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National Human Development Report
for the Russian Federation 2011

Modernization and Human Development

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National Human Development Report
for the Russian Federation, 2011

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Readers are invited to inspect and read the latest Human Development Report for the Russian Federation. National reports such as this are published on the initiative of the United Nations Development Program (UNDP) in many countries of the world. Global Reports are also brought out annually. The reports are prepared by teams of independent experts.

The main goal of the 2011 Report is to study Russia's modernization goals in the context of human development, and to show the necessity of modernizing the economy and social life, and of improving many public institutions in Russia. This approach to aspects of modernization is a logical development of previous Human Development Reports for Russia. The present Report identifies basic modernization components, main parameters of a post-crisis economy, Russia's social issues, development of social and institutional infrastructure, and analyzes what human development in a 'new' economy should be.

The Report is intended use by for senior managers, political scientists, scientific researchers, teachers and high school students.

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The 2011 National Human Development Report (NHDR) for the Russian Federation has been prepared by a team of Russian experts and consultants. The analysis and policy recommendations in this Report do not necessarily reflect the views of the UN systems and other institutions by which the experts and consultants are employed.

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Dear Reader,

I am glad to present to you the fifteenth annual National Human Development Report for the Russian Federation, prepared by a team of leading Russian experts.

Since 1995 the United Nations Development Programme has promoted its projects in Russia by supporting the preparation and publication of a series of reports which provide analyses of the social and economic challenges facing our country. Since 2011 the Faculty of Economics of Moscow State University is the National Executive Agency of the Project, having taken over this task from the Ministry of Foreign Affairs of the Russian Federation.

The Faculty of Economics has for many years conducted serious research concerning human potential, having significantly expanded its activities in this field. The Faculty trains masters and post-graduates, teachers and professors of relevant disciplines, including training in CIS countries. Together with the UNDP the Faculty has published two training manuals and has created an Internet portal devoted to human development issues, which offers an interactive training course and contains a statistical module with 100 indicators of social and economic development in Russia' regions.

In this way the UNDP and the Faculty of Economics of Moscow State University have joined forces to promote the human development concept in Russia. Elaboration of national human development reports in the Russian Federation is a principal activity of this joint project. The present Report is devoted to Modernization and Human Development.

Modernization of the economy and upgrading of many institutions, as well as development of social infrastructure have long been recognized as the necessary conditions for overall modernization in Russia. It is therefore unsurprising that the issue of modernization and human development, dealt with in the present Report, is a logical development of the themes of previous Human Development Reports for Russia. The issue is of interest because it offers a general outline of the modernization process, Russia's main economic parameters, social and institutional infrastructure, as well as contributing to understanding of what human development in a 'new' economy really means.

I would like to express my gratitude to UNDP Russia for their support in preparing annual Reports, which are important instruments for inspiring government as well as scientific and political circles to discuss issues, which are vitally important for all the people of our country and which have become a significant factor for creation of civil society in Russia.

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Executive Summary

Introduction. Modernization in the Russian Context

The Introduction considers the meaning of modernization and the possible types of modernization, which emerge at various stages of social development. Modernization is divided into the following groups: general modernization, modernization of the economy and modernization of the technology base of the economy; evolutionary modernization, i.e. modernization 'from below', and engineered modernization, i.e. enforced 'from above'; pioneering modernization, i.e. carried out by a leading country, and catch-up modernization, carried out in an effort to reach the leader.

The specifics of modernization in industrial and post-industrial societies are considered in detail, leading to a discussion of the concept of technological patterns, which is closely related to human development. The authors show that technological modernization at the industrial development stage can be carried out without serious changes in social and economic institutions. But modernization aimed at changing the technological mode of a post-industrial society is impossible without significant changes in the political and social spheres.

The Introduction ends with a detailed analysis of the political context of Russia's modernization, which was proclaimed by the country's leadership in 2008. The authors investigate the evolution of the social contract in Russia in the past decade, which has led to a certain impasse: without modernization the country risks missing the train of global development once again; but real transition to a post-industrial stage through large-scale modernization could entail loss of power for a significant part of Russia's ruling elite.

The conclusions drawn by the Introduction concern the correlation between modernization and the HDI: modernization does not necessarily lead to growth of the HDI, since the type of modernization, which is chosen, has to be capable of leading to such growth.

Chapter 1.
The Economy and Economic Policy in the Crisis Recovery Period

The external conditions, which largely determine the state of Russia's economy, were mainly restored in 2010 and many anti-crisis measures put in place to support the economy were predictably curtailed. The verdict on the government's anti-crisis policy is mixed. On one hand, utilization of resources accumulated in oil & gas funds during the boom period greatly cushioned the impact of the financial crisis. On the other hand, the government's measures were mostly protective and conservative. The crisis was not used to unburden the economy of non-competitive companies. Production growth has resumed, but is lagging behind rates in other countries and has not yet compensated the crisis recession.

The situation in the budget sector appears to be secure at least for the short-term (unlike in many other countries where the crisis has caused explosive growth of sovereign debt). However, major efforts are needed in order to return budget parameters to a path of long-term stability, especially in view of future demographic challenges. The problems are to a large extent caused by sharp increase of pension expenditures (by about 3.5 percentage points of GDP).

Comparison of Russia's pre-crisis economic growth mechanisms with current economic development shows that capacities of the existing growth model have been exhausted. The country is therefore faced with the task of carrying out reform and creating a new growth model, which would fully account for the lessons of the crisis and for new inter-

nal and external conditions, in which the national economy must now develop. The new economic strategy should prioritize elimination of macroeconomic risks, modernization of the state, strengthening of market mechanisms, creating incentives for business, etc.

Chapter 2.
The Role of Institutions in Modernization

The second chapter looks at the impact of the social phenomenon of institutions on human development. The concept of institutions and their variety are discussed, including such basic economic institutions as property and contract rights. Their impact on the economy is discussed from both quantitative and qualitative points of view, citing the results of a number of statistical studies, which use comparisons between countries to demonstrate how different levels of protection of property rights influence GDP growth rates.

Indices measuring institutional environment quality, which are calculated by a number of international organizations, can give a general picture of the set of institutions that exists in a given country. The chapter discusses the content of these indices and presents their values for Russia in recent years. Russia makes an unimpressive showing by all measurements, so there is much scope for our country to achieve both GDP and HDI growth through improvement of the institutional environment.

The final part of the chapter studies the complex issue of how so-called informal institutions – primarily a country's culture – can have impact on economic and social development. The meaning of social and cultural capital and their influence on the economy is discussed, and the correlation between social aspects of culture and long-term economic growth in countries that possess various leading cultural values is analyzed.

To conclude, the chapter finds correlations between properties of Russians' cultural capital and particular aspects of modernization, for which these properties are appropriate.

Chapter 3.
Welfare of Russian Households as a Marker of Modernization Potential

This chapter uses analyses of household income and financial behaviour to consider possible development vectors for modernization in the household segment. Trends in household income structure and inequality show that the fruits of economic growth are concentrated in a very narrow circle of households and that business incomes and incomes generated by property ownership have not become the driving force of economic growth. Decomposition of income inequality shows that while high differentiation has produced evident negative results, there has been a failure to use this differentiation as a resource for investments in the national economy. The share of social transfers in personal incomes has reached a historical maximum. This represents a threat to stability of the social security system, while at the same time the poorest social groups, particularly families with children, have still not become the top priority for social support.

Involvement of households in financial markets has seen quantitative and qualitative expansion as the markets themselves have expanded. Personal experience in obtaining loans and making savings has been the main factor optimizing financial and investment behaviour. Mortgage loans, which are currently available to 5-7 percent of households, could be a driving force for development based on modernization. An increasing number of mortgage products are offered on the market and the institutional environment – particularly in the wake of the recent crisis – is creating a space for risk diversification. However, there is concern that levels of demand for mortgage products – like development of business activity – has already reached the peak of what can be attained in the present economic model.

Chapter 4.
The Russian Labour Market: Efficient Employment or Limiting Unemployment?

For 20 years government policy on the labour market has been limited to controlling unemployment, and only the officially recognized part of unemployment. Neither 'concealed' unemployment, nor employment as such have ever been objects for government regulation or political action. A policy of preserving old-fashioned and inefficient jobs clearly prevails over creation of new and efficient jobs. This explains low wage levels and low productivity: Russia is far behind leading countries by both indicators.

Modernization of the labor market requires changes in the basic principles of labour policy. The main vector of change is transition from a policy focused on keeping down levels of unemployment to a policy of efficient employment, and from cheap unskilled jobs to highly paid and skilled jobs. An efficient market requires increased participation of people in economic activity throughout their life cycle, from youth to old age. The country also needs to shift from a combination of strict labour legislation and poor compliance with that legislation to flexible legislation and proper compliance by market players. Finally, an efficient labour market depends on increased mobility of the national labour force and use of international migration as a compensatory mechanism.

Box:
Forces for social modernization

The need for social modernization is evident, but the question arises: what are to be the driving forces for such modernization? While the launch of modernization depends on a coalition of economic and political elites, its progress and the achievement of targets, which have been set, depend on broad social support.

The middle classes, which represent about 20 percent of the population in Russia today, are the central element of the social structure. The Russian middle class is a social group consisting of relatively young, well-educated, fairly affluent people living mostly in Moscow and other large cities. They are the most active social group in many aspects of economic and social life: in innovative activities on the labour market, in economics, business and finance, on the consumer market, etc. By its commitment to more active socio-economic strategies the middle class shows that it is ready to support and take part in the modernization process, provided that the process corresponds to its own interests.

Chapter 5.
People – Education – Modernization

Chapter 5 shows that the issues of human development, modernization and education are closely interrelated. Russia cannot reach a higher level of human development without large-scale modernization, which is unachievable without a renewal of the education system. The chapter analyzes modernization of education, and of its different levels and branches, from the viewpoint of the influence of education on human development prospects. Worsening quality of school education over the last four decades appears to be the major source of problems, which are blocking development of the whole national education system.

More efforts are needed to transform higher education, which remains Soviet in essence and, although mass-oriented, was created in another era and for other tasks. The content of higher education should be the main object of reform, since it is poorly nourished by research and out of step with modern needs for building an education-oriented society and the concept of life-long education. The professional component of higher education (university level) needs structural reorganization, gradation and harmonization with the opportunities offered by extended (life-long) education. Renewal of higher education also depends on improvement of the status of higher education establishments by giving them more academic independence, and by changing the procedure and amounts of financing. And none of this can be accomplished unless decent conditions of work and remuneration are provided for teachers and other employees of the education system.

Chapter 6.
Modernization and Healthy Lifestyle Policy

Russia still lags behind developed European countries and most East European countries by most health indicators (infant and maternal mortality, life expectancy). However, human health depends not only on development of the healthcare system, but also on many other factors, and primarily on lifestyle. Unlike application of the latest medical technologies, a healthy lifestyle culture does not require huge expenditures and offers greater impacts, particularly in the long run. Whether to lead a healthy or unhealthy lifestyle is to a large extent the choice of each individual and of society as a whole.

A healthy lifestyle policy is beginning to take shape in Russia: important programme documents have been approved in the past two years, alcohol and tobacco excises have been somewhat increased, and health centres have been set up at medical institutions. However, financing for healthy lifestyles remains inadequate when compared with financing of medical care. Analysis of main lifestyle components – consumption of alcohol and tobacco, healthy diet and physical exercise – shows inadequacy and, in some cases, complete absence of efficient government policy measures in this sphere.

Box:
Russia's Demographic Development: Trends, Problems, Solutions

This Box analyzes principal trends and problems of Russia's demographic development in the present and future. Solution of demographic problems is of decisive importance for modernizing the economy and making it competitive, for achieving social development and geopolitical stability. Depopulation, caused by lower birth rates, excessively high mortality by the standard of developed countries, ageing of the population and declining numbers of people of working age, together with relatively low internal mobility and ineffective migration policy, represents a threat to Russia's future.

Large-scale measures undertaken in 2007-2010 have proved inadequate for stabilization of population numbers, and the relatively favourable trends of recent years may soon give way to more rapid decline in numbers of people living in Russia.

Demographic limitations are becoming decisive for the development prospects of Russia's labour market. Shrinkage of the workforce, growth of the dependency burden and the high level of mortality among people of working age (particularly men), will be an obstacle to economic growth unless adequate productivity increases can be achieved. Ageing of the population is bringing the pension fund and the entire pension system to crisis point.

Major investments in demographic policy and substantail development of the system of social guarantees for birth and upbringing of children are essential for overcoming the demographic crisis. Lowering of mortality rates will require development of quality medical care, strengthening of preventative medicine, regular clinical examinations, and orientation of children and young people towards healthy life-styles.

Chapter 7.
Economic Modernization and Sustainable Development

The meaning and vectors of modernization are determined by its final goal, which – for all the importance of economic growth – is improvement of the standard of living of every individual and provision of favorable conditions for future generations. This goal is usually defined as the provision of sustainable development. UN documents make a close connection between welfare improvement worldwide and the achievement of Millennium Goal 7: 'Ensure environmental sustainability'.

Support is needed for modernization of the economy in order to carry out a 'win-win' policy: achievement of economic efficiency, on the one hand, and reduction of emissions, sustainable use of natural resources and waste-free production, on the other hand. This means combining Russia's environmental goals with its economic targets: economic

activities should provide both economic and environmental benefits.

The need for modernization is also evident from the appearance of anti-sustainable trends, related particularly to environmentally intensive restructuring of the national economy in favor of resource-extraction and polluting sectors, and simultaneous decline of resource-saving and high-tech industries. Russia could double or triple its GDP, and significantly improve the well-being, and social and environmental living conditions of its population through structural and technical modernization of its industry, without any increase in the level of extraction and utilization of natural resources.

Modernization of Russia's economy should also take account of the country's huge capacity to provide ecosystem services, including the global role of Russia's natural ecosystems. Mechanisms similar to those of the Kyoto Protocol should not be limited to the items, which are marketable today, but should be extended to most natural resources and services.

Introduction of sustainable development indicators is highly important for modernization and ecologization of the economy, since GDP alone is not an adequate indicator for many key aspects of social and economic development, and particularly for social and environmental factors.

Chapter 8.
Modernization and the Russian Space

Major social and economic inequality between Russia's regions is considered to be a barrier to modernization, but the gap in Gross Regional Product (GRP) was constantly narrowing from the middle of the 2000s and differences between household incomes and poverty levels in different regions have also been levelling out since the first half of the decade due to booming oil revenues and increased scale of budget redistribution. Social inequality between Russian regions has been sustainably reduced overall, with the exception of unemployment.

More rapid modernization in spatial terms depends on growth of human development, supported by three factors: 1) faster dissemination of innovation throughout the country (supporting the development of cities as innovation centres, priority infrastructure investment in territories where population is concentrated in order to reduce economic distances); 2) stimulation of competition between regions for investments in human capital (delegation of authority, changing the proportions of tax distribution in favour of regions and municipalities, development of horizontal ties); 3) increasing mobility of the population (supporting various forms of migration, including labour and educational migration, elimination of registration procedures, development of housing markets with low entry barriers and of the mortgage market, and creation of new and high-quality jobs in major cities).

The Human Development Index (HDI) in Russia grew slightly in 2009 (from 0.838 to 0.84), despite decline of GRP in most regions due to the crisis. The progress will continue due to growing life expectancy and greater involvement of children and young people in education. The only HDI declines in 2009 were in six regions, which suffered severe industrial recessions. In 2005-2009 the share of Russians living in regions with high HDI values (over 0.8) rose from 17 percent to 85 percent. In 2009 Russia had no regions with low HDI (under 0.7), while in 2005 such regions accounted for 19 percent of the country's population.

Introduction
Modernization in the Russian Context

Modernization has been officially proclaimed as the key instrument for transforming the Russian economy in the coming decade. Being closely associated with the changeover to innovative development, modernization should give the Russian economy a new technology base, reduce its dependence on raw material markets, increase the well-being of Russian citizens and make the country more competitive.

The achievement of these goals and solution of related problems should, in turn, boost the development of Russia's human potential, which is a good indicator of the quality of life in the country. However, the relationship between modernization and quality of life is not direct, but is determined by a series of factors, the most important of which is the question of the type of modernization that is to be implemented in Russia.

What is modernization?

The notion of modernization as acquisition by a society of specific traits, which distinguish it as modern rather than archaic, is usually traced back to the works of Max Weber in the early 20th century[1]. Modernization was understood by Weber as the movement away from a traditional society bound by customs and rituals and having little room for rational behaviour or for a free choice between various human behavior patterns. However, the term 'modernization' only emerged and became popular with social scientists much later, in the 1950s

Jürgen Habermas describes the content of modernization as follows: 'the concept of modernization refers to a bundle of processes that are cumulative and mutually reinforcing: to the formation of capital and mobilization of resources; the development of the forces of production and raising of labour productivity; the establishment of centralized state power and the formation of national identities; to the proliferation of rights of political participation, of urban forms of life, and of formal schooling; to the secularization of values and norms, etc.[2].' So, without countering Weber's understanding of modernization, its modern definition is wider, and is not confined to the contrast between 'what is traditional and what is contemporary (rational)'. In fact, modernization in the Habermas definition covers almost all aspects of social life, from psychology to politics, and from settlement patterns to technology.

[1] Max Weber, Die protestantische Ethik und der «Geist» des Kapitalismus, in M. Weber, Selected Works, M. 1990

[2] J.Habermas. Philosophic Discourse on the Modern, M.2003, p.8

Russia and modernization

Let's ask ourselves a question: why does Russia need modernization? You do not have to be economically successful in order to be happy. And this is as true for countries as for people. There are countries which seem quite content with what they have, judging by their HPI (Happy Planet Index), even though they do not go in for modernization and have not achieved any major economic successes. There are different ways of leading a human life and the life of a country. So, does Russia really need modernization?

One thing to make clear is that lack of modernization is not equivalent to the Apocalypse! Even if modernization in Russia stalls (once again) the country will not cease to exist, will not be sucked into the abyss and will not perish in agony. What will in fact happen? Russia will become an extremely dull country. After a further decade without modernization the country's profile will be roughly this: a number of tycoons living in London and owning most of the country's property; the rest of the population guard-

So, in speaking about modernization today, we cannot regard it solely as movement away from a frozen, traditional, patriarchal society: even contemporary societies, which have all of the attributes given in Habermas's definition, may be in need of modernization.

What could be modernized in contemporary society? The answer is simple: everything that prevents people (the majority of the population) from feeling at home in their country, and that prevents the country itself from being an acknowledged and respected member of the international community.

Social, economic and technological development has always been uneven and remains so today: some countries run ahead, others lag behind, while others stay frozen in the same state for a long time. The supposed leadership of one country or group of countries may have objective and subjective expression. The objective indicators are: GDP, exports, the achievements of science and industry, etc. Subjective indicators are: the opinions of foreigners as to which countries deserve to be taken as models, which country they would like to live in, etc. So the answer to the above question of what needs to be modernized could be rephrased as follows: what needs to be modernized is whatever prevents us from being as close as possible to the country that is recognized as the modernization leader.

Does such a recognized leader exist today? Research by social and political scientists[3], as well as mere common sense, tells us that there is no such modernization leader in the world today. Various groups of countries look to their own modernization leaders, have their own milestones and could therefore have their own modernization. In that respect the vividly pro-European definition of modernization given by Habermas has been amended by Ian Roxborough[4] who analyzes a number of books on the subject and proposes to treat modernization as 'increasing capacities for social transformation'.

And finally, Russian social scientists Tatyana Zaslavskaya and Vladimir Yadov have developed the logic of the definition even further, proposing to consider modernization as raising the capacity of the world system for competition[5]. We find that such an

ing the property owned by the tycoons; and guest workers from former Soviet republics building more property for the tycoons; and all of them managed by hired managers. The landscape will be adorned with a 10-lane road highway from China to Europe with high-tech vehicles travelling in both directions. Overhead there will be powerful cargo jets travelling the same route and sometimes landing in Moscow or Novosibirsk for refueling. Any talented children will be immediately taken out of the country…

We should all remember: Russia, for better or for worse, is a great country. It would be shameful to turn it into an expanse of dullness. Russia is not only rich in hydrocarbons and all the elements of the periodic table – it also produces many talented children. And this is the second, and maybe the most important, justification for modernizing Russia. As it is organized today, the Russian economy does not need so much talented youth, because its economy lives in the shadow of oil pipelines.

Based on a series of publications by A.A. Auzan, 'Institutional Economics for Dummies', Esquire magazine, 2010-2011.

[3] E.g. see S. Eisenstadt (ed.) Multiple modernities. London: Transaction Publications, 2002; S. Eisenstadt Comparative Civilizations and Multiple Modernities. Leiden: Brill Academic Pub., 2003; C. Garbowski, J. Hudzik and J. Klos (eds.). Charles Taylor's Vision of Modernity: Reconstructions and Interpretations. Cambridge, UK: Cambridge Scholars Publishing, 2009; N. Mouzelis 'Modernity: a non-European conceptualization' // British Journal of Sociology. 1999. Vol. 50. № 1. P. 141-159; B. Wittrok 'Modernity: One, None or Many? European Origins and Modernity as a Global Condition' // Daedalus. 2000. Vol.129. №1. pp.31 – 60

[4] I. Roxborough 'Modernization Theory Revisited. A Review Article' // Comparative Studies in Society and History.1988. V. 30. № 4. P. 753-761

[5] Заславская Т. И., Ядов В. А. Социальные трансформации в

essentially functional interpretation of modernization best reflects the complex and various processes that are collectively defined as 'modernization' as well as characterizing the variety of its possible future development trajectories in various countries.

In this understanding modernization is not a goal, where all that is needed is to insert country-specific variables into a well-known formula, but a problem, for which every country has yet to find the solution[6].

The typology of modernization

The multiplicity of modernizations as viewed in terms of their content, i.e. of the models to which they are oriented, does not prevent them having a number of similar structural traits, which enable us to group modernization into several types (or classifications).

Approaches to modernization differ, first, on the issue of whether modernization should cover the whole of society (economy, politics and the social sphere), or whether it should concentrate only on economics, or, making it even narrower, on the technological foundation of economics.

In Russia many official documents and government declarations regard modernization in the latter sense. This ties modernization firmly to technical and technological innovation, giving much less attention to social innovations (in a broad sense). The arguments advanced by the Russian establishment for promoting only technical and technological modernization are very simple: our society can in no way be regarded as traditional, i.e. rural. Russia has a perfectly modern society, so what need could there be for further social modernization? Such an approach shows that the understanding of modernization used by Russian officialdom is closer that of Weber, i.e. is almost a century old.

The second distinction concerns methods of modernization. Here it is customary to distinguish an evolutionary (organic) modernization, the impulse for which comes from below, from the mass of unorganized or self-organized citizens and manufacturers, on the one hand, and, on the other hand, an engineered modernization, which is imposed from the top downwards by the power of the state.

In this respect it is important to note that a genuinely contemporary western-type society, which consists of such unorganized or self-organized individuals, both manufacturers and consumers, does not, in fact, need the hand of the state in order to achieve evolutionary development. These individuals generate innovations on their own initiative and at their own risk, driven by their own, perfectly egoistic interests in a highly competitive environment and within rules of the game (institutions[7]) that encourage entrepreneurship. Among these innovations only those, which prove to be of use to other individuals (companies and individual customers), survive and become established.

Of course, this is not to say that such innovators reject state financing, cheap loans, tax preferences, etc. – their governments are eager to provide such assistance as well as financing of fundamental science. But, at the same time, the impulse for innovation (not merely technical, but also social and organizational) comes from below, from companies, citizens and their various associations.

By contrast, in societies where, for whatever reason, initiative and innovative

России в эпоху глобальных изменений. Доклад на открытии III Социологического конгресса, 21 октября 2008 г. Режим доступа: http://www.isras.ru/publications_bank/1225398577.pdf

[6] Аузан А. А. Модернизация как проблема: в поисках национальной формулы // Журнал Новой экономической ассоциации. 2010. №7. С. 136-137

[7] See Chapter 2 for details.

activity by citizens is at a low level – whether it has not come into being or has been suppressed by government – modernization impulses can only come from above, from government. So when the Russian establishment says that our society does not require modernization and at the same time proclaims the need for technological modernization from above, in the form of a government-directed project, it is contradicting itself.

A third important modernization classification is the division between 'pioneering' and 'catch-up' modernization. 'Pioneering' modernizations are those carried out by countries, which are world leaders and models for others to emulate as they fight for their status in specific competitive 'world systems', as defined by Immanuel Wallerstein[8]. Correlatively, 'catch-up' modernization is implemented by countries that directly or indirectly admit their lag with respect to the leader.

This is not to say that catch-up modernization must involve precise copying of the social and economic organization of leader countries, or that catch-up modernization is merely a task and not an issue in itself. The catch-up country is trying to replicate the leader's final results and not the forms of action of internal mechanisms, which made the pioneering modernization possible. So a national modernization formula may well be requisite for catch-up modernization to be successful.

Finally, another important distinction between modernization types has to do with coverage, i.e. whether the modernization is total or local. These attributes apply equally to modernizations of society as a whole and to modernizations that only cover technological aspects. A total modernization involves changes that affect all aspects of human life and transform them in order to increase the competitiveness of society for all its strata and social groups. By contrast, local modernization may target only one social stratum or a single social group, while keeping the conditions for other groups and strata unchanged. Total modernization of the technological components of a country's economy involves enhanced innovative action in all segments, while local modernization of technology means that the action will be limited to specific segments, etc.

The diversity of possible modernization scenarios is therefore clear. It is important to understand that they could all have different impacts on human development, and on its various aspects as presented in the Human Development Index (HDI).

So total social and economic modernization, whenever it is aimed at improving the value of human life, will definitely have a positive impact on the country's HDI. But local technological modernization, especially in segments that are not oriented to end-users, could have no impact at all on the HDI – if the number of employees, who are affected, and the resulting growth of GDP are not significant, i.e. are within statistical measurement error values, etc.

The broad variety of modernization types briefly described above does not, in fact, entail complete freedom or randomness in the choice among them. Whenever a country really wants to modernize, as opposed to imitating modernization, the expected results and efficiency of modernization are factors limiting choice, and such results and efficiency depend in turn on the level of development of various aspects of social life, which has been achieved to date.

Specifics of modernization in industrial and post-industrial economies

[8] I. Wallerstein. World-Systems Analysis: An Introduction. Durham, NC: Duke University Press, 2004

The concepts of industrial and post-industrial society, which were formed in the early 1970s[9] and are generally accepted today, are based on the concepts of techno-economic paradigms and technology patterns.

The first is a generalization of the concept of a technological paradigm, which was first introduced by Giovanni Dosi in 1982[10]. He regarded a technological paradigm as a general 'outlook' on the means of solving production problems, faced by companies. His view is that technological paradigms consist of several technology models and specific tasks that are allocated to these technologies. So technologies are regarded as problem-solving activities while the problems to be solved are determined by the paradigms themselves. In that sense technological paradigms factually pre-determine the direction of gradual technological changes that improve the initial basic design solutions. Gradual improvement of basic solutions in turn defines the trajectories of technological progress within the framework of relevant paradigms.

Movement along a technology path can only continue for so long as it allows improvement of the 'core' of the paradigm, i.e. the basic design solution or invention. When that potential runs out, the paradigm stagnates and a search for a new 'core', initiating a more efficient technological paradigm, is imminent.

The above-mentioned concept has been generalized in the concept of a techno-economic paradigm, which has been defined by Christopher Freeman as follows: 'A "techno-economic paradigm" is a cluster of interrelated technical, organisational and managerial innovations whose advantages are to be found not only in a new range of products and systems, but most of all in the dynamics of the relative cost structure of all possible inputs to production. In each new paradigm a particular input or set of inputs may be described as the "key factor" in that paradigm characterised by falling relative costs and universal accessibility. The contemporary change of paradigm may be seen as a shift from a technology based primarily on cheap inputs of energy to one predominantly based on cheap inputs of information derived from advances in microelectronic and telecommunication technology.'[11]

Similar approaches via the concept of a 'technological mode' were formulated somewhat later by Sergey Glazyev[12]. From his point of view a technological pattern (TP) is a large complex of technologically connected industries, the basic combination of which forms the core of the technological mode. Technological innovations, which participate in the formation of such a core, represent the 'key factor' of the TP, while the segments which play the leading role in dissemination of the new TP are its carrier segments. As with technological paradigms, the life cycle of a TP is ended when the potential for improvement of its core is exhausted. Usually, exhaustion of the core is accompanied by formation of the core of another TP, with its own key factor and carrier segments.

The processes of change of TPs are directly connected with modernization processes. According to Glazyev: 'when technological patterns are replaced countries which lag behind gain advantages – without excessive accumulated capital as a heritage of the previous pattern, they can use the already exist-

[9] D. Bell, The Coming of Post-Industrial Society. New York: Harper Colophon Books, 1974

[10] G. Dosi, 'Technological paradigms and technological trajectories. A suggested interpretation of the determinants and directions of technical change' // Research Policy, 1982, 11(3):147-162

[11] C. Freeman, Preface. – In: G. Dosi, C. Freeman, R. Nelson, G. Silverberg, L Soete. (ed.) Technical Change and Economic Theory. London: Pinter Publishers, 1988, p.10

[12] Львов Д. С., Глазьев С. Ю. Теоретические и прикладные аспекты управления НТП. // Экономика и математические методы. 1986. № 5; Глазьев С. Ю. Экономическая теория технического развития. – М.: Наука, 1990.

ing investment and technological experience of developed countries while optimizing the newly constructed process flows.'

Replacement of technological patterns usually requires corresponding changes in social and institutional layouts which promote mass implementation of the new TP technologies, as well as corresponding types of consumption and ways of life. Then comes the time for a quick expansion of the new TP, which becomes the basis for economic growth and gains a dominating position in the economic structure. In the growth phase of the new TP most technological flows are reconstructed in accordance with its requirements. At the same time the next new TP starts to grow. The newer TP remains in the embryonic stage until the current TP reaches its maximum growth, after which a new technological revolution begins. This creates a new type of infrastructure, which overcomes restrictions of its predecessor, and brings a changeover to new types of energy, which form the basis for the next technology pattern.[13]

The technological patterns (or technological paradigms) of an industrial society differ from those of a post-industrial society not only by specific costs, but by the speed of technological upgrade. This means that the centralized, engineered approach to modernization, which has proven successful at the industrial stage of economic development, is unlikely to be successful for post-industrial patterns. Any long-term project, which has to have fixed goals, targets, executors, deadlines and allocated budget funds can hardly be changed after it has already been launched, even when more efficient options are discovered in the process. The reason for this is evident: it is the scale of the modernization project, and the need to organize coordinated work by many participants via centralized management. In such cases changing a single detail can force a review of the whole project, which entails major costs and losses of time. So large projects usually require not only very thorough concept development, but also very careful implementation.

However, an overbearingly complex centralized modernization project is not needed whenever modernization has an evolutionary, or organic character, i.e. is based on a number of individual, 'horizontal' interactions between individuals and legal entities. In the course of such modernization the unpredictable appearance of a more efficient innovation does not require review of the whole project (since there is no such thing as the whole project), but merely means that a new 'local' contract or formation of a new alliance, etc., is needed.

Therefore, the engineered modernization approach was quite adequate for 'slow' industrial patterns, while 'fast' post-industrial patterns have much less use for it. This is not to say that evolutionary modernization requires no design whatsoever – such a need exists and the evolution is, basically, a collection of designs, but none of them is universal, covering the whole modernization process. That is why evolutionary modernization, being more adaptive than engineered modernization, is more adequate for post-industrial societies (and economies).

The first thing a country requires in order for evolutionary modernization to begin is an adequate number of motivated subjects who are capable of initiative – not the participants of a centralized project, but individuals and organizations that are ready, at their own risk, to promote changes which they believe will not only increase their own, personal competitiveness, but the competitiveness of the country as a whole.

[13] Глазьев С. Ю. Мировой экономический кризис как процесс замещения доминирующих технологических укладов. 21 июля 2009г. Режим доступа: http://www.glazev.ru/scienexpert/84/

This basic condition can immediately be compared with the country's human potential indicators: health, education and the income level of the agents of evolutionary modernization must be adequate for them to start to carry out their intentions. In turn, implementation of these intentions will have a positive impact on the above-mentioned human potential components, as competitive technologies will make greater demands on workers.

The character of evolutionary modernization processes emphasizes another vitally important condition for their realization to be possible: the country must provide opportunities for entrepreneurship. This condition relates both to institutional aspects and the creativity and business initiative of the country's citizens. Evidently, the latter qualities are also related to human potential in its broad sense, even though they are not directly included in the Human Development Index (HDI).

The political and economic context of modernization in Russia

Modernization can be viewed in the framework of economic theory and general economic prerequisites or it can be regarded as a choice made by an individual or a group of individuals within the framework of a new political economics or constitutional economics. In that case modernization is a political process, which can be studied using economic methods, where various interest groups act within the framework of a more complex structure, which public choice theory defines as a 'social contract'. That contract has various typological properties. In can be horizontal or vertical, constitutional or post-constitutional, explicit or implicit by nature. Social contract dynamics in Russia were studied in works by the Institute for the 'Social Contract' National Project in the period between 2000 and 2010. In the early 2000s Russia established a vertical social contract with a certain collision between constitutional norms and the post-constitutional level of the contract. The collision occurred because, from a constitutional point of view, the Russian state is both liberal and social, but in reality it has been run as a liberal state, and this has led to recurrent problems in providing public benefits and covering the costs of producing public benefits. The social contract in the 2000s was supported mainly by symbolic rather than political methods, i.e. not by political competition, but by a specific exchange of signals between the state and the society, carried out primarily through the medium of television.

The contract was initially based on the following formula: 'Taxes in exchange for order'. Such was the formula of the so-called Gref Programme for reform in Vladimir Putin's first presidential term. Later on difficulties in implementation related to court procedure, issues of personal security, etc., caused a change in the contract format, and since 2003 and 2004 it has taken the form already described above, which can be summarized in a single phrase as 'Loyalty in exchange for stability', whereby the government has guaranteed a certain economic stability while significant groups of citizens have been willing to surrender active and passive political rights while keeping a measure of personal liberty.

This structure of the social contract creates various spheres of action for various social groups. Obviously, in a vertical contract dominant groups standing closest to the supreme power are most influential. A method for studying these groups was developed in 2007 by the SIGMA group of economists when they were preparing a report by the Institute of Modern Development and the book Coalitions for the Sake of the Future. They developed possible strategies for Russia's development and tried to estimate how various groups of people could affect various strate-

gies. Indeed, comparison of data provided by business media with those provided by the economic or political press helps to single out influential groups and specific configurations of their assets, which can explain specific behaviours by such dominant groups.

The planning horizon of these dominant groups is a key aspect of modernization. If they have a long-term orientation, such groups will invest in modernization, because the inertia trajectory is depleting Russia's resources and, consequently, the resources of these same dominant groups. But if they have a short-term orientation, such groups will be focused on competition with each other and redistribution of assets, and modernization will not be part of their agenda.

There are other active groups functioning in Russia's current social contract, which are ready to invest in development. But active groups in a social contract that declares 'loyalty in exchange for stability' are, in effect, marginalized. In the absence or impotence of political institutions for decision-making these groups cannot influence the decision-making process. Hence the exodus of these active groups from Russia, which has become a tendency of the post-crisis period, and which poses a serious threat to modernization, because changes of economic course and the process of creating new institutions are closely related to the extent to which active groups are ready to participate in these processes and the conditions on which they would participate.

A broadly defined experiment in the form of a business game that was designed for and carried out at the Perm Economic Forum in 2011 drew a distinction between groups concerned with federal issues, regional issues, business issues and social issues. The goal of the game was to determine the possible structure of the social contract and possible changes to the contract as it currently exists in Russia. The experiment produced two results.

Result 1. Active groups prefer a scenario where in exchange for their investments in production of public benefits of various kinds (e.g. readiness of business to contribute to social capital or readiness of the non-profit sector to not only criticize government, but to make positive proposals) the groups receive the opportunity to participate in decision-making. This scenario is preferable for active groups, but it is less probable. A more real (but less desirable) option is prolongation of the legitimacy of current government in exchange for greater autonomy of various groups, including business groups, by means of partial privatization, departure of government from certain segments, and expansion of opportunities for regions, not only by giving them mandates, but by giving them the means to finance those mandates.

Experiments such as this are looking for a construction of the social contract, which would enable modernization, since the contract structure that has been in place since 2003-2004 naturally tends to keep the situation unchanged and its outcome is stagnation rather than modernization.

The attitude of large passive groups of the population towards the government is very important in the existing structure of the social contract, since these groups are the primary recipients of economic stability and growth of real incomes, which government provided from 2003 up to the onset of the recent economic crisis. Dialogue between government and these groups of the population is a matter of both economic and symbolic exchange, and the values which these groups prize most highly are of principal importance for the structure of the social contract. The value which is uppermost is stability, which,

in the period between 2003 and 2008, was the basis not only for the loyalty of wide passive groups, but for the integrity of the political regime. But dominance of such values could hardly promote the process of modernization: the stability at the start of the 2000s was undoubtedly a leap forward compared with the chaos of the 1990s, but by the late 2000s stability had come to mean institutional erosion, and the replacement of institutional guarantees by personal guarantees, i.e. attributes which usually obstruct modernization, rather than enabling it.

The prospects for modernization depend, on one hand, on the negotiating ability of special interest groups and on the planning horizon, which is characteristic of those groups, as stated above. On the other hand, modernization is influenced by external factors – the institutional environment, including political and economic trends. Estimates of probability by measurement of these factors suggest that from 2007, when such estimations were first carried out, and up to the spring of 2008, the probability of modernization in Russia was on the increase. In the fall of 2008 such probability plunged as a result of the world crisis and the war with Georgia. Fluctuations since then have been related to new phases of the economic and political cycle.

Using this same method to estimate possibility of Russian modernization as of the summer of 2011, we must acknowledge that external trends have had negative impact through high prices for hydrocarbons, which usually strengthen the old social contract and give little hope for active modernization. On the other hand, Russia's customs union with Kazakhstan and Belarus (and possible accession of Russia to the WTO) is positive for modernization for various reasons. In particular, flight to the informal economy, which in the past has been the reaction of small and medium-sized business to increased tax pressure, could be substituted by migration of small businesses to other more liberal tax jurisdictions, i.e. there is scope for competition between business environments in member countries Customs Union and for other institutional competition, which could eventually support the emergence of more efficient institutions.

Conditions of political competition will be strained during the acute phase of the political cycle, represented by elections to the State Duma and the Presidency in 2011-2012. The strain will be manifested in competition between the values of stability vs. those of development, and this can be clearly seen in the field of the media, where the 'TV party' and the 'Internet Party' represent different possibilities and different futures for large passive groups and for small active groups. The acute phase of the political cycle works in favour of modernization, because increased competition and direct comparison of the ideas of development and stability could help to recruit more groups in support of modernization. Overcoming of the economic crisis should also be regarded as a positive factor for modernization: a crisis environment can only support modernization if the institutional environment is ripe a 'Schumpeterian storm' of innovation and that is assuredly not the case in Russia. Ending of the crisis brings modernization closer because it is a time when the dominant groups mentioned above are interested in reinforcing and preserving the legitimacy of their control over resources. They are therefore more interested in institutions when the crisis ends than when it is at its peak.

A new element in the context of these varied group interests and different factors impacting on such interests was the attempt at a modernization policy staged by President Dmitry Medvedev in the period since March 2008. A certain trend in modernization policy can be traced through that period.

The formula for Russian modernization proclaimed by President Medvedev at the Krasnoyarsk Forum during the 2008 election campaign contained the four 'I's: institutions, infrastructure, investment and innovation. We believe that this formula correctly defined the main issues of Russia's modernization policy. However, actual progress with elements of that formula has turned out to be more complex than was foreseen in 2008.

A programme of institutional changes, led by an anti-corruption programme and the judicial reform, was proclaimed. But institutions are always tied to distribution effects, so institutional changes nearly always entail confrontation with the interests of dominant groups, and progress is impossible without strong negotiating positions of government (the would-be enactor of reform) or a system of compromises and compensation deals. Since neither of these approaches proved feasible, institutional reforms became bogged down and were transformed into technocratic actions such as greater use of electronic technologies, facilitating access to government services via the Internet, and simplification of court proceedings. These activities produced positive results, but the results are unlikely to be sustainable because they require adaptation of existing groups to a new environment. Modernization policy has become largely technocratic due to a lack of political strength in carrying out institutional changes.

The crisis offered an excellent window for investing in infrastructure, thanks to the high multiplier effect, which is characteristic of such investments. But the absence of effective institutional reforms entailed significant risks that money invested in infrastructure projects would be misappropriated. At the same time, the crisis made it necessary to support demand, so, instead of being used for infrastructure development, funds were channeled into the pension system and salaries for government officials, which have strengthened positions of these groups as compared to other social groups. This favours the inertia trajectory, in part because such support for pension levels is not affordable for the Russian economy and has been financed by increased social contributions, which puts additional pressure on small and medium-sized business.

The third element of the formula – investments – took a serious blow from the crisis and relative worsening of the investment environment in Russia as compared with other destinations for investments. So in 2009 President Medvedev and his team were faced with the task of developing innovation without the necessary institutional, infrastructure and investment prerequisites for the task. In such circumstances the only available mechanism was a project approach, and this was most vividly represented by the Skolkovo project for creation of a Russian innovation centre near Moscow. But implementation of a project policy inevitably led back to the issues, which had been broached in 2008: implementation of any project depends on the institutional environment, in which the project has to unfold. From late 2010 the Presidential Committee on modernization and technological development of Russia's economy, which acts as the government's modernization headquarters, gave increasing attention to the institutional agenda. This was most vividly demonstrated by the President's proposals for 10 measures to change the investment environment in Russia, put forward in March 2011 in Magnitogorsk. The proposals referred to the close association between institutions and investments, but they called for steps that were in plain contradiction with what the government was in fact doing: in particular the issue of how the pension system should be financed became an issue for political competition.

This further stage of the modernization policy spiral, bringing it back to institutional issues, poses the question of what the final appearance of Russia's modernization will be, since technocratic and institutional approaches to modernization could produce significantly different results.

We believe that the relation between supply and demand for modernization is highly important. Russia's history shows that whenever modernization is imposed ('supplied') without there being any demand for it from society, what occurs is a mobilization-type, 'project' scenario with serious long-term adverse effects, because the country makes a short-term leap forward, which is followed by recession (the inevitability of such recessions has been analyzed in the economic literature). The alternative is modernization in the form of a supply that is oriented to the demands of specific groups in society. In that case the modernization may not be so radical and fast, but it provides sustained, long-lasting results, as shown by the major reforms undertaken by Tsar Alexander II in the second half of the 19th century. For that to be possible we must define addressees in society who are interested in a modernizing transformation, carry out thorough study and, on occasion, change social and cultural aspects of modernization policy, because in that case modernization becomes a certain social and cultural project, aimed at an iterative change of the country's human potential and human capital.

Conclusions and recommendations

Various types of modernization have different impacts on the HDI as a whole and on its specific components. For example, a purely technological modernization in industrializing countries can improve both per capita GDP (due to rapid economic growth), the educational level (the rural population has to be educated so that it can work in factories), and average life expectancy (by improving the health care system).

A similar purely technological modernization in a post-industrial country could have positive impact on GDP growth, but will have negative impact on the educational level and life expectancy. This is because, if such modernization is not accompanied by changes in economic and political institutions that improve the entirety of civil rights, growing GDP may be appropriated by a small number of owners, while living conditions of the general public worsen, their motivation for long-term education diminishes, accessibility of health care services declines and, as a result, there is a loss of hope for positive change, and a spread of self-destructive practices such as drug addiction and alcohol abuse.

In other words we cannot simply equate modernization with growth of the HDI. The question has to be asked: what sort of modernization is required, and at what specific juncture in a nation's history is it to occur?

Hence we arrive at simple and natural recommendations to leaders at all levels of the state hierarchy: development and implementation of modernization programmes, strategies and projects must be accompanied by thorough analysis of their impact on progress of HDI components.

As the famous Russian poet, Andrey Voznesenskiy, once said: 'Any progress is reactionary if it ruins the man'.

Chapter 1
The Economy and Economic Policy in the Crisis Recovery Period

1.1 Budget policy

The economic outcome of 2010 can be viewed in two ways. On one hand, the year was one of transition between the crisis and the recovery, and this had impact on budget policy and main macroeconomic indicators. On the other hand, the year brought the first decade of the new millennium to an end, enabling some conclusions to be drawn about development in that period.

External conditions, which sparked the crisis in Russia's economy by their dramatic worsening[1], have now been mainly restored (see Table 1.1). Oil prices and the scale of investments in emerging markets in 2010 were outmatched only by the most favourable years (2008 and 2007) and aggregate demand in countries, which are Russia's trade partners[2], even exceeded the pre-crisis level. So the impact of external shocks, which caused the Russian crisis, came to an end.

Table 1.1. External environment for Russian economic development in 2005-2010.

	2005	2006	2007	2008	2009	2010
Oil prices (USD/barrel)	50.6	61.1	69.3	94.4	61.1	78.2
Trade conditions (2005 =100%)	100%	112%	115%	133%	94%	111%
Demand from trade partners (2008=100%)	100%	106%	111%	114%	111%	115%
Net capital input to emerging market countries (USD billion)	291	252	695	230	237	470

Source: Calculations by Economic Expert Group based on the data of the International Monetary Fund (IMF)

[1] Гурвич Е., Прилепский И. Чем определялась глубина спада в кризисный период? Журнал Новой экономической ассоциации, №8, 2010.

[2] This figure is calculated as the average physical volume of GDP in countries which are Russia's trade partners, weighted to reflect their specific importance for our country's foreign trade.

Many economic measures that were brought in to address the crisis have now been wound down. The federal budget spent a total of RUR 333 billion (0.7 percent of GDP) on such measures. About half of the amount was spent on housing for veterans and handicapped persons, thus supporting the construction sector, which had suffered a dramatic decline of demand. About one fifth of all anti-crisis expenditures went to support the machine-building sector, which also saw a major decline of demand, while 11 percent of the money was transferred to regions to help their labour markets and 5 percent was used provide additional social support. There was almost no support for the financial sector after 2009: despite concerns, banks managed to cope with the crisis on their own (although they were unable to restore their lending operations). So anti-crisis activities were reduced in 2010 and their vector was changed.

Provision of state guarantees for loans was another important element of anti-crisis policy. Total guarantees issued were equal to 0.5 percent of GDP.

Meanwhile, a much larger increase of budget expenditures was carried out for implementation of the next stage of pension reform. It is not clear whether these expenditures should be treated as anti-crisis measures. On one hand the decision to proceed with a new stage of pension reform was taken in the second half of 2008, when the crisis was at its peak, and was partially dictated by the need to smooth the decline of household incomes (and of aggregate demand). On the other hand increase of pensions is a sustained, long-term course of action, which sets it apart from most 'one-off' means of addressing the crisis. However, the World Bank and IMF usually treat additional pension payments as a part of anti-crisis programmes.

The scale of additional spending to support the pension system can be seen in Table 1.6 below. The data in the table show that financing of the pension system from general revenue of the federal budget (i.e. not from social contributions to the budget) increased by 3.2 percentage points of GDP.

Real and nominal budget expenditures grew overall in 2010, as shown in Table 1.2, but they also fell significantly in proportion to GDP (by almost 2.5 p.p.). This enabled reduction of the budget deficit from 6.3 percent to 3.5 percent of GDP. Nevertheless, revenues remain significantly lower (by about 5 p.p. of GDP) while expenditures are significantly higher (by more than 4 p.p. of GDP) than the pre-crisis level. In real revenue terms the Russian budget was returned to the level of 2005, while real expenditures were over 40 percent higher than in 2005.

State debt grew only insignificantly in 2010 (by 0.3 p.p. of GDP), through it is important to note some reduction of amounts held in funds, which accumulate tax revenues from the oil & gas sector. But even if we take only the net liabilities of the government (i.e. the difference between state debt and budget reserves) the reduction was relatively small at around 4.1 p.p. of GDP. Net liabilities of the federal government once again became positive (after being negative for three years), but remain close to zero. Russia's debt position is better than that of most countries in terms of both scale and trends, as can been seen from Table 1.3, which shows gross debt of federal and regional government.

Pension reform made social payments the priority issue for state expenditures in the crisis period. They more than doubled in two years while overall expenditures grew by only

Table 1.2. Consolidated (federal and regional) budget execution in Russia

	2005	2006	2007	2008	2009	2010
% GDP						
Revenue	39.7%	39.5%	40.2%	38.8%	34.6%	35.0%
Expenditure	31.6%	31.1%	34.2%	33.9%	40.9%	38.5%
Balance	8.1%	8.4%	6.0%	4.9%	-6.3%	-3.5%
In real terms (2005=100%)						
Revenue	100%	110%	124%	128%	96%	104%
Expenditure	100%	109%	133%	140%	142%	144%

Source: Ministry of Finance of the Russian Federation

Table 1.3. Gross debt of combined federal and regional government in various countries (% of GDP)

Country (group of countries)	2007	2008	2009	2010	2011 (forecast)
All countries	57.6	60.8	68.5	71.2	73.7
Developed	73.1	79.2	91.3	96.6	101.6
Emerging	36.1	35.3	37.0	36.0	35.3
G-20	60.6	64.0	71.9	74.5	77.3
UK	43.9	52.0	68.3	77.2	83
USA	62.2	71.2	84.6	91.6	99.5
Japan	187.7	195.0	216.3	220.3	229.1
Brazil	65.2	70.7	67.9	66.1	65.7
India	75.8	74.4	75.8	72.2	70.8
China	19.6	17.0	17.7	17.7	17.1
Russia	8.5	7.9	11.0	9.9	8.5

Source: IMF

Table 1.4. Progress of main budget expenditures (2007 = 100%)

	2007	2008	2009	2010
Federal and regional budget expenditures	100%	123%	139%	152%
National issues	100%	110%	110%	123%
Defence	100%	125%	143%	153%
Security and law enforcement	100%	126%	144%	155%
Economy	100%	145%	179%	149%
Education	100%	124%	132%	141%
Health care and sport	100%	112%	120%	124%
Social policy	100%	127%	159%	206%

Source: Ministry of Finance of the Russian Federation

1.5 times (see Table 1.4). In that respect social expenditures have usurped the role of national economy expenditures, which grew fastest in the pre-crisis period.

1.2 Assessment of anti-crisis policy

Budget policy during the crisis period had mixed success. On one hand, use of money accumulated in oil & gas funds when market conditions were favourable significantly cushioned impact of the crisis. The funds were used to protect the banking system, as well as segments and companies in the production sector, to boost consumer demand, and to provide social protection and assistance to regions that were hardest hit by the crisis.

