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Siberia from the Standpoint of Human Development

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Abstract—The paper discusses the problems of human development in Siberian regions. Attention is focused on regional aspects delineated in national Human Development Reports; the necessary resources for the development of human capital are identified. It is noted that the poverty of a significant share of Siberians is a significant brake on their development. It is concluded that the archaic social structure of the population with a high share of the poorest people, the narrow stratum of the middle class, and a very small share of rich people has formed in the country. All Siberian regions had positive dynamics in human development in the last decade. However, the human development indices lagged significantly behind the average Russian indices. Analysis of the human development indicators for different regions of the Siberian Federal District allows to conclude that there is spatial heterogeneity in quality of life. The majority of Siberian regions form a group with lower indicators. The most acute situation is observed in the national republics of Tyva, Khakassia, and Buryatia, where mostly indigenous people live. High social inequality and regional barriers to the development of human capital are noted. It is concluded that the Government of the Russian Federation is not taking decisive steps to reduce social inequalities and smooth out regional and social differences in human development.

Keywords: human development, social and regional differences, poverty as an obstacle to human development

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The problems of human development have been the focus of attention of economists, sociologists, demographers, philosophers, and historians. The field of research on human development is wide, varying from theory and methodology to specific areas of research and substantiation of measures taken to improve the efficiency of its use. According to the established viewpoint, human capital is knowledge, skills, and abilities that a person possesses and uses to achieve his or her own goals.

The modern interpretation of human capital is given in studies by M.N. Denisevich, M.M. Kritskii, and N.V. Nevretdinova [1, 3, 7]. They contain a historiographical review of studies by Russian and foreign scientists on the problems of human capital. They consider the scientific contributions of G. Becker, T. Schultz, and other scientists to the development of the neoclassical field of “economics” and define human capital as an integrated, synergistic resource for the development of an individual, group, and state. M.M. Kritskii considers human capital as a long-term capital resource that requires significant investment for its reproduction. N.V. Nevretdinova analyzed the development of the theory of human capital in works by Western and domestic scientists in the 19th–20th centuries. She considers the development of the the-

ory of human capital in a historical retrospective and identifies the factors that influence its quality and volume. The concept of human capital and investments in people have enabled economists to take a new approach to factors of economic growth, among which education was regarded as decisive.

At present, researchers focus on the regional specifics of human development, e.g., studies by K.V. Ledovskii, Ya.A. Lyashchenko, S.V. Ryashchenko, Yu.A. Grigoriev, etc. [5, 6]. The authors focus their attention on the problems of social reproduction of the regional community, including management of human development. G.A. Ponomareva [10] examines the situation in the Sakha Republic (Yakutia) based on the integral human development index for 2000–2005. The indices of human development and its components in regions of the Far Eastern Federal District for the same period are compared. O.S. Myasoedov [6] considers the ratings of world countries in terms of human development.

The prospects and risks of human development in Siberia are considered in the monograph by Novosibirsk sociologists [8]. Relying upon a broad information base, the authors have come to disappointing conclusions:

—the low level of wages and incomes, which has caused an impressive scale of poverty, does not ensure the development of human potential for a significant number of Siberians;

—the educational and qualification potential of the population, which is a strategic advantage of Siberia, is used insufficiently;

—the uncompensated unfavorable climatic conditions and territorial isolation from recreational and cultural centers lead to the formation of unreasonable regional social inequalities;

—the high socioeconomic heterogeneity of the regions of Siberia causes contrasts in human development;

—the indigenous peoples of Siberia, with a specific economic structure and way of life, are poorly involved in the economy.

The research conducted by the authors have led to the conclusion that the significant lag of Siberia in human development is due to the lack of resources for individual investment in human development and insufficient state social expenditures.

The present article is devoted to the problem of human development in the Siberian Federal District (SFD). The SFD was formed on May 13, 2000; its territory of 5 145 000 km² accounts for 30% of Russia's territory overall; the district accounts for 10.4% of the country's GRP, including 11.6% of industrial production, 12.1% of agricultural production, and 9.6% of investments in fixed assets. The population of the SFD as of January 1, 2017 was 19 326 200 people.

