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## Russia's North Regions as Frontier Territories: Demographic Indicators and Management Features

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V.P. Samarina<sup>1</sup>, T.P. Skufina<sup>2</sup>, A.V. Samarin<sup>3</sup>

**Abstract:**

*The study of Russia's northern regions as frontier territories is the subject of this article. It has been shown that frontier territories are distinguished with special mechanisms of development and predominance of innovative projects in entrepreneurship.*

*The management of the frontier territories is less centralized and depends more on personal and organizational qualities of local leaders.*

*Distinctive features of the frontier territories brought about the fact that they have some specific demographic characteristics. One of the directions of the research is to clarify the question whether Russia's northern territories are frontiers or not at present time.*

*This problem has been studied from two viewpoints. Firstly, on the basis of the authors' methodology the demographic indicators of Russia's northern territories were compared with the average Russian ones. Secondly, it has been estimated how special the management of the northern territories is in comparison with others.*

**Keywords:** *Russia's Northern regions, frontier territories, demographic indicators, management of regions' population.*

**JEL code:** *J11, J42, J61.*

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<sup>1</sup>Staryy Oskol Technological Institute, branch of National Research Technological University "MISIS", Staryy Oskol, Russia, [samarina\\_vp@mail.ru](mailto:samarina_vp@mail.ru)

<sup>2</sup>Federal Research Centre "Kola Science Centre of the Russian Academy of Sciences", Apatity, Russia

<sup>3</sup>Belgorod State National Research University (Staryy Oskol Branch), Staryy Oskol, Russia

## **1. Introduction**

The relevance of the carried out research has been determined by constancy of a fundamental problem consisting in a contradiction between strengthening of geopolitical, economic importance of northern regions of the Russian Federation and simultaneous aggravation of social and economic losses of these territories. The northern natural conditions of vital activity are not very attractive for people. The influx of people to the North all over the world was always caused only by economic reasons. The economy development of the Soviet Union largely depended on the development of the northern regions. The industrial development of the northern territories led to growth of cities. The pronounced migration movement was observed from central and southern Russia's regions to the northern territories. People were attracted with high salaries, an opportunity to get apartments quickly and free of charge, to buy cars, furniture, household appliances and to provide themselves with some other material benefits inaccessible in the Soviet Union. All of this exerted strongest influence on population settlement.

We can note especially that the theory and practice of the north development and management show unprecedented mixture of meanings and conditions. So, these theory and practice includes, on the one hand, successful experience of the USSR. In the period of Soviet rule Russian northern territories turned from poorly populated, undeveloped suburbs into largest industrial Russia's centers provided with scientific centers, palaces of culture, theaters, museums, etc. But these are other country achievements, in other borders, other geopolitics and another social structure. The reproduction of this experience in modern and foreseeable reality is impossible.

On the other hand, foreign experience of northern territories management which certainly. However, the level of problems of Russia's northern territories development, their scale, complexity and importance for national economy as well have no analogues in foreign countries which have northern territories. An attempt to consider foreign experience of northern territories management as basis of the solution of the most difficult problems of the development of Russia's northern territories is an attempt to construct a car during the process of studying a bicycle.

All this had a strong influence on the formation of the northern territories as frontier ones. Frontier territories are distinguished by special mechanisms of development and predominance of innovative projects in entrepreneurship. The management of the frontier territories is less centralized and depends more on local leaders' personal and organizational qualities.

In the conditions of market economy the state does not guarantee getting high pay envelope. People do not have the opportunity to get apartments quickly and free of charge. Cars, furniture, household appliances etc. are not deficit anymore and people can draw a good salary and buy them living in other regions comfortable for accommodation. This contradiction determines the direction of migration processes.

Raw materials source exhaustion leads to work stoppage of mining and processing enterprises, the majority of which is city-forming. As a result northern territories face a problem of sharp forced migration, human settlements become empty and their number decrease.

In this connection, the fundamental goal of the research is to solve the following problem: to what extent Russia's northern regions have acquired and kept up features of frontier territories? The problem statement determines cross-disciplinary approach and complexity of the research. To achieve the research goal it is necessary to solve a number of problems:

- to identify the belonging of Russia's northern regions to frontier ones on the basis of the authors' methodology;
- to assess the management features of the territories of the North in comparison with other territories of the Russian Federation.

