

Impact of Modern Pro-Family Demographic Policy on Birth Rate Intensity in the Northern Regions of Russia*



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Abstract. The paper presents findings of a research, the goal of which was to evaluate the effectiveness of state measures aimed to promote the birth rate in Russia and its northern regions, their impact on the increase of birth rate intensity in 2007–2015. The relevance of choosing these territories for the study is determined by the high migration outflow of the population of reproductive age in most regions of the North, aggravating the growing adverse effects that the changes in the age structure have on fertility, the changes are due to the country’s demographic history. Scientific novelty of the study consists in the

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fact that it determines the total demographic effect of current measures of pro-family policy, evaluates the results of enhancing its activities and makes a contribution to scientific studies on identifying the impact of the behavioral component of fertility on the formation of the final number of children in the family in terms of government incentives provided to families. This goal was achieved with the use of the method of standardization by age-specific birth rates for 2006. The authors have found out that in all of the territories the intensity of the birth rate increased most significantly in the women of middle and older reproductive age, but there exist regional specifics and differences in the nature of the transformation of the age-specific birth rate pattern. A 1.3-fold increase in the total fertility rate that was planned to coincide with the second phase of action of the Demographic Policy Concept of the Russian Federation until 2025 has reached the target indicators before the deadline nationwide and in the majority of Russia's northern regions. In the conditions of implementation of the demographic policy the number of births in Russia's northern regions was bigger by 195.6 thousand people or 18.8% compared to the number that would have been observed if the intensity of birth rate remained at the level of 2006. The article makes an attempt to substantiate the differences in the increase in the birth rate intensity in the context of Russia's northern regions. In the period from 2010 to 2015, when there was a growing negative impact of the age structure factor on the one hand, and the intensification of demographic policy measures on the other, an increase could be observed in the contribution of a behavioral component to the formation of the resulting birth rate. The increase in birth rate intensity is associated with the fact that families with children are in need of improving their living conditions, the subjective assessment of these conditions as poor is the factor constraining the number of births in societies where small families prevail.

Key words: birth rate intensity, demographic policy, factors promoting birth rate, age structure, reproductive behavior, northern regions of Russia.

The paper considers the northern regions of Russia that include Russia's constituent entities, whose territories belong to the Far North, and the areas equated to them¹ (as it is possible to obtain reliable statistical information for these subjects for the purpose

¹ In the European North there are five such regions: the Murmansk Oblast, the Republic of Karelia, the Republic of Komi, the Arkhangelsk Oblast, which includes Nenets Autonomous Okrug that is considered separately. Asian North includes eight constituent entities of the Russian Federation: the republics of Tuva and Sakha (Yakutia), Kamchatka Krai, the Magadan and Sakhalin oblasts, Khanty-Mansi, Yamalo-Nenets and Chukotka autonomous okrugs.

of interregional comparisons). The territories under consideration vary significantly by the specifics of the processes of natural population reproduction going on there. Several territories: the republics of Karelia and Komi, the Arkhangelsk and Murmansk oblasts, Kamchatka Krai, the Magadan and Sakhalin oblasts, like the whole country, have been experiencing depopulation since the beginning of the 1990s. As a result of the oncoming favorable trends in fertility and mortality typical for the 2000s, natural

population decline in Kamchatka Krai was replaced by positive natural increase in 2007, in the Republic of Komi and in the Murmansk Oblast this happened in 2011, in the Magadan Oblast, like in Russia as a whole, – in 2013, and in the Sakhalin Oblast – in 2014. In the Republic of Karelia and in the Arkhangelsk Oblast, depopulation still remains: in Karelia – due to the death rate higher than the national average and due to the low birth rate, in the Arkhangelsk Oblast – mainly due to the low birth rate.

In the republics of Tuva and Sakha (Yakutia), Nenets, Yamalo-Nenets, Khanty-Mansi and Chukotka autonomous okrugs in the period of nationwide depopulation and at the present time there is a positive natural increase, which is due to a younger age structure of the population that contributes to a reduced level of crude mortality rate and an increased fertility rate, which is formed, in addition, due to the specifics of reproductive behavior of the indigenous ethnic groups in these regions. On the whole, in the Asian North the average crude fertility rate is higher than in the European North [11, p. 133].