The decisive factor in the successful functioning of individual territories and countries in modern conditions is human development. The UNDP human development reports are prepared annually for all countries and are devoted to the most pressing problems in this area. The National Reports focus on specific and actual problems of human development in a particular country.

Our previous analysis [2] showed that the dynamics of human potential development in Siberia were positive in the first decade of the 21st century, but the aggregate and particular human development indices were noticeably lower than the average Russian indices. Siberia is a very heterogeneous territory from the standpoint of human development: it hosts both the leading territories demonstrating high quality characteristics for the population and economic success and outsider territories that occupy the lowest positions in the ranking of Russian regions in terms of human development. This concerns, first of all, the autonomous republics and districts where the indigenous peoples of Siberia live.

REQUIRED RESOURCES FOR THE DEVELOPMENT OF HUMAN CAPITAL

It is known that the minimum subsistence level (SM) is the value of the consumer basket, which includes the *minimum* sets of foods, nonfood goods, and services, which are necessary to preserve a person's health and ensure his activity. The incomes equal to 2 SM (survival budget) provide a recovery type of consumption, and incomes equal to 6 SM or more (comfortable living budget) provide a developing type of consumption.

According to statistics, in 2017, more than 13% of the Russian population (19.3 mln people) had incomes below the minimum subsistence level (RUR 10088 for the entire population). Ratio of average per capita money income of population to subsistence minimum amounted 311.5%, deficit of money income was RUR 717.3 bn. Every fourth Russian had incomes from 1SM to 2 SM. Approximately 11% of the population in the Russian Federation had incomes of 6 SM or more¹.

The current social structure of the Russian population cannot be considered progressive in terms of incomes. The Russian Federation Government is not taking decisive steps to reduce social inequalities and smooth out regional and social differences in the conditions of reproduction of human capital. As a result, the archaic social structure of the population with a high share of the poorest people, a narrow stratum of the middle class, and a very small share of rich people has formed in the country. The situation in the regions is similar (Table 1).

According to experts, the Russian Federation has not created the institutional and economic prerequisites for expanding access to market sources of income and, consequently, to growth of the middle class. In the Russian Federation, market sources of income are available only to 8% of the population, while in developed countries, they are available to 20–25%. According to statistics, in the period from 2000 to 2016, the share of income from entrepreneurial activity in the Russian Federation decreased twofold from 15.4 to 7.8%, property incomes and wages changed slightly, but social payments increased significantly from 13.8 to 19.1%.²

POVERTY AS AN OBSTACLE TO HUMAN DEVELOPMENT

The impoverishment of a significant number of Russians, including Siberians, is taking place against

¹ Calculations according to the source: *Russian Statistical Yearbook, 2017: Statistical Digest*, Moscow: Rosstat, 2018, p. 154.

² *Russian Statistical Yearbook, 2017: Statistical Digest*, Moscow: Rosstat, 2017, p. 144.

Table 1. Population distribution in Russian Federation and Siberian federal subjects by average per capita income, 2017, %

Federal subject	Below 1 SM	From 1 to 2 SM	From 2 to 6 SM	More than 6 SM	Share of total poor people in Russia, %
Altai Republic	25.8	39.9	32.3	1.9	0.3
Republic of Buryatia	18.1	33.1	42.5	6.3	0.9
Tyva Republic	40.5	38.9	20.0	0.6	0.7
Republic of Khakassia	18.0	37.2	41.1	3.7	0.5
Altai krai	17.5	35.1	42.4	5.0	2.2
Zabaikalsky krai	21.5	37.4	37.7	3.4	1.2
Krasnoyarsk krai	18.4	34.1	41.8	5.6	2.8
Irkutsk oblast	18.4	38.0	40.4	3.3	2.3
Kemerovo oblast	15.3	37.0	43.9	3.8	2.2
Novosibirsk oblast	16.5	36.6	42.8	4.0	2.4
Omsk oblast	13.9	31.1	46.8	8.1	1.4
Tomsk oblast	16.0	36.4	43.4	4.1	0.9
Russian Federation	13.2	28.7	47.4	10.6	100

Source: URL: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/poverty/#

the background of an increase in the number of billionaires in the country. According to 2016 data, the share of poor people in federal subjects of the SFD varied from 14.4% in Omsk oblast to 42.1% in the Tyva Republic (Fig. 1).