In our study we proceeded from a number of hypotheses:

- firstly, Russia's northern regions have lost the features of frontier territories recently;
- secondly, Russian authorities do not contribute to the development of the northern territories as frontier ones because of widespread centralization of management.

## 2. Literature Review

There is a point of view that northern territories can be referred to frontier ones. A number of researchers adhere to such position Fujita and Mori (1998), Waldram *et al.* (1995), Zamyatina (1998). Frontier territories radically differ from outlying ones. They are distinguished with special mechanisms of development, prevalence of innovative projects in entrepreneurship, passionate persons' significant impact on the development of the territories (Billington, 1991; Saxenian, 2006). Distinctive features of the frontier territories brought about the fact they have some specific demographic characteristics (Heleniak and Bogoyavlensky, 2015; Berman and Howe, 2012; Zamaraeva, 2014; Overpeck *et al.*, 2005; Larsen and Fondahl, 2014).

A number of works reflecting some problems of population settlement in the North in inaccessible and little-developed territories have a special place. Such settlement has its own features. On the one hand, traditional features of housekeeping of native northern population are based on nomadic deer-raising, hunting, fishery. Such traditions mean quite rational nature management which does not break natural ecological balance. Koptseva (2013), Hamilton *et al.* (2016) wrote about it. Similar conclusions were drawn by Heleniak and Bogoyavlensky (2015) and Niels *et al.* (2004).

During the socialist society development the population in social and economic researches of Russia's northern territories was mainly considered from the positions of providing a certain territory with manpower resources. Russian scientists as Adamesku *et al.* (2003), Kirko and Zakharova (2013), Pak and Turanova (2013), Silin (2015) wrote about it.

At present time an initial point of the research is an identification of the influence of economic, social and other factors on the population of northern territories. To varying degrees, contemporary problems of development of the northern territories of Russia were examined in various works (Samarina *et al.*, 2016; 2018; Skufina *et al.*, 2015). Such position closely adjoins the necessity of consideration of a problem of population accommodation.

### 3. Methodology

The objects of our study are regions of the Russian Federation, whose territories as of 2018 are completely or partially located in the Far North (beyond the Polar circle) or equivalent areas. The territories completely or partly attributed to the North are shown in Figure 1. The names of the regions are shown in Table 1.

**Figure 1.** Territorial subjects of the Russian Federation completely or partially referred to the zone of the North



**Source:** Authors.

There are 13 territorial subjects of the Russian Federation located completely in the zone of the North. There are 11 territorial subjects of the Russian Federation located partly in the zone of the North. The area of the Russian Federation territory is 17,125,191 km<sup>2</sup> as of 2018 (Federal State statistics service of the Russian Federation, 2018). At the same time, the total area of the Russian Federation subjects, referred to the north, is 782,292 km<sup>2</sup> or 45.66% of the country's territory. The total area of the Russian Federation subjects, partially located in the zone of the north, is 8989150 km<sup>2</sup> or 52.49% of the country's territory. In total, the area of the Russian Federation subjects, completely or partially referred to the north, is 98.16% of the country's territory. The zone of the north itself occupies more than 70% of the Russian territory. There are no such vast northern territories in any country in the world.

The main of the areas of the research concerns clarifying the question whether the Russia's northern territories are frontier ones. This question will be studied from two positions. First, we will compare demographic indicators of Russia's northern territories with average Russian ones. Secondly, we will estimate how special is the northern territories management in comparison with other territories of the Russian Federation. In our study, we suggest to consider the underwritten demographic characteristics of frontier territories as the main ones:

- by sex ratio – the number of men exceeds the number of women;
- for the average age of the population – less than in other territories;
- by the coefficient of natural increase – positive.

#### 4. Key Findings of the Research

##### 4.1 Evaluation of the northern regions of the Russian Federation as frontier territories according to demographic indicators

In Table 1 some demographic indicators of the Russian Federation subjects whose territories are completely or partially located in the North as of 2014 are presented. According to the results, we can determine whether these regions can be referred to frontier territories in accordance with demographic characteristics.

