

UDC: 314.114(985)(045)

DOI: 10.37482/issn2221-2698.2021.45.127

Socio-Demographic Processes in the Russian Arctic in Statistical Assessments and Population Surveys *

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Abstract. Specificity of modern social processes determines close attention of the global scientific community to socio-demographic processes in the Arctic. The article examines systemic and recent social and demographic processes in the Russian Arctic, determined both by the immanent specifics of the Arctic (generating active migration processes, the phenomenon of city-forming enterprises, etc.) and by the all-Russian social reforms (in particular, the pension reform). The methodological peculiarity of the article is to present socio-demographic processes through the analysis of quantitative indicators, as well as through the reflection in the consciousness of the Arctic population (highlighting workers of city-forming enterprises) of modern factors of influence that determine their attitude to residence and work in the Arctic. The analysis of the results of settlement processes in the Arctic regions has been carried out, indicating an unstable stabilization of the population situation in the Nenets, Chukotka and Yamalo-Nenets okrugs, provided by various factors; it revealed the preservation of the negative trend of population decline in the Murmansk Oblast. Statistical analysis and surveys have revealed socio-demographic problems caused by the pension reform, which can aggravate the problem of the outflow of working-age population from the Arctic territories. It was found out that the reaction of city-forming enterprise employees differs from the "all-Arctic" reaction of the population on the grounds confirming the stabilizing role of city-forming enterprises in socio-demographic processes in the Arctic.

Keywords: Arctic, socio-demographic process, problem, statistical analysis, survey, migration mood, city-forming enterprise.

Introduction

This work is within the framework of one of the most popular topics of world studies of the socio-economic space of the North and the Arctic, aimed at identifying the specifics of the course of socio-demographic processes [1, Zaikov K.S., Kondratov N.A., Kudryashova E.V., Lipina S.A.,

* For citation: Skufina T.P., Samarina V.P., Baranov S.V., Bazhutova E.A. Socio-Demographic Processes in the Russian Arctic in Statistical Assessments and Population Surveys. *Arktika i Sever* [Arctic and North], 2021, no. 45, pp. 127–149. DOI: 10.37482/issn2221-2698.2021.44.127

Chistobaev A.I., pp. 7–20; 2, Serova N., Korchak E., Skufina T., p. 2–3; 3, Heininen L., pp. 196–200]. Such special attention of the scientific community is explained by a whole complex of reasons that can be broken down on the following grounds.

The first reason is that socio-demographic trends reflect both objective economic factors and management [4, Kudryashova E.V., Lipina S.A., Zaikov K.S., Bocharova L.K., p. 447; 5, Schmidt J., Aanesen M., Klovov K., Khrutshev S., Hausner V., pp. 253–262; 6, Fauser V.V., Smirnov A.V., p. 113; 7, Volkov A.]. The second one is the special conditions of functioning of the North and the Arctic society, generated by geographic, climatic features, the action of environmental factors [8, Korchak E.A., Serova N.A., Emelyanova E.E., Yakovchuk A.A.; 9, Samarina V., Skufina T., Samarin A., pp. 707–710; 10, Volkov A.D., Tishkov S.V., Karginova-Gubinova V.V., Shcherbak A.P., pp. 205–230; 11, Markkula I., Turunen M., Rasmus S., p. 694]. The third objective is an increase of the social meaning of the Arctic, which is understood in many ways, ranging from the increasing importance of the Arctic and (or) northern society (often viewed as a special phenomenon and a special social value of modern society, requiring increased efforts to preserve) to the rising economic importance of Arctic resources [12, Kryukov V.A., Kryukov Ya.V., p. 27–30; 13, Gagiev N.N., Goncharenko L.P., Sybachin S.A., Shestakova A.A., p. 115–120; 14, Fauser V.V., Smirnov A.V., pp. 5–8; 15, Volkov A., Tishkov S.; 16, Bjerregaard P., Dahl-Petersen I., Larsen C., pp. 152–153; 17, Kryukov V.A., Kryukov Ya.V., Kuznetsov S.V., pp. 153–185; 18, Challenges and threats to national security ..., pp. 10–34; 19, Markin V.V., Silin A.N., pp. 76–80].

The most complicated interaction of these grounds generates a tangle of contradictions, so intricate and complex that scientists, unraveling it, do not repeat the results of previous studies, but find new knowledge characterizing the manifestation of specific socio-demographic processes, marking new factors and conditions of future development of the North and the Arctic. Therefore, in recent years, more and more books have appeared both in Russia and abroad, in which numerous, multidimensional, and even contradictory views on the specifics of socio-demographic processes manifestation in the northern territories of Russia and the world are presented.

Among these publications, the authors would especially like to note the large-scale collective monograph, which unites under the scientific editorship of Academician B.N. Porfiriev the multigenerational views of scientific teams of the Russian Academy of Sciences, traditionally engaged in the problems of the North development and its Arctic component — “Socio-Economic Problems of the Russian Arctic in the Research of the Institutes of the Russian Academy of Sciences: History, Modernity, Prospects” [20]. The authors also note the review articles that appeared in the journal “Arctic and North” thanks to a selfless initiative of the RFBR to strengthen the positions of the best scientific Russian journals in the global information space through the publication of review articles on the most relevant and fundamentally significant topics. In these works, special attention is paid to the socio-demographic component of the development of the North and the

Arctic [21, Skufina T.P., Mitroshina M.N., pp. 89–90, 93–106; 22, Skufina T.P., Korchak E.A., Baranov S.V., pp. 48–50, 52, 57–62, 65–70].

In this paper, the authors will continue the discussion of current and future development problems of the Arctic, proposing to consider both systemic and recent socio-demographic processes determined by the internal characteristics of the Arctic (for example, mono-dependence of the economy, active migration processes, the phenomenon of city-forming enterprises, etc.) and all-Russian social reforms (in particular, the pension reform). The significance of the pension reform factor is explained not only by the change in the size of the able-bodied population, but also by the very complex and ambiguous nature of its impact on the migration attitude of the Arctic population, which requires a detailed study [23, Baranov S.V., Skufina T.P., Gushchina I.A., pp. 162–170; 24, Toropushina E.E., pp. 619–624]. It should be noted that the study does not consider the impact of the COVID-19 pandemic on social and demographic processes. This is due to insufficient accumulation of statistical material; the inconsistency of the existing assessments of the current and forecast dynamics, set in the official, constantly updated, prognoses and plans for the socio-economic development of the regions of the Arctic zone of the Russian Federation (AZRF); changes of industrial plans of city-forming enterprises working in the Arctic, not reflected in their strategic priorities of development. The need for certainty of forecasts and plans of the state and the corporate sector is determined by the fact that the pandemic conditions have increased the role of budgetary policy and the influence of corporations on socio-demographic processes, especially in the Arctic [22, Skufina T.P., Korchak E.A., Baranov S.V., pp. 53–66; 25, Shokhin A.N., Akindinova N.V., Astrov V.Yu., Gurvich E.T., Zamulin O.A., Klepach A.N., Mau V.A., Orlova N.V., pp. 8–15, 22–27]. Therefore, it is difficult to make a benign quantitative analysis of the impact of the COVID-19 pandemic factor on socio-demographic processes in the Arctic, as not only assumptions on a qualitative level are required, but also the accumulation of statistical material and getting the way out of the state of economic uncertainty.