In the theory of demography, the structure of factors, determining total fertility in a specific period, includes: changes in the age structure of reproductive contingents; changes of the calendar (timing) of births (postponement, the implementation of postponed births, tightening up the calendar of births); changes in reproductive attitudes [8, p. 73]. The first factor – the number and age composition of women of childbearing

age determines to a large extent the absolute number of births. These indicators in Russia are strongly and rapidly changing in time due to Russian “demographic waves”, i.e. alternating, successive generations different in their number. The scope of “demographic waves” in the latest half-century of Russian history was as follows: 2.8 million children were born in 1960, 1.8 million in 1969, 2.5 million in 1987, 1.2 million in 1999, 1.5 million in 2005 [6, p. 61-62], 1.9 million in 2015.

The other two fertility factors are determined by the features of reproductive behavior – actions of people and relationships between them arising in connection with child birth or refusal to have children². Reproductive behavior determines the final number of children in a family (individual) and depends on the ability to conceive, desire to have children and the subjective assessment of living conditions impeding or related to its realization [1, p. 254-255; 4, p. 67-68]. A significant effect on fertility is caused by national traditions and reproductive attitudes of the population, which ultimately are reflected in a statistical indicator – the total fertility rate per woman [9, p. 93].

Despite the heterogeneity of the processes of natural reproduction in the northern regions, it is possible to identify circumstances that make relevant a study of the effectiveness of measures to stimulate birth rate in the North of Russia.

² Medkov V.M. Demografiya [Demography]. Rostov-on-Don: Feniks, 2002.

They are based primarily on the deterioration of the demographic structure. *First*, migration loss in almost all the northern regions has a negative impact on the structure of the population. Karelia Republic, Nenets and Khanty-Mansi autonomous okrugs are exceptions in this case, because more people arrived in these subjects than left them in 2000–2015. The structure of migration loss from 82 to 95%³ consists of the population younger than working age and of working age, that permanently and significantly impairs the reproductive potential of the northern territories.

As a result of high migration observed in most of the northern subjects, and as a result of long-term natural population decline typical of the seven regions, the resident population of a number of the northern territories for the period from 2000 to 2015 reduced considerably. The reduction was particularly significant in the Magadan (26.7%), Murmansk (18.6%) oblasts and in the Komi Republic (18.3%) due to both reasons, in the Chukotka Autonomous Okrug (18.0%) – due to significant migration. Khanty-Mansi and Nenets autonomous okrugs were the only subjects where the number of the population had a positive trend in the period under review (it increased by 18.6% and 5.3%, respectively) due to immigration influx and natural increase, as

³ Calculated with the use of the following source: Socio-demographic characteristic of migrants. *Central Statistics Database*. Available at: <http://www.gks.ru/dbscripts/cbsd/#1>

well as in Yamalo-Nenets Autonomous Okrug (8.8%) and the Republic of Tuva (2.5%) – solely due to natural increase. In conditions of significantly reduced scale of migration loss and preservation of positive natural growth, the population in the Republic of Sakha (Yakutia) in 2000–2015 remained almost unchanged (*Tab. 1*).

The *second* factor in the study of fertility trends in the northern regions of Russia is the increasing deterioration of the structure of the population of childbearing age. If in the first decade of the 2000s the increase in the birth rate was caused by two factors – a favorable age structure and promotion of demographic policy, then in the second decade the main contribution to the birth rate was made by numerically small generations born during the demographic crisis. As a result of the outflow of population from the North and the effect of the demographic wave, by 2015, since the census in 2002, there was a significant reduction in the number of women of reproductive age, particularly from 15 to 29 years of age.

In Russia as a whole, the number of the latter decreased by 18.3%. In the northern regions, the minimum reduction in this age group was observed in the Republic of Sakha (Yakutia) (11.3%), in Khanty-Mansi (15.2%), Nenets (18.1%) and Yamalo-Nenets (18.1%) autonomous okrugs. The decline in young fertile contingents is the highest – much higher than the national average – is observed in the Magadan Oblast (41.6%), the Komi

Table 1. Dynamics of population of Russia's northern regions in 2000–2015, people

