural populations and between residents of settlements of various types (rural settlements, small and medium-sized towns). Sampling error does not exceed 3%.

Table 1. Size and social characteristics of the middle class in the Vologda oblast in accordance with the different approaches*

Approaches to estimate the middle class and their criteria	Share, in %	Social characteristics
I. Criterion of self-identification of people with the middle class	51%	It is represented by women as the population in whole. A typical representative is a person at the age from 30 to 60 who has the specialized secondary education. Workers' rate is high (29%). They live in the big cities in the region. The actual average monthly income is about 10 thousand rubles per person, while every fourth has savings (26%), the array in whole – 21%.
II. Criteria of L.A. Belyaeva technique [5] 1. Self-identification 2. Material prosperity 3. Standard of education (specialized secondary education and above)	30%	There are more women, persons at the age from 25 to 34 living in the biggest cities of the region; they have the specialized secondary education and the higher education (45% each). The number of managers is twice as many here as in the whole array. They go to the cinema and theater, clubs and restaurants, use Internet, have a rest abroad twice frequently. Average monthly income per a member of the family is 14-15 thousand rubles.
III. Criteria of Fund of Economic Analysis Bureau (EAB) [6] 1. Financial and property status 2. Educational and professional status 3. Personal identity with the middle class	3%	Men and women are represented equally; they are at the age from 35 to 44; they are married; they have no children or the only child. One fifth of them live in Vologda or in Cherepovets. The intellectuals (27%) and technical and engineering employees (21%) are three times as many here; businessmen are seven times as many (15%). People go abroad by six times more often than the population in whole. The most people have Internet access (94%) and a foreign car (62%). The percentage of the people with savings is twice as many (40%) as over the array. Average monthly income is 17.3 rubles.
IV. Criteria of the Concept of long-term social and economic development of the Russian Federation [7] 1. Average per capita income is more than 6 living wages (33.4 thousand rubles in the first quarter of 2010.) 2. A car 3. Bank savings 4. Possibility of having a rest abroad regularly	1%	It is represented by men (65%) at the age from 35 to 54. The percentage of the representatives of the middle class living in Cherepovets is two times higher than in the array generally. There are many unmarried people here (29%). The share of work hands is three times less (22%). The share of entrepreneurs is 16 times higher (35%) than in the array in whole. They use the Internet (71%), go to the theater, concerts, exhibitions, restaurants, sports classes and have a rest abroad three times more than other people in the region.
V. Criteria of the Russian Center for Living Standards [8] 1. The higher education 2. Comfortable accommodation of two types (in the city and in the country) 3. A car 4. 50% of the incomes are savings 5. Healthy lifestyle 6. The children are supported with the higher education, treatment and initial capital to pay for accommodation	0%	The percentage of the people in the region who have higher education, own ground area, own accommodation and a car is 7.4%. Other criteria lead to the complete exclusion of people from this class. The main reason to except people from the middle class is insufficient savings. Alternative criteria are the characteristics of healthy lifestyle (regular exercises, balanced feeding and absence of alcohol abuse).

* Here and after calculations are performed by A.N. Gordievskaya, a research engineer of ISEDT RAS.

nation-wide data. Lack of common criteria to determine the middle class leads to difference in the quantitative and qualitative characteristics. Thus, according to the first approach every second resident of the region identifies himself as a representative of the middle class; it is typical for Russia in whole. Generally self-taking on the middle class tends to have high rates, but most likely people, who identify themselves with the middle class, are representatives of the average consumer segments, rather than the integral middle class.

Using the second approach we can also conclude that the social characteristics of the middle class is not too different from the social portrait of the general population and did not fully correspond to Russian and world standards of the middle class.

All sequential approaches took into account the narrow criteria (for example, as for the standard of education they considered only the highest, etc.) as well as a number of additional characteristics (obligatory availability of a car, savings, etc.). It turned out that in these cases the percentage of the middle class in the region did not exceed 3% and sometimes it was absent entirely. Thus, when we set the narrow criteria of the high standards of living it appeared that the middle class was absent in the region or its percentage was low. The main factors of small size of the middle class in the Vologda oblast and in Russia in general are low population's incomes and thereafter low savings level.

The number of the middle class in the region varies from total absence to 30% according to the different criteria but if we take into account the criterion of self-identification of the population it is up to 51%. The last rate is really too high. In addition, the representatives of the middle class have too different characteristics so they couldn't be ignored. Application of different criteria for determining of the middle class size allowed to form our own algorithm to calculate the representatives of this social stratum. We think it is reasonable to use the following criteria:

1. The average monthly income is 2.5 living wages per a person (it is 15 thousand rubles in the first quarter in 2010 for the Vologda oblast). We took into account that the middle class starts where poverty ends to determine the amount of actual income per person per month. The most widespread method to identify poverty is considered to be a way to determine its relative level of the living wage: according to experts, the income of "the poor" should exceed the living wage in 2 – 2.5 times. So, if people's monthly income is above 15 thousand rubles, they can be attributed to representatives of the lower stratum of the middle class.

2. Determination of own incomes.

As opposed to other methods of determining the number of the middle class, we did not take into account the criterion of social self-identity as the most subjective assessment.

3. Standard of education (specialized secondary education and above)

4. Job status. It should be noted that this criterion is not used as restrictive but as a separating sign.

To identify the membership of the middle class we applied the cluster analysis of K-means method with the exception of iterations. The group which met all the criteria was singled out from the population; it was about 10% of the population in the region. We divided that group into three strata to characterize the representatives of that class in details; there were similar parameters of those criteria within the strata which didn't go beyond a certain threshold value that separated one cluster from another. As a result of groups' formation we revealed the cluster centers which reflected the dominant features of the representatives of each cluster. And besides they can be poorly represented or they can occur in different combinations *(tab. 2)*.

Thus, the overall configuration of the middle class is represented as three traditional strata (lower, middle and higher), which differ by income level, standard of education and job status of their representatives:

Table 2. The size of the middle class strata and their cluster centers in Vologda oblast, 2010

Criteria	Strata of the middle class		
	Lower stratum, "toilers", 19.8%	Middle stratum, "intellectuals", 69.3%	Higher stratum, "organizers", 10.9%
1. The average monthly income per a person, thousand rubles	15 – 20	20 – 30	30 – 50
2. Determination of own incomes	They have enough money to pay for necessary food and clothing		It isn't hard to buy durable goods
3. Standard of education	Specialized secondary	Higher	Higher
4. Job status	Worker	Highly skilled specialist	Manager

1. Lower stratum consists of "toilers", it includes 20% of population of the middle class in the region. They are people with the specialized secondary education, their income is 15 – 20 thousand rubles per person, they are workers or they are employed in the service sector.

2. Middle stratum consists of "intellectuals", they are widely represented in the middle class of Vologda oblast, accounting for 69% of its population. They are people with higher education, their income is 20 – 30 thousand rubles per person, that is enough to buy food and clothes, but they have to leave the larger purchases until later. As a rule, they are employees, highly skilled specialists employed in the non-manufacturing sphere (a teacher, a doctor, a scientist, a journalist, etc.). Technical, engineering and office employees are also referred to this group.

3. Higher stratum consists of "organizers", it includes 11% of the middle class. These people have higher education, they usually occupy executive positions and their income is 30 – 50 thousand rubles per person. As a rule, they are entrepreneurs with their own business. They are differed from the other strata of the middle class by age – they are older than 55 years. There are men by 2.5 times more than women here.

A representative of the middle class is a married man at the age from 25 to 34, living in Vologda or Cherepovets, who is employed at a government enterprise in the industrial sphere. There are many entrepreneurs (6%), technical and engineering employees (12%), intellectuals from the non-manufacturing sphere (12%) among them but for now most of all this class is represented by workers (19%).

The representatives of the middle class are differed from the whole array by good financial position. At the same time they think three times as more often that their interests are protected (13%), therefore they seldom participate in protest actions and if their financial position become worse they speaks 1.5 times as more often that they are ready to work more. The representatives of the middle class can give their children higher education almost twice as likely (70%) and they can provide them with initial capital to pay for accommodation by three times more often. They watch TV and listen to the radio rarely than the general population but they use the Internet as information source nearly twice as often. In addition the middle class has active cultural life, its representatives go to the theater, concerts, museums, exhibitions and restaurants two or three times as more often. They contribute more time to political activities than the general population, meanwhile this difference is not significant (3 and 2% respectively). It should be noted that "intellectuals" (2%) and "organizers" (5%) are more active on the social front, rather than "workers" which are completely passive in this sense. With such active life the representatives of the middle class refer to the lack of free time more often while the general population thinks that the main reason of inability to spend a good leisure time is a lack of funds. These people lead a healthy life-style twice as more often. They go to have a rest to other cities and foreign countries more often. One third of the representatives of the middle class have foreign cars (this rate is twice as higher than the same rate of the general population) which make freedom of movement easier. 41% of people from the middle class have savings compared with 21% of the general population.

In this approach the reduction of the material standard allows to extend the limits of the middle class up to 10% of the total population in the region, that leads to variety of the representatives of this stratum. It is notable, that the decrease of the threshold value of income level allowed to refer more people with higher education to the middle class. At the same time the decrease of the threshold value of job status gave opportunity for workers to enter the middle class.

Impact of the global financial crisis suspended the growth of the middle class specific weight in the general population size. The share of the middle class did not change in 2010 compared with 2008 (10%). However, there

was a numerical redistribution in its internal structure: thus, the number of representatives of lower stratum (from 33 to 20%) and higher stratum (from 19 to 11%) decreased in 1.7 times, respectively, the number of representatives of middle stratum ("intellectuals") increased (from 48 to 69%).

In general, the calculations performed by using of different criteria, show that the number of the middle class in the Vologda oblast does not exceed 30% of the total population. If criteria are more inflexible this rate is considerably reduced (to 3% or 1%). Thereafter, we can differ not only numerical strength but also socially characteristics of its representatives. Broad criteria open access to the middle class for the great mass of the population but narrow criteria restrict entering of many potential members of the middle class. Thus, the "ideal" middle class includes highly educated and well earning people but they are insignificant population share in the region. Small proportion of the middle class in society means its instability. This situation is explained by the lag of scientific and technical progress in Russia, because it is believed that it is possible to form the market middle class in the conditions of technological improving of economic processes.

One of the objectives of the Concept of long-term social and economic development of the Russian Federation is to increase the middle class from 30% in 2010 to 52 – 55% of the population by 2020. And besides the main part of the middle class should consist of people engaged in creating of new knowledge economy, technology and ensuring human development [7]. The share of the middle class in the Vologda oblast separated in accordance with the criteria of the Concept was equal to 1%. To increase its number up to half of the population by 2020 means that it is necessary to "grow" a base stratum of society from the embryonic stage in 10 years, that is a hard problem.

According to the Strategy of social and economic development of Vologda oblast for the period to 2020 the share of the middle class should increase even more – up to 65% [9]. In addition the fitting criteria to this middle class are not specified. Various criteria for identifying of the middle class give different information about the number and qualitative characteristic of its representatives. In the absence of the specific boundaries of the middle class it is impossible to retrace the growth of its population.

Most of the population couldn't become the representatives of the middle class because of lack of material resources. However, material welfare as one of the basic criteria of the middle class doesn't always stimulate such qualities as inner freedom, independence, responsibility, creative abilities, standing up for own social and political positions as well as law abidance which are the integral characteristics of the representatives of this basic stratum. Criminalized conditions and cultural decline, which the modern middle class was formed in, caused irreconcilable contradictions in society and because of them negative behavioral patterns were developed. Such inconsistency is one of the main conditions of disunity and at the same time political passivity of the middle class. Alignment of value standards with the national spiritual patterns emphasis will increase the number of people who can become a bulwark of development of the region and the whole country. First of all the representative of the middle class should be an honest law-abiding citizen. Supporting this model of behavior, he would be interested in the effectiveness and transparency of economic, financial, legal and political relations of the State development and, therefore, he would be focused on functioning as the middle class.

In fact, it is early to speak about the formed middle class in Russia, and in particular, in the Vologda oblast. However, there are prerequisites for creating of the mass stratum of intellectually trained people with deserved salary and self-awareness, aimed to the creation, social and economic progress (10%), but they aren't represented widely and their forces aren't consolidated because they have a mixed structure. At the same time, they represent the social force in the region, which is a superstructure of civil society.

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UDC 553.98
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Foreign experience of hydrocarbon resources development at the Arctic continental shelf

The article examines the experience of hydrocarbon resources of the Arctic zone of the world's leading oil and gas powers in order to identify effective socio-economic approaches to the development of hydrocarbon deposits in the public interest and possible future use in modern Russian conditions. A comparative analysis of natural resources development models by different states and conclusions about their effectiveness are given.

The authors discuss aspects of an effective industrial policy in the upstream oil and gas sector in the region, taking into account a wide range of socio-economic problems in various stages of deposits development. The article also addresses the problems of relationships between the state and the oil and gas business, formation of an effective strategy for managing the development of hydrocarbon resources.

Oil and gas industry, industrial policy, the Arctic shelf hydrocarbon resources, socio-economic effects.

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Oil and gas complex is an essential link in the economic structure of Russia, forming a significant part of federal budget's tax revenue. Extraction and processing of hydrocarbons controls the economic potential of some regions of the Russian Federation.

Reproduction of hydrocarbon resource base is currently the main and most important challenge of the Russian oil and gas industry, as in the past 20 years it has been developing mainly at the expense of stocks explored in 60es-70es of the last century. This solution may be mainly due to conduct of exploration for oil and gas in new regions and assessment of the prospects of deep horizons of the sedimentary cover. Waters of the continental shelf have huge potential in this regard; the largest component of marine reserves is related to the Arctic waters.

Involvement of marine oil and gas resources of Russia in the industrial revolution is an alternative direction of development of oil and gas industry. Existing estimates of marine hydrocarbon potential resources are higher than those estimates for the largest oil and gas basins in the world.

Search and efficient development of offshore oil and gas fields is not possible without the use of experience and knowledge of previous generations, as well as the transfer of foreign technology, organizational and economic experience and innovation for the effective development of shelf deposits for the public interest.

In recent years, issues of development and exploitation of hydrocarbons in the high northern latitudes (mainland and continental shelf situated above latitude 60 – 64°) were the focus of the most diverse groups of the world community – politicians, national and regional levels, representatives of social movements and environmental organizations, as well as directly oil and gas business.

Significant resource potential of the northern territories gives rise to a lot of discussions on issues of search and exploration, and the subsequent development of hydrocarbons located in the high northern latitudes, maintained almost simultaneously in several countries of the world. Even at relatively low volumes of exploration, which are held the world in the northern areas there have been already identified unique fields, such as the Shtokmanovskoye, natural gas reserves in the Ob and Taz gulfs (Russia), Hybernia (Canada), Snovit and Ormen Lange (Norway). In addition, oil and gas potential of other, less studied areas of the Arctic shelf have been confirmed.

Among the main causes of attention to the Arctic hydrocarbons there are the following:

- the trends towards exhaustion of oil and natural gas in the main traditional areas of the leading oil and gas world companies;
- technical and technological innovations that made possible the development of hydrocarbon resources in extreme climatic conditions with an acceptable cost-effectiveness;
- strengthening the role of factors and conditions that underlie the political and energy security and stability of the leading industrialized countries (primarily in the US).

The latter circumstance appears as one of the dominant reasons of general interest to the northern territories. North Seas and the territories having a large hydrocarbon potential, are within the jurisdiction of such countries as Canada, Norway, USA, UK, Denmark, Russia and therefore represent as regions with very high political stability, from which we can implement sustainable supply of hydrocarbons to the world's major market outlets.

High competitive positions of Russia in a globalized economy are largely determined by the availability of strategic stocks of natural minerals of the North, which will ensure economic stability, both now and in the future. According to experts, there are more attractive to long-term investment sites in northern Russia than in any other state.

One of the most important distinguishing features of the development of hydrocarbon resources in the Far North of foreign countries is the dominance of state involvement at all stages of formulation and adoption of major decisions. It is necessary to take into account the interests of provinces, some municipalities,

as well as indigenous nationalities and ethnic groups living in areas of oil and gas resources development. This conclusion comes from the study and analysis of the experience of natural resources exploitation in various northern regions of the world, unconditional leadership among which belongs to Norway.

For instance, 40 years ago Norway began the development of offshore hydrocarbon deposits with attraction of foreign companies and the conversion of whaling ships in rigs. Over four decades, a powerful industrial base created in the country was able to provide oil and gas sector with the most modern equipment to build the world's largest offshore drilling rig, to master the production of gas with the use of underwater mining complexes, to build the world's northernmost gas liquefaction plant, as well as pave the underwater pipes at depths of the sea more than a thousand meters.

Exploratory drilling of oil on the Norwegian continental shelf began in 1966 after there was done demarcation and the relevant agreements on the division of bottom areas of the North Sea to Denmark and the UK were signed. The first large deposit "Ekofisk" was discovered in 1969 by American company "Philips". In just four decades on the shelf of Norway there have been drilled 2992 production wells, more than 60 fields were opened [1].

To achieve the main goal – to improve the social value of national hydrocarbon resources – Norway, which has no experience of exploration and development of oil and gas fields and the necessary financial resources, had to face a huge challenge: on the one hand, to develop effective public policies for the integrated management of oil and gas resources and, on the other – to attract private capital which is able to realize the entire process of their development on a high technical, technological and social level [8].

Norway began to produce more oil than was required for its own needs in 1975 already. This circumstance determined the specificity of the Norwegian approach to the development of oil resources. Moreover, this specificity was also reflected in the further development of fields in the north of the Norwegian and Barents Seas.

The basic principle underlying the use of oil and gas resources in Norway is that hydrocarbons are irreplaceable national resource. Therefore, according to the Norwegian government, the exploitation of hydrocarbon resources must be conducted in such a way as to maximize the value of these resources and ensure the highest share of revenues from oil and gas for the country as a whole, also taking into account the needs of future generations. Among the main objectives of public policy in the field of oil and gas resources in Norway may be noted the following [9]:

a) establishment of the maximum possible economic efficiency of exploration, development and production of hydrocarbons, as well as ensuring a stable level of welfare and employment;

b) creation of conditions for the internationalization of the Norwegian oil and gas industry in order to ensure the development of this sector of the economy in the period of depletion of major stocks;

c) a combination of the role of one of the leading energy producers with the role of one of the leading countries in achieving the performance indicators that meet environmental requirements, including reduction of greenhouse gas emissions.

In the current global financial crisis the thoughtful strategic and tactical actions of the Government of Norway based on the instruments of financial support to companies engaged in the real economy and provision of interest-free loans arouse respect. The country's oil and gas companies pay the state 80-percent tax while progressing even in a crisis.

Norway has become main supplier of oil and gas to Europe together with Russia and Algeria, taking 10th place in the world by everyday oil production. Providing domestic demand for energy from hydro and wind power, Norway exports 95% of hydrocarbons, providing 68% of the volume of foreign trade, gaining significant funds from this (over 500 billion kroner a year),

which are to improve the welfare of the population, industrial development and replenishment of the pension fund ensuring stable development of the state for many years.

Borrowing from the experience of American companies, Norwegian companies have become leaders in the global market of underwater and drilling equipment, floating oil production systems, storage, shipment and service maintenance. Norway has established a unique model of cooperation between partners of oil and gas industry, united in the organization "INTSOK", and research institutions.

Norway's success in ensuring a high level of hydrocarbon resources in the public interest is largely determined by government policy which encourages partnerships between foreign and Norwegian companies. Thus, the Norwegian Government has made mandatory research programs for foreign companies, which allowed oil and gas technologies, developed and implemented in Norway to be among the best. Since 1970, the state recognized the importance of promoting competition in the oil and gas industry and at the same time the need to stimulate the development of domestic oil and gas industry. Thus, the preferential use of local goods and services in oil and gas projects have been explicitly defined by law: in the period 1972 – 1974, Norway's share of shipments reached 90%.

Establishment of the Norwegian state company "Statoil" in 1972, and the participation in the offshore development of two private Norwegian companies "Norsk Hydro" and "Saga Petroleum" was aimed at the formation of the key role of Norwegian companies in the petroleum sector.

International and foreign companies have been given the important role of technology support in collaborative alliances with Norwegian companies, as well as the role of "catalyst" in the transformation of Norwegian companies in full-scale operators of shelf development.

Joint ventures in the service sector were also created on the basis of principles, which resulted in the Norwegian engineering companies to gain access to advanced technologies. The Norwegian experience shows that the procedure for access of foreign companies to develop oil fields can be effectively used as a tool for solving a wide range of technological, economic and social problems. For example, the realized public value of development of "Ekofisk" field (the largest deposit in the North Sea shelf) as at the end of 2004 was as follows: in the total value of extracted resources the cost of goods and services (procured for the project) amounted to 36%, about 50% were usual taxes and rent charges, approximately 4% was salary of employed in the project and the owners of subsoil using companies got about 10%.

The main objective of Norway was to strengthen its position by expanding domestic presence – involvement in the project and improving management of oil and gas industry in general.

The Norwegian Government is constantly adjusting economic policies in oil and gas industry to ensure long-term socio-economic benefits from the development of resources for the country as a whole. One such example is the adoption of the new Oil Act of 1996, which aims to increase efficiency and reduce costs in the oil and gas industry. The adopted act is an upgrade of the existing regulatory documents in oil and gas industry and involves greater management flexibility in different directions, for example, managing assignments of oil and gas shelf parts.

Hydrocarbon resources of the Norwegian continental shelf are the most important sources of well-being of the country's economy. Oil and gas sector offers great opportunities for the development of regional industry, creating jobs and raise living standards, because it is the driving force for progress of innovations, development of new technologies and business processes in other sectors of Norwegian industry. Very close relationships between the oil and gas industry and the industry of information technology, shipping, finance, insurance and other sectors of the Norwegian economy are formed. Indirect economic effects of oil and gas industry, causing employment and produc-

tion in other sectors of Norwegian industry are significant. Currently, the oil sector indirectly provides employment to approximately 220,000 people throughout Norway [3].

One of the most important factors in the development of new deposits is ensuring the sustainable development of the mining region, in which the field is developed. For example, one of the world leaders in the development of offshore fields, Norwegian company "Statoil", since its inception has been actively involving local businesses in the implementation of large-scale projects to develop oil and gas fields off the coast of Norway. This has contributed significantly to accelerate socio-economic development, within which "Statoil" company acted [6].

The Norwegian Government intends to promote further development of oil and gas sector at the expense of maintaining a high level of business activity within it, paying more attention to the development of new technologies, as well as by encouraging the process of internationalization of the sector. The Norwegian government believes oil and gas industry is a very effective sphere of economic activity with significant potential for development in the long term throughout the Norwegian continental shelf (NCS), including the high latitudes.

Expected residual oil reserves in NCS exceed 10.6 billion m^3 of oil equivalent [3]. Over the past 30 years only 3.3 billion m^3 of oil equivalent were produced, representing about a quarter of all resources. The remaining resources of NCS become increasingly difficult to extract from the technological and commercial point of view.

It is obvious that the future of oil and gas industry in Norway is largely dependent on its ability to compete globally. The internationalization of the oil and gas industry opens up opportunities for development in other countries. Examples of areas where Norwegian companies are at the cutting edge are underwater technology, seismic and reservoir studies. In addition to direct effects on the Norwegian economy, such as export earnings and employment, internationalization is important from the standpoint of long-term competitiveness and ensuring companies' dynamics. International competition is important for learning, innovation and development and is a prerequisite for permanent increase of oil and gas industry.

Norway seeks to implement these general provisions by means of specific examples – first of all in the northern part of the North Sea and the Barents Sea. Pioneering high-latitude projects are development and production of "Snohvit" and "Ormen Lange" deposits.

In these projects, a single approach implemented – in terms of consideration of a coherent chain of added value creation – from the reservoir to the terminal. A distinctive feature of the projects is the lack of surface platforms and other surface marine structures – all operations are controlled remotely from the land – from the remote management of the plant for natural gas liquefying. In this many new technical solutions are used for the first time, such as for example the laying of submarine fiber optic cables. In "Snohvit" deposit the carbon dioxide is released in the terminal for gas receiving on land and transported back to the deposit on special pipeline for injection.

To implement the project "Snohvit" the local business community has formed a special Association of suppliers of oil and gas industry "Petro Arctic" (previously it was called "Snohvit"). Currently, the Association of "Petro Arctic" includes more than 400 vendors, covering a wide range of goods and services. The Association offers its services not only in design and construction stages, but also during subsequent operations. A similar network of suppliers has been formed for the project "Ormen Lange".

Within the "Snohvit" project it is also implemented the use natural gas fields not only as an energy source but also as a source of running out cooling water from the gas liquefaction plant in the amount of 36,000 m^3 of seawater per hour, heated to 12 – 15° which is ideal conditions for fish breeding.

Operating mining companies receive significant government support. The project ("Snohvit") is a pioneer one in a new, poorly developed area so it is fraught with huge initial costs. In the spring of 2002 the Norwegian Government has proposed several changes in the tax system related to the development of the field "Snohvit". Levels of depreciation for the project were established at 33.3% for three years, while depreciation under the regular system of oil taxation is 16.7%. The geographic scope of depreciation rules data is severely restricted by the province of Finnmark and the four municipalities in the northern part of the province of Tromso [3].

The Norwegian experience in the development of Arctic resources is noteworthy, especially for the integration of "northern" component in the overall oil and gas politics of the country. In this case, there is not only the continuity of policy in moving from south to north, but the state presence in all key stages – from the definition of sites and areas of activity to forms of direct participation in oil and gas operations.

We can confidently assert that the strategic goal of transforming the unexpectedly discovered oil wealth in the technological superiority has been successfully solved in Norway. It is important to note that this result was not predetermined in advance. Thus, *the British model* of development of the same stocks as in Norway, the North Sea shelf, made a bid of oilfield services to major international corporations with their advanced technology. As a result, there are two opposite results. If Norway currently has prevailing high-tech oil and gas industry, competitive on the international market, the UK did not work it out [5]. It is no coincidence that Norway's experience is copied by other states. Currently, Chinese oil and gas service market is acting under this scenario [7].