The situation is aggravated by a drop in real monetary incomes, which has been observed since 2014. In general, real monetary incomes in the Russian Federation have decreased by 1.4%. The reduction in real monetary incomes has occurred in all federal districts

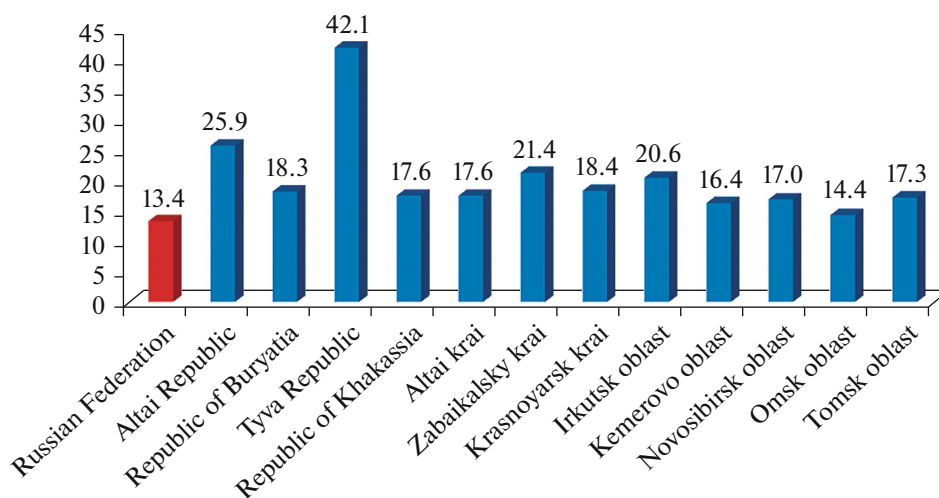


Fig. 1. Share of population in federal subjects of Siberian Federal District with incomes below minimum subsistence level in 2016, %.
Source: *Russian Statistical Digest*, 2017, p. 142.

Table 2. Ratings of Moscow and Siberian federal subjects in terms of quality of life

Federal subject	Rating score	Rank	
		2016	2017
Moscow	76.92	1	1
Novosibirsk oblast	49.11	28	26
Krasnoyarsk krai	46.15	40	39
Tomsk oblast	43.75	47	49
Omsk oblast	42.53	52	54
Kemerovo oblast	41.83	52	54
Republic of Khakassia	43.07	58	51
Altai krai	38.46	66	64
Irkutsk oblast	36.17	69	69
Republic of Buryatia	31.54	76	76
Zabaikalsky krai	25.91	80	81
Altai Republic	25.16	82	82
Tyva Republic	13.96	85	85

Source: <https://ria.ru/20180214/1514552265.html>

except the North Caucasus. In the SFD, this indicator was one of the highest in Russia and amounted to 7.2% in April–June 2017. In particular, it was 9.5% in the Republic of Buryatia, 10.7% in Zabaikalsky krai, 10.8% in the Altai Republic, and 16.8% in the Tyva Republic. Real incomes of the population were observed to grow in the Altai Republic (102.8%) and Tyva Republic (101.7%).³

The ranking of the SFD regions in terms of the ratio of monetary incomes to the cost of the fixed set of consumer goods and services (in descending order) was 1.8 in the Altai Republic, 1.78 in Krasnoyarsk krai, 1.66 in Kemerovo oblast, 1.65 in Novosibirsk oblast, 1.6 in Zabaikalsky krai, 1.58 in Irkutsk oblast, 1.57 in Tomsk oblast, 1.53 in the Republic of Buryatia, 1.52 in the Republic of Khakassia, 1.46 in Altai krai, 1.4 times in Omsk oblast, and 0.93 in the Tyva Republic.⁴

Peoples' low incomes and high cost of living determine the quality of life. Compilation of the ratings of the regions (in total, 85) resulted in the selection of 72 indicators characterizing the living conditions and quality of life in a region, starting with the region's level of economic development, incomes, living conditions, etc. (Table 2).