Region	2000	2007	2015	Population dynamics in 2000–2015, %
Republic of Karelia	735 462	665 032	632 533	-14.0
Republic of Komi	1 057 873	944 816	864 424	-18.3
Arkhangelsk Oblast	1 390 334	1 266 667	1 183 323	-14.9
Nenets Autonomous Okrug	41 174	41 854	43 373	5.3
Murmansk Oblast	941 062	823 978	766 281	-18.6
Khanty-Mansi Autonomous Okrug	1 359 646	1 475 188	1 612 076	18.6
Yamalo-Nenets Autonomous Okrug	496 292	521 621	539 985	8.8
Republic of Tuva	306 152	302 357	313 777	2.5
Republic of Sakha (Yakutia)	962 507	956 099	956 896	-0.6
Kamchatka Krai	372 308	330 810	317 269	-14.8
Magadan Oblast	201 974	166 902	148 071	-26.7
Sakhalin Oblast	569 234	513 452	488 391	-14.2
Chukotka Autonomous Okrug	61 613	52 913	50 540	-18.0

Republic (41.5%), the Murmansk (39.2%), Arkhangelsk (38.2%), Sakhalin (37.4%) oblasts, the Republic of Karelia (36.6%), and Kamchatka Krai (35.1%).

The northern regions of Russia are the most important strategic and resource territories of the country. Their role in recent years has been increasing again. This was especially evident after the introduction of anti-Russian economic sanctions. A considerable part of the northern regions (the republics of Karelia and Komi, the Arkhangelsk and Murmansk Oblasts, Kamchatka Krai, the Magadan and Sakhalin oblasts) are considered as the subjects of the Russian Federation where the demographic situation requires immediate handling. These factors also increase the importance of assessing the effectiveness of the measures of

demographic policy for solving the problem of preservation and renewal of human resources in the Russian North.

The urgency of demographic issues, the understanding of negative consequences of a decline or stagnation in fertility at a critically low level (labor shortage, aging of the demographic structure, risk of erosion of the national composition of the population in a territory due to a high level of influx of migrants from countries with high fertility, etc.) has led to the fact that since 2003, more and more countries have announced that they will implement the policies aimed at raising fertility [14, p. 47].

In Russia its promotion began in 2006 following the annual Presidential Address to the Federal Assembly and the subsequent issuing of a number of legislative acts and

introducing amendments to the legislation in the field of support of families with children. The main demographic policy measures in the field of fertility include: introduction of birth certificates in the framework of the national project “Health” in 2006; increasing the amount and changing the way of accrual of childcare allowances for children up to 1.5 years of age; increase in the amount of maternity allowance – 100% of the salary is paid in the period of 70 days before and 70 days after childbirth. A particularly important and costly incentive for births (adoptions) of the second and subsequent child was the introduction since January 1, 2007 of the federal parent (family) capital. A decade of experience have made it a widely known measure of demographic policy, therefore, we will only say that its size in 2015–2016 is 453,025 rubles.

In scientific works we can find justification to the rationality of demographic policy aimed primarily at stimulating the birth of a second child, because when deciding on having a second child, “parents evaluate how it will affect their own well-being, as well as that of their first child. In conditions when the family finds many advantages to have only one child, it often makes such a decision” [16, p. 669]. Other scientists also confirm that “the choice to have at least one child is a normative one and, as a rule, does not depend on economic factors. At the same time, when people are subjectively dissatisfied with material living conditions, they reduce

the prospective size of the family, especially if they already have one child” [21, p. 716].

In the second decade of the 2000s there was the strengthening and expansion of the range of demographic policy measures. Since 2011, the regions pay regional maternity (family) capital to families to encourage the birth (adoption) of a third and subsequent child. June 14, 2011 amendments were introduced to the Land Code of the Russian Federation according to which the citizens who have three or more children were entitled to free acquisition of land plots; since 2013, the right to vocational training and advanced vocational training is granted to women on the maternity leave until their child reaches three years of age; under the federal target program “Housing” (2015–2020) a sub-program “Providing housing for young families” is implemented.

From January 01, 2013 for regions with fertility rates below the national average, at the federal level, the support was introduced for needy families after the birth of a third and subsequent child until he/she reaches three years of age, the support amounts to the regional minimum subsistence level for children. This payment is made from the federal budget in the regions with low birth rates with the aim of encouraging and supporting families with three or more children. These regions include the seven northern regions: the republics of Karelia and Komi, the Arkhangelsk, Murmansk, Magadan, Sakhalin oblasts and Kamchatka

Table 2. Size of the regional maternity (family) capital in the northern regions of Russia