The experience of the first project on *the Canadian shelf – Hibernia* is also useful for implementing projects in Arctic in Russia. This is the first large deposit mined in the coastal waters of the Canadian province of Newfoundland [4].

This project is unique due to technical, political and financial reasons. The Northern Coastal Region conditions require the use of advanced technologies, thanks to the introduction of which Canada expects to be among the leading countries in the world in the field of offshore oil production. The investment capacity of the project is 7.3 billion dollars in reserves of 400 million tons Hibernia deposit, located on the east coast of Canada, was opened in 1979. It took over 10 years to the Government of Canada and Newfoundland to have entered into agreements with oil companies to proceed towards development.

In 1985 federal and provincial governments signed a master agreement providing for joint management of marine oil and gas reserves. The Canadian government partly financing the project, in the long term, will not only return all spent money, but also reduce budget spending, as there will be no need for subsidies to the province of Newfoundland. Many Canadian experts believe that from the standpoint of public policy Hibernia serves the purposes of regional development in the first place, and purpose of oil production in the second.

It is significantly that the State in the formulation of approaches to implement this pioneering project has played and continues to play the role of arbiter and guarantor of property rights, and also provides compensation for the increased risks associated with this project. In order to reduce risks and improve investment attractiveness of the state is directly involved in the financial support of the project. The main forms of such support are as follows:

a) reimbursement of 25% of the cost of preparing for operation to the project operating companies, which is the sum of 1.05 billion doll.;

b) guarantee loans amounting to 40% of the cost of preparing for operation of up to 1.68 billion doll.; if companies do not return the loans, it would be made by the government and oil companies will give it the respective share in the project in this case;

c) interest-free loan of up to 300 million doll. To facilitate the payment of interest

(the loan is granted in the event that oil prices plunge below 19 doll. per barrel);

d) additional loan guarantees of up to 175 million doll. to pay 40% of the cost of preparing for operation, if the cost of this phase exceeds 5.2 billion doll.

While supporting the project, the federal and provincial governments aimed at raising the maximum level of employment of Canadians and improving their skills. In general, 66% of jobs have been allocated to Canadians and the share of Canadian contractors in the total work was 60%.

Unlike Russia, the requirements on the use of local labor force and local contractors are more "weighty" as they are accompanied by appropriate financial support from the state. Total project costs are as follows: 5.8 billion dollars are invested by the companies and 1.5 billion dollars by the government.

Taking into account the pioneering nature of the project a special "Law on the Development of Hibernia" was developed and adopted, whereby the charge of the project and its coordination with federal agencies is the Minister of Natural Resources of Canada.

Canadian authorities had complicated negotiations on financing activities and income distribution. At the same time for an early implementation of the project, the federal and regional governments had to compromise on the issue of jurisdiction over coastal waters, and adopted a set of measures of state support for financing the project. Political will and benefits brought the project among the largest in the world.

An example of this project also illustrates the pragmatic approach at the state level very eloquently as there are no disputes about the ownership of hydrocarbon resources in the shelf. Shelf in Canada (as well as in Russia) is under the jurisdiction of the federation. Nevertheless, an agreement was concluded between the Federation and Newfoundland, as the combined efforts of the authorities at various levels may be of mutual benefit. Thus, solving the problems of the shelf deposits development is a part of cooperative federalism. The federal government right from the start of the project on the shelf was focused on reaching agreements with the provinces – Newfoundland and Nova Scotia (Western Canada) – to co-manage resources on the shelf.

Norwegian, Canadian and British experience in the development of oil and gas deposits will be extremely useful for Russia. Moreover, at present the domestic business has no experience, as well as practical approaches to implementation of new large, complex projects in undeveloped areas. This raises the crucial, complex and urgent task to create practical approaches to implementing such projects. The principal feature of the new projects – higher costs in the development of the region – the creation of regional infrastructure, which significantly affects the economy of the project. Another important feature of projects in new areas is the need for a coordination of procedures and approaches to harmonize the interests of various companies – holders of licenses for subsoil use, as well as the need to create the conditions and prerequisites for long-term socio-economic development of new areas.

Equally important is the principal feature of projects in new areas – the impossibility of solving the problem exclusively through the approaches focused on pure commercial viability of projects on development of hydrocarbon fields.

Analysis of state of affairs with the formation of approaches to the implementation of new oil projects in other northern regions of the world – Norway, Greenland, Newfoundland (Canada), north-west and north-east Alaska (USA), the Northwest Territories and Yukon (Canada) – shows that *none of these projects is reviewed and does not operate in isolation from the solution of socio-economic problems of the territory*. Thus, largely thanks to the regional argument start of the project of the "Snohvit" deposit development in the Norwegian sector of the Barents Sea took place.

All the above features (if they are viewed in the aggregate) involve the use of procedures and approaches based on policy principles, as well as active participation of the state (at both

the federal and regional levels) in the implementation of new projects in undeveloped areas. Therefore, in the case of the shelf of northern seas of Russia in general, we should go about creating a precedent for a new project in the new area on the new principles and approaches.

The implementation of such projects should be based on the following principles:

a) a single program of prospecting, development and exploration of a single project (which involves the creation of a common infrastructure);

b) a concerted technological scheme of development and exploitation of closely spaced objects;

c) synchronization of all works on exploration and development with the decision of socio-economic problems of the functioning of the economy of territory affected by the development in such a way as to ensure sustainability of the area's economy in the long term.

In addition to the program elements this also requires the establishment of institutional structures ensuring implementation of the project, operating companies, as well as the establishment of public monitoring of the implementation of such projects.

In the Russian Federation strengthening the role of the state is required, first in the issue of regulation of natural resources. In accordance with the law the subsoil in Russia are state owned, but in practice the past 15 years shows that the growth in living standards and the budget replenishment are weakly defined by efficiency of oil and gas industry of the country.

The balance of interests and minimizing conflicts between the state, oil and gas companies and the local population are largely determined by the steady and balanced economic development of the mining region. Ignoring or infringement of the interests of any of these subjects will inevitably lead to a significant reduction of the so-called synergistic result, based on mutual cooperation.

Fostering productive infrastructure in mining areas deserves special attention in the state's economic policies and is a prerequisite for sustainable and effective development of oil and gas industry as a basic component of regional economic specialization. Oil and gas production structure of the region is characterized by the fact that it provides tangible and intangible production services, which are auxiliary in nature. Oil and gas industry has specific requirements for the production of services of industrial infrastructure in the region, largely determining the economic activities of all enterprises and organizations in the region, and indirectly, the standard of living.

The development of the service (production) sector at the regional level, not only creates the conditions for increasing the value added during the development of hydrocarbon fields and contributes to increase of qualification requirements for personnel, but also removes the risks associated with the problems of employment in service companies from the oil and gas companies. The service sector is one of the most high-tech elements in the structure of oil and gas sector, so its formation and development should be one of the most important objects of management at the regional level. Such regulation reasonably relates the full support of small and medium businesses, restrictions on use of equipment with a high degree of wear.

With the right strategy for managing oil and gas complex of the state oil and gas projects can revitalize the general economic conjuncture of most industries, especially heavy industry, as in this case the problem of economic and social situation in the country can be solved. It is important to emphasize that competent management strategy for oil and gas sector does not deny the benefits of international integration and cooperation, the possibility of transferring technological expertise of invaluable exploration of hydrocarbon deposits to foreign partners.

Implementation of oil and gas projects in Northern Russia is able to involve key industries that are related to inter-industry production chains, accelerating the development of which

will be a driving force for the related industries, i.e., it will stimulate the development of their suppliers, etc. The main method of involving industry in the implementation of oil and gas sector can and should become policy and practice of the organization of orders on the basis of tenders. It is through the tendering and selection of socially responsible suppliers of high-tech equipment and services that the state should have a decisive impact on the improvement of industrial and economic sectors with the subsequent growth of multiplicative effects. The processes of production incentives, both directly and indirectly associated with the implementation of large-scale project to develop oil and gas resources, will develop investment demand and revive the domestic market.

The general approach of industrial policy in the development of hydrocarbon deposits is a maximum load capacity and increase production. This will allow the bulk of enterprises to restore the economic situation fully, establish financial management, settle with creditors, and most importantly – to increase investment opportunities due to depreciation charges, as well as by increasing its own profits for investment, which in turn will allow the modernization of fixed assets and their maintenance in operational condition.

To achieve maximum levels of oil and gas production on the Arctic shelf of Russia is problematical not due to its limited resource base, but the present state of technological capabilities of domestic economy and the highly uncertain environment in which its research and development is to take place. Therefore, to consolidate the interests of subsoil users and the state it is necessary to accumulate the scientific and technical production and investment capabilities with the ability to attract foreign partners.

Russia needs the active use of international positive experience in the development of hydrocarbon deposits. In this case, effective modernization of the country's oil and gas industry with the solution of a wide range of socio-economic problems can be successfully carried out.

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UDC 376(470.12)

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Generation of talented youth's knowledge for the benefit of intellectualization of human capital: methods and forms of implementation

It is typical of modern Russia to have not only decline in population size but also its quality loss. The author actualizes the problem of preservation and increasing of human capital quality through creating of a governmental and public system of long-term complex support for gifted children from the first talent expression to professional self-determination. This article deals with theoretical and methodological foundations to solve this problem; it presents methods and forms of government, scientific and educational institutions activity in this area.

The author emphasizes analysis of operational experience with talented youth of regional Research and Education Center of Economics and Information Technology under Institute of Socio-Economic Development of Territories of RAS. The author examines methods of operation of the REC in generation of talented youth's knowledge through involvement them in research activities and using of other forms contributing to intellectualization of human capital of students.

Human capital, generation of knowledge, talented youth, intellectualization.

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The President of the Russian Federation D.A. Medvedev, the Russian Prime Minister V.V. Putin and the Concept of Social and Economic Development of the Russian Federation till 2020 marked transition to innovative economy as a target key point of development of the country. The implementation of this general problem is largely dependent on the availability of highly skilled personnel possessing not only the educational attainment but enterprise, innovative and creative ambitions and motives; who can acquire new knowledge and manage actively the innovative process. According to foreign and domestic experts,

human capital is more important resource than natural resources or cumulative wealth: they estimated that increasing of education by 1% leads to acceleration in the rates of GDP per capita by 3%[1].

Growth of the process of informing of society and economy, rise in the volume of high-tech industry improve the quality of an intellectual component of human capital, i.e. its intellectualization.

Studying of the problem of human capital intellectualization primordially assumes researching of initial prerequisites for active work with gifted children and talented young people. It is an important condition to form the foundation of innovative economy. At the same time the public consciousness is required to adopt the following idea: in the demographic crisis gifted children provide a unique opportunity for Russian society to optimize the cost of reproduction expansion of the intellectual potential of the country. Looking for talented people is an objective need for achievement of the national progress. The flights of Soviet satellites served as incentive to search (by testing) and create the conditions for the maximum development of 35,000 talented senior high school students in the USA: at that time the Americans "put on the conveyor", allocating annually about 1.5 billion dollars to develop talented persons[2].

They established research centers under the universities to identify and educate gifted children, organized issue of special interest magazines ("Gifted Child Today", "Educational Researcher") and adopted the state program in 1990's, particularly, "America – 2000. Learning strategy" (Goals 2000: Educate America Act)[3].

Such government programs to identify and support gifted children and young people in their country and to attract the same people from other countries were developed in 1970s in all developed countries. The following international organizations were established: the World Council for gifted and talented children, which coordinates the work of their studying, training and education, organizes international conferences, as well as the European ("Eurotalant", Russia is a member of this organization) and Asian Associations, which implement national programs, coordinate national projects, conduct international meetings, summer schools and competitions for gifted and talented pupils.

The Federal target program "Russian Children" and its subprogram "Gifted Children" have been implemented step-by-step since 1996 in Russia *(fig. 1)*.

Subjects of the Russian Federation use a variety of forms to support gifted and talented young people within the bounds of the subprogram: bonus funds, scholarships, competitions, festivals, conferences, etc.

These and other forms to support talented young people involve more than 3 thousand Russian schoolchildren from 8 – 11 grades; more than 5,000 pupils are trained in various areas of complementary education.

Normative legal base of working with gifted children has been developed and improved; financing of these purposes has been increased though it was too modest *(fig. 2)*. The program of State grants by the President of the Russian Federation is being implemented. However, there are many unsolved problems, particularly problems of use of transparent and competitive mechanisms for expenditures and identification of talented persons.

The following problems were being solved at the final fifth stage of the subprogram "Gifted Children" (2007 – 2010):

- creation of the state system of identification and development of gifted children and targeted support for children in accordance with their abilities also on the base of innova-

[1] For example, a detailed review of studies of human capital, which is appreciated by the standard of education, is cited in: Sianesi B., Van Reenen J. The returns to education, Journal of Economic Surveys. – 2003. – Vol. 17. – № 2. – Pp. 157-200.

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Figure 1. Implementation phases of the subprogram "Gifted Children"
(Component part of the Federal target program "Russian Children")

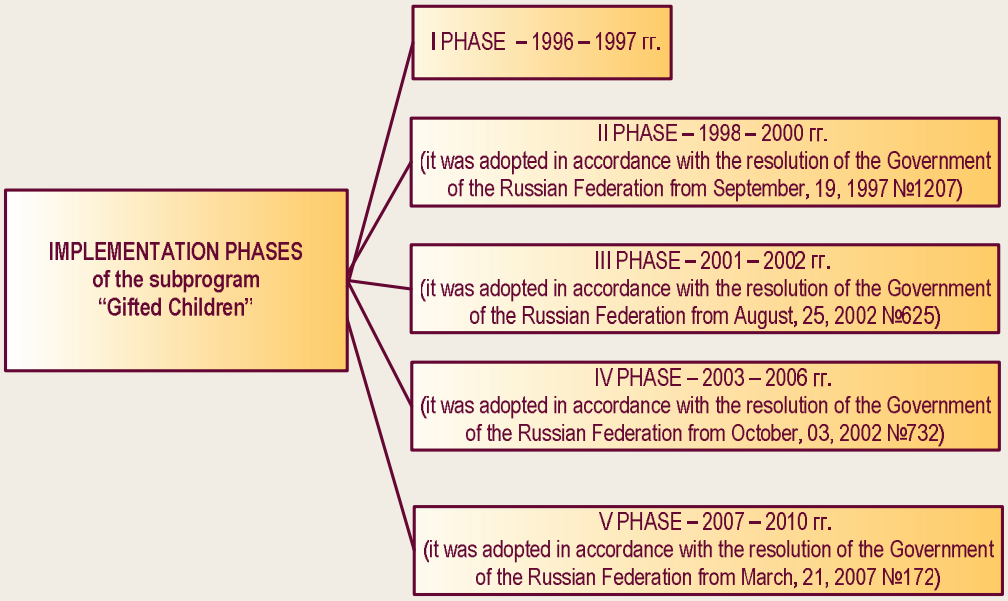
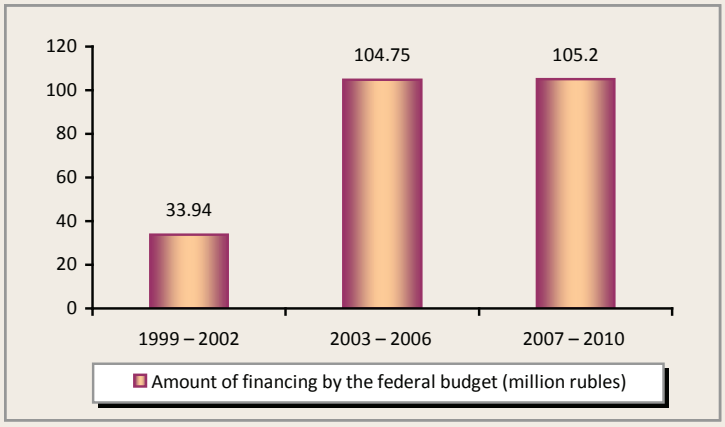


Figure 2. Financing of the subprogram "Gifted Children" by the federal budget, million rubles



Source: Sinyagina N.J., Kalish I.V., Zaitseva N.V. The implementation results of the subprogram "Gifted Children" of the Federal target program "Russian Children" in 2003 – 2006. – M., 2007. – 41 p.; Passport of the subprogram: "Gifted children". – Resolution of the Government of the RF from January, 26, 2007№, 79 p.

tive technologies to identify and support gifted children living in the countryside and in the place which are situated far from the major centers of culture, education and science;

- coordination of activities of the basic centers working with gifted children and their support;

- consultant services for parents and teachers working with gifted children.

We will have to do a lot in all these areas. According to estimates of the Commission for the national intellectual potential of the Public Chamber of the RF it is necessary to renew our work with gifted children[4] and to accelerate the creation of "giftedness infrastructure".

Thereupon, it is crucial to know the difference between a gifted, talented child and other

[4] Is Russia ready to invest its future? Report of the Public Chamber of the Russian Federation. – M., 2007.

children. According to the most scholars, the gifted child usually has bright, obvious and sometimes outstanding achievements in different activities (or he has the internal prerequisites for such achievements)[5]. Giftedness is a quality which is developed systematically during our life, indicating the possibility of reaching by a person higher result in one or more types of activities.

Many psychologists recognize that the giftedness level, qualitative singularity and developmental character of giftedness are always the results of complex interaction of heredity (natural instincts) and social and cultural environment, that is mediated by the activities of a child (play activity, learning activity and labor activity). Giftedness can be recognized by a degree of the child's advance in mental development as compared with his peers at other equal status.

Giftedness is regarded as a state of talent or a degree of talent intensity. When we spoke about ability we mean the possibility of a person to do something, but when we use a word "talent" we emphasize the innate nature of the quality (ability). At the same time both ability and talent become apparent in the successful activity.

One of the most important characteristics of giftedness is creativity. Tendency to creativity is the highest manifestation of human activity, the ability to create something new and original. This quality is of particular mindset, characterized by flexibility (the ability to move easily from one class of phenomena to other phenomena, whose content is often too different) and originality (the ability to suggest new and unexpected ideas which are differed from the conventional ideas).

Qualitative state monitoring of labor potential of the population in the region has been carried out by Institute of Socio-Economic Development of Territories of RAS in the Vologda Oblast since 1997. Its results show that the creativity index, calculated by the original methods[6] (according to quotients of person's relation to creative activity and his actual participation in creative activity), is the lowest among eight basic indices of social capacity (quality of labor potential). Moreover, its overall trend (in the dynamics from 1997 to 2009) is decreasing *(tab. 1)*.

Low index of creative potential of the population is conditioned by the fact that only few people in the region are actively engaged in creative activity: about 8% of people always invent, write, compose, etc. and 45% of people do nothing"[7].

The survey of students and senior pupils of different professional educational institutions[8], which was conducted in Vologda in 2010, confirmed this regularity: only 10% of respondents were going to "realize themselves creatively" during their learning. The poll results also show that there are not enough conditions to develop creative potential of pupils and students. Thus, only 16% of senior pupils think that elective classes and study groups in their schools help them in learning good results and only 14% of pupils say about availability of in-depth subject programs. However, it should be noted that almost all high school students (97%) believe that it's important for a modern man to develop creative and intellectual potential and they developed such qualities. Family influences greatly over pupils' attitude to develop their creative abilities: parents of pupils, who seek to develop their creative and intellectual abilities (58%), have higher education or academic degree.

[5] Draft concept of giftedness / ed. D.B. Bogoyavlensky. – M., 1998.

[6] The system of components of labor potential quality is represented as a "tree" of qualities. Top of the tree is the most common quality, social capacity. According to the methods based on monitoring such structural components of labor potential as physical and mental health, creative abilities, sociability, cultural and moral standards, need for achievement are measured. Integral index of individual quality as well as private indices cannot acquire zero or negative value (such as zero health can't exist). This positive value is always more than zero. Its maximum value is equal to unity.

[7] Labor potential of the region: The final report of research / A.A. Shabunova, G.V. Leonidova, E.A. Chekmareva. – Vologda, ISEDT RAS, 2009. – P. 52. – № of official registration 02201051756.

[8] The survey was conducted within the scope of research "Forming of scientific and educational space of Vologda" in April and May in 2010. The sample consists of schools and various institutions of vocational education. The volume of sample is 550 people. The sample's error is 3%.

Table 1. Quality rating of labor potential of the population in Vologda oblast

Measurable indicators	Index value		Rank	Trend line (from 1997 to 2009)
	1997	2009		
Moral level	0.775	0.757	1	\ decreasing
Mental health	0.699	0.739	2	/ increasing
Sociability	0.733	0.736	3	– parallel to time axis
Physical health	0.682	0.728	4	/ increasing
Standard of culture	0.609	0.674	5	/ increasing
Need for achievement	0.612	0.643	6	/ increasing
Cognitive potential	0.630	0.614	7	\ decreasing
Creative potential	0.593	0.572	8	\ decreasing
Integral index of labor potential quality	0.655	0.674		/ increasing

Source: Labor potential of the region: The final report of research / A.A. Shabunova, G.V. Leonidova, E.A. Chekmareva. – Vologda, ISEDT RAS, 2009. – 117 p. – № of official registration 02201051756.

Table 2. Distribution of the answers to the question: "What qualities does your current business require from you?" (Response category "Very important", in % of respondents)

Qualities	Year					
	2004	2005	2006	2007	2008	2009
To be sociable, be able to be on good terms with other people	36.8	40.2	42.2	38.6	39.4	37.6
To enjoy good physical health and to feel well	38.7	34.7	37.0	37.9	41.7	36.9
To be hard to mental load	27.8	30.1	38.1	34.7	35.4	36.6
To be a highly cultured person (to be a well-brought-up, polite, self-restrained and good-looking person)	29.9	30.5	32.0	31.4	33.1	32.2
To have high moral standards (honesty, truthfulness, sense of duty, decency, etc.)	31.0	29.9	33.6	32.4	35.1	31.7
To have all-round knowledge, to be a man of great erudition, to be a highly skilled specialist	23.4	27.9	28.7	26.3	28.1	25.9
To strive for promotion, to improve personal skills, to take the initiative and enterprise	23.9	22.3	23.8	24.7	27.0	24.6
Have creative abilities (to invent, create the new, to solve previously unknown tasks, etc.)	19.7	19.0	18.3	19.4	21.3	20.3

Source: Monitoring of labor potential quality of the population in Vologda oblast (total sample – 1500 people).

Creativity is a strategically important resource for innovative "smart" economy. However, according to the results of monitoring of labor potential quality, it is the least important quality for employers: only 20% of residents say that their creative abilities are demanded at their jobs *(tab. 2)*.

Development of people creative activity and the ability to resist social inertia takes place not only in schools but also in extracurricular supplementary education. According to the results of students' opinion poll[9], they regard the studies in the institutions of extracurricular education as one of the main sources of knowledge *(tab. 3)*.

The Soviet system of supplementary educational facilities for children and youth consisted of pioneer organizations, young technician's stations, junior sports schools, etc. That system was an important component of Soviet education. It is significant that there were no such infrastructure in the Western countries earlier. That's why Soviet education had competitive advantages. The crisis of 90's affected the nursery and junior secondary education: the number of supplementary educational institutions was declined and as a result the total qualifying potential of the young Russians was decreased[10]. The number of supplementary educational institutions was increased only in the early 2000's, including the Vologda oblast. They provide the formation of creative personality which is necessary for the knowledge-oriented economy.

[9] The investigation is carried out by ISEDT RAS within the scope of research "Forming of scientific and educational space of the territory" in 2010.

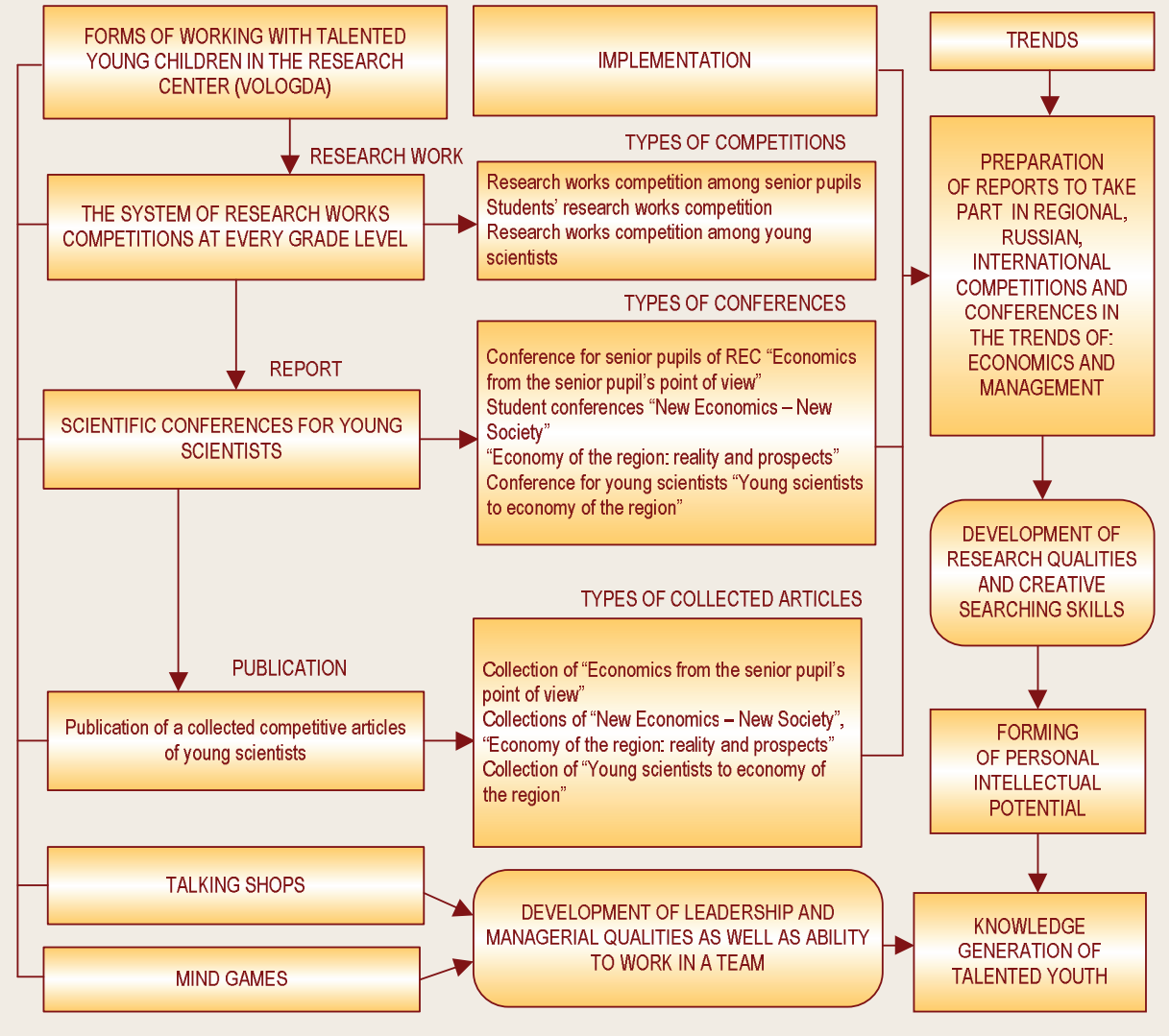
[10] Education as a Factor of Economic Development / V.I. Yakunin, S.S. Sulakshin, V.E. Bagdasarian, M.S. Netesova. – M.: Scientific Expert, 2008. – P. 17.