Objectives and methodological features

The aim of the article is to reveal the systemic and recent socio-demographic processes in the Russian Arctic, determined by the specifics of the Arctic (active migration processes, the phenomenon of city-forming enterprises, etc.) and by all-Russian social reforms (in particular, the pension reform). The paper includes the solution of the following tasks: 1) consider the dynamics of the population; 2) examine the main characteristics of population settlement of the Arctic regions; 3) study a new factor of influence — pension reform — on the socio-demographic processes in the Arctic.

The object of research is the regions fully included in the AZRF (Murmansk Oblast, Chukotka, Nenets, Yamalo-Nenets Autonomous Okrugs (AO)).

The specifics of the tasks determined the use of an interdisciplinary approach, including a set of methods of economic analysis and sociological research methods. This methodological feature emphasizes the relevance of the research. Thus, the words of famous sociologists and demographers V.V. Markin and A.N. Silin are still relevant: “Unfortunately, in general, it can be stated that the scientific support of the upcoming development of the Arctic, both sociological and interdisciplinary, is given absolutely insufficient attention” [19, Markin V.V., Silin A.N., p. 77].

The results of settlement processes in the Arctic were studied using traditional direct and indirect methods. The direct method made it possible to identify the dynamics of the population size of the regions fully included in the AZRF, based on the analysis of changes in the corresponding indicators over time. Indirect methods made it possible to study the characteristics of the composition of the population in a certain territory at a certain time. The authors were primarily interested in the proportion of urban residents and population density. The study took into account the following indicators characterizing the resettlement of the AZRF regions: area (S) — the area of a constituent entity of the Russian Federation as of 2021 (km²); population size (P) — calculated as the average annual resident population of a constituent entity of the Russian Federation; the study involved data for the period from 1929 to 2019 with a step of ten years, as well as annual indicators for the period from 2010 to 2021 (thousand people); population density (PD) — calculated as the ratio of the population size (P) to the area of the constituent entity of the Russian Federation (S) as of 2021 (people/km²); proportion of city population (PCP) — calculated as the ratio of the number of resident urban population to the total resident population of the constituent entity of the Russian Federation as of 2020 (%); number of cities — the number of settlements with city status as of 2021.

The analysis of the dynamics of the working-age population (together with the forecast dynamics) included economic and statistical methods and the results of population surveys.

In order to demonstrate the shift in the size of the working-age population in Russia, the results of an analysis of the three-way forecast of the working-age population size in the Russian Federation, taking into account the factor of increasing the retirement age, are presented. The forecast is based on extrapolation of the data of the three-way forecast of Rosstat on the size of the working-age population (built by Rosstat without taking into account the change in the retirement age)¹, adjusted by the authors, taking into account the phased scheme of the gradual increase in the retirement age². This prediction made it possible to reveal the effect of the influence (shift) of an increase in the retirement age on the size of the working-age population of the Rus-

¹Predpolozhitel'naya chislennost' naseleniya Rossiyskoy Federatsii [Estimated population of the Russian Federation]. URL: http://www.gks.ru/free_doc/new_site/population/demo/progn3a.xls (accessed 09 September 2021).

²Federal'nyy zakon "O vnesenii izmeneniy v otdel'nye zakonodatel'nye akty Rossiyskoy Federatsii po voprosam naznacheniya i vyplaty pensiy" ot 03.10.2018 N 350-F [Federal Law "On Amendments to Certain Legislative Acts of the Russian Federation on the Appointment and Payment of Pensions" dated 03.10.2018 N 350-F]. URL: http://www.consultant.ru/document/cons_doc_LAW_308156/ (accessed 09 September 2021).

sian Federation until 2036. To demonstrate the situation in the Arctic region, using the example of the Murmansk Oblast, the results of the forecast of the number of working-age population until 2036 were given, compiled by the authors according to the base scenario by a similar methodological scheme [23, Baranov S.V., Skufina T.P., Gushchina I.A., p. 165–166].

However, it is generally accepted that the size of the able-bodied population in the northern territories of Russia is determined mainly by migration processes [6, Fauser V.V., Smirnov A.V., p. 114–116]. In order to assess the prospects for the development of the migration situation in 2019–2021, the authors conducted three series of surveys, which allowed finding out the opinions and migration preferences of the Arctic residents, including those related to the pension reform. Conducting such surveys is possible only with the support of grant research. All three series of surveys were carried out with the support of the Russian Foundation for Basic Research, grant no. 19-010-00022. The first series of surveys was carried out in 2019 in cities and districts of the Murmansk Oblast according to a representative sample (survey of 1291 respondents, differentiated by sex, age, place of residence) [23, Baranov S.V., Skufina T.P., Gushchina I.A., pp. 168–170]. The second series of surveys on a representative sample was conducted in 2020–2021 in all regions, the territories of which are completely located in the Arctic zone (a survey of 1 403 people was carried out in the Murmansk Oblast, Yamalo-Nenets, Nenets, Chukotka Autonomous okrugs). It should be noted that the results of the second survey are massive (some of them are still being processed), a separate publication is required. In this study, the results of the survey for all regions of the Russian Arctic are used only to confirm (refute) the main conclusions based on the results of the survey in the Murmansk Oblast. The third series of surveys focused only on employees of city-forming enterprises. This is due to the generally accepted fact that the development of regional systems of the North and the Arctic is characterized by an increased role of corporate structures in socio-demographic processes, especially significant in times of crisis [22, Skufyina T.P., Korchak E.A., Baranov S.V., p. 52, 54, 56–57; Markin V.V., Silin A.N., pp. 80–81; 17, Kryukov V.A., Kryukov Ya.V., p. 140–153]. This gave reason to expect specific attitudes from the workers of city-forming enterprises regarding the desire to live and work in the Arctic, which requires independent study. In order to clarify this specificity, a survey of employees of the city-forming enterprise was conducted in 2019–2020 (JSC “Apatit”, Kirovsk, Murmansk Oblast), taking into account the characteristics (gender, age, working conditions (safe, difficult and dangerous, falling under pension lists No. 1 and No. 2), categories personnel (managers, workers, engineers)). We collected 70 questionnaires containing assessments of the attitude of employees of a city-forming enterprise to the pension reform in general, assessments of the impact of pension reform on the attractiveness of work at a city-forming enterprise in the Arctic, workers' expectations regarding future prospects for life and work in the Arctic, including issues of multigenerational consolidation.