Region	Regional maternity (family) capital
Republic of Karelia	105 thousand 500 rub., not subject to indexation
Republic of Komi	150 thousand rub., not subject to indexation
Arkhangelsk Oblast	50 thousand rub., not subject to indexation
Nenets Autonomous Okrug	300 thousand rub., subject to annual indexation
Murmansk Oblast	108 thousand 680 rub., subject to annual indexation
Khanty-Mansi Autonomous Okrug	100 thousand rub., subject to annual indexation
Yamalo-Nenets Autonomous Okrug	350 thousand rub., not subject to indexation
Republic of Tuva	50 thousand rub., not subject to indexation
Republic of Sakha (Yakutia)	100 thousand rub., subject to annual indexation
Kamchatka Krai	For a third child – 119 thousand rub., for a fourth child – 179 thousand, fifth – 238 thousand; sixth and subsequent child – 298 thousand rub., subject to annual indexation
Magadan Oblast	100 thousand rub., subject to annual indexation
Sakhalin Oblast	150 thousand rub., subject to annual indexation
Chukotka Autonomous Okrug	100 thousand rub., subject to annual indexation

Krai. In the Nenets, Yamalo-Nenets and Khanty-Mansi autonomous okrugs the allowance is paid on the same basis as the federal allowance, but it is paid from the funds of regional budgets. In the republics of Tuva and Sakha (Yakutia) and Chukotka Autonomous Okrug the allowance for the third child in low-income families is not paid⁴.

Let us consider in more detail the features of payment of the regional maternity (family) capital, the amount of which varies considerably in different regions (*Tab. 2*).

Basically, the right to receive the regional maternity (family) certificate belongs to families after the birth (adoption) of a third or subsequent child. But there are some exceptions. Thus, in the Republic of Komi,

⁴ Information about the monthly allowance for a third child up to three years of age. Available at: http://www.assessor.ru/notebook/posobija/ejemesyachnoe_posobie_na_tretego_rebenka_do_3_let/

adoptive parents receive another type of allowance and they are not entitled to the regional capital. In the Republic of Tuva, due to the high birth rate, the payment is made only after the birth (adoption) of a fifth or subsequent child. In order to stimulate birth rate and prevent the postponement of the birth of a first child, since January 01, 2015, two northern regions pay the regional maternity capital of 100 thousand rubles after the birth of a first child: in Kamchatka Krai – to the women who gave birth to their first child at the age of 19–24, and in the Magadan Oblast – to the women under 25 years of age who gave birth to or adopted their first child.

The payment of the regional maternity (family) capital in the Arkhangelsk Oblast and Chukotka Autonomous Okrug is not targeted, because it can be spent on any needs of the

recipient. In the Yamalo-Nenets Autonomous Okrug, these funds can be spent on improving housing conditions, medical care to family members (parents and/or children) in medical organizations located on the territory of the Russian Federation and abroad, and on receiving one-time cash payment in the amount of 25 thousand rubles after the birth (adoption) of a third (subsequent) child.

All other northern subjects are united by the fact that families can spend the regional maternity capital on the improvement of housing conditions and education of a child (children), and other areas provided by regional legislation. The widest opportunities for its spending (five and more options) are provided to families in Nenets Autonomous Okrug, the Murmansk Oblast and Yakutia.

Application of the method of standardization according to the age-specific birth rates as of 2006 allowed us to evaluate the effectiveness of the demographic policy pursued in 2007–2015 in Russia and its northern regions. The method consists in calculating the hypothetical number of births at a real age structure, but at age-related factors taken for the standard [7, 15]. In the present study these are the coefficients for 2006, the year prior to the beginning of the activation of demographic policy to stimulate the birth rate. The difference between the actual and hypothetical number of births shows the extent to which the intensity of childbearing has changed in comparison with the 2006 level.

The use of this technique helps reveal that demographic policy measures implemented in 2007–2015 influenced the increase in the intensity of childbearing in Russia as a whole and in its northern regions, but the degree of this influence was different (*Tab. 3*).

According to calculations, the maximum total demographic effect due to increasing the intensity of childbearing promoted by current demographic policy is observed in the Republic of Tuva (the number of births increased by 30.2% in the period 2007–2015), the Republic of Komi (by 20.2%), Nenets (20.2%), Khanty-Mansi (19.7%) and Yamalo-Nenets (18.9%) autonomous okrugs. The increase in the intensity of childbearing in the northern regions of the Far Eastern Federal District was lower, and in Chukotka Autonomous Okrug it was significantly lower than in other northern regions.