Table 3. Distribution of the answers to the question: "How often do you use the following opportunities to enrich school knowledge?" (in %)

Opportunities	Often and very often
Using of Internet resources	90.4
Reading of educational literature	37.2
Study and hobby groups attendance in the institutions of extracurricular education	34.0
Study and hobby groups attendance in school	27.3
Visits to the libraries, museums, archive	24.4

Source: Survey of students of comprehensive secondary schools in Vologda, the second quarter of 2010 (total sample – 156 people).

Figure 3. Forms and trends of knowledge generation of talented youth in the Research and Educational Center under ISEDT RAS



Research and Education Center of Economics and Information Technology under ISEDT RAS (it was established in 2003) creates such conditions for training and education as early detection, training and education of gifted and talented children. The Center represents a

Table 4. The activity indicators of the REC under ISEDT RAS in 2002 – 2010

Subsystems	2002	2003	2004	2005	2006	2007	2008	2009	2010
Schooling subsystem									
Number of pupils from 5 – 11 grades	34	94	160	250	290	290	310	370	390
Subsystem of higher education									
Number of students interacting with the Research and Educational Center	46	97	164	354	540	600	650	800	900
including the branch of SPbSIEU in Vologda	25	55	89	239	350	542	557	700	800
Subsystem of postgraduate education									
Number of postgraduate students	37	33	31	40	39	39	46	44	46

multistage system of training and retraining of highly skilled specialists for science, business and regional authorities.

Creating of the Research and Education Center under the basis of academic research institution in Vologda organizators thought that its main mission would be creating of conditions for detection of talented young people in the region, development of their abilities and involvement them into scientific sphere, reconstruction of the scientific inquiry environment.

Activity of the Research and Education Center is built in such a way that it is possible to use those forms that are the most productive ways to work with talented youth. Their specific structure is shown in *figure 3*.

The priority direction of selection and identifying of talented young people by force of the Research and Education Center is involvement each of them in research activity. Moreover, it is considered, on the one hand, as a way to improve efficiency of digestion of knowledge and skills of relevant educational standards and further generation, i.e. increment of knowledge, on the other – as a way to initial professional training. Just that very context sets the goal of selecting of talented and motivated children with subsequent profiling of their education and orientation to work in high-tech industries.

Realization of the REC's goal is based on the contemporary theoretical and methodological approaches; the main of them are continuing education (learning throughout life), connection between theory and practice (knowledge, gained in the REC, are used in specific scientific researches, research results of scientists are used in teaching special subjects, in preparation of teaching aids, etc.), continuity of educational programs, etc.

The feature of the educational process in the Research and Educational Center is using of diverse techniques, active training forms and methods based on the following principle: knowledge (in-depth study of economical foundations) and ability to apply them (applying of the skills by the use of approved research results, research efforts competitions, presentations at school conferences, participation in the discussions, etc.).

In addition to traditional forms promoting all-round development of trainee's skills the REC also uses the following forms to work with the young people:

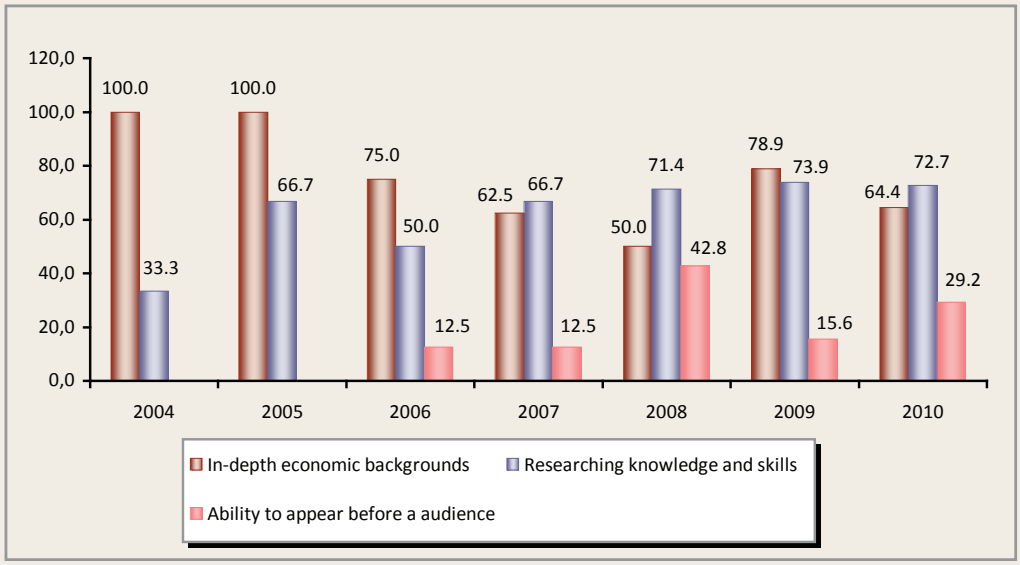
- talking shops;
- mind and business games;
- profile health camps (summer research schools) on holidays, etc.

The main quantitative indicators of the REC activity are represented in the *table 4*.

But quantitative parameters are only the first side in the evaluation of the REC's activity. The annual studies of intellectual and professional abilities of students have significant practical importance for understanding of the Research and Education Center's role in knowledge generation of talented young people[11]. Testing results show that the values of

[11] The complex of diagnostic methods in psychological testing includes: the methods of V.V. Sinyavsky and B.A. Fedorishin "Communication and organizational tendencies"; test of intellectual and professional abilities "TIPA-5" by R. Amthauer; test to determine a tolerance degree by V.V. Boiko and others.

Figure 4. The dynamics of answers to the question: "What are the main benefits of your training in the REC?" (in% of respondents)



the intellectual sphere[12] (erudition, vocabulary, abstract logic, attention[13]) increase by the end of training (from the 5th to 11th grade) as compared with the beginning of training in the REC by 2 or 3 points on ten-point scale (for example, mean value in the 11th city-wide grade was 5.6 points in 2008, it was 6.3 points in 2009 and 7.1 points in 2010). Consequently, there is a marked increase in intellectual capacity of the students who attend classes at the REC.

The REC's staff uses V.M. Rusalova techniques as a tool to identify the skills, qualities and properties required to form a research position. According to the techniques you can judge about personality's expression by such indicators as subject ergicness (a flair for intense mental labor), social ergicness (a desire to explore the world through communication) and flexibility (a desire to diversify the forms of subject activities). Survey results show that all students have the positive dynamics of the flair for intense mental labor (for example, the senior students from the Lyce №32 who attend the REC had a mean value of "subject ergicness", i.e. the flair for intense mental labor, amounted to 6.9 points in 2008, 7.1 points in 2009 and 8,4 points in 2010). It is evidence of the fact that studies in the Research and Educational Center under ISEDT RAS increase the interest of students to research activity. According to students' opinions the main advantages of education in the REC are getting of in-depth economic backgrounds and learning of researching skills *(fig. 4)*.

The REC's project is aimed to create conditions for personal and vocational realization of talented youth, it should improve the system of training and retraining of scientific, managerial and engineering personnel. The REC provides continuity of educational process in the chain of "school – university – postgraduate education". The best pupils of the REC can join the student groups by economic specialties in the branch of St. Petersburg State Engineering and

[12] The methods "TIPA" – test of intellectual and professional abilities.

[13] Vocabulary – standard of active vocabulary development, ability to speak correctly; abstract logic – ability to reason conceptually, unconventional thinking; attention – high concentration at the certain activity; erudition – wide reading, profound knowledge in any field of research knowledge (understanding of science, art, history, literature, etc.). Level of abilities: 1.0 – 3.4 points – low; 3.5 – 7.5 points – average; 7.6 – 10 points – high.

Table 5. The results of entering the universities of graduating seniors from the full-time elective class in the REC under ISEDT RAS

Indicators	2008/09 ac. year		2009/10 ac. year	
	Total	%	total	%
Number of graduating seniors, total	41	100	42	100
Number of graduating seniors who entered the universities	41	100	42	100
Number of graduating seniors who entered the universities of Vologda	31	76	36	86
Of them: Vologda State Technical University	11	27	15	36
Vologda State Teacher's Training University	3	7	8	19
St. Petersburg State Engineering and Economic University, a branch in Vologda	6	15	3	7
Vologda State Milk and Economical Academy named after N.V. Vereshchagin	3	7	8	19
Moscow State Law Academy, a branch in Vologda	6	15	0	0
Vologda Institute of Economics and Law FSEP RF	1	2	2	5
Educational institutions in St. Petersburg	5	12	5	12
Educational institutions in Moscow	2	4	1	2

Economic University in Vologda (one of the participants of the Research and Education Center; *tab. 5*).

This table shows that most of graduating seniors from the Research and Educational Center remain in the region, they prefer the regional universities that prevents "brain drain". This situation is good for the region where level of scientific and technological capacity is low.

The project shows a high degree of effectiveness. Young scientists, postgraduate students, students and pupils often become winners and laureates of the regional, national and international competitions. The project has a great social significance: it has created favorable environment for display of creativity and personal development of gifted and talented youth. The project is supported by the Russian Academy of Sciences, regional and local authorities, the Ministry of Education and Science of the RF. The project got approval and support of the President of the Russian Federation in 2003.

Such work is possible thanks to the activities aimed to identify and support talented researchers and promote their creative growth. They are organized by the Russian Academy of Sciences[14] in the framework of the Supporting program for young scientists.

Pedagogical literature[15] demonstrates convincingly that talented people are often in the shade wrongly. And there will be a negative selection in the society if we do not create a system that draws talent from the shadows. Therefore, it is highly important to create a competitive environment in science, business and art[16]. Various modern sponsoring funds correspond to these goals. It is necessary to extend the experience of innovative schools: physics and mathematics schools (for example, gymnasium "Harmony" in Vologda), schools of Olympic reserve, special music schools, business schools, etc.

However, the task of supporting of talented children assumes the construction of the state-public system of long-term complex support for gifted children from the first display of talent to the professional self-determination. The concept of the national educational initiative "Our New School", voiced at the summit in 2010, is a base to create a complex system of supporting and looking for gifted children, as well as their support during the period of making up of personality. State support for talented children and youth is the only reliable method of reproduction of the national intellectual elite and the most important intellectualization factor of the human capital in the country.

[14] Russian Academy of Sciences Regulations. – Section 2, paragraph 11, subparagraph g.

[15] Efroimson V.P. Pedagogical genetics // Genius and genetics. – M., 1998. – Pp. 291-434.

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Thus, the regional Research and Education Center helps to solve the problem of search and development of gifted children in the country. Its effectiveness can be increased by passing the regional laws, subordinate acts and target programs, by making interdepartmental contracts, industry-wide agreements and other documents. It is also necessary to report the problem of gifted children development by mass media within the scope of action consolidation of the regional educational system and research institutions.

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Principles and practice of operation of foreign technology transfer centers *

The article provides a classification of intermediary organizations market innovation (technology transfer centers, business innovation centers, development agencies, etc.) on the following criteria: the founder, the organizational-legal form, market focus, the method of funding, the main directions of activities, staff, the results. The features of the system transfer technologies in the USA, Germany, Japan, Australia, China, South Africa, etc.

Conducted during the study analysis showed that to date there is no universal model for the functioning of technology transfer centers. However, the experience of most foreign countries is evidence of the need for major components of infrastructure for technology transfer: the legal framework governing the activities of technology transfer, financial support from both the state and the private sector, skilled and qualified personnel.

Initial data for the performance served as a special methodical and reference literature of domestic and foreign authors.

Technology transfer, the centre of technology transfer, innovations, technology transfer network, commercialization.

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Technology transfer is a base for rapid growth and national economic expansion at the present stage of world economy development. It provides a number of strategic opportunities for business entities: the development of the domestic market, embedding of the achievements of advanced nations into the international infrastructure, etc. Technology

* The research was sponsored by RHSF as a research project of RHSF "Creating of a system of scientific and technical cooperation of the North-West federal district of the Russian Federation and Belarus" (project № 09-02-00648а/Б).

transfer[1] involves application of knowledge and target usage of them; it is a particularly complex kind of communication because it requires the concerted action of two or more individuals or functional cells separated by structural, cultural and organizational barriers. However, the developers and owners of new technologies – the research organizations, small innovative firms, organizations of innovative infrastructure – have difficulties in finding of customers to buy their products and business partners to create enterprises. In addition, the most scientists don't have the business skills which are necessary to create business on the basis of their developments. There is also another side of this problem. If the company plans to achieve competitive advantage through improving of its technology, it is necessary to find information about technologies that could increase business efficiency.

There are many intermediary organizations of innovative market such as technology transfer centers, business innovation centers, development agencies, etc. to solve these problems worldwide. Their main function is to provide participants of innovative process with all necessary services to fulfill their potential and development of innovative abilities based on the principle of "one window".

Thus, there are departments in the structure of most foreign universities which are responsible for relations of university with business. In some countries (the USA, Finland) technology transfer in accordance with the law has a status of the third mission of universities (in addition to educational and research activities), its nonfulfilment is punishable for university by deprivation of incorporeal rights. Nowadays many Russian universities have technology transfer departments.

Technology Transfer Center (TTC) is an infrastructure organization which produces a range of services for participants of the innovative process – the clients of the TTC.

The Technology Transfer Centers are gathered into technology transfer nets. For example, the European network of business support includes more than 500 TTCs from different countries. The main purpose of such centers is improving of competitiveness of local industry by bringing technological innovations. The Russian Technology Transfer Network (RTTN) was established after the likeness of such structure. It is an electronic exhibition area of high-tech products. It helps buyers and sellers of high technology products to find each other. RTTN has over 70 offices in the regions. The main result of their activity is expressed not only in increasing of tax revenues to all levels of the budget, but also:

– at the enterprises level – competitive advantages and planned economic and social indicators are provided by promotion and implementation of product, technological and allocative innovations;

– at the regional level – they stimulate the achievement of planned structural changes in the economy, of GRP volume, standard and quality of life.

In foreign countries the state maintains the TTCs. For example, in the USA during the formation of technology transfer centers (this period lasts usually from 5 to 10 years) national laboratories and universities provide such centers with substantial financial support, using direct financing from its internal resources.

Subsequently, when the TTCs begin to get profit by commercialization of their researches and developments, the subsidies for the activities of the TTCs are constantly decreased, and eventually they are deceased.

In Germany[2], the activity of the TTCs is funded by grants of the federal government and income from contractual researches. Local authorities firstly including Land Governments also contribute greatly to the establishment of science parks and innovation centers. In addition, many organizations which are involved in

[1] In translation from English a word expression "technology transfer" means: 1) diffusion process of scientific and technical knowledge; 2) practical use of scientific knowledge generated in other organization; 3) transition from basic knowledge to technology; 4) adaptation of existing technology to new use (Electronic Dictionary "ABBYY Lingvo 12").

[2] Functions of technological moderators between laboratories and companies are carried out by various scientific societies and joint research associations in the industry. The leading organizational role belongs to "Fraunhofer Society", whose main purpose is to implement new technologies in the industry and conduct national scale researches.

technology transfer and subsidized by the state provide additional services for a fee: training seminars, organization of the trade fairs and financial consulting.

In Japan the following scheme to create the TTC is used: as soon as it is approved, the Government provides two thirds of funds for operating expenses within the amount equivalent to 300 thousand American dollars per year for five years. In 2004 all national universities in Japan got independent legal status, so those universities could create the TTCs.

In Australia, as well as in Russia, there is no special system of government funding of technology transfer. Therefore, each university is responsible for funding their own activities in the field of technology transfer. Basic models of the TTCs created in public research organizations and universities are:

1) establishment of independent companies: the state organization provides capital to start the TTC, and the main activity is supported by the TTC's commercial activity;

2) establishment of a technology transfer subdivision in the organization: a government organization provides the direct financial support to the TTC.

In China, every major research university has the structure of technology transfer, which was originally funded by the government of the PRC from the total funds allocated to the university by the government. However, this funding model is changing and many TTCs work as associate private companies owned only by the universities.

In 2002 in South Africa the South African Research and Innovations Management Association (SARIMA) was founded to provide stable relations between the emerging system of technology transfer and the research system. It was a leader in that process. SARIMA is funded by the government, academic institutions, as well as donors from the USA and Europe.

Thus, the analysis of technology transfer development in different countries shows that the state influenced greatly over this process, it conducts its policy through legislation on the possession, use and disposal of rights of the results of scientific and technological activities, obtained by using of the state budget.

Let's consider the work of foreign TTCs in details and classify them.

TTC's products should be attractive, at least for several customer groups. The list of Center's activities and its yield is calculated with a glance of the interests and abilities of the clients. The main client groups of the TTCs are legal persons, particularly the federal and regional authorities, local governments, large enterprises, small and medium-sized businesses, research organizations and individuals.

Any organization or individuals can be the founders of the TTC *(tab. 1)*.

Table 1. TTC's Founders

Groups of founders	The main objectives	Examples
1. Research organizations (research institutes, universities)	Organization of professional activities to commercialize the results of researches and developments in the relevant research organizations	Imperial Innovations (Great Britain, http://www.imperialinnovations.co.uk/) Max Planck Innovation (Germany, http://www.max-planck-innovation.de/) Technology Centre of the Academy of Sciences in the Czech Republic (http://www.tc.cz/) Technology, Entrepreneurship and Commercialization Center of Kornel University (the USA, http://www.cctec.cornell.edu/) Technology Transfer Office of Emori University (the USA, http://www.ott.emory. edu/)
2. Authorities and governments (regional and local)	Creation of a conductor (an agent) of innovative policy, promotion of the development process of technology commercialization in the region or in the area	PVA-MV (Germany, http://www.pva-mv.com/) Austrian Agency for Researches Promotion (http://www.ffg.at/ content.php?cid=34) Office of the European Union in Northern Denmark (http://www.eu-norddanmark.dk/) Larta Institute (the USA, http://www.larta.org/)
3. Private companies	Business interests: for example, venture strategy of business development (opening of start-up companies, creation of interface with the research organizations), etc.	Business Information and Consulting Center (Bulgaria, http://www.bicc-sandanski.org/) Republican TTC (Belarus, http://www.ictt.by/)

The TTC can be created on the basis of any legal form, based on the specific situation and interests of shareholders. The following forms are often used:

– a structural unit (a department, a division, which isn't an independent business entity) of a research organization as a rule. For example: Imperial Innovations (Great Britain); Max Planck Innovation (Germany); Business Information and Consulting Center (Bulgaria); Office of the European Union in Northern Denmark, Technology Transfer Office of Emori University (the USA); Technology Development Office of Harvard University (the USA); Isis Innovation Ltd (England).

– a legal entity – a business entity (LLC, JSC, etc.). For example: PVA-MV (Germany);

– a legal entity – a nonprofit organization (a nonprofit partnership, a fund, an independent nonprofit organization, an association, a union). For example: Business Information and Consulting Center (Bulgaria); Agency Bruxelloise Pour L'Entreprise (Belgium);

– a consortium – a partnership (a special form of organization of economical activity without legal entity). For example, Technology Centre of the Academy of Sciences in the Czech Republic (the Czech Republic).

A regional center is prevalent among the foreign centers *(tab. 2)*, i.e. there is a focusing on the scientific, technical, industrial and administrative capacity of a certain region. The regional center is usually a connecting link between the research institutions and companies in the region.

Experience of the most countries is evidence of the need for financial support for technology transfer by the government, especially in those countries where research organizations are largely state-owned.

A mixed financing of the Centre's activities is the most optimal; it includes financing by the federal programs for innovative infrastructure support, financing by the regional authorities, as well as income from the creation and maintenance of high-tech business and services. At the initial stage of creation of an innovative company the TTC is often invest it and thus gets a share in the company (usually 30%). When a financial and strategic investor appears, the TTC sells him its share.

TTC's activity usually includes consulting services in technology transfer and their commercialization or creation and maintenance of high-tech business *(tab. 3)*. A combination of both activities is also possible.

Table 2. Market focus of the TTC

Measurement of market focus	Brief description	Examples
1. International Focus	Focusing on performance of research and innovation projects within the scope of the long-term joint program to accelerate the commercialization (in the domestic and foreign markets) of scientific products using the experience of the international partner	Office of the European Union in Northern Denmark Austrian Agency for Researches Promotion Larta Institute(the USA) Edinburgh Research and InnovationCenter (Great Britain) Isis Enterprise (England)
2. Regional focus	Focusing on scientific, technical, industrial and administrative capacities of a certain region. As a rule, the regional center is a connecting innovative link between the research institutions and companies in the region	PVA-MV (Germany) Imperial Innovations (Great Britain) Max Planck Innovation (Germany); Business Information and Consulting Center (Bulgaria) Technology Centre of the Academy of Sciences in the Czech Republic Agence Bruxelloise Pour L'Entreprise (Belgium) ITEK (Australia) Isis Innovation Ltd (England)
3. Thematic focus	Focusing on the definite general technology topics	Technology Transfer Office of Applied Physics Laboratory at Johns Hopkins University (the USA) Karolinska Innovation (Sweden)

Table 3. The main directions of the TTC activities

Directions of the activity	Brief description of measurement	Examples
1. Consulting service	Consulting services in the sphere of technology commercialization (technological audit, patent support, marketing support, business planning, marketing services, project management, etc.)	PVA-MV (Germany) Max Planck Innovation (Germany) Austrian Agency for Researches Promotion Business Information and Consulting Center (Bulgaria) Technology Centre of the Academy of Sciences in the Czech Republic ITEK (Australia) Isis Innovation Ltd (England)
2. Creation and maintenance of high-tech business	The purpose of this activity is to find such technology (or more technologies), which can become the basis for creating and running a business. Thus, the center actually can be regarded as a project to create a new business (sowing phase)	Imperial Innovations (Great Britain) Technology Transfer Office of Applied Physics Laboratory at Johns Hopkins University (the USA) Larta Institute (the USA) Edinburgh Research and InnovationCenter (Great Britain) Karolinska Innovation (Sweden)

Table 4. Personnel Size

Personnel Size	Examples
7 – 10 people	PVA-MV (Germany) Karolinska Innovation (Sweden)
11 – 20 people	Max Planck Innovation (Germany) Office of the European Union in Northern Denmark
21 – 40 people	Imperial Innovations (Great Britain) Isis Innovation Ltd (England) Technology Centre of the Academy of Sciences in the Czech Republic Technology, Entrepreneurship and Commercialization Center of Kornel University (the USA)
More than 200 people	Austrian Agency for Researches Promotion

As part of the center it is usually organized a clear and flexible transferring process of intellectual property rights of inventors into the business proposal selling at the market. It is reasonable to create a full innovation chain to carry out a project from concept to a small but promising company.

The average number of employees of foreign TTCs ranges from 7 to 60 people, depending on the size of the center, as well as on its core activities *(tab. 4)*. It is important for the staff of the Centre to have good qualifications and experience. One or more professional specialists are employed to realize each function (service) and the most attractive conditions are created for them. It is believed that all the functions of the center should be performed at the highest level, because any error may deprive clients of sizeable profits.

The key indicators of these centers' activities are the following: a) the number of created innovative companies (from 10 to 60 companies); b) the number of new jobs (from 215 to 2,500 seats); c) capital formation to develop innovative activity (from 1.1 to 200 million euro); d) technology transfer deals, concluded with the assistance of the TTCs (the average success rate[3] is about 10%) *(tab. 5)*.

It should be noted that the TTCs perform many important functions such as providing the necessary information to employees in research and development spheres, to universities and companies involved in technology transfer, etc.; content and activity analysis of research agreements on the subject of commercial value and patentability of the results; advertisement of technological products; caring on negotiations about strategy and tactics of intellectual property use, etc.

As a result we can say that nowadays there is no a universal model of TTC functioning.

[3] In this case, "success rate" means the correlation of transactions number on the TT to the total number of technology offers and requests, prepared by the TTC.

Table 5. The Results of Work

Indicator	Value	Examples
1. Innovative companies which were created	under 10	PVA-MV (Germany)
	20 – 25	Karolinska Innovation (Sweden) Business School Chalmers (Sweden)
	50 – 65	Technology, Entrepreneurship and Commercialization Center of Kornel University (the USA) Imperial Innovations (Great Britain) Max Planck Innovation (Germany) Isis Innovation Ltd (England)
	150	Technological Factory of Karlsruhe (Germany)
2. Attracted funds, millions of euro	1,1	Larta Institute (the USA)
	45 – 50	PVA-MV (Germany) Karolinska Innovation (Sweden)
	150 – 200	Imperial Innovations (Great Britain) Max Planck Innovation (Germany)
3. New jobs which were created, number	106	Business School Chalmers (Sweden)
	216	Karolinska Innovation (Sweden)
	550	Imperial Innovations (Great Britain)
	2000 – 2500	Technological Factory of Karlsruhe (Germany) Max Planck Innovation (Germany)

However, the experience of the most countries proves that it is necessary to have the following main components of technology transfer infrastructure: legislative base regulating technology transfer activity; financial support by the government and by the private sector; skilled and qualified staff.