However, analysis of anti-crisis measures shows that they were mostly 'protective' and conservative. This can be seen from the share of measures for supporting specific segments or even companies. This approach runs counter to the recommendations of economic theory, which suggest that anti-crisis measures should be mainly used to cover liquidity deficits and raise aggregate demand. But other countries also disobeyed these rules, mostly in favour of the financial sector: many countries supported key financial institutions, which had been destabilized, fearing negative systemic effect for their national economies if these institutions went bankrupt. However, Russian practice certainly contrasts with best anti-crisis practice as regards support of the real sector. Certain 'informal' measures also had a protective character, including reported pressure and incentives used by various government authorities to prevent companies from cutting their workforce in order to avoid social impact.

Various negative effects of the anti-crisis principles chosen by the Russian government deserve to be mentioned. First, the opportunity was not taken to rid the economy of 'ballast' – uncompetitive companies, which absorb enormous financial, material and labour resources but make insignificant contributions to production. Earlier research has shown that such companies represent a significant share of virtually every industry in Russia in terms of labour force. This ballast has been kept, together with the healthy part of the economy. Correction of the aggregate production structure was also limited. Some changes to that structure did take place, as we will show below, but it seems that the accumulated economic disproportions called for a more radical correction.

Another negative aspect of Russia's anti-crisis plan is that it is a typical example of 'soft budget limitations'. This is most vividly demonstrated by support to the automotive industry. Russian automotive companies have repeatedly obtained 'temporary protection' against outside competition via import duties, deferred introduction of European fuel standards, etc. When the period of application of such measures expired, it turned out that competitiveness of the segment had not improved, and further protection was applied. The crisis did strengthen competitiveness of the Russian automotive industry by bringing down the real exchange rate. But this proved insufficient in the face of plummeting domestic demand and the government spent significant funds to support the industry. Unfortunately, the financing was not used to support modernization, but to support the existing product line. So the automotive industry has survived again, and again has not made any effort to increase its competitiveness. The situation is similar in the so-called 'one-factory-towns' (towns that rely on the employment offered by a single large enterprise or sector), where there were dramatic falls in output of the dominant employer. Despite the fact that such towns are chronically

vulnerable to the risks posed by market fluctuations, allocated funds were used to support them, but not to restructure them.

These aspects of Russia's anti-crisis policy prioritize short-term objectives over medium- and long-term goals. And this point is also true for several other aspects of the policy.

It is worth considering one indirect consequence of Russian anti-crisis measures, which has not attracted much attention from economists to date: the fact that the authorities put the emphasis on cushioning social impacts meant that adaptation of Russian companies to the shock of the crisis was limited. This could be seen from increase in the share of payroll expenditures in the structure of Russia's GDP, from about 47 percent in 2007-2008 to 52.8 percent in 2009 and 50.4 percent in 2010 – a shift that reduces competitiveness of Russia's economy and impedes its future growth. The effect is the reverse of what occurred after the crisis of 1998. At that time the government had neither budget reserves nor the ability to borrow, so it could not prevent plunging wages in the industrial sector, and was also forced to cut budget expenditures in real terms, thus compounding the decline of household incomes. The social consequences were dramatic: in just two years (1998–1999) real disposable household incomes fell by more than 25 percent, while real average wages fell by almost 30 percent. However, the other side of the coin was a sharp increase in the competitiveness of the Russian economy, reflected, intra alia, in shrinkage of the share of payroll in the structure of national GDP by over 11 p.p. (in the same two years). We think that the position of the prominent economist, Guillermo Calvo, who said that it was the reduction of real wages and not the devaluation itself that boosted Russia's economy after the 1998 crisis[3], is substantiated. Restoration of financial health was another key factor: dramatic reduction of budget expenditures reduced the deficit of the consolidated budget, which had been stuck at 8-10 percent of GDP prior to the crisis, to 1.0 percent of GDP and thereafter led to a significant surplus.

The latest crisis also had reverse institutional consequences compared with the 1998 crisis as regards budget policy. After 1998 Russia turned to a responsible policy of controlling oil and gas incomes, making gradual improvements. The first stage included conservative forecasting of oil prices, 2004 saw creation of the Stabilization Fund, and in 2008 that mechanism was replaced by fixed oil & gas transfers, set as a percentage of GDP. Contrarily, after the onset of the current crisis, these budget rules were suspended and today there are no budget rules.

These points make the contrast between economic development after the two crises unsurprising. Growth of GDP in 1999 easily compensated the crisis recession, and annual growth in the next five years averaged 6.8 percent. Growth in 2010 only just compensated one half of the more recent crisis recession, and the speed of economic growth expected in coming years is much lower than last time: according to the latest estimates by the IMF, growth of the Russian economy in 2011-2015 may average 4.4 percent. So cushioning social impact of the crisis has paradoxically worsened the post-crisis prospects for the national economy, in contrast with the situation after 1998 (see Table 1.5.).

Table 1.5. Impact on Russia of the 1998 and 2008 economic crises.

	1998 crisis			2008 crisis		
	1997	1998	1999	2008	2009	2010
GDP growth (%)	1.4	-5.3	6.4	5.2	-7.8	4.0
Real wage growth (%)	4.7	-13.3	-22.0	11.5	-3.5	5.2
Unemployment (%)	11.8	13.2	13.0	6.3	8.4	7.5
Payroll share in GDP (%)	51.4	48.0	40.1	47.4	52.8	50.4
Federal and regional budget balance (% of GDP)	-8.0	-5.4	-1.0	4.9	-6.3	-3.5

[3] G. Calvo, A. Izquierdo, E. Talvi, 'Phoenix Miracles in Emerging Markets: Recovering without Credit from Systemic Financial Crises'. NBER Working Paper No. 12101, 2006

1.3
Pension reform

The pension reform staged in 2010 offers another example of short-termism. Its key elements are as follows:

- The base portion of work pensions was abolished. As result, when pensions are calculated the base portion is calculated virtually and that portion is indexed using the general coefficient established for the whole insurance pension.
- Pension rights acquired prior to 01.01.1991 were recalculated (so-called 'valorization' of pension rights).
- Pensioners whose pension is lower than the living standard for their region are provided with social bonuses to make up the difference.
- The unified social tax is replaced by social contributions (including pension contributions).

Simultaneously with the above changes (and a few others) to the pension system, pensions themselves were raised. In December 2009 base pensions were indexed by 30 percent. The outcome of all these innovations was increase in the size of retirement pensions by 44 percent in 2010 and increase in the ratio of retirement pensions to salaries to a level of 36 percent (vs. 24 percent in 2008). Aggregate pension payments rose to 8.9 percent of GDP (vs. 5.1 percent in 2008).

These changes are not without some positive features. Primarily, they have eliminated poverty among pensioners through social bonuses, which raise pensions to the minimum subsistence level. This has been carried out in a less-than-optimal manner, but the cost implications are relatively minor, because most pensioners are now in receipt of a sum that is above the minimum subsistence level.

Table 1.6. Sources for financing of current and future pensions

	2007	2008	2009	2010	2011*
Contributions					
For the base and insurance portions	3.9%	3.6%	3.9%	3.6%	4.7%
For the funded portion	0.4%	0.6%	0.7%	0.7%	0.7%
Transfers from general revenues of the federal budget	1.5%	2.0%	3.3%	5.2%	4.3%
For work pensions	0.6%	1.3%	2.3%	4.0%	3.0%
of which					
for valorization	0.0%	0.0%	0.0%	1.1%	1.0%
for covering income shortfalls and social bonuses	0.6%	0.8%	1.2%	0.2%	0.2%
for covering the Pension Fund deficit	0.1%	0.4%	1.0%	2.6%	1.7%
For social, military, etc. pensions	0.3%	0.3%	0.5%	0.6%	0.6%
Compensations to pensioners	0.6%	0.5%	0.6%	0.7%	0.7%
(For reference: specific weight of budget allocations for pensions)	24%	28%	45%	60%	46%

*Law on the Pension Fund budget

The price of the reform greatly exceeds what the economy can afford. The figures in Table 1.6 show that 3.2 percent of GDP have been redistributed in favour of the pension system over two years. The scale of these additional resources can be grasped by noting that they exceed all standard expenditures of the national budget on either defense or the economy (i.e. spending on these items not including emergency additions). Initial plans were to reduce transfers from general revenues of the federal budget to the Pension Fund starting in 2011 by means of increased social contributions, but this decision was later changed due to resistance from the business community.

The consequences of the new stage of pension reform are particularly severe for the budget in the post-crisis environment. Reduc-

tion of the tax burden and shrinkage of the tax base as a result of the crisis has lowered budget revenues. This situation is typical for many countries, but most of them have reacted by reducing imbalances. By taking on additional liabilities in the pension system Russia risks a situation where its existing budget deficit becomes chronic. The government has to decide whether to pump up levels of state debt or stage a dramatic tax increase or drastically reduce other expenditures (on all tiers of the budget system, bearing in mind that regional and local budgets will lose part of their revenues). Various research work comparing different countries has shown that both creation of budget imbalances by increase of social spending and increase of social spending by reduction of expenditure on government investments, health care and education slow down economic growth. Adverse impact of the increased tax load adds to these problems.

Even more serious problems are bound to arise in the long run. In the coming decade Russia will see an abrupt worsening of its demographic situation: according to Rosstat forecasts, by 2030 the ratio between working-age and pension-age social groups will grow from 32 percent to 52 percent (a change of 1.5 times for the worse).

So analysis shows that changes to the pension system in 2010 have increased the current pension level but have not brought us closer to resolving long-term issues. In many ways the changes have made the situation even worse. First, a sharp increase in the share of pensions that is funded by transfers from general budget revenues puts sustainability of the new level of pensions in question. Second, money in the National Prosperity Fund, which was created for dealing with long-term issues of the pension system, could be quickly depleted.

1.4 Economic growth

We will now look in more depth at the main macroeconomic parameters of post-crisis development. Russia's economic results in 2010 cannot be regarded as successful, compared both with Russia's own performance in the aftermath of the 1998 crisis and with performance of other countries following the recent crisis. Production returned to growth (4.0 percent), but GDP did not return to the pre-crisis level, remaining 4.1 percent lower than the 2008 peak. Production in 2010 was 1.9 percent lower than its peak value. These figures contrast with those shown by most emerging markets and by the world economy as a whole (see Table 1.7). World GDP in 2010 was 4.5 percent higher than in 2008. Emerging markets and developing countries in general did not experience a recession in 2009 and have grown by 10.2 percent in two years. GDP of BRIC countries has grown by more (by 14.2 percent).

Table 1.7. GDP growth of countries and groups of countries

	2009	2010
World	-0.5	5.0
Emerging markets and developing countries	2.7	7.3
Central and Eastern Europe	-3.6	4.2
BRIC countries	4.8	8.9
Brazil	-0.6	7.5
China	9.2	10.3
India	6.8	10.4
Russia	-7.8	4.0

Source: IMF

Predictably, construction has been the worst-affected sector of the Russian economy. The plunge of the construction market in 2009 went further in 2010. As a result value-added in the construction

sector has fallen by more than 15 percent in two years. The residential construction market seems to have overheated in the pre-crisis period, which made it particularly vulnerable to the impact of external shocks on the Russian economy. So there is no reason to expect construction sector indicators to regain pre-crisis values: some part of the fall reflects inevitable decline of demand for housing. Continuing depression on the housing market also reflects the fact that the banking sector, which plays the key role in financing house and apartment purchases, has not yet fully recovered.

The worst result in 2010 alone was in agriculture, where production fell by nearly 11 percent due to the drought, which hit main grain-producing regions of Russia. The extremely adverse conditions are thought to have destroyed almost a quarter of the entire grain crop, which slowed down GDP growth by about 0.5-0.7p.p. compared with expectations. The highest growth in 2010 was in manufacturing (12.3 percent). However, that segment was hardest hit during the crisis, so pre-crisis levels were not regained despite the rapid growth. Production figures for main sectors are shown in Table 1.8.

2010 has seen a significant growth of fixed assets (by 6.1 percent), but that growth is far below pre-crisis rates (16 percent per year in 2005-2006) and significantly lower than the previous year's decline (14.4 percent). The obvious explanation is incomplete recovery of the banking sector: in 2010 credits issued to enterprises grew by only 13 percent, which is a major improvement from 2009 (-0.3 percent) but much less than in the pre-crisis period (average 41 percent p.a. in 2004-2008). However, there may also be deeper factors, including reassessment by the business community of prospects for the Russian economy. This is suggested by the fact that net capital continued to be funneled out of Russia in 2010, following a brief respite in the second half of 2009. Aggregate net capital flight in 2010 was USD 34 billion (2.3 percent of GDP), which is only slightly less than the amount taken out of the country at the height of the crisis (USD 56 billion in 2009).

Table 1.8. Production growth by sectors of the economy

	Sector	Growth in 2010	Aggregate growth in 2009-2010
1	GDP in market prices	4.0%	-4.1%
2	Agriculture, hunting and forestry	-10.7%	-9.5%
3	Extractive industries	4.7%	5.2%
4	Manufacturing	12.3%	-4.4%
5	Production and distribution of electric power, gas and water	5.5%	0.2%
6	Construction	-0.7%	-15.2%
7	Wholesale and retail trade; repair of automobiles, motorcycles, household appliances and personal belongings	5.0%	-1.5%
8	Transport and communications	7.7%	-1.5%
9	Finance	-2.4%	0.3%

Relatively weak economic results (despite restoration of external conditions) make it natural to assume that viability of the growth model of the pre-crisis period has been exhausted. Let us study the specifics of that model.

The significance of various growth factors altered over time during 2000–2008, but it is clear that rapid expansion of internal demand played an important role in growth throughout the period. The expansion was determined by a number of factors. Principal among them was rising oil prices, which had impact from several directions. High oil prices had the direct effect of making people 'feel rich', i.e. overestimation by economic agents of their aggregate long-term incomes.

But increasing oil prices also had the indirect effect of boosting demand through increase of state expenditures and expansion of loan programmes. Although the main portion of oil-generated super profits was stored in oil and gas funds, some of them were used for expenditures. Increasing oil prices also led to greater inflow of net capital. Estimates by the Economic Expert Group show that in the pre-crisis period a USD 1/barrel increase in oil prices led to about USD 1 billion increase of foreign capital inflow. These resources were used for both investments and household consumption. The latter was also a key factor of economic growth: growth of household consumption was only slightly less than that of savings (13 percent on average in 2005-2007).

Currency policy also played an important role. Its main principle was to keep the exchange rate relatively stable via currency interventions. Analysis of prices for USD forward contracts shows that, starting from 2004, expectations were close to the current exchange rate. Naturally, under such conditions domestic interest rates were almost fully determined by international rates (especially after lifting of limitations on capital transactions); in accordance with the interest rate parity, expectations of a stable exchange rate brought nominal interest rates in Russia closer to international ones. In a context of much higher inflation in Russia this led to chronically negative actual rates, which fed the credit expansion and rapid expansion of domestic demand.

Rapid expansion of internal demand was not matched by capital formation, which did not exceed 22 percent in the 2000s, leading to a gap between supply and demand on the domestic market. That gap was filled by explosive growth of imports and was financed, on the one hand, by improving trade conditions and, on the other hand, by external loans. Foreign debt of the private sector grew by more than 50 percent p.a. in the pre-crisis years, much faster than GDP and exports, and a large part of that debt consisted of short-term borrowing.

Clearly the situation was unsustainable. It would be reasonable to suppose that, even if the external environment had remained stable, Russia's economy would have entered a risk zone after a few more years, becoming vulnerable to small fluctuations on global financial and resource markets.

This analysis shows the need for a new model of economic development. The best place to start in choosing main vectors of a reform strategy is diagnosis – finding the biggest current and potential risks and limitations for national development. Competitiveness ratings, which provide systematic evaluation of economic development environments in various countries, could serve as major sources of information for such diagnosis. Such ratings show that Russia's weakest point is the quality of its state institutions. They rate low on most features: protection of property rights and intellectual property; independence of the judiciary; quality of state regulation; levels of corruption; and transparency of activity by government bodies.

Other 'bottlenecks' for Russia's development include:

- Low competition (particularly at regional and local levels) and anti-monopoly control.
- Insufficient openness of the economic system (administrative barriers to customs clearance in import and export operations, limitations on foreign investments).
- Underdevelopment of the financial system.
- High cost of tax administration for business.

Lack of protection of ownership rights and other shortcomings of the business climate diminish Russia's investment attractiveness, leading to a significant outflow of domestic capital and limiting inflow of direct foreign investments. Barriers to imports and direct foreign investments block the transfer of modern technologies (international experience shows that cutting-edge technologies are mostly distributed via these channels). Export barriers limit development of the most promising industries.

Russia is therefore faced with the task of carrying out reforms and building a new growth model, which would take full account of the lessons learned in the crisis period as well as the new internal and external economic environments.

1.5 Conclusions and recommendations

Summing up what has been said, we can draw the following conclusions:

Russia's economy has returned to growth, but it is lagging behind other countries and has not yet compensated the crisis setback.

The results of anti-crisis policy have been mixed. On one hand, it has protected households from shocks similar to those experienced in 1998-1999. On the other hand, the opportunity, which the crisis offered, for jettisoning ballast (allowing uncompetitive companies to fail) was not used.

The Russian budget is fairly secure in the short run, in contrast with many other countries where the crisis has caused explosive growth of national debt. But, serious efforts are required to return budget parameters to long-term stability, particularly in view of future demographic challenges.

The priorities of a new economic strategy should be as follows:

Elimination of macroeconomic risks. Protecting the economy from fluctuations of the external environment, ensuring long-term stability of the budget system, maintaining price stability in the national currency.

Modernization of the state. Increasing the quality of government services and reducing expenditures for procurement of these services, improving the quality of government administration, increasing transparency of government and its preparedness to register social needs and react to their changes, elimination of corruption and the struggle for 'rent control'. The outcome should be reduction in levels of state regulation of business.

Changing actual functions of the state. Replacing current excessive participation of the state in the real economy by protection of ownership rights and enforcement of contractual obligations, judicial settlement of disputes, provision of basic social services (security, secondary education, health care), developing communal infrastructure.

Accumulation of human capital. A system for training and re-training of skilled workers and specialists, who are needed by the market, needs to be created in addition to raising the quality of education at all levels. Accumulating of human capital requires at least as much systematic effort as accumulating physical capital: ways must be found of preventing the 'brain drain' and encouraging the return of Russian professionals working abroad.

Improvement of market mechanisms and stimulation of business activity. Protec-

tion of property has to be radically improved, administrative barriers to market entry by new companies and removal of old companies need to be lifted, and incentives put in place to increase production efficiency. Moving economic resources from companies with low efficiency to efficient companies is an important task, which could boost economic growth and could be best achieved by withdrawal of direct and indirect government support for non-competitive companies. The old companies will then be either restructured or eliminated, with their resources being transferred to efficient enterprises.

Modernization of production. The share of manufacturing (especially high-tech) in both production and exports needs to rise, productivity should be increased to the level of leading countries, energy intensity of production should be reduced, and innovation activity by companies should be expanded.

A return to the impressive growth rates, which Russia enjoyed before the crisis, will not be possible without development and implementation of resolute and far-reaching policy changes.

Chapter 2
The Role of Institutions in Modernization

There is a view that institutions are just not for Russia. Institutions involve rules. But in Russia formal rules – laws – are interpreted to suit the occasion and life is not law-governed. Maybe it is governed by certain unwritten rules?

But observance of unwritten rules is characteristic of communities with their own norms of behaviour and customs, as in a village, and no one seriously supposes that we follow the rules of the Russian village with its homespun maxims: "offer something thrice, refuse it twice", etc. Some people say that we live by the 'poniatiya' – the code of the criminal world – and it is a fact that, at least since the 1950s, the whole country has enjoyed listening to songs from that world. Certainly, the 'poniatiya' are an institution to themselves, representing informal rules generated and backed by the criminal community. But this set of rules also fails to work in Russia, where 'bespredel' ('mayhem', literally 'no limits') has become a highly popular word, and which, in underworld jargon, has the specific meaning that the 'poniatiya' are not abided by.

Certain statesmen assert that institutions are simply irrelevant for Russia. The prominent Russian philosophers Ivan Ilyin and Nikolai Berdiayev said that there are no institutions in Russia – there are personalities. On the one hand, denial of institutions is linked with the undoubted egoism of government, for which life without rules is a convenient and easy option: 'Things will be how I say they will be'. On the other hand, denial of institutions stems to a great extent from our own consciousness, from the renowned Russian ability to improvise. The creativity of Russian people is no myth; it is confirmed by sociometric research, for instance, among children starting at school. But institutions are algorithms, and if you are ready to devise an original solution for each instance, you don't need an algorithm.

Almost half a century ago Douglas North, an economist and future Nobel Prize winner, proposed the motto: 'Institutions Matter'. But nowhere in the world does this seem as arguable as in Russia. Do institutions matter to us, or do we inhabit some extra-institutional space?

Of course, institutions do matter in Russia. We use them continuously and intensively. The idea that institutions are established by government or law makers is only a first impression: the truth is that each of us creates them every day. We are always choosing between various options. Should we lease out a flat with or without a contract, and would it be better to write the real rent amount in the contract or a lesser amount in order to dodge some tax? Customs clearance for imports is available in 'white', 'grey', or 'black': we can choose whether or not to risk importing computers and writing 'green peas' on the customs documents. We know that every option has its pros and cons.

These choices are not merely between commodities, but between institutions. They are a kind of voting, but we are voting for certain institutions in our daily life and not at parliamentary elections.

2.1 Fundamental economic institutions

The concept of 'institution' is widely used in many branches of science that study society. But its content varies between them. The widest interpretations are characteristic of sociology, where institutions are regarded as relatively stable systems of interaction between individuals, including both manifest and tacit rules for specific types of interaction between the individuals themselves, and also between the knowledge, conceptions, and convictions, which determine their com-

pliance with the said rules. The institutions of the family and marriage, statehood, etc. are viewed in this way. Various organizations are also often referred to as institutions (for instance, we speak of 'financial institutions' meaning such entities as banks, investment funds, etc.).

In economics, particularly in the branch of economics which researches institutions – new institutional economic theory – a narrower conception is used. The accepted view here is that institutions are a specific type of rules. This view is traced back to the works of Douglas North, the American economist and Nobel Prize winner who describes institutions as 'the rules of the game' and organizations as 'the players' who follow the rules of the game[1]. The distinctive feature of institutions is as an mechanism external to the individual, which compels him to obey the rules. This distinguishes institutions, first and foremost, from customs and behaviour stereotypes, i.e. automatic actions performed by economic agents either without thinking at all or because they have decided for themselves that this course of action is the best. From here on, in discussing institutions, we will use the term in the narrower sense used by economists.

It is common practice to divide the plethora of various institutions into two principal types: on the one hand, institutional conventions, which are rules established for a specific or indefinite period by the very addressees of such rules (the individuals who are supposed to comply with the rules in question), and, on the other hand, institutional environment, which consists of rules established by some individuals for others or which arose spontaneously at an earlier time and are now perceived by people as a given, as a part of the surrounding reality. Accordingly, there is always a certain hierarchy of rules within society: the harder it is to modify a rule, the higher its level in the hierarchy.

Another 'cross-section' divides the variety of institutions into formal and informal ones. Formal institutions possess specialized guarantors, whose core activity is to control observance of relevant rules. Informal institutions are backed by any individual who believes that a rule, which is part of such an institution, must be complied with. The laws of a country are an example of formal institutions, while its customs are informal ones. It might seem that formal institutions should always operate better than informal ones: after all, they have guarantors whose sole task is to enforce compliance. However, this fails to take account of one simple but important factor: for the specialized guarantor the task of enforcement is merely a way of earning a living, which he can also do in other ways, for instance by 'forgiving' a trespasser in exchange for a payment. By contrast, in the case of informal institutions it is doubtful that a trespasser could buy off retribution: the guarantors who witness the transgression consider fulfilment of the rules in question to be a social value and are usually not prepared to compromise on it. On the other hand, the probability of misconduct being spotted is lower in the case of informal institutions, simply because no one is specifically charged with catching trespassers. So formal institutions have no clear advantages over informal ones, and vice versa.

Any institution determines certain rights for its addressees and also for the guarantors, i.e., the individuals who monitor compliance by the addressees with the rule and apply various sanctions against them for trespasses that are discovered. A right determined[2] by an institution is the totality of

[1] D. North, Institutional Change and Economic Performance. New York: W.W. Norton, 1997

[2] Such a right should not be confused with rights 'as such', i.e. the combination of legal norms operating within society, comprised both of the laws enacted by the state and the basic 'natural' social norms. The word

possibilities, which the addressee is allowed to exercise freely, and the guarantor of such an institution is bound to protect him/her against impairment of such rights by other individuals.

Some of the most fundamental rights in economics are property rights, that is, the totality of actions involving goods, commodities, plant assets, etc., which an individual is free to perform when striving to improve his/her welfare[3]. The said items subject to property rights are limited resources, so other individuals often lay claims to them. For this reason, the degree of protection of property rights or, as it is also called, the degree of exclusiveness of property rights acquires fundamental importance.

An individual's property right to assets is exclusive if, alone or supported by the guarantor of the relevant rule, he/she is capable of excluding all access of any other individuals (or organizations) to such assets unless authorized by him/her. The economic importance of properly protected property rights arises from the incentives to most efficient use of resources, which are associated with such rights.

Indeed, efficient use of resources and maximum possible output of quality products is devoid of sense for an individual if he/she can be easily deprived of the fruits of his/her labour. There is no point in making any long-term industrial investments in a production facility if it can be appropriated by someone against the owner's will, etc.

The precise determination of property rights, that is, determination of what is possessed by whom and what an owner is or is not entitled to do with items possessed is called specification of property rights. Specification activities are normally undertaken by the guarantor of rights because he will subsequently assume the responsibility for their further protection. In modern societies the state is the ultimate guarantor of property rights, being the entity with maximum potential for enforcement, used, in particular, to protect assets against all trespassing acts. The state is precisely the ultimate protector because the owner usually undertakes a number of preventive measures him/herself (erecting fences, fitting locks, etc.), sometimes with the help of family members, friends and neighbours. Owners appeal to the state when all other means of protecting property rights are exhausted.

The opposite process – the creation of uncertainty in one or another component of property rights – is usually referred to as an attenuation thereof. It can emerge for a variety of reasons, including the development of technology. For example, so long as the text of books was written on paper, reproduction of their content required much effort. But when electronic media appeared, text copying became an almost zero-cost activity, and free downloading resulted in shrinking income for the holders of relevant rights. However, the gravest negative impact for the economy occurs when property rights are attenuated by their most powerful guarantor – the state itself, or, more precisely, certain state officials (sometimes numerous) who misuse the power of the state to improve their personal welfare. Such misuse can take a variety of forms: Russian mass media have described the many methods used by officials themselves, especially in law-enforcement agencies, or by their affiliated businessmen to simply grab an attractive business from its lawful owners.

Contractual rights, which arise with respect to performance of agreements, also have great importance. In two thirds of conflicts (not only in Russia, but also in other

'right' is appropriate in the first instance, but the word 'law' is more appropriate in the second.

[3] Society attaches paramount significance to each individual's right to life, without which discussion of any other rights becomes pointless.

countries) their protection is ensured by the parties to the agreements themselves, and appeal by one of the parties to third-party guarantors – primarily, for judicial protection – only occurs in one third of cases.

Contractual rights, like property rights, have economic importance for establishing viable incentives to efficient use of resources. If the rights of parties, as established by a contract voluntarily made and entered into, are secured – i.e. if each side is assured that the counterparty will perform the obligations assumed – then both sides become motivated to exactly fulfil the counterparties' requirements while economizing their own resources, which precisely means the efficient use thereof. This is clearly a win-win situation: one side gets precisely what it needs, and the other side gets the payment promised and a 'surplus' of its resources. But if fulfilment of the obligations (including timely payment) is not binding, the relevant incentives are impaired and negative phenomena appear, such as shipment delays, payment delays, and supply of wrong products, with resulting losses for one of the parties.

Settlement of disputes between parties with more or less equal bargaining powers mostly takes place by negotiation. But if the strength of the parties differs significantly, which is true, for instance, in contracts between large firms and small businesses, or firms and government customers, settlement by negotiation is unlikely and involvement of third-party conflict management machinery in the form of courts is required. This is equally true for conflicts involving protection of property rights.

What this emphasizes is the importance for a country of a judicial system that is independent (from other branches of power) and impartial (not subject to any bias in favour of either of the conflicting parties). Put another way, independent and impartial courts as the fundamental guarantor for protection of property rights and contractual rights are essential for successful operation of the economy, for efficient commodity production in the competitive environment.

The theses as formulated above enable us to approach the important concept of quality of institutional environment in the national economy, or, simply put, quality of institutions. An economy is reputed to have high quality of institutions if it ensures, in the first place, a high level of protection for property rights and contractual rights.

Quality of the institutional environment in the national economy is also affected by piling up of administrative barriers[4]. The latter are construed as various, fully legal, regulations and statutes setting rules for business operations and interaction of businesses and individuals with government, which procure social benefits that are less than the aggregate compliance costs for their addressees. Administrative barriers also include rules which are, in themselves, useful and necessary for development of the economy and improvement of public welfare, but which involve excessive costs for their addressees (i.e. their implementation could be organized more efficiently).

The procedure for company registration serves as a good example. The procedure itself is useful for the firm (because legalization will give it wider access to a number of necessary resources), for the consumers of its products (because they obtain the ability to influence the quality of such products in a lawful way), and for the state (because a new taxable entity comes into existence). However, this procedure can either be a very simple and declarative one or a very complicated and time-consuming process of obtaining licences.

[4] For more detail: Аузан А.А., Крючкова П.В. Административные барьеры в экономике: институциональный анализ. М.: ИИФ «СПРОС» КонфОП, 2002

Where an appropriate set of rules are in force a company can register online in half an hour, but a different set of rules can make the process last for months and involve heavy expenditure of time and money. The latter situation is a clear administrative barrier.

Various authors propose other factors, which contribute to the quality of institutional environment, such as the level of freedom in accessing various resources, including infrastructure and loans, freedom to participate in international trade, etc. So no uniform concept of the quality of institutional environment, unambiguously specifying its components, has been developed to date. However, the rationale, explained above, for stressing protection of property rights and contractual rights as crucial to successful economic growth and development has been amply supported by statistics in recent decades.

2.2 The Impact of institutions on the economy

Gerald Scully's work of 1988[5] [Scully, 1988] was one of the first statistical proofs of the importance of property rights for economic growth. He concentrated on the impact of political, civil, and economic freedoms on economic growth rates and the efficiency of an economy. He viewed lack of control over the state by its citizens and high levels of government control over the economy as factors attenuating property rights and impairing business incentives. Conversely, the dependence of the state on the electorate and the rule of law were considered by him as determinants for a high level of protection of property rights.

Scully's work was based on data collection from 115 countries. The explained variables in a variety of equations were per capita GDP growth in the 1960s to the 1980s, economy efficiency, and efficiency improvement. In addition to institutional factors, the equations featured the following explanatory variables: initial level of GDP per capita, proportion of investments in GDP in 1960 and population increase as a rough measure of workforce growth. The variables describing quality of institutional environment were taken from Raymond Gastil's publications[6] and transformed into binary variables. Each of the three indices (political, civil, and economic freedoms) yielded two binary variables: one corresponded to a high level, the other, to a low level. The first part of the research assessed the separate influence of institutional variables. To that end Scully first constructed and calculated an equation correlating economic growth with growth of its classical factors (labour and capital); he then assessed six more variants of the same model adding the variables one by one. All variables proved to be statistically significant and had the predicted sign. Furthermore, institutional variables corresponding to 'poor' institutions (substantial menace to private property from the state) had a larger coefficient and gave the model more explanatory power than those corresponding to 'good' institutions. In the second stage the equations were calculated with all institutional variables included as explanatory, and part three of the work again considered impact of single institutional variables on economic efficiency and efficiency improvement. The calculations showed that 'good' institutions ensure levels of efficiency, which are double those provided by 'poor' institutions.

One of the best-known estimates of quantitative impact on the economy from quality of institutional environment is the research by World Bank officials Philip Keefer and Mary Shirley[7]. It correlates data for 84

[5] G.W. Scully, 'The Institutional Framework and Economic Development' // Journal of Political Economy, 1988, 96(3): pp.652-662.

[6] R.D. Gastil Freedom in the World: Political Rights and Civil Liberties. Westport, Conn. : Greenwood Press, 1982

[7] P. Keefer, M.M. Shirley, From the Ivory Tower to the Corridors of Power: Making Institutions Matter for Development Policy. Mimeo. World Bank, 1998

countries from 1982-1994 describing, on the one hand, their economic growth, and on the other hand, the quality of economic policy and degree of protection of property and contractual rights. Real GDP per capita was used as the measure of economic growth. Quality of economic policy was determined using three indicators: inflation, tax collection and openness to foreign trade. The degree of protection of property and contractual rights (as an expression of the quality of institutional environment) was measured using the indicator developed for the International Guidelines for Country Risk Evaluation. This indicator comprises a variety of evaluations of protection of property and contractual rights, united into five groups: rule of law, expropriation risk, repudiation of contracts by government, levels of corruption in government, and quality of civil administration in the country.

In the first stage of their research Keefer and Shirley established a typology of countries in accordance with the value of the above-mentioned quality indicators, allocating two degrees for each of them (high and low), and then determining average rates of economic growth for each of the four groups of countries. The results were as follows: countries with high quality of both economic policy and institutions had an economic growth rate near 2.4%; those with poor economic policy and high-quality institutions achieved 1.8%; countries with high-quality economic policy and poor institutions showed a rate of 0.9%; and those where both factors were of poor quality managed only 0.4%. So the economies of countries with inadequate economic policies but sound institutions grew twice as quickly as those of countries with good economic policies but poor institutions.

In the second stage of the research, an econometric equation was designed, which correlated the rate of real income growth per capita with indicators describing political and institutional factors, investment, and workforce quality for each country. This more subtle analysis proved that the qualitative conclusions obtained by typological comparison are fully supported by quantitative findings: impact of the institutional indicator on growth of real per capita income was almost twice greater than impact of political indicators.

The two works considered above offered a quantitative measurement of how quality of institutions impacts on economic growth, and many similar research works using subtler econometric techniques have been carried out subsequently[8]. They confirm the earlier conclusions: level of protection of property rights is an important factor for a country's economic growth. Economic growth determines GDP per capita, which is a significant component of HDI, so it is clear that quality of the institutional environment has substantial impact on development of a country's human potential.

To understand the nature of this impact in Russia, we need to review the quality of the institutional environment in the Russian economy.

2.3 International indicators of institution quality in Russia

Several indices are published today, calculated by various international research organizations and generated on the basis of objective and subjective primary indicators, which use various methods to reflect the quality of institutional environment in a large number of the world's countries. The indices differ as to their end goals and tasks (some of the indices aim to measure the level of economic freedom; others, to evaluate the

[8] See detailed examination in: Тамбовцев В.Л. (ред.) Институциональные ограничения экономической динамики. М.: ТЕИС, 2009

ease of doing business in a country; and others to meet investor needs for information about the country, etc.), their source data, methods for their convolution into the final indices, and the measurement scales used, but they all give similar rankings of countries by quality of the institutional environment. Naturally, the numerical values (scores) and the ranking positions of the countries differ because the number of countries measured varies between different indices (and even for one index evaluated in different years). So spot values or ranking of a country in one index is insufficiently informative, and development of a country's institutional environment needs to be established by comparison of several indices for several years. It is in the nature of human potential to change slowly and sources containing the longest series of values represent the greatest interest.

We therefore cite data from two sources that evaluate quality of the institutional environment in Russia: firstly, the database of the Heritage Foundation for the period from 1995 to 2011; and, secondly, data collected by the Fraser Institute within the scope of the project Economic Freedom of the World, also for the period from 1995 onwards.

The Heritage database regards the level of protection of property rights as a component of the level of economic freedom. Individual and general indices are scored from 0 to 100, where 0 means complete absence of property right protection (and of economic freedom), whilst 100 corresponds to completely and reliably protected property rights and complete economic freedom.

For the period under consideration the degree of protection of property rights in Russia was evaluated as follows: 1995-2001 – 50.0; 2002-2008 – 30.0; 2009-2011 – 25.0[9]. So, according to the Heritage Foundation, this level was steadily falling throughout the whole survey period.

The Fraser Institute (Canada) measures protection of property rights on a scale from 1 to 7, where 1 means the worst protection level, and 7 represents the best level. The data values through the period are shown in the table below.

Table 2.1. Degree of ownership right protection in Russia

Index	1995	2000	2005	2006	2007	2008
Ownership right protection	1.56	1.88	3.63	3.60	3.79	3.45

Source: http://www.freetheworld.com/2010/reports/world/EFW2010-ch1-ch2.pdf

As can be seen, the Fraser Institute index shows an opposite trend compared with the Heritage Foundation results, though it also suggests that levels of property right protection remained mediocre throughout the whole calculation period (as mentioned above, the maximum value for this Index is 7).

The Ease of Doing Business Index calculated by the World Bank can be taken as an integral characterization of institutional environment quality. Certain components of this generalized Index were published for the period from 2004 to 2010, but overall Ease of Doing Business was only calculated for 2009 and 2010. In those years Russia's ranking was, respectively, 116th and 123rd among 183 countries[10]. As in the preceding example, while the estimates differ in quantitative terms, the qualitative picture remains the same: from the point of view of its formal components the institutional environment represents a great obstacle for Russia's economic growth, and consequently hampers growth of Russia's human potential.

[9] Source: www.heritage.org/index/property-rights

[10] Source: http://russian.doingbusiness.org/custom-query#Topics

2.4 Institutions, social and cultural capital

It is much harder to evaluate informal institutions than to evaluate formal ones. The major impact of informal institutions on economic and social processes has been increasingly recognized in recent years. Whilst in the past D. North's 'Institutes Matter' was the most frequently cited motto in various textbooks and research works, the last decade has seen S. Huntington's 'Culture Matters' become equally popular.

In terms of economic theory, culture is the aggregate of norms or values supported by a specific mechanism, by which any member of a society or of a group acts as their guarantor. This can be viewed as the most widely accepted definition of informal institutions.

Studies of informal institutions in past decades have established several key concepts for evaluation of their impact. First and foremost is the concept of social capital. Hundreds of works have been produced studying the phenomena of trust and honesty in a society, and various sociometric studies are being carried out. It has been clearly established that social capital has two basic forms: so-called 'bonding capital' (i.e. mutual trust within sufficiently uniform groups) and 'bridging capital', when trust is developed between heterogenic members of society. Naturally, those forms of trust produce different economic effects. In the first case they may intensify the re-distribution processes with resulting positive effects within the group, but negative effects on a wider scale. In the second case, social capital becomes an important factor for development of modern large-scale economic institutions in developed countries.

The sociometric studies, which have been carried out, allow the conclusion that development of social capital has a complex historical nature and explains the ease or, accordingly, the complexity of collective activities in a country in both the economic and political spheres.

Another, younger concept describing those processes is that of 'cultural capital'. This set of features has been researched during recent decades using cross-cultural correlations between various countries. For that purpose a number of different methodologies were established enabling comparison between cultural features of large communities and correlation of the behaviour of those features with economic growth and development characteristics.

Clearly, trends in social and cultural capital are important for the study of modernization issues as a whole and Russian modernization in particular and they correlate directly with issues of human development, level of human potential, and human capital.

2.5 Socio-cultural characteristics of modernization

The project entitled 'Cultural Factors of Modernisation'[11] attempted to assess the impact of culture on the socio-economic development of countries through calculations that use data in conformity with the methods of Ronald Inglehart, Geert Hofstede, and the GLOBE project.

Based on Angus Madison's statistical tables, three groups of countries were established: (1) modernized countries (whose development trajectory is denoted as the 'A trajectory'), which achieved some degree of

[11] Authors: A.A. Auzan (project leader), A.N. Arkhangelsky, P.S. Lungin, V.A. Naishul; with participation of A.O. Voronchikhina, A.V. Zolotova, E.N. Nikishina, A.A. Stavinskaya.

modernization in the early 20th century; (2) countries that moved to the A trajectory in the second half of the 20th century; and (3) countries, which could not reach the 'high' modernization trajectory and are developing along a lower 'B trajectory'. It was found that changes of cultural features in countries positioned at various stages of modernization can be viewed as substantive features of the modernization processes.

Quantification of cultural features by G. Hofstede as part of the GLOBE project was carried out in different periods and subject to different methods, but dealt with similar parameters: individualism, distance from the authorities, and avoidance of indeterminacy. The numerical values of features determined under different methods are incompatible, but their relative behaviour[12] can be traced.

Figures 2.1 and 2.2 show differences in the dynamic of cultural features of Western countries following the A trajectory[13] , Eastern countries that recently moved to the A trajectory[14], and Eastern countries developing outside the A trajectory[15].

Figure 2.1 shows a distinctive movement of Eastern countries that recently switched to the A trajectory towards more individualistic forms of social life. It is also notable that, on average, the Eastern and Western countries converge with respect to desired levels of individualism.

Figure 2.2 clearly shows that in the Eastern countries, which have moved into the A trajectory, the distance from the authorities was initially much lower than in other Eastern countries, and it has continued to diminish.

Two indices are used for the World Value Survey: survival/self-expression values and traditional/secular rational values. In Figure 2.3 the arrows show the movement of the three groups of countries within the space of the two indices[16]. It can be seen that countries, which have modernized, are mostly moving towards the top-right corner. This cultural trend is also confirmed by the results of research by Ronald Inglehart and Christian Welzel, which found that the modernization process is associated with transition from traditional values to secular rational ones, and that survival values tend to be replaced by self-expression[17].

The calculations show that fundamental values and convictions tend to change in a predictable direction in the course of socio-economic development. The analysis of the trend in cultural features in modernized countries (belonging to group 2) leads to the conclusion that modernization is a socio-cultural process that results in transition to a sustainable economic development trajectory and that involves transition from traditional values to secular rational ones, reduction of distance from government, and strengthening of the values of individualism and self-expression.

2.6 Changes in social capital and economic growth indicators

A large number of studies have been dedicated to evaluation of the impact of social capital on economic growth, but actual correlation between social capital and

[12] The majority of Hofstede's data on cultural features refers to the period 1967-1973, and GLOBE's data on cultural features refer to the late 1990s. GLOBE's desired parameters of cultural features were considered as a third time interval, with limits as yet unspecified. Accordingly, the change in a country's ranking (or of the average ranking of a group of countries) for similar features may be a result of changes over time in the relative position of the object referred to by those features.

[13] Australia, Canada, Finland, France, Germany, Italy, Switzerland, UK, USA, etc.

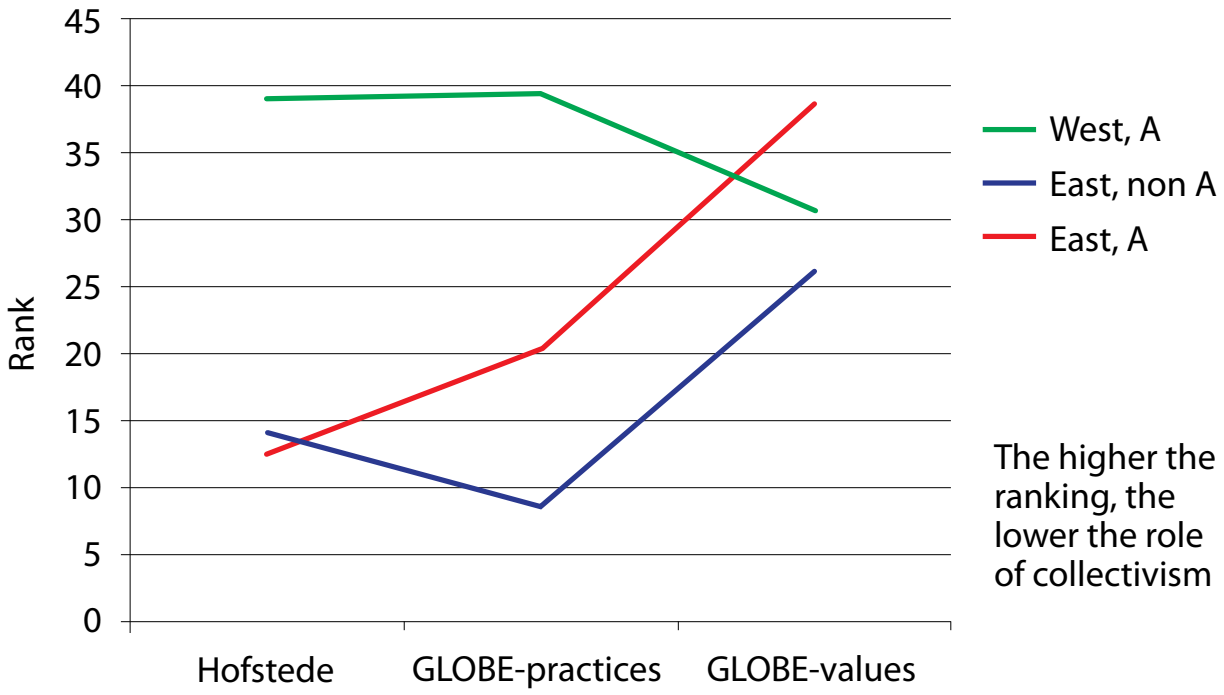
[14] Hong Kong, Japan, Singapore, South Korea, Taiwan.

[15] China, India, Indonesia, Malaysia, Philippines, Thailand.

[16] Figures 1 to 5 correspond to their values in 1981, 1990, 1995, 2000 and 2006.

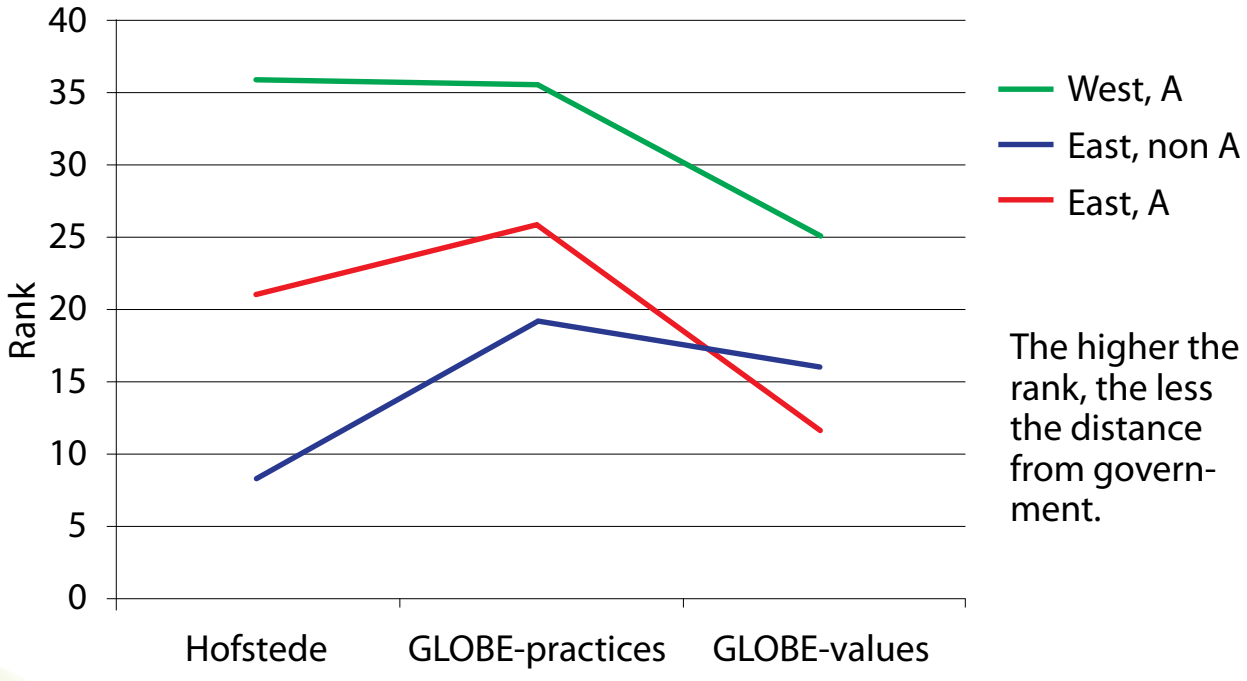
[17] R. Inglehart, C. Welzel. Modernization, cultural change, and democracy: the human development sequence. Cambridge University Press, 2005

Figure 2.1. Change in relative position of countries by the 'individualism' indicator



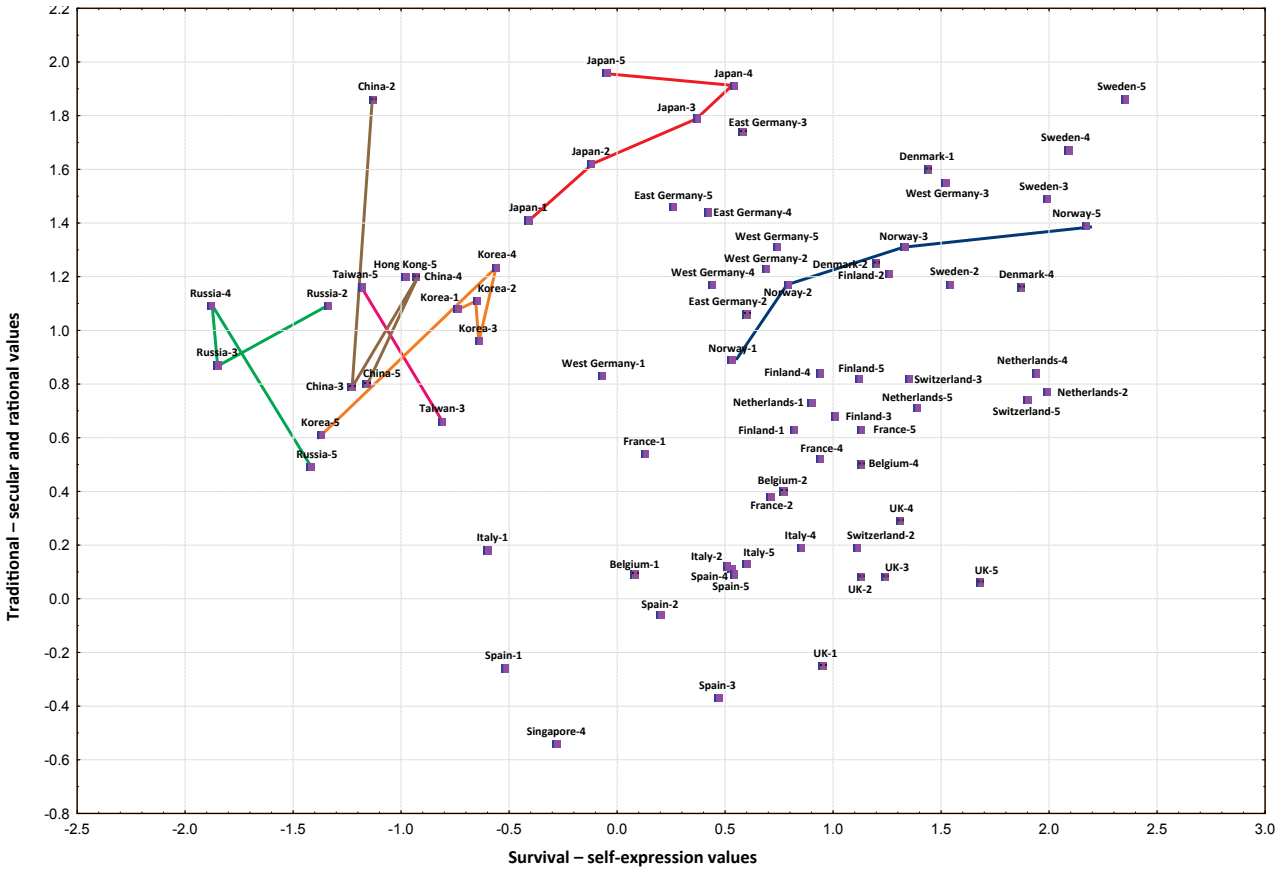
Data source: Website of G. Hofstede; R.J. House, et al. Op. cit.