The increase in the intensity of childbearing in most northern regions is more pronounced in rural areas, “where is the opportunity to use maternity capital to improve housing conditions is more real” [5, p. 102], and the allowance for a third child in the amount of the subsistence level for children paid to low-income families is support in conditions of a low standard of living and high unemployment. In Chukotka, Nenets and Khanty-Mansi autonomous okrugs, the Murmansk and Sakhalin oblasts, as well as in Russia as a whole, the increase in the intensity of childbearing in urban and rural areas was almost identical.

Table 3. Standardization of birth rates in Russia and in its northern regions by age-specific fertility rates, 2006, 2007–2015

Region	Hypothetical number of births (HNB), people	Real number of births (RNB), people	RNB – HNB, people	$\frac{RNB - HNB}{RNB} \times 100$ (%)
Russian Federation	13 114 218	16 352 501	3 238 283	19.8
Republic of Karelia	56 637	69 519	12 882	18.5
Republic of Komi	85 681	107 412	21 731	20.2
Arkhangelsk Oblast	113 222	136 672	23 450	17.2
Nenets Autonomous Okrug	5 042	6 316	1 274	20.2
Murmansk Oblast	67 745	81 961	14 216	17.3
Khanty-Mansi Autonomous Okrug	184 366	229 528	45 162	19.7
Yamalo-Nenets Autonomous Okrug	61 964	76 407	14 443	18.9
Republic of Tuva	50 370	72 214	21 844	30.2
Republic of Sakha (Yakutia)	122 482	146 169	23 687	16.2
Kamchatka Krai	31 520	36 601	5 081	13.9
Magadan Oblast	14 388	16 580	2 192	13.2
Sakhalin Oblast	47 074	56 504	9 430	16.7
Chukotka Autonomous Okrug	6 252	6 429	177	2.8
Northern regions, total	846 743	1 042 312	195 569	18.8

The most insignificant total effect of demographic measures on stimulating the birth rate is observed in Chukotka Autonomous Okrug; *on the one hand*, it is possible to explain this fact by the negative context of socio-economic development of the okrug. In the ranking of Russia's regions by socio-economic situation Chukotka Autonomous Okrug is consistently at the bottom: in 2010 – 72nd position out of 83, in 2011 – 68th; in 2012 – 75th, in 2013 – 76th, in 2014 – 77th, in 2015 – 67th⁵. Despite the fact that by level of per capita monetary income Chukotka Autonomous Okrug ranks above the national average, the purchasing

⁵ Ranking of constituent entities of the Russian Federation according to their socio-economic status in 2011–2015. Available at: http://vid1.rian.ru/ig/ratings/rating_regions

power of its incomes in 2012 compared to 1990 fell significantly in the okrug, whereas in Russia as a whole it increased [10, p. 61]. Chukotka Autonomous Okrug is also at the bottom of the ranking according to factors such as the level of life expectancy, level of registered unemployment, financial situation, development of small and medium businesses, degree of remoteness from the central part of Russia, complexity of transport communications and also because of harsh climatic conditions. The demand for housing in the autonomous district decreased due to large-scale out-migration and temporary residence of the population in the region, illiquidity of the housing fund, especially in peripheral areas; housing affordability increased, which does not provide for such

a demand of the main area of spending the federal and regional maternity capital as in other regions where the housing problem is more acute.

On the other hand, the weak effect of demographic measures in the field of increasing fertility, is obviously due to the fact that the indigenous population of Chukotka AO is shifting toward having few children, which results in the decline of reproductive attitudes, and increase in the role of subjective claims in the evaluation of living conditions as preventing or promoting the realization of reproductive intentions. In our opinion, this also explains a less significant increase in the intensity of childbearing in the rest of the northern regions of Russian Far East.

The Republic of Tuva, which is traditionally at the bottom in the assessments of socio-economic development, ranks even lower than Chukotka AO in the ranking of socio-economic situation among constituent entities of the Russian Federation. However, at the same time, Tuva has a high birth rate and the most successful results in increasing the intensity of childbearing during the promotion of demographic policy (30.2% of additional births). The total fertility rate in this region declined to the level of contracted reproduction only in 1997–2001. That is, compared to other northern regions the birth rate in the republic was low within the shortest period of time: the transition to the intention to have few children in the indigenous population of Tuva was not accelerated even

in the years of unfavorable socio-economic context. And since the beginning of the 2000s the republic, like the country on the whole, has faced an increase in the birth rate. Since 2007, even in urban areas, the birth rate corresponds to a simple, and in some years – to an extended mode of reproduction. The village since 2002 has been dominated by extended reproduction, and in the second decade of the 2000s, with the introduction of regional measures of demographic policy that support only the birth of a very high order, the intensity of childbearing reached maximum values in the region.