It is reasonable to use examined experience of foreign TTCs to develop high-tech industries in Russia. Firstly, we should organize a clear and flexible transferring process of intellectual property rights of inventors into the business proposal selling at the market. It is necessary to create a full innovation chain to carry out a project from concept to a small but promising company. Secondly, state innovative policy and generated infrastructure should be connected by the common conception of development which can join the participants of the innovative process and stimulate technology transfer. Thirdly, universities and research institutes should be provided with the conditions when technology transfer is profitable for both scientists and industry.

All these measures allow to activate the processes of technology transfer and technology commercialization in Russia and as a result they become a basis for general economic growth in the country.

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UDC 330.322.14
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Investment and innovative vector of agroleasing

The article describes the capabilities of agroleasing as a form of state support for innovative development of baking and grain processing industry through fiscal subsidies for the purchase of new equipment. The benefits of leasing finance schemes of investing in innovative projects compared to commercial bank lending are shown by means of specific calculations.

Innovative development of agricultural production; agroleasing as a form of state support for innovation in agricultural sector.

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Modern agriculture operates in the context of globalization, international labor division and the formation of new markets, which conditions the relevance of requirements to improve labor efficiency and products competitiveness. Russia's entry into the WTO dictates the enterprises the need to improve the competitiveness not only of products but also the conditions of production ensuring the output of quality and safe products satisfying and even anticipating consumer demands, which suggests the need for innovative development of agricultural production.

Now, because of widespread and prolonged pressure of food imports in an open economy the problem of competitiveness of domestic agricultural products in domestic market is the most acute (one can say, it is even critical). And one cannot just be limited by raising only agricultural production. It is required to structure the entire agri-food system in the form of a complex high-tech industry, focused on use of innovation.

Grain products are of course the first among them, which are the basis for food security and the basis for the functioning of enterprises for the production of flour, cereals, bread and bakery products, pasta, and feed for livestock and poultry.

In modern conditions of increased competition in the market of bread and bakery the producers have to pay special attention to the quality of products, updating and extending their range to a more healthy and functional foods, production of cereal bread varieties, products of a mixture of wheat and rye flour. Hence it appears the problem of modernization of material and technical basis and innovation which requires investment of innovative projects. However, the development of new, promising bread products for the Russian market is not only a creative and responsible process, but also a process having costs and risk of innovation.

Against the general background of investment process enhancing and recovery of the process of renovation of basic production assets in the economy, the renewal dynamics of basic production assets of grain processing and bakery enterprises, which runs in conjunction with investment in fixed capital and which is preferentially subjected to impacts and opportunities of the market mechanism of lending to corporate entities in grain processing and baking industries, agricultural producers, small businesses and individuals is behind on a great scale.

As we found in the cognitive analysis, the production potential of grain-processing enterprises and baking industries is the derivative of key characteristics of the basic production funds state, and equity value and volume of long-term lending to enterprises directly and mainly influence on the resulting factor, i.e. capital investment. However, enterprises' resort to their own source of funding is limited with the scantiness of profit (especially in small businesses), obtained as a result of economic activity. Thus, the profits from sales of products of the milling industry of the Vologda oblast in 2003 – 2005 was within 12.6 – 17.3 million rubles and the profitability was 1.7-2.7%, having reached in 2006, respectively, 26.2 million rubles and 3,1%. The profits from sales of bread and bakery products in the period from 2003 to 2006 ranged from 56 to 63 million rubles a year and the profitability from sales was 3.8-5.2%. The financial and credit crisis in 2008 further exacerbated the situation. The amount of profit given, of course, cannot provide the solution of complex problems of updating and modernization of basic production assets of the enterprises of grain processing and bakery, and depreciation charges are almost fully utilized to support the operational and technical serviceability level of the existing technology equipment.

Lack of investment causes at the minimum the low rate of renewal of fixed assets. There also remains very high obsolescence of baking equipment and most enterprises use outdated, energy-intensive, low-productive machines, producing the high cost of manual labor. The performance of individual measures of technical rearmament of production capacities of some enterprises of grain processing and bakery industries caused by problems of self-preservation and survival do not solve the problems of improvement of their competitiveness and innovative development. There appears the loss of competitiveness and markets and an urgent need for financing investments. Hence, the search and attraction of funds of third parties becomes natural. At the same time the level of creditworthiness of grain processing and bakery enterprises is estimated by experts of the Department of Finance and Credit of the VSMA as unsatisfactory. Moreover, as practice shows, and our calculations confirm, the acquisition of production equipment through loans from commercial banks turns out for inadequate debt service costs, limited funds of material incentive of the personnel and material dependence. The existing forms of interaction between grain processing and bread production enterprises (Russian Grain Union, Russian Union of flour and cereal enterprises, Russian Bakers' Union) have not yet obtained an opportunity to form the consolidated finances to support innovative projects.

Rosselkhozbank, which is now being revived through the state's efforts, is more concerned about the crediting of costs of agricultural producers for crop and livestock than the financing of the development of the milling and baking industry. Only with the release of the RF Government Decree № 1001 of 29 December 2007 for grants from the federal budget for the reimbursement of the cost of paying interest on loans received by enterprises and food and processing industries organizations of agroindustrial complex in the Russian credit organizations for construction and reconstruction (upgrading), technical re-equipment of production, Rosselkhozbank has begun to accept applications for investment loans, but the lending process has not turned around in practice, and in many ways, is constrained by lack of clarity of the attached Order List of purchased machinery and equipment for the food industry. We should note that other commercial banks in the region did not give positive respond to the decree of the Russian government.

Under these circumstances, based on the high social significance of food production, and taking into account the active role of the state to limit price increases for bread and bakery products, it would be logical to expect a systematic budget subsidy of enterprises expenses on production of grain and grain products, bread and bakery products, primarily for innovative projects that ensure their competitiveness. However, in reality it does not happen; there were no subsidies from the regional budget to finance investments in fixed assets, for example, the milling companies in 2002 – 2007, as is evident from

the statistics. In general, for the development of regional production of food (including meat and dairy products, beverages and tobacco) in 2006 – 2007 there have been granted subsidies from the federal budget in the amount of 69.1 mill. rubles, including 1.5 mill. rubles to the baking industry.

Thus, it is objectively necessary to enhance state support and regulation of the region's grain processing and bakery industries development, the development of appropriate forms of organizational and economic mechanisms of sub-federal administrative actions. The need for a taking a complex of measures with the participation of regional authorities to update the fixed assets and maintain a high competitiveness of cereals, bread and bakery products producers is obvious.

In the current situation of chronic lack of financial resources for expanded reproduction in the grain processing and bakery industries the most rational solution of funding sources choice is leasing scheme of investment in fixed assets, supported by fiscal subsidies of priority areas for development. The essence of the leasing transaction is that an enterprise having selected the necessary equipment, signs a contract with a leasing company, which acquires this equipment and sends it to the company in operation under a financial lease (leasing). Upon the expiry of the contract the organization becomes the proprietor of the equipment.

The calculations show that it is economically profitable for the enterprise to acquire property under the leasing scheme. For example, when purchasing baking equipment worth 590 thousand rubles through leasing a company during its operation will reasonably reduce the amount of tax payments to the budget by 26.3% compared with the option of buying by their own expense, and by 22.3% compared with the acquisition through a loan from the bank, it will not withdraw from circulation a considerable part of its own financial resources and will be able to repay the lease payments from the proceeds received from production with the new equipment. If a company takes loans from a commercial bank, it will have additional costs amounting to 21.1% of the cost of purchased equipment *(table)*. We should also emphasize such an important fact that the amount of current lease payments made by lessees, are included in production costs.

In this regard, it is natural to accumulate positive experience in the use of leasing finance investment schemes. The most significant is the practice of leasing by agricultural producers. Here in terms of investment hunger leasing, supported by the state, marked the beginning of counteraction to a systemic crisis in the agricultural sector and subsequently stopped the disposal of fixed assets in agriculture, and then provided a steady dynamic of their updating and, ultimately helped to stabilize and revitalize agricultural production. Agroleasing also contributed to reducing the rate of decline in engineering companies output and increase in the volume of its sales to the basic consumer – agro-industrial complex.

In structure of assets leased to the Russian Federation, agricultural equipment accounts for 11.76% and only information systems (17.73), vehicles (16.0), petroleum and geo-

Financial and economic benefits of enterprise's using the leasing scheme of investment in fixed capital, rubles

Indicator	When purchasing equipment through:		
	own funds	loan sources	leasing schemes
The one-time diversion of funds from the circulation	590,000	4,020*	73,750
Deficiency of profit in connection with one-time diversion of funds from the company's circulation	88,500 (with 15% profitability)	503	10,063
The amount of tax payments	491,100	465,457	361,736
Additional costs for the period of transaction	-	174,595	168,498
Payments from the net profit of the enterprise	-	63 729	-

* At a rate of 200 rubles per copy of each document; 500 rubles – information about cash flows in the company's accounts; 3000 rubles – wages of workers and other travel expenses in connection with the preparation of documents for the loan agreement.

logical equipment (13.35) are ahead of it; food, commercial and refrigeration equipment account for 5.84% (seventh place).

As is evident from the balance sheet data of the Department of Agriculture of the Vologda oblast, at the beginning of 2008 large agricultural producers used under the current lease deals (contracts), supported by subsidies from the budget, fixed assets amounting to 56,582 rubles, including buildings and structures on the amount of 425 thousand rubles., machinery and equipment – 20,985 thousand rubles, vehicles – 18,880 rubles, working and productive livestock – 15,403 thousand rubles.

Organizations engaged in financial activities in the field of leasing in the Vologda oblast, consistently increase the amount of work performed. The total value of financial leasing contracts concluded in 2007, reached 1,238 million rubles where the purchase of vehicles accounted for 46.5%, machinery and equipment – 34.7%, building and engineering constructions – 18.8%. The largest share in the structure of the contract value of financial leasing of machinery, equipment, vehicles is now occupied by manufacturing industries (55.5%), construction (15.5%), wholesale and retail trade (13.4%). Costs of enterprises producing food for the purchase of fixed assets on lease in 2007 ammounted to 16.1 mill. rub., including the purchase of vehicles – 10.7 mill. rub., machinery and equipment – 5.4 mill. rub.

As can be seen, the economic entities of the region are becoming increasingly aware of the effectiveness of the fixed assets acquisition through leasing in comparison with credit and feel the tax benefits associated with leasing. In addition, the accelerated transfer of the equipment cost at the cost of enterprises allows them to upgrade fixed assets and maintain competitiveness at a faster pace.

Based on the data of the conducted analysis and the positive experience of agroleasing in the region, this study proposes the introduction of organizational and structural model of machinery and equipment leasing, taking into account the specifics of grain processing and bakery industries. The model implies a clear distinction between the functions of the state on legal regulation of contractual obligations of leasing transactions parties, repeating with each new lease agreement, and the functions, ensuring the development of leasing as an activity aimed at resolving the problems of modernization of grain processing and bakery enterprises through the introduction of the technical and the technological innovations (figure).

Organizational and structural model of machinery and equipment leasing for the region's grain-processing and baking industries enterprises

The model is not oriented to the introduction of direct intervention in the organization of a leasing transaction of government authorities of grain processing and bakery industries in the face of the department of agriculture, food resources, trade and services. The architecture of the model allows implementing state regulation as a scientifically based set of measures of targeted impact on leasing activity in order to enhance the competitiveness of grain processing and bakery enterprises and sustainable development of the regional economic system.

Accumulation of financial resources within a specially created regional leasing fund will make the economic basis of the modernization implementation of production capacities of grain processing and bakery enterprises in the prevailing conditions of limited investment in fixed assets. Regional leasing fund will naturally become the dominant financial link of leasing relations. It will take the role of the financial center, which will economically ensure the rapid investment and innovative response of grain processing and bakery enterprises to the changing market conditions.

In this respect, the designed draft Regulations on the Leasing Fund for the provision of grain-processing and bakery complex of the Vologda oblast with special equipment, approved by Decree of the Government of the Vologda oblast will act as the legal basis for operation of the regional leasing fund.

The format and direction of the regional leasing funds spending for provision of grain-processing and bakery complex of the Vologda oblast with special equipment are derived from the overall government support strategy and regulation of the region's economy development. The level of tax payments made by enter-

prises of grain-processing and baking of the Vologda oblast can be set as the minimum size of the annual budget subsidizing of leases.

The selection of specific projects for modernization of production capacities, innovation and scientific and technological developments on a lease is proposed to determine on a competitive basis, using where necessary, expert evaluation, conciliations, consultations, etc. It would be appropriate to use here the method of priorities establishing in reliance on the program of technical re-equipment of grain processing and bakery industries enterprises of the Vologda oblast for 2008 – 2020 which can be found in the department of agriculture, food resources, trade and services.

In order to form a rational policy of leasing development in grain processing and bakery industries, improve its efficiency and optimize the interests of leasing subjects, regulate the relationship of lessors and lessees the creation of the coordinating council of the Vologda oblast budget leasing fund is justified and a draft Regulation on it is developed.

For development of appropriate solutions it is also recognized important to form an information-analytical base in which the most important link will be leasing marketing and monitoring of leasing services, as well as the systematization of data on consumer characteristics of the production produced by machine building plants for grain processing and bakery industries, on the effectiveness of leasing transactions and the level of innovation leasing potential use.

It will be necessary to authorize a number of officials of the Department of Agriculture, food resources, trade and services with appropriate powers to influence on behalf of the state on leasing activity in the grain processing and bakery industries. In particular, the spectrum of problems of leasing state regulation will need to perform the following functions:

- strategic planning leasing activity in the grain processing and baking industries;
- substantiation of the lessors and lessees;
- organization and managing the financing of leasing activity;
- making calculations on the needs for equipment, supplied on a leasing basis, the preparation and submission of materials to the contest of monitoring of the lessors' implementation of equipment delivery date under the lease contracts;
- planning, organizing and controlling the targeted use of leasing funds;
- developing recommendations for accounting and taxation, audit of rule-correctness of leasing operations reflection in the accounting;
- performing analysis of the effectiveness of leasing activity and predicting the prospects for leasing development in grain processing and bakery industries in the region.

The implementation of key provisions of production-economic justification for establishing a regional leasing fund for technical re-equipment of grain processing and bakery enterprises of the Vologda oblast will have a positive impact on their competitiveness and will help consolidate the positions of domestic enterprises in the market of cereals, bread and bakery products.

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UDC 336.12(470)
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Fiscal federalism and inter-budget relations in the Russian Federation

The article deals with the essence of fiscal federalism and its model in the world. Characterized by features inter-budget relations in Russia, their forms and methods of implementation. Represents an acting mechanism of formation and management of income and expenditure budgets of various levels and their relationship. Particularly detailed analysis of the problem of budgetary provision of local budgets, the ways of solving them. It is proved that the basis for the rationalization of inter-budget relations and real fiscal federalism is the progressive development of its economy, increase their own taxable capacity. The successful solution of problems of fiscal federalism, the author believes, depends largely on preserving the integrity of the Russian state, increasing its credibility in the international arena.

Fiscal federalism, a model of federalism, inter-budget relations, management, revenues and expenditures of regional and local budgets.

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Problems of fiscal federalism are considered in close interaction with principles of federalism and a federal form of government. The concept of "federalism" and "fiscal federalism" are very complex and multidimensional phenomena. This explains the fact that there are too many disputes and disagreements among scientists and engineers disclosing the content of these concepts.

Federalism is a peculiar form of government called a "federal state", which elements have begun traced from the beginning of the second millennium, having received a modern shape since the end of the XVIII century. However, until now there are no accepted common basic principles of federalism as a form of government. They are not fixed in any international act (which was, for example, applied to the local level of territorial arrangement of a state in "the European Charter of Local Self-Government"), and in different states, considering themselves as federal, these principles have many different interpretations.

Currently, each of ten countries of the world considers itself as federal and nominally consolidates an appropriate definition in higher legislative act, particularly in their constitutions. These states differ in spatial, economic

and territorial respects in the tens and hundreds of times. Federations differ structurally. For example, Russia is arranged phenomenally with its compound constituent territories (members of the federation). Many federations self-organized as unions (USA, Canada, FRG, UAE, Mexico, etc.). In some cases, federations were formed by external forces (such as India in 1956, Nigeria in 1964 or the Federation of Bosnia and Herzegovina, created on the military base in Dayton in 1995). In this regard, it should be noted that the formation of federations is not always perceived by the general population as an absolute good.

Federalism, in our opinion, is not only a peculiar form of state structure, but also a special way of controlling it. *It represents the way of governance, which involves an organic combination of economic, financial and other interests of the state with the interests of its individual parts, ensuring the unity and integrity of the country while respecting the independence of territories in matters included in their jurisdiction.* The idea of federalism is the opposite of separatism, which leads to fragmentation of a state, counterweight to regional autonomy and their desire to move away from the center and become completely independent (sovereign). Neutralizing separatist trends, federalism secures three-tier system of governance, which closely links the economic and financial interests of the federation and its constituent communities.

The definition of federalism means that it includes the economic and political components of its formation. *From an economic point of view federalism* implies the existence of separate regional units of fiscal and tax system of government (autonomous regional budgets, regional taxes, etc.). *And from the political point of view federalism* is a system of power, divided between the central (federal) and subfederal (regional) public authorities and local authorities.

Federalism, which is a federal form of government arrangement and a special way of governance, is the fundamental basis for the formation of fiscal federalism, predetermining in turn, the budget arrangement and budget system of the federal state. *The budget system is three-tier and consists of the federal budget, budgets of the members of the Federation and the budgets of municipalities (local budgets).*

Fundamentals of budget arrangement and budget system of the Russian Federation are determined by its state structure, established by the Constitution of the Russian Federation (article 5) as a federal republic consisting of republics, krais, oblasts, federal cities, autonomous oblast, autonomous okrugs – equal constituent territories of the Russian Federation. In accordance with the Budget Code (article 6), *the budget system of the Russian Federation is the complex of the federal budget, budgets of constituent territories of the Russian Federation, local budgets and state off-budget funds, based on economic relations and political structure of the Russian Federation, regulated by the legislation of the Russian Federation.*

The fiscal federalism on the one hand, is the base on which the inter-budget relations "rest", and on the other hand, the fiscal federalism and its basic principles are most clearly manifested and implemented through a system of inter-budget relations. Therefore, fiscal federalism often intersects with the concepts of "inter-budget relations", "budget control", "budget setting", etc. However, these concepts are not equal, since fiscal federalism is much wider and inter-budget relations, being a part of its structure, are an isolated, specific form of budgetary relations. In accordance with the Budget Code (article 6) *inter-budget relations are the relationship between public legal entities on the issues of budgetary relations management, organization and implementation of the budget process.*

In the economic and legal literature, there are many definitions of fiscal federalism, and until now there is no its definition in the Budget Code of the Russian Federation. In our view, the essence of fiscal federalism as a form of budget arrangement and budget system of a federal state is a legislative setting of budgetary rights and responsibilities of three equal parties – federal, regional and local authorities and management, rules of their interaction on the budget process

stages (preparation, consideration, approval and execution of budgets) as well as methods for partial redistribution of budget resources between the levels of budget system of the country.

Basically, fiscal federalism is a form of budget arrangement in a federal state, which involves real participation of all parts of the budget system equally in a single budget process oriented on taking into account of national interests, and promoting of the interests of constituent territories of the Federation and municipalities.

Fiscal federalism is based on a single socio-economic and fiscal policy of the federal state. This is such an organization of budget relations, which allows under independence (autonomy) of each budget combine fiscal interests of the federation with the interests of its constituent territories and local authorities.

The problem of fiscal federalism is not only and not so much a problem of relations of budgets of different levels of budget systems of a country. This is primarily a problem of the relationship between the state and its citizens by providing rational financial flows in the country. Accordingly, the way out of the socio-economic and financial crisis, maintenance and strengthening of the territorial integrity and federal basis of the Russian state assume formation and implementation of the active center of regional economic and financial policies.

Today for Russia it is indispensable to realize that an effective model of fiscal federalism and inter-budget relations system is a compromise (rather than budget competition), the product of synthesis of economic and financial interests of the state (including all levels of government), the public and businesses.

It is important to note that the compromise of the above interests can be achieved with providing the regional economic development. We should not forget that the economic potential of the state is not formed at the central government level, it is established in regions, therefore today for Russia the problem of self-sufficiency of economic and fiscal capacity of regions becomes paramount. It is the solution to this problem that establishment of inter budget relations and the formation of fiscal federalism should be aimed to.

In the world practice there are several models of fiscal federalism.

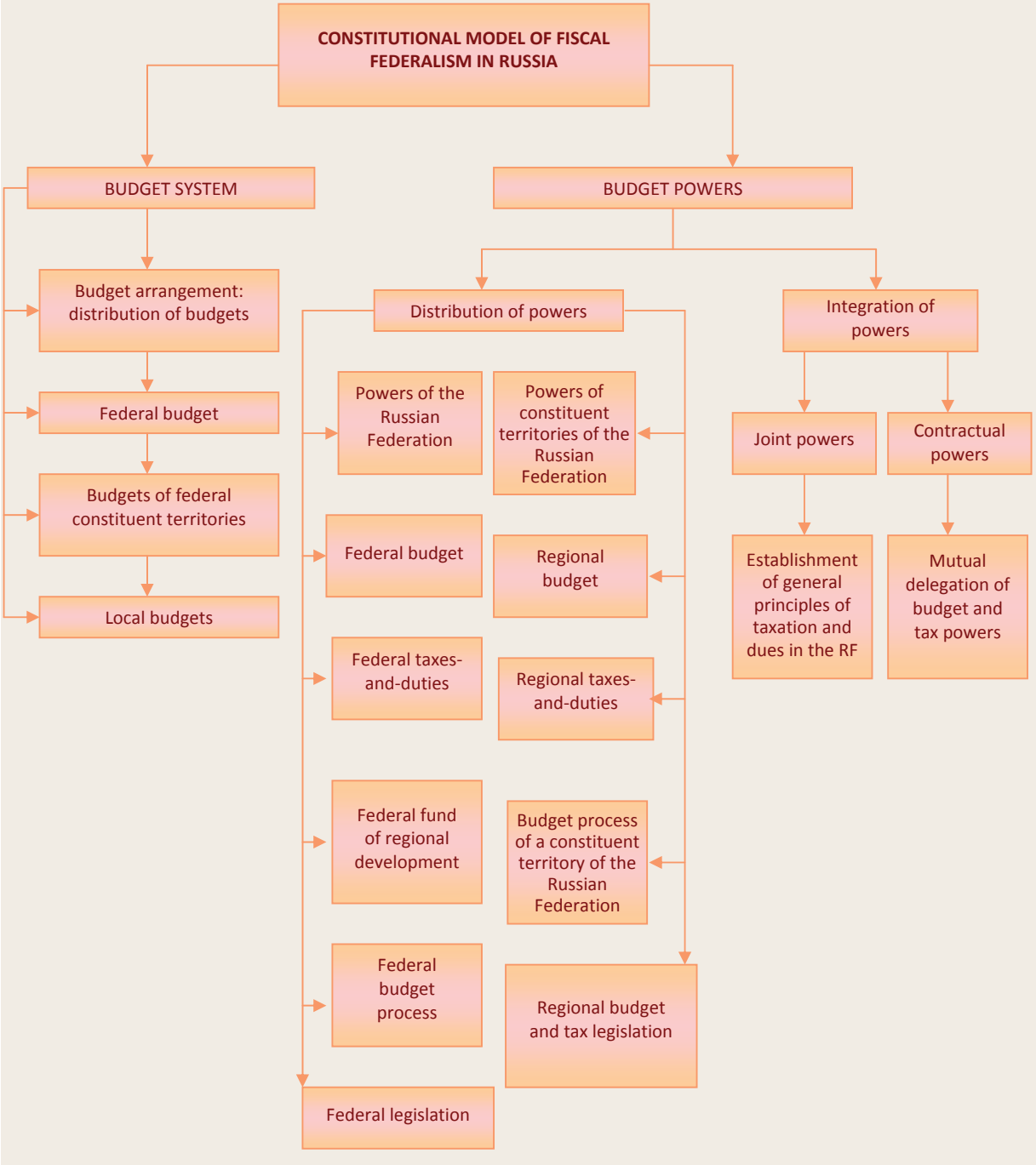
The classical model of decentralized fiscal federalism focuses on the competition between territorial entities with their own "disjoint" taxes on the principle of "one tax – one budget". This model of fiscal federalism is characterized by a high degree of decentralization of fiscal and budgetary processes of vertical power and budget system. In this case it is combined with the priority of the federal fiscal legislation which guarantees compliance of national interests and the possibility of the federal government to support the territorial entities. This model, applied, for example, in the USA, does not aim to align the tax potential of the region where it is below the national average. Regulation of inter-budget relations is used by the federal center is used as a means to implement its regional policy, provide financial support to states (USA constituent territories) based on targeted program method. It should be noted that not every federal state can realize at an appropriate stage in its development such a model of fiscal federalism, which is associated with a high degree of decentralization of management of fiscal processes.

Another model in the world carries the name of cooperative fiscal federalism. It is focused more on partnership, mutual support and active federal policy for the horizontal and vertical alignment of budget security of territorial entities in which it is less than the certain national average. In addition, in this model of fiscal federalism the autonomy of regional and local authorities in the field of taxation (e.g., Germany) significantly reduced.