Figure 2.2. Change in relative position of countries by the 'Distance from Government' indicator



Data source: Website of G. Hofstede; R.J. House, et al. Op. cit..

Figure 2.3. Changing positions of countries within the R. Inglehart value space



Data source: World Values Survey

economic development has been less studied. However, work that has been carried out to establish the connection between socio-cultural and macroeconomic features points to the decisive role of institutional factors.

The Russian research work, 'Interconnection of cultural and social capital with social and economic development features: Discovered correlations'[18] , tested and proved the hypothesis that the nature of dependence between changes in social capital and economic growth differs depending on the quality of institutional environment[19] .

Calculations as part of the work show a positive connection in the cluster of countries with developing institutional environment between changes in trust and changes in the economic growth rate, which the research authors attribute to reduction of transaction

18 The research was performed as part of a university seminar of the Association of Independent Centers of Economic Analysis, with students of Moscow Lomonosov State University as participants (N. Zvereva, M. Inina, I. Kotov, N. Kuzmichev, E. Nikishina, I. Pominova) chaired by curators of the Institute of the 'Social Contract' National Project (A. Auzan, A. Stavinskaya, V. Tambovtsev) in spring-summer 2010

19 To analyse the correlation between changes in confidence and changes in the growth rate, three data blocks were used (data of 51 countries were used for the study in total):
- Data on social capital based on Global Value Research for the four periods: 1989-1993, 1994-1999, 1999-2004 and 2005-2008.
- Economic growth data calculated on the basis of real GDP per capita in 2005 (prices at purchasing power parity), according to Penn World Tables.
- Institutional environment quality data described by indicators for rule of law and ownership right protection, based on data of government control quality and economic freedom provided by the Fraser Institute.

costs with respect to negotiations, making of contracts, and opportunistic behaviour by counterparties. Measurement of the correlation between changes in confidence and changes in the growth rate based on panel data for 1990-2005 point to a clear negative connection between changes in trust and changes in the growth rate for countries with developed institutional environment. To explain such correlation the authors used the studies by M. Olson concerning the distributive effects of activity by special interest groups and C. Forbes concerning increase of social inequality, which, according to his calculation, leads to decline of the growth rate. The authors note in their conclusion that shortage of available data make it difficult to establish causal relationships between features of social capital and economic development, so it is only possible to assert the existence of a correlation between these indicators.

2.7 Conclusions and recommendations

The research results referred to above clearly demonstrate that socio-cultural features (including those associated with special qualifications and behaviour models of employees) may be important factors for deciding the forms and stages of a modernization strategy for the Russian economy.

If the findings, which show dominance of individualism and a high level of creativity among Russian employees, are deemed to be accurate, the best forms of organization in the first stages of modernization would be small and medium-sized business rather than large companies. The economies of scale characteristic of large facilities is unlikely to bring significant results because observance of a standard and process discipline are

Specific cultural traits of Russian employees

Sociological studies were carried out in March-May 2011 on the initiative of the Strategy 2020 Foundation by the Centre for Independent Sociological Studies as part of the above-mentioned project, 'Cultural Factors of Modernization'. The studies were conducted in Russia (St. Petersburg), the USA (Maryland and New Jersey), and the Federal Republic of Germany (Berlin and North Rhine-Westphalia), and looked at specific traits of Russian employees, which can be regarded as factors in the modernization processes in Russia.

The analysis took into account both the observations of American and German managers directly describing their Russian employees and reflections of the employees themselves about their work histories. These materials were used to define general features that amount to a professional 'habitus' of Russian employees, created in the course of their studies and work in Russia. The studied features were: importance of vocation, interest in work, professional creativity and individualism. According to the interviews in the USA, the following were noted as specific Russian national traits: reluctance to follow rules, lack of 'production culture', a tendency towards conflict; 'workaholism'; passivity; autocratic management style. Findings in Germany included universal qualification of employees, acquired in the Russian educational system, in contrast with narrow specialization of German professionals.

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not the priority values for Russian labour behaviour. This is not to say that transition to large-scale formats will be impossible at later stages of modernization, but such transition will need to be supported by educational and cultural policy designed to transform people's value structure, encouraging attachment of greater value to laws and standards (i.e. respect for rules in social relations and in the work place).

This is directly linked to the issue of changes to the institutional environment and to the formal institutions, which constitute this environment. For instance, supremacy of the law is clearly connected with the degree of autonomy and efficiency of the judicial system, and its separation from manipulation by other branches of power. It is clear, therefore, that Russian modernization, in order to be successful, must involve modernization of formal institutions, including government and the political structure.

Harmonization of formal and informal institutions is highly important for the business climate, particularly as regards property rights (discussed above), and would enable Russian socio-cultural characteristics that favour development of small and medium-sized business to be deployed to best effect, particularly in the innovation sphere. Reduction of administrative barriers and changes to control and monitoring machinery would reduce transaction costs for entry into new innovative types of business, while ensuring a balance of public interests that takes account of possible modifications to the social contract between society, business and government in Russia.

Chapter 3
Welfare of Russian Households as a Marker of Modernization Potential*

In considering the outcome of modernization in the majority of countries, researchers emphasize two aspects connected with living standards. On the one hand, modernization has been associated with welfare growth thanks to growth of labour income as small business activity and labour productivity expand and also thanks to social transfers of an insurance and non-insurance nature. But, on the other hand, the dual nature of social permutations pertaining to the labour market (opportunities to obtain education and qualifications expand, but demands on quality of human capital become more stringent and competition more intense) spawns new factors of differentiation and results in growth of inequality. So social doctrines in developed countries generally aim at reducing inequality.

Formation and use of household incomes has its specifics at each stage of social development. Russia endured one of the severest recessions among post-socialist countries in the 1990s. The chronic decline of the Russian economy, coupled in its final stage with a world financial crisis, culminated in the default of 1998. Decline in real income level of households is the regular consequence of crises: in 1992, when prices were deregulated in Russia, household income dropped by 2.3 times, and in 1998 the decline was 1.4 times. A prompt recovery and economic upturn then followed, due mainly to growth of world energy prices. Real household income started to increase in the second half of 1999 and its total growth in 1999-2007 was 2.8 times. Despite dramatic reduction of the real value of pensions in 1992, they were better indexed than wages through most of the 1990s (up to the crisis of 1998). So pensioners were relatively better-off than other social groups. However, from 1999 onwards growth of real wages outpaced that of pensions. This became particularly evident after the launch of pension reform in 2002.

The severity and duration of the major worldwide economic, structural, and financial crisis, which began in 2008-2009, have yet to be determined. In 2008 real household incomes in Russia fell by 11%, representing the first decline since 1999. However, the fall was fully compensated by recovery in 2009. Official wages saw no decline in real terms, but their rate of increase became much slower. We should note that undeclared wages suffered most from the macroeconomic shock: in 2008 real wages taking account of concealed labour payments[1] dropped below their level in 2007 and the 2007 level was not restored until 2010. Impairment of wages was largely compensated by substantial growth of average real pensions in 2008-2010. A major increase in 1Q 2010 boosted real pensions by 44% (Figure 3.1). However, 1Q 2011 saw a reduction in real household income, which fell to 96.2% of its level in April 2010, including decline of real pensions by 0.6%, while real salaries grew by 2.7%. Overall income trends in 2011 point to economic stagnation.

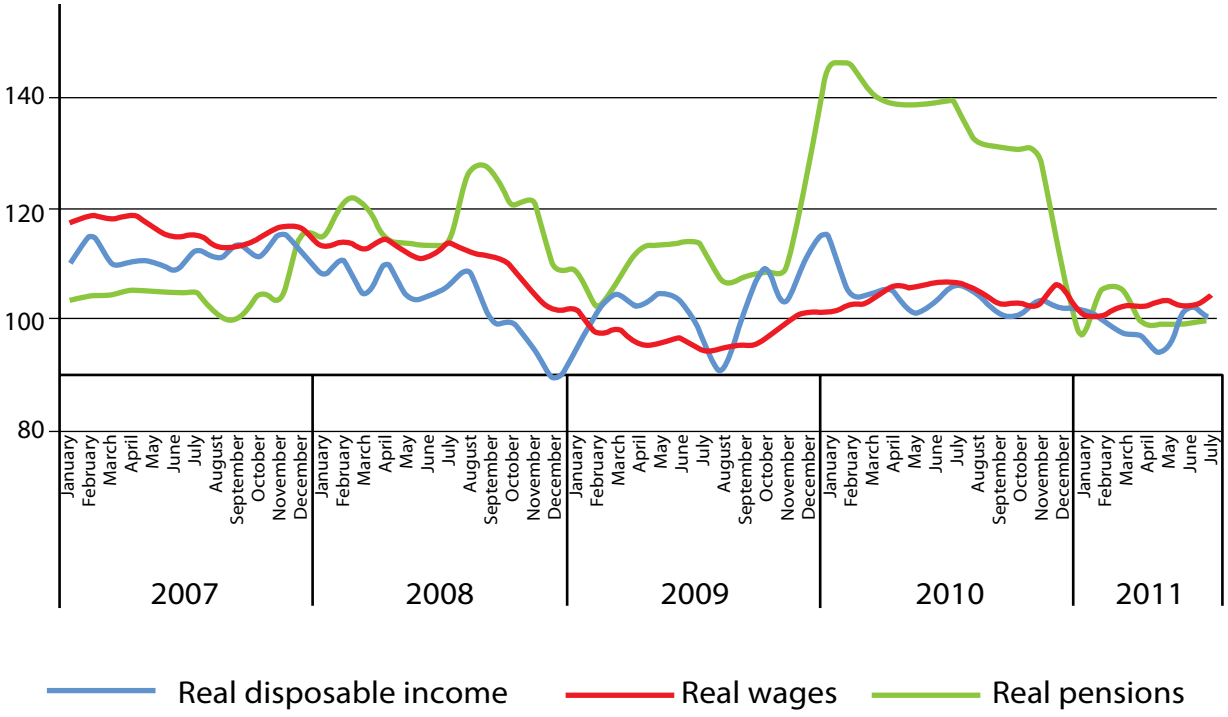
3.1
Level, structure and inequality of incomes: where is the modernization potential?

Low pensions are a barrier to social modernization. Pension levels remain particularly problematic despite substantial growth in recent years of real pensions (in contrast with other household income sources). For the middle classes the ratio between average

1 Non-standard payment forms falling outside the statistical monitoring picture are characteristic of the Russian labour market. Nearly 40% of the payroll is concealed from statistical monitoring, according to studies performed by the Russian State Committee for Statistics (Rosstat). The specific features of informal labour income are manifest in crisis situations when, on the one hand, they are at higher risk of shrinkage and, on the other hand, they recover and increase more quickly than declared wages.

* In preparing this chapter the author used the results of research carried out using Grant №. 11-32-03001 of the Russian Humanitarian Research Fund.

Figure 3.1. Trends in real household income, wages, and pensions, % y-o-y, Rosstat data



pension and average salary is in an extremely low range of 3-7%. Unless the established rules of correlation between labour income and pensions are changed, there is little hope of implementing a pension reform that would depend on employees playing an active role in contributing towards pensions. This is particularly true for relatively well-to-do social strata (the middle classes).

This example presents a crucial causal chain of problems for Russian modernization: the labour market and demography fail to establish a basis for an efficient mutual pension system; so, people do not believe in their chances of a dignified life in old age; and as soon as welfare in old age is in doubt, motivation disappears for overcoming behavioural factors that cause high mortality. Participation in a defined contribution pension system could be a powerful incentive to a more self-preservative lifestyle, and this is the path that has been followed by most economically developed countries: a person who has spent 20 or 30 years accumulating resources for his or her old age has an interest in living long enough enjoy the fruits of those savings. The main obstacles to such a scenario in Russia are labour market barriers and high inflation, which prevent the institutions of a defined contribution pension system from operating properly. So labour market problems and inability to control inflation are the main economic and institutional barriers to modernization development. Any social and economic formation has to find a way of levelling out the benefits that individuals receive at various stages of the family life cycle: pre-industrial society depended on the institution of the family to solve this problem, but starting from industrial models, non-family institutions have gained more importance, including pension schemes as a principal tool.

Revenue structure: drivers and barriers for social modernization. During the last years of the Soviet period, the structure of household income was mainly consistent with the standards of societies that had passed through modernization development, though

Table 3.1. Structure of household incomes in Russia, %

Year	Total income	of which (%):					
		Business income	Labour payment, including concealed wages	of which, concealed wages	Social payments	Property income	Other income
1985	100	2.7	74.8	-	16.4	1.5	4.6
1990	100	3.7	76.4	-	14.7	2.5	2.7
1992	100	8.4	73.6	-	14.3	1.0	2.7
1993	100	18.6	61.1	-	15.0	3.0	2.3
1994	100	16.0	64.5	-	13.5	4.5	1.5
1995	100	16.4	62.8	25.0	13.1	6.5	1.2
1996	100	13.1	66.5	25.8	14	5.3	1.1
1997	100	12.5	66.4	27.9	14.8	5.7	0.6
1998	100	14.4	64.9	26.2	13.4	5.5	1.8
1999	100	12.4	66.5	31.2	13.1	7.1	0.9
2000	100	15.4	62.8	24.7	13.8	6.8	1.2
2001	100	12.6	64.6	25.9	15.2	5.7	1.9
2007	100	10.0	67.5	26.1	11.6	8.9	2.0
2008	100	10.3	65.5	20.8	13.2	9.0	2.0
2009	100	9.7	65.2	24.0	14.9	8.2	2.0
2010	100	9.3	66.4	23.0	18.0	6.3	2.0

Source: 'Social Position and Living Standards of Russian Households' (statistical digest).

with some differences from market economies. In Russia, as in all industrial countries, labour revenues (wage and business income) are the basis of household money incomes, but the role of small business income and property income is relatively small (see Table 3.1).

The share of business income in total household incomes is an important indicator of success in modernization. It is an important fact that, at the start of market reforms, business income and development of small business were essential in cushioning Russian households from the negative impact of structural transformation of the economy. However, when Russia entered the period of economic growth the role of business income for households – widely regarded by analysts as a modernization driver – faded. This indicates a worsening of conditions for small and medium-sized business development, which is the second barrier to modernization that can be deduced from analysis of household income structure. The prospects for development of the middle class are often associated precisely with broad access to business income. For how many Russian households is business activity a significant source of income? Numbers of Russians in receipt of business income are as follows:

1. Sole traders, who numbered 3.4 million in 2008 but have now declined to two million;
2. Notaries and lawyers, numbering near 64,000, according to the Russian Ministry of Justice;
3. Peasant and farm holdings (253,100 as of July 1, 2006);
4. Household plots and allotments (22.799 million as of July 1, 2006);

In theory, as many as 45% of all Russian households are involved in small business, but this mainly represents people who

grow produce on their own allotments (40% of Russian families). According to quarterly studies of household budgets by the Russian State Committee for Statistics, only about 10% of households report receiving any income from their allotments and, as a rule, access to that income source fails to put these families among the 40% top-income households. Growing produce on allotments is a means of survival rather than of modernization.

Sole traders, owners of farm businesses, notaries and lawyers are more likely candidates for middle-class status, and this is confirmed by sociological studies. Overall, though, our estimates suggest that no more than 5% of Russian families can be counted as belonging to the middle class on account of access to business income. So the general economic environment in Russia fails to create preferences for small business development, and certainly fails to encourage it in forms that can drive expansion of the middle class in terms of material well-being. But expansion of the middle class is an important and desirable result of modernization development.

Administrative barriers are widely regarded as the main obstacle to small business development, but the real problem lies elsewhere: the administrative barriers arise due to the lack of a business environment. In post-industrial countries the presence of such an environment enables SMEs to delegate responsibilities for negotiating administrative barriers to more powerful structures (banks that provide lending and factoring services; insurers that cover the key risks; leasing companies that makes expensive movable property items affordable; owners of real estate that provide premises on lease; and major wholesalers purchasing commodities from small businesses and providing goods and services to organize and support small-scale business). The structure of household incomes shows that there is no favourable climate in Russia for small business, and the situation has grown worse than it was 20 years ago.

The next indicator of a country's prospects for modernization development is income from property and financial assets. The number of people in Russia with access to such income, which represents 5-10% of total household incomes, is also limited. According to the author's assessment based on data obtained in the second wave of the panel sampling survey 'Parents and Children, Men and Women in Family and Society' carried out by the Independent Institute of Social Policy in 2007, only 2% of households mentioned property and financial assets as a significant source of cash income. These households are only 3% of all Russian households with middle-class income levels, and they are 4% of all households that can be defined as middle-class based on wealth and employment features and capability to control their social and economic status.

So strategies for generating income from new sources, i.e. sources that did not exist in the Soviet period, are available to no more than 8% of households, and there have been no significant institutional or economic changes in past years that would expand this share. There is clearly potential for expansion of the middle class, mainly via market-based income sources, as business and property income are a significant resource for 20-25% of households in developed countries.

Non-transparent labour payment schemes are a trap for evolutionary modernization. The main hope for expanding the middle class to 50-60% of all households[2] is associated with the 'new middle class' group of hired employees, consisting mainly of highly paid white-collar professionals and managers.

[2] Long-Term Social and Economic Development Concept for the Period until 2020. http://www.kremlin.ru

Higher rates of wage growth during the period of steady economic growth (2000-2007) pushed up the wage share of household income from 62.8% in 2000 to 70.4% in 2007. Aggregate labour income was 80.4% of total cash incomes in 2007, corresponding to the level in the late Soviet period (Table 3.1). So wages of hired employees have been and remain the principal means of achieving wealth levels compatible with middle-class consumption standards, and wage trends will determine change in the numbers of middle-class households. Currently about 65% of households include hired employees: 30% of families have one member who is a hired employee, 26% have two employees, and 6% have three or more employees. Even supposing that labour payment levels and differentiation in Russia are analogous to developed countries, where a half of households that include hired employees belong to the middle class[3], the share of middle-class households in the country's total households is unlikely to exceed 33%.

However, the phenomenon of concealed wages makes it is difficult to form any reliable judgement about the size of the middle class in Russia based on income of hired employees. In recent years the institutional conditions of building a labour market with highly flexible wages have spawned all sorts of non-standard forms of payment that fall outside the statistical monitoring picture. Studies by Rosstat from 1999 onwards produced estimates of the scale of concealed labour payment, which are presented in Table 3.1 and suggest that nearly 40% of payroll is concealed from statistical monitoring. This fact is crucial for establishing the degree of correlation between the prevailing relationship models on the Russian labour market and standards that would enable middle-class economic behaviour and modernization development. What is the scope of this problem? Let us review employment and labour payment data for 2009, which is the last year for which the most comprehensive statistical data are available at present:

(1) according to Household Studies Relative to Employment in 2009, the number of Russians in employment was 69.3 million;
(2) according to macroeconomic monitoring by Rosstat, average monthly wages were RUR 18,637.5;
(3) according to Treasury data, the taxable payroll was RUR 11,316.8 billion;
(4) according to Rosstat, total payroll, including concealed wages, was RUR 18,538 billion.

Conditional model analysis based on the assumption that all employed persons work during the whole business day and are not combining two or more jobs[4] yields the following results: firstly, only 50.6 million persons are involved in the formal labour market and their average monthly wages are RUR 18,637.5; secondly, 16 million people are informally employed and their average wages are RUR 37,613.

The real situation is somewhat different, as a number of employees combine formal and informal employment or work part-time, but the key point is that informal wages are concealed from taxation. If we recalculate the income structure leaving out wages that are concealed from monitoring, the situation looks problematic from a viewpoint of social transfers (Table 3.2). The Table shows that, if concealed wages are left out of account (as they must be if we want to calculate the modernization balance between labour income and social transfers), the proportion of social transfers even now substantially exceeds

[3] Средний класс в России: количественные и качественные оценки/ Е. М. Авраамова и др.; Рук. авт. коллектива Т. М. Малева; Бюро экономического анализа. – М.: ТЕИС, 2000.

[4] Not more than 3% of the total number of employees are combining two or more jobs.

Table 3.2. Changes in the structure of household incomes, 1990-2010, %, not including concealed wages

Year	Total cash revenue	of which (%):				
		labour payment, not including concealed wages	business income	property income	social payments	other income
1985	100	74.8	2.7	1.5	16.4	4.6
1995	100	50.4	21.9	8.7	17.5	1.6
1996	100	54.9	17.7	7.1	18.9	1.5
1997	100	53.4	17.3	7.9	20.5	0.8
1998	100	52.4	19.5	7.5	18.2	2.4
1999	100	51.3	18.0	10.3	19.0	1.3
2000	100	50.6	20.5	9.0	18.3	1.6
2001	100	52.2	17.0	7.7	20.5	2.6
2007	100	56.0	13.5	12.0	15.7	2.7
2008	100	56.4	13.0	11,4	16.7	2.5
2009	100	54.2	12.8	10.8	19.6	2.6
2010	100	56.4	12.1	5.6	23.4	2.6

the level achieved in Soviet times. The question is not how much or how little the budget spends on social transfers, but that, without concealed wages, the proportion of social transfer expenses is very high, and the existing social transfer structure will crumble if oil revenues fall.

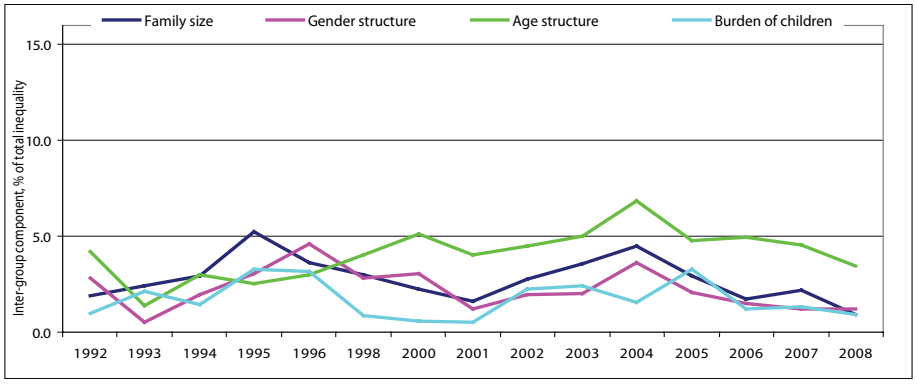
Role of the energy sector in income and inequality. Many experts link the problems and opportunities of modernization development with Russia's energy sector income. Energy-related business is traditionally highly paid and non-labour-intensive. The 2009 Human Development Report already examined input of the energy sector to Russian household income and showed that energy business has little impact on income and employment: only 2.5% employees of large and medium-sized businesses are involved in the energy sector, representing only 2.9% of the total payroll of such businesses. Employment in the energy sector accounts for only 2% of total household income, so its effect on income and employment is very limited. It was further demonstrated that the causes of high inequality in Russia are not employment in resource-extracting industries but the nature of redistribution of revenues from those industries.

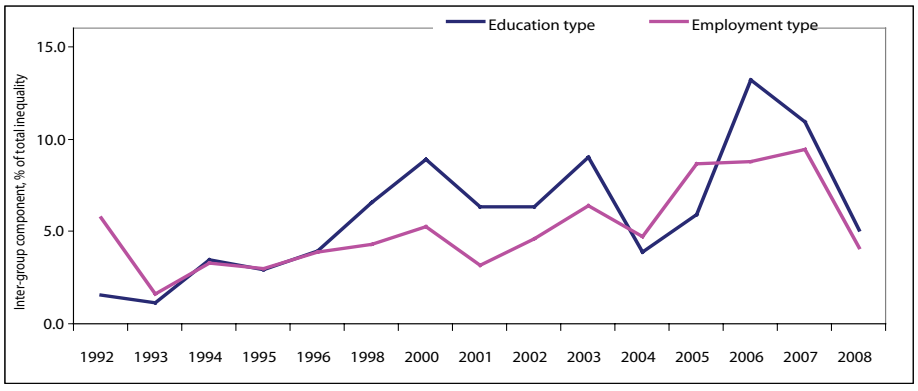
Russia is a country with high levels of inequality: maybe this fact could provide efficient lifts for successful social modernization? The scope of the present Report does not allow us to dwell on problems of social inequality in any detail. A negative attitude towards inequality is increasingly popular in political speeches and economic analysis, but it is inequality that creates the models, which transform education into earnings and earnings into investments. Territorial inequality of incomes is negatively regarded by the general public overall, but income inequalities between regions and types of settlement are a marker for relocation of people to growth points. The most illegitimate type of inequality is between wages for the same type of

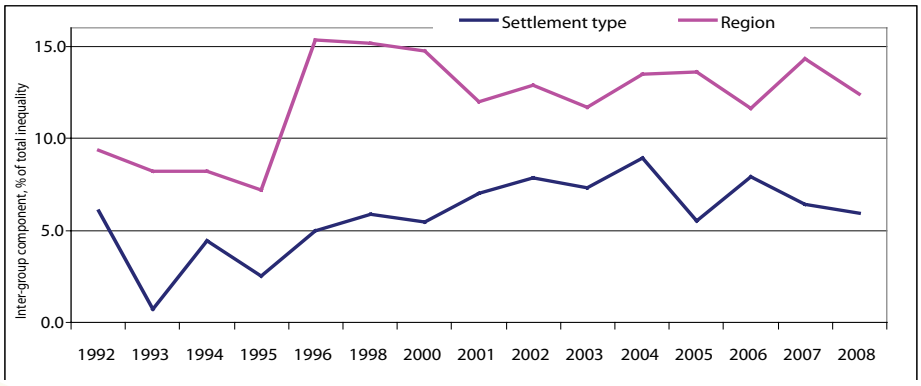
position in different industries. In this respect the resource-oriented economy and its inherent income redistribution mechanisms create massive obstacles to modernization: the gap between average salaries of similar or identical employment positions in different industries in Russia was as high as 3.2 times in 2009.

No arguments could be found to support successful transformation of inequality into investments, and inter- and intra-group decomposition of inequality based on data from 'Russian Monitoring of the Economic Situation and Health of Households' using Theil entropy indices offers no grounds to suppose that inequality is creating efficient lifts for income mobility. The sum of inter- and intra-group inequality gives 100%. Where there is high and increasing inter-group inequality, creation of mobility lift is a possibility. Figure 3.2 shows contribution of the inter-group component to total inequality for such factors as family size, gender and age structure of households, education and employment types, region of residence, and settlement type. The peak inter-group component of inequality is observed for education and region of residence, with the settlement and employment types approaching them in significance. Yet, even at the peak of its values, inter-group inequality for education and region of residence did not exceed 17% of total inequality, with the remaining proportion scored by intra-group differentiation. This means that living in well-to-do regions and settlement types, access to education and the labour market, though making a palpable contribution to inequality, fail to reach the momentum required to make inter-group inequality work towards reduction of aggregate inequality through so-

Figure 3.2. Inequality factors in 1992-2008 (contribution of between-the-group component to aggregate inequality, mean logarithmic deviation)*







Source: Calculations by D. Popova and E. Kolotova using data obtained by 'Russian Monitoring of the Economic Situation and Health of Households'

Table 3.3. Household cash savings and expenditures, %

	1970	1980	1990	1995	2000	2003	2007	2008	2009
Cash savings and expenses, total	100	100	100	100	100	100	100	100	100
of which:									
purchase of goods and services	86.2	84.3	75.3	70.5	75.5	69.1	69.6	74.1	69.5
mandatory payments and various contributions	10.0	11.9	11.8	5.6	7.8	8.3	11.8	12.3	10.6
real estate purchases	0.0	0.2	0.3	0.1	1.2	2.0	3.9	4.7	2.9
increment of financial assets	3.8	3.6	12.6	23.8	15.5	20.6	14.7	8.9	17.0
increment/reduction (-) of cash held by households	-0.2	0.9	5.0	3.6	2.8	2.7	0.4	0.4	0.4

cial lifts. During the crisis, the inter-group inequality component for the factors operating as social lifts was reduced, while the Gini coefficient for inequality remained practically the same.

3.2 Financial behaviour of households at various stages of the economic cycle

Savings. Extensive involvement of households in investment and borrowing is a key aspect of successful modernization. How has this involvement developed in Russia? First, we will examine macroeconomic data (Table 3.3) that describe household savings and expenditures.

There was an evident reduction in the post-Soviet period of spending on goods and services, and an increase in spending on financial assets. Structure of expenditures shows that households became actively involved in borrowing after the 1998 crisis, as confirmed by increasing mandatory payments, which include loan service payments. At the peak of development of the mortgage programme households switched their resources from investments in financial assets to real estate investments, so spending on real estate purchase and mortgage loan service saw a sharp upturn. Comparing household income levels, housing conditions, and involvement in mortgage lending programmes, it can be seen that 30% of mortgage deals are investment deals, carried out for the most part during the period of rapid growth of housing prices. Fall of housing prices during the last crisis and recovery of financial markets, as well as existence in Russia of a bank deposit insurance system, encouraged households to shift their focus to financial investment instruments in 2009.

Economic models of savings behaviour by households are based on the assumption that households are inclined to even out their consumption using savings and loans. These behaviour models are primarily characteristic of the middle class, which is rational, aspires to stable living and consumption standards, makes long-term plans and tends to rely on its own resources.

The issue of management by households of their financial resources, including savings, borrowing, and insurance behaviour, is important for a number of reasons. Organ-

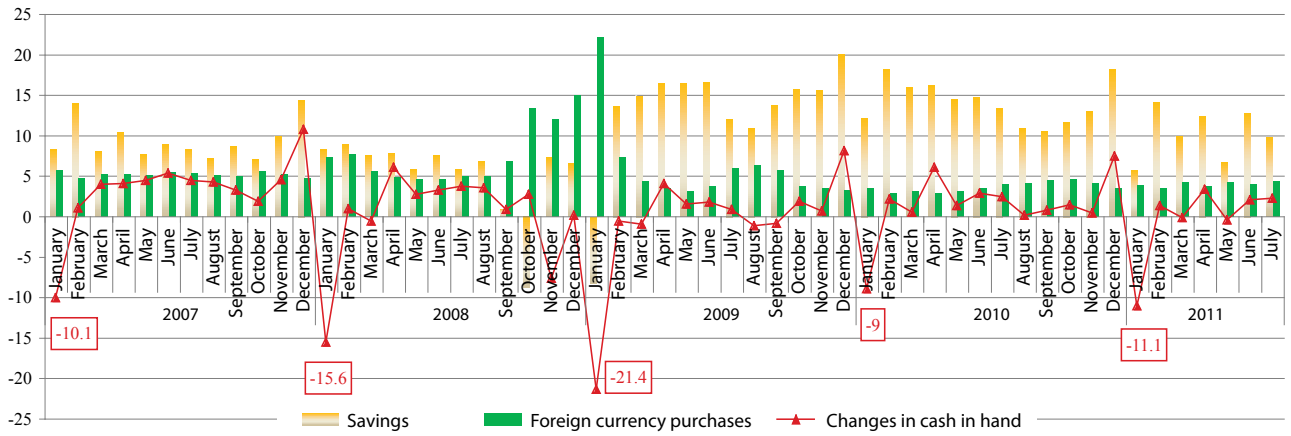
* Note: due to the sample size, all factors with specific weight over 5% are regarded as significant

ized savings by individuals are traditionally a source of internal investments in the national economy, and in this sense their amount and structure, as well as the proportion of household savings attracted by credit and financial organizations, are an economic development resource. Increase in quantity of attracted funds is evidence of growing confidence not only in banking and financial structures, but in commitment of the state to ensuring the institutional conditions for savings. Growing confidence means that the economy is focused on 'long' money, which, in turn, promotes transition to an innovation development model based on inflow of investments with relatively slow rate of return. In addition to the economic role of savings, their social role is also important. First, they ensure a 'safety margin' in crisis situations of either global or individual nature. Second, inclination to make savings and the opportunity to do in favourable institutional conditions enable long-term social and economic behaviour strategies for investment in education, health, and ultimately, human development, which stabilizes the social and economic situation and enhances the country's innovative development prospects. Borrowing behaviour, in turn, influences the scale of internal demand, thereby supporting economic activity. Involvement of households in insurance programmes contributes to social stabilization. So the more complex and diverse the financial behaviour of households, the greater its involvement with savings, borrowing, and insurance programmes, the more positive will be the impact on economic and social life.

Russians saved 5.3% of their cash earnings in 2008 and 14.2% in 2009. The quarterly behaviour of the savings share of cash earnings is shown in Figure 3.3. It can be seen that the savings share advanced significantly in the first half of 2010 compared with previous years: from 7.7% in 2008 to 13.3% in 2009 and 15.8% in the current year. The increasing disposition to save is a natural reaction by households to the crisis, and the share of savings in the structure of earnings has doubled in comparison with the pre-crisis period. This is due to declining interest of households in mortgage market products, impaired investment conditions on stock and real estate markets, and lack of attractive instruments to invest in pension accruals. Also, the global nature of the crisis and the existence of household deposit insurance guarantees at Russian banks made ruble deposits an attractive form of short-term investment.

Savers and creditors. According to sociological studies, some 40% of households had savings in 2010, and 3% of families had savings in excess of RUR 1.5 million. Involvement of households in borrowing and savings models is increasing: the 2007 survey, 'Parents and Children, Men and Women in Family and Society' and the representative sampling survey of impact of the crisis on economic and financial behaviour of households, 'The Crisis and Behaviour of Households', carried out by the Independent Institute of Social Policy in August-September 2010, found that the proportion of those having no loans and no savings had declined by 9.4% in three years separating these studies (Figure 3.4). Four types of financial behaviour were differentiated, depending on whether a household had savings and was involved in borrowing and insurance programmes. The majority of Russian households either have no loans or savings at all, or practise the simplest forms of saving or borrowing behaviour. Near 20% of households, however, manage their finances in a more diverse fashion, and about 3% deploy versatile strategies of financial behaviour. More complex financial behaviour forms are characteristic of better-off households and urban households, particularly those in regional centers. However, when specific forms of saving behaviour are considered, the differences between settlement types are less visible. The key borrowing behaviour

Figure 3.3. The share of savings in cash income and growth/reduction of cash in hand, January 2008–July 2010, %



Note: Savings are measured by increment (reduction) of deposits, purchase of securities, changes in balances of sole trader accounts, changes in loan indebtedness, and real estate purchases.

Source: 'Social and Economic Situation in Russia', January-June 2010

markers are financial experience and relatively young age.

The economic crisis put the institution of lending to the test. Shortage of funds caused banks to reduce lending and increase their lending rates, while lower household earnings and reduced employment led to payment delays on loans previously received and soaring numbers of 'bad' loans in bank portfolios. This put an abrupt end to the lending upsurge of the pre-crisis period, and consumer lending is still far from complete recovery despite positive trends. Caution now dominates the consumer lending sector, both on the part of banks in their assessment of credit worthiness of potential borrowers, and on the part of households, which have become more rational, deploying their available resources and savings to buy domestic appliances, furniture, and cars.

Mortgage lending is potentially one of the most powerful drivers of modernization development. The relationship model arising from mortgage loans implies sufficiently high income level at time of entry into the credit relationship and motivates the borrower to maintain that level throughout the loan period. So it becomes a driver to increase productivity on the supply side of the labour market. But there are more questions than answers as regards availability of mortgages to broad strata of Russian households. No more than 3% of Russian households currently have mortgages. According to findings of the survey, 'Parents and Children, Men and Women in Family and Society', carried out at the peak of economic growth in 2007, nearly 60% of families had aspirations to improve their housing conditions, but a quarter of them hoped to receive better housing from their parents for free and only 6.2% intended to take specific actions for improvement of their housing circumstances in the coming three years, of whom half said they intended to take a mortgage loan, whilst the other half planned to use their own resources. This does not suggest that traditional mortgage lending can be viewed as a significant modernization driver at present. However, it can become one if it extends to broader strata of households thanks to new mortgage products and positive changes on the labour market.

Figure 3.4. Changing proportions of households with various financial strategies, %

The potential for extending the basis of traditional mortgage lending is clear: every tenth Russian household with per capita income above three minimum subsistence levels aspires to improve its housing conditions and, theoretically – based on its earnings – could become a mortgage borrower. But, in practice, such a household cannot reach the income threshold for mortgage entitlement, because what mortgage lenders count are employment wages and not real earnings. In addition to shortage of money, most households are reluctant to enter the mortgage market because of their doubts and fears about involvement in such a borrowing model. If mortgage expenses could be reduced, if restructuring of mortgage debt was possible, and if some 'repayment holidays' are available upon the occurrence of certain events, such as loss of job or birth of children, this category of households could join the group of mortgage borrowers. The professional and qualification profile of potential mortgage borrowers shows that they include many holders of university degrees who are employed in the public sector of the economy. This category of employees is concentrated in the group with per capita income between two and three minimum subsistence levels. If ways could be found of distributing responsibilities and risks between the state and the families of public sector employees for the purposes of mortgage loans, Russia could achieve a substantial modernization of the fabric of daily life: as well as expansion of the group of mortgage borrowers (people motivated to increase their income and improve labour productivity), the attractiveness of employment in the public sector and, consequently, the quality of services in education and public health, would be improved without increase of wage expenses. But this would require specialized mortgage products, which are not yet available on the Russian market.

A number of mortgage products available on the markets of post-industrial countries are suitable for promoting modernization, particularly those, which help labour migrants to resolve housing issues. There are virtually no obstacles to labour migration by households between cities in those countries: decisions to move from one place to another are motivated by improvement of labour conditions and higher labour income, and do not depend on the possibility of obtaining housing, which is efficiently

dealt with through a developed rental market and/or off-the-shelf lending procedures. Availability of easy tools to provide labour migrants and their family with accommodation is what makes it possible for citizens of the USA and a number of European countries to change the region where they live and work 5-7 time during their lives, on average. Modernization development involves realization of a large number of projects that create substantial new openings on the labour market. But Russian real estate business practices have not developed far and are mainly based on cash settlement, preventing citizens from carrying out transactions that are spread over time and putting even more obstacles in the way of housing exchange deals between regions. In view of the under-development and lack of transparency of the housing rental market and the high proportion of housing owners in Russia, a specialized product based on mortgage of existing premises could be the simplest and the least risky tool to accommodate labour migrants in new cities, overcoming the current obstacles.

Elimination of living standard disparity between working households and old-age pensioners is another important problem for modernization development towards a post-industrial society. It can be surmounted by developing the funded component of pension schemes, transforming the assets accrued during active labour life into resources for current consumption and inter-generation support in the family. Development and introduction of mortgage lending tools enabling elderly people to obtain mortgage loans on the security of their housing, with repayment of the loan upon a specified event, was started in the USA in 1970 under the name of the 'reverse mortgage'. Unlike a conventional mortgage, where the housing owner repays the interest and a portion of principal to the lender on a monthly basis, the lender in a reverse mortgage makes a lump sum or periodic payments to the elderly housing owner. The debt bears interest and is repaid by selling the housing after a specified event occurs. A repayment option without sale is also available: either by the borrower him/herself or by his/her heirs or parents.

The reverse mortgage has a number of advantages for the borrower: first, the value of the housing is converted into money, while the owner continues to live in it; second, the housing owner obtains a loan that does not require repayment while he/she is living in that housing; and last, a reverse mortgage is a non-recourse loan. So, even if by the time of repayment the value of the mortgaged property is lower than the amount, which the borrower received, only the mortgaged property is transferred to the lender, with no additional cost for the borrower or his/her family. Moreover, if the proceeds from sale of such housing exceed the debt amount, the excess is returned to the borrower or his/her beneficiaries. As a rule, government financing organizations provide insurance cover for the lender's risk of loss in that situation. Reverse mortgage lending in the USA is dominated by the HECM programme (nearly 90% of all reverse mortgage loans), which is considered to be the most reliable as the insurance is provided by the US Government. By 2008 more that 308,000 elderly housing owners were participating (popularity of the programme increased substantially during the 2000s).

3.3 Conclusions and recommendations

1. Despite significant growth of pensions during recent years, the ratio of average pension to average salary for the middle class is in a range of 3-7%. Unless the established correlation rules between labour income and pensions are changed, there is little hope of implementing a pension reform with active involvement of employees.

2. Income-generating strategies using cash income sources, which did not exist in

the Soviet period (business and property income), are available to no more than 8% of households, and there have been no significant institutional or economic changes in recent years to expand this share. Expanding the access of households to market-based income sources is one of the paramount vectors of modernization development. In developed countries business and property income are a significant resource for 20-25% of households.

3. Non-transparent labour payment schemes are a trap for evolutionary modernization. Main hopes for expanding the middle-class to 30-40% of the whole Russian population are associated with the 'new middle class' group of hired employees, chiefly represented by highly paid white-collar professionals and managers. The fact that nearly 40% of Russian payrolls remain concealed implies major barriers for modernization development of the labour market.

4. Russia is among countries with high levels of inequality, but effect of this inequality is not transformed into investments to stimulate the national economy or into a source of budget revenue, so the positive component of inequality does not work for modernization. Inter- and intra-group decomposition of inequality confirms that such factors as education and residence in economically developed constituent entities of the Russian Federation are weak welfare drivers.

5. Extensive involvement of households in investment and borrowing supports successful modernization. The post-Soviet period has seen reduction in spending on goods and services and increase in expenses on financial assets. Involvement of households in borrowing and saving models is increasing, and mortgage lending can become one of the most powerful drivers of modernization development. The relationship model arising from mortgage loans implies availability of a sufficiently high level of income at the time of entry into the credit relationship and motivates the borrower to maintain their level throughout the loan period: it becomes a driver to increase productivity on the supply side of the labour market.

Chapter 4
The Russian Labour Market: Efficient Employment or Limiting Unemployment?

4.1 Dynamics of the Russian labour market at different stages of the economic cycle: crisis – recovery – crisis

The labour market is a key component of the social sphere, and most other social processes derive from it.

For a long time the greater part of the instruments and actions used on the Russian labour market have not gone beyond regulation of visible (registered) unemployment, without attempting to restructure and enhance the efficiency of employment. All parties on the labour market have had an interest in maintaining high levels of employment: employees preferred low-paid but permanent jobs; employers met their needs for permanent staff, and the government minimized spending on support programmes for the unemployed. Those factors together contributed to maintaining social stability.

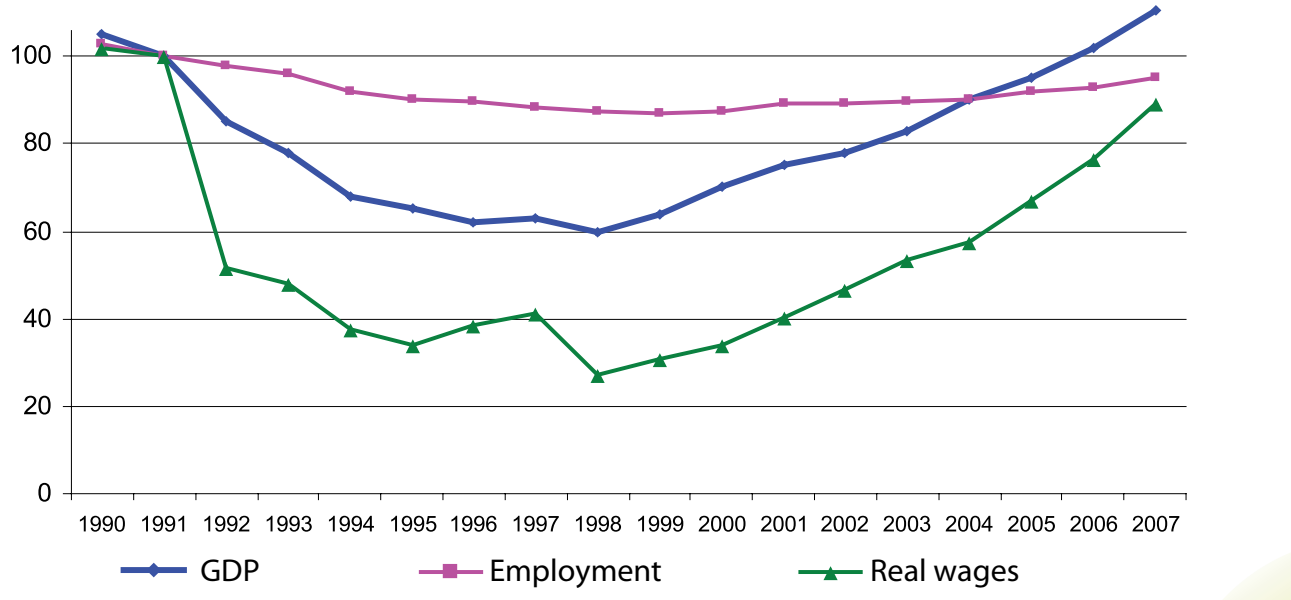
Employment rates declined much more slowly than GDP during the economic slump of 1990-2000 and growth of employment significantly lagged GDP growth in the 2000-2007 economic boom (Figure 4.1). This is explained by the 'labour hoarding' used by Russian employers in the 1990s, when production was in sharp decline[1]: the superfluous employees who had been retained in the 1990s suddenly proved useful in the economic boom of the 2000s, but the outcome was that the booming economy did not need any new jobs, nor did employers need any new employees.

The low level of real earnings is a direct result of officially high employment maintained by the hoarding method used in the economy of the 1990s[2]. The number of the employed declined by only 14 percent in the crisis of 1998, which was accompanied by major drop in GDP. Unemployment levels jumped, but remained low by global standards and compared with

[1] Р. И. Капелюшников. Российский рынок труда: адаптация без реструктуризации. М., 2001

[2] Заработная плата в России: эволюция и дифференциация: Монография / Под ред. В. Гимпельсона и Р. Капелюшникова. – М.: ГУ ВШЭ, 2007

Figure 4.1. Dynamics of GDP, employment and real earnings in 1990-2007 (1990=100 percent)



Source: Rosstat (Federal State Statistics Service)

other post-socialist countries. At the same time, real wages dropped threefold and reached a minimum in 1999 (34 percent of the level in 1991). This method of maintaining a balance on the labour market created a large and permanent social group – the 'working poor' (see Table 4.1).

Table 4.1. Structure of those in poverty (based on a sample survey of household budgets)

	2002	2003	2004	2005	2006	2007	2008	2009
All those in poverty, percent of whom	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
...of working age, percent	61.2	60.5	60.2	60.2	60.5	61.1	61.4	63.3
employed, percent	58.7	58.2	58.1	58.4	58.7	59.4	59.7	60.7

Source: Social Status and Living Standards of Russians, 2010 (Rosstat) .

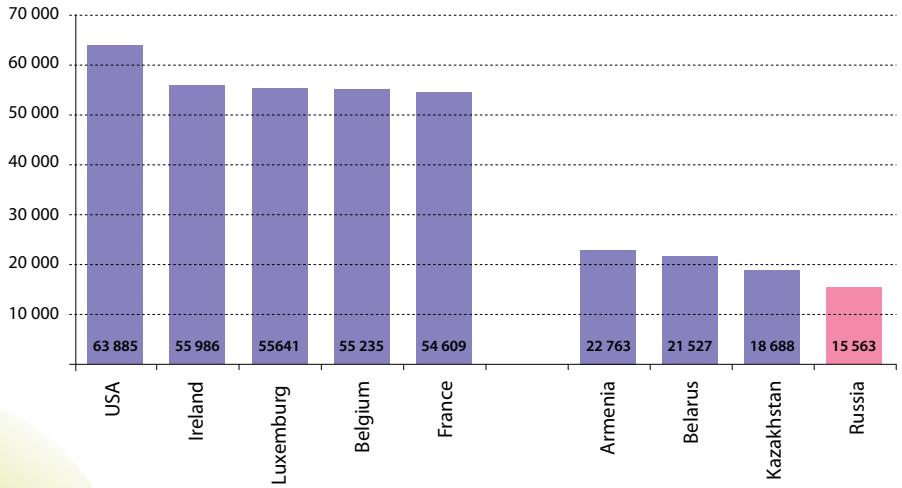
The main features of the Russian labour market are as follows:

- Employment levels react very slowly to major decline/growth of production and remain more or less stable.
- Salaries are flexible and highly sensitive to production dynamics: enterprises adapt to changing market environment and production cutbacks by manipulating the amounts payable to employees – primarily wages – rather than by reduction of employee numbers.
- Low wages and existence of the 'working poor' group.
- Low level of visible unemployment and relatively widespread forms of disguised unemployment.
- Significant divergence between unemployment levels measured by ILO methodology and registered unemployment levels.
- High levels of informal employment.

Low labour productivity of the Russian economy, putting Russia three or even four times behind the global leaders, has been an outcome of the specific configuration of the national labour market (Figure 4.2). It would be wrong to blame the labour market alone for low productivity, but it should be recognized that simulated high employment preserves the archaic structure of the overall economy and fails to contribute to mobility of labour resources and to motivate efficient labour.

The economic recession, which began in 2008, could not fail to affect the Russian labour market.

Figure 4.2. Labour productivity in Russia and some other countries
US$ per employee



Source: Key Labour Market Indicators, 2007 (Report by the International Labour Organization).