*Table 1. Some demographic indicators of the Russian Federation subjects whose territories are completely or partially located in the zone of the North as of 2014*

Number in Figure 1	Subject of the Russian Federation	Sex ratio, %	Average age, years old	Birth rate, %	Death rate, %	Natural increase rate, %	Life expectancy, years old
<i>Subjects of the Russian Federation completely located in the zone of the North</i>							
1	Murmansk	105,1	37,6	11,8	11,4	+0,4	70,46

	region						
2	The Republic of Karelia	119,5	39,6	12,4	14,6	-2,2	69,2
3	Arkhangelsk Region	114,2	37,0	12,6	13,2	-0,6	70,16
4	Nenets Autonomous District	99,2	31,5	16,6	8,9	+7,7	65,76
5	The Sakha Republic (Yakutia)	103,1	34,1	16,9	8,6	+8,3	69,13
6	Chukotka Autonomous District	97,8	34,0	13,3	10,7	+2,6	62,11
7	Kamchatka Territory	97,6	40,0	13,2	11,5	+1,7	67,98
8	Sakhalin Oblast	99,9	38,1	13,6	13,0	+0,6	67,70
9	Magadan Region	86,4	37,2	12,2	11,9	+0,3	67,12
10	Yamal-Nenets Autonomous Area	90,9	28,7	16,4	5,1	+11,3	71,23
11	Khanty-Mansi Autonomous Area	94,7	32,1	17,3	6,4	+10,9	72,23
12	The Republic of Tuva	107,9	29,1	25,3	10,9	+14,4	61,79
13	The Republic of Komi	102,2	34,5	14,1	12,2	+1,9	69,27
<b><i>Subjects of the Russian Federation partially located in the zone of the North</i></b>							
14	Tomsk Oblast	108,6	38,0	13,7	11,8	+1,9	70,33
15	Khabarovsk Territory	95,4	39,7	14,0	13,3	+0,7	67,92
16	Tyumen Region	105,1	37,2	17,2	8,3	+8,9	71,35
17	Krasnoyarsk Territory	105,1	37,7	14,5	12,7	+1,8	72,29
18	Irkutsk Region	105,4	37,3	15,4	13,8	+1,6	66,72
19	Primorsky Krai	988	41,7	12,8	13,4	-0,6	68,19
20	The Republic of Altai	106,6	34,8	20,9	11,2	+9,7	67,34
21	The Republic of Buryatia	106,5	35,0	17,5	11,5	6,0	67,67

22	Zabaikalsky Territory	103,4	35,5	16,0	12,4	3,4	67,11
23	Amur Region	100,8	36,2	13,8	13,9	-0,1	66,38
24	Perm Krai	106,2	38,8	14,8	14,0	+0,8	67,82

*Source: Authors using Federal State statistics service of the Russian Federation (2018).*

Let us analyze the submitted data. As of 2014 in Russia there were 1140 women for 1000 men on average. In Russia's northern regions the situation of sex ratio is different. In the northern territory it is on average 101,4 %, that is 1000 men fall on 1014 women. The highest rates are in the Republic of Karelia (119,5 %) and Arkhangelsk region (114,2 %). This ratio exceeds Russia's national mean value. However, these regions are exceptions in the total situation. In 7 regions from 13 ones completely located in the North zone there are fewer women than men.

Sex ratio on the territories, partially located in the North zone is 103,8 %, that is, 1000 men fall on 1038 women. It is also lower than in Russia on average. Thus, Russia's territories, fully or partly located in the North, in accordance with sex ratio can be referred to frontier territories.

Now we will compare an average age of the people of the North and not northern territories. As of 2014 the Russians' average age was 37.7 years old. In the northern territory it is lower: the average one is 34.9 years old. And the "youngest" are inhabitants of Nenets Autonomous Okrug (average age is 31.5 years old), Yamalo-Nenets Autonomous Okrug (average age is 28.7 years old), Khanty-Mansi Autonomous Okrug (average age is 31.2 years old) and The Republic of Tuva (average age is 29.1 years old). These regions are the same ones that have increased their population in recent years and have positive balance of migration. An average age of the population in the territories, partially located in the North zone is 37.4 years old and it practically does not differ from the average age for Russia. The "youngest" here are the Republic of Altai (average age is 34.8 years old) and the Republic of Buryatia (mean age is 35.0 years old). In other words, the same regions have increased their population in recent years and have positive balance of migration. Thus, Russian territories completely located in the zone of the North in terms of the index "the average age of the population" can be referred to frontier territories.