³ http://vid1.rian.ru/ig/ratings/regpol_07_2017.pdf

⁴ http://vid1.rian.ru/ig/ratings/regpol_07_2017.pdf

As we can see from the data, over the years, the position of most SFD regions have improved on the quality of life scale. The Tyva Republic ranks last in this list. The Tomsk and Kemerovo oblasts and Zabaikalsky krai have deteriorated their position.

According to statistics, in the period from 2000 to 2017, the share of business revenues in the Russian Federation decreased from 15.4 to 7.6% and the share of property revenues—from 6.8 to 5.4%. Meanwhile, the share of social payments increased from 13.8 to 19.6% and the share of wages (including hidden, not officially recorded wages) slightly increased from 62.8 to 65.4%.⁵ So far, the official minimum wage in Russia is below the minimum subsistence level. The increase in the minimum wage, planned from 1 January 2018, will also contribute to improving the living standards of the population.

LIFE EXPECTANCY

One of the important indicators of the level of human development in a region is life expectancy. According to this indicator, in 2015, Russia occupied 110th place (70.5 years). Occupying the first five places on the scale of life expectancy are Japan (83.7 years), Switzerland (83.1), Singapore (83.0), Australia (82.8), and Spain (82.8).⁶

However, there are positive trends. Currently, life expectancy in Russia has for the first time exceeded 72 years. Experts note that the average life expectancy has increased by six months compared with 2016.⁷ Among the regions of Siberia, the highest indicators of life expectancy are observed in Tomsk oblast (71.3 years), Novosibirsk oblast (70.9), and Omsk oblast and Altai krai (70.4 years in both regions). From 2005 to the present, life expectancy has been steadily increasing and has grown by 5.8 years (by 9%). By 2016, life expectancy reached its peak: 70.9 years. In the SFD as a whole, this indicator was 69.3 years, and in Russia, 71.4. The shortest life expectancy was observed in the Tyva Republic: 63.1 years.⁸

Studies by Novosibirsk scientists have shown that life expectancy largely determines the integral indicator of the demographic security of a region. In the opinion of the authors, demographic security is a state of protection of life, reproduction, and the formation of structures (age, ethnic, and family structures) from demographic threats, which is supported by the institutional environment [13].

⁵ *Russia in Figures, 2018: Small Statistical Digest*, Moscow, 2018, p. 122, 146.

⁶ URL: <https://emigrant.guru/kuda/srednyaya-prodolzhitelnost-zhizni-v-rossii.html#i-3>

⁷ URL: <http://nsn.fm/society/ran-srednyaya-prodolzhitelnost-zhizni-v-rossii-uvlichilas-ne-za-schyot-russkikh.html>

⁸ URL: <http://info.sibnet.ru/article/490078/>

SOCIAL INEQUALITIES IN THE ACCESSIBILITY OF EDUCATION AS A BARRIER TO HUMAN DEVELOPMENT

A significant role in creating favorable conditions for the development of human capital in all countries of the world is played by the state, which compensates for insufficient individual investments. In Russia, the share of expenditures on health care, education, and culture is about two to three times lower than the level of developed countries and does not compensate for the lack of individual investments.

According to statistics, the richest population accounted for 46.8% of all incomes in 2017 in the Russian Federation, and 20% of the poorest population accounted for 5.4%. The Gini coefficient (income concentration index) was 0.410, and the fund ratio was 15.3.⁹

Income inequality causes inequality in the level, structure, and quality of consumption for various social groups and negatively affects the conditions of human development. The calculations showed that the energy value of food consumed by the first 10% poorest population group was below 2000 kilocalories per day, which is 1.6 times less than for the 10% richest group of the population and does not meet the existing standards. This negatively affects the physical and mental development of the poorest people.

Thus, we can draw a conclusion about the high differentiation of opportunities and social inequality of different income groups for the development of human potential. Unreasonable social inequalities create tensions in society, lead to disintegration and opposition of social forces, and ultimately become a social threat to national security. In addition, extensive statistical material for countries of the world shows that high inequality (above the critical level) impedes economic growth and the progressive transformation of institutions.