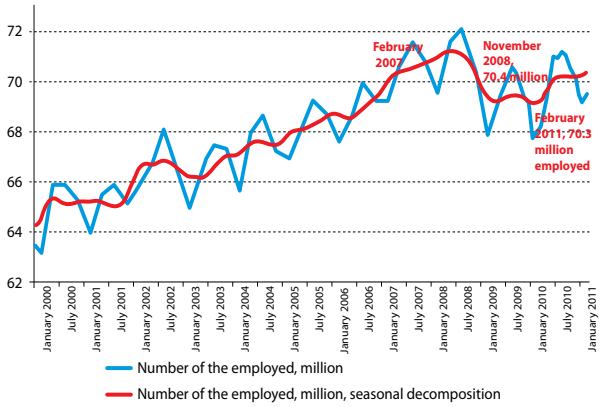
The main effect of the recession on the labour market in the second half of 2008 was a drop in employment to the level of early 2007, i.e. two-years of vigorous growth in 2007-2008 were lost at a stroke. However, employment then recovered to levels above those attained before the crisis (Figure 4.3). Unemployment trends are even more expressive, showing a major upsurge in 2008 followed by a decline from the middle of 2009 (Figure 4.4).

However, microeconomic analysis[3] reveals a more dramatic effect of the recession: adverse changes affected almost one third of all households or 36 percent of families with members of working age. The most common problem was late payment of wages (20 percent), followed by reduction of the official salary, i.e. the salary on which the employer has to pay social contributions (10 percent), and about 7 percent were transferred to part-time work, made redundant or missed bonuses and benefits. From May 2008 to the end of 2010 almost one third of households that include individuals of working age had a household member who had been unemployed for a month or more. One or more principal breadwinners lost their job during the recession in 26 percent of households, and in 9 percent of households those workers had failed to return to the labour market by 2010. In total, 66 percent of main breadwinners who lost their jobs in the crisis went on to find employment, 15 percent of them retired (left the labour market) and 12 percent became unemployed. So retirement was the principal means of employment reduction.

Overall, however, it is fair to say that the Russian labour market has coped with the crisis and the current situation is similar to that which obtained before the recession (Figure 4.5).

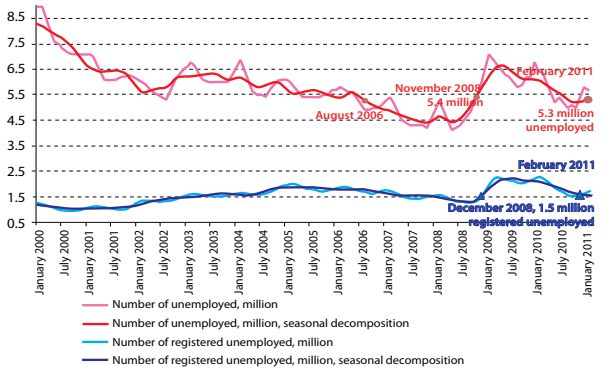
However, this quantitative evening-out conceals severe deformations. The main impact of the recession on the Russian labour has been

Figure 4.3. Number of the employed in 2008-2011, seasonal decomposition



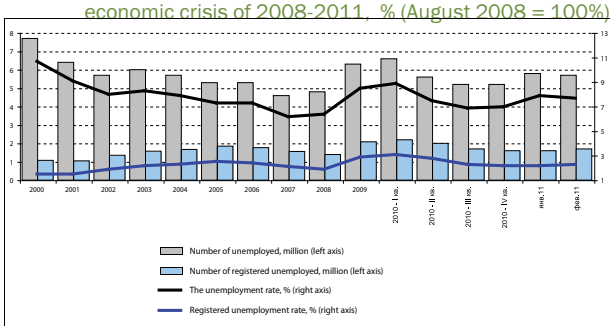
Source: Rosstat data

Figure 4.4. Number of the unemployed in 2008-2011, seasonal decomposition



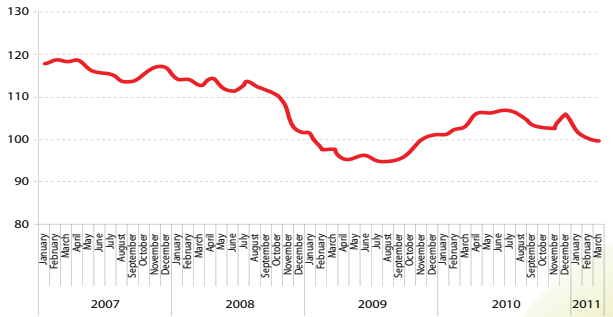
Source: Rosstat data

Figure 4.5. Key features of the labour market during the economic crisis of 2008-2011, % (August 2008 = 100%)



Source: Rosstat data

Figure 4.6. Real earnings trend during the economic crisis, 2007-2011, %



[3] The Crisis and Behavior of Households, a population survey conducted by the Independent Institute for Social Policy in the 3rd quarter of 2010. The sample consisted of 3140 households.

at large and medium-sized enterprises where 'good jobs' are concentrated (over 3.5 million jobs in total). Return of general employment and unemployment indicators to pre-recession levels has been in a context of worsening labour market structure (see Table 4.2).

Table 4.2. Structure of employment by enterprise types in 2007-2010 (million people)

	2007	2008	2009	2010	Change in 2007-2010
People of working age	75 159	75 757	75 658	75 448	-289.00
Employed, of whom	70 570	70 965	69 285	69 803	-767.00
at large and medium-sized enterprises	40 374	39 366	37 595	36 743	-3 631.00
at small enterprises, including micro enterprises	10 157	11 412	11 193	..	
at small enterprises, excluding micro enterprises	..	6 737	6 187	6 017	
in the informal sector	13 018	13 951	13 490	11 582	-1 436.00

Sources: Employment-related Population Survey 2008-2010; Economic Activity Rates in Russia, 2010; Socioeconomic Status of Russia in 2007-2010; Small Businesses in Russia 2008; Small and Medium-sized Business in Russia, 2009, 2010 (all Rosstat)

The specific feature of the Russian labour market – adjustment by manipulation of wages – has emerged once again in the current recession (Figure 4.6). At the beginning of the recession it remained to be seen whether the Russian labour market model would be effective at the given stage of economic development[4], but in 2010 we can confirm that the traditional Russian model has again proved its sustainability.

4.2 Labour policy: actions, achievements and problems

For 20 years government labour policy was limited to regulation of registered unemployment, which ranged between 1 percent and 3 percent of the population of working age. Neither concealed unemployment (up to 6 percent) nor employment (92-94 percent) has ever been the object of government regulation.

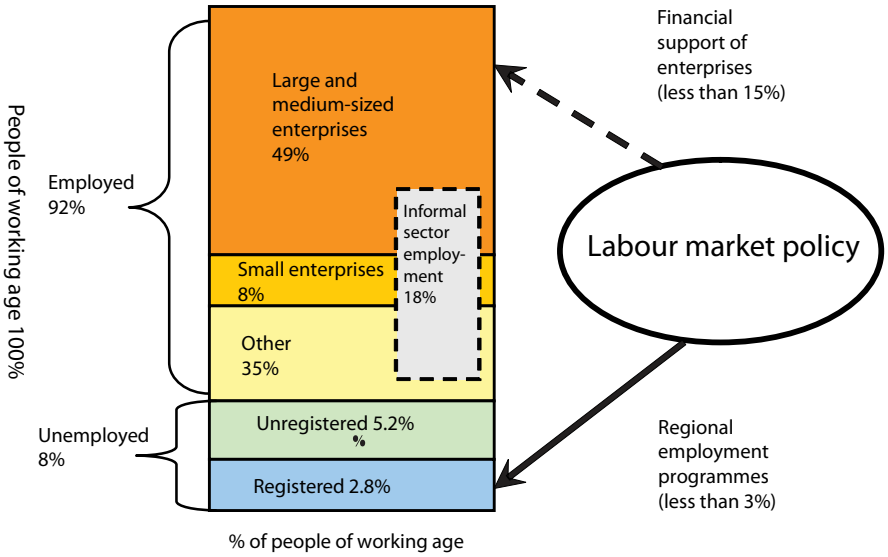
Since 2004 there has been no ministry with direct responsibility for the labour market[5]. The Ministry of Health and Social Development controls the Federal Service for Labour and Employment, but, although its name includes the term 'employment', the Federal Service (as well as its predecessor the Federal Employment Service) is not directly concerned with employment, but is focused on job placement and combating unemployment, including via active programmes on the labour market. The Service assesses the labour market environment by analysis of registered unemployment and labour market needs are gauged on the basis of vacancy notices provided to Service by employers. This approach does no harm, but it does not help to understand the real situation on the labour market or enable political action to adjust it, since it fails to capture most of the unemployed and many of the vacancies that appear and are successfully filled. The labour market in Russia develops for the most part without any regulation.

Labour market problems were exacerbated by the 2008 crisis, when the risk of an unemployment surge emerged as the main social challenge. The government therefore made an unprecedented decision in 2009 to support a number of large industrial enterprises in order to prevent large-scale redundancies. The enterprises included in the 'support list' (Figure 4.7) provided employment to about 15 percent of all Russians of working age. This was the first intervention by the state in the sphere of employment since the start of reforms in the 1990s. The aim of preventing

[4] Р. Капелюшников. Конец российской модели рынка труда? – М.: Фонд «Либеральная миссия», 2009

[5] Before 2001, financing at federal level of support programmes for the unemployed and payment of unemployment benefits was the responsibility of the State Employment Fund . In 2004, the Labour Ministry was abolished and a part of its functions were delegated to the Ministry of Healthcare and Social Development of the Russian Federation.

Figure 4.7. Labour market policy at the crisis peak in 2009



large-scale redundancies was achieved, but the action also had the effect of encouraging stagnation in the economy.

Programmes to combat unemployment have remained the priority through the crisis period. The level of unemployment benefits was increased by 1.5 times in late-2008 and considerable financial resources were channeled to regional employment programmes. At the crisis peak in 2009, the government organized public works, temporary employment and training of graduates in order to address negative effects on employment (these measures accounted for 87 percent of participants in employment programmes in 2009 and 72 percent of all funds spent on such programmes). This effectively disguised unemployment: those engaged in public works, temporary employment programmes, etc., were recorded in state statistics as employed, but only so long as the programmes were in operation. Financing of programmes for support of small businesses and self-employment was greatly increased, but they were powerless to resist general deterioration of the small-business environment, which is typical in any recession, and they tended to create inefficient and low-paid employment, which did nothing to help the economy find a new growth path.

These events and all preceding government actions have supported old and inefficient jobs rather than creating new efficient jobs: 'employment policy' does not deserve the name, being in fact an 'anti-unemployment policy'. The consequences of this paradigm are preservation of the archaic economic structure, low labour efficiency, very low wages, creation and constant reproduction of the 'working poor', etc.

4.3 Labour laws: social guarantees or promoting economic growth?

The general configuration of the Russian labour market and nature of its processes depend on specifics of the institutional environment. Russia combines stringent labour laws, which prevent an employer from releasing redundant labour force, with irregular and generally inefficient control over compliance with these laws.

The outcome is that labour-market relations become less official and shadow employment schemes expand. Employers have large opportunities for wage manipulation as the variable share in wages is very large[6].

These contradictions are associated with the appearance of several sets of rules for the labour market (Figure 4.8).

[6] Заработная плата в России: эволюция и дифференциация: Монография / Под ред. В. Гимпельсона и Р. Капелюшникова / М.: ГУ ВШЭ, 2007

The Labour Code of 2002 and its predecessor, the Code of Laws on Labour (1971), are focused on industrial-type employment, where manual workers predominate. But, in the post-industrial economy, business focused on services and information is dominant: such business already accounts for over 60 percent of Russian employment. Russian labour laws fail to meet the new standards. In particular, no provision is made for alternative employment types that arise together with post-industrial and innovative development (e.g. remote employment). By the mid-2000s, the scale of alternative employment, i.e. employment that does not fit the Labour Code standard (full-time, indefinite-term employment at an enterprise or organization, based on a contract) was as high as 25-30 percent of the total number of jobs[7]. This indicates the degree, to which both employers and employees deviate from labour law standards, and the incapacity of the Labour Code to register the variety of forms and types of employment typical of the present-day labour market. This is not a matter of random deviation from labour law standards, but of systemic structural shifts in the economy, transition from conveyor-belt production to post-industrial technologies, intensification of competition, desire of the employer to reduce expenses, and the need of both employer and employee for flexibility.

Although the Labour Code has expanded the scope of application of fixed-term employment agreements, in reality indefinite-term employment agreements still predominate and their share has even increased further (Figure 4.9). Indefinite-term employment agreements with the relevant guarantees of permanent employment create no motivation for most employees to work efficiently, improve their skills and obtain new competencies. This tends to prevent improvement of labour productivity.

Overregulation of the process of transfer to a different job by reason of technology changes hinders innovation in production. Flexible working schedules and part-time employment are hard to operate, and there is a lack of simplified procedures for hiring and dismissal.

By providing employees with a wide range of social benefits[8] the Labour Code lim-

Russian labour laws: an international comparison*

Russian labour law is among the most stringent in the world, particularly as regards regulation of employment and dismissal. Russia scores 61 points against 45 on average for OECD countries in a World Bank ranking of levels of labour market regulation. Russia is even further ahead as regards rules governing dismissal, scoring 71 points against 28 for OECD countries.

The OECD itself agrees with this assessment, giving Russian labour laws 3.2 points against 2.0 for OECD, 2.4 for EU countries and 2.5 for transition economies.

But stringency of Russian labour law is compensated by extremely poor observance and non-compliance. The International Institute for Management Development ranked Russia 15th among 49 counties for actual compliance with employment law (the lower the ranking, the worse the compliance).

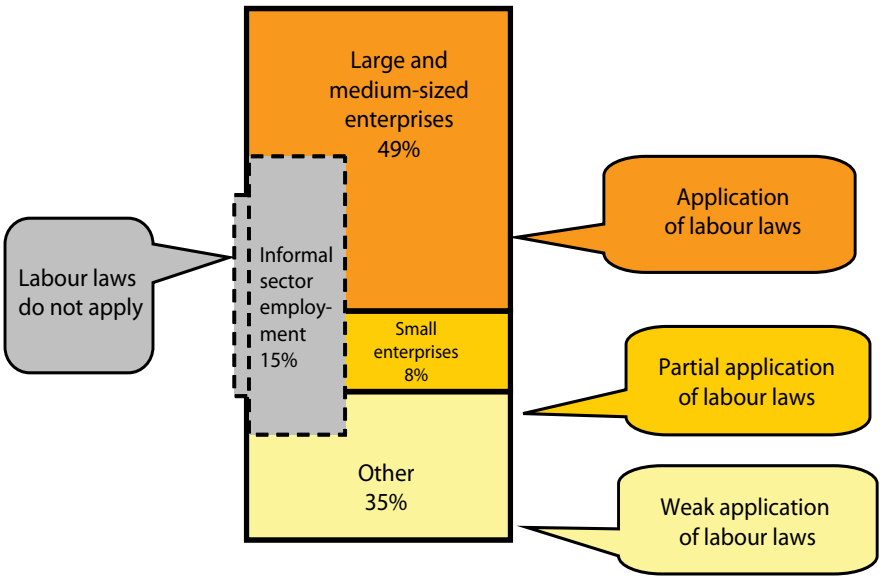
* Н. Вишневская, Р. Капелюшников. Инфорсмент трудового законодательства в России: динамика, охват, региональная дифференциация. Препринт WP3/2007/02. М., ГУ ВШЭ, 2007

[7] В. Гимпельсон, Р. Капелюшников. Нестандартная занятость в российской экономике / М.: ГУ ВШЭ, 2006

[8] Т. Малева и др. Сколько стоит Трудовой кодекс? // Московский центр Карнеги, 2001

its the employer's room for maneuver: the obligation to notify workers in advance of any expected release makes it impossible to respond adequately to the changing market environment. This greatly hinders channeling of personnel to efficient and innovative industries, and the effect is much more burdensome in the event of a crisis or the appearance of objective reasons for substantial staff release.

Figure 4.8. Application of the Labour Code



The absence of official tools for labour market flexibility is compensated by regular violation of labour law. As in most economically developed countries, the law is designed to ensure social benefits for hired workers. However, the law fails to effectively protect the interest of employees when employers, deprived of any legal means of responding to the changing market environment, act unlawfully in respect of their workers. The employee may win in court, but the employer wins in practice, because, firstly, violations of labour law are so widespread, secondly, due to insufficient knowledge of the law by employees, and thirdly, due to the fact that an employee reinstated at work by order of the court has won a tactical victory at the cost of a strategic defeat, since he will thereafter be viewed by the employer with hostility.

Excessively stringent labour law results in large-scale non-compliance by all parties. This is one of the reasons why informal employment exists and is constantly reproduced in Russia. The number of employees in Russia's informal sector is currently about 11.5 million, which is comparable with total employments in a large economy as that of Australia.

4.4. Labour market modernization: institutions and priorities

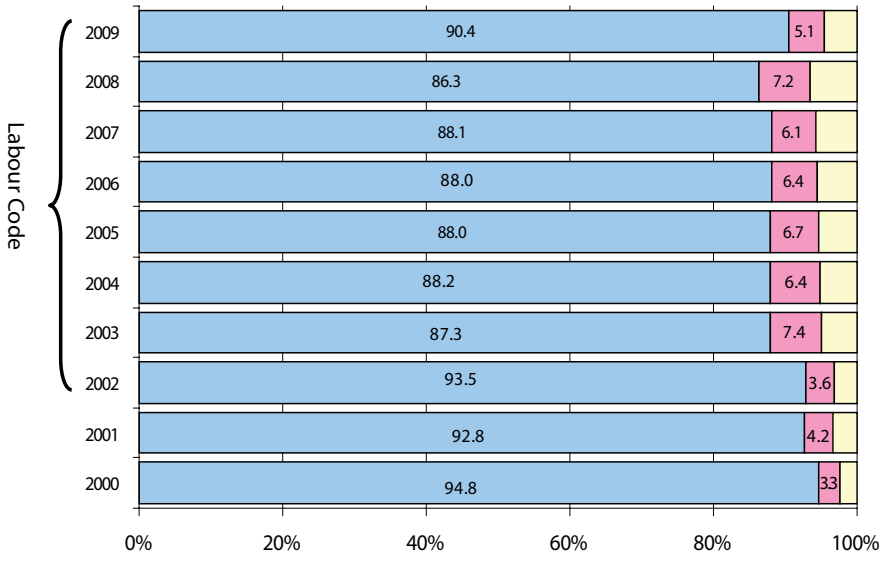
No modernization of the labour market is possible without changes to the key principles of labour policy. The required changes are from a policy of low unemployment to a policy of efficient employment, and from low-paid and unskilled jobs to decently paid and highly-skilled jobs.

Unemployment is dangerous not so much when it is large-scale as when it is chronic[9]. If the process of new job creation is vigorous, any large-scale release of workers will not result in severe social and political consequences, as the unemployed will be employed again in a very short time.

Creation of new jobs must become the main political priority on the labour market. Infrastructure projects and services are the main areas for creation of new jobs in a post-industrial development model: there is enormous potential

[9] Ф. Прокопов, Т. Малева. Политика противодействия безработице // БЭА, М., РОССПЭН, 1999

Figure 4.9. Forms of labour relations before and after adoption of the Labour Code



for creation of new jobs in road transport and construction, housing and social services, particularly by development of the non-profit sector. Millions of jobs could be created in these spheres. But in order to ensure the quality of work and services performed and delivered in those sectors, the prestige of these jobs needs to be raised by first providing a decent level of wages.

As explained in earlier UNDP[10] reports, the Russian labour market must contend with inevitable shrinkage of the overall population and of the number of people of working age[11] (see also the Box 'Demographic Development of Russia: Trends, Problems and Solutions'). In these conditions the labour market and the economy in general need a fundamentally new level of labour efficiency. The situation also poses additional challenges for employment policy, which must use available reserves to offset the decline in population of working-age. The most obvious reserve is to extend the duration of people's economic activity between youth and old age.

Employment among individuals of average working age is already at capacity level, but there are substantial opportunities for bringing more human resources into the economy at the poles of the age pyramid. At the lower end of the pyramid, various barriers currently exist, which make it harder for young people to obtain official employment and which need to be lifted. Young employees bring new competencies that meet the developing requirements of the economy and this determines the type of jobs that would be most suitable for this social group.

At the other pole of the age structure are individuals of retirement age. The necessity and possibility of raising the retirement age in Russia, which has the lowest life expectancy among economically developed countries, is the subject of intense debate. But there are fewer and fewer economic and demographic reasons for refusing to raise the retirement age[12] and the step looks essential to meet the needs of the time. The issue here is not creation of new jobs for 'senior' employees (they already exist, mostly in the 'old economy'), but the need for institutions, which would enable employees to maintain their qualifications, competence and education and thus to remain competitive on the labour market throughout out their working lives. This requires strong development of all types of additional education.

[10] Russia Facing Demographic Challenges. National Human Development Report in the Russian Federation/ M., 2009

[11] Different scenarios of the demographic forecast disagree only with regard to the speed of that reduction. See Social and Demographic Development in Russia. The Cairo Action Plan: 15 Years On / UNFPA, M., 2010

[12] Малева Т.М., Синявская О.В. Повышение пенсионного возраста: Pro et Contra' // Журнал Новой экономической ассоциации. 2010, No. 8.

A changeover from stringent labour laws and weak compliance to flexible labour laws and strict compliance is needed. The Labour Code must be amended to expand the list of justifications for fixed-term employment contracts and to extend the scope of their application, to allow flexible working schedules, to cover new alternative types of employment (including remote employment), and to bring standards governing work and rest time and employee benefits into line with similar standards in the laws of OECD countries. These are the minimum and urgently required changes to Russian labour law, which, in its present form, is oriented to the economy of the past. Development and introduction of new labour laws that meet needs and economic activities of the post-industrial economy are essential for modernization of the Russian economy and labour market.

But imperfections of the existing Labour Code are not the only or even the main reason for low efficiency of the Russian labour market. The Code was a compromise between market participants (employers, trade unions and the state) and generally matched the spirit of Russia's stage of economic development in the early 2000s, when raw materials and the extractive industries were driving growth. Today, however, the Russian economy faces a fundamentally different challenge – to carry out restructuring and development of innovative sectors by all possible means. Preservation of existing labour laws will be an institutional impediment to meeting that challenge.

An efficient labour market depends primarily on territorial mobility, which is one of Russia's weak points[13]. The situation is made worse by these specific factors:

- There are practically no regions with labour force surpluses (the exceptions are certain republics of the North Caucasus, mainly Dagestan and Chechnya).
- The number of centres of gravity in Russia is limited: the Central Federal District, particularly Moscow, is to all intents and purposes the only such centre.
- Migration mobility will be reduced in coming years for demographic reasons since numerically small generations born in the mid-1990s will attain working age (the age when people's migration potential is highest).

These problems have a common root: extremely uneven social and economic development of Russian regions and the lack in most regions of any adequate institutional and social infrastructure, which could facilitate movement of migrants and their installation on new labour markets and in new social environments (the key issues are availability of housing, education, health care, social services, etc.). Principal barriers include: absence of a unified vacancy data base and underdevelopment of other employment institutions; and underdevelopment of the housing market and absence of proper regulation in the housing sector. It will be impossible to unlock the available migration potential to meet the challenges of the labour market until those barriers are overcome.

Making use of internal migration potential is one way of addressing shrinkage of the Russian labour market, but the demographic and economic situation in Russia is such that it will be very difficult to deal with the qualitative and quantitative consequences of shrinking labour resources without international labour migration. Use of foreign labour migrants is already a condition for operation of the Russian economy, particularly in rapidly growing regions. Compensatory international migration will help to eliminate or reduce the demographic impact of population loss, adverse changes in the age structure, and popu-

[13] Russia Facing Demographic Challenges. National Human Development Report in the Russian Federation / M., 2009

lation distribution. But the mechanism can only operate once a system of economic, employment, legal, social and other institutions has been put in place, which can attract and regulate labour migration.

4.5 Conclusions and recommendations

For 20 years state policy has been limited to regulation of unemployment, particularly registered unemployment, while disguised unemployment and employment as such have never been the object of government regulation or political treatment.

The policy of preserving old and unproductive jobs clearly prevails over creation of new and productive jobs. Low wages and low productivity, by which Russia lags far behind leading countries, are results of that paradigm.

No modernization of the labour market is possible unless basic principles of labour policy are changed by shifting from a policy of low unemployment to a policy of efficient employment and from cheap and unskilled jobs to decently paid and highly skilled jobs.

An efficient labour market requires involvement of individuals in economic activities throughout their life cycle, from youth to old age.

There needs to be a shift from stringent labour laws and weak compliance to flexible labour laws and strict compliance.

Labour market efficiency also depends on increasing mobility of the national work force and mechanisms that enable compensatory international migration.

To summarize, changes in the overall l policy paradigm are required, replacing the policy of poverty control by a policy that encourages growth of the middle class. This means shaping a new or restructuring the old system of economic, social, financial, political and other institutions. The institutions, which need renewal, are:

1. The labour market. The number of jobs, which require a high level of skills and are decently paid, is currently small. It will be virtually impossible to swell the ranks of the Russian middle class without major increase in the number of such jobs.

2. The consumer and services market. Consumer expectations and consumer activity of the middle class depend on the balance between price and quality of available goods and services.

3. Education and health care. The middle class is the biggest user of education and health-care services. High levels of education and good health are the most important intangible resources that enable the middle class to remain competitive and highly efficient on the labour market and in other areas of the economy. In Russia the majority of the population has full access to these resources in theory only. In reality, there are substantial barriers to obtaining decent-quality services from education establishments and healthcare facilities. These barriers hinder growth of the middle class.

4. Housing market. Housing is the consumption priority for the middle class. Growth of the middle class and strengthening of its role in a country's socio-economic development cannot be achieved without an affordable market for modern housing.

5. Insurance institutions. The middle class is more interested than any other social group in maintaining the stability of its socio-

economic status and therefore in the existence of efficient insurance institutions.

6. Pension schemes. The middle class wants guarantees of a comfortable retirement and is willing to be involved into co-financing of pension vehicles. Any increase in real state pensions may boost pensions for low-paid population groups or the 'lower middle class', but will not help the interests of the middle class. New tools are needed for pension insurance, particularly voluntary pension insurance.

7. Ownership rights, administrative barriers and the court system. Ownership rights are indissoluble from an efficient and independent court system where the middle class could protect its economic and social interests. At present, application to a court (the typical course of action for a representative of the middle class seeking to protect his/her rights in matters of ownership) is often useless due to doubts over court impartiality, particularly when a claim is filed against any representatives of government. Reform of the legal system is therefore a factor for growth of the middle class.

Forces for social modernization

The nature of most social processes and the state of social institutions in Russia is far behind the present-day achievements of leading countries. The need for social modernization is evident. But is it possible and, if so, what are the forces that can drive such modernization?

Modernization can be put in motion by a coalition of economic and political elites[14] but progress along the road of modernization and achievement of its aims require substantial social support. Such support depends on the current model of social stratification, which describes both the level of development of any existing socio-economic system and the potential for future modernization. The middle class is the central element of that structure by virtue of the functional roles that it has to play in society and the economy:

- The middle class is the most productive, educated and qualified part of the work force, concentrating a country's human and social capital.
- The middle class is a class of property owners, with a vested interest in the stability of economic, financial and social institutions, including those regulating property relations.
- The middle class is a key taxpayer and thereby a co-investor in the social sphere.
- The middle class is highly important for operation of the consumer market, which depends on the purchasing patterns of that class.
- The medial position of the middle class makes it of crucial importance for stabilization of the entire social structure and successful communication between various social groups.
- Finally, and most importantly, the middle class is the conductor of innovative behavior in the economy, consumption, the financial sphere and other realms.

The middle classes defined as the aggregate of social groups which are relatively prosperous, have high social and professional status and enjoy these characteristics in a sustainable manner, represent about 20 percent[15] of the population in Russia today.

For purposes of future national development the potential for expansion of the middle class is much more important than its present size. What social strata (classes or groups) could approach and join the middle

[14] Коалиции для будущего. Стратегии развития России / «СИГМА» – М., РИО-центр, 2007; Образ желаемого завтра

[15] Т. М. Малева, Л. Н. Овчарова. Российские средние классы накануне и на пике экономического роста // М., ИНСОР, 2009

classes in the future? And what social groups do not have such chances?

About 10 percent of Russian households belong to social strata with the lowest socio-economic characteristics. These families are below the poverty line, their senior household members do not have higher education and are therefore uncompetitive on the labour market and forced to work in jobs that are low paid and lack prestige. They have no illusions as to their future social prospects and do not see any way out of their situation.

However, the group between these two poles – the so-called 'lower middle class' – represents the overwhelming majority (70 percent) of all households in Russia. This huge group is heterogeneous: nearly one half (30 percent) have features that resemble those of the middle class, which they could therefore join. For our purposes this sub-group can be referred to as 'middle class recruits', while the other sub-group of 40 percent might be called the 'poverty risk group'.

Such were the essential features of the social pyramid at the peak of economic growth in late 2007 – the last 'cloudless' year of Russia's sustainable economic growth before the global crisis, which quickly turned into a Russian crisis.

What is particularly worrying about the social situation in Russia, as just described, is not that the middle class is small in number, but that the social structure failed to respond to changes in the environment: the structure, which we have described at the end of economic growth in 2007, had remained almost unchanged since the end of the long recession period in the 1990s and the start of the economic boom in the 2000s.[16]

This means that, contrary to massive political and social expectations that growth of the economy would in itself spur growth of the middle class and help to reduce poverty, the social situation in the country stagnated. The reason for this is underdevelopment of social institutions.

The small share of the genuine middle class and predominance in the social structure of the 'lower middle class' suggest a poor basis for modernization. But is the power of the middle class in Russia really so limited?

The middle class represents just one fifth of society, but whether that is a large or small share depends the viewpoint chosen. A 20 percent share of middle class people in society, though less than in economically developed economies (60-70 percent) is still large enough not to be ignored.

Its main power is not in numbers, but in its role in society, which is to be open to innovation and convey innovative practices to society in general. The present-day middle class in Russia consists of young, well-educated and financially independent people living chiefly in megacities and capitals, and all of these factors make it particularly influential. Involvement of the Russian middle class in innovative activities on the labour market, in the economy, business and finance, on the consumer market and in other areas is several times greater than involvement of more numerous social strata. The middle class is committed to participating in and supporting the process of modernization because the process matches its interests.

However, it would be wrong to overstate the innovation potential and commitment of the middle class to modernization. Conservatism is an essential feature of the middle class, and the larger it grows the more conservative it becomes. Such a tendency is

[16] Средние классы в России: экономические и социальные стратегии // Коллективная монография под ред. Т. М. Малевой / М., Гендальф, 2003

already visible in Russia. In the early 2000s middle-class people in Russia had a degree of 'passion' – appetite for risk, readiness to master new skills and try new activities. But this has already changed. The present-day middle class includes a large contingent of state officials and public sector workers (e.g. employees of state corporations), who are unlikely to have an appetite for risk and sense of responsibility for results. The former dedication to economic activity has been replaced by the pursuit of social stability[17] .

The middle class hardly ever initiates reforms, though it may support them. But the danger in Russia is somewhat different: if the goal of reforms fails to match the interests of the middle class, the latter may reject them (ignore, disregard or distance itself from them). Already the middle class has reacted to the unsatisfactory state of the institutional environment by entering into unofficial relationships with service providers in education, health care, the labour market and other areas, reaching informal deals with bureaucrats and supporting all sorts of shadow relationships in society. This is another way, in which the middle class has shown its power: its practices have been conveyed throughout society, reinforcing the establishment of shadow relationships.

The factors described in this chapter make the middle class a key actor in Russian modernization. Its economic neeositions of the middle class are not strong, but the government will have to find an accommodation with it. The question is what price government and the middle class are ready to pay in order to achieve modernization[18] .

[17] А. Г. Левинсон. О категории «Средний класс» / SPERO, весна-лето 2009, № 10; Т. М. Малева, Л. Н. Овчарова. Российские средние классы накануне и на пике экономического роста // М., ИНСОР, 2009

[18] Л.М. Григорьев и др. Средний класс после кризиса. Экспресс-Анализ взглядов на политику и экономику / М, БЭА, 2010

Chapter 5
People – Education – Modernization

There is growing understanding in Russian society today that people are not merely the target of social and economic development, but a resource for such development, which will in the future depend to an increasing extent on education.

In the past decade the Russian Federation has consistently ranked below 50th but above 70th in the ordering of the world's countries by the Human Development Index. Russia's HDI score in 2010 was 0.719.

HDI is calculated as the arithmetic mean value of three indices: life expectancy, education and income. Russia's income index is close to its general HDI value. The country's result is pulled down by the life expectancy index (below 130th position in the world rating), which matches those of countries with low overall HDI values. But negative impact of the life expectancy index is compensated by Russia's score in the education index (Russia's position is not far below 30th), which combines literacy and schooling coverage for young people. Russians enjoy medium incomes, are well educated, but live relatively short lives. Growth of the education index, and moves towards growth of life expectancy and GDP could improve the country's overall HDI rating in the near future.

The first issue here is provision of education to young people in various age groups. Although this component of the education index is fairly high in Russia, there are a number of difficulties. They include a tendency in Russia towards production of knowledge, for which there is no demand, creating specialists who have nowhere to work. Another problem is unacceptably low provision of additional education (further education for people who have graduated and are in the workplace).

5.1
Human development and modernization

It is generally accepted that Russia's sustained development in the coming decade requires movement away from raw material dependence and adoption of a post-industrial economic policy vector. The most appealing image of this progress in the public conscience is associated with 'the knowledge society' and 'knowledge economy', where knowledge becomes the main factor and the major resource for the country's social and economic development. Such a society cannot be attained without overall national modernization. The goal of modernization presupposes education, both general and vocational, as the basis for training of new professionals.

After a brief discussion on whether to pursue modernization or innovative development, public opinion has supported a compromise interpretation of modernization, which includes innovative development. Such a compromise is explained by the need to complete reindustrialization, still pending from the Soviet era. This reindustrialization should have taken Russia to the fifth technological level and enabled the country to take part in the global race towards scientific advances and new mass technologies, which represent the sixth technological level. Without the re-equipment of a wide range of civilian industrial segments to match scientific and technical progress in the last quarter of the 20th century, Russia lacks a firm basis for application of the scientific breakthroughs produced by modern scientific research. Understanding this aspect of modernization is essential for understanding the nature of the reforms that are needed in Russian education. Provision of research specialists to work in nano-, bio- or information technologies will not solve the problem. Deep modernization of the whole system of education is required.

Table 5.1. Level of education of the adult population in Russia and some OECD countries, %, 2007

	Total	Education				
		Primary school education and lower	School education (to 14 years)	School education (to 16 years), basic vocational and non-higher post-secondary school education	Intermediate vocational education	University, post-graduate, and higher vocational education
Russia*	100	1.0	5.7	40.3	26.1	26.9**
Australia	100	8.3	23.5	34.4	9.6	24.1
Austria	100	n(3)***	18.5	63.9	7.2	10.4
Belgium	100	13.9	18.1	35.9	18.1	14.0
UK	100	-	13.7	54.2	9.1	22.7
Germany	100	3.0	12.6	60.1	8.7	15.6
Greece	100	26.5	11.0	39.8	7.4	15.0
Spain	100	22.2	27.1	21.7	9.0	20.0
Italy	100	14.7	32.4	39.4	0.5	12.9
Canada	100	4.2	9.2	38.3	23.7	24.6
Netherlands	100	7.1	19.8	42.4	1.7	29.1
Portugal	100	56.5	16.1	13.8	n(6)	13.7
USA	100	4.4	7.7	47.6	9.4	30.9
Finland	100	9.6	9.9	43.7	15.4	20.9
France	100	13.0	18.4	41.8	10.9	15.9
Switzerland	100	3.3	9.3	56.0	10.0	21.3
Sweden	100	5.6	9.8	53.3	8.7	22.6
Japan	100	n(4)	n(4)	59.0	17.9	23.1

* People of working and non-working age in accordance with the latest sampling studies for employment as of the end of November 2008.
** Including persons who began but did not complete the relevant courses.
*** Here and below the symbol 'n' in any cell means that the data from that cell were also included in another column shown in brackets after 'n'. E.g., n(3) means that the data are included in column 3.

Table 5.2. Comparative data on the number of students per stage of education per 1000 people in Russia and some OECD countries, 2007

	Total	Education						
		Pre-school	Primary	School (to 14 years)	School (to 16 years), basic vocational and non-higher post-secondary school education	Intermdiate vocational education	Higher vocational (university)	Post-graduate
Russia	2058	360	353	451	195	158	529	11
Australia	2884	101	939	608	666	81	415	20
Austria	2019	263	418	468	555	28	265	22
Belgium	2673	389	692	403	818	190	175	7
UK	2239	165	725	366	594	85	287	16
Germany	2025	294	402	622	420	40	237	-
Greece	1886	128	572	309	338	191	329	19
Spain	2050	351	607	442	250	53	330	16
Italy	1886	279	482	298	483	2	335	7
Canada	-	149	713	258	598	-	262	11
Netherlands	2290	245	783	476	425	-	356	5
Portugal	2024	249	714	376	339	3	326	18
USA	2497	250	816	433	406	124	454	13
Finland	2643	271	692	385	709	0	544	41
France	2349	409	648	513	433	85	247	11
Switzerland	2002	204	680	397	421	51	210	23
Sweden	2685	424	743	451	613	24	407	23
Japan	1717	239	565	284	298	72	237	6

Why, it may be asked, is this necessary when Russia already has a relatively high education index? Why should the education system need reforming and modernizing if its indicators are already at a high level? (See Table 5.1)

When the literacy component of the education index reaches its maximum, and in Russia it reached 99.5 percent three decades ago, the education index can only improve further if there is growth of the second component, i.e. schooling of corresponding age-groups of the young population. However, in Russia this indicator is also fairly high: the annual average share of young people in secondary education in 2001–2009 was 84 percent, and the figure for higher education was 75 percent[1]. Measured by UNESCO criteria, Russia has universal secondary and universal higher education (see Table 5.2).

But as Rasul Gamzatov, a Dagestani writer, put it: "I am in the Presidium, but I'm still not happy". Russia's education system has achieved peak indicators, but the general public is not satisfied with it, and concern over the state of education in Russia is ever more frequently expressed. This is because quantitative measurements do not always – and certainly not in our case – reflect the true state of affairs. Education has to be analyzed in terms of its quality and its adequacy for meeting social challenges and labour market requirements.

There is a widespread belief in Russia that, until recently, we had one of the best education systems in the world, thanks to which we trained the professionals who carried out the country's industrialization and rose to daunting challenges such as the nuclear and space projects. The national education system seems to have been capable of carrying out its tasks even though coverage of the relevant age cohorts was only one quarter for secondary education and one sixth for higher education, whereas nowadays, when education is accessible and universal, it fails to meet the expectations of young people, families and the general public, as suggested for example, by the never-ending attempts to reform it. Why is this the case?

In trying to explain the current situation it is important to take account both of demographic changes in the number and structure of the population, and of the long-run consequences of educational reform.

Demographic trends in the last decade show an absolute reduction in the number of young people of school age and age for entry to vocational training institutions (Figure 5.1)

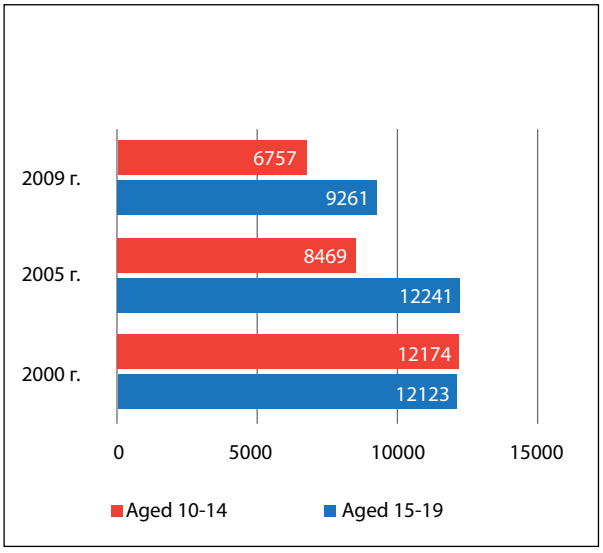


Figure 5.1. Ages groups (thousand people)

Reduction of the number of pupils in schools by 34 percent from 20.6 million in 2000 to 13.6 million in 2010/2011 and reduction of the number of schools by 26 percent from 68,800 to 50,800 are a direct result of these demographic trends. Shrinkage in the number of state and municipal schools (not including those that operate a shift system) has been particularly marked in rural areas, where their

[1] Human Development Report, 2010 , p.195

Table 5.3. Development of the school system

	1990	1995	2000	2005	2007	2008/2009	2009/2010	2010/2011
Schools (units)	69667	70257	68804	63174	57992	55792	52422	50128
of which, schools (not including shift-system schools)	67571	68445	67063	61497	56407	54259	50977	48804
of which, in rural areas	48214	47569	45157	40367	36020	34309	32178	30326
shift-system schools	2096	1812	1741	1677	1585	1533	1445	1324
Number of students (million)	20851	22039	20554	15631	14174	13752	13619	13569
of whom, in schools (not including shift-system schools) (million)	20328	21567	20074	15185	13766	13363	13258	13244
of whom, in rural areas (million)	5797	6375	6015	4616	4138	3968	3854	3742
Students at shift-system schools (million)	523	472	480	446	408	389	360	325

numbers have declined from 45,200 to 30,300 or by 33 percent.

Following its impact on schools, the declining trend is affecting all branches of vocational education.

However, demographic changes alone are transitional and could even be used to the benefit of education. More importance attaches to estimating the long-term impacts of past education policy (particularly the increase in its mass-orientation) and the impact of market reforms in Russia.

The peak period for development of the education system in Russia (then part of the Soviet Union) was in the second half of the 1960s, when the country had for the most part achieved industrial transition to the fourth technological level. At that time developed countries were engaged in reindustrialization (the 'second wave' of industrialization), based on the scientific and technological revolution, which had already started there, and were thus pursuing transition to the fifth technological level. The Soviet Union was aware of that transition, but underestimated the degree of fatigue in the command economy, which started to malfunction after Kosygin's reforms were abandoned in favor of orientation to fuel and raw materials. In the context of the arms and space race and the country's success in those fields, the causes of economic inefficiency had to be compensated by other 'achievements' with high political and ideological dividends. School education was an obvious choice for that purpose.

5.2 Issues in school education

By the start of the 1970s the Russian population was predominantly urban, and was mainly employed in industrial development and related construction of industrial facilities, housing, infrastructure, public and cultural buildings. Secondary education had to be developed on a wider scale and this challenge was addressed by the decision of the 24th Congress of the Communist Party in 1971, which set the goal of universal secondary education.

This was undoubtedly a timely decision, but the way it was organized raises questions. While most Western countries had made this necessary transition over periods of 2-3 decades, supported by legislation that required young people to remain in school until they were 16 or 17 years old, the objective in Russia quickly became maximum issue of school-leaving certificates. Lack of a nationwide system for evaluating knowledge among

school leavers and pressure from Party and state officials demanding ever higher results undermined the quality of school education. Resource, staff and methodological support for the transition was inadequate. Teachers who had previously focused their attention on pupils who were most talented and eager to learn had to switch their time and attention to those who did not want to study. Dismissing a student or postponing his/her promotion to the next grade was discouraged, annual promotion exams were abolished and school-leaving examinations were reduced and simplified.

Other hasty and badly designed school reforms were also carried out at that time or somewhat later. They included 'fundamentalization' of school education, which was supposed to direct students towards learning the fundamentals of scientific knowledge but in reality led a 'scientism' of school education and overloading of pupils with a large number of scattered and partial morsels of scientific knowledge. It is difficult today to explain the maniacal determination of reformers to force all students to study science-like subjects, when most of them could not and did not want to learn such material and could have found ways of joining the world of labour without general secondary education. Other experiments included introduction of a polytechnic system, vocational focus, introduction and then abandonment of 11-year schooling, etc. Objective analysis of Russian school reforms has yet to be carried out, though some authors are already working on it[2]. We have made a brief excursion into the subject in order to show that the trend to worsening quality of secondary education was not sporadic.

Declining quality and the increasingly mass-focus of secondary education meant that the same fate was bound to befall higher education, with inevitable impact on socialization, education quality, ability to meet the needs of the labour market, etc. Reduction of standards in school education reduced standards and the quality of training in the system of higher education. This effect became systematic when the 'universal' school generation rose to become teachers and professors themselves. It was unrealistic to expect that higher education, which in the recent past had trained the scientific, technical and managerial elite, could stage 'mass production' of that elite, particularly in view of the low quality of inputs from schools.

The problems have been compounded by the trials and tribulations, which the Russian secondary school system has undergone in the period of market transformation. Dramatic reduction of financing led to humiliatingly low salaries of teachers, deterioration of school buildings and low level of technical support in schools. Decline of the social status and prestige of teachers and their profession meant that fewer and fewer young people were willing to work in schools.

The idea, proposed during the reform period, of introducing a system of vouchers to be used for payment of education services, was untried in international practice and met with a negative response from the general public. The plan was not pursued, except in the truncated form of the Uniform State Exam (a new nationwide school-leaving exam), which is also very controversial on account of fears that it may divert school education from the task of promoting student development towards drilling students for exam success.

Nevertheless, the present status of secondary education suggests that there are no insurmountable obstacles to it playing a full role in modernization of the economy.

[2] Л.Д. Кудрявцев. Среднее образование. Проблемы. Раздумья. М. 2003 г. М.В. Богуславский. Реформы российского образования XIX-XX вв. как глобальный проект. "Вопросы образования", №3, 2006 г.

Underfinancing remains a problem, but secondary education has seen a number of important changes in recent years.

Steps taken by the Ministry of Education and Science to put the universal nature of secondary education on a new and flexible basis deserve to be noted: clearer distinctions have been made between 9-year compulsory school education and full 11-year education (the extra two years can either be in higher classes at secondary school or at basic or intermediate vocational colleges). Greater variety in school curricula and differentiation between types of school (lyceums, colleges) have also had positive impact.

Salaries of school teachers and principals have been increased and, despite all its shortcomings, the Uniform State Exam does mean that all school leavers are evaluated using a standardized nationwide system. New school subjects have been introduced, reflecting the need to improve the content of school education, while overall ideological mentorship has been reduced. Thanks to the 'Education' national project many schools are now equipped with up-to-date equipment and have Internet connection, and remuneration of teachers has been reorganized to stimulate better and more innovative teaching methods. The national project and the first results of its implementation have drawn public attention to the problems of schools and given an understanding of the assistance, which is needed. In 2011 it was decided that repairs and re-equipment of schools will receive annual financing of up to RUR 60 billion from the federal budget, while regional budgets will provide RUR 30 billion for these purposes. Various measures have been introduced to reduce inequality of opportunity in education and resolve the problems of inadequately equipped schools (these include 80 percent of primary schools), including creation of base education centres with branch networks and use of modern distance-learning technologies.

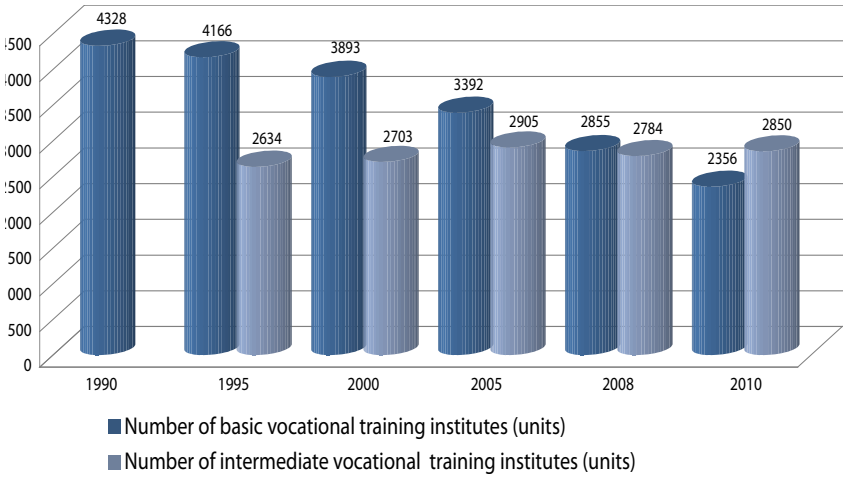
These and other measures have brought many changes to school education, but genuine modernization of the Russian school system has yet to happen. The main goal of school education is still to prepare children for university, rather than training them to live in constantly changing social, economic and technological conditions. The school system still needs to move away from a knowledge-oriented approach towards training schoolchildren for real life and to pay greater attention to preparing teenagers for the labour market. Parents and society have the right to expect more openness and democracy in the school system, and greater readiness to consider and develop the individual abilities of every child. The country's political leadership needs to reject an attitude that finances education with left-overs from other budget items, to increase salaries of teachers to the average national wage, and to realize that national modernization starts with modernization of the school system.

5.3
A new look at vocational training

Non-university vocational training (basic and intermediate vocational training institutes) suffered most during the years of market transformation. As shown in Figures 5.2 and 5.3 the number of basic vocational training institutes decreased from 4328 to 2356 (by 45.6 percent) between 1990 and 2010 and their students, including contract students, decreased from 1.9 million to 1.0 million (by 46.1 percent).

The decline of non-university vocational institutes was due in large part to reduction in the 1990s of the overall number of industrial enterprises in Russia (by about 70,000), which had provided demand for skilled work-

Figure 5.2. Number of basic and intermediate vocational training institutes (units)

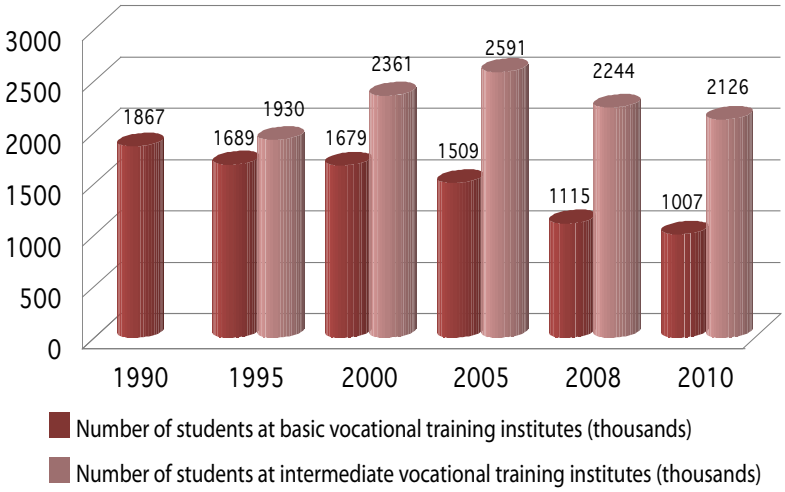


ers, and the disappearance of ministries and agencies, which had been responsible for professional training. It was also due to reduced attractiveness of basic vocational training institutes (best known in Russian by the acronym 'PTU', standing for 'professional technical college'), which lack prestige: young people are now choosing to complete full secondary education rather than basic secondary education followed by PTU training. During the last decade reduction in the number of students at such institutes was also caused by reduced numbers of the corresponding age groups, although the ratio of students at basic vocational training institutes to all young people of the respective age even increased (from 21.6 percent in 2002 to 22 percent in 2009 for 15-17 year-olds).