However, there are *mixed models of fiscal federalism* (e.g., Canada, Switzerland). And in cooperative and mixed models of fiscal federalism the matter is the degree of decentralization and centralization of financial resources in the budget system of the country. In this regard, it is important that centralization was not excessive to the detriment of the population.

Russia's fiscal federalism can be attributed to the cooperative model, and its essence is that it involves partnerships between the federal center and the federal constituent territories on inter-budget relations. Therewith, the federal budget legislation in the Russian overrules the budget legislation of constituent territories of the federation, because it reflects their common interests, and above all interest in ensuring the integrity and unity of the federal state. The common law, in particularly constitutional base (model) of the Russian fiscal federalism is shown in *figure 1*.

Figure 1. Constitutional model of fiscal federalism in the Russian Federation



As noted, fundamental principles of fiscal federalism are realized through a system of inter-budget relations. An important condition for the formation of fiscal federalism is development of effective budget relations between all levels of budget system which has to ensure consistency between revenues and expenditures of all types of budgets (budget balancing) and be equally fair (in terms of legitimate separation of financial burden) for all members (constituent territories) of the federation, and within constituent territories – for their constituent entities.

Over the past few years in Russia there were fundamental changes in the regulation of inter-budget relations between budgets of different levels. These changes were implemented within the framework of the Concept of reformation of inter-budget relations in the Russian Federation in 1999 – 2001 respectively, adopted by the RF Government Decree of 30 June 1998 № 862, and the Program of Fiscal Federalism development in the Russian Federation for the period until 2005. Adoption of federal laws on general principles of organization of legislative (representative) and executive governmental bodies of the constituent territories of the Russian Federation, the organization of local self-government in Russia, as well as amendments to the Budget Code regarding regulation of inter-budget relations have created a legal basis which in a new way governing inter-budget relations in the RF. There are positive developments in the field of separation of budgetary powers between the federal authorities, state authorities of the constituent territories of the Russian Federation and local authorities, including the establishment on the legislative basis of the norms of distribution of revenues among the budgets of the budget system to ensure stable revenue sources for all budgets. In addition, inter-budget relations on the costs of the budget system of the Russian Federation on the basis of expenditure and budgetary commitments and their distinction between the budgets of different levels established by the Budget Code are regulated in a new way. Since then the principles of formation and distribution of inter-budget transfers provided from higher level budgets to subordinate budgets and others are redefined in a new way. Finally, an important base for improving the inter-budget relations in Russia has become "The concept of increasing the efficiency of inter-budget relations and quality management of public and municipal finance in the Russian Federation in 2006 – 2008", adopted by the Decree of the Government of the Russian Federation on April 3, 2006 № 467-p.

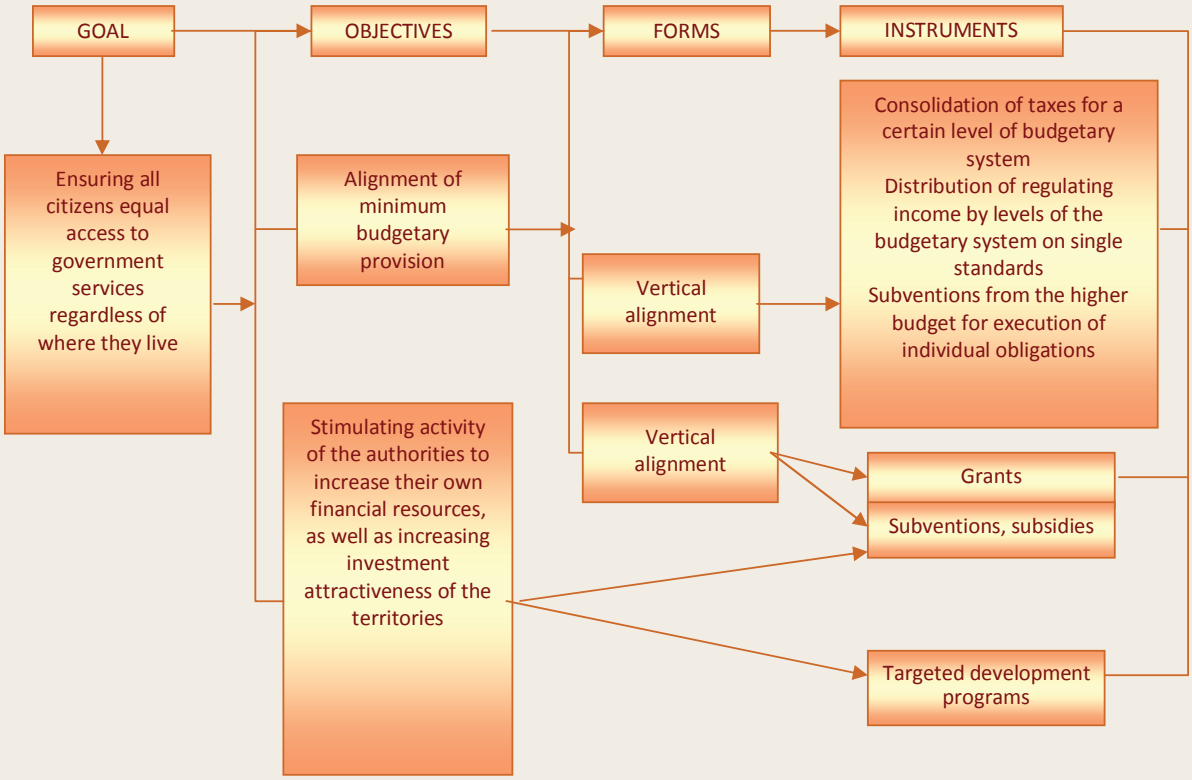
However, during the budgeting process a mismatch between revenue sources and expenditure obligations of the levels of the government and management, as well as inequality of budget security in different regions of the country continues to remain.

In terms of goals, objectives, forms and instruments for regulation of inter-budget relations vertical and horizontal regulation of inter-budget relations of vertical and horizontal budget balance respectively are distinguished. Common scheme of vertical and horizontal regulation of inter-budget relations in Russia is shown in *figure 2*.

Vertical regulation of inter-budget relations is the process to achieve balance between volume of commitments of every level of government by budget expenditures, and potential of revenue sources of budgets, with emphasis on tax revenues. It is unreal to completely eliminate discrepancy between incomes (tax revenue) and expenditures of budgets without regulation of inter-budget relations: there is no absolute coincidence between them.

The principle of vertical regulation of inter-budget relations in order to balance the budget imposes certain requirements as to the higher level of government (federal level) as well as to regional and local levels. If potential possibilities ensuring the revenue side at the lower level are not sufficient to finance their functions and provision of public services, for which one or another regional and local authority is responsible, the higher level of government must provide the lower levels with missing budgetary resources.

Figure 2. The general scheme of vertical and horizontal regulation of inter-budget relations in Russia



Vertical regulation of inter-budget relations imposes on the regional and local authorities, firstly, the responsibility for financial support of their consolidated functions and provision of related services to the public or state institutions and organizations, either through the private sector, and secondly, the obligation to effectively and responsibly exercise their rights to preserve and increase own revenue, particularly tax potential. Instruments of vertical control of inter-budget relations in this case, as follows from figure 2, are: consolidation of taxes for a certain level of budgetary system; distribution of regulating incomes by levels of the budgetary system on single standards; provision of subsidies from the higher budget for execution of individual account obligations.

However, the vertical regulation of inter-budget relations will not solve all the problems of fiscal federalism. Therefore, it is combined with construction of the horizontal (in the context of the budgets of the same level of the budget system) regulation of inter-budget relations.

Horizontal regulation of inter-budget relations is a process of proportional distribution of incomes (taxes) between territories by certain method (formula) to eliminate or reduce disparities in financial capacity of the RF constituent territories and municipalities. It is predetermined by the economic and financial inequality of regions, which leads to the inequality among different segments of population in the distribution of income and wealth, respectively, and to manifestations of social inequality conditioned by the territorial factor. Thus, the solution to the problem of having a single standard level of consumption of public services by residents of different regions in Russia is much more complex than in any other country in the world, due to significant differences in production and resource potential of the territories, which is determined by not only historical deployment of productive forces, but also a significant differentiation of climatic conditions. In addition, a significant impact on the provision of every citizen with minimum social standards have

Table 1. Proportion of population in the Russian regions with different levels of budget security, %

The level of budget security (in % to the average in Russia)	Year of 2005		Year of 2006	
	Before alignment	After alignment	Before alignment	After alignment
Critically low (< 64)	34	0	30	0
Low (64 – 70)	4	30	8	27
Below average (70 – 75)	7	8	11	8
Average (75 – 100)				
Above average (100 – 150)	24	24	25	25
High (> 150)	11	11	13	13

Source: Dementiev D.V., Shcherbakov V.A. The budget system of Russia: textbook. – 2nd ed., stereotype. – M.: KNORUS, 2009. – P. 36.

had a process of privatization of the economy, accompanied by massive failure of enterprises from the social costs, maintenance of social and domestic sphere, and often the release of workers who were forced to apply for social protection to the state.

After assistance from the Federal Fund for Financial Support to the regions in the form of subsidies for their alignment in 2006 compared with 2005 the regions of the country were guaranteed budget security not less than 64% of the average level, while significant increase in budget has involved 1/3 of the population *(tab. 1)*.

However, analytical data show that because of these reasons, differences in budget security of the regions of Russia now reaches 40 times[1].

The leading position in the overall system *of inter-budget relations belongs to inter-budget relations between the federal budget and budgets of the Russian regions*. The balance between revenues and expenditures for all budgets is provided with the help of established legal norms, mechanisms, methods and ways of regulating these inter-budget relations.

Foundation for constructing these inter-budget relations and ensuring balanced budgets in this case are legal distinction between spending commitments by federal and regional levels of power and consolidation of *own tax and nontax revenue* to the respective budgets of the constituent territories of the Russian Federation. For example, for the budgets of the Russian regions their own tax revenues are such regional taxes as a tax on property of enterprises and organizations, a transport tax, a tax on gambling, which, in accordance with the Budget Code of the RF, are entered on continuing basis and fully (100%) in revenues for their budgets. However, practice shows that the problem of forming minimum required balanced budgets of the RF constituent territories only by fixing on a continuing basis and fully their own tax and nontax revenues can not be solved, because these revenues constitute the smallest portion of total revenues in budgets of the Russian Federation.

Therefore, one of the most important ways of regulating inter-budget relations between the federal budget and the budgets of Russian regions and ensuring balance to the latter is the flow of funds in the form of deductions from federal taxes and revenues (an income tax, a tax on income from private individuals, certain excise taxes, etc.). For the budgets of the constituent territories of the Russian Federation (also for the local budgets), these revenues are called *regulatory or redistributed income*. List and regulations (in percentage) of deductions from certain federal taxes and revenues in the budgets of the constituent territories of the Russian Federation on continuing basis are determined in this case in accordance with the Budget Code of the Russian Federation, and specific proportions of their distribution between the federal budget and the budgets of the constituent territories of the Russian Federation shall be approved annually by the Law on the federal budget for next fiscal year and planning period. This mode of regulation

[1] Dementiev D.V., Shcherbakov V.A. The budget system of Russia: textbook. – 2nd ed., stereotype. – M.: KNORUS, 2009. – P. 36.

of inter-budget relations in Russia has long existed, since the Soviet era. Its advantage is ensuring the unity of revenue sources for all the budgets of Russia, as well as the interest of regional governments to fully mobilize not only property but also regulatory revenues and accountability. However, this method of regulation of inter-budget relations contains within itself the potential of dependency in some regions, it is possible to get more money in the form of regulatory incomes (the presence of subjective factors) without efforts to develop economy and increase their own tax base for their territories.

It should also be noted that as a result of excessive current economic and financial differences the majority of Russian regions are depressed (subsidized and oversubsidized). There are about 70 of 83 constituent territories of the Russian Federation.

Due to the absence of sufficient tax base in depressed regions possibility for increasing deductions from federal taxes in budget income is limited, hereupon their own and regulatory income taken together, do not cover the costs of the budgets of these regions. Therefore, a way is applied for financial assistance from the federal budget to budgets of the constituent territories of the Russian Federation in the form of grants, subventions, which has *the name of gratuitous revenues of funds*. These types of financial assistance are carried out through *inter-budget transfers, i.e. funds provided by one budget of the Russian Federation budget system to another budget of the Russian Federation budget system (article 6 of the Budget Code) on certain principles*.

Thus, grants are funds provided to the budget of another level of the budget system of the Russian Federation on a free and non-repayable basis to equalize the minimum budget security of the territories. Subventions are funds provided to the budget of another level of the budget system of the Russian Federation or a juridical person on free and non-repayable basis for certain target costs. Subsidies (assistance, support) are funds provided to the budget of another level of the budget system of the Russian Federation as well as a juridical or natural person on the basis of equity financing of target costs.

It is easy to see that the component of the system of inter-budget relations in Russia is also inter-budget transfers used to regulate these relations. Thus, to provide financial assistance to regions in the form of grants in the federal budget are created the following *federal inter-budget transfer funds*:

1) The Federal Fund for Financial Support for Regions (FFSR) – in 1994;

2) The Federal Compensation Fund (FCF) – in 2001;

3) Federal Fund for Co-financing of Social Spending – in 2002.

Government of the Russian Federation approved a single method of calculation of formation and distribution of these funds. Volumes of these federal inter-budget transfer funds are approved annually by the federal law on the federal budget for next fiscal year and planning period.

Statistics indicate that up to the economic and financial crisis, when the federal budget of Russia was prepared and executed with a surplus, amounts in the federal inter-budget transfer funds had a constant tendency to increase. For example, for 5 years (2000 – 2007.) total volume of financing costs from these funds and existing in the period funds of regional development and reformation of regional and municipal finance, all together increased by 47%[2]. However, in recent years of crisis, in terms of a deficit in the federal budget, there is a trend of reducing financial volumes in regions from the federal inter-budget transfer funds. Thus, according to a draft of the federal budget for 2011 and 2012 – 2013 general inter-budget transfers are to be cut in comparison with 2010 by 130 billion rubles. In this case, subsidies to equalize budget security of the RF constituent territories and municipalities remain unchanged, i.e. without increase[3].

[2] Dementiev D.V., Shcherbakov V.A. The budget system of Russia: textbook. – 2nd ed., stereotype. – M.: KNORUS, 2009. – P. 37.

[3] Soviet Russia. – 2010. – October 19. – P. 3.

Among all of the federal transfer funds takes a leading place belongs to FFSR, through which grants are provided to budgets of the constituent territories of the Russian Federation on the alignment of their minimal budget security. According to the federal budget for 2011, grants made from this fund for regional alignment of their budget security, would amount to 400 billion rubles. The list of recipients of subsidies was 70 constituent territories of the Russian Federation, which are about 100 million Russians. It turns out that each of them has 4,700 rubles from FFSR[4].

FCF, included in the expenses of the federal budget, in essence serves as a way of exercising the authority of the federation in the social sphere. For ensuring the provision on the Russian Federation territory of government and municipal services relating to the powers of the RF constituent territories and municipalities, is the commitment of the entire state. Therefore, at the expense of FCF subventions are provided, which distribution is carried out among all, without exception, constituent territories of the Russian Federation and municipal entities, regardless of their level of budget security.

In fact, the fund is formed and distributed in order to ensure equal opportunities for funding from the budgets of Russian regions (within the scope of the consolidated budget of the constituent territories of the Russian Federation), the delegated funding to public authorities of Russian regions and local authorities for the execution of commitments. It is primarily costs on implementing the delegated authority for the provision of social support measures, in particular to pay 50% of housing services to certain categories of citizens in accordance with Federal Law on May 15, 1991 № 1244-1 "On Social Protection of Citizens Exposed to Radiation due to the Catastrophe of the Chernobyl NPP"; the Federal Law on January 12, 1995 № 5-FL "On veterans"; the Russian Federal Law on January 24, 1995 № 181-FL "On social protection of invalids in the Russian Federation", etc. Then formation of FCF within the federal budget is designed to use the new scheme of target funding of performance of the above laws. This fund is a new element in the system of inter-budget relations between the center and the regions of the country, aimed at ensuring partial provision of uniform government guarantees, social protection (with regard to these and other federal laws) throughout the Russian Federation provided by the federal law. It should be noted so that the establishment of the fund can be considered as an important step of the Government of the Russian Federation for clearer allocation of revenue and expenditure budget powers of all levels and reduction of the number of federal laws that have no specific funding sources.

Intermediate position between FFSR and FCF is the Federal Fund for Co-financing of Social Spending, which is designed to provide subsidies to the budgets of Russian constituent territories to participate in the financing (co-financing) of the country's priority expenses. The assets (grants) of this fund are distributed among all, without exception, constituent territories of the Russian Federation for target financing (partial refund) of the priority of socially significant costs (primarily for education, health, culture, social welfare, etc.) under certain conditions.

Goals and objectives, conditions for granting and disbursement of grants from FFCSR, selection criteria for constituent territories and / or municipalities to allocate these subsidies and their distribution among the constituent territories of the Russian Federation are established by Federal Laws (except the law on the federal budget for next fiscal year and planning period) and / or regulations of the Russian Government for a period of not less than 3 years. In this case the approval of undistributed subsidies among the constituent territories of the Russian Federation is allowed but not more than 5% of the total of the subsidy approved in the first year of the plan period and not more than 10% of the total of the subsidy approved for the second year of the plan period.

[4] Version. – 2010. – № 45 (270). – November 22-28. – P. 4.

It should be noted that the constitutional model of fiscal federalism and inter-budget relations in modern Russia for 20 years of its history have undergone significant changes. Thus, in the 90 years of the twentieth century, in the absence of state power hierarchy and with weak legal regulation of inter-budget relations, as well as under the influence of political conjuncture, the desire of individual territories to acquire greater independence, up to obtaining the sovereignty in Russia there was spontaneous decentralization of budget resources. As a result, the share of regional budgets increased from 40% to 50 – 55%. Most importantly, the totality of these factors, in turn, jeopardized the integrity of the Russian state. In the second half of the 90-ies the approximate distribution of funds among the individual links of the budget system of Russia was characterized by the following data *(tab. 2)*.

Table 2. Distribution of funds between the links of the budget system of Russia in the second half of 1990, %

Consolidated budget of the RF, total	100
Federal budget of the RF	45-55
Consolidated budgets of the constituent territories of the RF, among them:	55-45
budgets of the constituent territories of the RF (regional budgets)	30-25
local budgets, including:	20-25
city budgets	16-10
district budgets	7.5-8
settlement budgets	0.5-0,7
village budgets	1-1.3
Source: The budget system of Russia: textbook for high schools / ed. prof. G.B. Polyak. – M.: UNITY-DANA, 2003. – P. 29.	

In future, resulting in the restoration of state power vertical (through the creation of federal districts headed by Presidential Plenipotentiary of the RF), adoption and enactment of the Budget Code of the RF and a number of federal legislative and standard acts since 2000 in Russia principles of federalization (centralized fiscal federalism) began strengthening and there were changes in the allocation of funds between the links of the budget system of Russia in favor of the federal budget. Currently, about two-thirds of the budget (tax revenue) is concentrated in the federal budget. A worldwide practice proved that if the proportion of budget allocation between the federal budget and the budgets of constituent territories of the federation account for 60% and 40 percent respectively, the budget system of the country is functioning as a unitary state budget. Incidentally, in one of the "old" editions of the Budget Code of the RF was recorded that the allocation of tax revenues by the levels of the budget system of the RF tax revenue of the budgets of the Russian Federation must be at least 50% of the revenues of the consolidated budget of Russia[5].

It follows that today in Russia there was a centralized system of inter-budget relations to the detriment of the regions. The result is their high financial dependence on the federal government. It turns out that the principle of independence of the budgets of the Russian Federation has an avowed nature, since these budgets are actually formed in the Ministry of Finance (in the process of forming the federal budget). It is there that the definition of subject's accumulated revenues of their budgets takes place and supply is determined. In practice, the federal budget of Russia is essentially functioning as a centralized unitary state budget.

A special sub-system of inter-budget relations of the Russian Federation is *inter-budget relations within the Russian constituent territories*, where financial flows are circulating from the federal budget and budgets of constituent territories of the Russian Federation towards the budgets of municipalities (local budgets).

In this regard, we emphasize that the beginning of 2004 is marked by an important step of reforming local government, a system of local budgets and intra-regional inter-budget relations. The adoption of acts such as the Federal Law of July 4, 2003 № 95-FL "On Alteration in the Federal Law "On general principles of organization of legislative (representative) and executive bodies of the government authorities in the Russian Federation", the Federal Law of October 6, 2003 № 131-FL "On general

[5] The Budget Code (on February 1, 2003). – M.: Urait, 2003. – P. 38.

principles of organization of local government in the Russian Federation" served it. The latter came into force on January 1, 2006.

Following the reform of local government in accordance with the Federal Law № 131-FL in Russia was formed a two-tier system of local government, respectively, and local budgets. Thus, in the Vologda oblast there are 372 municipalities (instead of previously functioning 28 municipalities) and the number of local budgets increased from 28 to 372. They are 26 local budgets of municipal districts and 2 local budgets of urban okrugs (budgets of cities of Vologda and Cherepovets); 23 local budgets of urban settlements and 321 local budgets of rural settlements.

The analysis shows that the formation of local budgets only at the expense of its own tax and non tax revenues (tax on personal property, land tax, etc.) fully assigned to them (100%) and on an continuous basis, as well as at the expense of regulatory (redistributed) revenues generated in the form of deductions from federal and regional taxes (tax on personal income, profit tax, tax on property of enterprises and organizations, transport tax, etc.) on a sustained basis in accordance with the Budget Code and the annual Law on the subject budget of the Russian Federation, the problem of balance of these budgets can not be solved. Almost none of the municipalities at the expense of the above mentioned own and regulatory incomes, taken together, can not form more than half of the revenues from the local budget. Therefore largely the balance of local budgets is provided by *non-repayable earnings* from the higher budget, particularly from regional, in the form of grants, subventions and subsidies. Non-repayable earnings account for a large share in total revenues of local budgets. Due to these revenues a significant part of local budgets is financed. For example, in 2008, in the Vologda oblast 43.6% of the total expenditures of local budgets of municipal districts and settlements have been funded from the amounts of grants from the regional budget[6].

[6] Povarova A.I. Formation of the regional budget in the crisis // Economic and social changes: facts, trends, forecasts. – Vologda: ISEDT RAS, 2010. – № 2 (10). – P. 101.

In order to provide non-repayable earnings (grants, subventions, subsidies) to local budgets in the budgets of constituent territories of the RF *the regional inter-budget transfer funds* are formed, which are an integral part of the system of inter-budget relations within the constituent territories of the Russian Federation. In the regional budget of the Vologda oblast, for example, the following regional transfer funds are formed:

- for financial support to municipal districts (urban okrugs) and financial support to settlements for the alignment of budget security of local budgets;
- co-financing of social spending on share financing of socially significant costs;
- compensation for the financial support of specific state powers referred to the municipalities.

The procedure for the formation of a regional fund for financial support to municipalities and method of distribution of grants, including the order of calculation and approval of grants by additional regulations of deductions from tax on individual income in local budgets are approved by the law of the subject of the Russian Federation. Grants are provided to municipal districts (urban okrugs), which level of budget security exceeds the performance criterion of alignment of calculated budget security of municipalities (urban okrugs). Determination of the level of calculated budget security of municipalities is made by a single method ensuring the comparability of their tax revenues, as well as the cost of public services per capita. The volume of regional inter-budget transfer funds is approved by the annual budget law of the subject of the Russian Federation for the next fiscal year.

Financial support from the budgets of municipalities to the budgets of settlements in the form of grants has similar character. Procedure for the formation *of district transfer funds* and distribution of grants is provided by the law of the subject of the Russian Federation. Grants from the district fund for financial support to settlements are provided to settlements, which

Table 3. Grants, subventions and subsidies provided by the regional transfer funds of the regional budget to local budgets

Municipal okrugs and districts	Grants		Subventions		Subsidies	
	Amount (thousand rubles)	Percentage in the regional fund (%)	Amount (thousand rubles)	Percentage in the regional fund (%)	Amount (thousand rubles)	Percentage in the regional fund (%)
City of Cherepovets	-	-	1438955.4	21.8	323997.2	21.9
City of Vologda	-	-	791195.4	12.0	217412.7	14.7
Vologda	81286.1	7.0	354705.9	5.4	52306.6	3.5
Veliky Ustyug	108367.6	9.4	334205.6	5.1	74588.4	5.0
Ust'-Kubinskoye	40580.6	3.5	81932.5	1.2	67415.0	4.6
Sokol	78545.3	6.8	279186.7	4.2	54636.5	3.7
Kichmengsky Gorodok	68593.2	5.9	125482.1	1.9	41035.1	2.8
Verkhovazh'ye	63971.6	5.5	101075.2	1.5	33249.5	2.2
Ustyuzhna	62945.3	5.5	164302.4	2.5	21448.5	1.5
Tarnoga	60039.9	5.2	94284.1	1.4	32203.0	2.2
Vozhega	51550.8	4.5	155550.0	2.4	63735.8	4.3
Babaevo	47243.4	4.1	160651.5	2.4	30436.3	2.1
Kharovsk	43147.4	3.7	185481.7	2.8	40275.5	2.7
Babushkino	44765.5	3.9	93800.8	1.4	22881.0	1.5
Tot'ma	42767.0	3.7	165487.7	2.5	28261.1	1.9
Vashki	42544.2	3.7	75986.3	1.2	14146.4	1.0
Kirillov	41511.2	3.6	119812.8	1.8	14241.2	1.0
Nyuksenitsa	40750.1	3.5	92108.8	1.4	19721.4	1.3
Syamzha	38152.2	3.3	79449.2	1.2	20437.5	1.4
Gryazovets	35786.5	3.1	228634.2	3.5	23760.8	1.6
Mezhdurech'ye	31509.3	2.7	68172.7	1.0	13979.0	0.9
Belozersk	29573.3	2.6	171436.3	2.6	24669.0	1.7
Chagoda	17187.1	1.5	146041.2	2.2	16020.0	1.1
Nikolsk	83388.3	7.2	153442.5	2.3	24669.0	1.7
Cherepovets	-	-	308216.4	4.7	60878.1	4.1
Vytegra	-	-	175951.1	2.7	67020.3	4.5
Kadui	-	-	148705.8	2.3	11983.7	0.8
Sheksna	-	-	191362.2	2.9	64353.8	4.4
TOTAL	1154205.9	100.0	354705.9	100.0	1478761.7	100.0

Source: www.zs.gos35.ru

calculated budget security does not exceed the criterion of alignment of calculated budget security of settlements of this municipality. Settlements included in the municipal area, are obliged to transfer subventions (negative transfer) to the budget of the municipal district to address local issues of inter-municipal nature.