The current challenges set revolutionary tasks for Russia in choosing prospects for economic modernization based on the knowledge and accumulation of human capital and more equitable social development of the country for all strata of the population. In modern conditions, as global experience shows, the role of science, education, and innovation in all spheres of human activity is sharply rising. Social inequality, including in education, is an obstacle to the development of human capital. Most social doctrines of developed countries focus on reducing inequalities and creating equal opportunities for all. For modern Russia, this vector of development is the most relevant.

The Global Wels Report notes that 3.3 bln individuals, i.e., more than 70% of adults around the world,

⁹ *Russian Statistical Yearbook, 2017: Statistical Digest*, Moscow: Rosstat, 2018, p. 154.

have wealth below USD 10 000, while the group of millionaires, which is less 1% of the adult population of the planet, owns 44% of world wealth.¹⁰ According to this report, property inequality declined since 2000 until the crisis of 2008, after which it began to increase, especially in developing countries. In almost all countries, the median wealth is exceeded by five to ten times by the wealth of the upper decile, i.e., the tenth percentile of the richest people.

Russia is included in the group of countries with very high inequality, in which the richest decile group owns more than 70% of the total wealth. Over the past ten years, the level of inequality in Russia has increased. Moreover, a tendency towards an increase in income concentration has been observed since the 2000s.

The majority of Russians (77%) surveyed by the All-Russia Public Opinion Research Center believe that the income distribution in Russian society is unfair. However, over the past 25 years, the share of such opinions has slightly decreased: from 84% in 1990 to 77% in 2015. This opinion is held by people of retirement age (82% of people over 60 years old), poorly educated people (83%), and people with low incomes (82%) more often than by young people (73% of people aged 18–24 years) who study at universities (73%) and respondents with high incomes (69%).¹¹

The 2014 Report on Human Development in the Russian Federation states that the problem of excessive inequality is closely related to the population's assessment of the legitimacy of the existing depth of inequality. Studies show that the current depth of inequality seems to be irregular for most Russians. Almost three-quarters of Russians (71% of the population) consider it necessary to reduce it, while the share of opponents to reducing inequality is only 9%. However, Russians are much more "tolerant" to income inequality compared to other European countries, especially if allowance is made for the real level of inequality in the country.¹²

One way to reduce inequality is to fight poverty. According to the World Bank, the growth of investments in human and natural capital can improve the situation of the poor.

Income inequality causes inequality in human development, since it predetermines the availability of education and health services to different social groups of the population. Analysis has shown that in the Russian Federation, inequalities in access of different

¹⁰ See Global Wels Report, 2014. URL: http://economics.uwo.ca/people/davies_docs/credit-suisse-global-wels-report-2014.pdf

¹¹ URL: <http://v1.ru/text/world/55781089333248/html>

¹² *Human Development Report 2014. Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience*, Moscow: Izd. Ves' Mir, 2014. <http://www.vesmirbooks.ru/>.

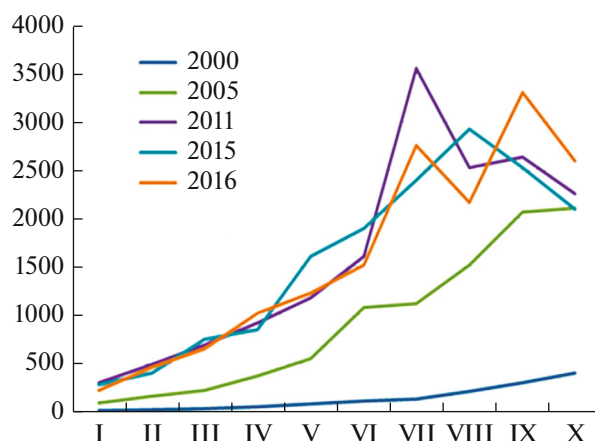


Fig. 2. Household expenses in Russian Federation for payment of education services for percentiles of population in 2000–2016 per household member, RUR/yr.

Source: *Russian Statistical Digest*, 2017, p. 142.

income groups of the population to education persist with a marked decrease.