The quality of education provided at basic vocational training institutes appears to have improved. Previously most young people applied for vocational training (PTU) upon completion of minimum school education, but by 2009 the situation had changed: about 63 percent of PTU graduates had completed their basic general education and 24 percent even full secondary education before learning a skill. The institutes, which have survived, are those which have the best traditions, skilled teachers and, in many cases, sponsorship relationships with major industrial enterprises. Many institutes are now receiving modern equipment and computers. In order to achieve a more flexible response to local challenges and skilled labor requirements, all of these institutes have been subordinated to local regional authorities. Modernization of this level of professional training has not yet been completed and much remains to be done, but there has been evident progress.

The situation is somewhat different in intermediate vocational education, which has become highly popular since completion of full secondary education was made compulsory (because intermediate vocational institutes offer completion of secondary education in addition to a professional training). The share of 15-19 year-olds in this type of education grew from 19.2 percent in 2000 to 25.2 percent in 2009. A maximum in absolute terms

Figure 5.3. Number of students in basic and intermediate professional training institutes (thousands)



was achieved in 2005, when there were 2905 intermediate vocational institutes with almost 2.6 million students, but the system has since experienced a decline due to demography (the number of people in the 15-19 year-old age groups fell from 12.2 million at the start of 2005 to 9.3 million at the start of 2009).

Of all students at intermediate professional institutes in 2010, 1.129 million had entered the institutes after completing minimum secondary education and 997,000 had already completed full secondary education. There were 572,000 graduates from such institutes in 2010 (471,000 base-level intermediate training diplomas and 101,000 advanced-level intermediate diplomas were issued).

Many 'technikums' (the usual name for intermediate professional institutes) have changed their name to 'college' (1413 out of 2784, or 51 percent) and the private sector had become dominant at this level of education by 2010, when 1828 (64%) of total 2850 intermediate professional institutes were privately run. As of 2010 there were 149 students in the intermediate professional training segment per 10,000 population in Russia. The training offered by the segment differs from higher education, being mainly focused on practical skills, but colleges and technikums that provide training on the basis of full secondary education can be viewed as a part of the higher education (university) system and their right to award applied bachelor degrees to their graduates is justified. The fact that intermediate professional institutes do not have many subordinate branches (489 in total) and that only a small share of students are pursuing their studies on a distance-learning basis (23 percent in 2010) seem to be positive signs. Chances for modernization of the intermediate professional education segment in the foreseeable future look more favourable in comparison with the prospects for higher education.

Modernization of higher (university-level) education is the most urgent issue for the Russian education system today. As will be explained below, transformation of the nature of university education from in-depth professional training into a prestigious and affordable form of universal, general higher education is damaging for basic and intermediate professional education (because their function is partly usurped) and means that university students do not acquire the specialist skills, which can serve them after graduation.

Improvements at all levels of Russia's professional education system represents the biggest challenge for modernization of Russian education today.

5.4 Renewal of higher education

In order to become the catalyst of modernization higher education must first undergo a major renewal.

Quantitative growth has been the most pronounced trend in higher education during

Figure 5.4. State (municipal) higher education institutions
Non-government higher education institutions

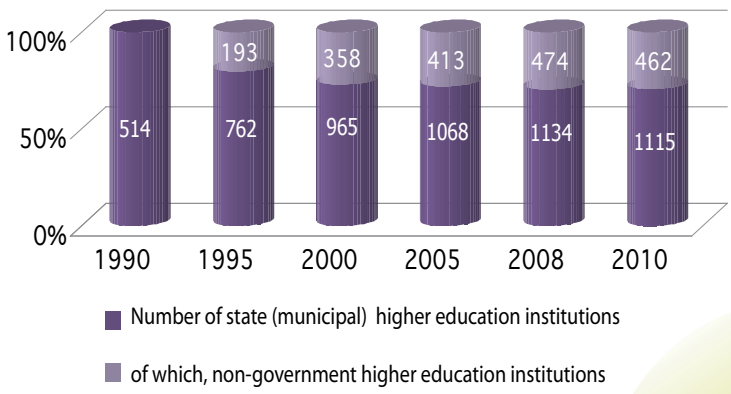
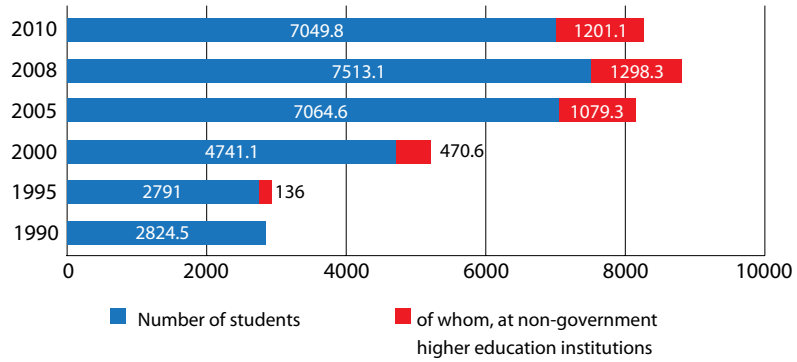


Figure 5.5. Number of students at higher education institutions (thousands)

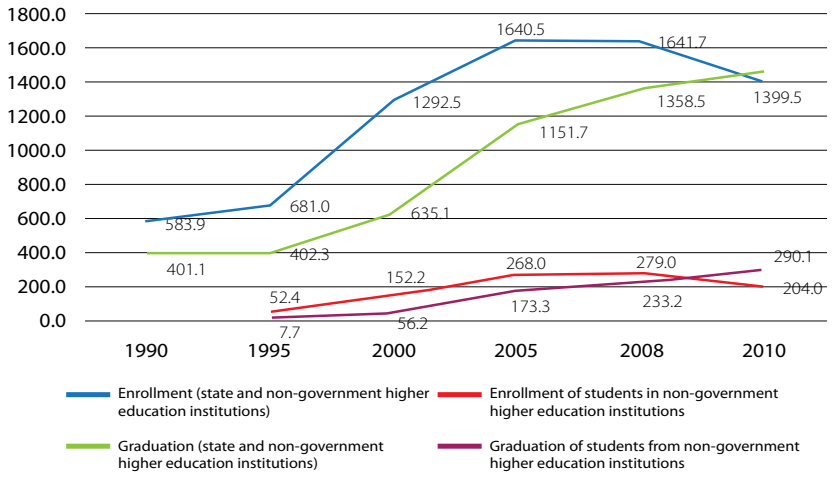


the past two decades. In the last years of the Soviet era the goal was set of raising the number of university students to 270 per 10,000 population. But in the new market environment a level of 493 students per 10,000 people has been reached without any support from the state, making Russia a world leader by the number of university students relative to is population. However, this trend was not associated with growth in the economy: on the contrary, it took place in a period when GDP plunged by 40 percent. Tremendous social demand for higher professional education appeared in a context of mass unemployment and low market demand for specialists. The phenomenon was encouraged by the possibility of avoiding military service through university enrollment, but, more generally, opinion polls at the time showed that most families and school leavers regarded enrollment in a university or institute as the only means of upward social mobility. There were only 550 – mostly narrow and often outdated – available subjects for university study, so the attitude of students was that they would obtain a recognized university degree in any subject they could and then use the system of 'second higher education' or professional training to adapt to market demands. It is unsurprising that 80 percent of university or institute graduates (and up to 50 percent of graduates from military higher education establishments) did not find work that matched their university degrees, since the degree subject was of no interest to them in the first place.

The university system expanded in order to meet the rush of demand by opening new federal, municipal and (most of all) non-state higher-education institutions, and institutions expanded provision of generalized courses that were not linked to their specific profiles (particularly courses in economics, management and law). The number of higher education institutions in the country grew by 83 percent in 1990-1999, student numbers rose by 44 percent and the ranks of professors and teachers were swollen by 36 percent. In the post-Soviet years up to 2010 the number of students grew from 2.8 million to 7 million, i.e. by 2.5 times (Figures 5.4, 5.5, 5.6).

The number of student places offered each year by higher education institutions now exceeds the number of school leavers in the same year.

Figure 5.6. Enrollment and graduation of students in state and non-government higher education institutions (thousand students)



By 2009 more than 70 percent of the 17-22 year-old age group were in higher education, which had thereby turned into a mass phenomenon and could no longer be correctly described as offering professional training. It is often said that universities in Russia have been turned into a form of 'general higher education'.

Since levels of financing have remained low, these developments have inevitably meant reduction of per-student expenditures, which have fallen to 40 percent of the average level in OECD countries, resulting in lower-quality education. The loss of quality has several specific causes: university teachers are underpaid (they have to make ends meet by working in several universities) and have low social status, so that talented people find little attraction in lecturing jobs; the amount of research work carried out by universities and institutes has declined; scientific equipment is often obsolete and social infrastructure has deteriorated. Weak motivation of students is another reason for low quality of education: rationally enough, many young people have no intention of spending time and effort to learn things, which they do not believe will be of use to them in their future life; and the job market gives no or very few signals as to the required level, quality and profile of graduates that it needs, so that institutions often have obsolete ideas of what their students need to learn. Growth in the share of those studying by distance learning methods (50 percent in 2010) has also undermined education quality. Another factor has been upsurge in the number of branches created by established Russian institutes (there were 1668 such branches in 2010), as well as new higher institutions and non-core departments in old institutions, where programmes are mostly lectured by teachers holding several jobs simultaneously.

The over-rigid system of financing by pre-established lists as well as administrative practices (reporting and re-election systems) have blocked diversity in Russian universities and thereby contributed to the worsening of education standards.

Higher education in modern society has two missions: to socialize young people and to give them professional training, i.e. to train them both as citizens and employees. If it cannot prepare students for the world of employment it cannot teach them to cope with the complex conditions of modern society, i.e. to be active and socially aware citizens. Therefore, without underestimating the importance of the socialization task, higher education today should be primarily oriented towards a new quality of professional training. This depends on upgrading higher education via several vectors: upgrading the content and methods of education (education technologies), conducting structural and institutional changes, and changing the practices of financing and managing higher education institutions.

Regarding the main vector, i.e. upgrading of the content and methods of education, the key point that needs to be understood and acted on is the importance of ongoing education throughout people's working lives. This principle was first declared over half a century ago and has been repeatedly highlighted by numerous international publications and conferences. However, in Russia it has been translated into the idea of supplementary post-university education, without being integrated into higher education as such.

The concept of lifelong ongoing education is now applicable to specialists in every sphere: rapid growth in the volume of knowledge and of the means of sharing it have made the mission of training a specialist once and for all – as happened in the recent past – completely unfeasible, due to quick obsolescence of knowledge and the short

lifecycles of many professions, which are replaced on the labour market by new ones. These changes have made strict professional specialization unworkable and created a need for forms of basic training that are divided into cycles. The Bachelor's degree corresponds to general professional training, while deeper and more advanced study leads to a Master's Degree. An initial two-year period of higher education has been common in many European countries for some time and, following their adherence to the Bologna process, it has been acknowledged in the form of a Foundation degree at the end of two years of university education. But even where the two-year principle has not been introduced, study by young people at university is now understood to be the starting point and part of a continuing education process, without claiming to be complete and sufficient in itself. By contrast, teaching staff at many Russian universities are still guided by the principle of imparting to the student every morsel of knowledge, with they possess themselves. A related mistake that Russian universities often commit is to ensure that all teachers in all their departments are kept busy, so that students are overloaded with a large number of mandatory courses. A system has been created that overproduces unnecessary knowledge in a costly and wasteful fashion. So creation of base-level higher education courses, which teach adequate and optimally chosen disciplines, is a highly important challenge for reform of Russian higher education.

Russian higher education also needs changes to the method of teaching, and this issue is closed related to that discussed above. As part of his or her base-cycle studies, a student should not only acquire knowledge, but also 'learn how to learn'. The traditional classroom method and its higher-education variant of lectures/seminars followed by examinations were appropriate enough for passive transfer of information and established knowledge. Nowadays, however, learning is not so much about memorizing as about thinking and looking for solutions. As G.A. Lukitchev has written: 'Rapid obsolescence of acquired knowledge implies a shift of accent in professional training from ingestion of blocks of formal knowledge to implanting a culture of self-development, and of methods and approaches that enable students to acquire relevant knowledge and skills, i.e. the instruments of continuous education. What is then obtained is a brand new educational product – a trainable professional[3].

New content and new approaches to learning need to be accompanied by efforts to develop the professional competence of higher education graduates, i.e. teaching them how to use acquired knowledge to resolve specific industrial, managerial, etc., issues. Progress in that direction depends on constant updating of fundamental and applied skills, greater use of interactive methods of education, organizing efficient work experience schemes and placements, interaction with employers, awareness of market trends and response of educational programmes to the changes and challenges, which such trends produce. As T.P. Ischuk has written, 'The paradigm of knowledge is being replaced by the paradigm of ability to act'[4], which calls for a whole series of universal skills and value orientations alongside professional competence: ability to work in different environments, communication skills, collective labor skills, specific educational skills (ability to 'self-educate'), and social skills (good manners). Needed structural changes represent a separate renewal vector and are many in number. We will consider the most important of them: issues of multi-level education; differentiation between higher education institutions; and the structure of students/ trainees.

[3] Г.А. Лукичёв В поисках эффективного взаимодействия высшего образования и работодателей. Экономика образования, 2005 г., №4, стр.8.

[4] Т.Л. Ищук. Трансформация содержания высшего образования в экономике знаний. Экономическое образование. 2010 г., №5

There is a commonly held view that multi-level training is tied to the Bologna Process. It would not be a bad thing if this was so, as the changes, which the Process calls for, might serve better as a programme for reform of Russian higher education than the home-made recipes, which in the last two decades have failed to advocate any better way forward than introduction of a voucher system. After all, the Humboldt Model also came from Europe. Not many people remember that the transition to a two-tier system began in the Soviet Union, when Gennady Yagodin was the Minister of Education, and was suspended at the start of market reforms when universities and institutes were struggling for survival. Regulatory support for that system was also developed at the time. The transition was long overdue and met the system's internal needs. There are many arguments in favor of the transition but, for reasons of space, we will only note that separation of the Master's programme as a separate stage of higher education is vital in order to ensure regeneration of the country's professional elite – researchers, designers and other creators – without whom modernization of the country is impossible. At the time of industrialization the professional elite consisted of nearly all those who had higher education, but today only those with post-Bachelor degrees are qualified for that role. Transition to the two-tier system for training of professionals has key importance for modernization of higher education. The transition is being implemented at present and it must be protected from compromises arising from the ambitions of higher education institutions, which want to offer their own Master's programmes, but are in fact unfit do so.

We believe that differentiation of institutions is also an important vector for modernizing the higher education system. In Soviet times equal status of all institutes was based on their right to issue standard-type diplomas, but certain institutes won renown for offering superior standards of education. In the years of market transition many establishments could not resist the temptation of raising their prestige by raising their formal status. By 2009 we had 345 universities, 177 academies and only 140 institutes. Incongruous names such as the 'Textile University' and 'Forestry University' or failure of names to match the type of institution (for example, the appendage 'state university' which has been added to the Financial Academy and the Higher School of Economics) show the undue haste with which such decisions were taken. Obviously, criteria for distinguishing higher education establishments should exist, but the differentiation should reflect the leader status of the best institutes and their specific role in the development of the country and its regions. In accordance with that principle, the two leading higher education establishments in Russia (Moscow and St.Petersburg State Universities) have been named 'national universities', while seven other universities have been given federal status and 29 higher education establishments have been made 'national research universities'. These establishments have been the first to obtain the right of issuing their own diplomas and they are expected to operate as motors of innovation. We are optimistic that the differentiation process will continue and that it will occur without creating a group of leading higher education establishments that enjoy monopolist privileges, since that could slow down the emerging system of nationwide competition between institutes and universities.

Modernization of the Russian economy also depends on changing the structure of specializations and subjects, that are available in higher education. Of 6.3 million 'specialized' higher education students in 2010/2011, some 50,200 were studying physics and maths, and 65,100 were natural scientists, while nearly

2.4 million were in a catch-all category called 'economics and management'. The inertia of the system makes it unlikely that market forces will be sufficient to correct such trends. For the sake of the country's modernization the state needs to adjust demand from society for certain specializations and to assist market mechanisms by using direct means at its disposal (state orders, differentiation of grants, specifying the obligations of students financed by the state, etc.) as well as indirect approaches.

Many urgently required institutional reforms – renewal of institutions, norms and regulations in the higher education system – also involve structural transformation. For the sake of brevity, we mention only a few of them:

– Status of establishments. In the Soviet Union only a few higher education establishments could enjoy a measure of independence, and only with respect to academic issues. Until recently administrative and financial centralization was even stricter than, for example, the dependence of industrial facilities on the State Planning Committee in Soviet times. Limited resource allocations (many still remember the tight control imposed by Communist Party officials) forced higher education establishments to manage their affairs in an opportunistic fashion, which made it very difficult, if not impossible, to promote initiative, creativity and proper management. Institutes and universities involved in defence research were in a somewhat better financial position. The situation started to change for the better with introduction of paid education in the 1990s, which gave many institutes and universities additional resources to use independently and flexibly. In most cases these resources could only partly cover shortages in state financing, but the new possibilities, which they offered, underlined the shortcomings of the centrally controlled system. Cautious and gradual measures, including abolition of the unified wage scale and differentiation of wages by incentive bonuses, abolition of estimate-based financing and change in the status of most establishments to autonomous publicly financed institutions have mainly improved the situation by increasing flexibility, operational control and responsibility for managerial decisions. The right to organize small innovative enterprises under the umbrella of higher education establishments has helped to incentivize staff. Further changes in these directions will undoubtedly enhance the contribution of higher education establishments to Russia's modernization.

– Status of the teacher. As budget-funded employees, teachers at universities and institutes, like school teachers, have to make do with rather modest incomes and limited opportunities as regards housing, social benefits and pension expectations. Teachers in higher education are allowed to work part-time and they often use this opportunity to work at several institutions at once. This leads to overwork, reducing time and incentives for research work, improvement of qualifications, and expansion of scientific contacts, particularly with foreign colleagues. On the other hand, inefficiency and a formal approach to competition in staff selection and quality control means that a teacher can expect to keep his job even if he or she is less than conscientious. Absence of age limits and protective labour legislation cause many senior staff to stay on in their jobs, which at least provide a guaranteed income. This situation seriously impedes mobility and professionalism in higher education and limits its responsiveness to the ideas of modernization and innovative education. Extraordinary measures are need to rectify the situation: rating, regulating and increasing the size of faculty salaries; raising academic

pensions to a reasonable level; introduction of age limits; restrictions on part-time work; and promoting combination of teaching, research and consulting functions.

– Norms and Regulations. Renewal of higher education to support modernization will require amendment of many current regulations. For example, introduction of credits as evaluation units is contradicted by the current practice of measuring hourly occupancy, launch of interactive education stumbles on mandatory lecture and seminar work quotas for university teachers, while the rating system of evaluating academic progress contradicts a regulation on tests and examinations. The ease of enrollment and undemanding study programmes at many higher education establishments, along with their fear of losing students, has pulled down examination standards and led to abandonment of the practice of expelling students who make no effort to learn. In view of this trend it may be reasonable to require students to retake specific subjects or whole courses, which they have not completed satisfactorily. The variety of educational programmes (Bachelors, Masters, post-graduate, etc.) has created a need for new relationships between those responsible for actual teaching and the departments, which design study courses. There is still no legislative response to the growing role and complexity of the various back-up services in higher education. Other issues also remain unresolved.

Finally, unresolved issues of the sources and procedure for higher education financing pose serious challenges to modernization efforts. In a market economy, even when state control is tight, the state budget cannot be the sole resource for funding the education system, since the burden it too heavy. The share of educational expenditures in the state budget and their share in Russia's GDP

Table 5.4. State spending on education in Russia and OECD countries*

	Education spending as % of total state expenditures		Share of education spending in GDP, %	
	2000	2006	2000	2006
Russia	11	12.4	2.9	3.9
Australia	13.6	13.9	4.7	4.6
Austria	10.7	11	5.6	5.4
Belgium	12.1	12.4	5.9	6
UK	11	11.9	4.3	5.5
Hungary	14.1	10.4	4.8	5.4
Germany	9.8	9.7	4.4	4.4
Greece	7.3	-	3.4	-
Denmark	15.3	15.6	8.3	8
Ireland	13.6	14.4	4.3	4.9
Iceland	15.9	18.1	6.7	7.6
Spain	10.9	11.1	4.3	4.3
Italy	9.8	9.5	4.5	4.7
Canada	12.4	11.8**	51	5.1**
Korea	16.3	15	3.9	4.5
Luxembourg	-	-	-	-
Mexico	23.4	22	4.4	4.8
Netherlands	11.2	12	5	5.5
New Zealand	-	18.9	6.8	6
Norway	14.5	16.2	5.9	6.6
Poland* **	12.7	12	5	5.3
Portugal* **	12.6	11.3	5.4	5.3
Slovakia	14.7	19.5	3.9	3.8
USA	14.4	14.8	4.9	5.5
Turkey* **	-	-	-	2.9
Finland	12.5	12.6	6	6.1
France	11.6	10.6	6	5.6
Czech Republic	9.5	10.1	4	4.4
Switzerland* **	15.6	12.8	5.4	5.5
Sweden	13.4	12.6	7.2	6.8
Japan	9.5	9.5	3.6	3.5

* Education in the Russian Federation, 2010, Statistical Digest, Higher School of Economics, 2010

** OECD data include state subsidies to households for supporting students but not related to education; data for Russia include spending by the consolidated budget and off-budget funds

***2005

are much lower than in developed countries. This was excusable in the 1990s, but it was harder to explain in the relatively successful 2000s. Government spending on education increased by 2.5 times in 2001-2008, but the growth was uneven and usually failed to match inflation. As T.Klyachko and V.Mau have written: 'Proclaiming of education as a national priority only raised spending to a level that compensated under-financing in the 1990s, or it might be seen as a purely political gesture related to the election cycle[5]'

Expenditure by Russian households on education are comparable with those of the state budget, but this money is often spent on grey or black markets. In these circumstances the state has not only to increase its own education expenditures but to organize resource flows from all sources. We would make the following suggestion: if all students of non-government higher education establishments and 55 percent of students at government establishments are paying for their education, it might be preferable to abandon the Soviet myth of free higher education and make all students pay for their education. They might pay, for example, 20-25 percent of the total financing that is required. This seems all the more reasonable in view of the fact that higher education expenditures are not merely a social benefit, but represent investments in human development and in future incomes of graduates. The payment share made by the student could cover the administrative expenses of providing his or her higher education and might be made possible by education credits, if necessary. Such an approach could dramatically change the attitude of budget-funded students with low motivation. Central government financing could focus on providing adequate remuneration for teachers and technical support for the education process, while local or regional authorities would finance repair and maintenance of buildings and facilities on their territory.

Unconnected with the above idea, there is scope for greater financing of education by business, through tax preferences and deductions, as is done in France.

It should be stressed that increase of financing for education in general and higher education in particular must be supported by institutional reform if it is not to be ineffective or even harmful, because, as I.V.Abankina has pointed out, more money without institutional reform will only reinforce the 'production-line model' of university education and pervasive low standards[6] . The government appears to understand that and has channeled financing to specific modernization programmes: supporting national universities (RUR 10 billion); development of federal universities (RUR 18 billion) and national universities (RUR 20 billion); supporting relations between higher education establishments and corporations (RUR 19 billion); attracting distinguished scientists to higher education establishments (RUR 12 billion); development of innovative business infrastructure (RUR 8 billion); implementation of the federal target programme (FTP) 'Scientific and Pedagogical Staff of Innovative Russia' (RUR 93.3 billion); and implementation of the FTP 'Research and Development in Priority Vectors of Development of Russia's Scientific and Technological Complex' (RUR 194.9 billion). Though project-oriented financing is by definition irregular and is often hampered by bureaucratic restrictions, it partially resolves the issue of chronic under-financing of the higher education system and promotes modernization of top-flight higher education establishments.

Despite all its past triumphs, Russian education today is in dire need of modern-

[5] Эксперт, №33, 2007, стр.94

[6] И.В. Абанкина. Инновационная экономика и индустриальная модель университетов: тест на совместимость. Журнал Новой экономической ассоциации, №8, 2010г., с.143

ization, and such modernization represents a major national challenge. Unless the challenge is met, Russia will be unable to shake off its 'raw material curse' and achieve modernization in all aspects of social life on the path to post-industrial development. This path is associated with the appearance of a knowledge-based society and depends on creating a modern system of production with transfer and utilization of knowledge and broad access of all members of society to all sorts of high-quality education. The most urgent need in the Russian education sector today is to raise the level of practice-oriented and professional education by developing activity-based educational methods as opposed to passive learning. Modernization of the educational system based on these premises will make Russia more internationally competitive and ensure a higher HDI rating.

5.5 Conclusions and recommendations

The main source of problems in Russia's education system is decline in the quality of school education due to a 40-year series of experiments and inadequate public attention. The latest experiment was the attempt to voucherize the education system, and the Uniform State Exam is a by-product of that attempt. A serious public discussion on the future of school education is needed without imposition of artificial ideas and based on unbiased analysis of the reasons for the system's current predicament.

The school education system has been turned into an 'anteroom' for higher education and this explains why basic and intermediate professional training are no longer appreciated, despite offering invaluable preparation of young people for the world of work and further stages of education. Energetic measures are needed to increase the attractiveness and efficiency of basic and intermediate professional training, to enhance its responsiveness to demands of the labor market and prevent it turning into a dead-end. Teaching of labour skills in schools could be very helpful in this respect.

Clearly, further efforts are needed to rework the higher education system, which still remains Soviet in its essence – created in other times and for other goals – despite its transformation into a mass institution. The first object for renewal should be the content of higher education, which has failed to be enriched by research, and fails to meet the social development imperatives of the knowledge-based society and life-long education. The professional element of the higher education system needs structural reorganization, development of a tier structure and more allowance for the opportunities of continuous education. Organization and technology of education also require major changes. Renewal depends on enhancing the status of higher education establishments by increasing their academic independence, changing procedures and volumes of financing, and dramatically increasing the quality of management. And achievement of all the above is unlikely to be possible unless decent working conditions and salaries are ensured for teachers and other education staff.

Chapter 6
Modernization and Healthy Lifestyle Policy

Ensuring that citizens are in good health and encouraging them to look after their health, achieving longevity and reducing morality rates have been and remain priorities for national social policy and development of human potential. Considerable financial resources have been allocated in recent years for these purposes in Russia, particularly as part of the 'Healthcare' priority national project. Some results have been achieved in reduction of overall, maternal and child mortality rates; life expectancy indicators have been gradually increasing (see the Box, 'Demographic development in Russia: trends, problems and solutions'). However, Russia still lags behind both developed European countries and many of its East European neighbours by most health indicators (infant and maternal mortality; life expectancy).

It is well-known that human health depends not only and not so much on development of medicine as on many other factors, particularly genetic predisposition to certain diseases, environment and lifestyle. WHO experts say that the contribution of medicine and genetic factors to human health is not more than 30 percent, while 50 percent depends on a healthy lifestyle. Most developed countries have long recognized that it is always much easier and cheaper to prevent a disease than to cure it. Unlike modern healthcare, a healthy lifestyle culture costs little and produces a powerful effect, particularly in the longer term.

Healthy lifestyle can be defined in different ways and interpreted in a narrower or broader (sociological) sense depending on the sphere of discussion and specific research tasks. The narrower understanding includes a set of individual practices, standards and personal behavioural attitudes that lead to improvement of health or deterioration of health (health risks). They include alcohol consumption, smoking, physical activity and diet and (less frequently) safe sex, use of drugs and other personal behavioural standards. The broader understanding of healthy lifestyle includes a broader social context: living and working conditions, state of the environment, etc. Clearly then, healthy (or unhealthy) lifestyle is, for the most part, the choice of the particular individual and of society in general.

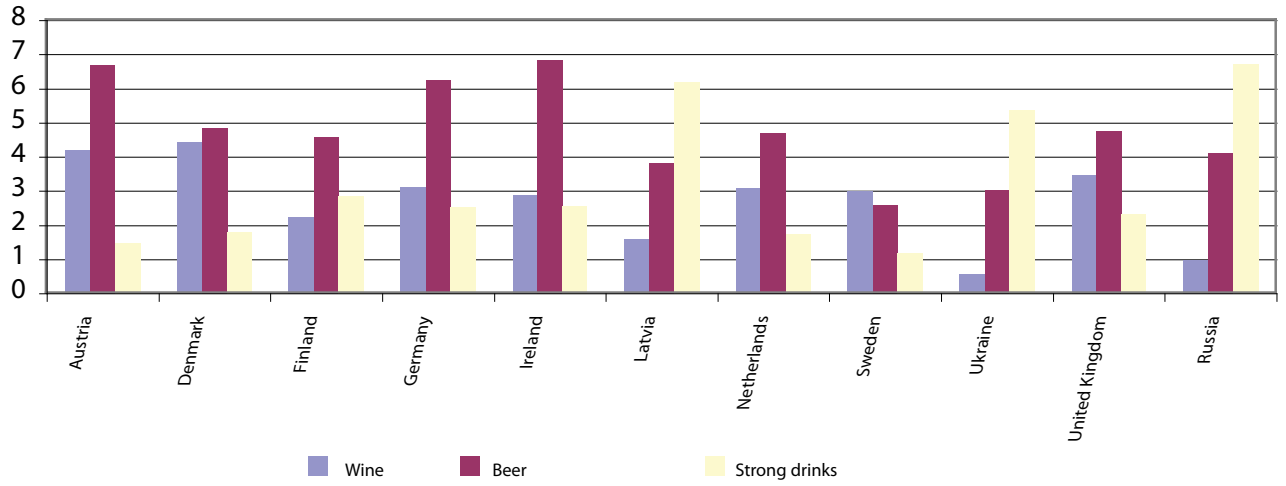
A policy to encourage healthy lifestyle is now taking shape in Russia: such important documents as the 'Concept for State Policy to Reduce the Scale of Alcohol Abuse and Prevent Alcoholism among the Population of the Russian Federation', 'Concept for Implementation of State Policy to Combat Tobacco Consumption' and 'Basics of State Policy for Healthy Nutrition' have been approved in the last two years. However, achievement of the goals, which have been set, will require choice of specific tools that can shape healthy lifestyles. Before all else, we need to learn what shapes lifestyle and what factors can be controlled. In what follows the issue of healthy lifestyle in Russia will be discussed in terms of key aspects – alcohol and tobacco consumption, healthy diet and physical exercise – as well as desirable state policy efforts with respect to them.

6.1
Alcohol consumption

Data compiled by Rosstat suggest that each adult Russian consumes on average the equivalent of 10.7 litres of pure spirit each year, which substantially exceeds the level defined by WHO as hazardous to health (8 litres per year). By various estimates, consumption of at least 5-8 litres per capita goes unrecorded. As well as exceeding annual standards of safe alcohol consumption, a large share of individuals in Russia drink alcohol occasionally to a degree in excess of the maximum permissible dose. For example, RLMS[1] reveals that 6.9 percent of men and 4.6 percent of women among young people aged 18 to 24 years-old occasionally abuse alcohol.

[1] Russian Longitudinal Monitoring Survey

Figure 6.1. Structure of alcohol consumption per capita calculated as pure spirit, 2006, litres

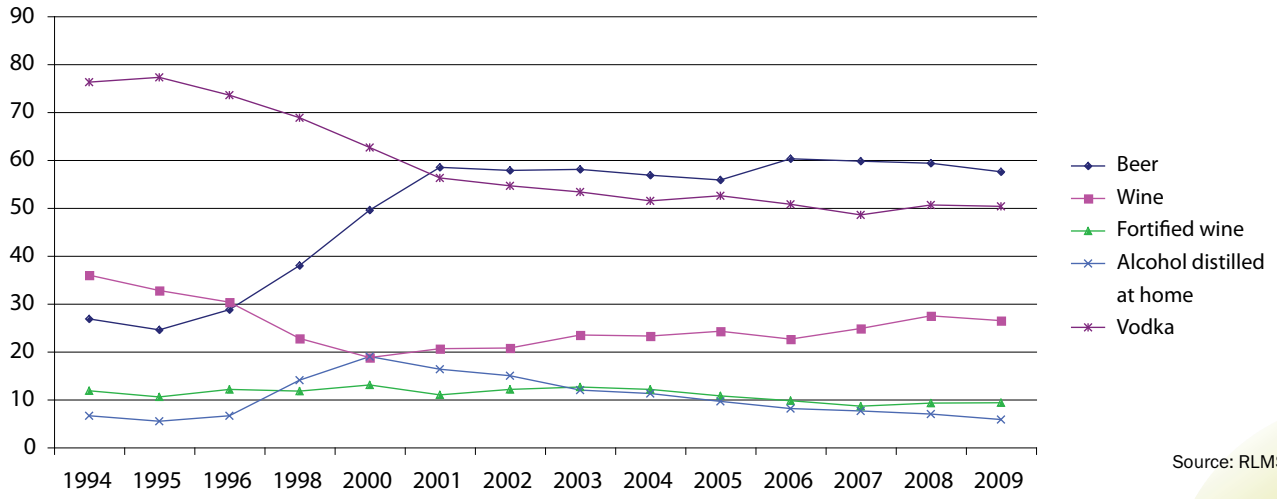


Source: Health for All, Europe (WHO database).

Another specific feature is dominant share of strong drinks in the alcohol consumption pattern (Figure 6.1). While in the historically beer-drinking countries (the United Kingdom, Denmark, Germany, the Netherlands and the Czech Republic) beer consumption has been reduced over the last decade, being replaced by wine, in Russia consumption of beer is growing vigorously, doubling in the period from 2000 to 2008. Consumption of strong drinks is declining more slowly than beer consumption is growing, so aggregate alcohol consumption is steadily growing. More than half of all alcoholic drinks consumed in Russia (measured by pure spirit) are vodka and other strong drinks.

The trend is important to note: among drinkers, the share of those who drink vodka was in decline from the early 1990s to the early 2000s, while the share of those drinking beer was on the increase. But over the last decade the shares of those drinking vodka and those drinking beer have flattened out close to equality (50-60 percent each) (Figure 6.2). Moreover, surveys using micro data and regional statistics show clearly that these are one and the same individuals – the correlation

Figure 6.2 The share of Russian adults drinking various alcoholic drinks, %



Source: RLMS

between drinking vodka and drinking beer is nearly 100 percent[2]. So beer is not a replacement but a supplement to strong drinks. However, it is consumption of strong drinks, rather than beer or wine, which is significant for health statistics[3]. Given these statistics, it is unsurprising that alcohol abuse leads to early death of nearly half a million people in Russia each year[4]. It is also unsurprising that the problem of alcohol abuse is top of the list when discussing healthy lifestyle policy.

There are many and varied ways of combating excessive use of alcohol, and most of them have been applied in Russia to some extent. First and foremost, there is licensing of producers and sellers of alcoholic drinks. This does not greatly reduce consumption, since it only raises prices to a small extent, but it goes some way to ensuring quality of products. Age restrictions on purchase of alcohol are generally recognized as a reasonable and efficient mechanism. A number of studies reveal that restriction of the lower age limit is particularly efficient for reduction of mortality among the young from road accidents and suicide. The same refers to any regional or municipal restrictions of hours and points of sale, or restrictions on the sale of alcohol on festival days, days when football matches are held, etc. Such measures are normally straightforward and supported by the majority of people. But any restrictions require both relevant amendments to laws and regular control over compliance.

Price policy is globally recognized as the most efficient tool for combating alcohol abuse. Many experts say that reduction of the relative price for alcoholic drinks, specifically for vodka, has been the cause of increased alcohol consumption in Russia during the last 20 years. The real price for alcohol in the country has been declining continuously through the period, making it more available to consumers. While in the mid-1990s the average monthly wage was enough to buy 25 litres of vodka or 100 litres of beer, by 2009 those numbers were as high as 79 and 358 litres, respectively. Tax policy has played the key role here. Production costs are only a small share of the retail price of alcoholic drinks, which consists mainly of indirect taxes (excise taxes) and VAT. The excise rates now applicable in Russia give particular advantages to producers of strong alcoholic drinks, as the excise rate calculated per gram of pure alcohol in vodka is considerably lower than for wine or beer. From January 1, 2011, the excise rates for alcoholic drinks were adjusted in a way that increased the charge for vodka by 10 percent only while the charge for wine rose by 40 percent.

Such practice runs counter to the policy of other countries where strong alcoholic drinks are being replaced by beer and wine. The ratio of prices for beer and vodka in Russia is about 1:4 while in other countries it ranges from 1:8 to 1:12. This is why strong alcoholic drinks are not being replaced by milder drinks in Russia. A minimum price of RUR 89 for a bottle of vodka, established from January 1, 2010 and increased to RUR 98 from January 1, 2011 has had almost no impact, judging by sales data for 2010. The share of vodka in overall alcohol consumption has dropped by just one percent and is still above 50 percent, which is substantially higher than the share of strong alcohol in consumption in most developed countries (12-22 percent). In addition, studies show that any growth in personal income levels always results in increased alcohol consumption (all other things being equal), so reduction of consumption is only possible through major price increases. The conclusion, therefore, is that substantial and differentiated increase of prices for alcoholic drinks through excise taxes should be the main instrument for

[2] По данным исследования «Социально-экономические детерминанты здорового образа жизни», рук. Колосницына М.Г., Засимова Л.С., ЦФИ НИУ ВШЭ, 2010.

[3] Denisova I. (2010). Adult Mortality in Russia. // Economics of Transition, vol.18(2), pp. 333-364.

[4] Доклад Общественной палаты РФ «Злоупотребление алкоголем в Российской Федерации: социально-экономические последствия и меры противодействия», Москва, 2009 г.

combating alcohol abuse. Any budget losses due to reduction of the tax base (because of lower sales volume) will be balanced by the significant growth of tax revenue as demand for alcohol is relatively inelastic in response to price changes: according to experts, fiscal revenue could rise by RUR 150-450 billion per year (depending on the extent of excise rate increases), even with expected 8-10 percent annual market shrinkage.

Any rise in excise taxes for alcoholic drinks carries the risk that consumers will switch to low-quality, illegally produced products. However, Russian and global studies show that growth of consumption of clandestine products is lower than reduction in consumption of legal drinks. For example, when Poland increased excise taxes by 2.5 times there was some increase in home distilling and vodka counterfeiting and smuggling. But it did not cancel out the decline of legal vodka drinking, so the overall result has been positive: average life expectancy of Polish men has increased to 70 years and Poland has been the first post-socialist country to overcome the supermortality crisis[5]. The history of Russian anti-alcohol policy shows significant declines in mortality in those years and in those regions where vodka has been more expensive relative to average salaries[6].

So rise in excise taxes and prices for strong alcoholic drinks can make a large contribution to improvement of the nation's health, but such efforts must be supported by tightening of control over manufacture and sale of illegal alcohol products.

Another important effort is limitation on consumption of alcohol drinks in public places and increase of penalties for drunken behaviour. Estimates by RLMS show that alcohol consumption per drinker is much higher if he/she drinks in the street (public park, etc.). All other things being equal, the volume of alcohol consumed increases by 800g of vodka per month for women and by 1.5 litres per month for men in such a case[7] . The number of alcohol-related crimes, injuries and fatal accidents grows respectively. Hence the importance of tougher laws on public drinking and tighter control over compliance.

Gradual and significant reduction of the number of sales points licensed to sell alcoholic drinks is also efficient. Alcohol is easily available in Russia today, with one sales point per 500 adult population in 2010 compared with only one shop selling drinks above 4.75 percent proof per 30,000 adult population in Norway and per 23,000 in Sweden[8]. Reduction of outlet numbers will both reduce consumption and simplify control over sale of illegal products.

Russian and foreign experience has proved that education and information-provision are quite efficient at improving awareness of the consequences of alcohol abuse, but seldom produce any change in consumer behaviour. Education as such, as seen from calculations based on macro data for 167 countries, only promotes alcohol consumption (as does income)[9]. So education programmes cannot be expected to significantly reduce alcohol consumption.

6.2 Smoking

The share of smokers in the Russian population is one of the highest in the world today: by various estimates at least 60-70

[5] Халтурина Д., Коротаев А. Алкогольная политика: мировой опыт и российские реалии, 2006.

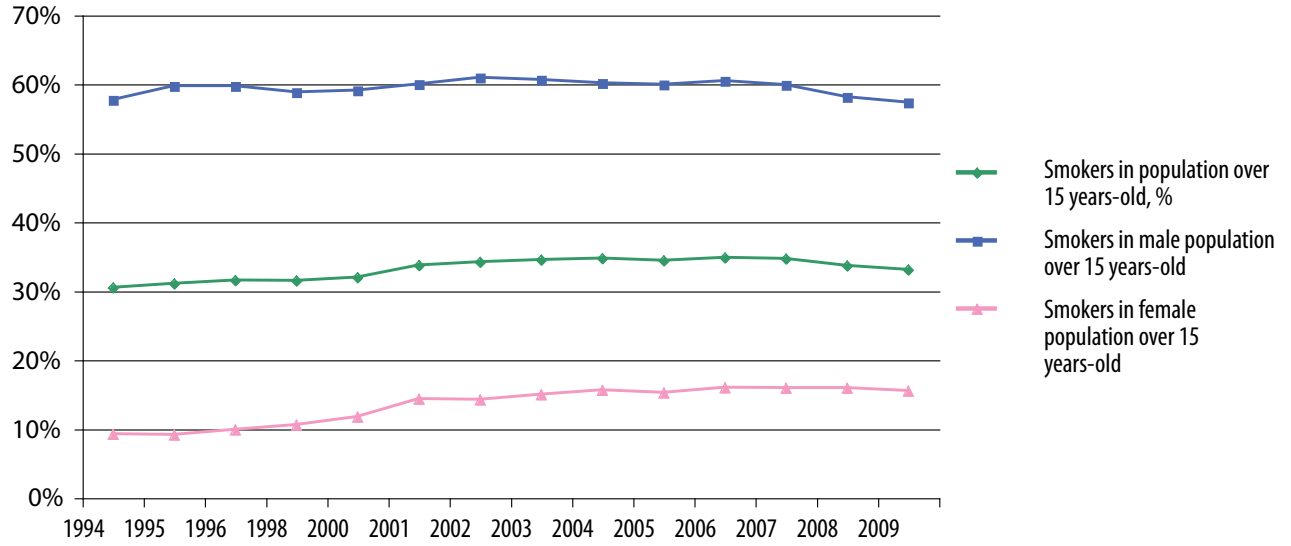
[6] D. Treisman (2010). 'Death and Prices: The Political Economy of Russia's Alcohol Crisis.' // Economics of Transition, vol.18(2), pp. 281-331.

[7] По данным исследования «Социально-экономические детерминанты здорового образа жизни», рук. Колосницына М. Г., Засимова Л. С., ЦФИ НИУ ВШЭ, 2010.

[8] Халтурина Д., Коротаев А. Алкогольная политика: мировой опыт и российские реалии, 2006.

[9] По данным исследования «Социально-экономические детерминанты здорового образа жизни», рук. Колосницына М. Г., Засимова Л. С., ЦФИ НИУ ВШЭ, 2010.

Figure 6.3. The share of smokers among Russian adults, %



Source: RLMS

percent of adult men and 17-25 percent of women smoke, and the share of smokers has been growing in recent years as more and more young individuals and women take up the habit (Figure 6.3). Studies of student lifestyle[10] carried out at four higher education institutions in Moscow, Perm and Samara showed that at least 31 percent of male and 23 percent of female students smoke.

In contrast with most other countries, the share of smokers among adults in Russia is increasing and the number of cigarettes per smoker is also on the rise (Figures 6.4 and 6.5). Unsurprisingly, therefore, Russia's human loss due to smoking is comparable to that as a result of alcohol abuse: smoking causes the early death of 330-400,000 Russian individuals per year[11]. Strict economic estimates based on RLMS micro data show that adverse effect of smoking on life expectancy in Russia is as serious as the effect from alcohol[12].

The federal law №87 'On Restriction of Tobacco Smoking' (passed on July 10, 2001) and a partial ban on advertising of tobacco products have had no significant impact on trends in smoking habits. Accession of Russia to the WHO Framework Convention on Tobacco Control (FCTC) in 2008 represented a new step in the country's anti-smoking policy[13]. Under the Convention, Russia commits to stage-by-stage implementation of a number of economic and administrative measures to combat smoking.

The steps include introduction by Russia of a ban on public smoking, as required by the FCTC. Foreign studies show that a ban on smoking in the workplace can

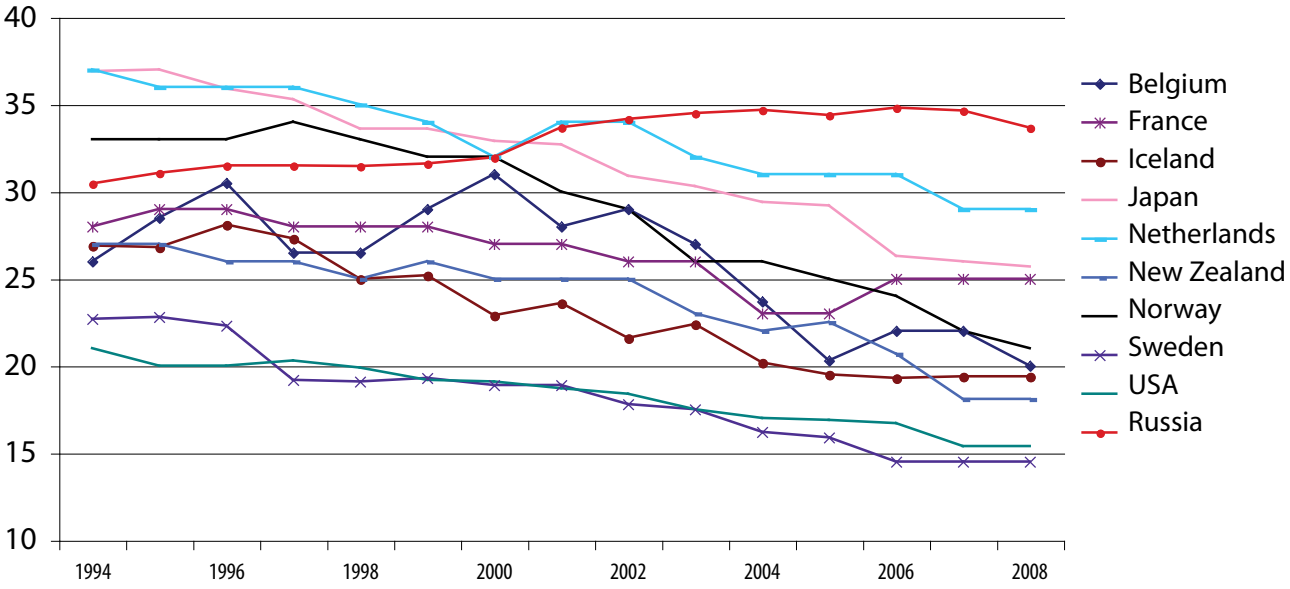
[10] Опрос НИУ ВШЭ и СамГМУ «Отношение студентов к принципам здорового образа жизни», сентябрь-ноябрь 2010 г., выборка 914 человек.

[11] Доклад Общественной палаты РФ «Табачная эпидемия в России: причины, последствия, пути преодоления», Москва, 2009 г.

[12] I. Denisova (2010). 'Adult Mortality in Russia.' // Economics of Transition, vol.18(2), pp. 333-364.

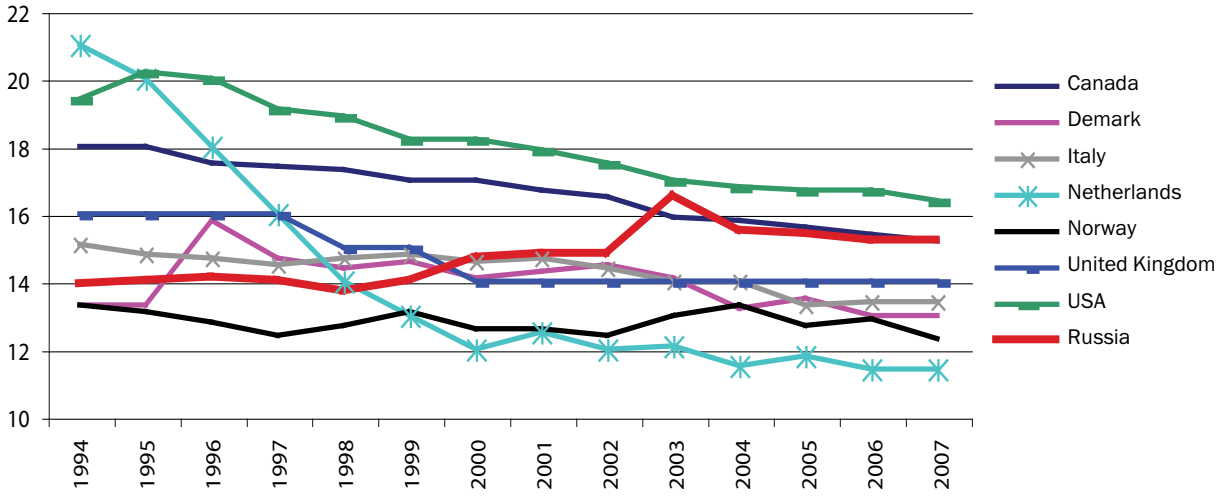
[13] WHO Framework Convention on Tobacco Control (FCTC). The Convention became effective in February 2005 and as many as 168 countries have joined it to date. http://www.who.int/fctc/about/en/index.html

Figure 6.4. Share of smokers among people aged over 15 in various countries, %



Source: OECD Health Data; RLMS

Figure 6.5. Average number of cigarettes per day per smoker in various countries



Source: OECD Health Data; RLMS

reduce tobacco consumption at work by 29 percent and absolute popularity of tobacco smoking by 4 percent, as well as doubling the number of people willing to quit smoking[14]. In December 2010 the New Economic School carried out a pubic survey on attitudes to tobacco control measures. As many as 83 percent of respondents said that they would support a total ban on smoking in public places, including bars and restaurants[15]. The more detailed data of the Global Adult Tobacco Survey (GATS)[16] give an estimate of support for smoking bans at different public locations: schools, higher educational institutions, hospitals, etc. The GATS results show that a no-smoking rule at healthcare facilities and educational institutions is strongly supported by Russians. A ban on smoking in bars and restaurants is less eagerly supported, but still obtains majority approval (77 percent).