In 2018 birth rate in Russia was 13.3 % that is 13.3 babies per 1,000 resident population were born. In the northern territories, the fertility rate fluctuated from about 11.8 % in Murmansk region to 25.3 % in the Republic of Tuva. The same indicators range is noted on the territories, partially located in the northern zone: from 12.8 % in Primorsky territory to 20.9 % in the Altai Republic.

The death rate in Russia is 13.0 %, that is 13.0 per 1000 persons of the resident population died. In the northern territories the mortality rate varied considerably as well: from 5.1 % in Yamalo-Nenets Autonomous Area to 14.6 % in the Republic of

Karelia. The same indicators range is noted on the territories, partially located in the North zone: from 8.3 % in Tyumen region to 14.0 % in Perm territory.

Positive natural growth is a characteristic of regions fully or partially located in the northern zone that is, the number of births in most regions exceeds the number of deaths. The exception in the northern territories is only the Republic of Karelia and Arkhangelsk region. The exceptions among the regions, partially located in the North zone are Primorsky Krai and Amur oblast. Russia's rate of natural increase was 0.3 %. In most territories, fully or partly located in the northern zone, this figure is much higher. Particularly high values were noted in Yamalo-Nenets Autonomous area (natural growth rate is 11.3 %), Khanty-Mansi Autonomous Area (rate of natural increase is 10.9 %) and the Republic of Tuva (natural growth rate of 14.4 %). These regions have positive migration balance.

Thus, the increase in population in the regions of the North in recent years has been ensured not only due to migration, but due to exceeding the birth rate over death rate as well. In terms of the index "natural increase" most of Russia's northern regions can be referred to frontier territories.

#### **4.2. The peculiarities of Russia's northern territories management**

Natural-climatic and geographical features make the zone of the North the least attractive for life. Such situation is not unique to Russia (Shepovalnikov *et al.*, 2009; Froumin, 2012). A number of foreign researchers of the North make mention of this fact. For example, Andrew (2014), Berman and Howe (2012), Michal *et al.* (2015), Bjornland and Thorsrud (2014), Black *et al.* (2011), Gill and Sevigny (2015).

The change in the protectionist policy towards the North has led to a massive loss of socio-economic characteristics. It is in contradiction with the economic requirements for these territories and it entails irreplaceable infrastructural losses, contradicts the practice of foreign countries northern territories managing and creates geopolitical problems of "empty space". Obviously, that disclosure of objective dynamics and forecast of migration processes development in the Russian North, related to macroeconomic options for the development and positioning of northern territories is important not only for the northern zone but also for Russia's territorial development as a whole.

Living in the North is connected, on the one hand, with low comfort and increased risks for the population. On the other hand, it is connected with the need for regional authorities to ensure vital activity processes to the northern territories inhabitants. At the same time, authorities should not only create and maintain northern cities and other settlements infrastructure. It is much more important to ensure social and economic development of the northern territories. Increasing the level of social and economic development is the goal of the State Program "Socio-economic development of the Arctic zone of the Russian Federation", presented in a new



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edition in 2017 (Socio-economic development of the Arctic zone of the Russian Federation: Decree of the Government of the Russian Federation, 2014).

The regions are mainly responsible for achieving the Program's targets. None of the northern regions is able to solve this problem on their own. The possibility of the problem solving is in the investment mechanism of the core zones of Russian northern territories, which generate large sectoral projects ("anchor projects") (usually associated with mining specialization of the Russia's regions of the North). The projects realization can be regarded as a stabilizing factor for ensuring long-term development of the northern regions.

From the positions of the northern regions, to ensure socio-economic development means to find an opportunity to participate in "anchor projects" and to develop on their basis a network of smaller ("not anchored") projects.