Meanwhile, there has been an increase in the volume of paid services in the presence of constitutional “guarantees” of free education and health care. According to a survey of schoolchildren of 10th and 11th grades in the 2014/2015 school year (N = 1247), which was conducted in urban and rural areas of Novosibirsk oblast (under the direction of Cand. Sociol. Sci. I.I. Kharchenko), the option of paid education at a university or college is considered suitable by every fifth student of specialized educational institutions and by more than a quarter of students in general education classes. About half of the students surveyed consider that the option of paid education is suitable for them only as a last resort. Nevertheless, Russians are ready to invest in their children’s education.

According to a survey of 10 500 parents with children, 60% of parents are ready for serious material expenses for their children’s education: 70.2% of parents with higher education; 49.3% of parents who only finished high school. Education is among Russians’ priorities for saving money, along with health and recreation.¹³ Household spending on education services has increased significantly over the past 15 years for all population percentiles (Fig. 2).

The dynamics of household spending on education services and their differentiation by income groups also indicate the high value of education for all strata of Russian society that view education as a kind of social elevator allowing one to move from a standard of subsistence to one of consumption.

The minimum spending on education services in the group with the lowest incomes indicates the lim-

ited opportunities for the poor to obtain an education. These restrictions are perceived by a significant part of the population as social injustice.

Although the share of paid services in the education system in the total volume of paid services is fairly stable, the total and per capita volume of paid services in the education system increased from 2000 to 2017 by approximately 16 times.¹⁴

Accordingly, the share of students at secondary and higher educational institutions who pay full tuition for studies has increased in the Russian Federation many times over this period.

The existing inequalities in the accessibility of education could be compensated for by means of social state expenditures, but their size in the Russian Federation is approximately twice as low as in developed countries and insufficient to cover the deficit of individual investments in the development of human capital. If investments in the knowledge economy do not fundamentally change in the coming years, Russia may end up on the margins of civilization.

Public spending on education in the Russian Federation in the period from 2000 to 2017 has increased from 2.9 to 3.5% GDP. According to the World Bank, in 2014, Russia ranked 98th in the world in terms of education spending.¹⁵

During the period from 2011 to 2016, there was a positive trend in the level of professional education in the Russian Federation. The share of employed people with higher education increased, and the share of people with lower education decreased. While in 2001 29.8% of employed had higher education, in 2016 their share was 33.5%; these indicators in 2001 and 2016

¹³URL: <http://www.justeconomic.ru/jusecs-91-1.html>

¹⁴*Education in Figures: Small Statistical Digest*, Moscow, 2016, p. 21.

were 26.3 and 29.4% among men and 33.5 and 37.7% among women. The implementation of a mid-level professional training program resulted in training 22.3 and 22.2% of men and 31.8 and 29.8% of women. The total share of skilled workers was 19.4 and 19.2%, including 24.1 and 23.6% among men and 14.5% among women.¹⁶ The average expected duration of study in the Russian Federation during the forthcoming life for children aged six years increased from 1990 to 2014 from 13.9 to 15.7 years.¹⁷

Thus, the analysis allows us to conclude that the inequalities in access to education in the Russian Federation persist for different income groups with a noticeable decrease.

PER CAPITA GROSS NATIONAL INCOME

One of the indicators of human development in the country is gross domestic product. For the period 2000–2016, it increased in the Russian Federation in value terms by a factor of 16 from RUR 7306 to 86044 bln. The per capita product amounted to RUR 49835 and RUR 586630, respectively. Meanwhile, fixed assets in the country's economy increased during this period approximately ten times, from RUR 17464 to RUR 1834304 bln.¹⁸

The important challenges for the Russian economy in the very near future are to avoid the export raw material model, perform environmental programs, sharply increase the efficiency of using the enormous natural resource potential, and reduce the burden on the environment. The Orders of the President of the Russian Federation to the Government emphasize the need to “ensure the transition to an environmentally sustainable development model that enables the long-term effective use of the natural-resource capital of the country with simultaneous elimination of the impact of environmental threats to human health as one of the main goals in the development of strategic planning documents and the comprehensive action plan of the Government of the Russian Federation for 2017–2025.”

Among the legal tools for solving environmental problems that stimulate investments in environmental protection and are simultaneously sources that replenish the revenue part of budgets of all levels, we should

mention environmental payments (payment for negative environmental impact), which are established in accordance with the Law on Environmental Protection.