Surveys of smokers worldwide confirm that most of them want to quit and Russia is no exception: at least 65.5 percent of Russians would like to stop smoking[17]. But many say that they cannot do so without external help and special medical consultation. The cost of arranging such consultations is not high if it is combined with standard patient visits, and doctors could be trained for the purpose as part of refresher courses. At present no more than 20 percent of medical students are given such training and studies show that doctors in Russia do not make special efforts to persuade their patients to give up smoking: the survey of students in higher education found that only 9 percent of them had been warned by a doctor of the hazards of smoking, although 25 percent of the students are smokers[18]. This suggests that only one third of smokers obtain smoking advice when they visit a doctor.

A Russian web-site www.takzdorovo.ru where smokers can obtain professional advice from an addiction specialist and exchange thoughts with other users represents a positive initiative. It should be remembered, though, that only 35.5 percent of Russian households had access to the Internet in 2009 (according to official statistics) and that the share of smokers is relatively larger in low-income groups, which are less likely to have access to the Internet.

For the purpose of FCTC implementation, warning texts on packs of cigarettes covering at least 30 percent of the pack surface appeared in 2010 in Russia. But the warning pictograms, which are globally recognized to be effective, are not so far mandatory in Russia. In addition to pack warnings, anti-smoking advertising is generally viewed as an important step towards raising public awareness. But such advertising has not been intensive in Russia. A survey of students at the Higher School of Economics and Samara State Medical University found that young people notice tobacco advertising more than they notice any efforts at anti-smoking advertising: tobacco advertising on billboards is noticed by 73 percent of students while the anti-tobacco billboard advertising is noticed by only 41 percent; the respective figures are 52 percent and 29 percent for Internet advertising, and 69 percent and 17 percent for advertising via mass media. Television, which offers the most powerful tool for social advertising, has not yet been used for the purpose. Russia might also consider a complete ban on cigarette advertising. At present, advertising of tobacco products in Russia is governed

[14] Засимова Л.С. Государственная политика в области курения: какие меры наиболее эффективны?// Вопросы государственного управления, 2010, №4, с.68-81.

[15] Результаты Всероссийского опроса населения об отношении к мерам по борьбе с табакокурением. РЭШ, апрель 2011

[16] GATS = The Global Adult Tobacco Survey: http://www.who.int/tobacco/surveillance/gats/en/index.html

[17] The Global Tobacco Surveillance System Atlas. CDC Foundation, 2009, P.91-92

[18] Опрос НИУ ВШЭ и СамГМУ «Отношение студентов к принципам здорового образа жизни», сентябрь-ноябрь 2010 г.

by a special Article of Federal Law №.38 'On Advertising' (2006), which gives free rein to cigarette manufacturers. Meanwhile, comparative analysis in 102 countries found that, in countries where total bans have been imposed, tobacco consumption dropped by 8 percent, while partial bans had practically no effect. Total bans on tobacco advertising were in effect in 26 countries in 2008[19]. The FCTC calls for total bans on advertising, sales promotion and sponsorship of tobacco products, so there is a clear case for amending Russia's advertising law in the near future.

However, the impact of awareness and, in a broader sense, of knowledge on behaviour of smokers remains a grey area. A number of studies show that smoking goes hand-in-hand with education. It might be assumed that educated individuals will tend to smoke less as they better understand the possible consequences. However, both macro data by countries with different levels of education and micro data from country-based studies often suggest the contrary. For example, dependence between the education index and the share of smoking women is clearly seen on the macro level in 135 countries.

Micro data also show that many smokers do not believe their lifestyle to be unhealthy, and these results include those having higher (and even medical) education. Over 40 percent of smoking students judged their lifestyle to be healthy in the course of student surveys conducted in 2010, and it was found that the share of smokers among medical students was 29 percent compared with 23 percent among non-medical students. This surprising result was shown even more clearly in the course an international youth smoking survey: the data for Russia in 2008 show that future doctors are 1.5 times more likely to be smokers than students in other fields[20]. The same proportions are visible among adult Russians: doctors tend to smoke more often than specialists in other fields (there are 44 percent of smokers among dentists, 43 percent among pharmacists and 39 percent among other doctors[21], while nearly 35 percent of all adult Russians smoke). So education (even medical education) by no means always changes the behaviour of smokers.

Pricing measures are rightfully considered to be the most powerful means of tobacco control and much more effective than information. Current prices for tobacco products in Russia make them available to all individuals and encourage tobacco consumption. While the average price for a pack of cigarettes in Europe is USD 3.7 or about RUR 100, the level in Russia is four times lower[22]. Cigarettes in Russia are much cheaper even when the difference in real earnings is taken into account. This is due to excise tax policy: applicable rates, even in view of scheduled increase in 2011-2014, will fail to give any substantial rise in prices. Excise tax for tobacco since early 2011 has been about RUR 7 per pack, while in European countries (including the Baltic states and Eastern Europe) it ranges from 50 to 75 percent of the price.

Studies show that a 10 percent increase of pack prices reduces tobacco consumption by nearly 4 percent in high-income countries and by nearly 8 percent in low- and average-income countries[23]. And the dissuasion effect is most marked on people who have only just begun smoking: pricing measures mostly affect young individuals with low income who have not yet become tobacco addicts. When

[19] L.S. Zasimova. ibidem.

[20] The Tobacco Atlas (3rd edition). American Cancer Society, 2009, p.103.

[21] The Tobacco Atlas (3rd edition) American Cancer Society, 2009, p.103.

[22] 2010 Global Progress Report on the Implementation of the WHO Framework Convention on Tobacco Control, p.10. http://www.who.int/fctc/reporting/summaryreport.pdf

[23] L.S. Zasimova. Ibid.

asked how their behaviour would change if their usual cigarette brand doubled in price, 24 percent of smoking students of at the Higher School of Economics and Samara State Medical University said that they would smoke less and 29 percent said that they would try to give up.

Governments are sometimes nervous about raising prices for tobacco, fearing possible negative public reaction, particularly if smoking is widespread. But the experience of East European countries (new EU states) shows that such nervousness is unreasonable. The measures are generally supported by both the smoking and non-smoking public. It is reasonable to suppose that any rise in prices will not meet serious public disapproval in Russia. For example, the above-mentioned study by the New Economic School showed that tobacco price rises are generally supported by 70 percent of respondents, including 65 percent of occasional smokers and one half of full-time smokers.

6.3 Food and physical exercise

While the significance of alcohol and tobacco consumption have been long recognized, the importance for a healthy lifestyle of diet and physical exercise have only become objects of research more recently. WHO established overweight and obesity criteria[24] in 1995, thereby recognizing existence of the problem caused, as physiologists unanimously believe, by imbalance between calorific value of ingested food on the one hand, and energy expenditure, on the other hand. Measurement of the structure and energy value of daily meals and also of an individual's physical activity is a complex process, so relevant statistical data are poorly represented in information bases and comparison between countries is difficult. However, indicators of excessive body weight and obesity are universal and show that this aspect of unhealthy lifestyles is as pressing for Russia as for the developed economies of Western Europe: nearly a half of the adult population is overweight or obese and the indicators are continuously worsening (Figure 6.6). It is important to note that being overweight is not merely indicative of an unhealthy diet and low physical activity, but also increases the risk of many diseases, including type-2 diabetes, high blood pressure, arthritis and certain types of tumour.

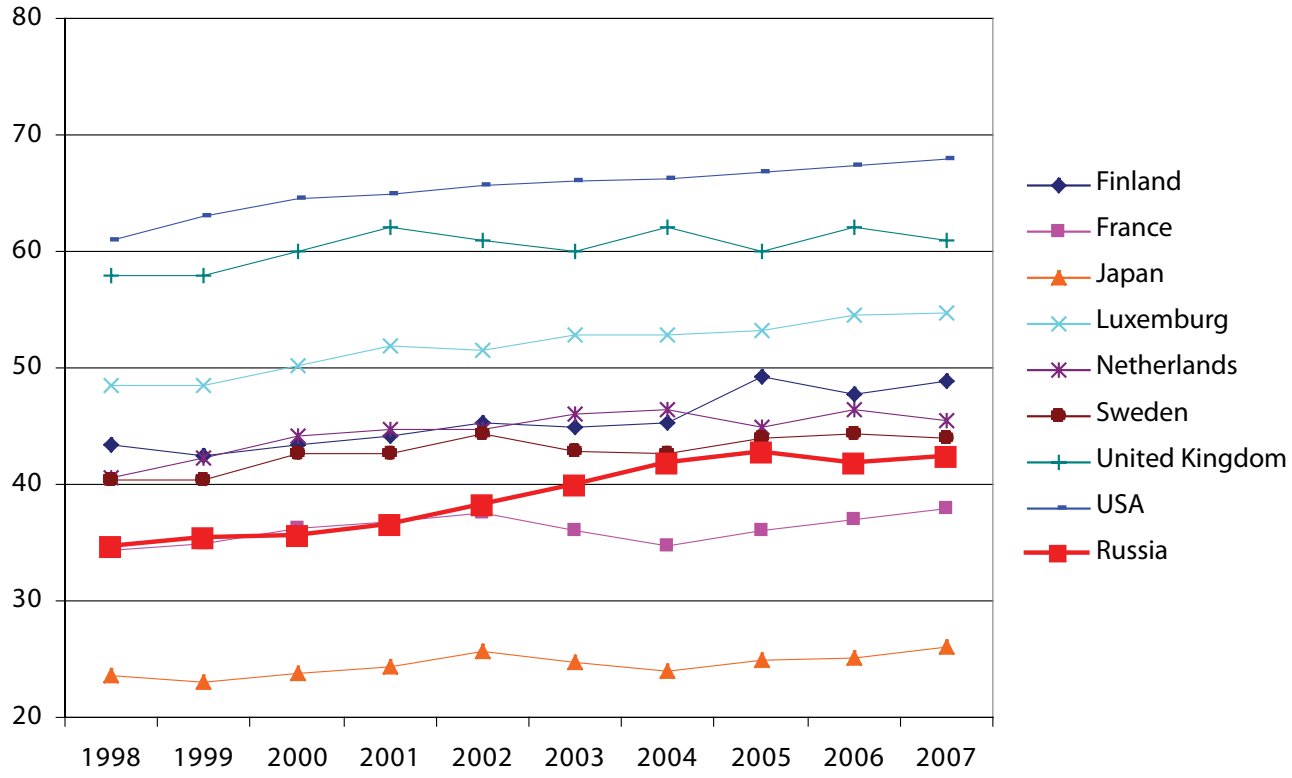
Weight problems are increasingly prevalent in Russia among both women and men (Figure 6.7). A shift in the structure of employment to service industries, sedentary lifestyles, urbanization and technological changes, i.e. transport and public catering development (including fast food) and declining prices for certain foods are the reasons commonly cited to explain the problem. Many developed countries are now achieving relative weight reduction among more highly educated social groups, but this is not the case in Russia (groups of women with higher and post-graduate education are the only exception). For men the opposite is even the case: a higher level of education makes it more likely that a person will be overweight[25].

Living standards are an important determinant of weight problems. Any income growth enables increased spending on food by families (or countries), which previously did not have enough to eat. And when income levels (and weight levels) attain a certain threshold, there is a trend to control weight by purchasing healthier food products and

[24] Estimates are based on body mass index (BMI), which expresses the ratio of the individual's weight in kg to the square of his/her height in metres. If 30> BMI ⩾25, the individual is overweight, while if BMI is ⩾30, the individual is obese.

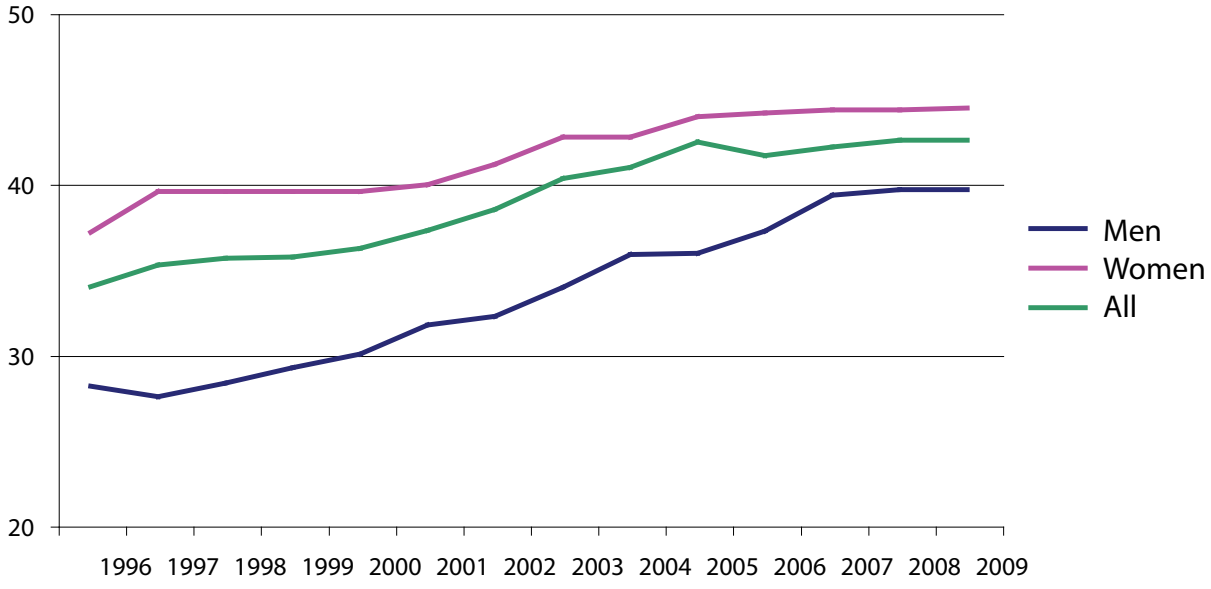
[25] Колосницына М., Бердникова А. (2009). Избыточный вес: сколько это стоит и что с этим делать? // Прикладная эконометрика, №3 сс.72-93.

Figure 6.6. The share of overweight adults in OECD countries and Russia, 1998-2007 , %



Source: OECD Health Data; RLMS

Figure 6.7, The share of overweight adults in Russia, 1996-2009, %



Source: Calculations based on RLMS data

taking exercise. Hence many studies reveal a non-monotonic interdependence between income and overweight[26].

If we trace such interdependence on the macro level, we find that Russia is still far from the point where growth in income starts to counter obesity. This is supported by available micro-level data on nutrition, which show that consumption of nearly all foods has grown steadily over recent years among all income groups, even the most affluent (Figure 6.8).

Although consumption of bread and potatoes in particular has started to decline in recent years and consumption of sugar and confectionary has stabilized, nutrition structure in Russian remains far from being balanced. More than half of daily energy is from relatively cheap bread and bread products, confectionary and potatoes, i.e. 'bad' carbohydrates (Figure 6.9).

Apparent growth in consumption of fruit and berries since 2005 is in fact explained by change in statistical measurement techniques: before 2005 juice consumption was not treated as consumption of berries. But comparable data show that Russia lags two or three times behind the majority of European countries, including neighbouring Finland where climatic conditions are by no means better than in Russia. Only other CIS countries surpass Russia by consumption of bread and bread products. There is also high differentiation inside the country depending on income levels: the sampling survey of household budgets by Rosstat found that consumption in 2009 of meat and milk products, fruit and vegetables was 2-3 times lower per capita in the two poorest groups than in the two richest.

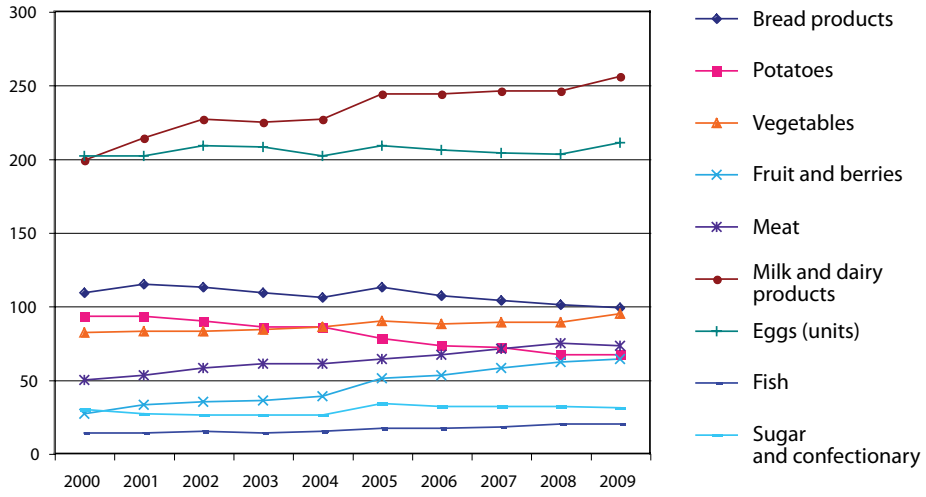
Irregular eating habits are another factor in addition to diet as such. The healthy lifestyle survey conducted by the sociology centre at the Russian Academy of Public Administration[27] in 2009 showed that at least 49 percent of respondents fail to eat regular meals. Shortage of time and formation of habit are named as primary reasons (the former manly by individuals with higher education, the latter by respondents with lower education levels). 16 percent of all individuals eat dry food on a regular basis and catering at the place of work is the exception rather than the rule. Less than half of respondents (44.3 percent) have an understanding of the concept of balanced diet, while nearly 20 percent have no understanding of it at all.

The above-mentioned sociology survey found that only 16.9 percent of individuals take exercise on a regular basis (at least 2-3 times a week). This share ranges considerably depending on age, education and income. The share is much smaller in groups over 30 years of age and particularly in groups over 40 years (30-39 years – 19.6 percent, 40-49 years – 12.4 percent, 50-59 years – 10.8 percent). Individuals with higher education are more likely to take exercise on a regular basis (24.7 percent) while those who have only completed the minimum school education are less likely to do so (12.4 percent). It was also found that 25 percent of financially independent respondents take exercise on a regular basis in contrast with only 11.4 percent of those who are below the poverty line. The reasons most often cited for not taking regular exercise are lack of time, laziness, unwillingness, poor health, and lack of money. It is worth noting that people over 40 years-old cite "absence of opportunity for people of my age to take exercise" as an obstacle, and people over 50 are even more likely to offer this explanation.

[26] O. Rosin (2008). 'The Economic Causes of Obesity: a Survey.' // Journal of Economic Surveys. Vol.22, No.4. P.617-647.

[27] «Здоровый образ жизни как социальная ценность и реальная практика». Рук. – В.Э.Бойков. М.: РАГС, 2010. Опрос проводился в 24 регионах, выборка составила 2400 человек (взрослое население).

Figure 6.8, Consumption of basic foodstuff per capita in Russia, 2000-2009, kg

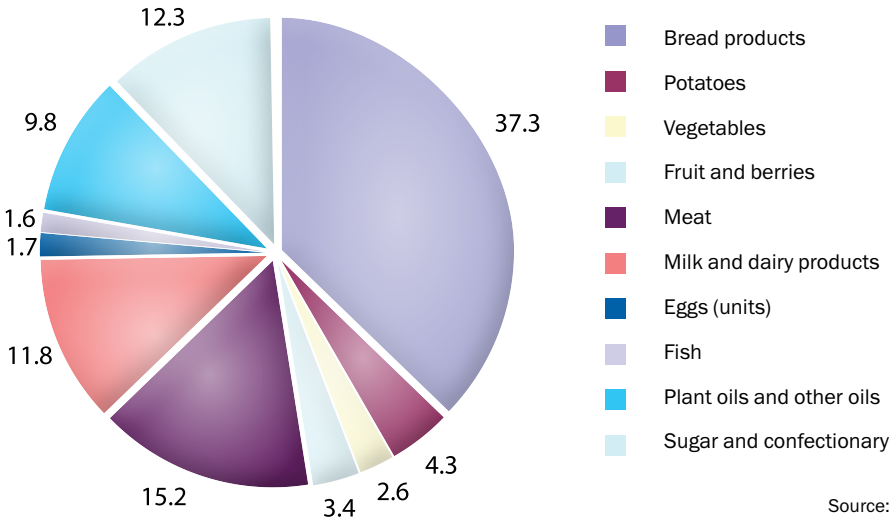


Source: Rosstat, National Survey of Household Welfare

What can be done to promote healthy nutrition and sufficient physical activity and which measures will be most effective?

Unlike the case of alcohol and tobacco, imposition of differentiated indirect taxes on particular 'harmful' foodstuffs could have undesired effect, since the diets of poorer families are dominated by those products, which would become more expensive. Theoretically, the best way forward would seem to be introduction of a non-linear tax scale, so that consumption of excessive food would be taxed at a higher rate, but this would be hard to implement in real life. It is easier to introduce subsidies for production/ sale of healthy foods, including, for example, fruits and berries (as in many Scandinavian countries). Unfortunately, no such steps are even being discussed in Russia. Nor are there any proposals for legislative control to restrict expansion of fast-food and its accessibility (geographical location), or for bans on sale of fast-food, chocolate, fizzy drinks, etc. at schools and other education institutions. Such measures are not expensive for the

Figure 6.9. Energy value structure of daily household food consumption in Russia, %



Source: National Survey of Household Welfare (Rosstat)

state and only require the adoption of relevant laws. At present, Russian state policy in the field of nutrition is limited to control of food quality, which is undoubtedly necessary, but by no means sufficient.

Education (consultations, lectures and classes) is believed by specialists to be the most promising way forward with respect to both healthy nutrition and physical activity. Such education could be various in forms, depending on the target audience and scope (schools, local clubs, etc.) Experience of other countries shows that education is particularly effective for encouraging healthy lifestyles: most people with unhealthy diets, nevertheless believe that their lifestyle is healthy, but more than half of those who receive consultation on healthy nutrition do change their diet. School lessons on nutrition for children aged 7-11 are considered to be most efficient, since they only require relevant training of teachers and they offer a long-term effect. Attempts to provide diet consultation at health centers attached to polyclinics in Russia have again proved the low-efficiency of such an approach as healthcare facilities are normally visited by those who are already sick. Promotion of healthy eating and physical exercise must be targeted at the whole of society including people who are apparently in sound health.

Changes in living conditions and environment require special efforts at the level of city, village or district administrations, which can make a healthy lifestyle achievable and cheaper for their local population. This could include, for example, construction and maintenance of athletics fields and playgrounds, running and cycle tracks, and organization of various sports events. Such efforts could be financed out of local budgets, co-financed as a part of major state programmes and financed by sponsors. Understanding the role of city environment in shaping a healthy lifestyle gave rise to the WHO project 'Healthy Cities' in the late 1980s. Today the movement is supported by 1800 cities, but only 7 Russian participants are licensed by the European WHO Network (Izhevsk, Cheboksary, Novo-Cheboksarsk, Stavropol, Kinel-Cherkassy, Cherepovets and Dimitrovgrad). Their experience offers a good example for other Russian cities, and could be propagated and adapted to various local conditions.

Programmes implemented in the workplace have not proved popular so far. Thus, the above-mentioned survey by the Russian Academy of Public Administration found that organization of sport activities by employers is uncommon (16.6 percent of respondents noted this) as is an organized catering system at places of work (16.3 percent). Incentives by employers to encourage healthier lifestyle among their employees are even more rarely mentioned (2.3 percent of respondents). The employer is willing to fund such efforts if the gain (a healthy workforce) is apparent, but encouragement could also be provided in the form of mandatory social insurance discounts or deduction of the relevant costs from the employer's taxable base.

Social advertising is needed in order to promote a healthier way of life, and TV is the obvious medium for such advertising campaigns. Whereas the objective in the case of tobacco and alcohol is anti-advertising, i.e. creation of a negative image, the objective for nutrition and physical exercise (sport) must be to make good health 'fashionable'.

6.4 Conclusions and recommendations

The financing allocated for measures to encourage healthy lifestyle in Russia today fails to do credit to their role as compared with financing of medicine. This is despite

the fact that contribution of a proper lifestyle to ultimate health indicators is considerably greater than that of medicine and that the measures are relatively cheap and could even bring immediate positive financial effect through growth of tax revenues. Improvement of the health of individuals will give long-run growth of the labour force and economic activities and reduce spending on healthcare. So shaping of a healthy lifestyle culture is the most promising health policy for Russia.

The main target groups for shaping a healthy lifestyle are young people and teenagers because they are at the age when life-long habits are shaped and because they are the employees and parents of the future. People with unhealthy habits should be helped to give them up, not via healthcare (these people are not yet sick), but via other means including local clubs, school classes and associations, groups and clubs at the place of work, training programmes, TV advertising, etc. Young people should be offered leisure opportunities that represent an alternative to drinking and smoking: availability of sports facilities, street playgrounds, running and cycle tracks must be increased.

Successful design and implementation of healthy lifestyle programmes depends on statistical information, which is not now collected on a regular basis. Alcohol and tobacco consumption is estimated using sales data, which are only rough estimations (shadow sales elements are not included and only average consumption per capita can be estimated). Nutrition is shown in statistics only as the aggregate consumption of particular large groups of products. Involvement of individuals in sport activities and forms of physical exercise is estimated by the number of users of sports facilities, while self-training, training in private sports clubs and fitness centres, and sports facilities at higher educational institutions are not taken into consideration. Regular statistical monitoring is needed via sample surveys of sport and exercise, nutrition patterns, and alcohol and tobacco consumption in order to understand what impact healthy lifestyle initiatives are having.

Complexity of the concept of healthy lifestyle requires a comprehensive and independent approach to policy elaboration. It is impossible for one agency to be solely responsible for encouraging healthy lifestyles in Russia. Policy must be implemented as a part of a comprehensive inter-departmental programme involving all parties concerned, with a leading role for civil society institutions.

Box

Russia's demographic development: trends, problems, solutions

The demographic problem is one of the biggest issues facing modern Russia, influencing modernization perspectives, competitiveness of the national economy, social development and geopolitical stability. Continued decline in population caused by a low birth rate and a mortality rate, which is too high for a developed country, as well as ageing of the population and reduction in the share of people of working-age, combined with relatively low internal mobility and still ineffective migration policy, together pose a threat to the country's future.

Reduction of the population represents a threat to national security. And shrinkage of labour resources, increase of the dependency factor, and high mortality in groups of working age (primarily males) place obstacles on the path to economic growth. Ageing of the population will lead to an inevitable crisis of the pension fund and the entire pension system. Reduction of draftable age groups will impede recruitment of military personnel. Rapid shrinkage in the number of school leavers is making it hard for many higher educational establishments, particularly those not supported by the state, to survive.

Demographic development in Russia has much in common with general European trends (low birth rate, changing of the family structure, ageing of the population, etc.). But accumulation of crisis phenomena in the 1990s were determined by specific conditions and difficulties of the so-called transition period (decline of real incomes, increasing poverty, growth of inequality and unemployment, contraction of social guarantees, free medical care and education, etc.).

Demographic data for 2007-2010 show an increasing number of births, reduction of mortality and natural loss of population However, they do not change the overall prognosis: relatively positive trends may last for a few more years, but most recent forecasts by various (Russian and foreign) experts predict that the population loss will then, most probably, gather pace.

At present there is no reason to believe that the crisis can be quickly overcome and that population levels can be stabilized. It is hard to agree with the optimistic official forecast that by 2015 Russia will see a halt to its population decline and that by 2025 its population will increase to 145 million[1].

One reason why this will be difficult to achieve is that the age and gender structure of the population has been severely deformed by impact of social, political and economic factors in the past, which is influencing reproduction patterns now and will continue to do so in the future.

Russia's demographic development now and in the future is determined by the following factors:

Depopulation. For several decades already (since the 1960s) Russia has been among countries with a low birth rate, which is inadequate for replacement of the population. Combined with a mortality rate, which is higher than in other developed countries, the low birth rate has led to steady depopulation, observed since 1992. The scale of that depopulation is determined by fluctuations of death and birth rates as well as by migration, which partially replaces natural loss of population.

Russia's population reached a maximum in early 1993 at 148.562 million people. By the beginning of 2011 its estimated level was 141.9 million (not taking account of results of the 2010 population census) or 142.9 million (taking account of results of the 2010 population census).

The number of deaths has surpassed the number of births since 1992. In 18 years (1992 – 2010) the difference between numbers of births and deaths in Russia was over

[1] The Concept of Russia's Demographic Policy up to 2025; http://www.rost.ru/news/2007/09/101451_10753.shtml

13.1 million. That reduction was more than half compensated by migration. So absolute loss of population in that period was around 6.7 million people (5.6 million based on results of the 2010 census) (see Table 1).

If current reproduction tendencies (low birth rate and high death rate) continue, Russia's population could decline to 130-135 million by 2030 (see Table 2).

If UN forecasts prove to be true, Russia's share in world population will decrease from 2.2 percent in 2005 to 2.0 percent in 2010, to 1.8 percent in 2020 and 1.6 percent in 2030.

In case of an active demographic policy and improvement of the country's social and political status the decline could be lower, depending on the level of substitutive migration.

Deformation of the age and gender structure of the population. The age structure of Russia's population reflects the tragic events of the 20th century (famine and war) as well as social and economic policy decisions, which have had decisive impact (Figure 1).

The main reason why the age structure is so uneven in the lower part of the pyramid is a 'demographic wave', i.e. a wave-like fluctuation in the number of births[2].

Quantitative changes in specific age groups take place relatively quickly and influence trends in numbers of working-age population as well as the dependency ratio. Differences in numbers between generations are very damaging to the economy due to large fluctuations of the number of people joining and leaving the labour force. Such differences influence the number of pensioners, expenditures of pension and social security funds, numbers of pre-school and school children, expenditures for pre-school and school education, the number of students, army conscripts, etc.

Russia has a huge disproportion between numbers of males and females. One

[2] The number of births declined from 2.8 million in 1960 to 1.8 million in 1968, then recovered to 2.5 million in 1986-87, declined again to 1.2 million in 1999 and rose again to 1.8 million in 2010.

Table 1. Components of change in overall population (thousand people)

Years	Population as of January 1st	Annual change			Population as of December 31st	Total increment, percent
		total increment	natural growth	migration growth		
1990	147665.1	608.6	333.6	275.0	148273.7	0.41
1991	148273.7	241.0	104.9	136.1	148514.7	0.16
1992	**148514.7**	**47.0**	**-219.2**	**266.2**	**148561.7**	**0.03**
1993	148561.7	-205.8	-732.1	526.3	148355.9	-0.14
1994	148355.9	104.0	-874.0	978.0	148459.9	0.07
1995	148459.9	-168.3	-822.0	653.7	148291.6	-0.11
1996	148291.6	-263.0	-776.5	513.5	148028.6	-0.18
1997	148028.6	-226.5	-740.6	514.1	147802.1	-0.15
1998	147802.1	-262.7	-691.5	428.8	147539.4	-0.18
1999	147539.4	-649.3	-918.8	269.5	146890.1	-0.44
2000	146890.1	-586.5	-949.1	362.6	146303.6	-0.40
2001	146303.6	-654.3	-932.8	278.5	145649.3	-0.45
2002	145649.3	-685.7	-916.5	230.8	144963.6	-0.47
2003	144963.6	-795.4	-888.5	93.1	144168.2	-0.55
2004	144168.2	-694.0	-792.9	98.9	143474.2	-0.48
2005	143474.2	-720.7	-846.6	125.9	142753.5	-0.50
2006	142753.5	-532.5	-687.0	154.5	142221.0	-0.37
2007	142221.0	-212.2	-470.4	258.2	142008.8	-0.15
2008	142008.8	-104.8	-362.0	257.2	141904.0	-0.07
2009	141904.0	10.5	-248.9	259.4	141914.5	0.01
2010	141914.5	-81.5	-239.6	158.1	141833.0	-0.06
Total, 1992-2010.		**-6681.7**	**-13109.0**	**6427.3**		

Note: not taking results of the 2010 population census into account

Sources: Annual Demographic Report, 2010, M, 2010, p.206; Natural flow of Russia's population in 2010; Rosstat data for 2010; http://www.gks.ru/bgd/free/b11_00/IssWWW.exe/Stg/dk01/7-0.htm

Table 2. Russian population forecasts (thousand people)

Author and time of the forecast	Probability/ Forecast versions	Years			
		2010	2020	2030	2050
UN, 2010 [a]	High	142 958	144 334	143 742	145 257
	Medium	142 958	141 022	136 429	126 188
	Low	142 958	137 710	129 126	108 941
	With constant birth rate	142 958	139 279	132 314	114 125
UN 2008 [b]	High	140 367	138 447	135 368	133 535
	Medium	140 367	135 406	128 864	116 097
	Low	140 367	132 263	122 109	100 477
	With constant birth rate	140 367	133 780	125 088	105 205
PRB, USA, 2010 [c]		141900	2025 . – 140 800		127 600
PRB, USA, 2009 [d]		141900	2025 . – 133 300		116 900
PRB, USA, 2008 [e]		141900	2025 . – 129 300		110 100
Rosstat, 2010 Forecast up to 2030 [f]	High	142121.5	145307.1	147589.9	
	Medium	141996.1	141908.0	139371.8	
	Low	141760.0	137015.1	127910.1	
Rosstat, 2009 Forecast up to 2030 [g]	High	141876.2	143670.4	146515.2	
	Medium	141820.5	141525.4	139366.4	
	Low	141655.9	137387.5	128511.9	
Rosstat, 2008 Forecast up to 2025 [h]	High	141807.2	143848.2	145119.0 – 2026 .	
	Medium	141539.8	139227.0	137047.9 – 2026 .	
	Low	140871.3	134622.5	129366.6 – 2026 .	
Russia's Demographic Development 2009 [i]	Option 1	141666.9	138107.1	132017.8	114060.7
	Option 2	141674.2	141362.2	141362.2	141794.9

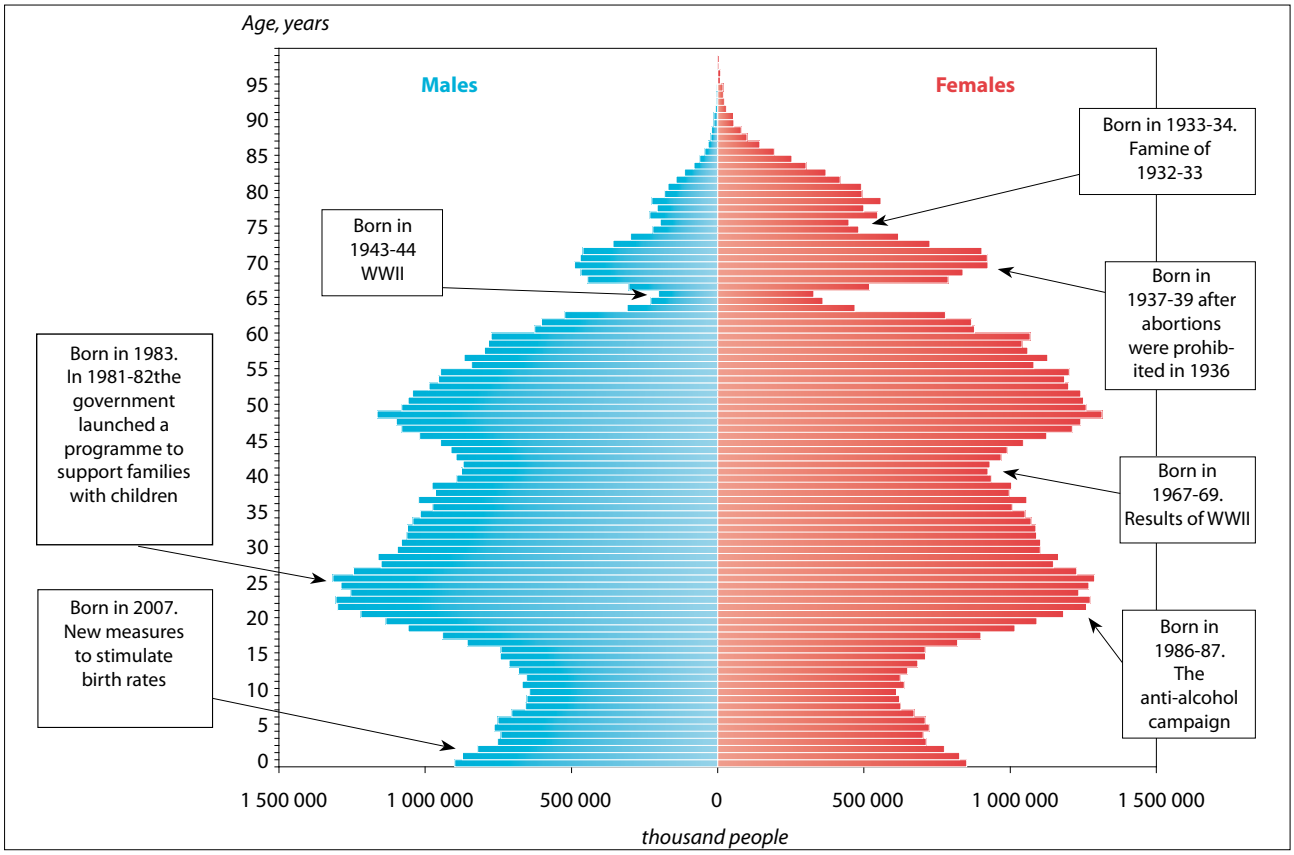
a) World Population Prospects: The 2010 Revision.- Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. -http://esa.un.org/unpd/wpp/index.htm
b) World Population Prospects: The 2008 Revision. Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat - http://esa.un.org/unpp/
c) Population Reference Bureau. 2010 World Population Data Sheet. - http://www.prb.org/pdf10/10WPDS_Eng.pdf
d) Population Reference Bureau. 2009 World Population Data Sheet. - http://www.prb.org/pdf09/09WPDS_Eng.pdf
e) Population Reference Bureau. 2008 World Population Data Sheet. - http://www.prb.org/pdf08/08WPDS_Eng.pdf
f) Demographic forecast up to 2030. Population changes in accordance with forecast scenarios. http://www.gks.ru/free_doc/new_site/population/demo/progn1.htm
g) Estimated population of the Russian Federation up to 2030. http://www.gks.ru/bgd/regl/b09_105/Main.htm
h) Russia Demographic Yearbook. 2008. M., 2008, pp. 532-533.
i) Russia's Demographic Development in the 21st century. M., 2009, pp.244-245. Calculations by V.N. Archangel'skiy (The Center for Population Studies of Moscow State University).

Table 3. Age structure of the population and the dependency ratio

Age groups of the population	2002 census	2007 (January 1st)	2010 (January 1st)	2020***	2030***
Below working age	26327	22718	22854	25935.1	22845.4
Working age*	88942	90152	88360	79033.2	76770.5
Older than working age	29778	29351	30700	36939.7	39755.9
	145167	142221	141914	141908.0	139371.8
Dependency**	631	578	606	796	815
Below working age	18.2%	16.0%	16.1%	18.3%	16.4%
Working age	61.3%	63.4%	62.3%	55.7%	55.1%
Older than working age	20.5%	20.6%	21.6%	26.0%	28.5%
Total population	100	100	100	100	100

* Males aged 16-59 + females aged 16-54
** Number of people of non-working age (children + pensioners) per 1000 people of working age
*** 2020 and 2030 – Rosstat forecasts (2010, median scenario)
Source: Demographic year book 2010, M, 2010, p.41
Rosstat forecast: http://www.gks.ru/free_doc/new_site/population/demo/progn3.htm

Figure 1. Age and gender structure of the Russian population as of early 2010



reason for this is super mortality rates among males, even though the number of newborn boys is consistently higher than the number of newborn girls (105-106 boys per 100 girls on average). Males and females with the same year of birth become equal in number at about 30 years of age (depending on the changing mortality levels per age group), so there is no deficit of males at the age of family-making, but the preponderance of females increases steadily in older and senior age-groups. Among groups older than working age there are 260 females per 100 males, and the proportion in the age group above 80 years of age is 380 females per 100 males.

Ageing of the population. The main reason for ageing of the population is the long-term decrease in the birth rate, which is steadily reducing the numbers and share of children in the overall population. The share of senior and old people continues to grow, although more slowly than in the 1960s. Population censuses show the following share of people older than working age: in 1989 – 18.5 percent; in 2002 – 20.5 percent; in early 2010 – 21.6 percent (see Table 3).

The Russian population will continue to age in coming years. By 2020 the share of people of pension-age will reach 26 percent and by 2030 it will exceed 28 percent. The necessary response to this is either to raise the retirement age or to increase revenues of pension funds. Continued employment of people above retirement age requires special consideration, although the available reserves are not large in any case, due to weak health among senior citizens. The impact of ageing of the population on market trends and on the amounts of financing required for social programmes has yet to be measured.

Reduction of labour resources. Demographic trends in the past (low birth rates) will inevitably lead to a significant reduction of the number of people of working age, by up to 1

million per year. According to the average forecast by Rosstat, their number will decrease by 8.5 million people between 2011 and 2020[3]. This could become a serious stumbling block for economic growth, unless adequate growth of productivity is ensured. Demographic limitations are becoming an important factor for medium- and long-term development of the Russian labour market. **Russia will face a labour deficit as early as 2012–2014 and that deficit will grow thereafter.** Depending on the development scenario this deficit could be as high as 20 percent of forecast labour requirements. The national economy already suffers from a lack of skilled labour. Lowering the average age of specialists in high-tech industries, including defence, will therefore be very problematic.

Growth of the dependency ratio. The number and share of people of working age reached a maximum and the dependency load (the ratio of children and pensioners to people of working age) reached a minimum level in 2006-2007. The dependency ratio of senior citizens (calculated based on the existing retirement age) will grow quickly in coming years (see Table 3.), causing growth of the overall dependency ratio from 606 dependents per 1000 people of working age in 2010 to 700 by 2015 and to 800-820 and above by the period from 2020 to 2025, which will have negative impact on the labour market and growth of the national economy.

An increase of the dependency ratio caused by growing numbers of senior citizens is usually preceded by a period when the ratio is, on the contrary, reduced due to decline of the birth rate. This phenomenon, called the 'demographic window'[4], usually lasts for 10-20 years and gives a certain 'demographic bonus' to countries that are affected, offering an opportunity to increase economic growth thanks to reduction of the demographic burden. Russia's demographic window has already been open for a long time. Russia will still enjoy a relatively low dependency ratio in 2011-2015, which could be a factor of economic growth and higher competitiveness. Parameters of the dependency ratio and time limits of the 'window' could vary if working age is not defined as in UN reports (15-65 years), but as in Russian demographic statistics (16-60 years for males and 16-55 years for females). Increasing the upper limit for working age automatically reduces the dependency ratio and optimizes incomes and expenditures of the pension fund, and could become a factor of economic growth and increased competitiveness of Russia's economy.

The demographic window is followed by a stage when the population starts to get older quicker and the dependency ratio, pension expenditures and the cost of maintaining senior citizens and people incapable of working grow correspondingly. So every country should use the demographic window as effectively as possible. Lost opportunities will result in reduction of economic growth, quality of life and life expectancy.

Low birth rate. For 45 years (since the mid-1960s) the birth rate in Russia has not been sufficient for replacement of the population. The net replacement factor only attained a level of 1[5] in 1986-1988. After reaching its minimum (1.157) in 1999 the cumulative birth rate grew steadily for the next 10 years, reaching a value of 1.537 in 2009. This is lower than in Northern and Western Europe and 1.4 times lower than in the US. The largest increment of the birth rate was in 2007-2008 and was definitely connected with the launch in 2007 of a new state programme for supporting families with children.

According to the 2002 census, 65.1 percent of all families in Russia with children aged under 18 had only child, while the average number of children was 1.44. That com-

[3] http://www.gks.ru/free_doc/new_site/population/demo/progn3.htm

[4] See: World Population in 2002, UNFPA Annual Report, pp.23-25

[5] Net factor of 1 means that the generation of women can be fully replaced by their daughters if the level of births and mortality remains the same for a long period. When the factor is lower than 1 replacement is narrowed.

pares with the 1989 census, which found that less than half (50.8 percent) of families had only one child, while the average number of children was 1.63.

The factors, which caused growth of the birth rate growth in 2006-2010[6], are nearing exhaustion[7] and we will inevitably face another stage of falling birth rates (number of births) after 2011-2012 caused primarily by declining number of young females of the most active reproductive age (20-34 years): their numbers will decline by over 6 million in the next 15 years. It is highly important to use the next three to four years for preparation of qualitative improvements to demographic policy beyond 2014-2015 through development and upgrading of federal and regional demographic policies. If this is not done, Russia will face another decline of birth rates, which will be much more severe than that of the late 1990s. The number of births could go down from 1.8 million in 2009-2010 to 1 million or less by 2025. Even the mass trend towards two-child families will not be enough to stop the decline in births. The solution is to gradually reshape public opinion and persuade young families to have not only two, but three children.

High mortality and low life expectancy. Russian life expectancy at birth (about 69 years in 2010) is 8-9 years less than in developed countries. Mortality of males in groups of working age is extremely high, exceeding that observed in developed countries by 2, 3 or 4 times. The greatest mortality impact is from cardiovascular diseases and external causes. Mortality has declined in recent years, but this trend is very unstable and uneven. Russia's Demographic Policy Concept sets a life expectancy target of 70 years by 2015, while two dozen developed countries have either passed the 80-year barrier (Japan, Iceland, Sweden, Spain, France, Italy etc.) or are about to reach and surpass this very prestigious threshold. Russia has the worst life expectancy of all countries with comparable per capita GDP values.

Russia is characterized by a huge difference between the life span of males and females, as well as super mortality of males in working-age groups. Life expectancy of females is 12 years higher than that of males. Age mortality coefficients for males in working-age groups are 3-3.5 times higher than for females. In 2009 as much as 28.2 percent of all mortality was in working-age groups, and 43 percent of male mortality was in those age groups compared with only 12.1 percent of female mortality. Most deaths among people of working age are due to cardiovascular diseases and external causes (alcohol poisoning, murder, suicides and road accidents). Of all males who died when of working age, 32 percent died from cardiovascular diseases and 31 percent from external causes. Out of all females who died when of working age, 25.7 percent died of cardiovascular diseases, 23.5 percent from external causes and 21.7 percent from tumors[8].

The principle cause of loss of life expectancy (and, therefore, economic losses) is found to be death from external causes. The explanation for this is simple: external causes claim the lives of young and middle–aged people, while cardiovascular disease is more prevalent in senior age groups. Thus, in 2009 the average age of those who died from external causes was 44.9 years for males and 51.6 years for females, while the average age of those who died of cardiovascular disease was 69.4 years for males and 79.0 years for females[9].

The influence of migration and migration policy on demographic and economic development. Migration is one of the most important factors determining economic and social development in modern Russia.

[6] The summary birth rate factor (number of children per 1 female) was below 1.3 in 2005-2006, but rose to nearly 1.6 in 2010.

[7] In January-July 2011 the number of births decreased by 8,700 compared with the same period of 2010.

[8] Демографический ежегодник. 2010. М.,2010. С.101, 180, 184, 332, 333.

[9] Демографический ежегодник. 2010. М., 2010. С.358, 359, 365.

International migration slows down the decline in population and labour resources. In the period of globalization migrants are an invaluable resource, and Russia will have to complete for them not only with the EU, but also with Ukraine and Kazakhstan. Russia today has an objective interest in attracting various groups of migrants: those who want to obtain permanent residence and Russian citizenship; temporary workers who stay in the country for both seasonal and more prolonged periods of labour; students; and visitors who come to see their relatives or as part of family reunification programmes. Strong levels of migration to Russia for permanent residence in recent years (over 200,000 per year in 2008-2009 and about 160,000 in 2010) have compensated over a half of natural population loss. But huge numbers of temporary labour migrants (including unregistered migrants, those violating immigration laws, or those in the country illegally) and related problems (low-cost unskilled labour, social vulnerability of migrants, ethnic conflicts, criminal issues, etc.) result in negative public attitudes towards all migrants. Migrants are mostly concentrated in lower segments of the labour market, taking onerous and non-prestigious jobs, which Russians themselves are not willing to do, in the construction, transport, agriculture and service segments.

Trends in **internal migration** are contradictory and have tended to worsen Russia's demographic problems. When the economy is on the rise internal migration activity should also rise, spurred by labour market deficits, particularly in rapidly developing regions. But internal migration in Russia is hampered by unavailability of housing in large cities, rapid growth of sale prices and level of rents for apartments, underdeveloped housing loan mechanisms and their unavailability to many groups of the general public. Investments should be redirected to creating jobs in regions and towns, which today supply migrants to Russia's largest cities.

Russian demographic policy. The first stage of Russia's Demographic Policy Concept up to 2025 (approved by Presidential Decree № 1351, dated October 9th, 2007) was completed in 2010. The Concept is to be implemented in three stages (2007-2010; 2011-2015 and 2016-2025) with specific targets and results expected from each of the three stages.

The first stage included measures for reducing mortality due to road accidents and cardiovascular disease; improving the quality of medical care for pregnant women; development of perinatal technologies to reduce probability of unsuccessful pregnancies and deliveries; inflation-indexed benefits to families with children; psychological, pedagogical, medical, social and financial support to foster families, etc.

In 2008-2010 administrative regions of the Russian Federation developed their own demographic programmes to improve the demographic situation taking account of regional specifics. These programmes and provision to them of financial, methodological and informational support are being constantly monitored.

The first stage of the Concept was aimed at reducing the rate of natural loss of population and achieving increase of the population through migration. These tasks were accomplished.

The second stage of the Concept in 2011-2015 consists of further actions to stabilize the demographic situation in Russia.

Despite the apparently large scale of actions taken in 2007-2010, we think that they were clearly inadequate to make young families take independent and responsible decisions on whether or not to have children. Analysis shows that even doubling of expenditures to support families in 2007 (as compared with 2006) and indexation of that support in 2008-2010 still left those expenditures 1.5-2.0 times lower as a percentage of GDP than in 1995 and 4-5 times lower than in

1990-1991. The share of state support in the income of families remains insignificant.