The procedure for calculation and use of subventions is set by the charter of the municipal district. The size of subventions is approved by the decision of the representative body of the municipal district and the decision of the representative bodies of settlement by common standard to all settlements per capita. Volume of the District Fund for financial support to settlements is approved by the decision of the representative body of the municipal district on the budget for next fiscal year.

Statistics show that up to the economic and financial crisis, the total amount of transfers from the regional budget of the Vologda oblast to the budgets of municipal districts and settlements has increased from 41.5% in 2006 to 43.6% in 2008[7]. However, in recent years of

[7] Uskova T.V., Gutnikova E.A. Small business development as a factor of increasing the financial autonomy of municipalities // Economic and social changes: facts, trends and forecasts. – Vologda: ISEDT RAS, 2010. – № 2 (10). – P. 94.

the crisis due to the lack of regional budget financial support through the regional transfer funds to local budgets tends to decrease. Almost all of the local budgets of municipalities in the Vologda region are subsidized.

From the data of *table 3* we can see that in 2008, except local budgets of two okrugs (the budgets of cities of Cherepovets and Vologda), as well as the budgets of four municipal districts (Cherepovets, Vytegra, Kaduy and Sheksna districts), local budgets of the remaining 22 municipal districts of the Vologda oblast are subsidized.

Note that not only in the Vologda oblast, but also in many other constituent territories of the Russian Federation today formally almost all local budgets are subsidized. And, we believe, it is not a matter of the deterioration of general economic and financial situation in the regions and their municipal formations, caused by the economic and financial crisis. Even before the crisis during sustained economic development of territories, especially the constituent territories of the Russian Federation, there was budget shortfall in municipal formations, caused by the increasing centralization of tax revenues to higher budgets, in particular the federal budget. In this regard, in modern Russia there is still too high financial dependence of local municipal budgets on higher budgets.

Considering the inter-budget relations of the Russian regions and municipal formations, in our opinion, particular attention must be paid to existing contradictions and the problem of determining the location and function of local budgets in the total budget system of Russia. The essence of these contradictions and problem lies in the fact that local budgets which are the foundation of the pyramid of the budget system of the country, at the same time are the main financial base of local government, which, however, in accordance with the Constitution (article 12), is not a part of public authorities. It turns out that the state budget funds (local budgets are state-owned) are used by non-governmental organizations (local governments) and local budgets virtually "drop out" of the budget system of Russia. This situation undoubtedly affects the efficiency of inter-budget relations of the Russian regions and municipal formations in terms of creating the necessary conditions for the formation of long-term and stable local budgets. And since this subsystem of inter-budget relations mirrors inter-budget relations between the federal center and the constituent territories of the Russian Federation, without solving the contradictions it is impossible to create an effective system of inter-budget relations of the country as a whole and real fiscal federalism.

Thus, the existing legal norms, mechanisms, means and methods of regulating the system of inter-budget relations in Russia ill-suit to solving problems of creation of real fiscal federalism. In the country there is the redistribution of budget resources in favor of the federal budget; there is a centralized system of inter-budget relations; financial dependence on lower budgets is excessively high. Consequently, the budget system and the federal budget of Russia in particular, operate as a budget of not federal but unitary state. No doubt that there is a need for further improving of the legal framework and mechanisms to improve effectiveness of the inter-budget relations and the formation of real fiscal federalism in modern Russia.

In this case, the basis of a full-scale budget reform in terms of inter-budget relations promoting development and strengthening of fiscal federalism in the country, is the Concept of improving the efficiency of inter-budget relations and management quality of public and municipal finance in the Russian Federation. The implementation of this concept is to address the following main tasks:

- strengthening of the financial autonomy of the Russian constituent territories and municipal formations;
- creating of incentives to increase revenue income in the budgets of the constituent territories of the Russian Federation and local budgets;
- formation of incentives to improve management of public and municipal finance;

- increase of transparency of regional and municipal finance;
- providing of methodological and consultative support to the constituent territories of the Russian Federation in order to improve efficiency and quality of management of state and municipal finances, as well as the implementation of the reform of local government.

The key to solving these problems, as we see it, lies primarily in providing relatively uniform development of economy and finance, respectively, in expanding their own taxable capacity in all regions and municipal formations, primarily, of course, in the depressed regions of the country. Only through sustainable economic development the excessive gap between own revenue sources and spending obligations of the country can be overcome and existing today a high level of financial dependence on the federal government can be reduced. And this means that Russia is still on a considerable and difficult path to the real fiscal federalism. But it is necessary because preserving of the integrity of the Russian state depends largely on the successful solution to the problem of fiscal federalism.

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UDC 004(470.12)
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Informational system of monitoring of the region's scientific and technical potential *

In the article the characteristics of the modern state of the problem of informational monitoring systems' development are represented, the primary goals of information technologies' application to monitoring scientific and technical potential are formulated. On the analysis' basis the functional system model is based, the mechanism of its basic modules' work is represented. The problems of the program's developing and realizing of the informational system for the regional scientific and technical potential's monitoring are considered. The information system is represented as the programming-informational complex based on the principle of the united information space and providing the operative analytical account and the control of the development parameters of the scientific and technical potential.

Scientific and technical potential of a region, informational monitoring system, data formation and processing, use organizing.

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Transformation of the scientific and technical potential (STP) into one of the basic resources of the steady economic growth in Russia became prevalent. Recently the Russian researchers have achieved significant progress in studying the essence and the structure of the mentioned problem. There appeared the techniques of estimating regional scientific and technical potential, which differ from the western ones. Such works include: the technique of the factorial analysis of the innovational regional potential (E.P. Amosenok, V.A. Bazhanov) [2]; the technique of regions' clustering and the parameters of the innovational system's development (A.E. Varshavsky) [3]; the methodology of the regional innovativeness' index (Independent Institute of the Social Policy of the Russian Federation) [4]; the technique of

* The research was carried out under the support of the Russian Foundation for Humanities (grant №09-02-00343v/I).

rating regions according to the level of their innovational development (A.B. Gusev) [5]. Among the latest researches we should note the technique of the comparative estimation of the regional scientific and technical potential; this technique was developed at the Institute of the Socio-Economic Development of Territories of the Russian Academy of Science (K.A. Zadumkin, I.A. Kondakov) [1].

At the same time it becomes more and more clear, that the realization of the techniques on the research of the regional scientific and technical potential cannot be carried out without timely, total and reliable information. One of the ways of its getting is monitoring. We can define monitoring of the regional scientific and technical potential as the activity on providing information of managerial processes in the regional scientific and technical development, based on gathering, keeping, processing and transferring information with the purpose of its use for the solution of the following problems:

- determining of the available resources and the achieved results of the scientific and technical development of a region;
- revealing problems of the scientific and technical development and elaborating the effective policy for their decision;
- making up the list of all possible directions of the development in science, mechanics (technical equipment) and critical technologies, and also the forecasts' development and their realization in a region.

Unfortunately, in the majority of Russia's regions there practically don't exist the systems of constant monitoring of the scientific and technical potential, which are capable to deliver the necessary information. It is caused by the underdevelopment of the home statistical supervision system, its limitation and discrepancy to the requirements of managing the scientific and technical sphere; and also by the absence or incompleteness of the available databases on the carried out researches and projects. The Russian market of IT-services is characterized by a rather small choice of decisions in the sphere of monitoring and analysis of the socio-economic processes occurring in regions and the process of the new elaborations' creati on cannot be characterized as a single whole.

The absence of the set of measures providing monitoring makes difficulties for the process of getting and analyzing information. There passes too much time from the moment of getting information and to the moment of analyzing the processed data; it leads to the backward administrative decisions. Therefore it becomes possible to raise the quality and the efficiency of the monitoring organization only with the use of information technologies.

The information resources of the monitoring systems considerably differ from the resources of electronic libraries and other information systems focused on users' helping service. The main difference is that in users' helping service they use kinds of documents in the scientific sphere which, as a rule, are already available. However for monitoring systems it is insufficient, there is the need for generation of new information objects.

Studying the matter of informational monitoring system's creation towards to STP allowed us to the reveal the key tasks of informational monitoring technologies' creation. They are [6, 7, 8]:

- ➲ creating the general protected informational space, allowing to check the data integrity, their urgency and the contents;
- ➲ getting data by telecommunication channels from distant users through web-interface with the opportunity of differentiation of the proxy and access levels;
- ➲ formation of the initial information files necessary for carrying out mathematical analysis and calculations;
- ➲ generation of the high-grade reports in the widespread formats with the opportunity of further work with them.

In our opinion, the informational monitoring system should represent the program-information complex organized by common principles on the basis of indivisible information space with the support of the concept of

the single data input into the system, and also providing the efficient analytical account and control of the scientific and technical potential parameters. The system functions in the outer conditions and operates with huge amount of information, therefore the most convenient form of organizing information keeping and access are databases.

The basic requirements to the informational monitoring system's software are the following ones [9, 10]:

⇨ providing diagnostic messages at input, control and update of information;

⇨ the opportunity of partial and full printing of the entered information;

⇨ revealing control points on the quantity indicators at loading and distributing information, i.e. correspondence of the downloaded and extracted information;

⇨ righ requirements to all characteristics of the infrastructure hardware elements;

⇨ protection against the non-authorized actions, independence of the functional subsystem within the informational monitoring system from infrastructure changes;

⇨ code, program and technical compatibility of devices, coordination of productivity, throughput and capacities of subsystems and infrastructure elements.

Besides that the informational monitoring system of STP should have the following features:

➢ adaptability for a wide range of parameters, each of which has quantitative and qualitative features;

➢ succession of the new information technologies with the ones used in the existing informational monitoring system;

➢ automation of the considerable number of the functions necessary at estimating the scientific and technical potential.

The informational system's design is made within the framework of the dynamic environment, in view of technical progress, of the reduced terms of technical innovations' life; therefore the information model supported in informational monitoring systems is dynamical.

While carrying out the project of an informational system it is necessary to determine its structure, i.e. to allocate subsystems, elements, their relations and informational connections.

The process of information analysis should determine all the procedures of getting, transforming, keeping, transferring and representation of information, starting from its downloading into the informational system and resulting in its representation to a consumer.

According to the order of carrying out all technological processes fall into three groups; they are preliminary, computing and post-computing information analysis [9]. Each group provides carrying out a corresponding process stage of the analysis and is characterized by certain download and extract forms of the information representation. Preliminary analysis provides the operations on getting, registration, initial information analysis, downloading data to the computers.

Computer analysis is determined by the character of the processes which are carried out for the realization of the tasks of the informational monitoring system, and by the organization of controlling information files. The certain role is played by the type of the mentioned information files' structures and by the structure of the system software which operates the computing process.

At the stage of post-computing analysis the registration of the final forms, their control and transfer to users is made. After the analysis of the initial data those people who are interested can receive the documents with the data on the basic results of carrying out the region's STP estimation.

According to the positions mentioned above, at the stage of studying the subject automation domain the generalized functional structure of informational system *(fig. 1)* was made up. The system will consist of 2 modules, the module of the expert in the STP field and the user's module. The primary goals which are carried out by the modules are also represented in figure.

Figure 1. Functional structure of informational system

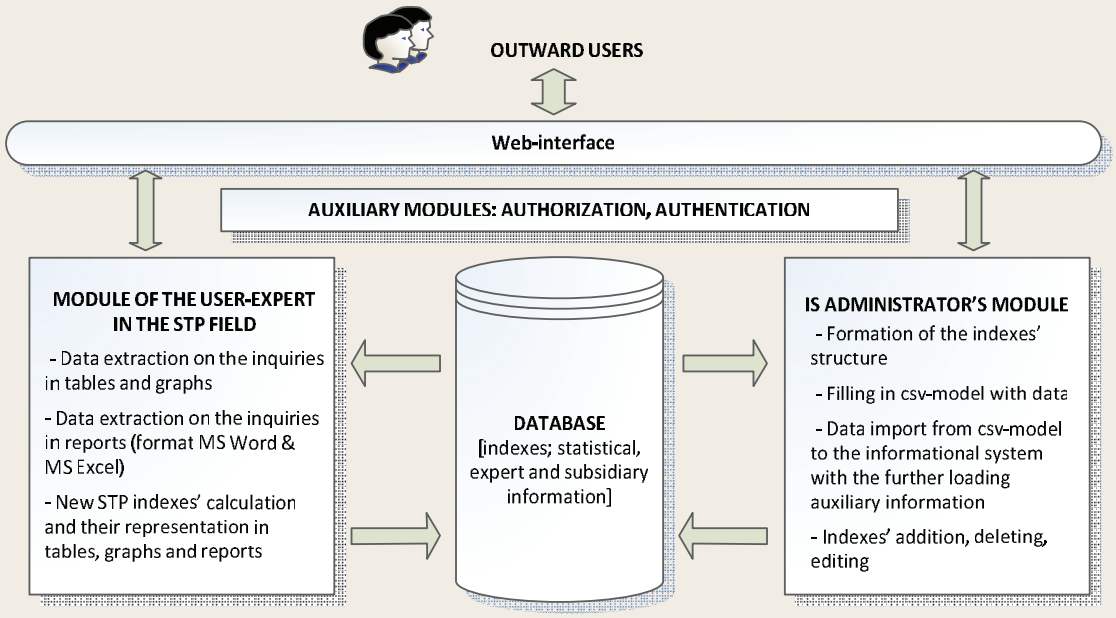
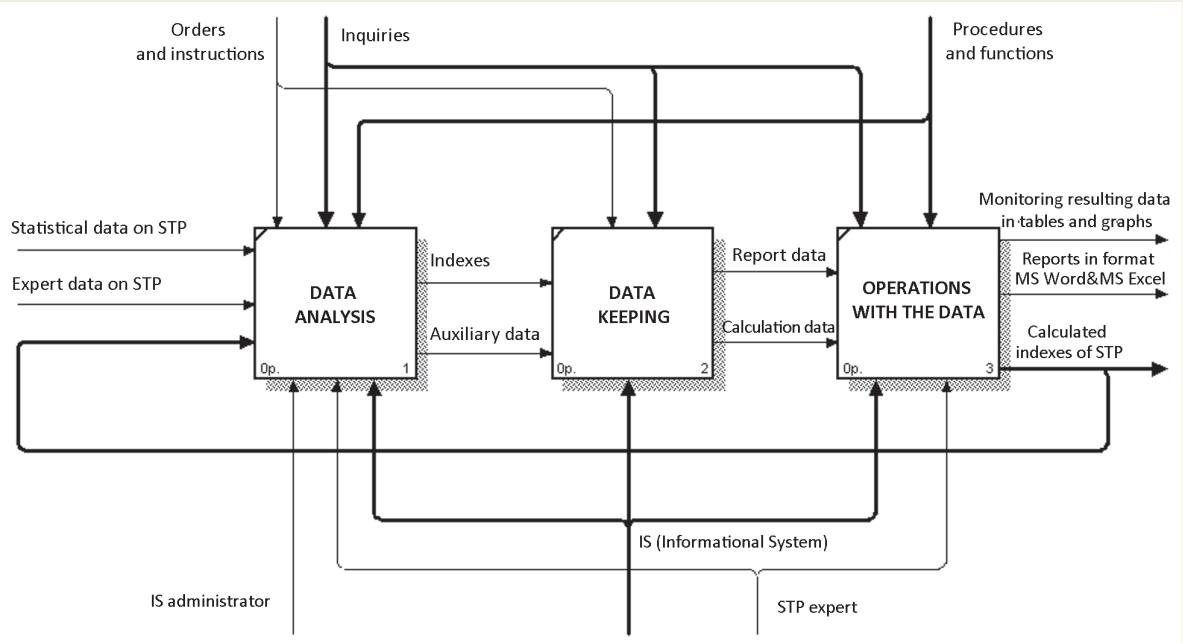


Figure 2. Decomposition of the contextual diagram of the informational monitoring system of the regional scientific and technical potential



At the stage of informational system's design the author applied the structural approach which consists in IS' consideration from the general position with the subsequent detailed elaboration and representation as a hierarchical structure [8]. The model was received with the use of CASE-means, and the circuit submitted in *figure 2*, was constructed with the help of program BPwin (means of the functional modeling realizing the IDEF methodology).

Input represents the information, transformed by the functional block. For the given model the primary entrance information are the statistical information (separate parameters and the summary index) and the results of the experts' interrogations (for example, the heads of enterprises and higher schools). The informational system, the informational system administrator and the expert in the STP field will be the managing mechanism. The executive mechanisms are orders and instructions on the informational system use, developed at ISEDT RAS, the SQL-inquiries addressed to the base of the statistical and expert data, procedures and functions of the data analysis. The extracted information is submitted as the data of monitoring result in tables and graphs, designed as reports in format MS Word and MS Excel; and also as the calculated parameters and indexes characterizing the level of the scientific and technical potential of a region.

To consider the contents of the informational system and its opportunities, we shall analyze the mechanism of work of each of three basic functional blocks.

For the process "Data analysis" the statistical information and the results of the experts' interrogations are used. According to the technique all statistical information in the system should be divided into four blocks: 1) science and innovations, 2) education, 3) informational infrastructure and communications, 4) general characteristics. Each block includes groups of the describing parameters submitted in the official statistical collections (for example, the block "Science and innovations" includes such groups of parameters, as staff, financing, material base, innovational activity and scientific productivity). By this day about 60 basic parameters have been formulated.

At realization of the informational system's interface for the hierarchy's precise and evident representation was made the decision to display all the parameters' set as a tree. The system administrator's task will be to generate a tree of parameters, and then to import the data to the system.

The data received after analyzing are kept in the block "Data keeping". By means of inquiries a user takes the necessary information for the report or calculation from the database and chooses how to represent it. Inquiries' processing occurs as a result of procedures and functions operating in the block "Operations with the data".

Monitoring results can be represented in the following forms:

1. Table, representing the summary information on the chosen parameter for any territory in view of years and units.
2. Graph which is represented by a picture (diagram) on the chosen parameter for any territory in view of years and units. Graphic visualization is realized with the help of RNR library JPGRAPH. Now the system can make graphs, circular and columnar diagrams.
3. The format of documents MS Word and MS Excel – export to this formats is realized with the help of RNR library PEAR.

Besides that, the block is intended for carrying out operations with the initial data for calculation of the new parameters or indexes according to the developed technique.

Realization of any operations (multiplication, division, addition, subtraction) with the initial data in the system should be carried out under the following pattern: first separate parameters are chosen, then the actions for them in view of a territory (country, district, and region), the required accounting period (a year or years) and units.

At the final stage while developing the information and the software of the system the information-and-logical model of the data was created; afterwards it was transformed into the physical model on the base SUBD MySQL. The choice is caused by the following factors: multithreading, support of several simultaneous inquiries; records of the fixed and variable length; flexible support of numbers' formats, lines of variable length and labels of time; fast work, scalability, interface with RNR.

The informational system represents the web-appendix. The web-appendix is the client-

server appendix in which the client is browser and the server is web-server. The logic of the web-appendix is distributed among the server and the client, the data keeping is mainly carried out on the server, information interchange occurs on the network. One of the advantages of such approach is that clients do not depend on the concrete operational system of a user; therefore webs-appendices are inter-platform services. RNR carries the server part of the web-appendix. The client's part is realized on HTML, JavaScript, and RNR. It is necessary to note, that while working on the project the new approach to the web-appendices' development Ajax was actively and widely used. While using Ajax the web-appendix page was not reloaded entirely, and was only loaded to add the necessary data from the server that makes them more interactive and productive. The user's access to the information is carried out with the help of the informational system modules' connection to the BD server. Therefore the only condition of the system's use is that the clients' automated workplaces BD server should be accessible to each other. This software can be applied in any networks functioning on the basis of the report TCP/IP. To begin the work with the system, it is enough to have the modern browser (the system works in MS Windows IE, Opera 9.x-10.x, Mozilla Firefox 2.x-4).

The developed system is recommended for use by the scientific divisions of ISEDT RAS. It can be applied to the practical activities of the authorities and at various levels, scientific and engineering organizations, higher educational institutions and other organizations.

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UDC 338.124.4
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Impact of global financial crisis on emerging markets

This article is focused on the implications of the financial crisis for emerging markets. The author analyses the impact of financial turmoil on the economic growth in emerging economies and gives possible recommendations to mitigate this impact.

Global financial crisis, emerging markets, economic growth, investments, currency risks, reserve funds.

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In contrast to previous financial crises, the current crisis originated in the United States in the summer of 2007, and from there its waves began to spread around the world. And although the causes of the crisis were, first, in the weak regulation and bias promotion in the USA financial markets, it embraced the whole world within a few months. Thus, the current crisis has important implications for countries with high, middle and low income.

This article examines the impact of financial crisis on emerging economies, which are also classified as middle-income countries. Taking into account the origin of the crisis, great attention in the scientific literature is paid to the development of recommendations for developed countries. The impact of the crisis on the plight of the poor countries was investigated by such organizations as the International Monetary Fund, the United Nations and the Institute of International Development. Consequences of the crisis for middle-income countries received less attention. For a while there was a belief that developing economies are separated from the advanced countries and, consequently, the crisis has no significant impact on them. However, in practice the situation appeared to be opposite: in this case the example of the People's Republic of China is the most notable, where there was a decrease in exports and slowdown in economic growth for the first time.

Recommendations for the USA and other developed countries are defined by the international community: it is necessary to strengthen the supervision and regulation in financial markets, to solve the problem of budget deficits and growing debt. Low-income countries, in turn, must continue to invest in education, health care, infrastructure development essential to penetrate to foreign markets. In addition, they must be prepared to rely only on their own forces, as slower economic growth in the donor countries does not allow them to provide large financial aid.

The influence and impact of financial crisis on emerging markets are more ambiguous. In this connection it is necessary to make recommendations on the interaction of this group of countries with the world economic community, to identify methods of control and regulation the financial systems of developing economies, given the inadequacy of the measures that are used in developed countries, traditionally regarded as "role models".

The global financial crisis showed that the strategy of export-oriented growth entails a

greater risk than previously estimated, because international trade is more elastic with respect to the cycle and more vulnerable to economic downturns. Thus, the decrease in exports in developing countries in Asia in late 2008 and early 2009 was about 40% [2], economic growth rates also fell sharply, and in some countries, growth even changed into fall. Taiwan's GDP fell by 8%, Thailand – by 4.3%, Singapore, South Korea, Hong Kong – on 3.7; 3.4 and 2.5% respectively [6]. Thus, we can conclude that the negative impact on the economy of this group of countries have not only problems with external financing, but the decline in international trade.

Destabilizing effect of macroeconomic factors in developing countries where the attraction of investment is directly dependent on exports is more significant. For example, in China gross fixed investment in export-oriented sector has increased from 28% of the total investment in the first half of 1990-es to 36% in 2003 – 2007, while in Brazil – from 19 to 56% [1]. Above all the fall in export demand leads to a reduction in domestic demand, which also has a negative impact on economic growth.

The risks associated with excessive dependence on foreign financing should also be noted for emerging markets. Countries with large current account deficit and external financing needs have disproportionately suffered from the crisis, as foreign investors reduced their funding, and capital flows "dried up". Developing economies in Asia and Latin America managed to balance the current accounts and external financing needs, while countries in Central and Eastern Europe have experienced a significant balance payments deficit (in Latvia it was about 25% of GDP).

However, countries of Eastern Asia and Latin America could not avoid the negative effects of currency risks and risks of maturity mismatches in their assets and the maturity of the principal obligation. Thus, the problem of the Republic of Korea was, basically, in terms of contractual mismatch on the inflow and outflow of funds: banks that provided long-term lending to shipbuilding companies which received payments by debit debt in USA dollars closed their foreign exchange accounts at the expense of short-term offshore borrowing in USA dollars. When the crisis began, their short-term dollar financing collapsed, causing anxiety in the markets. In Mexico and Brazil, by contrast, the threat was represented by currency risks: while on the balance sheet accounts the foreign currency mismatch has been reduced, corporations, playing on the devaluation of local currency in both countries have significantly increased the amount of off-balance currency position through derivatives, which depreciated by over 30% after the bankruptcy of Lehman Brothers. Thus, the need for more stringent regulatory controls not only in the banking sector, but also forward and options markets as a whole becomes evident.

The role played by foreign banks in developing countries is worth noting. Other things being equal the volume of cross-border lending fell less than in the countries with a significant presence of foreign banks than in emerging markets, where foreign banks had not taken a dominant position. Foreign banks have provided substantial support to their subsidiaries in emerging markets.

It is interesting to consider the impact of foreign currency reserves on strengthening of the economic situation. For example, China's reserves of more than 1,500 US dollars per capita make up 25% of per capita income. If one directs those resources to real investment, they would provide a yield of 8%, while for China it will be equivalent to another two percentage points to economic growth. Or, if you send these resources for consumption, the standard of living will be two percentage points higher. The same situation is in Korea and in other countries with high reserves [3].

In addition to the high cost of foreign currency reserves there is a risk of being unable to use them. The fall of foreign exchange reserves of Korea below 200 billion US dollars led to panic in the market, making it difficult to use them. In order to maintain foreign currency liquidity in the private sector, the Bank of Korea

had to sign a swap agreement to the sum of up to 30 billion US dollars with the USA Federal reserve system.