Our analysis of human development in Siberian regions has made it possible to draw conclusions about the positive dynamics, problems, and possible ways to improve the situation. The analytical material can serve as the basis for developing specific proposals to solve the identified problems.

REGIONAL FEATURES OF HUMAN DEVELOPMENT

A very important indicator of human development is the human development index (HDI; until 2013, the human potential development index), which combines three basic dimensions of human development: life expectancy at birth, average duration of learning, and per capita gross national income.

According to the methodology for calculating, the HDI is one of the most universal indicators for comparing countries. The main purpose in calculating the HDI is not only to focus on comparing the economic indicators of the development of countries/regions, but also to take into account the difference in the level and quality of life and human development. The UN's annual human development reports provide calculations of this index for most countries with the exception of small island states and countries lacking reliable statistics.

The UN ranks countries in descending order of calculated HDI values, dividing them into four groups according to the level of human development: very high level (the index value is not less than 0.8), high level (the index value is not less than 0.7), medium level (the index value is not less than 0.55), low level (index value is below 0.55). According to 2015 data, Russia, which had an index of 0.804, was for the first time included among countries with a high level of human development. The world average index value was 0.717, which is significantly lower than in Russia.

Norway remains the leader in terms of human development with an index of 0.949 (first place in 1999–2004 and from 2007 to the present). In 2005–2006, Iceland was the leader; until 1999, the leading position was held by Canada and, before that, by Japan. Norway is the leader because of its high average per capita income; Australia (0.939) and Switzerland (0.939), second and third, respectively, have higher indices of life expectancy and level of education data than Norway, but the average income in these countries is lower.¹⁹

¹⁵Ranking of the countries of the world in terms of education spending. The World Bank: World Development Indicators 2014, <http://gtmarket.ru/ratings/expenditure-on-education/info>.

¹⁶*Social Position and Quality of Life of the Russian Population*, 2017, p. 60.

¹⁷Education Indicators. 2017, p. 84. <https://www.hse.ru/data/2017/06/29/1171183202/IO%202017.%203.%20Finansirovanie%20obrazovaniya.pdf>;

¹⁸*Russia in Figures, 2017: Small Statistical Digest*, Moscow: Rossstat, 2017, p. 33.

¹⁹*Human Development Report 2014. Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience*, pp. 22–25.

The human development indices presented in the reports for regions of the SFD allow us to draw a conclusion about the spatial heterogeneity of human capital development. In Siberian regions, the HDI in 2015 ranged from 0.776 in the Tyva Republic, which is a permanent outsider on the human development scale, to 0.885 in Tomsk oblast.

In the period of 1997–2015, all Siberian regions had positive human development dynamics. However, these indicators lagged significantly behind the average Russian indicators. Only Tomsk oblast steadily demonstrated a higher level of human development during the observation period. The underdeveloped republics have the lowest human development indices. These include the Tyva Republic, Altai Republic, and Zabaikalsky krai.

CONCLUSIONS

The study has shown that despite positive trends, the low incomes and large scale of poverty of the population in Siberia does not provide favorable conditions for human development. The high socioeconomic heterogeneity of the regions that make up the district causes contrasts for individual HDI components. Siberia hosts both the leading territories that demonstrate a high level of human development and outsiders that occupy the lowest positions in the ranking of Russian regions in terms of human development. The noticeable lag of the majority of Siberian regions in human development is due to the lack of resources for individual investment in human development and insufficient social expenditures from the state.

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CONFLICT OF INTERESTS

The author declares that she has no conflicts of interests.