The assistance provided to families with children today and the amounts, which are scheduled to be spent in 2012-2015, are **clearly insufficient for encouraging families to have second and third children and for stimulating birth rates, and also for changing the value system and raising the prestige of families with several children.**

Families with children are more at risk of poverty due to low salaries and small mother and child bonuses. For many young families having a child entails a dramatic fall of living standards. The number of children in a family has become a determining factor of poverty.

The more children a family has, the lower its per capita incomes, and the higher the share of poor households with incomes below the subsistence level. Families where the mother receives the state bonus for having a child under 1.5 years old and families with pre-school children and only one wage-earner are the hardest hit. Severe shortage of places at pre-school educational establishments and inability to arrange high-quality, low-cost care for their children mean that mothers cannot go to work after their maternity leave ends (when their child is 1.5 years of age). The existing deficit of pre-school places (about 1.8 million) is too great to be overcome in the next few years.

Creation of an environment where decisions on having a second, third, etc. child can be taken by families freely and conscientiously depends on further provision of state-backed financial support to families with children, together with public advertising campaigns to strengthen family values.

Russia needs a law on state guarantees of support to families with children, which would establish a comprehensive, accessible and properly financed system guaranteeing state support for the process of giving birth to and raising a child. Such a law should include: a commitment to gradual increase of expenditures for supporting families with children (to 1 percent of GDP by 2012, then 1.5 percent of GDP by 2015, followed by 2 percent by 2020 and 2.5 percent by 2025); additional ways of using the recently introduced maternal capital (one-off payments to families for birth of a child); bringing of plans to increase the minimum wage into accordance with Article 2 of the Labour Code, which states that wages should provide an adequate standard of living **for the wage-earner and for his/her family;** and increase of tax bonuses to families with children. Successfully combating mortality depends on further development of high-tech medical assistance, increasing the role of preventive medicine and regular health examinations, and developing healthy lifestyle consciousness among children and young people.

Scientific support for development of new demographic and family policies requires reinstitution of the volume of demographic statistics that was available up to 1998 (this could be done by relevant changes to the Law on Acts of Civil Status), more scientific research into social and demographic issues, and monitoring of the results of demographic measures that are implemented.

Finally, the country requires greater awareness of demographic issues at all levels of management, and it requires skilled social and demographic assessment of draft projects, strategies and budgets, i.e. of all issues that have direct or indirect impact on population replacement (birth rate, creation of families, health, mortality, migration) and on the status of families with children.

Chapter 7
Economic Modernization and Sustainable Development

7.1 Modernization and ecologization of the economy

While technological progress, competitiveness and achievement of economic growth clearly have much value in their own rights, the nature and progress of modernization are defined by its ultimate objective, which is to improve living standards today and ensure favorable living conditions for future generations. This task is typically defined as that of attaining sustainable development. The transition to sustainable development is closely tied to the processes of economic modernization and ecologization. The UN has stated that growth of public wealth is closely tied to achieving Millennium Development Goal 7: 'Ensure Environmental Sustainability'[1].

Increasingly pronounced natural and social anomalies are the result of mistakes in the past. In particular, they are the inevitable outcome of underestimating environmental priorities. The financial and economic crisis together with aggravation of environmental issues has underlined the need for a new style of economy, and the international community is actively discussing the need for a 'green' course in the world economy. In post-industrial countries the green economy has been transformed from a desirable but secondary effect into a key priority. Globally, the terms 'green economy' and 'green growth' are ever more frequently used to describe the process of ecologization. Since 2009 these terms have featured increasingly in the principle documents of international organizations. 'Green ideology' is defined as a driving principle for global development in documents issued by the United Nations[2] and the Organization for Economic Cooperation[3].

The green economy is an economy that enhances human wealth and delivers social justice at the same time as substantially reducing environmental risk and degradation[4]. The essential characteristics of such an economy include:

- Low carbon emissions;
- Efficient use of natural resources;
- Preservation, increase and restoration of natural capital;
- Preventing loss of biodiversity and ecosystem services;
- Growth of incomes and employment.

The green economy is often considered in the context of global climate change (Figure 7.1) and as a promising tool for overcoming the global economic crisis. A priority of the green agenda is radical improvement of energy efficiency and this is to be followed by mobilization and re-building of the global economy by increasing investment in clean technology and 'natural' infrastructure, stimulating ecologization of the economy, returning markets to normal functioning and averting any catastrophic consequences of climate change. Implementation of the new green agenda involves minimizing use of non-renewable resources for electricity generation by investing in renewable power sources and by compulsory energy saving. Together these activities will reduce energy demand and associated costs. According to UNEP estimates, investing 2 percent of global GDP to make 10 sectors 'green' would be enough to change the global development pattern, reduce greenhouse gas emissions and achieve resource efficiency.

One can argue endlessly about whether or not climate change is really occurring,

[1] National Human Development Report in the Russian Federation, 2010/ edited by S.N.Bobylev, M: UNDP, 2010.

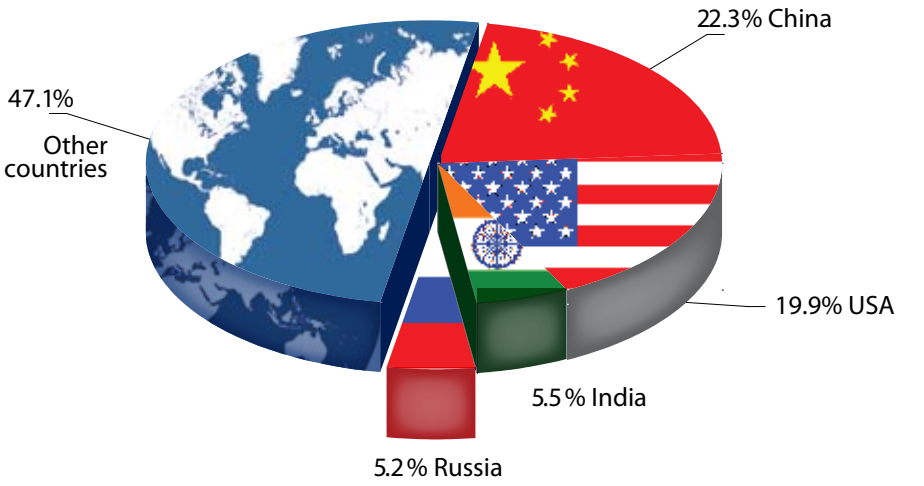
[2] See, for example, Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication. UNEP, 2011

[3] See, for example, Declaration on Green Growth. OECD, 25 June 2009. Green Growth: Overcoming the Crisis and Beyond. OECD, 2009. Sustainable Development and Eco-innovation: Towards a Green Economy OECD Policy Brief, June 2009.

[4] Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication. UNEP, 2011

but in coming decades developed countries will achieve economies based on technologies that minimize environment impact. Many countries have been investing billions of dollars in the 'green' transition (the USA, Germany, Japan, South Korea, China etc. to name but some) and have been using anti-crisis programmes for this purpose as well. The key objective for the world's leading economies is the creation of a 'low-carbon economy', characterized by energy efficiency and minimal impact on the climate. Realization of global energy and climate priorities will automatically entail a major reduction of ecological damage thanks to close correlation between energy consumption, resource use, greenhouse gas emissions and amounts of pollution. Will developed countries still need large volumes of oil &gas in two or three decades from now? The answer is crucially important for Russia, in view of the huge investments required to develop complex and remote new oil & gas fields on its territory.

Figure 7.1. Shares of countries in global greenhouse gas emissions, percent



Source: UN Statistics Division, MDG indicators, 2010

One important result of modernization and, at the same time, a criterion of transition to sustainable development is achievement of the effect called 'decoupling' – the disassociation of economic growth from natural resource consumption and environment pollution, which enables economic growth to outrun consumption of natural resources and environmental impact. 'Decoupling' has recently become an important concept for both scientists and politicians. The decoupling effect is especially desirable with respect to energy consumption and macroeconomic trends, since it reflects a situation where GDP growth rates overtake rates of energy consumption. This important objective has been achieved by nearly all developed countries. For example, over the three last decades Denmark has managed to double its GDP without increasing its energy consumption.

Implementation of sustainable development depends on a transition from humanitarian appeals to economic interest and on support for eco-based modernization. This shift must become part of the 'rules of the game' for business to ensure that economic development moves in the right direction. While giving priority to the needs of the natural environment, the approach has to be capable of generating profits (through economic instruments) and prestige (defined at the level of culture).

The goal of reducing natural resource exploitation by improving energy efficiency is in itself an acknowledgement of the ultimate value of the natural environment. Environmental and economic interests are united for the purposes of achieving this goal. Motivations may differ, but the principle objective is clear: to enhance the value of nature as a prerequisite for sustainable development.

There is a clear trend towards high valuation of the natural environment as such,

regardless of short-term fluctuations in prices for specific natural resources. It is increasingly evident that such valuation is the key priority for the global economy, and humanity has been focused on this objective for the last two decades, particularly in developed countries. The chain, which humanity has forged for the purpose of hauling society and the economy into a new type of development, is made of many links: global technology modernization to reduce traditional natural resource use and pollution, drastic increase in output of goods and services per unit of raw material, green growth and ecologization of the economy, focus on climate system value, energy efficiency and renewable energy sources, a broader range of economic and legal tools for transition to ecologically sustainable development, and much else besides.

As a country that seeks membership of the OECD and active participation in the activities of the UN (including the Rio+20 UN Conference), Russia will have to use the conceptual apparatus of leading international organizations and developed countries. Awareness of environmental issues in Russia has grown in the last two years. Speeches by the Russian President and Prime Minister have deplored 'neglect' of these problems and emphasized the need for ecologization of the economy and achievement of green growth.

The Rio+20 process, which has been launched worldwide 20 years after the Rio de Janeiro Conference and in preparation for the UN World Conference on Sustainable Development in 2012, has special relevance for Russia and offers new opportunities for the country with respect to economic growth, natural resource endowment, and choice of an optimal development path. Russia's priorities for innovation policy, energy efficiency and modernization of the economy for today's needs entail an orientation to sustainable development. Russia and the other BRIC countries (Brazil, India and China) could be leaders in the transition to sustainable development.

Changeover to sustainable development is bound to be led by countries, for which the changeover has most relevance, based on recognition of that relevance and a specific economic aptitude for making the changeover. A number of developed countries have become actively involved in the process since the UN Conference in Rio de Janeiro in 1992. New national development strategies have emerged ('Sustainable America', 'Sustainable Netherlands', etc.) and these countries are now setting more specific tasks related to green growth and prevention of climate change. However, many other countries, which are focused on securing economic growth to resolve severe social problems, have not been able to meet this global challenge to the fullest extent. While sustainable development is highly relevant for any country and depends on the joint efforts of the world community, real advances can only be ensured by countries with sufficiently developed economies. Involvement of other countries becomes possible as a function of their economic growth rates and to the extent that developed nations provide assistance.

Success in propagating the ideas of sustainable development and ensuring participation by countries depends on adapting the relevant ideas to take account of specific features of each country. Different countries have different concepts of sustainable development and how to achieve it and unanimity is unlikely to appear in the future. At the international level this means that unofficial partnerships between the representatives of different nations will be needed in addition to official cooperation by the global community through the United Nations.

Russia needs to estimate the benefits and problems in establishment of a sustainable development path and to develop and adopt a national strategy for sustainable development. It will be important to draw on rich regional experience in carrying out these tasks.

7.2
A 'win-win' policy: the economy and the environment

In contrast with established trends in the global economy, Russia in the post-crisis period has preserved and consolidated anti-sustainable tendencies. The country has fallen into a raw materials trap – creation of an economic model based on the export of commodities. At present more than a half of the economy consists of sectors with huge impact on the environment – the energy and metallurgy industries. Unfortunately, in the crisis period the Russian government had to save the country's main 'export' players, which had borrowed heavily abroad, in contrast with many other governments worldwide that used the crisis to modernize and ecologize their economies. Russia in moving to increase hydrocarbon exports via a number of mammoth projects: creation of international gas pipelines (North and South Stream), development of offshore shelf reserves, and of fields in the Yamal Peninsula. These projects threaten to make the Russian economy higher-carbon and less sustainable.

At present, Russian economic growth is coupled to increased environmental pollution and degradation, natural resource depletion, biosphere imbalance and climate change, which tend to worsen human health and limit the opportunities for future development. The country may become more prosperous, but this will not entail improvements in the quality of life of its people.

This emphasizes the most important feature of modernization, which is to ensure that technological progress serves the objectives of sustainable economic development, preserving the natural environment in order to develop human potential. Responsible management of the environment becomes definitive for economic growth and for human existence.

The global financial crisis has highlighted a number of serious risks to future sustainability, economic growth and social development. In Russia, the prevailing attitude is still one of rent-oriented behavior and expectations of a post-crisis status quo, based on restoration of export prices for energy and metals resources, giving a return to the financial flows of the last decade. This will mean a return to the pre-crisis model based on export of raw materials. The political risks of the current resource dependence are very high because it tends to degrade key social institutions. This is a principally new phenomenon in Russia

Economic modernization needs to be linked to a 'win-win' policy, which unites economic efficiency with sustainable use of natural resources and reduction of harmful emissions, coupling environmental priorities with objectives for the national economy, so that policy measures give both economic and environmental benefits. Russia has huge capacity for positive environmental effects ('environmental cream skimming') in the form of natural resource savings and reduction of pollution through relatively cheap interventions in the economy – most obviously by implementation of various efficient and environmentally friendly technologies. In this respect Russia is much better placed than developed countries, which have already used up such capacities for environmental efficiency, and for which achievement of further environmental effects is very expensive (particularly

as regards mitigation of climate change and implementation of the Kyoto Protocol).

Transition in coming years to an innovative, socially responsible economy and to environmentally sustainable development are essentially one and the same task for Russia. The goal of drastic increase in energy efficiency (by 40 percent by 2020) is the obvious example of this, and its achievement will bring huge environmental benefit. The close relationship between energy efficiency and environmental efficiency was highlighted in a decree of the President of the Russian Federation in 2008. This 'win-win' policy must become an important social and economic principle for Russia in the next 10-20 years.

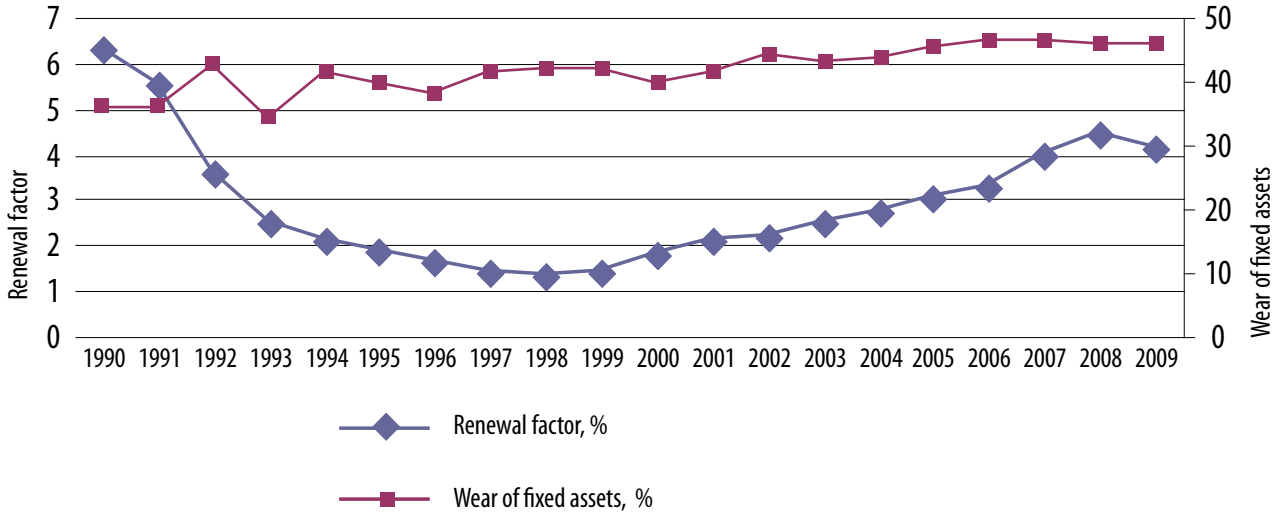
This will depend on encouraging the creation, propagation and application of innovations that offer improvements in the environment-to-product chains linking primary raw materials with finished products and services, and on 'suppressing' economic activities that deplete natural capital and pollute the environment. The world has already assembled a comprehensive set of economic tools for implementing such innovations and reducing pressure on the environment while achieving growth of final results, i.e. a set of tools for 'decoupling'. Many of them have already shown their environmental and economic efficiency in developed countries. The role of taxation deserves special mention: the tax system can be used to limit development of industries, which exploit and pollute the natural environment, while stimulating growth of processing industries and creation of infrastructure that enables efficient use of raw materials and production of high value-added goods and services on the basis of those raw materials.

The experience of Russia and other countries in modernization of the economy via a 'win-win' policy is one of improving economic indices and living standards. In Russia the use of associated gas to produce oil, gas and coke in Tomsk and Kemerovo regions offers a good example of what can be achieved. Strict environmental standards need to be combined with economic incentives using all available mechanisms, so that people are made aware both of the importance of the task and of the economic gains that can be obtained from its achievement. The government can provide assistance through adjustment of the tax system, lending, exemptions, subsidies, tariff rates, duties, insurance, and the investment climate.

The future should see changeover to the best available resource-saving technologies, while laws on payments and fines for environmental pollution, a system of monitoring, ending of the system of temporary emission permits, repair of previous damage to the environment, and a law concerning zones with severe environmental problems all need to be put in place today. A relatively simple, low-cost measure for addressing the problem of waste creation and encouraging development of appropriate production would be the passing of a container deposit law, efficiency of which has been proven worldwide.

Modernization is a particularly urgent priority in view of the anti-sustainability trends, which emerged as a result of the turn by the Russian economy in the 1990s towards raw-material and environment-polluting sectors, which was accompanied by degradation of resource-efficient and high-tech industries. The increasingly 'heavyweight' nature of the economy was also a result of high energy prices (particularly the galloping increases in prices for oil since 2000). The importance in the Russian economy of energy and metallurgy – the industrial sectors with greatest environmental impact – has greatly increased since 1990, while the

Figure 7.2. Wear and renewal of fixed assets



share of industries with minor impact of the environment (particularly machine-building) has seen a major decline. Overall, there has been a large shift towards nature-intensive industries. Russia's economy is increasingly reliant on the sale of raw materials. According to the Ministry of Economic Development, the Russian economy has become increasingly vulnerable to global energy and raw material prices in the period since 1998[5].

The biggest environmental hazard of the post-crisis period, therefore, is further consolidation of the established development model based on raw material exports – a model which is not longer viable. Russia could see further decline of its high-tech industries (machine-building, various processing industries, etc.), and further growth of pollution and environmental abuse. Under such economic conditions, any environment policy will have limited effect and will only be capable of mitigating the effects of an anti-sustainable development path with high impact on the environment.

The need for dramatic upgrading of Russia's national technology base represents a key argument for modernization. Old equipment cannot provide effective use of natural resources and leads to increased environmental pollution. The urgency of modernization is apparent from the highly depreciated and outdated state of fixed assets (machines, equipment, buildings, and infrastructure (Figure 7.2). Half of fixed assets in Russia are in need of replacement. Massive aging of production assets adversely affects management of natural resources, increases pollution and results in more environmental events and disasters. Replacement of old equipment is not happening fast enough due to lack of investment: at the current replacement rate of about 4 percent full renewal of fixed assets will require several decades (Figure 7.2). The issue is not merely routine replacement of assets (inevitable due to physical wear), but ensuring that technological quality of the replacements matches new standards. Achievement of a breakthrough depends on substantial investments and rapid propagation of progressive, resource-efficient technologies.

[5] From a speech by A. Klepach, Deputy Minister of Economic Development (Izvestiya, October 7, 2010)

Structural and technological re-building of the economy to enable efficient resource saving and reduced environmental pollution offers huge potential for modernization through changeover to ecological and economic sustainability. Modernization plays a special role in this process. Implementation of innovations, development of science and technology, IT, new materials, products and technologies can reduce consumption of natural resources and amounts of pollution per unit of produced goods and services by several times. Technological rationalization of the economy and its structure could reduce natural resource use by 30-50 percent, augmenting output of finished products and services while substantially reducing impact on the environment. Russia could stabilize levels of output and amounts of territory used to produce energy, mineral resources, timber and agricultural produce, creating a more efficient and sustainable model, which will greatly improve people's welfare. According to the Russian Federation Energy Strategy up to 2030, implementation of relatively simple energy-saving technologies can reduce current Russian energy consumption by about half. So a GDP increase by two or three times, considerable improvement of welfare, and raising of the social and environmental quality of life could be achieved at current levels of production and use of natural resources by means of modernizing shifts in economic structure and technology, which would save enormous quantities of raw materials for useful deployment in the national economy or for export.

In the context of modernization and the theory of technological models defined by Sergey Glazyev (See the Introduction to the present Report), it is worth noting that when replacing old systems, underdeveloped countries enjoy a certain advantage because they are not burdened by over-accumulation of capital in obsolete technology structures[6]. In the period when they are forming new models, such countries can orient themselves to the investment and technology experience that has already been accumulated by developed countries.

Investment in resource-efficient restructuring of the economy, drastic change of its technology base, ecologization, sustainability and construction of a less nature-intensive economy minimize the costs required to eliminate negative environmental impacts of technology-driven economic development in the future.

The opportunity for making huge resource savings make it essential to design and implement efficient modernization practices and innovation policy that lead to scientific and technical achievements in the spheres of technology, product development and the service industry. All of the new technologies which are implemented and propagated in the economy have to meet required economic standards and regulations in order to be commercially viable. The government has to stimulate technological modernization and provide financial support using the entire range of economic and legal tools that are available at national and international levels.

Widespread use of resource-efficient and environmentally clean technologies and relevant eco-friendly shifts in the economy are closely correlated with large reduction of natural resource consumption and pollution per unit of final products (per unit of GDP on the macro level). expressed in the lowering of nature-intensity indices (in particular, energy intensity and pollution intensity). At present, Russian natural resource consumption and pollution per unit of GDP exceed those of developed countries.

[6] См. Глазьев С. Ю. Мировой экономический кризис как процесс смены технологических укладов // Вопросы экономики, №3, 2009.

At the same time, it would be mistaken to idealize new technologies. They are capable of increasing as well as lessening environmental impact and degradation of the environment. The potential hazards of applying science and technology have been demonstrated by the disasters at Chernobyl (1986), Fukushima (2010) and in the Gulf of Mexico (2010). Scientific and technological advances and human innovative activities can lead to irreversible consequences in the form of economic impact on the environment.

A promising approach to technological modernization for Russia is via the concept of 'best available technologies', which sets high scientific and technological standards for equipment used, including limitation of natural resource consumption and creation of pollution. In Russia, the concept was brought into law by Federal Law №7, 'On Environment Protection' (passed on January 10, 2002). The Law calls for provision of a favorable tax regime and other privileges to facilitate implementation of best-available technologies and renewable (non-traditional) energy, recycling and waste processing, etc. (Article 14). Unfortunately, this constructive provision still remains declarative, since incentives and privileges for implementation of eco-friendly technologies are in fact unavailable.

7.3 Energy and sustainable development

Energy is the hub sector of the Russian economy. It is the leading contributor to GDP, taxes, budget income, employment, and export revenues. In the long term, the energy sector will retain its role in the economy, and increased output of energy resources is planned. Meanwhile, the sector is the main contributor to Russia's environmental pollution, depletion of natural resources and degradation of huge virgin territories. The energy sector is the main polluter in the economy, producing about 50 percent of all harmful atmospheric emissions, 12 percent of water pollution, approximately 90 percent of industrial and consumption waste, and 80 percent of total Russian greenhouse gas emissions. It also has considerable negative impact on public health.

For Russia the risk of exhaustion of known and accessible oil reserves in the next 20-30 years is very real, and exhaustion of other cost-effective mineral resource developments is also drawing near. Volga-Ural and Western Siberian resources (primarily oil and gas) are being quickly depleted. The North Caucasus oil-and-gas province is 70-80 percent depleted, the figure for the Volga-Ural region is 50 percent, and that for Western Siberia is 45 percent. This situation is the result of poor-quality geological exploration work in the past decade, and difficulties of production in areas with severe climates. Even during the oil industry recovery period in 2002-2008, the time horizon for depletion of oil reserves narrowed from 26.3 to 21.9 years. Replenishing of known oil reserves is a very slow process and the crisis has inevitably worsened the situation.

The situation is better as regards natural gas due to substantial reserves (sufficient for about 70 years of production). But new production sources will be extremely expensive to tap, since they are located on the shelf of the Barents Sea and Sakhalin Island and in the permafrost of Siberia. Development of these fields requires multi-billion-dollar investments today and they will not come into production until many years into the future.

The energy sector requires safe exploitation of traditional reserves and achievement of energy efficiency. The potential for savings is enormous. Russia could save 45 percent

of its total primary energy consumption – an amount equal to the annual primary energy consumption of a nation like France. Wastage results from low energy efficiency (2-4 times inferior to developed countries), which is largely due to technological backwardness. There is also a need to increase yield from producing fields by means of a differentiated taxation system: at present companies 'cream off' most accessible reserves, extracting about 30 percent of the total compared with a figure of 50 percent in the USSR.

It is important to clearly define how to ensure the energy basis for Russia's development and its role as an energy contributor. Theoretically, there are at least two answers – to increase gross output of energy or to use reserves. Here the government has to strictly define development priorities, because investment by government and companies will not be sufficient to fund both tasks. In transforming the Russian economy, development of the energy sector needs to focus on final and not intermediate results with respect to production of energy resources, electricity and heat. Should the emphasis be on producing more energy? Our energy-intensive and backward economic structure is in itself a huge alternative energy resource, which could yield hundreds of millions of tonnes of additional output through better management. This alternative resource is concentrated in the European part of Russia, where actual reserves of oil, gas and coal are minimal, but where the bulk of Russia's industrial and power facilities, housing, utilities and transport are concentrated, and where hundreds of millions of tonnes of valuable raw materials are used unnecessarily or wasted due to obsolete technologies. This is the resource that could drive development of the Russian economy in the coming 10-15 years.

Realization of the huge opportunities for increasing energy efficiency depends on taking urgent measures to make energy saving economically beneficial at all levels – from industrial development to households (including installation of water and heat metering in houses and introduction of incentives for energy saving at production facilities). It is difficult to overestimate the incentive-creating, regulatory and enforcement role of government in increasing energy efficiency. At present growth of energy resource production is supported by numerous lobbies (oil & gas producers, nuclear power producers, electricity producers, etc.) while energy saving has no real support group in business, government or society.

Reduction of energy intensity could provide savings of up to 240 billion m^3 of natural gas, which is more than one third of entire current Russian gas production[7] while still meeting demand for gas both inside and outside the country.

Investments by private and government organizations and households to the value of US$320 billion will be needed in order to realize this potential for improvement of energy efficiency. This is three times less than would be needed for new energy resource exploration and development (over US$1 trillion). Investments in energy efficiency will have positive impact on the economy worth US$120-150 billion annually, so that the original investment would be repaid within two-three years (three or four times more quickly than the average international indicator).

The portfolio of energy projects financed using government funds should be restructured, including the abandonment, in the first instance, of large-scale, nature-intensive energy and infrastructure projects with high environmental risks. Russia's huge potential for energy saving should mean that

[7] Отчет «Энергоэффективность в России: скрытый резерв». Всемирный банк, ЦЭНЭФ, 2009. www.cenef.ru/file/FINAL_EE_report_rus.pdf

companies do not need to push ahead with development of new fields in the Far North and shelf projects, which require multi-billion-dollar investments and carry high financial risks due to energy price fluctuations. The environmental risks of such undertakings are also high amid global climate change (increased investments in infrastructure will be needed due to problems associated with thawing of permafrost layers), and high failure probability was demonstrated by collapse of the British Petroleum offshore platform in the Gulf of Mexico. However, this is not to deny that geological exploration work in promising areas should be continued.

Stabilization of extraction levels and environmentally justified reduction of the share of raw materials in exports does not automatically entail a decrease in the economic benefits from use of Russia's natural capital and advantages. There are, in fact, two ways of obtaining additional export benefits. Firstly, increase of energy efficiency and realization of energy-saving potential inside the country will enable additional export of up to US$100 billion of energy resources annually. Another aspect of this development will be greater use of renewable energy sources. Secondly, modernization and technological restructuring of the Russian economy, particularly through increase in the shares of the processing and manufacturing sectors and advanced processing of raw materials can bring tens of billions of dollars thanks to export of more highly processed products that have greater value-added. To offer a simple example: the Russian Ministry of Finance and the Economics Expert Group estimate that the country loses up to three percent of GDP due to insufficient depth of oil refining.

Modernization must also take account of Russia's huge capacities for renewable energy sources. The economic potential of renewables development, which is economically efficient even at current levels of technology and under existing market conditions, is about 300 million tonnes of reference fuel per year or 30 percent of the annual consumption of energy resources in Russia. In particular, the country has more potential than any other in the world for exploitation of wind energy.

This potential can be tapped by stimulating renewable power generation and supporting domestic production of the necessary equipment. The recent experience of Western Europe shows that development of renewables requires only minimal support, since, once launched, the process gathers momentum and snowballs, outperforming all forecasts. This development direction would not conflict with, but strengthen Russia's position as a hydrocarbon supplier, expanding its energy export capabilities and ensuring national self-sufficiency and future development.

Renewables are of greatest value for meeting domestic needs, including those of sparsely populated areas (up to 70 percent of Russian territory). The general public can be encouraged to use renewables as an additional energy source, and they are also valuable as auxiliary power sources in industry and in hydrocarbon production (as recently shown in Yamal field development).

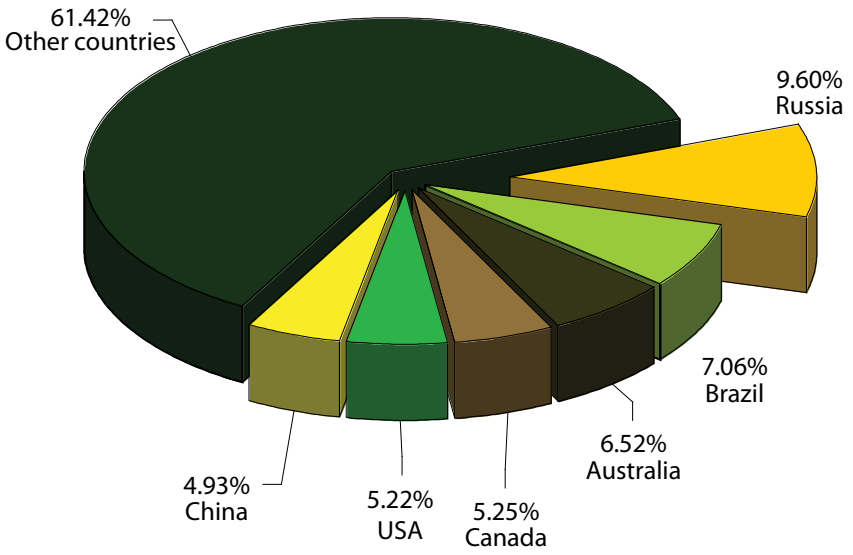
7.4 Ecosystem services and modernization

As well as depending on drastic technological shifts in the economy, modernization also requires modernization of the traditional market model. A positive factor for improving the model is the emergence of markets for new goods and services tied to natural phenomena that have no commercial price. The most remarkable breakthrough in this sphere

in the 2000s was emergence of global and national carbon credit markets following ratification of the Kyoto Protocol (2004). The regulating functions of many ecosystems (forests and crops) that absorb greenhouse gases have thus obtained prices and markets.

The system of payments for ecosystem services that has been introduced in many economies is based on expanding market coverage and increasing the value of natural resources and services.

Figure 7.3. Contributions of the ecosystems of various countries to conservation of land biosphere sustainability



An approach similar to the Kyoto mechanisms has to be extended to all kinds of natural resources and services, and not only those which are available 'on the market' today. Organization of payments for ecosystem services offers new opportunities for development in Russia, a country with particularly rich natural resource endowment.

Economic modernization in Russia must also take account of the country's enormous capabilities in the sphere of ecosystem services, including the global ecological role of its forests, wetlands and other natural ecosystems. Ecosystem services are the benefits which people obtain from ecosystems. Russia is an ecological donor to the planet and needs to capitalize her ecosystem services and obtain profit from them (Figure 7.3). A number of factors can be highlighted to point out the importance of Russian ecosystems in global regulation: the country has a bigger share of its territory undisturbed by economic activities than any other country (60-65 percent of total Russian territory); it has the largest area in the world under forest; and it has enormous wetlands (marshes, waterlogged zones, etc.). Russia has unique ecosystems with rare flora and fauna species, which are global natural assets.

There is great scope for development of the ecosystem service market and ecological investments at both international and domestic levels. Russia has many naturally rich territories that are ecological donors for both Russia itself and the entire planet. However, the 'rich nature – poor population' contrast is often applicable (this is true in the Russian regions of Buryatiya, Altai, Kamchatka, etc.). Regions have to pay economic costs for nature conservation, limiting the activities of nature-intensive industries, which are the foundation of the Russian economy. It would be expedient therefore to create a special economic compensation mechanism that allows calculation and compensation of ecological contributions of the various administrative regions of the Russian Federation, taking account of 'ecological disparity' between regions. The needs of nature conservation in regions that are ecological donors should be considered when developing the subsidy sys-

tem for regions, and there should be relevant government support for local populations in this sphere, which deserves to be considered as a form of economic activity.

Initiatives that support sustainable nature management at regional and local levels is very important and the government should create mechanisms to encourage such projects. Sustainable forest management (including forest resources other than timber) can be supported by investments and various economic tools, as can productive and 'environmentally clean' agriculture, traditional natural resource use, recreation and eco-tourism, etc.

Formation of a market of credits for use of natural resource and pollution/emissions in regions, and between neighboring regions and production facilities would be a useful supplement to the compensation mechanism. Such markets might be developed using mechanisms similar to those of the Kyoto Protocol. Global experience shows that credit markets reduce burden on the environment more quickly and with less costs for both private and public sectors.

Cooperation between regions is possible on the basis of natural service valuation (increasing the value of natural assets and their transformation into goods), accessing international markets to obtain compensation.

Modernization could be accelerated by activating Russia's economic participation in mechanisms aimed at reducing global climate change, particularly in the Kyoto and post-Kyoto agreements, since this would help to attract hundreds of millions of dollars in foreign investments. This is important for ensuring support for modernization processes from government and business, overcoming the crisis, rebuilding the technology structure of the economy, and obtaining multiplier effects in various industries. Substantial benefits could be obtained by:

- introducing innovative and eco-friendly technologies, primarily to increase energy efficiency. Clean technology funds and climate investment funds that have been developed internationally could be used (such funds make cheap investment resources and innovative approaches available for increasing energy efficiency);
- obtaining additional resources to support and protect ecosystem services (particularly for ecosystems in forestry and agriculture).

Sales in the global carbon market in 2008 exceeded US$100 billion. Although it has a free credit stock amounting to five billion tonnes of CO2, Russia has not yet succeeded in developing an effective mechanism to convert the asset into money for supporting Russian business and to carry out priority investments and innovations which meet modern energy and ecology requirements. Tenders for selling carbon credits, which have been started by the biggest Russian bank, Sberbank, have taken too long to organize. The example of Ukraine demonstrates how great the lost profit opportunity could be: Ukraine will sell its 2009-2010 credits to Japan for 300 million euros.

Russia should be one of the leaders in developing terms of the 'post-Kyoto agreements' up to 2050. The country has strong arguments based on the huge potential of its ecosystem services to regulate the climate (forests, marsh, agricultural lands, etc.). These services with their global character have to be included in future agreements. This could offer enormous financial and political benefits as well as acceleration of technological modernization of the economy.

It is vital that Russia should develop a national system to trade rights for emission

and absorption of greenhouse gases, without which Russian companies will not have sufficient incentives to reduce emissions and switch to low-carbon technologies. Also, unless Russia has a national trading system that is harmonized with other national systems, Russian companies that export their products may find it difficult to overcome protectionism by governments in countries where national trading systems will be in operation.

7.5 Modernization and environment policy

Modernization and transition to sustainable development requires balanced social, economic and environmental policies. The urgency of modernization and increasingly grave nature of environmental problems call for design and implementation of an effective policy. Paradoxically, the best eco-policy is not one that is formulated separately, but one that is seamlessly incorporated into overall social and economic policy. This means that economic policy needs to be environmentally sustainable and capable of preventing loss of natural resources and pollution of the environment, while social policy has to be capable of protecting public health – a task for which a clean environment plays a very important role. If such economic and social policies cannot be put in place, a strong eco-policy is obviously required. The policy then has to be compensatory by nature, and capable of 'cleaning up' the consequences of ineffective economic and social policies. A struggle between up-to-date environment policy and the consequences of environmentally unbalanced economic policy is common to many countries worldwide.

Without detracting from the importance of modernization policy, it should be emphasized that it is a long-term task, while a natural resource policy is needed immediately, because natural resources and our treatment of them determine Russia's development today and in the near term. The policy must go beyond declarations, which have already been given in Russia's Environmental Doctrine. It must consist of purposeful activities: a series of actions based on the current situation and prospects for desirable development of the situation. Environment policy has to be clear-cut, but its realization cannot be separated from mainstream development and has to be incorporated into the strategies, plans, programmes and mechanisms of national development. Regardless of their declared importance, any individual programmes will be considered as supplementary and will only obtain funding that is left over from programmes with higher priority. The key principle, therefore, is to include environment policy in general development plans that aim to resolve social and economic problems, which are of prime concern. Even essentially environmental procedures (creation of special protected natural areas, conservation of biodiversity, etc.) should be a part of market mechanisms that are understandable to all, in the form of payments for ecosystem services. The same applies to other aspects of environment policy, including laws, education, culture, and development of civil society: all these things should be included as part of general strategies and programmes for development. If this principle is not observed there is much greater risk that environmental law will not be obeyed, real support for the environmental movement will be lacking, the importance of education concerning the environment will not be appreciated, and the appropriate culture will fail to develop.

The environment needs to be institutionally secured as a priority direction for work by the Russian government. This can be achieved by:

- ensuring broad social and analytical sup-

port for reforms through extensive participation by the general public (NGOs and public chambers), business (the Chamber of Commerce and Industry, the Russian Union of Industrialists and Entrepreneurs) and the expert community (the Russian Academy of Sciences and the higher education system);
- greater involvement by Russia in international cooperation;
- preparation of official strategy documents regarding the environment and plans for strategy implementation (sustainable development strategy, national environment policy and a plan of activities to modernize and reform environmental management);
- use of other indicators, in addition to GDP or GRP, as development measures, in order to take account of the 'price' of economic growth for the natural environment and for people (indicators of sustainable development and adjusted net savings).

7.6 Sustainable development indicators

Introduction of a system of sustainable development indicators is an essential necessary first step towards modernization and ecologization of the economy.

Typical disadvantages of the current decision-making process include the absolute priority given to economic growth and its traditional indices. The outlook of most politicians and scientists on the development problem needs to be changed. The dominant view at present identifies economic growth with growth of GDP, maximization of profit, financial flows and other financial indices, while quality of growth and associated costs (environmental and social) are generally ignored. It is now recognized worldwide that GDP is not an adequate index for reflecting the various aspects of socio-economic development, particularly social and environmental factors. In Russia changes in GDP are closely tied to oil prices. Calculations by the Ministry of Economic Development show that a change in oil prices by US$10 per barrel alters the rate of Russian GDP growth by 0.4–0.5 of one percentage point. It is not hard to establish that post-crisis growth in Russia has been mainly due to increase of world prices, and not to any real changes in the economy.

Official indices of international organizations (particularly the UN Human Development Index and Adjusted Net Savings measured by the World Bank) pointed to serious environmental and social problems in Russia in the period before the world financial crisis. In 2006 – apparently a successful year for the Russian economy, which achieved 6.7 percent GDP growth – Adjusted Net Savings were negative (-13.8 percent), to a large extent due to depletion of natural resources. Out of more than 150 countries, for which Adjusted Net Savings are calculated, only some 30 countries, including Russia, show negative results, while both developed economies and the other BRIC countries (China, India and Brazil) show positive values.

Russia should, as a matter of urgency, begin publication of indices for environmental and energy efficiency and for specific types of pollution and use them in reporting at federal and regional levels.

Use should be made at federal and regional levels of the indices, which are being applied to monitor implementation of the UN Millennium Development Goals (particularly of Goal 7: 'Ensure Environmental Sustainability').

Indices are also needed to measure accrued damage to the environment (pollu-

tion and waste), depletion of resources (which can in no way be compensated in the long run by exploration for new resources), impact of environmental pollution on human health, landscape degradation, use of renewable energy sources, valuation of ecosystem services (forest, water, biosphere), specially protected natural territories, cooperation between regions (subsidization of regions that provide ecosystem services), as well as monitoring of international opportunities and inclusion in the market

Foundations have already been laid in the form of decrees of the Russian President on ecology and energy efficiency (2008) and reports by regions on energy efficiency (2010). Positive steps have also included a Russian government resolution of March 4, 2011 on introduction of new indices for protection of the environment to measure efficiency of action by regional administrations (the new document amends government resolution № 322, dated April 15, 2009).

7.7 Sustainable development and society

Civil society has a fundamental role to play in modernization and in ensuring sustainable development: its tasks include propagation of ideas, support and active participation in their realization, and, ultimately, entrusting the government with responsibility for ensuring that Russia makes progress in this direction. Civil society could be the process initiator which, after necessary assessments have been made and priorities defined, would demonstrate commitment of the general public to the environmental cause and entrust the government with responsibility for ensuring Russia's active participation in global progress towards sustainable development. First and foremost this requires a broad public awareness campaign to promote the ideas of sustainable development. At present not only the general public but also many decision-makers have only sketchy notions of what sustainable development is and why ensuring sustainable development is a priority for the international community.

Success in realizing the ideas of economic modernization, energy efficiency and sustainable development depends on the commitment and activity of all interested parties. Hence the need for educational and public awareness activities, purposeful work by the mass media, cultural professionals and experts in social advertising. The government has to help improve levels of environmental-economic culture among the general public for purposes of raising energy efficiency and environmental efficiency, including practical measures for saving water, gas and electricity, and consideration for the environment in use of personal transport vehicles and food, and in recycling of waste. Knowledge needs to be disseminated through introduction of a special school subject, information campaigns, mandatory mass media coverage of environmental topics and setting of mandatory limits for social advertising. An important role has to be played by civil society structures, including large social organizations, youth movements and professional institutions for sustainable development (such as public policy institutes that work in close association with public chambers). Development of such institutions at both federal and regional level would help to consolidate the efforts of the expert community and to involve civil society in specifying the directions and implementing the specific tasks of economic modernization to ensure sustainable development.

7.8 Conclusions and recommendations

The modernization process must create a basis for environmentally sustainable

innovative development in Russia. Priority steps, which need to be taken, include:

- Development and adoption of a sustainable development strategy
- Economic support for ecologization of the economy and for 'green growth', including mechanisms of insurance, taxes, credits, subsidies, tariffs, duties, etc.
- Moving beyond an exclusive focus on GDP or GRP as indicators of development, and paying more attention to sustainable development indices that consider the 'price' of economic growth for the natural environment and for people by measuring depletion of natural resources and damage due to pollution of the environment.
- Government support for business in the post-crisis situation has to be accompanied by mandatory observance of environmental requirements, with development of 'green' production and of innovation.
- Rejection of high-cost mega-projects for natural resource exploitation, which may have unpredictable consequences for the natural environment and for people, and particularly abandonment of plans for rapid development of new and highly challenging hydrocarbon fields.
- Ensuring drastic improvement in use of natural commodities, raising yield at existing oil & gas fields, updating equipmen, applying innovations and best-available technologies.
- Energy saving and use of renewable energy resources, deeper processing of raw materials, including those intended for export.
- Support for local initiatives (investment projects) in sustainable environmental management: sustainable forest management (including non-timber forest resources), highly productive ‘environmentally clean’ agriculture, traditional nature management, development of ecotourism, etc.
- Multi-faceted valuation of natural resources and services, development of a mechanism of payment for ecosystem services.
- Broad use of opportunities for mutually beneficial cooperation with the international community to increase energy efficiency, reduce emissions, upgrade production facilities and conserve natural wealth.

Chapter 8
Modernization and the Russian Space

In addition to all its other aspects, modernization also has a spatial dimension. Firstly, this concerns the rate at which various innovations – whether new technologies or modern lifestyles – are disseminated over the territory of a country. History shows that Russia's huge territories and thin infrastructure have always been a barrier to modernization. The scale of the country's backward economic periphery is huge (even in Russia's more densely populated European part, 40 percent of the territory consists of such a periphery). In order to overcome the distance barrier, Russia needs to develop transport infrastructure and big cities, which can transmit innovations to its periphery. But these issues have not yet become priorities of the country's regional policy.

Secondly, the spatial dimension of modernization is a matter of increasing mobility of the population and changes in population distribution. People want to live in the best places, where climate and living conditions are more favorable, there are more opportunities to find a better paid job, to receive quality social services, etc. And when mobility increases, population distribution changes: people concentrate in cities and suburbs that offer more comfortable living conditions. Steady shrinkage of the overall Russian population means that the country's inhabited space will also inevitably shrink.

Thirdly, the spatial aspect of modernization is a matter of improving conditions for doing business and maximum use of regional and local competitive advantages. Competitiveness depends on many objective factors and barriers, so spatial development is always uneven. Business tends to concentrate in territories that have competitive advantages: proximity of major product and service market outlets, abundant supply of resources or infrastructure coverage, skilled workforce, etc. Unequal competitiveness of Russian regions leads to dramatic differentiation of social and economic development levels.

The dominant opinion in Russia is that major regional divergences in social and economic development are inadmissible and that peripheral and underdeveloped territories should receive priority support to involve them in the modernization process. But this approach is extremely onerous due to low competitiveness and objective barriers to development of peripheral territories. So another key element of modernization is achieving an optimal balance between regional policies aimed at leveling out differences and those aimed at stimulating development.

Excessive centralization of authority and financial institutions at the federal level and the lack of an efficient mechanism for mediating between the interests of the centre and regions also constitutes an institutional barrier. In turn, regional authorities and their budgets centralize powers and tax proceeds in order to control municipalities. Inefficient institutions give rise to 'sponging' behaviour and a struggle to obtain budget transfers instead of competition between regions and cities for business investments and human capital. Shortcomings of the management system, combined with objective development barriers, are blocking modernization of the Russian space.

8.1 Modernization factors

Two groups of factors in Russia's 'new economic geography' are particularly capable of stimulating spatial development[1].

1. 'First nature' factors:
   - high supply of natural resources (minerals, land) that are in demand on the world market;
   - advantageous geographical position (within agglomerations or on global trade routes), reducing transport costs.

[1] P.R.Krugman, 'First nature, second nature, and metropolitan location'. Journal of Regional Science. 1993, Vol. 33, 129-144.

2. 'Second nature' factors:
   - agglomeration effect (territorial concentration of people and economic activity in large cities, giving economies of scale);
   - developed transport infrastructure, reducing economic distances;
   - high human potential (education, health, labor motivation, population mobility and adaptability);
   - efficient institutions that favour improvement of the business climate, the spread of innovation, and increase of population mobility.

The more developed a country or a region is, the greater the role of 'second nature' factors. So spatial modernization is obtained by development of agglomerations, infrastructure, human potential, and enhancement of institutions. But the main factor in Russia remains supply of raw materials that find demand on the global market. Underdevelopment of 'second nature' factors remains an obstacle to development of Russia's regions.

8.2 Regional development trends during the growth and crisis periods

The factors and barriers described above influence the development of Russian regions. Their paramount role was demonstrated both during the period of economic growth and in the crisis of 2008-2009.

During the economic growth period, several groups of territories showed steadier development than others. The former were mainly federal city agglomerations (i.e. Moscow and St Petersburg), which benefit not just from the agglomeration effect but also from institutional advantages. Moscow's metropolitan status and Russia's over-centralized management system have ensured the concentration in the city of headquarters of the biggest Russian companies, huge tax inflows to the city budget, large numbers of highly paid jobs, and much higher personal income levels compared with other regions of Russia. Moscow Region (the administrative region, which surrounds the city of Moscow) saw faster development in the 2000s due to agglomeration benefits and capital overflow from Moscow itself. In St. Petersburg the scale effect was not so pronounced, although the federal government took special institutional steps to stimulate development of the city by moving the headquarters of some large companies there in order to improve the city's budget income and create highly paid jobs. Leningrad Region (the administrative region around St. Petersburg) saw a faster pace of development thanks to the double benefits of agglomeration effect and a geographical position on trade routes with Europe. But these factors were only sufficient to promote the development of the sea coast near St. Petersburg. Dynamic development of the two largest Russian agglomerations attracted 75-80 percent of the entire net migration in the country during 2007-2009, of which 55-60 percent was to the Moscow agglomeration.

The second group consists of 10-12 regions with export-oriented economies (resource extracting industries, metallurgy). This group is led by the autonomous districts of Tyumen Region which are Russia's key centres of oil & gas extraction. The Region itself developed on account of an institutional factor – high tax income from its autonomous districts and large companies registered on its territory – although its own economy is weak. Next in the ranking are the Republics of Tatarstan and Bashkortostan, Krasnoyarsk and Perm Territories, Samara Region and several of the most efficient metallurgy regions. Their household incomes and budget revenues increased due to rapid growth of world prices for raw materials and products of first-level processing. Tatarstan saw particularly

high development rates due to resource and institutional benefits: presence of a regional oil extraction company and special financial support from the federal budget. Sverdlovsk Region was another growth leader, helped by favorable conditions on international metal markets in the 2000s and an agglomeration effect, which speeded up development of the services sector in the city of Ekaterinburg.