Population dynamics in the Arctic regions

Natural, climatic and geographical features make the Arctic the least favoured place to live. However, the strategic objectives of the redevelopment of the Russian Arctic determine the need to attract and consolidate a permanent population in these territories. Therefore, the dynamics of the population in the Arctic regions has traditionally been regarded as one of the main indicators of the effectiveness of measures of achieving the strategic objectives for the Arctic development [1, Zaikov K.S., Kondratov N.A. et al., p. 15, 21–22; 4, Kudryashova E.V., Lipina S.A. et al., pp. 449–452; 18, pp. 5–25, 39–40].

Figure 1 illustrates the population changes in the Arctic regions. In the first third of the 20th century, the population number was small in all regions (in 1929: 24 thousand people in the Murmansk Oblast; 15 thousand people in the Nenets AO; 14 thousand people in the Chukotka AO and 32 thousand people in the Yamalo-Nenets AO), but it was characterized by a steady growth tendency up to the end of the 1980s. Population growth rates varied. Thus, the Murmansk Oblast, initially characterized not only by natural resources, but also by a relatively developed transport, industrial, social infrastructure in comparison with other Arctic regions, was developing most actively, creating and expanding territorial and industrial complexes and cities, naturally generating mass voluntary migration from various regions of Russia. Special measures of state support and significant “northern” benefits contributed to the consolidation of the population [6, Fauzer V.V., Smirnov A.V., pp. 114–118; 21, Skufina T.P., Mitroshina M.N., pp. 98–100]. As a result, since 1929, the population has increased 23.7 times over the first thirty years, and 47.8 times over sixty years. The maximum number of residents of the Murmansk Oblast was recorded in 1990 and amounted to 1 191 thousand people.

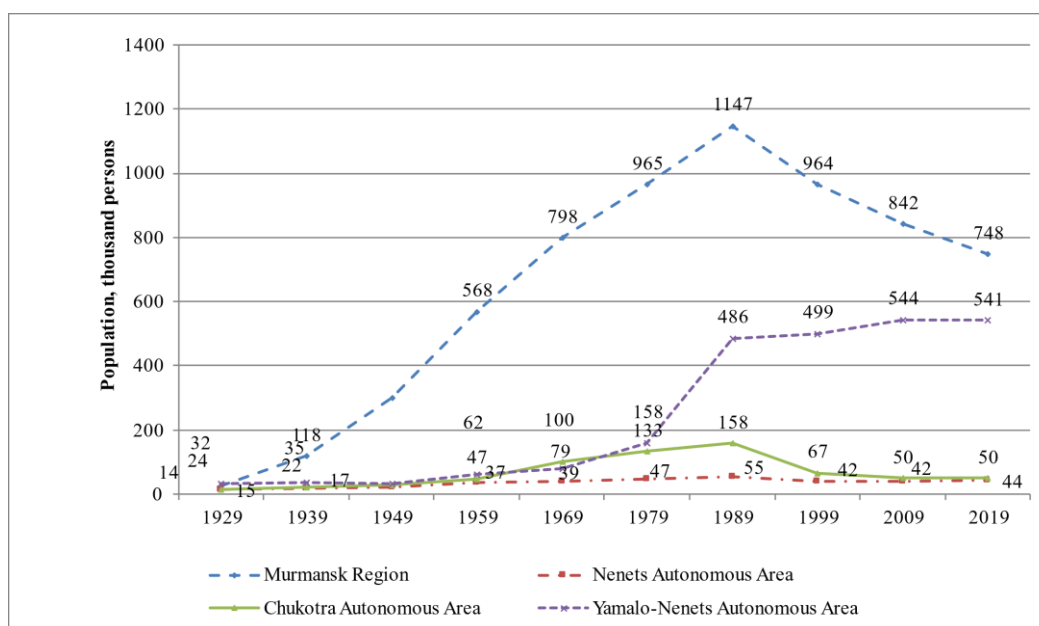


Fig. 1. Population dynamics in the Arctic regions for the period from 1929 to 2019³.

³ Source: compiled by the authors based on data from the Federal State Statistics Service.

The Yamalo-Nenets Okrug, which received autonomous status in 1977, began to grow in population much later than the Murmansk Oblast — in the 1980s. The factors of population growth are typical for the northern territories — development of industry and measures of state support for the population, first of all, for young specialists and their families who come to permanent residence. Since 1929, the population has doubled in the first thirty years, and has increased by 7.8 times over the next thirty years. The maximum number of residents was recorded in 2009 and amounted to 544 thousand people.

In the Chukotka Autonomous Okrug, from 1929 to 1959 and from 1959 to 1989, the population increased at an equal rate: 3.4 times. The maximum number of residents was recorded in 1990 and amounted to 162 thousand people.

In the Nenets Autonomous Okrug, the population grew slowly. Nevertheless, the growth rate was 2.5 between 1929 and 1959, and 1.3 between 1959 and 1989. The maximum number of residents was recorded in 1989 and amounted to 55 thousand people. It should be noted that, as in other regions of the Far North, special measures of state support concerned the indigenous local population and were aimed at preserving its size, improving its health, education, protection of culture and national traditions.

The comprehensive state program to attract and consolidate the population in the Arctic was interrupted after the collapse of the Soviet Union. With the exception of the Yamalo-Nenets Autonomous Okrug, since the 1990s, the population of the Arctic regions began to decline. The Murmansk Oblast lost residents the most: 34.8% over thirty years (from 1989 to 2019). In a market economy, the state does not guarantee high salaries in the off-budget sector of the economy. Many enterprises of the Murmansk Oblast closed down, unable to withstand competition with foreign and Russian companies with lower costs. The high expenses of northern enterprises are related not only to climatic and geographical features, but also to the additional costs of providing northern benefits. Increasing unemployment problems, reduced economic attractiveness of life in the North, and a small and undiversified labour market have led to the mass relocation of northerners to other regions of Russia that are more comfortable to live in. The population decline in the Chukotka and Nenets Autonomous Okrugs (68.4% and 20.0%, respectively, for the period from 1989 to 2019) has the same reasons and is primarily caused by the outflow of the non-indigenous population.