One possibility for reducing the negative impact of the crisis is the creation and development of regional reserve associations. Thus, the "ASEAN plus 3" continues to work on the "Chiang Mai Initiative", involving the creation of regional mechanisms that complement the emergency loans in the IMF and World Bank in order to prevent financial crises. In the spring of 2009 another step in the development of multilateralism and creation of a regional monitoring group was made. However, there also observed the reluctance of some participants to intensify the agreements reached. Principal problematic moments were the requirements for obtaining and repayment of loans: the countries are reluctant to credit if there is no guarantee of loan repayment, and foreign policy is still plays a more important role in this matter than economic calculation.

In Latin America, where the reserve associations are at an even at an earlier stage of development, Colombia and Mexico signed a contract of insurance with the IMF. However, when Mexico, as well as Korea, required additional financial resources, it signed a swap agreement on 30 billion US dollars with the Federal reserve system. Obviously, the FRS is the reinsurer of last resort, like the European Central Bank in Europe.

Another means of effective sharing of reserves is the IMF. As the imbalance of payments balances is more manifest at the regional level, international reserve funds have a definite advantage in comparison with the regional ones. Moreover sharing of reserves was one of the main justifications for the creation of the IMF. However, the question of how they accounted the past experience, which was not always positive, to make the IMF programs more attractive for emerging markets remains actual. One of the solutions could be the reform of quotas in the IMF. In addition to the IMF reform one should pay special attention to promoting the wider use of national currencies in cross-border operations.

Thus, it is impossible to deny the impact of the crisis on emerging economies. Particular attention is paid to the analysis of several reasons for negative effects of the current financial crisis on emerging economies, and the possible recommendations to mitigate this impact.

The current global financial and economic crisis showed the danger of using policies of export-oriented growth and reliance on external financial resources for emerging economies and the need for tighter financial regulation, not only in banking but also in the derivative markets.

On the other hand, in times of crisis the presence of foreign banks in emerging markets had a positive impact on macroeconomic stability. The problems of effective creating and using of foreign exchange reserves of developing economies also became obvious. The attempts to organize financial assistance funds at the regional level by some countries, and their not so optimistic results demonstrate the relevance of interaction with the International Monetary Fund and the Federal reserve system.

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UDC 622.276(571.122)
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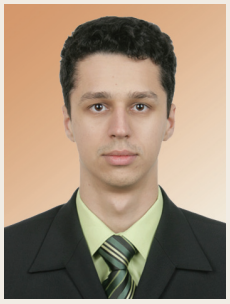
Diversification way of oil-and-gas producing region

In the given article the author carries out the analysis of the oil production condition in the Russian Federation and in its major oil-production region – Khanty-Mansiysk autonomous okrug – UGRA. The oil-production branch of Russia strongly depends on the economical situation in KhMAO-UGRA. Any mistake in the strategy of mineral resources base development and the production strategy in UGRA region seriously affects the economy of Russia in a whole. The author made a review of the influence of the world financial crisis on the economy of KhMAO-UGRA. Reasons of the economy recession in the oil and gas production region and ways out of the negative dynamics are specified.

Dynamics, oil production, decrease, flow-rate, vertically-integrated oil companies, KhMAO-UGRA, crisis, reasons, diversification, modernization.



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Oil production in Russia

The peak of oil production in Russia was reached in 1987 and was almost 570 million tons, or over 19% of world production, with an annual volume of drilling of 37.587million m/year. In order to maintain the oil production at current levels in Russia in the next two years 40.603 and 39.612 million m were drilled respectively. Volumes of drilling have been enormous in 1989. However sharp decline in oil production began – from 552.2 million tons to 302.9 million tons in 1996. The largest absolute drop in annual production was 62.6 million tons, or 13.6% in 1992. The average annual rate of decline of oil production for the period from 1989 to 1996 amounted to 31.2 million tons, despite the support of significant volume of drilling in the industry (an average of 22.5 million m/year). In the period from 1996 to 1999 oil production stabilized at a level of 302 – 307 million tons/year with the lowest average annual volume of drilling at 7.3 million m/year.

In the last decade in Russia, there was an increase in oil production with the stabilization in 2007 – 2009 at 488 – 494 million tons, accounting for 12-13% of world production. The dynamics of the rate of increase in the oil production exceeded the boldest preliminary forecasts. Particularly impressive was the significant rate of annual increase in the oil production in 2002, 2003 and 2004 – respectively 9.05, 11.00 and 8.89%, oil production with condensate amounted to 379.6; 421.4 and 458.8 million tons. This spike in oil production due to the favorable situation in world oil prices was achieved at the expense of intensification of oil production and increasing oil recovery from existing wells, as well as the development of new projects in the Timan-Pechora, East Siberia, the North Caspian Sea and Sakhalin.

With increasing volumes of oil produced in Russia for a long time (since 1994) the increase in oil reserves did not compensate its production. Only for 5 years (from 1994 to 1998) an the increase of industrial oil reserves, including gas condensate, provided the reimbursement of its production by 71.75%, i.e. unmet liquid hydrocarbon production, during this period amounted to about 436 million tons. Between 1999 and 2003 unmet liquid hydrocarbon production was 292 million tons. In subsequent years, this gap was growing: from 2004 to 2008 – more than 602 million tons. Over the fifteen-year period (from 1994 to 2008), the country lost more than 1.3 billion tons of industrial oil reserves. This volume is comparable to the 3.5 years period of oil production with 380 million tons/per year (the annual average for the period).

For the first time for such a long period the growth in oil reserves compensated its production. In 2008 – 2009 the dynamics of recovering industrial oil reserves improved and amounted to 12 and 126 million tons respectively. These indicators have been achieved through the exploration and additional exploration of new areas of oil production.

But despite the success of the past two years the quality of raw materials has worsened. The share of hard-to-extract reserves in Russia exceeded 55%. The share of reserves, the extent of production of which is more than 80%, exceeds 25% of reserves developed by oil companies and the share of reserves with more than 70% of watering is over 30%. From 1991 to 2009 in the structure of the recoverable reserves a number of small deposits increased by 40%, while the number of unique and large declined by more than 20%. Overall, 80% of the deposits on the state balance are classified as small.

There are a lot of causes of the disadvantaged status of raw materials base, they are well known. The are sharply reduced regional geological exploration, due to a general reduction of public funds for these purposes, and the lack of adequate motivation of oil and gas companies – subsoil users, and weak state oversight for ensuring the rational use of mineral resources and the efficiency of mining, as well as the lack of authority for state regulation of subsoil use in the federal executive authorities responsible for public policy in the field of extraction of fossil fuels. In addition, the lack of transparency, corruption, high risks, in particular, with the possibility of revocation of licenses for mineral extraction from subsoil, reduces the investment attractiveness of the industry. With the abolition of fees for reproduction of mineral resources the volume of geological prospecting in the major oil-producing regions of Russia has fallen 1.5 – 1.8 times.

Negative trends in the oil industry and the slowdown, and in some cases an absolute reduction of oil production on the largest oil and gas production units began to appear in late 2005, and in 2006 – 2007 only the intensification of oil production in KhMAO-UGRA and the increase in production under the project "Sakhalin-1" managed to compensate the stagnation of oil production in Russia. In 2008 – 2009 there was an absolute reduction in oil production in traditional areas of oil production *(tab. 1)*. Only due to new oil and gas producing areas the decline of Russian oil was compensated. Development of new oil and gas fields in the provinces was hampered by the lack of transport infrastructure and the organizational and economic factors. The main increase in output was shown by: Krasnoyarsk Krai, the Republic of Sakha (Yakutia), the Far East, Sakhalin Island and the south of the Tyumen region.

Fundamental causes of the slowdown in oil production were the depletion of raw materials base in large parts of producing fields in the traditional oil-producing regions of Western Siberia. This includes key oil-producing regions: KhMAO, YANAO, Tomsk, Novosibirsk, Omsk and Tyumen oblasts. And of course, the chief among them for a long time is the Khanty-Mansiysk autonomous okrug – Ugra.

Table 1. The dynamics of volumes and structures of oil production in major regions of Russia for 2008 – 2009

Region	Year of 2008		Year of 2009		Years of 2009/2008, %
	Mill. t	%	Mill. t	%	
European part	141.6	29.0	148.5	30.1	4.9
Ural	43.3	8.9	45.3	9.2	4.7
Volga	60	12.3	61.9	12.5	3.2
North Caucasus	10.5	2.2	9.7	2.0	-7.6
Timan-Pechora	27.8	5.7	31.6	6.4	13.7
Western Siberia	332.5	68.1	322.8	65.3	-2.9
KhMAO	276.7	56.7	270.4	54.7	-2.3
YANAO	40.3	8.3	35.3	7.1	-12.4
Tomsk oblast	10.5	2.2	10.6	2.1	1.0
Novosibirsk oblast	2.1	0.4	2.1	0.4	0.0
Omsk oblast	1.5	0.3	1.5	0.3	0.0
South of Tyumen oblast	1.4	0.3	2.9	0.6	107.1
Eastern Siberia	1.45	0.3	7.49	1.5	416.6
Krasnoyarsk Krai	0.13	0.0	3.4	0.7	2515.4
Irkutsk oblast	0.54	0.1	1.59	0.3	194.4
Republic of Sakha (Yakutia)	0.78	0.2	2.5	0.5	220.5
Far East	12.8	2.6	15.4	3.1	20.3
Sakhalin oblast	12.8	2.6	15.4	3.1	20.3
Russia, total	488.4	100.0	494.2	100.0	1.2

KhMAO-UGRA is the leading oil and gas producing region in the country

The Khanty-Mansiysk autonomous okrug – Ugra (KhMAO – UGRA) is the main oil producing region of the Russian Federation. Today KhMAO – UGRA is the donor region of Russia and leads to a number of key economic indicators (on January 01, 2010): first place for oil production 54.8% *(tab. 2)* and the second place for gas production – 4.5%; the first place in the production of electricity and industrial output, the second place in investment in fixed assets.

The history of deposits development in KhMAO was launched in May 1964. In the period of 1965 – 1973 volumes of hydrocarbon production in the county grew rapidly. 11 years later, in 1974, KhMAO achieved annual production exceeding 100 million tons/year, even after 3 years (in 1977) – more than 200 million tons/year, in 1980 – more than 300 million tons/year. The peak of oil production in the district was in 1985 – 360.8 million tons, or 63% of the nationwide annual production of hydrocarbons. During this period, maximum annual volume of drilling in the district was impressive: 1987 – 20.115 million m; 1988 – 20.881 million m; 1989 – 21.410 million m. But at such enormous volumes of drilling there was the recession in the oil production in KhMAO. Since 1989, there was a landslide decline in oil production until 1996. Decline stopped at the production level of 164.7 million tons or 45.65% from the production peak. For 8 years declining of oil production in KhMAO – UGRA was more than half of the previously reached maximum level. Production drilling against the maximum decreased 6.5 times – up to 3.299 million m in 1998.

Table 2. Share of KhMAO – UGRA in oil production in Russia, by years

Index	Years									
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Share of KhMAO – UGRA in oil production in Russia, %	55.8	55.7	55.2	55.3	55.6	56.9	57.4	56.7	56.2	54.8

A sharp drop in oil production in KhMAO in 1990 was changed by its steady rise in the 2000-th, which is linked to an increase in investment, the favorable situation in world oil prices, the use of modern technologies for the extraction of hydrocarbons, as well as the introduction of major new fields, especially Priobsky.

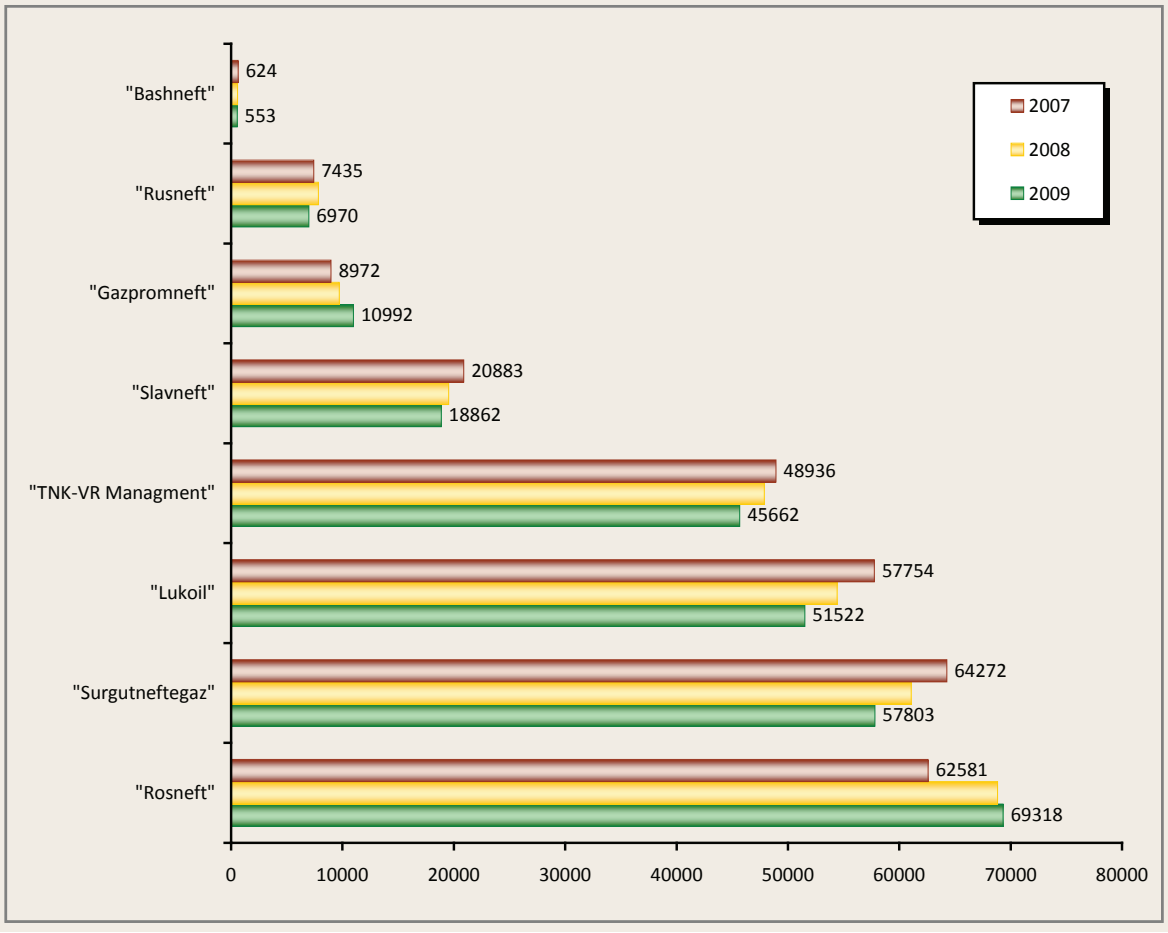
In 2000 oil production grew more and totaled 180.5 million tons/year. Further, there was a revival of heat and power complex in KhMAO, i.e. a significant rerise in oil production, which in 2007 reached a peak in the region – 278.4 million tons/year. The volume of drilling more than doubled compared with the crisis in 1999.

Carrying out of a large complex of geological and technical measures for intensification of oil production, the use of intensive technologies (including the "Western" ones in the form of limiting production "afterburning") have led to a substantial increase in production rates of wells drilled in the operational fund of both liquid and oil. For example, if in 1999 the average oil production of wells in the region amounted to 10.4 tons per day, by 2005 – 2006 it had grown almost 1.5 times. At the same the output of new oil wells had doubled [6; p. 10].

Since 2008, in KhMAO there has been an accelerating decrease in oil production. Over the past two years, it was about 8 million tons. The fall of growth rate in oil production in 2008 was 0.61%, and in 2009 – already 2.27%.

8 vertically integrated oil companies provide the main volume of oil production in KhMAO, they accounted for about 97% of the total oil production in the region *(figure)*. About 3% of

Oil production in the KhMAO – UGRA in the context of a vertically integrated oil companies, thousands of tons



the total oil is produced by independent producers, which are not members of the vertically integrated companies (VICs).

Only three of the major vertically integrated companies showed the positive trend for 2008: "Rosneft" – +6.246 million tons, "Gazpromneft" – +744 million tons and "Russneft"– +0.399 million tons, as for the rest of five vertically integrated companies, the oil production fell: "Lukoil" – 3.325 million tons, "Surgutneftegaz" – 3.202 million tons, "Slavneft" – 1.344 million tons, "TNK-VR Management" – 1.061 million tons, "Bashneft" – 0.056 million tons. As for independent natural resource users, main increase in oil production is achieved by "Calym Petroleum Development N.V." (+2.072 million tons) [7].

In 2009 in comparison with 2008 the position of the major VICs in the region aggravated. A positive trend was shown only by "Gazpromneft" (+1.275 million tons) and "Rosneft" (+0.491 million tons). The production growth for these companies is not so significant, compared with 2008. As for the rest of vertically integrated companies the production even greater than in 2008, declined: "Surgutneftegaz" – 3.266 million tons, "Lukoil" – 2.907 million tons, "TNK-VR Management" – 2.213 million tons, "Russneft" –0.864 million tons, "Slavneft" – 0.678 million tons and "Bashneft" – 0.015 million tons.

During two crises years, the collapse in Ugra oil production increased. In terms of oil companies production decline is as follows: "Surgutneftegaz" lost on the basis of quantities 6.469 million tons or 10.07% of its production in 2007; "Lukoil" – 6.232 million tons or 10.79%, "TNK-VR Management" – 3.274 million tons or 6.69%; "Slavneft" – 2.021 million tons or 9.68%, "Russneft" – 0.465 million tons or 6.25%, and "Bashneft" – 0.071 million tons or 11.38%.

The main causes of reduced production growth of vertically integrated companies, leading production activity in the territory of KhMAO – UGRA, are as follows:

- impact of global financial crisis (volatility in world oil prices in the second half of 2008 – the first half of 2009);
- reduction of oil rates of new wells;
- reduction of the average well production of oil;
- increasing production watering;
- significant increase in the rate of decline of oil production in the rolling fund of production wells, which did not exist before.

Instability in global financial system forced the VICs to suspend activities for a variety of programs in order to accumulate funds. As a result, many low-profit projects and wells had to be conserved.

To further increase of oil production in KhMAO in the coming years, there are no any serious opportunities for oil companies. Almost all of them (except the opportunities to increase the volume of production drilling and the number of offshoot kickoff) were completely depleted during intense oil production "jump" [6, p. 11].

Impact of the global financial crisis on the economic performance of KhMAO – UGRA

It is no secret that, despite all the declarations of the need to get off the "oil needle", the Russian economy even tighter has taken to it over the past ten years. The figures speak for themselves. So, in 2003, oil and gas revenues accounted for only a quarter of the total mass of the federal revenue, in 2006 – 2008 its share rose to 50%, dropping only in 2009 to 43%, which was associated with a fall in world oil prices. Accordingly, "oil and gas" subjects of the Russian Federation continue to remain the main filling sources of the budget. The first among them, of course, is KhMAO, which provides one-seventh of the federal treasury income [1, p. 46].

For the past year in absolute terms the taxpayers of KhMAO transfered to the budget of the country 897.6 billion rubles in taxes, fees and other obligatory payments. But it is 35% less than in 2008 due to a significant reduction in severance tax revenues on hydrocarbon raw materials, Corporate Profits Tax.

Table 3. Industrial production indexes of the dynamics in KhMAO – UGRA by economic activity, %

Activities	2007 to 2006	2008 to 2007	2009 to 2008
Production index	102.4	101.2	98.6
Including: Mining operations	101.4	100.2	97.7
Production and distribution of electricity, gas and water	102.1	102.2	105.7
Manufacturing industries	116.9	111.1	102.3
among them: Food products	103.4	101.6	102.1
Processing of wood and wood production	117.9	98.7	91.0
Publishing and printing	106.4	100.0	97.1
Petroleum products	100.8	102.7	98.8
Other non-metallic mineral products	110.0	94.6	63.1
Finished metal products	118.4	90.1	70.4
Machinery and equipment	121.9	97.8	88.1
Electrical equipment	117.8	116.1	106.5

In 2008 KhMAO – UGRA, as the donor region, provided 16.6% of tax revenues into the consolidated budget of the Russian Federation. The favorable external trade conditions for oil in the first half of 2008 contributed to this fact, these conditions had a positive impact on economic activity of oil and gas production, export-oriented enterprises. Maximum world price of crude oil "Urals" was fixed in the second quarter of 2008 at 143 USD per barrel. But in the second half of 2008 the situation changed and the level of world prices fell to record lows in December to 39 USD per barrel. Average world price for crude oil "Urals" for the year 2008 was 97.26 USD per barrel, an increase of 36.2% compared to 2007 allowed the state budget revenues increase in KhMAO. Unfavorable global conjuncture of the second half of the year influenced the oil production in Ugra. Compared with 2007, the region produced 1.7 million tons less.

In 2009, there was a sharp decline in production – by 6.3 million tons. This is largely caused by factors of instability in world oil prices and uncertainty in equity markets. Since the average price of crude oil "Urals" in 2009 accounted for 61.67 USD per barrel.

As a result, in 2009, produced goods were dispatched and works (services) for the full range of organizations - manufacturers of industrial products were performed in the amount of 1,826 billion rubles.

The overall decline in value terms of dispatched goods of own production and largely 1.3 times, in the form of "mining", taking a dominant position in the industrial structure of Ugra (86.8%). The index of industrial production in 2009 compared to 2008 amounted to 98.6%. Production decreased in the sector "mining" by 2.3%. Development in the sector "manufacturing activities" is characterized by positive dynamics (an increase of 2.3%) and in the sector "production and distribution of electricity, gas and water" (an increase of 5.7%) *(tab. 3)*.

Social and economic development of KhMAO for the year 2009 can be assessed as satisfactory, with stable dynamics of the basic indicators showing the preservation of the results achieved in 2008. However, in the second half of the year there is a negative impact of the global financial crisis too. As a result the decline continued in the exploration, investment and construction. During of 2009, fixed asset investment fell by 14.6% according to assessment compared to the same period of last year. The greatest fall in investment was in the construction. During 2009 the volume of work on activity "Construction" decreased by 22.1% to the same period in 2008. In 2009 343.6 thousand square meters of total area of apartments were introduced or 100.1% to the same period in 2008. Retail trade turnover in

comparison with 2008 was 81.8%, the volume of paid services was 99.1% with reduced rate of the dynamics of real disposable incomes and real wages, which in the end of the reporting period were 95.0% and 93.8% respectively. The index of industrial production amounted to 98.4% by 2008. By economic activities the dynamics of industrial production is characterized by the following data: mining operations – 98.1%, manufacturing industry – 98.7%, production and distribution of electricity, gas and water – 102.9%. Agricultural output amounted to 101% [7].

The main reason for reducing the numbers of industrial production is the single-industry structure of the region's economy, tied to world prices for hydrocarbons.

Conclusion

Russian oil industry is heavily dependent on the situation in KhMAO. To date, KhMAO – UGRA, thanks to the powerful oil and gas industry is a strategic region, the guarantor of economic reforms and stable development of the Russian Federation. The crisis in the oil industry region will inevitably lead to crisis of the entire Russian economy. Any error in the strategy development of mineral resources and production strategies in Ugra will inevitably impact on the economy.

In the oil and gas complex of Ugra in recent years there have been some negative trends:

1. Increasing degree of dependence of VICs on exports and, consequently, on the situation in world oil prices.
2. The deterioration of the resource base, both in quantity (reduction of stockpiles) and quality (increased percentage of hard-to-extract stocks) related to insufficient exploration work.
3. Increasing degree of depreciation of fixed assets in the oil industry.
4. Lack of investment in oil and gas sector of the economy.
5. Increased proportion of idle wells.

By current trends the gradual decline of oil production from 267 million tons in 2010 to 261 million tons can be predicted.

To smooth the existing negative phenomena in oil production and conservation achievements in KhMAO it is necessary assume immediate measures. Among the priorities are the following:

1. Diversify the regional economy through increased processing and deep processing of hydrocarbon raw materials.
2. Reduce production costs by modernizing the production and introduction of new technologies.
3. Enhance oil recovery in older fields, by applying the latest technologies.
4. Increase investment in the development of high technologies in discovering, developing and using alternative sources of energy and other resources as well.
5. Adjust legislation in the sphere of subsoil use and taxation (the new law "On Mineral Resources");
6. Actively produce geological exploration in search of new deposits, attracting not only the means of Russian companies, but investment from abroad.

The continued dependence of the russian economy on oil and as a consequence of global oil prices could lead to crises. So low oil prices in 1998 resulted to default in the Russian economy. But in some aspects crisis situations are useful for "healing" of the economy, they are the impetus for the growth and modernization. It was after the 1998 crisis, the stagnation of the economy falters, a dynamic and progressive development began.

The global financial crisis of 2008 showed preserved Russia's economic dependence on oil exports and the global environment. This fact threatens the economic stability and independence of the Russian Federation.

In this situation, Khanty-Mansiysk autonomus okrug – Ugra, having a good infrastructure, financial, communications and other resources can become a region for implementation of pilot projects to diversify and modernize the Russian Federation, as a result provide a post-crisis economic growth in Russia, to bring it to a new level away from the proverbial "needle oil".

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CONTINUING THE THEME OF THE PREVIOUS ISSUE

In the previous issue of our journal there was published an article by Jacques Sapir, the director of the Center of economic development models research of the School for Advanced Studies in the Social Sciences (Paris, France), with which he spoke at the permanent Russian-French Seminar on Monetary and Financial Problems of the Russian economy, held in Vologda in April 2010. The next meeting of the seminar held in June 2010 in Paris. The French part of the seminar participants, as before, was led by Jacques Sapir. The Russian team members worked under the guidance of Academician V.V. Ivanter, the Director of the Institute of Economic Forecasting of RAS. The abridged transcript of V.V. Ivanter's speech at the opening and closing sessions of the seminar is published below. Are more low published, with V.V.Ivanters consent, with small reductions of the shorthand report of its performances at opening of a seminar and at final session.