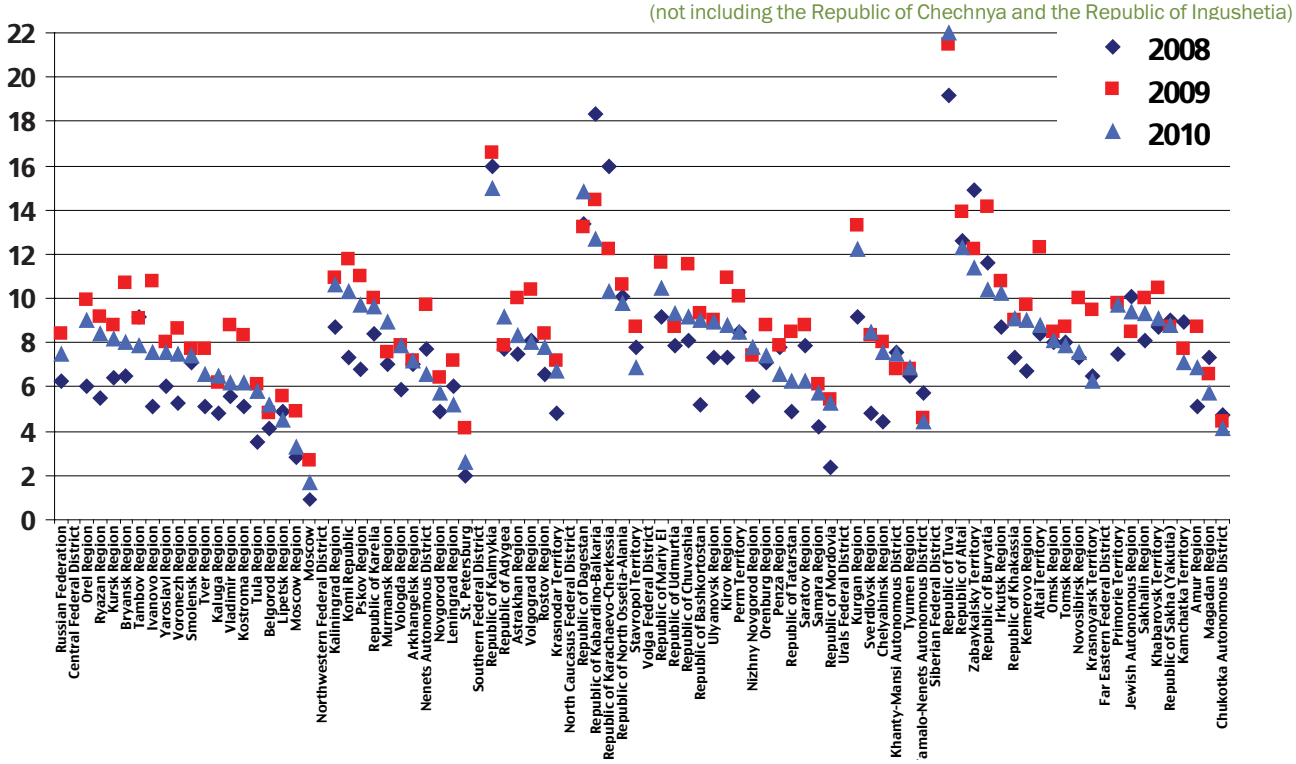
The role of the resource factor has been greatest in regions where new oil & gas extraction projects are being implemented. This is most evident in Sakhalin Region and Nenets Autonomous District, which have displayed the highest rates of economic growth in Russia. Industrial production in Sakhalin Region almost doubled in a decade in comparable prices, and GRP grew by 1.8 times. Sakhalin's 'economic miracle' is based on huge inflow of foreign investments (as much as 20 percent of all foreign investments in Russia during the first half of the 2000s). The determinant here has been institutional: establishment of production sharing agreements for Sakhalin oil & gas projects.

Positive effect from location on sea coasts and close to international borders was observed only during the 2000s and was confined to some western and southern regions of Russia. This factor has so far been incapable of stimulating regional development on its own, since it has been hampered by various barriers, particularly in the eastern part of Russia. Extra 'props' are therefore required for coastal and border location to be an effective growth driver. These props may be institutional, as in the case of the special economic zone in Kaliningrad Region, or may consist of the advantages offered by major agglomerations (Leningrad Region). Southern Russian regions (particularly Krasnodar Territory) have benefited from a combination of various advantages: geographical location, good soil and climate for agriculture, higher population density, relatively high infrastructure development, and mobile and adaptable populations. However, an institutional factor – holding of the Olympics in Sochi in 2014 – may result in super-concentration of investments in just one point of the Russian south, as opposed to development of all of the southern territories.

It is hard to identify any specific factors for development and modernization of the most numerous 'middle of the road' group (almost two thirds of regions in the Russian Federation). These regions tend to show moderate rates of economic growth. Budget revenues and household incomes have increased much faster in the group of underdeveloped regions (mainly ethnic republics), but this has been due to massive financial subsidies from the federal budget, which is not a sustainable source of growth.

Regional specifics of the 2008-2009 crisis were also determined by basic development factors, including institutional factors. The least developed and most subsidized regions, whose official economies are dominated by the public sector financed from federal transfers, were least affected by the crisis. Industrial production trends in the Far East remained fairly stable because uncompetitive businesses were wound up there as early as the 1990s. Severity of the recession and rates of recovery in regions with medium development levels depended on the structure of their economies. The setback was most serious in regions with concentrations of uncompetitive machine-building and textile industries, mainly located in European Russia, and their rates of recovery have been slow. Among regions that have higher development levels and are integrated with the global economy, those specializing in metallurgy – notably Vologda and Chelyabinsk Regions – experienced the effect of the crisis sooner and felt it more acutely. Developed regions with diversified economies were less affected by the recession and had almost completely surmounted it by 2010, with the exception of Samara Region. The 'new industrialization' regions (Kaluga, Len-

Figure 8.1. Unemployment in Russian regions calculated using WTO methodology, percent
(not including the Republic of Chechnya and the Republic of Ingushetia)

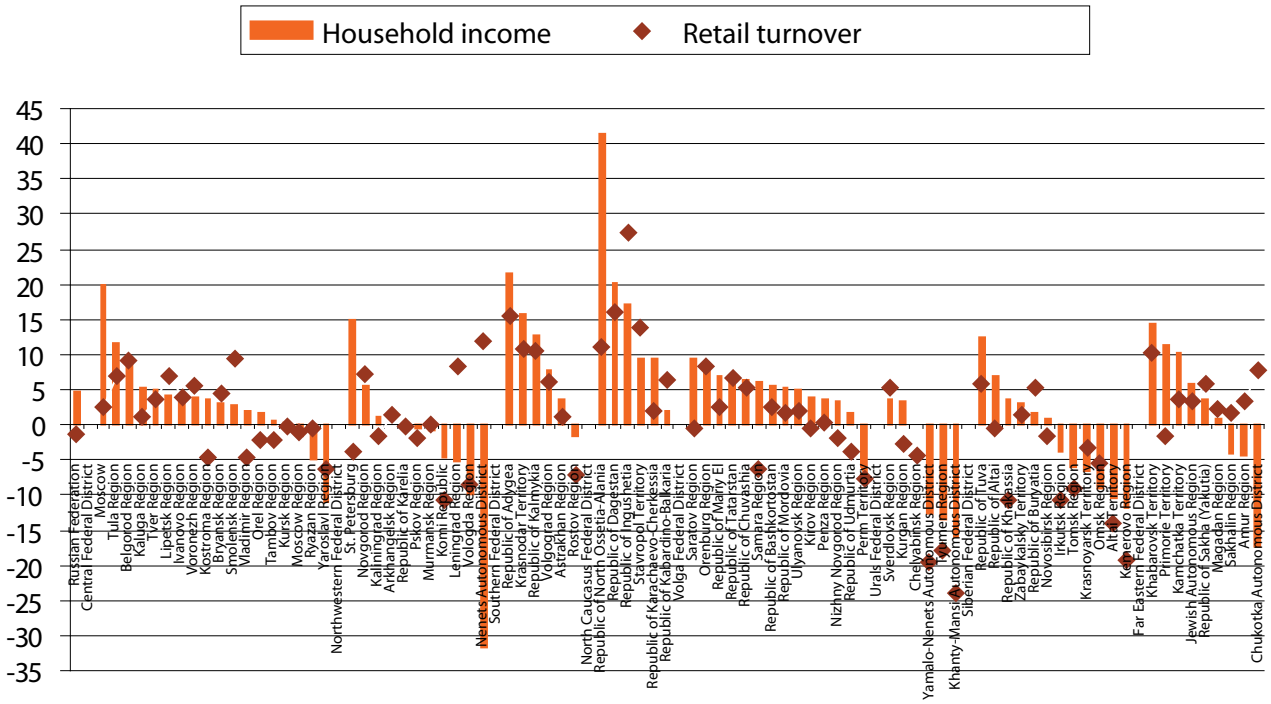


ingrad, and Belgorod Regions), which are attractive for investors, overcame the recession even more quickly. The leading oil extracting regions saw little or no industrial recession, and those implementing new extraction projects experienced uninterrupted economic growth, although household incomes dropped in nearly all oil &gas extracting regions.

In geographical terms, the worst crisis impact, as measured by industrial recession and the labour market situation, was felt in the Volga River basin, the Urals, and the Centre (Figure 8.1). Fearing increase of social tension, the government applied administrative pressure and used financial subsidies to maintain employment at industrial facilities. This resulted in high levels of concealed unemployment (part-timing and employment in public works), so that real unemployment was much higher than the official figures in these regions. Adding together all forms of real and concealed unemployment, it appears that unemployment in the worst-hit Volga and Ural regions peaked in early 2009 at levels close to those of the 1998 crisis. But the impact of the 2008-2009 crisis has been different: it has not contributed to labor market modernization in those regions, since there has not been any 'clean-out' of inefficient employment and creation of new jobs in the recovery period has been scant.

The crisis of 2008-2009 has had relatively little impact on household incomes across Russia in comparison with the 1998 crisis. A small drop was followed by recovery to pre-crisis levels by the end of 2009. This was due to government policy: a part of the large financial resources accumulated during the economic growth period were used to mitigate social impact of the crisis. Russian regions budget expenditures for social policy increased by 29 percent in 2009, funded by special-purpose federal transfers, and social policy expenditures grew at the same rate in 2010. However, the picture differs between regions (Figure 8.2). Income and consumption showed fastest growth in under-developed and highly subsidized republics, while regions with severe industrial recessions and significant real and concealed unemployment, as well as

Figure 8.2. Changes in real cash earnings of households and retail turnover in 2010, % to 2008



leading oil & gas producing regions (where variable wage components, such as bonuses and premiums, were greatly reduced) saw sharp decline of household income levels. Labour markets in large agglomerations with high employment levels in the services sector showed more flexibility when hit by the crisis: employment and wages declined initially, but then made a strong comeback in 2010.

The worst real-sector recessions were experienced (and will be experienced in future crises) by one-factory towns and cities (towns and cities that rely on the employment offered by a single large enterprise or sector) with uncompetitive processing industry. These are mostly located in the Centre, Volga and Ural regions of the country. The large number of such towns and cities in Russia represents a major barrier to the country's modernization, and there is no quick and easy solution to the problem, which they pose. Unreformed regional labour markets with a shortage of quality jobs and undeveloped housing markets constitute another barrier. Greater labour mobility in regions and cities with uncompetitive industries will be impossible to achieve without modernization of these institutions.

8.3 Regional inequality

Major social and economic inequality between regions is viewed as a barrier to modernization, but this traditionalist view fails to take account of scientific findings concerning spatial development and also fails to take account of real trends. Economic inequality among Russian regions in terms of per capita GRP, as measured by the Gini coefficient, increased during the transition period, but it has been reduced since the mid-2000s thanks to booming oil income and increasing scale of budget fund redistribution (Fig. 8.3). Regional disparity in unemployment levels was increasing throughout the period of economic growth, and mitigation of this trend due to the latest crisis was only temporary. However, inter-regional differences between household income levels have been leveling out (particularly in the years immediately be-

fore recent crisis), due to the policy of redistribution and increasing transfers from the federal budget. Redistribution also helped to mitigate regional inequality with respect to poverty rates. So there has been a steadier trend towards reduction of social inequality between Russian regions.

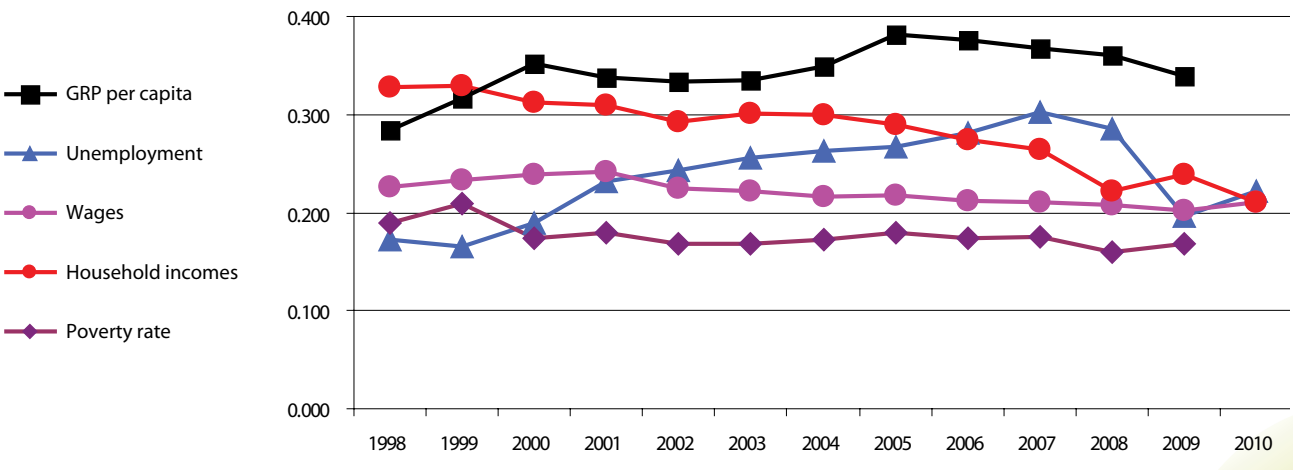
Modernization is usually followed by increase of regional divergences, as the more developed regions, which have competitive advantages, are the first winners. So successful modernization will entail greater economic inequality between regions. However, there are opportunities and mechanisms for mitigation of such social inequality. International experience shows that two conditions need to be met for this purpose. Firstly, there needs to be a sufficiently high level of economic development in the country to finance redistribution. Secondly, there needs to be efficient government social policy for encouraging human development and supporting vulnerable groups. Strong social policy, rather than strong regional policy, is the instrument which can mitigate social inequality between regions.

We will begin by considering Russia's economic capacities. According to World Bank studies[2], regional income differences between populations of developed European countries began to level out when per capita GDP rose above USD 10,000 at purchasing power parity. In Russia per capita GDP in 2008 was USD 20,300 at purchasing power parity (PPP), and fell to USD 18,900 at PPP in 2009 as a result of the crisis (see Table 1, showing HDI for Russian regions). It should be noted that average Russian GDP is an average between values that are very far apart (those of Moscow and export-oriented regions, on the one hand, and much less developed regions, on the other hand). Nevertheless, per capita gross regional product in 2009 for 50 regions (60 percent of the total number in Russia) was in excess of USD 10,000 at PPP (without adjustment for the unallocated share of GDP).

The above figures give some grounds for optimism, but specific Russian barriers to development need to be taken seriously. The country's enormous spaces represent the most obvious barrier, being associated with low population density and, as a consequence, thin infrastructure and a dispersed network of urban centers, which increases the cost of providing governmental social

[2] World Development Report – 2009. World Bank, 2009

Figure 8.3. Gini coefficient for regional inequality in Russia



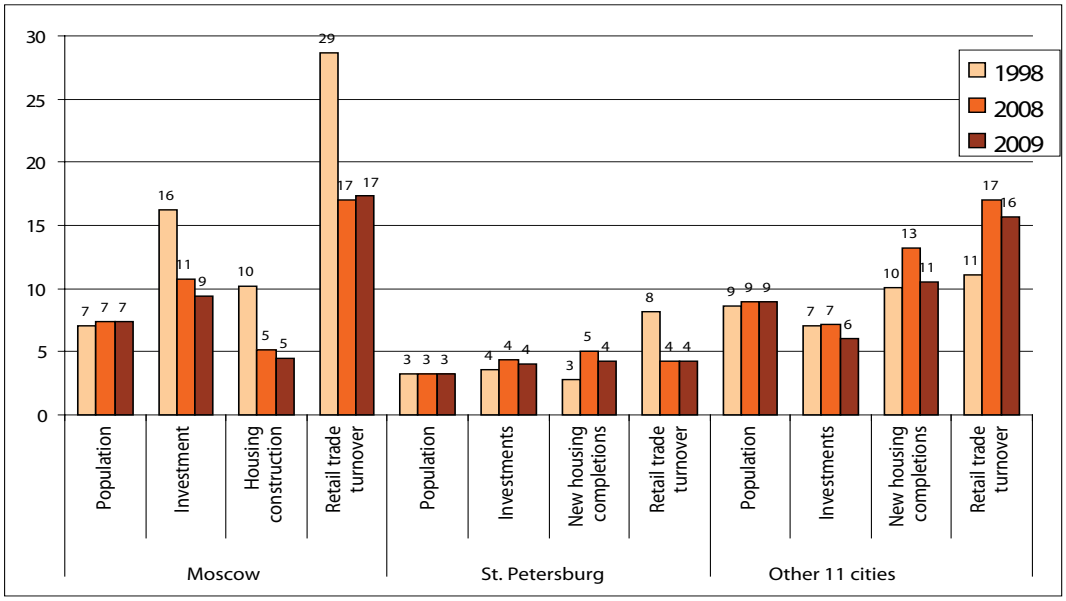
services. Polarization of households by levels of income is another barrier of equal importance, since it puts a brake on modernization of lifestyles and reduces availability of many social benefits for a large part of Russians. A third barrier is represented by major differences in human potential, lifestyle and quality of life between regions and between different settlement types, some of which are already achieving modernization while others are in a state of degradation. But, despite these problems, Russia as a whole and the majority of its regions have the economic resources to improve efficiency of their social policy.

The second condition for modernization is a large-scale and efficient social policy. Russia's social policy is already large-scale: the share of social policy expenditures in total expenditures of consolidated regional budgets grew in 2000-2010 from 7 percent to 18 percent (only education expenses are higher). However, efficiency leaves much to be desired, being vitiated by major institutional barriers. The principal issue here is the excessively costly nature of social spending mechanisms – badly targeted social transfers and inefficient use of budget funds, used mostly to maintain social infrastructure. Mitigation of spatial social differences is also hampered by lack of a comprehensive approach and unclear goals of social policy, as well as its hijacking to deal with short-term political challenges (this is a specific feature of both federal and regional government). So long as the institutional barriers concerning the goals and instruments of social policy remain in place, there is no sense in addressing the much tougher objective spatial barriers. Sooner or later, regional social inequality will have to be mitigated, or Russian modernization will remain unstable.

8.4 Development of agglomerations

Support for urban development is crucial for modernization. Spread of innovation across the country's space will be hierarchical – from larger cities to smaller ones, and from cities into their suburbs.

Figure 8.4. Shares of largest cities, %, in Russian national figures*
('other 11 cities' are all other Russian cities, which had population in excess of one million in 1990)



* For cities that are regional centres, the Federal Committee for Statistics only publishes investments into medium-sized and large-scale businesses and organizations; so the share of such cities in total Russian investments, calculated for all businesses and organizations, is slightly underestimated. The share of those cities in Russian retail turnover is calculated using their percentage in turnover of their respective regions.

Russian cities – particularly big cities – are few in number (only 74 of 1090 Russian cities have populations in excess of 250,000). Growth of urban population is hampered by depopulation trends, which are prevalent in three quarters of Russian regions. As a result, the agglomeration effect is only displayed to a major extent in the two largest Russian agglomerations: Moscow and St. Petersburg. These cities draw in people and business. In 2008 Moscow concentrated 24.3 percent of the GRP of all regions (22.3 percent in 2009), more than 20 percent of total household incomes and the same share of budget revenue of all regions of the Russian Federation. Combination of Moscow and surrounding Moscow Region accounts for a quarter of Russian retail turnover, one fifth of housing construction, and more than a half of net migration. This super-concentration is due not only to the agglomeration effect, drawing in business and people, but (to a greater extent) by the institutional advantages of Moscow's metropolitan status. St. Petersburg lags significantly behind the capital, but is ahead of all other Russian cities with populations in excess of one million (Figure 8.4).

Besides Moscow and St. Petersburg, large regional centres with populations between 0.7 and 1.5 million people also developed relatively quickly during the period of economic growth. Krasnodar and Ekaterinburg outperformed by social and economic indicators (per capita retail turnover, housing construction, etc.). The share of cities with population above one million people (not including Moscow and St. Petersburg) in retail turnover and housing construction increased during the 2000s, although it was impaired by the new crisis. The agglomeration effect has greater momentum in these cities, and is supplemented by the advantage of regional capital status. However, such cities have had little success in attracting investments, due to institutional barriers. Regional centres have municipal status and rather modest budget incomes compared with Moscow and St. Petersburg, so they are unable make necessary investments in urban development. Monopolies and high levels of corruption on land and construction markets, as well as barriers to small business development and migration, also create obstacles. Removing institutional barriers will accelerate modernization of major regional centres and increase their ability to transmit innovation to smaller cities.

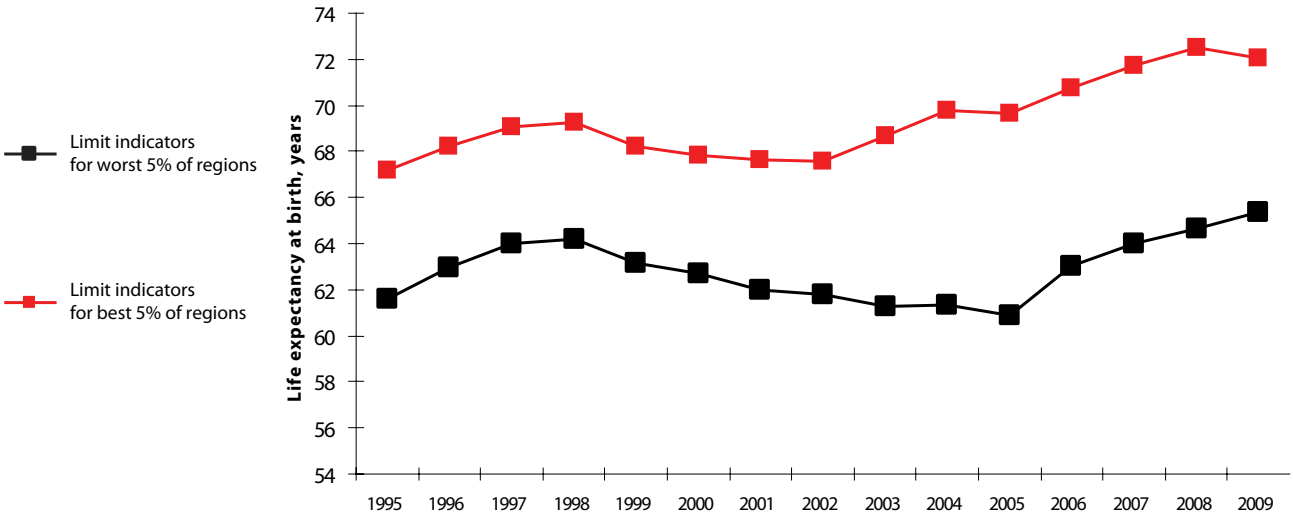
Russia's smaller, peripheral towns and cities located outside agglomerations are still experiencing degradation. The 2008-2009 crisis emphasized the instability of development in 'one-factory' ('mono-sectoral') towns and cities, including those with presence of big business and state corporations specialized in export-oriented industries. Such mono-sectoral cities with export oriented industries were the growth leaders before the crisis, with high levels of household income and local budget revenue, but this advantage is diminishing year by year.

8.5 Human potential in Russian regions

In 2000-2009 Russia ranked below 50th, but above 70th place in the Human Development Index (HDI). From 2006 onwards the country moved into a group with higher Index scores (above 0.8) due to growing income levels. Of the three HDI features –income, education, and health – the third remains the most problematic. Improvements in life expectancy only began in 2006, thanks to increased public health expenditures, including financing of the 'Health' national project. Life-expectancy in most troubled regions saw notable improvements in 2006-2008 (Figure 8.5) and increases of life expectancy continued even in 2009 (during the crisis), though at slower rates.

Human Development in Russian regions will depend on increased financing for

Figure 8.5. Life expectancy percentiles (indicators for best and worst 5% of regions, weighted by number of population)



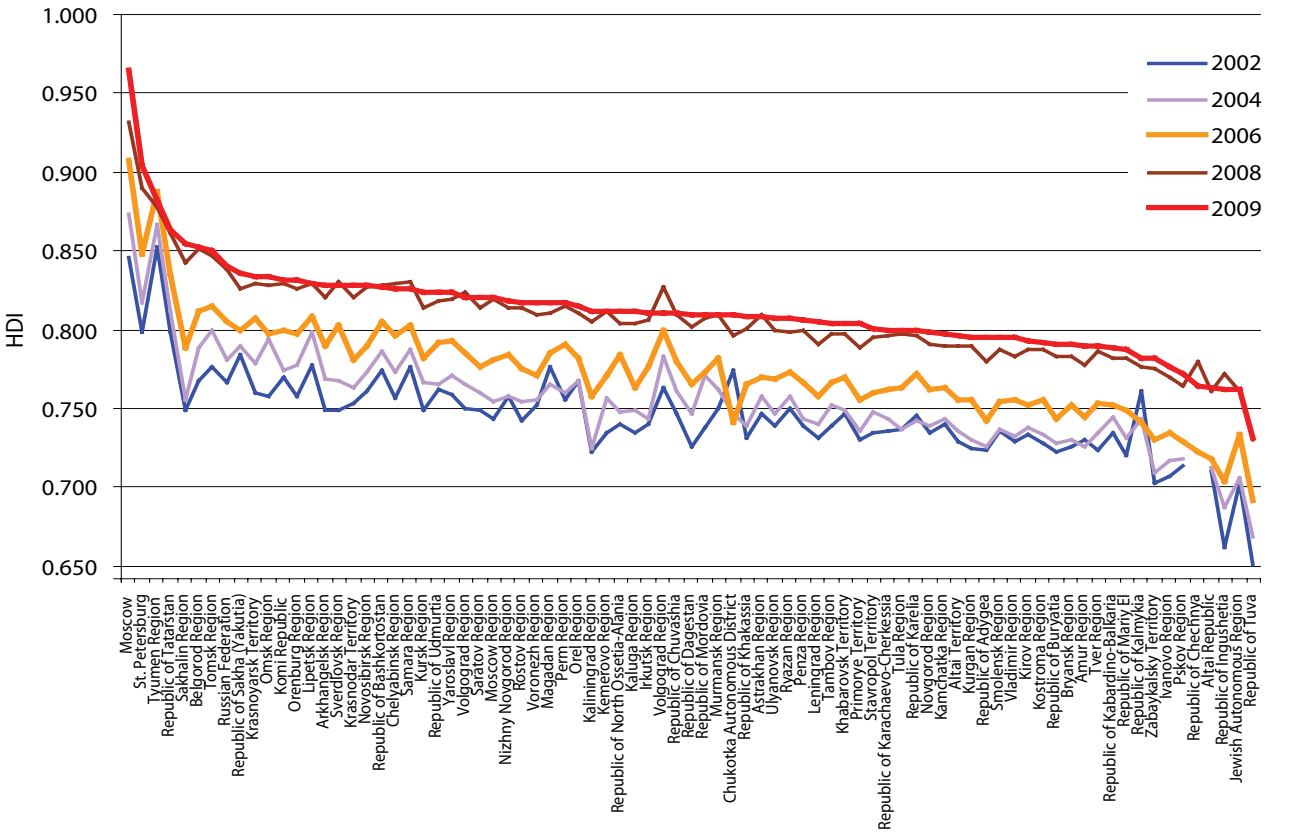
health and education, as well as better efficiency. These goals have not been attained in the crisis period. In 2009 total expenditures of the consolidated budgets of Russian regions on public health, sport, and territorial mandatory medical insurance funds grew by only two percent compared with the previous year, and by five percent in 2010. The two-year increase was therefore seven percent, which is only half of the inflation rate, and in 19 regions public health expenditures were lower in 2010 than in 2008. Those regions are mainly those that were most affected by the crisis. Severe industrial recession caused shrinkage of budget incomes and of public health expenditures in Bryansk, Novgorod, Lipetsk, Vologda, Samara, Sverdlovsk and Chelyabinsk Regions, the Republic of Chuvashia, etc. Reduction of corporate income tax and other tax proceeds led to the same result in Perm and Khabarovsk Territories, Khanty-Mansi Autonomous District, Irkutsk, Tyumen, Kaliningrad, Leningrad, Belgorod Regions, etc. The health sector fell victim to optimization of budget expenditures.

However, the Human Development Index (HDI) improved somewhat in 2009 (from 0.838 to 0.84), despite the impact of per capita GRP shrinkage in most regions due to the crisis (Table 1). The progress was due to growth of life expectancy and education coverage for children and young people. HDI declines in 2009 were only observed in a few regions, which suffered dramatic industrial recessions (Vologda, Samara, Sverdlovsk, Chelyabinsk, Volgograd, and Astrakhan).

Longer-term trends (2002-2009) show that the highest HDI growth rates were achieved in regions with dynamically growing economies (Figure 8.6). These included new oil & gas producing regions (Sakhalin and Arkhangelsk as well as Nenets Autonomous District), Moscow and St. Petersburg (particularly St. Petersburg, which reached 2nd position in Russia by HDI) and the 'new industrialization' regions (such as Kaliningrad). Under-developed republics (Dagestan and Ingushetia) and depressed Zabaykalsk Territory also became HDI growth leaders, due to increased federal transfers. Slow HDI growth in Tyumen Region is explained by the formula used for Index calculation: when GRP per capita exceeds USD 40,000 at PPP, further increases do not have positive impact on the income component of HDI.

Human potential in Russian regions has significantly increased overall. The share of Russians living in regions with high HDI grew appreciably in 2005-2009, while the share living in regions with low indices dropped

Figure 8.6 .Human Development Index in Russian regions



sharply (the Republic of Tyva was left as the only member of that group). While in 2005 regions with high HDI (above 0.8) accounted for 17 percent of the Russian population, by 2009 the figure had soared to 85 percent (Figures 8.7a, 8.7b and 8.7c). There are no longer any regions in Russia with low HDI (under 0.700), whilst 19 percent of the population lived in such regions in 2005.

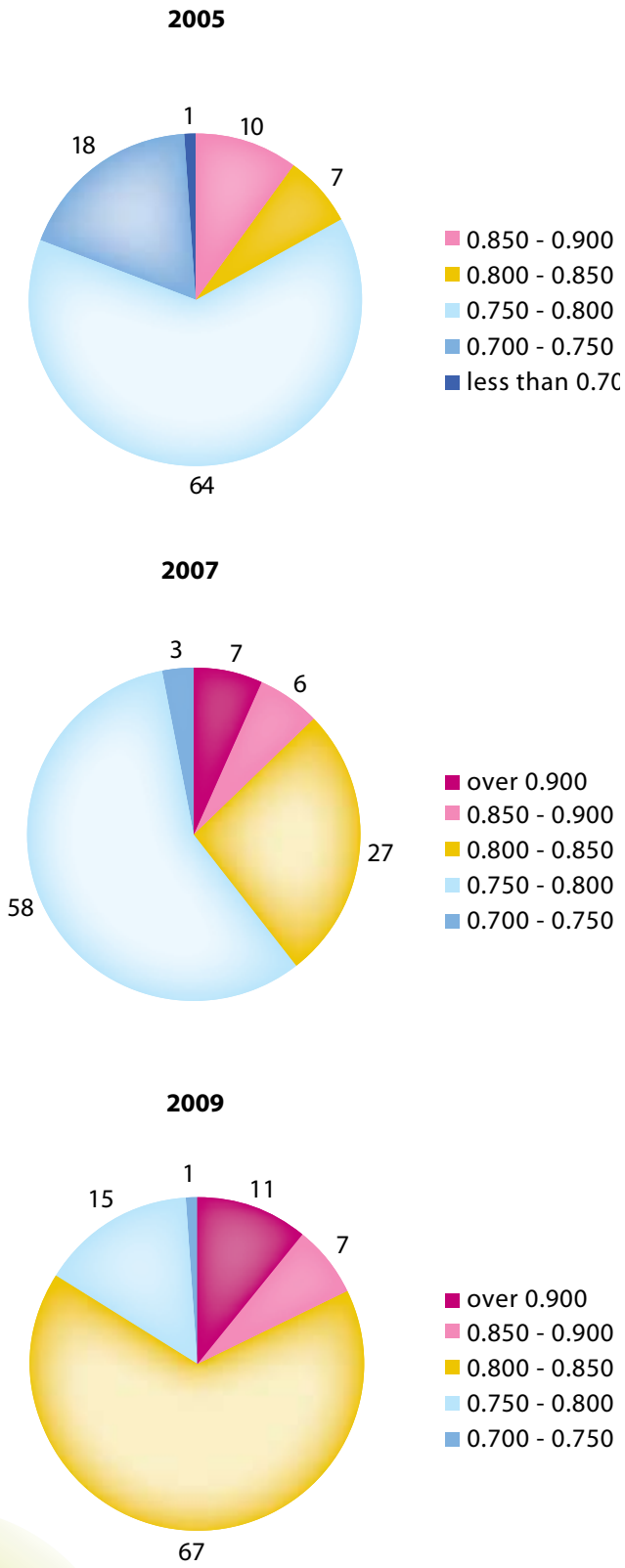
However, positive HDI changes should not be viewed with excessive optimism. Growing income from sales of oil is a dubious platform for modernization. Sustainability of the improvements in life-expectancy is in question due to problems with public health financing. The education index is steadily rising, but the quality of Russian education is decreasing. So growth of human potential in Russian regions is insufficient to accelerate the spread of innovation, establish conditions for regions and cities to compete for investments and human capital, and improve mobility of the population. Modernization and the Russian space remain at a distance from each other.

8.6 Conclusions and recommendations. Spatial modernization priorities

The analysis of worldwide and Russian development trends suggests priorities for lowering barriers in Russia's space and for promoting modernization.

1. Accelerating the diffusion of innovation (technology, information, consumption structures, lifestyle, etc.). As noted above, innovation spreads down a hierarchy, from larger to smaller cities, and from urban centers to suburbs within agglomerations. It can also spread from border regions with intense global contacts into a country's interior, but this route of diffusion

Figure 8.7. Population shares in regions with various levels of HDI in 2005-2007, %



is relatively less developed in Russia. Institutional and infrastructure barriers need to be lowered in order to accelerate the spread of innovation. Investments in modern transportation infrastructure can help to 'stitch together' a country's space, joining the centres of agglomerations to their suburbs, large cities to each other and to lesser cities, and also to port cities and gates to global markets. Modernization can be accelerated by prioritizing governmental infrastructure investments in territories with major cities and population concentrations. This will reduce economic distance for businesses and for most of the country's inhabitants.

The institutional mechanisms to expand the channels for spread of innovation and give momentum to the agglomeration effect are well-known. They are: city planning, horizontal coordination of municipality development within agglomerations, fighting corruption barriers faced by business in allocation of land and issue of construction permits, enhancing financial independence of cities, and ensuring that local government bodies are transparently elected and accountable to the public. These 'recipes' have been proven worldwide.

2. Stimulating competition between regions and cities for investments and human capital. Neither markets nor national space can develop and modernize without competition, which improves the business climate and stimulates institutional modernization, ensuring that the best regions win. In Russia there are a number of regions (Kaluga and Leningrad Regions, etc.), which have improved their institutional environment to attract private investors, although their chief advantage remains their geographical position. Competition for investments from the federal budget can also contribute to improvement of the institutional environment in regions, but only if transparency in their distribution is assured. At present the priority for the Russian government and state-owned companies is oil

& gas extraction, construction of oil pipelines, and implementation of political projects with doubtful modernization effects. Investments in extraction of raw materials are totally immune to quality of regional institutions: major resource mining companies bear little or no regional risks, since all relevant issues are taken care of at the federal level. Highly subsidized regions feel no need for competition and institutional improvements, so long as transfers from the federal budget continue. They will have no incentives to become more active until budget relationships are decentralized.

Competition for human resources will intensify for as long as depopulation continues. All of the largest Russian cities are involved in such competition, but the advantages of the Moscow agglomeration ensure that it attracts the lion's share of labor migration. Other cities with more than a million inhabitants and those with population size approaching such a level have little to attract migration from other regions because they lack resources to develop infrastructure and urban environment, and to create high-quality jobs.

Enhancement of competition to stimulate modernization of the institutional environment in regions and cities requires decentralization of management, change in the structure of tax revenue in favour of regional government as opposed to federal government, and in favor of local government as opposed to regional government. Competition needs to be supplemented by the development of horizontal links between regions and municipalities comprised within agglomerations in order to resolve common infrastructure tasks.

3. Greater population mobility. The problem of poor mobility of the Russian population is rooted not only in the economy but also in society. Most Russians want new jobs to be created where they live, regardless of how competitive their territory may be. But at the same time most families support migration by their grown-up children to big cities for the purposes of education and finding better-paid jobs. Patterns that involve working away from home are also increasing (commuting, seasonal work, rotational work, etc.): such patterns reduce tension on the labour markets of under-developed and depressed territories or one-company towns without the need for spending to support a change of abode by the whole family. Migration for purposes of education and labour improve the situation on labour markets and therefore deserve to be supported by government.

Conditions for growth of migration by households have not been put in place and are unlikely to appear in next few years. This is confirmed by mediocre results of a resettlement programme implemented by the Ministry of Labour as part of anti-crisis policy on the labour market. Migration by households depends on higher personal income levels, elimination of the institution of compulsory registration at an address, development of housing markets with low entry thresholds, an extensive and flexible system of housing finance, and creation of new high-quality jobs in large cities. The best option in the next few years will be to support more viable forms of labour migration, simultaneously lowering barriers to relocation by households from depressive peripheral territories.

Spatial diffusion of innovation, competition between regions and cities, and population mobility are all operating to modernize the Russian space, even without government support, but this is a slow process. Much still needs to be done to enable operation of these mechanisms to best effect. Human development is a crucial task in this respect.

Table 8.1. Human Development Index for the regions of the Russian Federation

	GDP per capita, USD at PPP	Income index	Life expectancy at birth	Longevity index	Literacy	Students among persons Enrollment of education of persons aged 7 to 24 years	Education Index	HDI 2009	Position	For ref.: HDI 2008
Russian Federation	18869	0.875	68.67	0.728	99.4	0.766	0.918	0.840		0.838
Moscow	40805	1.000	73.61	0.810	99.8	1.254	1.083	0.964	1	0.932
St. Petersburg	25277	0.923	71.19	0.770	99.8	1.064	1.020	0.904	2	0.890
Tyumen Region	57175	1.000	69.49	0.742	99.2	0.732	0.905	0.882	3	0.878
Republic of Tatarstan	23290	0.910	70.82	0.764	99.0	0.772	0.917	0.864	4	0.861
Sakhalin Region	43462	1.014	64.83	0.664	99.4	0.673	0.887	0.855	5	0.842
Belgorod Region	19569	0.881	71.07	0.768	98.6	0.754	0.909	0.852	6	0.851
Tomsk Region	19064	0.876	68.06	0.718	98.9	0.888	0.955	0.850	7	0.847
Republic of Sakha (Yakutia)	21159	0.894	66.45	0.691	99.0	0.786	0.922	0.836	8	0.826
Krasnoyarsk Territory	20779	0.891	67.63	0.711	99.0	0.721	0.900	0.834	9	0.829
Omsk Region	16213	0.849	68.72	0.729	98.7	0.795	0.923	0.834	10	0.828
Republic of Komi	22335	0.903	66.54	0.692	99.2	0.717	0.900	0.832	11	0.829
Orenburg Region	19507	0.880	67.86	0.714	98.9	0.721	0.900	0.831	12	0.826
Lipetsk Region	17902	0.866	68.44	0.724	98.4	0.727	0.898	0.829	13	0.829
Arkhangelsk Region	19310	0.878	67.62	0.710	99.2	0.705	0.896	0.828	14	0.820
Sverdlovsk Region	15811	0.845	68.39	0.723	99.2	0.765	0.916	0.828	15	0.830
Krasnodar Territory	13899	0.824	70.66	0.761	99.0	0.720	0.900	0.828	16	0.820
Novosibirsk Region	13383	0.817	68.94	0.732	98.8	0.828	0.935	0.828	17	0.827
Republic of Bashkortostan	15797	0.845	69.01	0.734	98.8	0.729	0.902	0.827	18	0.828
Chelyabinsk Region	15098	0.837	68.26	0.721	99.1	0.778	0.920	0.826	19	0.829
Samara Region	14520	0.831	68.2	0.720	99.2	0.792	0.925	0.825	20	0.830
Kursk Region	12860	0.811	68.06	0.718	98.5	0.856	0.942	0.823	21	0.814
Republic of Udmurtia	15290	0.839	68.26	0.721	99.0	0.748	0.909	0.823	22	0.818
Yaroslavl Region	14760	0.834	68.59	0.727	99.2	0.745	0.910	0.823	23	0.819
Volgograd Region	13200	0.815	69.49	0.742	98.9	0.739	0.906	0.821	24	0.824
Saratov Region	12812	0.810	69.1	0.735	99.2	0.763	0.916	0.820	25	0.814
Moscow Region	17255	0.860	68.21	0.720	99.6	0.650	0.881	0.820	26	0.819
Nizhny Novgorod Region	14709	0.833	67.06	0.701	98.9	0.783	0.920	0.818	27	0.814
Rostov Region	11302	0.789	69.54	0.742	99.1	0.782	0.921	0.818	28	0.814
Voronezh Region	11036	0.785	68.94	0.732	98.3	0.838	0.935	0.817	29	0.809
Magadan Region	16748	0.855	64.06	0.651	99.6	0.845	0.946	0.817	30	0.811
Perm Territory	16642	0.854	66.56	0.693	98.9	0.734	0.904	0.817	31	0.815
Orel Region	11214	0.788	68.68	0.728	98.9	0.806	0.928	0.815	32	0.810
Kaliningrad Region	14136	0.826	67.67	0.711	99.4	0.708	0.899	0.812	33	0.805
Kemerovo Region	18721	0.873	65.37	0.673	98.9	0.691	0.890	0.812	34	0.811
Republic of North Ossetia-Alania	9343	0.757	71.93	0.782	99.1	0.703	0.895	0.812	35	0.804
Kaluga Region	14500	0.831	67.56	0.709	99.2	0.698	0.894	0.811	36	0.804
Irkutsk Region	15987	0.847	65.45	0.674	99.1	0.751	0.911	0.811	37	0.806
Volgograd Region	14327	0.829	67.27	0.705	98.8	0.715	0.897	0.810	38	0.827
Republic of Chuvashia	10971	0.784	68.98	0.733	99.0	0.758	0.913	0.810	39	0.809
Republic of Dagestan	9337	0.757	73.98	0.816	98.4	0.600	0.856	0.810	40	0.801

	GDP per capita, USD at PPP	Income index	Life expectancy at birth	Longevity index	Literacy	Students among persons Enrollment of education of persons aged 7 to 24 years	Education Index	HDI 2009	Position	For ref.: HDI 2008
Republic of Mordovia	11394	0.790	69.06	0.734	97.9	0.751	0.903	0.809	41	0.807
Murmansk Region	15555	0.842	67.19	0.703	99.6	0.654	0.882	0.809	42	0.810
Chukotka Autonomous District	39220	0.997	58.22	0.554	99.4	0.642	0.877	0.809	43	0.796
Republic of Khakassia	13680	0.821	67.25	0.704	98.8	0.728	0.901	0.809	44	0.800
Astrakhan Region	12610	0.807	68.31	0.722	98.6	0.714	0.895	0.808	45	0.810
Ulyanovsk Region	11794	0.796	68.75	0.729	98.6	0.719	0.897	0.807	46	0.799
Ryazan Region	11510	0.792	67.69	0.712	98.7	0.781	0.918	0.807	47	0.798
Penza Region	10764	0.781	69.38	0.740	98.4	0.724	0.897	0.806	48	0.799
Leningrad Region	21549	0.897	66.73	0.696	99.5	0.478	0.823	0.805	49	0.790
Tambov Region	11469	0.791	68.78	0.730	98.1	0.709	0.890	0.804	50	0.797
Khabarovsk Territory	12320	0.803	66.33	0.689	99.5	0.768	0.919	0.804	51	0.798
Primorie Territory	12574	0.807	66.72	0.695	99.5	0.736	0.909	0.804	52	0.788
Stavropol Territory	8725	0.746	70.28	0.755	98.6	0.736	0.903	0.801	53	0.795
Republic of Karachaevo-Cherkessia	8669	0.745	71.54	0.776	98.4	0.670	0.879	0.800	54	0.796
Tula Region	12671	0.808	66.69	0.695	99.1	0.705	0.896	0.800	55	0.797
Republic of Karelia	12931	0.812	66.56	0.693	99.2	0.697	0.894	0.799	56	0.796
Novgorod Region	16397	0.851	64.47	0.658	98.9	0.677	0.885	0.798	57	0.790
Kamchatka Territory	12931	0.812	66.06	0.684	99.7	0.696	0.897	0.798	58	0.789
Altai Territory	10295	0.773	68.52	0.725	98.2	0.707	0.890	0.796	59	0.790
Kurgan Region	10833	0.782	67.38	0.706	98.4	0.727	0.898	0.796	60	0.789
Republic of Adygea	8583	0.743	69.97	0.750	98.7	0.705	0.893	0.795	61	0.780
Smolensk Region	11845	0.797	65.55	0.676	98.9	0.759	0.912	0.795	62	0.787
Vladimir Region	11666	0.794	66.23	0.687	99.4	0.720	0.903	0.795	63	0.783
Kirov Region	9634	0.762	67.92	0.715	98.4	0.730	0.899	0.792	64	0.787
Kostroma Region	10941	0.784	67.17	0.703	98.8	0.691	0.889	0.792	65	0.788
Republic of Buryatia	11148	0.787	65.27	0.671	98.8	0.769	0.915	0.791	66	0.783
Bryansk Region	9345	0.757	67.86	0.714	98.6	0.731	0.901	0.791	67	0.783
Amur Region	13115	0.814	64.41	0.657	99.3	0.707	0.898	0.789	68	0.777
Tver Region	12228	0.802	65.3	0.672	99.1	0.700	0.894	0.789	69	0.786
Republic of Kabardino-Balkaria	7666	0.724	72.08	0.785	98.8	0.592	0.856	0.788	70	0.782
Republic of Mariy El	10265	0.773	67.08	0.701	98.8	0.690	0.889	0.788	71	0.782
Republic of Kalmykia	8087	0.733	68.61	0.727	98.2	0.694	0.886	0.782	72	0.776
Zabaykalsky Territory	11926	0.798	64.67	0.661	98.8	0.684	0.887	0.782	73	0.775
Ivanovo Region	7425	0.719	66.72	0.695	99.3	0.755	0.914	0.776	74	0.770
Pskov Region	9877	0.767	64.52	0.659	98.9	0.696	0.891	0.772	75	0.764
Republic of Chechnya	5023	0.654	73.22	0.804	96.0	0.590	0.837	0.765	76	0.779
Republic of Altai	7520	0.721	65.82	0.680	98.3	0.695	0.887	0.763	77	0.761
Republic of Ingushetia	3494	0.593	78.31	0.889	96.2	0.487	0.804	0.762	78	0.772
Jewish Autonomous Region	9849	0.766	63.34	0.639	99.1	0.657	0.880	0.762	79	0.761
Republic of Tuva	7578	0.722	60.04	0.584	99.1	0.683	0.888	0.732	80	0.730

Calculating the Human Development Index for the Constituent Members of the Russian Federation

The Human Development Index (HDI) consists of components that have equal weight:

- income as measured by the gross domestic product (gross regional product) in purchasing power parity US dollars (PPP US$);
- education as measured by the adult literacy rate (with two-thirds weight) and the gross enrolment ration among children and young people between the ages of 6 and 23 (with one-third weight of 1/3);
- life expectancy, as measured by the life expectancy at birth.

Fixed minimum and maximum values are established for each of the dimension indices:

- the life expectancy at birth: 25 and 85 years;
- adult literacy rate: 0% and 100%;
- gross enrolment ratio among children and young people: 0% and 100%;
- real GDP per capita (PPP US$): $100 and $40,000.

The dimension indices are calculated using the following formula:

$$Index = \frac{{}_{actual.value}X_i - {}_{min.value}X_i}{{}_{max.value}X_i - {}_{min.value}X_i}$$

The income index is calculated slightly differently: it uses the base-ten logarithm of the real GDP per capita. Income is adjusted in view of the fact that, beyond a certain point, increases in income do not lead to a higher level of human development. Taking the logarithm limits the spread of income values and thus decreases the contribution of high income to the HDI:

$$W(Y) = \frac{\log y_i - \log y_{min}}{\log y_{max} - \log y_{min}}$$

The Human Development Index is the arithmetic average of the three dimension indices: the life expectancy index, the education index (which consists of the adult literacy rate with a two-thirds weight and the gross enrolment ratio with a one-third weight) and the income index.

Additional procedures are used for calculating the income index for the constituent members of the Russian Federation:

- adjusting (proportionally increasing) the gross regional product (GRP) of each constituent member of the Russian Federation based on the undistributed part of the national GDP;
- adjusting the GRP for the difference in prices by multiplying it by the ratio of the average national cost of living to the cost of living in the region;
- converting it into purchasing power parity US dollars (PPP US$) for the given year.

For the purposes of calculating the education index, the adult literacy rate is taken to be 99.5% of the population. The gross enrolment ratio is taken to be the ratio between the number of students in all the different types of educational establishments (schools and primary, secondary and higher educational establishments) to the total population between the ages of 6 and 23.

The Human Development Index can take values between 0 and 1. The lower limit for developed countries is 0.800.

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The previous National Human Development Reports in the Russian Federation have been devoted to the following themes:

2010	Millennium Development Goals in Russia: Looking into the Future
2009	Energy Sector and Sustainable Development
2008	Russia Facing Demographic Challenges
2006/2007	Russia's Regions: goals, challenges, achievements
2005	Russia in 2015: Development Goals and Policy Priorities
2004	Towards a Knowledge-based Society
2002/2003	The Role of the State in Economic Growth and Socio-Economic Reform
2001	Generation Aspects of Human Development
2000	Impact of Globalization on Human Development
1999	Social Consequences of the August 1998 Crisis
1998	Regional Differentiation in the Russian Society
1997	Human Development under Conditions of Political and Economic Transformations
1996	Poverty: its reasons and consequences
1995	Human Development concept and its application to the Russian context

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