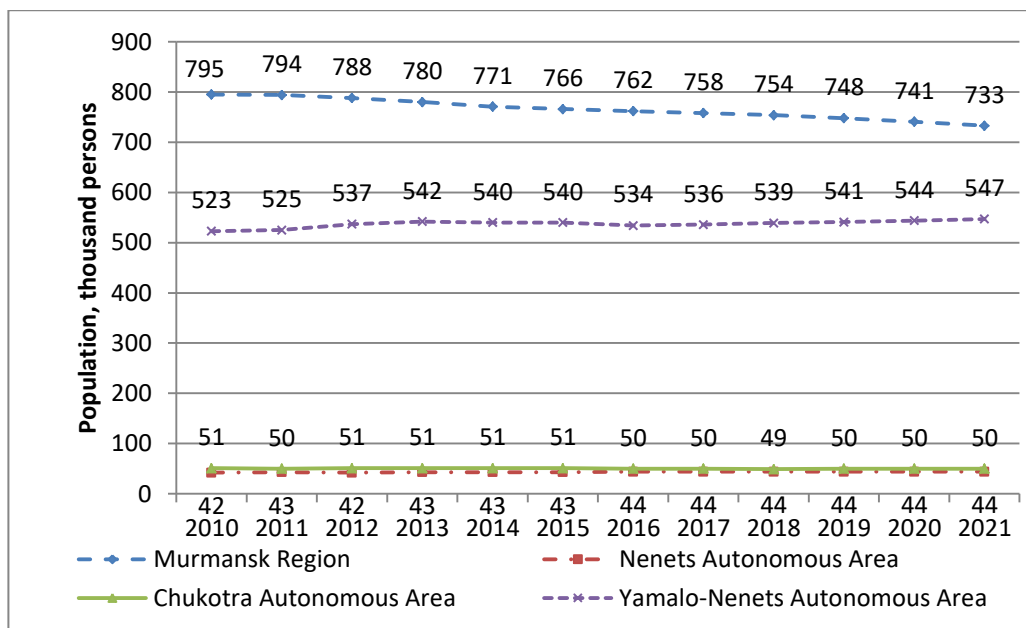


Fig. 2. Population dynamics in the Arctic regions for the period from 2010 to 2021⁴.

There is a certain stabilisation of the situation compared to the previous twenty-year period. Over the period from 2010 to 2021, the population of the Nenets and Chukotka Autonomous okrugs, with slight fluctuations, stabilized at the level of 44 thousand people and 50 thousand people, respectively; in Yamal-Nenets Autonomous Okrug it increased by 24 thousand people or 4.6%. All the Arctic regions, with the exception of Murmansk Oblast, have been experiencing steady natural increase in recent years: the birth rate exceeds the death rate, which also stabilizes the population. The migration balance of the Nenets and Chukotka Autonomous okrugs is positive: there is an insignificant but stable influx of permanent population. Despite high incomes (the average salary in the region as of May 2021 is 143 479 rubles — the highest in Russia), the migration balance of the Yamalo-Nenets Autonomous Okrug is negative. The population of the region is increasing due to natural growth. The Murmansk Oblast has slowed down the rate of population decline, but continues to lose population at a higher rate compared to other regions of the Arctic: 62 thousand people during the period from 2010 to 2021, which is 7.8% of the losses of the total population of the region.

Indicators of population settlement in the Arctic regions of the Russian Federation

From the perspective of settlement, the regions of the Russian Arctic are heterogeneous (Fig. 3). Thus, the Murmansk Oblast, despite the constant decline in population, has a population density of 5.06 people/km², which means that it can still be considered inhabited even in comparison with other territories of the country (in the Russian Federation, the population density is 8.57 km²). The Murmansk Oblast has always been urbanised — the share of the urban population was much higher than the rural one. There are 16 cities in the region, the peak of development of which occurred dur-

⁴ Source: compiled by the authors based on data from the Federal State Statistics Service.

ing the Soviet Union era and was accompanied by industrial growth, the formation of a transport network, industrial and social infrastructure. Murmansk, the capital of the region, has 283 thousand permanent residents as of 2021. This is the center of culture, education, enlightenment in the Arctic. The high geopolitical importance of the Murmansk Oblast predetermined the development of the military-industrial complex on its territory, which led to the emergence of closed administrative-territorial entities, five of which are currently functioning.

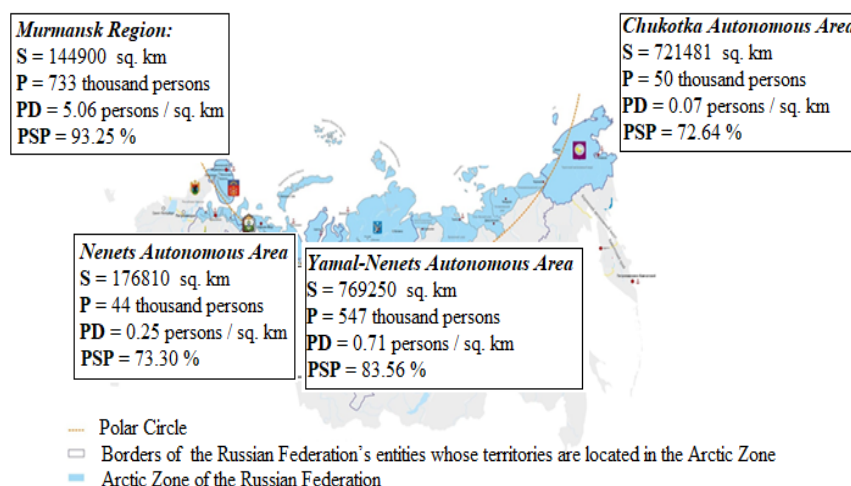


Fig. 3. The main characteristics of population settlement in the Arctic regions of Russia ⁵.