UDC 338.124.4(470)
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On the problems of Russia's way out of the economic crisis

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Speech at the seminar opening, June 28, 2010

I asked Jacques to discuss the problems of the Euro at the first meeting of our seminar. I'll tell you something that is not a secret. Before our departure to France, a round table in the Russian Security Council, chaired by its leader, Mr. Patrushev had taken place. We were discussing the issues which we are going to discuss here; it's the problem of the Euro and its impact on the economy of Russia. In that year when the Euro became a reality, we also specifically discussed this subject at our seminar and tried to understand how it can affect the economic situation in Russia.

Now it can be argued that the economic integration of Europe and Russia has taken place. One cannot say that everyone is happy with this integration, but it is already hard to go back – there is no return. Therefore, the thing that I want to go to – the assessment of the economic situation in Russia – is also of interest for our European partners since we understand that our relationship is significantly associated with the economic situation both in Europe, and in Russia.

The new trends have become quite clearly evident compared to the last meeting. Here I have the latest report of the Russian Federal State Statistics Service (Rosstat) for January – May 2010. As you know, the Federal State Statistics Service has changed not only the head,

but the method by which it is calculating. Six months ago it was completely unclear what the numbers it will give in the end. Now everything is calming down, the new method of calculations is more or less established, and the situation is developing roughly in the following way.

In January – May the industry has increased more than 10% to the same period of the last year. We shouldn't blow our trumpets about this, because a year ago there was a drop of 15%. What's interesting is that today's growth is not determined by the extractive industries, which grew by about 6%, and not electricity, gas and water, where the dynamics of production depends more on weather than the economy. The key role was played by the growth of manufacturing industries. From May to May there was the growth of manufacturing of almost 19%. And in January – May the growth of manufacturing amounted to more than 14%.

Usually the claims to the statistics are that they are calculating incorrectly and lie all the time. I think that if the statistics laid in many different ways every time – one variant in January, and another one in May – it would really be awful. But in fact every time they are wrong about the same. And they are not malicious. Therefore, the real trends are not distorted by them. And this is important.

As for the alternative indices, then I think I have found an indicator that shows what actually happens in the manufacturing industry. This is the dynamics of bearings production. In mechanical engineering everything must revolve, and so there are bearings everywhere. In addition, bearings are the product which is usually located in the stocks of enterprises, as they may be required at any time. Therefore, according to the dynamics of their production we can see what is happening in mechanical engineering.

If there is a decline, the purchasing of new bearings is slumping, and the enterprises mainly spend their reserves. But when economic growth begins, bearings purchase increases sharply, because it is necessary to replenish the stocks in order to ensure full production.

Here's an example. At the beginning of the crisis mechanical engineering fell by 25-30% and the production of bearings – more than twice. And now I will call other numbers: as compared with May 2009, the production of ball and roller bearings has increased by 60%, and January – May 2009 gave an increase of 82%. This confirms the fact that engineering has its orders. Most strikingly, of course, looks the breakthrough in automobile industry – the yields are approximately 50%, 60%, 80%.

Thus, the mechanical engineering provided a rather decent share of growth in manufacturing.

Now I'd like to talk about the precarious situation in the gas industry. Now in Russia there is a sharp increase in gas production. The circumstance that the demand for natural gas depends on the weather has its effect. It was a warm winter in Europe. In addition, the entertainment that we have arranged with the Ukraine led to the fact that Europe had used more gas from its storage facilities. And now the spent reserves are being replenished.

Once again, I want to say: my version is, and it is confirmed by statistics, that the demand for energy is only slightly elastic with respect to both economic growth and recession. I'm not saying that demand is not elastic at all, but it is slightly elastic. However, demand is greatly influenced by: a) the weather b) various non-economic factors. But any major changes in terms of gas demand in the coming years can happen under only one condition – if Europe reverts to coal generation. Theoretically, one can imagine such a shift, but in practice it's highly unlikely. At the same time, as we can see the massive increase in gas production in Russia is unrealistic too. We can observe the concerted actions by Russia and France on Shtokman, our presidents are very active in this regard. But the fact is these are very capital-intensive projects, and we understand that we must make very reliable transport systems and very serious markets for super long-term contracts at understandable prices. Otherwise, no one will invest in the Arctic. The pleasing picture I drew

is seriously marred by the low investment activity in the Russian economy. The investment growth is about 5%. But we must bear in mind that there has been a fundamental downturn in this area, a much bigger one than the total slowdown in the economy. For example, for the first time over an extended period new housing has decreased in Russia. This is connected with the fact that at the moment of crisis it was still high due to the backlog investment, but now there is an imminent fall.

What can we say about the features of the crisis? On the one hand, the decline of Russia's GDP was almost the most important in Europe; a deeper decline was only in the Ukraine and Latvia. On the other hand, our population has lost almost nothing, and in the crisis year people's incomes have risen at the average almost by 3%. This was precisely the growth of real income, rather than nominal wages. This was due to a serious pouring of money into the social sphere.

Large-scale unemployment was predicted... We cannot say that all the problems have been solved. But there were no serious gaps in this area, which were expected. Of course, we have the problem of the so-called company towns. This is a rather common phenomenon in Russia. These cities were built around an enterprise or enterprise group. Usually this was due to military needs or considerations, but not always. A classical company town – Togliatti – was built around the automobile plant.

The problem of Togliatti is quite complicated and somewhat exotic for economists because this plant has become one of the first private companies, had a monopoly position in the Russian market producing up to 700 thousand cars per year and selling them more or less successfully. To understand what happened to the money from those huge sales is a separate issue, and an issue of legal nature.

Nevertheless, when the plant was in a difficult financial situation, the production there could not be stopped be from any point of view because it would lead to the huge social explosion. By pouring of substantial public funds the potential social conflict was largely liquidated. I imagine the situation in another major Russian automobile plant GAZ rather well. I am a member of the supervisory board there. I must say that this plant has worked rather well in a crisis situation. With the help of the municipality it was able to reduce the number of employees by 30 – 40 thousand people. But the company itself which occupies a significant share of commercial vehicles market in Russia was kept. They are competitive in this market in terms of price and quality. The plant has survived and is now gaining production.

The measures undertaken by the Russian authorities in the automobile industry were similar to European ones. Old cars have been changed into new ones through the subsidies. Stimulation of demand was implemented not only by the federal government, but by the regional one. The system of delivery of old cars with a bonus for buying a new one had been extended for commercial vehicles. Public procurements – civil and military – also have an impact. Finally it turned out that the whole system of measures taken in Russia did not differ from the European measures. Moreover, even the bureaucratic outrages were similar to those that occurred in Europe. And higher rates of growth in the Russian automotive market were caused by only a deeper drop in demand in the preceding period of time.

The most important problem for Russia is now formulated in the following way: shall we restore investment activity or not? This year, most likely, we will have GDP growth of around 7%. And investment growth which before the crisis reached 20% per year this year will be up to 5%, and even if it is a little more than 5%, it is still not comparable to what it was. And although in 2010 Russia will not look very bad statistically, there appears a problem of 2011 – 2013. It is being very actively discussed. In this discussion, which occurs not only in academic circles but also in power, there are probably two positions. The first position, which is most clearly represented by the Ministry of Finance and analysts associated with the Finance Ministry,

is as follows. "The country has survived in crisis because it had a huge airbag of the 600 billion US dollars of foreign exchange reserves". Out of these 600 billion we, roughly speaking, spent 200 billion. But more than 400 billion dollars of real foreign exchange reserves are remained. At the same time we will have a budget deficit of about 5%. And then the question is that to reduce the budget deficit to 3%. When I say that at the end of the year there will be 5%, and then the figure tends to 3%, it does not look very impressive. However, the tendency to 3% was made up when the Finance Ministry predicted the deficit at the end of 2010 from 8 to 10%. That is, a very large-scale shift is supposed. In principle, I do not see anything wrong with reducing the budget deficit to 3%. The question is that at what expense the deficit reducing should be made.

The Finance Ministry says: we are reducing expenses. Well, if there is a pointless expense, that's fine, get rid of them. However, then the Finance Ministry says: no, we mean that the social costs are very high. I say in this case: if the reduction in social spending does not lead to a reduction of working activity – reduce them, for God's sake. But if you reduce social costs, and as a result people do not work and run around with flags on the streets, that's another cup of tea. When people are running around with flags, they do not work. This is a direct blow to the economy! That is why we must consider. Consider the consequences. Either you reduce costs so that no one was running around with flags, or you implement other measures.

I believe that there are excessive social costs, but we should identify them very precisely and cut them in such a way that not to lose income. Because everything is interconnected in the economy: you will not receive any income until you bear some costs. On the whole the idea of reducing social spending in Russia is unpopular now, and it is unlikely that anyone would seriously push for such actions. Under these circumstances, the structures close to the Finance Ministry, want to reduce mainly the capital costs and industries' costs for economic development.

In this regard, I should note the following. We all have been doing so much to prove to authorities that there is a multiplier of growth based on investment. This is what we taught them, now everyone in the government understands the word "multiplier" at once. Now I'm trying to convince them that the multiplier works in both directions. If you reduce the investment, then according to the principle of the multiplier the situation is worsening in other areas, where incomes are declined and, accordingly, the tax base. The aim is to assess the impact of declines in investment, including the revenue budget. Now there is a very serious struggle for the budget of 2011. That is, whether it is focused on investments or a fiscal perspective on the economy wins. Now it is fundamental fork for us in economic policy.

Another problem that came out even at the international level, this is the problem of Russia's modernizing. You know that President Medvedev defends this idea. But there are some things that you cannot jump over in the economy. Innovations do not happen without investment, and investments on the trajectory of economic recession do not happen too. Therefore, the version that we will develop not quickly, but very qualitatively, which is propagated by some experts, is unlikely to be correct. Those who are skiing know that the turn cannot be done in a standing position, you must move. The higher the speed, the easier it is to turn. In other words, we need rapid economic growth rates.

There is one more thing. It is quite clear that in an economy with private property no one makes investments where there is no demand. So I think we kind of carried away with the problem of investment, regardless of demand and of the real economy. We decided to build a terrific innovation center near Moscow in Skolkovo. Not just an innovation center but a center with the commercialization of research. Generally speaking, Russia has experience in building very exotic things. For example, in the middle of the Siberian taiga we have built a world-class research center – Akademgorodok.

There is a very interesting story about how it was done. Life there was different from the rest of the USSR, it was late 60-ies and the behavior of the public was more similar to the behavior of students in Paris. Professor went bearded and wearing shorts, and girls were running around town in bathing suits (in summer, of course). Until now, this is an outstanding Research Center, and the prestigious prizes, which are now being given, are given to those very scientists.

But when creating Akademgorodok there were no commercial objectives at all. And in Skolkovo they are talking about the fact that their research and development will be bought by someone. But it is unclear who and why will do it. I think that is very good when we borrow something valuable from Europe. However, the worst is to monkey. I cannot find the person who wrote the president the idea that top priority we have is energy saving. I think that we should save what is scarce. Are we expecting energy shortages in Russia? According to our estimates, in Russia there is a shortage of labor and labor-saving technologies are more important priority than energy saving.

In Europe, I make the investment and save a barrel of oil. Before leaving Moscow barrel cost 78 US dollars. I saved it and got my 78 dollars. And how much have I won in Russia? Let's say 40, at the price of the domestic market. If that is right, then in Russia investments in energy saving are twice less effective than in Europe. And I am not saying there is no need to save energy. It is necessary. There are examples of this economy. In Moscow, the houses are being reconstructed; the walls, balconies, windows, etc. are insulated. Generally, the biggest effect in the energy is given by compliance with the rule: when you leave the room, turn off the light. According to my wife, I never do this. But when it's a choice of national priority, it must be economically justified.

If you go back to the center created in Skolkovo, I think that this center cannot make real serious harm because it came up with people who drive through the city accompanied by traffic police. Skolkovo center is located near the Moscow Ring Road. It takes 40 minutes to enter the Ring Road in the daytime, and to reach the radial turn on the Moscow Ring Road takes an hour, and at worst 4 – 5 hours. Well, how can people work here? This is an example showing that there is innovative activity and innovative PR in the country.

At the same time we have rather interesting breakthroughs in metallurgy, petrochemical, and aviation. All this is suppressed with the information and innovation PR. The question is what will win – reality or hoax, which, unfortunately, has preserved in this country from the previous system of life.

Now I'd like to concern the fiscal view of economics. The classic version of a failed fiscal policy could be observed in the situation with the appropriation for the study of the Russian Academy of Sciences. The costs were reduced for everybody, including the Academy, by 8 percent. At the same time it was forbidden to reduce labor costs. It is sacred. It was forbidden not to pay for housing and communal services. Well, the scientists receive their salaries, the buildings are heated and lighted up. The devices are working. The installations are working. And what was saved? These were consumables. Hence, as a result, everything is shining, turning and it is warm, but it does not really work because there are no consumables for experimental activities. But the scientists are not retired, why should they be paid money if they cannot work? Of course, there was no absolute collapse of the scientific work; in fact, there was costs redistribution at the institutes... But from the fundamental, systemic point of view it shouldn't have been done like this, because it paralyzes the research activities. These 200 – 300 million dollars, which were saved, did not play any essential role for the power. The approach was the following: we are cutting everything and here, too. In order to ensure that everyone is equally bad. This fiscal approach in crisis is very dangerous.

But overall, I believe, there are some justifications for an optimistic outlook on Russia's economic development over the next 3 – 5 years

under one condition. Good or bad, but Russia is really integrated into the global economy, and its economic integration with Europe is the strongest. Why is it not about the USA? Is it because of bad relationships? No, they just do not have common interests, apart from military matters. The only thing we are connected with the United States is the number of missiles that can be sent to each other. There are actually no economic relations. And we are dependent on Europe. Therefore, significant economic cataclysms in Europe can seriously affect the state of our economy. Therefore the European view on what is expected in the European economy is very important for us. When Medvedev and Putin say they believe in the euro, it is not just rhetoric, it is the principal economic position. If we do not believe in it, we'll need a different economic policy. In this sense, we are considerably dependent on the economic development of Europe. The problem is not how much gas Europe will buy and at what price... This is a minor problem. Gas is not export-oriented industry; we export only 30% of gas. This can be said about oil as we sell more than half of it. Engineering import is more important for us, where Europe is our main partner. The assessment of prospects development is fundamental here. Thus, the acceleration of economic growth in Europe can significantly affect the economic growth in Russia.

Speech at the closing seminar session, June 30, 2010

We had political problems of two types. One type is a change of the authoritarian regime in the regime of political liberty. This process was somewhat manageable. The second type of problems is an absolutely unguided process of Russia's disintegration. You can call it the USSR a hundred times, but it was precisely Russia, first imperial, then Soviet. It was certainly an empire. But it was an empire without the metropolis.

These political processes were taking place simultaneously and intertwined with each other. Some pieces having become the new countries, partly got rid of authoritarian regimes, they have changed. But, say, those regimes that have developed in Turkmenistan or Uzbekistan can be called democratic at a stretch. As for democracy as it is, I am not a historian, and therefore do not claim to truth. However, if we take taking of the Bastille as a starting point, then it took some time up to the moment when Western-style democracy had its current appearance. And, perhaps, the result is not quite the same as it was intended by the fathers of the French Revolution. And when they say that in Russia we have a truncated democracy then it is worth considering what it is said by people with no experience of life in a totalitarian society. They watched it all from the outside. And I have a pretty decent experience of life in a totalitarian system. And that's why I know that those who say that modern Russia's political system is similar to the Soviet one are either totally ignorant or illiterate, or pursue the malevolent political ends.

To be honest I do not quite understand what democracy as a political system is. Is it when there is general election, and everybody has equal rights and equal voice? I do not know. But I understand what freedom is. Now I'm as director of the institute, do not ask anybody, who can be employed (within the law, of course). Nobody tells me what should be printed in the journal and what should be not. Nobody interferes with the subject of research, which is adopted by the Academic Council of the Institute. We do not ask anybody who should be sent to study abroad, and who should be not. We do not agree with anybody about the people to be invited to our seminars. The articles should not be approved in "Mosgorlit". I believe that it is the freedom. And it's not propaganda, but my personal experience.

But there are other proposals on the development of democracy and freedom in this country. One of my colleagues, Professor Gontmacher, believes that Russia needs to elect sheriffs instead of policemen, which are appointed. And those elected sheriffs shall observe and protect the order honestly. I have not thought up, this proposal was published...

I explained what it would lead to. In Moscow there are criminal gangs: various "Solntsevo", "Orekhovsky" etc. And when the sheriffs are elected, there will be a serious competition between these groups – who will elect more of their sheriffs.

With regard to the introduction of democracy, I think it's a very individual problem for each ethnic group, for each country. For example, the Soviet Union was waging war in Afghanistan not to conquer the country. We wanted to bring socialism to them in order to that they lived well. We laid down 15 thousand lives and killed many Afghans. A lot of money was spent, but we failed to introduce socialism.

And now, another organization, NATO, is bringing democracy there. The result will be the same with 100% probability. That is not because democracy is bad as a political system, but because the Afghans should choose a political system themselves, but not the Russians or Americans.

By the way, from this point of view everything is in order with democracy in Russia. Most people are happy about what's happening in the country. Another thing is that everything should be improved, and the political system, too. But it is necessary that not only I would want the change but all the rest people too.

Now let us consider what has happened in this country in the 90's.

First, was there a clear, visible result of reforms that suited everyone? Yes, there was such a result. This was the emergence of consumer choice. And this is the result that no one in Russia wants to give up, neither the left nor the right. Everybody is for it. Those who knew what our stores looked like in 1980 compared with today's do not want back.

Another thing is that consumer choice was obtained not due to internal production, as we expected, but at the expense of imports. Therefore, we are, as they say, badly dependent on the raw materials. Because abandoning this we will eliminate consumer choice. And the need for consumer choice is a social consensus in Russia, and the government, which would leave it, probably will lose the power. That is because it was chosen, rather than grabbed the post with the use of force.

Second point is about the reforms of the 90's. Western advisers are absolutely innocent here. They certainly were, and they were arrogant and incompetent. In what sense were they incompetent? They were going to repair and upgrade the machine, of which they did not really know anything. They did not know how it works, how it accelerates and slows down... And most decent and honorable people took part in this. Now Stiglitz says that he considers the World Bank's support to accelerated privatization erroneous. At that time they believed that the window of opportunity may close, and therefore everything must be done quickly. This is, of course, a very strange story... This was not Stiglitz's, but our property. He took the responsibility and decided what to do with it. But he did it not because of evil intent - he was going to make me happy with efficient owners.

In general, there were quite a lot of advisers. But in fact Western advisors acted as a screen. One can treat Mr. Gaidar very badly, but the version that Mr. Aslund knew something that Gaidar did not know is implausible. Gaidar and the company just needed an argument, and they said: look, Western advisers also support us.

Here, of course, emerges the perennial question: who is to blame? What can I say...? There was freedom. My colleagues and I held a different position. And we had the opportunity to freely express that position. Why didn't they listen to us? There is a normal explanation. Politically active population was radicalized. This population wanted to have everything and at once. And they sincerely believed that it was possible. And when we were telling that

the reform is a hard thing, that we must work for a long time, act carefully and deliberately, nobody wanted to listen to us. Everyone wanted to get the results immediately, and that's why no one captured force by power in 1990 – 1991, they were all elected.

What was plunder was called "primary accumulation". This, of course, is not true. Accumulation is when something has been re-created. But the society, according to Gaidar, adopted "primary accumulation" at first. Not everyone, of course, but politically active people accepted and supported it. And the choice of radical leaders was due to the fact that the society was radicalized. In this respect there was no difference between Gaidar and Yavlinsky, generally speaking they were telling the same about the reform.

I agree with Mr. Paget that the year of 1998 has shown the public a clear result of the chosen reform model. And it sobered the society to some extent.

What is the advantage of the next period? We did not follow the traditional path for Russia. What was traditionally? They found the guilty, hanged them or shot... It was not done then. Maybe for the first time in the Russian history. You can sympathize with Yeltsin or not, but was not offend with anything.

As for political decisions, the first and foremost what was made – a direct threat to Russia's disintegration was withdrawn. And I think there is consensus around this result in the country.

Economic and financial policies are more interesting. Since 2000 our economic policy was extremely twitching, showing a very high volatility. We cannot say that every time it was efficient and effective. But it gave some positive results. This trend is clearly seen at any variations. Economy started to climb, while confidence to power was restored. I understand the word "trust" as the following. It does not mean that everyone believes all of the words of power. Trust exists in the sense that people think: the power will not make any serious outrages.

Besides, we must understand that time has its effect. A generational change has taken place. There is a new generation in Russia, which has no nostalgia about the old times. I myself have faced with the following. I was lecturing to students at MSU and explaining what the problem of prices freezing is. It is possible to freeze, I say, but it is very difficult to unfreeze. There is a danger of deficits. As you can imagine, I say, deficiency results in queues. And then I see that they do not understand what I mean. Then I ask: have you ever stood in a queue? One girl says: if it is not long... In other words, it's another generation, another system of arguments. The things that seemed natural for students before are not clear now. This is essential. In my opinion the problem that remained unresolved and which is the most dangerous is, of course, our banks which are still under-banks. And there is the problem of corruption, which, however, easily solved, if not giving bribes. Sometimes people take offence at me: how is it possible not to give bribes? It's impossible...

But there is a fundamental problem that is very dangerous for the economy. It's very hard to solve it. It is material inequality which is completely unacceptable to the free economy. In this case, it is not about the polarity between extreme poverty and extreme wealth. I'm not talking about the problem of pensioners and oligarchs. For the economy the problem of enormous gap of incomes of young working, prepared, energetic, willing to work people is more acute. This creates an unnatural concentration of people in major cities – Moscow, St. Petersburg, Yekaterinburg, as well as migration of professionals from the real sector in trade and finance.

In this sense, we are a very strange country. We have a "flat" income tax scale – everyone pays 13%. This would be okay if there were normal property taxes, a system of indirect taxes on items which are not essential such as prestige cars, etc. But we do not have it either. And the following explanation is given: a weak system of tax administration does not allow the introduction of tax differentiation. If we introduce a differentiated scale of personal income, high-paid people will escape taxes.

A graduated scale of property taxation would also be implemented by rewriting the mansions on the homeless. This is all true - as soon as in Moscow a Bentley is stolen, it appears that the owner of the car is an unemployed. Yes, very often it has a comic form, but this does not mean that the solution of problems should be abandoned. Indeed, the weakening of incentives to labor is very serious.

Exactly the same happens with investments. We restrict investment precisely because, they say, "it is impossible to give anything, all will be stolen". The Road Fund was eliminated in this connection as there is information that a part of it was plundered. But to stop financing the construction of roads at all is not the way out! There is another problem – the problem of diversification. Here are 2 aspects – economic diversification and export diversification. I believe that we have no reason to fight for the diversification of exports. We are exporting high-tech products, and it's not only weapons but also hydrocarbons. Those who think that Putin produces gas in the Kremlin by opening and closing the valve, they can continue thinking so. But in reality, the gas is on the Yamal Peninsula and other northern regions of Russia. One should find gas, drill, drive a pipe, pump it out and transported to Europe. This is special technology. It is expensive and complex. But it works in this country. And what about oil extraction? After the accident in the Gulf of Mexico the Americans are well aware that this is not an easy thing.

We now have the oil recovery factor of about 35%. And in the world, it comes up to 60-65%. Imagine that we are making the transition from 35 to 65%. This can be done only on the basis of scientific and technological breakthrough. The result will be additional 200 million tons of oil. If we send it to export, it seems we'll become an even more wild country. However, I argue that in fact these 200 million tons of oil is the most possible high-tech product.

And by the way, what would happen if we stop exporting oil? Who can guarantee that in 50 years anybody will buy this oil? If in 2009 Russia exported not oil but cars, half the country would not work. Well, the demand for oil fell by 1.5%. Did the oilmen lose their jobs? Therefore, the idea that Russia should stop exporting raw materials, and should start writing computer programs and sell them is nonsense. A lot of journalists say that Russia is subject to resource curse, that it has too many resources. I want them to find at least one more such a country that would say that the availability of raw materials is awful.

What should be considered beside this? In Russia, the territory is big; there are a lot of resources, and few people. There should be its own army, its own border guards. Own teachers and doctors. Own chiefs and officers too. And who will work then? Manufacturing industry is also labor-consuming. But the mining one is less labor-consuming, though capital-intensive. Well, we have the money now, but the situation with people is more difficult. And what choice is rational under these circumstances?

But still, is there a real dependence of Russia on commodity exports? Yes, there is. But what is this dependence related to? To the fact that we have ruined our own agriculture. We import up to 40% of food, while we can provide ourselves with food completely. I do not mean the fruit – the country's climate is not suitable. In this sense, the diversification of the economy is absolutely necessary. In this case the revenues from exports can be largely used for development, rather than current needs.

In what other direction should we be diversified? The authorities have already named all necessary directions, and in general I agree with that. It is necessary to restore the civil aviation industry, power engineering, including the nuclear one, shipbuilding, agricultural machine building, and develop our own food production. As for the rest, I see no reason to keep autarky. That is my position.

In conclusion let me say the final word. We had a very interesting and useful discussion on the role of the euro and the impact of the euro problems on the Russian economy. I thank you all for it.

Editor	L.N. Voronina
Make-up page	A.A. Vorobyova, E.S. Nefedova
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Passed for printing 28.02.2011.
Format 60x84 1/8. Digital recording. Poster paper.
Printed sheet 17.0. Number of 100 copies. Order № 99.

Certificate of registration of mass media PI FS77-37798 dated October 12, 2009 in the Federal Service for Supervision of Telecom and Mass Communications (Roskomnadzor)

Institute of Territories' Socio-Economic Development of RAS

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Founder: Institution of RAS Institute of Territories' Socio-Economic Development
The make-up page is edited and printed in ITSED RAS