In 2011–2015, alongside growing deterioration of the structure of fertile contingents, the increase in the intensity of childbearing in Russia and its northern regions was significantly higher compared to 2007–2010 (*Tab. 4*). Obviously, boosting the demographic policy played an important leveling role by compensating for the losses caused by structural factors.

In the first place, it is noteworthy that among the population of the northern regions of the Far East in 2007–2010, when only the federal demographic policy measures were implemented, the increase in the intensity of childbearing was much less significant than in other northern territories of the country; as for Chukotka AO, the intensity of fertility there was even lower than before the implementation of stimulating measures. Strengthening the demographic policy by regional demographic measures contributed

Table 4. Standardization of birth rates in Russia and its northern regions by age-specific fertility rates 2006, 2007–2010 and 2011–2015

Region	2007–2010		2011–2015	
	RNB – HNB, people	$\frac{RNB - HNB}{RNB} \times 100$ (%)	RNB – HNB, people	$\frac{RNB - HNB}{RNB} \times 100$ (%)
Russian Federation	922 047	13.4	2 316 236	24.4
Republic of Karelia	3 736	12.2	9 146	23.6
Republic of Komi	5 093	10.9	16 638	27.4
Arkhangelsk Oblast	6 829	11.1	16 622	22.1
Nenets Autonomous Okrug	406	14.8	868	24.3
Murmansk Oblast	3 653	10.1	10 563	23.1
Khanty-Mansi Autonomous Okrug	10 689	11.4	34 473	25.4
Yamalo-Nenets Autonomous Okrug	3 193	10.0	11 250	25.4
Republic of Tuva	8 124	25.4	13 720	34.1
Republic of Sakha (Yakutia)	7 135	11.4	16 552	19.8
Kamchatka Krai	941	5.9	4 140	20.0
Magadan Oblast	421	5.7	1 771	19.2
Sakhalin Oblast	2 020	8.2	7 410	23.3
Chukotka Autonomous Okrug	-57	-1.9	234	6.8
Northern regions, total	52 183	11.6	143 387	24.2

to the further growth of the intensity of childbearing. The intensity of childbearing in 2011–2015 increased most significantly compared to the level of 2007–2010 in those subjects where starting from 2013 in addition to the federal and regional maternity capital the allowance for a third child until they reach three years of age was established for low-income families. Here an exception is Nenets Autonomous Okrug, where in 2007–2010 the increase in birth rate was high enough due to its intensity and, consequently, a further increase was not so significant.

The obtained results confirm the findings of similar studies conducted in Russia as a whole and in its other regions. Thus, the calculations made by O.V. Kuchmaeva with

the help of standardization of the special birth rate coefficient in an indirect way taking age-specific fertility rates for 2006 as the standard show that due to the increase in the intensity of childbearing in 2007 the special birth rate coefficient increased by 8%, in 2008 – by 15.1% [5, p. 101]. A.A. Shabunova and O.N. Kalachikova, having evaluated birth rate factors with the help of the index method, point out that the growth in the birth rate registered in the Vologda Oblast in the period from 2006 to 2011 was mostly (by 74%) caused by the increase in the intensity of childbearing [13, p. 378]. At the same time, in our study it was possible to assess the results of boosting the measures of demographic policy.