The rest of the Arctic regions demonstrate a fundamentally different pattern of settlement. Most of their territories remain uninhabited: the population density is less than 1 person per km². The Chukotka Autonomous Okrug is the least populated: with a territory of 721.5 thousand km², the population density is only 0.07 people per km². There are three urban settlements in Chukotka, the largest of which is the city of Anadyr, the capital of the region, with a population of 15240 as of 2021. The population density of the Nenets Autonomous Okrug with an area of 176.8 thousand km² is 0.25 people per km². The number of permanent residents is 44389 people, which makes the region the most sparsely populated in Russia. The population of the only urban settlement in the region, the city of Naryan-Mar, as of 2021 is 25536 people. Being an independent subject of the Russian Federation, the region, according to the Charter of the Arkhangelsk Oblast, is part of it. The population density of the Yamalo-Nenets Autonomous Okrug, with an area of 769.2 thousand km², is higher and amounts to 0.71 people per km². There are eight cities in the region. It is noteworthy that the capital of the region, the city of Salekhard (51 186 permanent residents as of 2021), is more than twice as large as the industrial cities of Noyabrsk (108 386 people) and Novy Urengoy (118 115 people) in terms of population. Being an independent subject of the Russian Federation, the region is simultaneously part of the Tyumen Oblast.

The Russian Federation, like the rest of the world, is experiencing stable urbanisation processes, leading to an increasing share of the urban population. Thus, as of 2018, the share of ur-

⁵ Source: compiled by the authors based on data from the Federal State Statistics Service.

ban residents in Russia was 74.43%, and as of 2020 — already 74.66%. Notably, in the Murmansk Oblast, the most industrialised and urbanised of the Arctic regions, the proportion of urban population is extremely high: 92.33% in 2018 and 93.25% in 2020. However, even here, the trend of the proportion of urban dwellers remains upward: an increase of 0.92% over the two years. In the Nenets Autonomous Okrug in 2018, city residents accounted for 72.84% and 73.30% in 2020 (an increase over two years was 0.46%); in the Chukotka Autonomous Okrug — 70.51% and 72.64%, respectively (an increase of 2.13%); in the Yamalo-Nenets Autonomous Okrug — 83.83% and 83.56% (0.27% decrease over two years). Thus, in the less urbanised Arctic regions (compared to the Murmansk Oblast), the proportion of the urban population is significantly lower than the average for Russia. At the same time, growth trends in the share of urban residents among the population are observed in all the regions of the Russian Arctic, with the exception of the Yamalo-Nenets Autonomous Okrug.

Pension reform of 2018 — a new factor influencing socio-demographic processes in the Arctic

It is generally recognized that the dynamics of the working-age population in the northern territories is determined mainly by migration processes, which are based on the state policy of industrialization (during the Soviet period), the activity of resource corporations (at present) [14, Fauzer V.V., Smirnov A.V., pp. 6–15; 18, Challenges and Threats to National Security..., pp. 10–26]. However, in 2018, the influence of a new factor manifested itself — the pension reform of 2018 led to a shift in the working-age population in every region of Russia by increasing the retirement age.

The increase in the working-age population constituted the main economic justification for the pension reform. It should be noted that our previous works allow us to agree with the opinion of a number of leading economists on the need for a pension reform of 2018 in terms of increasing the retirement age [26, Kudrin A., Gurvich E., pp. 55–76]. Thus, the economic and mathematical model developed by the authors on real data establishes a positive relationship between the size of the able-bodied population, investments in fixed assets and GDP production [27, Skufina T.P., Baranov S.V., pp. 81–84]. In fact, the dynamics of the working-age population in Russia before the pension reform of 2018 was characterized by a steady downward trend, which is maintained in the three-way forecast for the long-term development of the Russian Federation, drawn up by Rosstat for the conditions of the “old” retirement age⁶. The authors’ forecast, which takes into account the shift in the working-age population caused by the implementation of a gradual transition to a new retirement age, indicates that this negative trend has reversed in all three forecast options [23, Baranov S.V., Skufina T.P., Gushchina I.A., p. 166].

⁶ Data from the Federal State Statistics Service: estimated population of the Russian Federation. URL: http://www.gks.ru/free_doc/new_site/population/demo/progn3a.xls (accessed 09 September 2021).

The prediction for the Murmansk Oblast made it possible to identify a feature that distinguishes the forecast dynamics in the region from the all-Russian — there was no break in the trend of reducing the working-age population due to an increase in the retirement age, but the rate of loss of the working-age population slowed down (Fig. 4). Thus, the rate of loss of the working-age population in the Murmansk Oblast since 1997 averaged 0.7%. With a gradual increase in the retirement age, the rate of decline in the working-age population is projected to decrease to 0.14% per year. By 2036, if the current retirement age is maintained, the decline would have been 14% compared to 2018, when the decision to increase the retirement age was made. By 2036, under the new conditions of the retirement age, the number of able-bodied population of the Murmansk Oblast would decrease by only 4.4%.

The projected working-age population in Murmansk Oblast (fig. 4) reflects only one factor change — retirement age, which mechanically increased the working-age population. However, the lack of preparedness of the population for the pension reform, noted by many researchers, has led to the fact that the reform turned out to be a factor that could potentially increase the migration mood of the population of the Arctic regions. A survey conducted in 2019 among the population of cities and districts of the Murmansk Oblast revealed that the positive effect of slowing down the rate of decline in the working-age population is offset by a marked increase in the migration sentiments of residents against the background of a very negative perception of the pension reform. Thus, surveys have shown that more than 25% of the population of Murmansk Oblast have changed their plans of living, while another 7.5% are definitely going to leave and have looked for another place of work. It is obvious that not only the pension reform influenced the decision to leave the territory of the Arctic; however, the respondents linked their desire precisely with pension changes. This is most likely due to the strongly negative attitude towards pension reform, which was expressed by more than 64% of respondents.