The most difficult government purpose is to generate a sufficient number of such projects, taking into account the effectiveness of state-owned and non-state companies activities included in these projects predominantly under market conditions.

At the present stage of the development of society, the socio-economic factors of population distribution become the most significant, while the natural ones retreat into the background. In recent years, against the backdrop of a sharp increase in the rate of destabilization of social and economic processes in the North, the number of the northern population of practically all regions has significantly decreased compared to the level of the Soviet Union. We believe that, as a result, there arises the problem of the impossibility in practice of the fundamental principle of the modern system of regulating regional development – orientation toward mechanisms for the self-development of regions, including the northern ones.

In our opinion, the purpose of regulating of northern territories development should be the creation of a compensation mechanism for reimbursing the population for increased material and physical costs in connection with living and working in adverse climatic northern conditions, as well as a mechanism for ensuring the northerners' equal consumption (in comparison with population of other regions) of goods and services (educational, cultural, health care, etc.), taking into account rising in price "northern" factors. In order to do that, it is necessary to solve the following problems:

- to suspend the tendency of reducing the level of social security of the northerners;
- to ensure the improvement of the existing guarantees and compensations system taking into account the real size of minimum subsistence level, the negative pressure of the "northern" factors on the functioning of the human body, the higher real basket of goods value;

- to improve the legal and regulatory framework for providing state-legal and economic support to the native northern population in order to ensure their sustainable social and economic development in the market and support an original way of life, traditional nature management and revival of northerners' distinctive culture.

## **5. Conclusion**

Thus, we have found that according to demographic indicators a fair number of regions of the North can be referred to frontier territories. According to sex ratio, there is an excess of the number of men over the number of women; in accordance with an average age of the population it is smaller in comparison with other territories; by the natural increase coefficient it is positive; according to the balance of migration it is positive as well; according to migration reason it is an economic, voluntary one. At the same time, the management of the northern territories is centralized. Therefore, from the point of view of management features, Russia's northern territories cannot be considered frontier ones. Our first hypothesis, concerning the fact that Russian northern regions have lost the features of frontier territories has been confirmed only partially.

It is the Federal center that is trying to adapt regions located in the North to some features of frontier territories in terms of management features. The authorities try to develop special development mechanisms, increase the share of innovative projects in entrepreneurship and attract more passionate individuals who can influence the development of the northern territories. Our second hypothesis concerning the fact that Russian authorities do not contribute to the development of the northern territories as frontier ones because of widespread centralization of management has not been confirmed.

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### **References:**

Adamesku, A.A., Granberg, A.G., Kistanov, V.V. 2003. State and Territorial System of Russia (Economic and Legal Basics). Moscow, DeKa.