REFERENCES

- Denisevich, M.N., Development of the theory of human capital in research works of Russian scientists, *Kreativnyi Menedzher*, 2015, no. 2, pp. 39–45.
- Kalugina, Z.I., Social trends in Siberian regions, *Reg. Res. Russ.*, 2014, vol. 4, no. 2, pp. 47–55.
- Kritskii, M.M., The theory of human capital: required reconstruction of methodological base, *Vestn. INZHE-KON*, 2005, no. 2, pp. 3–19.
- Korchagin, Yu.A., *Rossiiskii chelovecheskii kapital. Faktor razvitiya ili degradatsii?* (Russian Human Capital: Is It Factor of Development or Degradation?), Voronezh: Tsentr Issled. Reg. Ekon., 2005.
- Ledovskoi, K.V., Regional features of the management of human capital development, *Materialy Mezhdunarodnoi nauchno-prakticheskoi konferentsii "Rol' innovatsii v transformatsii sovremennoi nauki"* (Proc. Int. Sci.-Pract. Conf. "Role of Innovations in Transformation of Modern Science"), Ufa: Aeterna, 2017, pp. 207–209.
- Myasoedova, O.S., Index of human capital development, *Plekhanovskii Barometr*, 2017, no. 9, pp. 91–95.
- Nevretdinova, N.V., Analysis of the theory of human capital development in the research works of foreign and national scientists in 19–20th centuries. <https://cyberleninka.ru/article/n/analiz-razvitiya-teorii-chelovecheskogo-kapitala-v-trudah-zapadnyh-i-otechestvennyh-uchenyh-xix-xx-vekov>.
- Perspektivy i riski razvitiya chelovecheskogo potentsiala v Sibiri* (Perspectives and Risks for the Development of Human Potential in Siberia), Kuleshov, V.V., Novosibirsk: Sib. Otd., Ross. Akad. Nauk, 2014.
- Polishchuk, E.A., *Chelovecheskii kapital v ekonomike sovremennoi Rossii: problemy formirovaniya i realizatsii* (Human Capital in Economics of Modern Russia: Problems of Development and Implementation), Stavropol: Sev.-Kavk. Fed. Univ., 2013.
- Ponomareva, G.A., The Republic of Sakha (Yakutia) according to index of human potential development in 2000–2004, *Reg. Ekon.: Teor. Prakt.*, 2008, no. 12, pp. 70–76.
- Potopal'skaya, K.V., Development of human capital in Russia and abroad, *Nauchn. Sib. Al'manakh*, 2014, nos. 3–4, pp. 28–32.
- Razvitie chelovecheskogo potentsiala Sibiri: problemy sotsial'nogo vosproizvodstva regional'nogo soobshchestva* (Development of Human Potential in Siberia: Problems of Social Reproduction of Regional Community), Irkutsk, 2013.
- Soboleva, S.V. and Chudaeva, O.V., Demographic security of Russia and its regions, *Reg.: Ekon. Sotsiol.*, 2008, no. 3, pp. 147–167;
- Soboleva, S.V., Smirnova, N.E., and Chudaeva, O.V., Multiregional analysis of dynamics of demographic risks in Siberia, *Reg.: Ekon. Sotsiol.*, 2016, no. 3 (91), pp. 76–97; *Ugrozy i zashchishchennost' ekonomiki Rossii. Opyt otsenki* (Evaluation of Treats and Security of Russian Economy), Novosibirsk, 2016, pp. 101–146.
- Sokolova, G.N., State and use of human capital in the Republic of Belarus, *O-vo Ekon.*, 2010, no. 5, pp. 85–104.
- Fauzer, V.V., Demographic potential of northern regions of Russia: factor and condition for economic exploration of Arctic, *Ekon. Reg.*, 2014, no. 4, pp. 69–81.
- Formirovanie blagopriyatnoi sredy dlya prozhivaniya v Sibiri* (Development of Favorable Environment for Liv-

- ing in Siberia), Kuleshov, V.V., Ed., Novosibirsk: Inst. Ekon. Org. Prom. Proizvod., Sib. Otd., Ross. Akad. Nauk, 2010.
18. Khasanshin, A.A., Ponomareva, E.V., and Pirogova, S.V., Investments to human capital in modern Russia and their efficiency, *Matritsa Nauchn. Poznaniya*, 2017, no. 4, pp. 59–65.
19. Khekalov, O.Yu. and Yakubko, Ya.S., Index of human potential development in Russia, *Materialy II Mezhdunarodnoi nauchno-prakticheskoi konferentsii "Innovatsionnoe razvitiye sovremennoi nauki: problemy, zakonomernosti, perspektivy"* (Proc. II Int. Sci.-Pract. Conf. "Innovative Development of Modern Science: Problems, Regularities, and Prospects"), Penza: Nauka i Prosveshchenie, 2017, pp. 115–117.

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