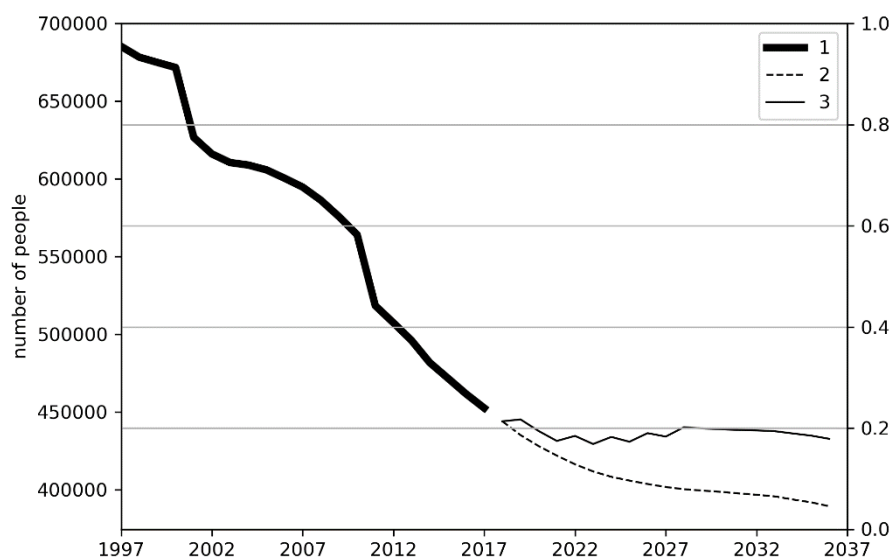


Fig. 4. Actual and forecast values of the indicator “working-age population” of the Murmansk Oblast, people; left axis — the working-age population; right axis — indicator values relative to the level of 1997; 1 — actual number; 2 — forecast values of Rosstat, made under the conditions of the previous retirement age; 3 — forecast, considering the increase in the retirement age [23, Baranov S.V., Skufina T.P., Gushchina I.A., p. 165]⁷.

The greatest risks to the sustainability of demographic processes are associated with the age structure of respondents intending to leave. Thus, among those who are going to migrate, more than 15% are young people under 30 years old, 9.5% are middle-aged residents (30–49 years) and only 4.5% are 50–64 years old; there are no plans for departure among respondents over 65 years old [23, Baranov S.V., Skufina T.P., Gushchina I.A., pp. 168–170]. Preliminary results of a survey, conducted in all regions of the Arctic in 2020–2021, confirm the persistence of a sharply negative attitude towards pension reform and a high level of migration sentiment, which Arctic residents already associate not only with pension changes, but also with impact of the COVID-19 pandemic.

An in-depth study of the results of surveys in 2019 in the Murmansk Oblast from the perspective of place of work and age of respondents, as well as the high social security of employees of city-forming enterprises in the Arctic, suggested that migration sentiments of employees of city-forming enterprises were specific and their attitude to the pension reform of 2018 was more loyal. However, there was not enough data to confirm the hypothesis of the results of the conducted surveys. Therefore, in 2019–2020, a survey of employees of the city-forming enterprise JSC “Apattit” was conducted.

More than 70% of respondents gave a negative assessment of the pension reform's most challenging component, increasing the retirement age (Fig. 5). Moreover, the most categorical in

⁷ Source: Federal State Statistics Service data and authors' calculations.

these assessments were male respondents, and as far as age is concerned, they were the respondents between 41 and 50 years old.

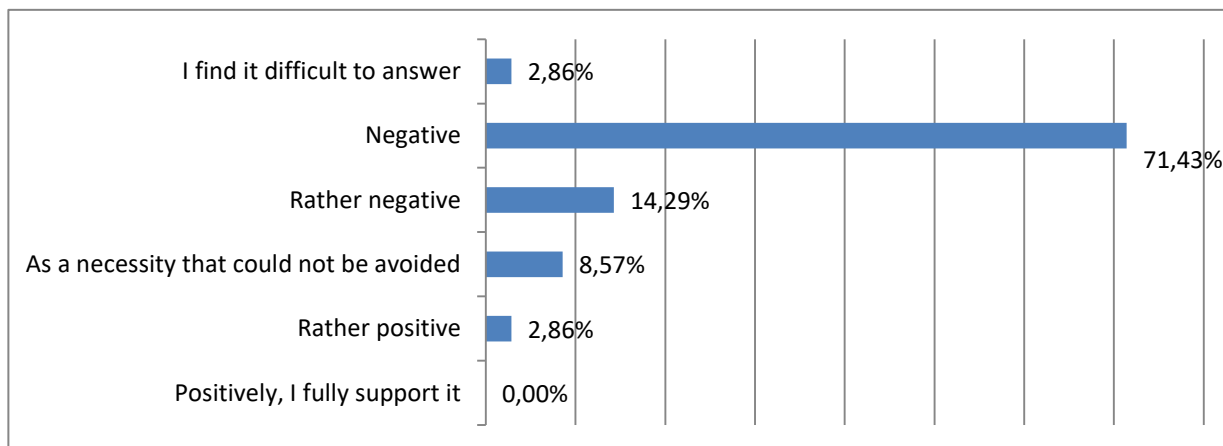


Fig. 5. Respondents' attitude to the increase of the retirement age ⁸.

The pension changes were unequivocally negatively assessed by employees referred to the category of workers and those who work in difficult and dangerous conditions (100% of respondents). Among workers employed in permissible (safe) working conditions, 60% have a negative attitude, 20% — rather negative, 12% — as a necessity, which cannot be avoided, and 4% are divided between “rather positive” attitude and those who find it difficult to answer (Fig. 6).

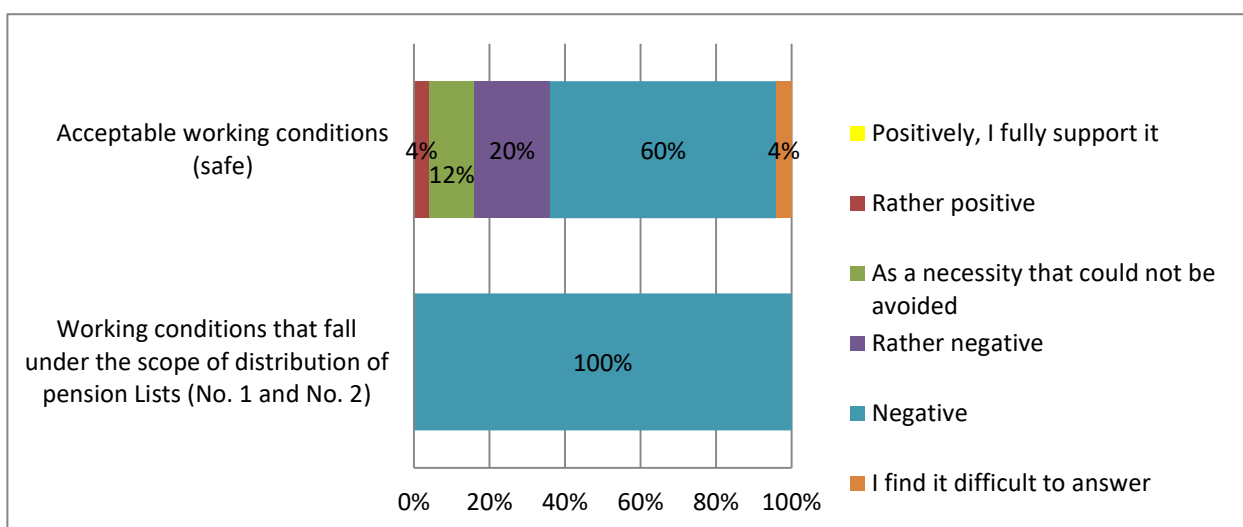


Fig. 6. Respondents' attitude to pension reform in the context of working conditions ⁹.