- Andrew, R. 2014. Socio-economic drivers of change in the Arctic. Oslo, Arctic Monitoring and Assessment Program. AMAP technical report, 9.
- Berman, M., Howe, L. 2012. Remoteness, Transportation Infrastructure, and Urban-Rural Population Movements in the Arctic Proc. Int. Conf. Urbanisation of the Arctic, Nuuk, Greenland, August 2012. Stockholm, Nordregio, 108-122.
- Billington, R.A. 1991. America's Frontier Heritage. Albuquerque, University of New Mexico Press.
- Bjornland, H., Thorsrud, L. 2014. What is the effect of an oil price decrease on the Norwegian economy. Oslo, Norges Bank.
- Black, R., Adger, W.N., Arnell, N.W., Dercon, S., Geddes, A., Thomas, D. 2011. The effect of environmental change on human migration. *Global Environmental Change*, 21(1), 3-11.
- Federal State statistics service of the Russian Federation. 2018. Available at: [http://www.gks.ru/wps/wcm/connect/rosstat\\_main/rosstat/en/main](http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/en/main)
- Froumin, I.D. 2012. Socio-Economic Development and the Next Generation: Five Transitions. *Journal of Siberian Federal University. Humanities & Social Sciences*, 11, 1534-1541.
- Fujita, M., Mori, T. 1998. On the dynamics of frontier economies: endogenous growth or the self-organization of a dissipative system? *The Annals of Regional Science*, 32(1), 39-62.
- Gill, A., Sevigny, D. 2015. Sustainable Northern Development. The Case for an Arctic Development Bank.
- Hamilton, L.C., Saito, K., Loring, P.A., Lammers, R.B., Huntington, H.P. 2016. Climigration? Population and climate change in Arctic Alaska. *Popul Environ*, 38(2), 115-133.
- Heleniak, T., Bogoyavlensky, D. 2015. Arctic populations and migration. Arctic human development report: Regional processes and global linkages. Copenhagen, Nordisk Ministerråd, 53-104.
- Kirko, V.I., Zakharova, K.N. 2013. Traditional Farming is the Background of Vital Activity of the Indigenous Minorities. *Journal of Siberian Federal University. Humanities & Social Sciences*, 9(6), 1290-1296.
- Koptseva, N.P. 2013. The results of theoretical and experimental research of the modern problems of the indigenous small-numbered peoples of the North, Siberia and the Far East in Siberian Federal University. *Journal of Siberian Federal University. Series: Humanities*, 6(5), 762-772.
- Larsen, J.N., Fondahl, G. (Eds.). 2014. Arctic Human Development Report: Regional Processes and Global Linkages. Copenhagen, Tema Nord, Norden.
- Michał, Ł., Graczyk, P., Stepień, A., Smieszek, M. 2015. Cele i oczekiwania Arctic polskiej polityki. Warszawa, Ministry of Foreign Affairs, Department of European Policy.
- Niels, E., Larsen, J.N., Nilsson, A. 2004. Arctic human development report. Akureyri, Iceland. Stefansson Arctic Institute.
- Overpeck, J., Sturm, M., Francis, J.A. 2005. Arctic system on trajectory to new state. *EOS*, 86(24), 309-316.
- Pak, N.I., Turanova, L.M. 2013. The model of cluster system of social and educational support of rural area and the extreme north school students. *Journal of Siberian Federal University*, 6(9), 1297-2008.
- Samarina, V.P., Skufina, T.P., Samarin, A.V., Baranov, S.V. 2016. Some problems of anti-recessionary public management in Russia at Present. *Management of Systems of*

- Socio-Economic and Legal Relations in Modern Conditions of Development of Education and Society, 6(6S), 38-44.
- Samarina, V., Skufina, T., Samarin, A., Ushakov, D. 2018. Alternative Energy Sources: Opportunities, Experience and Prospects of the Russian Regions in the Context of Global Trends. *International Journal of Energy Economics and Policy*, 8(2), 140-147.
- Saxenian, A.L. 2006. *The new Argonauts. Regional advantage in a global economy.* Cambridge, Massachusetts and London, England, Harvard Univ. Press.
- Shepovalnikov, V.N., Onoshko, V.A., Avrusin, S.L., Burtseva, T.E., Solodkova, I.V., Sinelnikova, E.V., Chasnyk, V.G., Tomskiy, M.I. 2010. Solar-biosphere interactions and human health in the far North. *Yakut Medical Journal*, 1, 85-89.
- Silin, A.N. 2015. Long Distance Commuting in Oil and Gas Production Industry in the Northwestern Siberia: Sociological Analysis of Change. *Mediterranean Journal of Social Sciences*, 6(3), 5, 199-206.
- Skufina, T., Baranov, S., Samarina, V., Shatalova, T. 2015. Production Functions in Identifying the Specifics of Producing Gross Regional Product of Russian Federation *Mediterranean Journal of Social Sciences*, 6(5), Supplement 3, 265-270.
- Socio-economic development of the Arctic zone of the Russian Federation: Decree of the Government of the Russian Federation from April 21, 2014, N 366. 2014. Available at: <http://docs.cntd.ru/document/499091750>
- Waldram, J.B., Herring, D.A., Young, T.K. 1995. *Aboriginal health in Canada: Historical, cultural, and epidemiological perspectives.* Toronto, Univ. of Toronto Press.
- Zamaraeva, Ju.S. 2014. What are global transformations experienced by the indigenous peoples of the North? *Journal of Siberian Federal University. Series: Humanities*, 10(7), 1705-1718.
- Zamyatina, N.Y. 1998. Area Development (frontier) and its image in the American and Russian cultures. *Social Science and Modernity*, 5, 75-89.