The most rational and loyal attitude to the pension changes was demonstrated by respondents in managerial and engineering positions (Fig. 7). Moreover, the managers' answers were distributed only in two categories — “negatively” (71%) and “as a necessity that cannot be avoided” (29%). Among engineering and technical workers, only 53% of respondents reacted neg-

⁸ Source: Authors' surveys.

⁹ Source: Authors' surveys.

atively, 29% — rather negatively, 6% assessed pension changes positively, or as a necessity that cannot be avoided, or found it difficult to answer. 100% of workers reacted negatively. This assessment is generally consistent with the results of our 2019 surveys for the Murmansk Oblast and the 2020–2021 surveys for all AZRF regions.

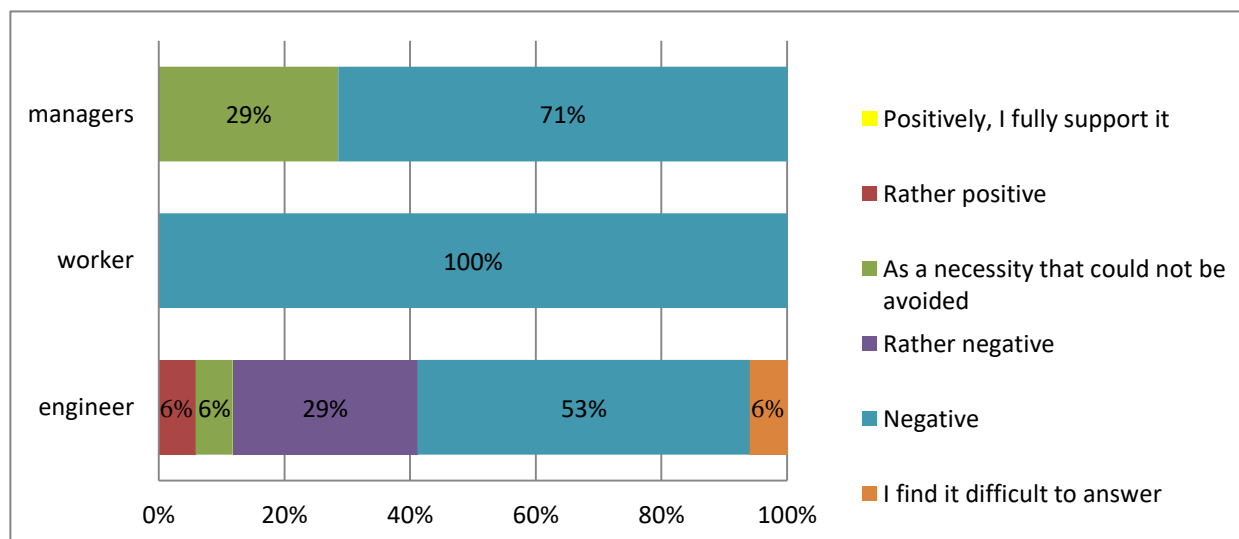


Fig. 7. Respondents' attitude to the pension reform by job category¹⁰.

Despite the predominantly negative assessment of the pension reform and its consequences, the respondents' answers show that it did not have a significant impact on the desire of workers to change jobs and activities (Fig. 8). Thus, when analysing data by age, job, working conditions, it was found that the respondents who were in their 20–30 years old and worked in permissible (safe) working conditions, answered that the pension reform had changed their attitude to their current job largely. The desire to leave the Arctic territory, which workers associate with an increase in the retirement age, manifested itself in 14% of the employees of the city-forming enterprise; another 9% of those surveyed answered that this “probably influenced” their desire to leave. These answers generally correlate with the results of surveys in the Murmansk Oblast and all regions of the Russian Arctic. However, the employees of the city-forming enterprise are less oriented towards leaving in comparison with the situation in the regions of the Russian Arctic.

¹⁰ Source: Authors' surveys.

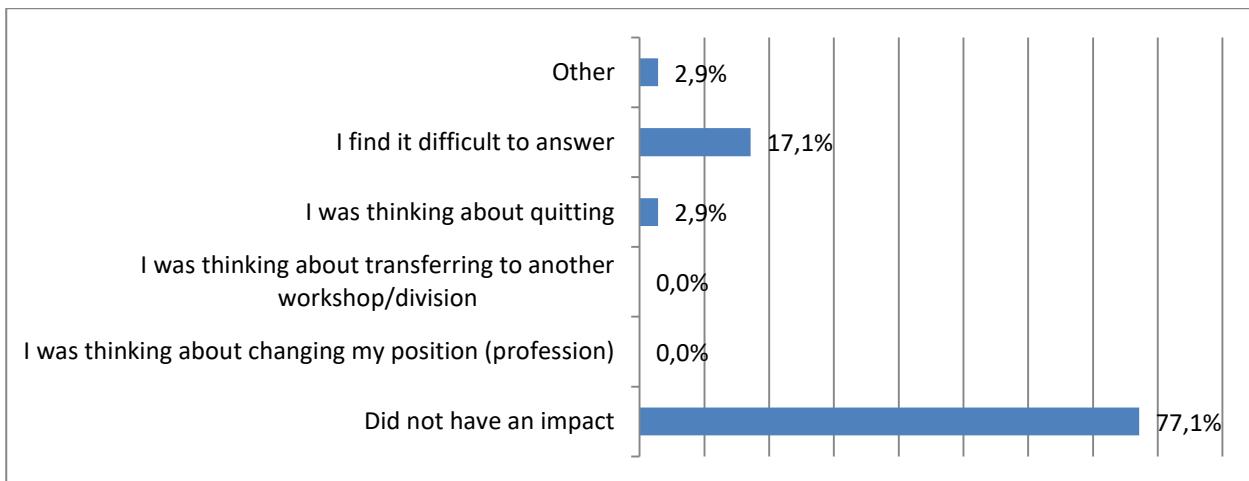


Fig. 8. Impact of the pension reform of 2018 on the respondents' attitudes towards their job and working conditions ¹¹.

Among the employees of the city-forming enterprise, the desire to leave was expressed to a greater extent by male respondents belonging to the category of workers, aged 31 to 50 years, working in acceptable (safe) working conditions. In terms of moving from the northern territories, this category of workers is the least "tied" to northern benefits and may live and work in more favorable natural and climatic conditions.

Despite the prevalence of respondents' answers in favor of further residence in the Arctic, their view of the Arctic as a promising place to work and settle down for generations is pessimistic. Thus, more than 30% of respondents would not recommend moving to the Arctic to their inner circle, not living in the northern regions, for life and work. More than 45% would not like their children to live and work in the Arctic territories. Such representations are mostly characteristic of employees, predominantly belonging to the category of workers, with the highest proportion working in difficult and dangerous conditions.

At the same time, there is a contradiction in the respondents' opinions: along with a pessimistic view of the Arctic as a promising place to live, there is a loyal attitude to their workplace, the city-forming enterprise of JSC "Apatit", as a future employer for their families. Thus, almost 50% of respondents do not rule out the possibility of considering JSC "Apatit" as a future employer for their children.

Thus, the employees of the city-forming enterprise as a whole show a negative attitude towards the pension changes in 2018, which corresponds to the attitude of other residents of the Arctic regions. Specificity is manifested in less pronounced migratory attitudes.

Conclusion

The Russian Arctic is an area of special interest for Russia in terms of economy and national security, requiring sustainable and balanced development. The importance of this territory and

¹¹ Source: Authors' surveys.

objective problems of ensuring economic, social and demographic development naturally give rise to a great number and thematic variety of scientific studies, among which a considerable part is devoted to social and demographic development of the Russian Arctic. This research continued the study of systemic, new socio-demographic processes and problems of the Russian Arctic. Without repeating the processes and conclusions presented in the respective sections, it is necessary to emphasize the main points.

An examination of population dynamics in the regions of the Russian Arctic made it possible to confirm the decisive importance of an integrated approach of public administration to attract and consolidate the population in the regions of the Arctic during the Soviet period. So, despite the differences in the time frame and the rate of population growth, all the Arctic regions were characterized by rapid population growth until 1991. In the post-Soviet 20-year period, the population of the Arctic regions began to decline rapidly, with the exception of the Yamalo-Nenets Autonomous Okrug. Behavior of the main demographic indicators for the period 2010–2021 made it possible to state the relative stabilization of the situation (compared to the previous twenty-year post-Soviet period) in all Arctic regions, with the exception of the Murmansk Oblast.

Consideration of the indicators of population resettlement in the Arctic regions of the Russian Federation made it possible to find out that the Murmansk Oblast also has characteristic differences from other Arctic regions. The Murmansk Oblast, despite the highest rate of population decline, is relatively well populated in comparison not only with the Arctic regions, but also with the general national situation. The region is characterized by the highest level of urbanization compared to other regions of the Arctic, which is explained by the high level of industrial development and the military-strategic potential of the region. In other, less urbanized regions of the Arctic, the share of the urban population is lower than the average Russian indicators; the growth rate of urban residents lags behind the situation in the Murmansk Oblast.

The dynamics of the working-age population is considered in the context of the impact of the pension reform in 2018 and the migration sentiments of the population. It is proved that the pension reform of 2018 is a new factor influencing socio-demographic processes in the Arctic regions. On the example of the Murmansk Oblast, it is shown that an increase in the retirement age has led to a reduction in the rate of loss of the working-age population in the region. Comparison with the results of an assessment of the shift in the working-age population in the Russian Federation indicated that this differs from the general national situation, when a gradual increase in the retirement age reversed a steady decline in the working-age population to the opposite, ensuring sustainable growth indicator. The paper presents the results of the population survey in cities and districts of the Murmansk Oblast in 2019, which substantiate the increased migration sentiment of residents, which they associate with the pension changes, against the background of extremely negative perception of the pension reform. Preliminary results of the 2020–2021 surveys conducted in all regions of the Arctic indicate the persistence of a sharply negative attitude towards pen-

sion reform and a high level of migration sentiment, which residents of the Arctic already associate not only with pension changes, but also with the impact of the COVID-19 pandemic. The high level of income and corporate social security of employees of the city-forming enterprises of the Arctic made it possible to expect them to have a more loyal attitude to pension changes and less pronounced migratory moods. Therefore, a specialized survey of the employees of the city-forming enterprise was conducted. The results of a survey of the city-forming enterprise confirmed the generally negative attitude towards pension changes, which is especially pronounced among employees in the category of workers and those working in difficult and dangerous conditions. Migration moods among the workers of the city-forming enterprise are less pronounced than among the rest of the inhabitants of the Arctic. However, they do not consider the Arctic as a promising place for work and multi-generational consolidation. At the same time, a contradiction was found: a pessimistic view of the Arctic as a promising place to live is combined with a loyal attitude towards one's place of work — a city-forming enterprise — as a future employer for one's family. This contradiction in the opinions of workers confirms the high degree of interconnection between the future socio-economic development of the Arctic (including demographic, social and labour market processes) and its city-forming enterprises, the corporate policy of which is and will be of decisive importance for the development of AZRF regions — the territories of their presence.

In conclusion, it should be noted that the study has provided a comprehensive picture of the nature of the impact of external and internal factors on socio-demographic processes in the Arctic. The identified features of socio-demographic processes not only contribute to understanding the cause-and-effect relationships between changes in internal and external factors of influence, including corporate and social policies, but also reaffirm the need to take into account the special Arctic specifics when conducting social reforms, in particular — pension reform. Practice shows that the expected significance of this need does not mean automatic consideration in the implementation of social reforms, for instance, pension reform. Under such conditions, one can hardly expect positive dynamics from socio-demographic processes in the Arctic.

Current socio-demographic processes are associated with much greater social and economic shifts caused by the COVID-19 pandemic, which cannot be reliably tracked yet. However, the experience of previous crises allows us to reasonably assume that the current crisis will further strengthen the systemic problems of the socio-economic space of the Arctic, including demographic losses, as well as the depth of negative manifestations of managerial decisions that underestimate the specifics of the socio-economic processes in the Arctic.

Acknowledgments and funding

The study includes the results obtained through the state contract of the FSBSI FRC KSC RAS No. AAAA-A18-118051590118-0.

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Received on September 09, 2021