Table 5. Total fertility rate in Russia and in its northern regions, children

Region	2006	2007	2012	2013	2014	2015	Growth in 2006–2015, fold
Russian Federation	1.31	1.42	1.69	1.71	1.75	1.78	1.4
Republic of Karelia	1.32	1.41	1.71	1.65	1.74	1.77	1.3
Republic of Komi	1.38	1.50	1.88	1.97	2.02	2.00	1.4
Arkhangelsk Oblast	1.37	1.50	1.76	1.80	1.84	1.85	1.4
Nenets Autonomous Okrug	1.71	1.88	2.35	2.31	2.42	2.58	1.5
Murmansk Oblast	1.26	1.32	1.57	1.62	1.65	1.71	1.4
Khanty-Mansi Autonomous Okrug	1.52	1.61	2.02	2.05	2.09	2.07	1.4
Yamalo-Nenets Autonomous Okrug	1.50	1.61	2.05	2.09	2.19	2.19	1.5
Republic of Tuva	2.12	2.69	3.35	3.42	3.49	3.39	1.6
Republic of Sakha (Yakutia)	1.72	1.91	2.17	2.17	2.25	2.19	1.3
Kamchatka Krai	1.42	1.47	1.73	1.77	1.85	1.89	1.3
Magadan Oblast	1.32	1.35	1.65	1.69	1.66	1.66	1.3
Sakhalin Oblast	1.40	1.48	1.71	1.81	1.96	2.02	1.4
Chukotka Autonomous Okrug	1.78	1.83	1.97	1.91	2.04	2.10	1.2

Despite continuous doubts expressed during academic and public discussions concerning the efficiency and necessity of economic measures in demographic policy in the countries with low birth rates, P. McDonald provides strong arguments in favor of the fact that usually the experience of demographic policy has a positive effect in the solution of the task of preserving the birth rate at some level or raising it from very low levels, even within its contracted reproduction mode [18]. Judging by the results of a comprehensive study conducted by RAND Corporation in European countries, “curtailing the policy that supports families in a number of European countries (Poland, East Germany and Spain) contributed to the decline in the birth rate in these countries, whereas in France the implementation of the family policy was one of the priorities of the country

since the adoption of the Family Code (1939), which led to relatively high birth rates” [15].

G. Neyer, on the basis of the findings of the study of the implementation of family policy in different countries, concludes: “Countries that consider their family policies part of the labor market policy and social welfare policy make great progress in maintaining birth rate above extremely low levels” [20]. W. Lutz and K. Milligan also come to the conclusion that “direct financial incentives can be an effective way of increasing the birth rate” [17; 19].

As a result of introduction of additional economic measures of demographic policy, the birth rate has increased in both urban and rural territories. But, with the exception of the Republic of Tuva, the total fertility rate in urban areas of the northern regions is still in the contracted reproduction mode.

In the rural areas of Karelia, Komi Republic and the Arkhangelsk Oblast the birth rate had shifted to the expanded reproduction mode before the demographic policy measures were boosted. Since 2011, the expanded reproduction of the rural population is typical for the Republic of Sakha (Yakutia), since 2012 – for Khanty-Mansi and Chukotka autonomous okrugs and the Sakhalin and Magadan oblasts. In Nenets and Yamalo-Nenets autonomous okrugs and in the Republic Tuva, the intensity of childbearing among the rural population even during the demographic crisis of the 1990s was high, and it significantly surpassed the indicators in other northern regions. However, like in the above mentioned regions, during the period of additional demographic policy measures the total fertility rate in them was significantly higher than the levels previously observed.

Kamchatka Krai managed to make a transition from contracted to simple reproduction in 2013 due to the increase in the intensity of childbearing in its rural areas. As for the Murmansk Oblast, its small rural population of reproductive age never went beyond the narrowed reproduction despite an increase in the birth rate. The differentiation in the “village-city” context began to emerge most significantly in the northern regions of the Northwestern Federal District and in the Republic of Tuva since the promotion of the state demographic policy.

The Concept for demographic policy of the Russian Federation for the period till 2025

set the goal to increase the total fertility rate by the beginning of the third phase of its implementation in 1.3 times by 2016 compared to 2006. In Russia as a whole and in its northern regions, with the exception of Chukotka Autonomous Okrug, this task has been completed ahead of schedule (*Tab. 5*).

Immediately after the introduction of the federal maternal (family) capital in the Republic of Tuva, it has experienced a rise in the total fertility rate by 27%. In Russia as a whole, by 2012, it has increased by 29% in comparison with 2006, i.e. in almost 1.3 times. In other northern regions the target indicators were also achieved in 2012, and in Kamchatka Krai and Sakhalin Oblast – in 2013.

In the period of implementing current Russian demographic policy in the republics of Karelia and Komi, the Arkhangelsk, Murmansk, Magadan and Sakhalin Oblasts, Khanty-Mansi and Yamalo-Nenets autonomous okrugs the birth rate increased in almost all age groups. It was declining only in the group of women 15–19 years of age; in the group of those aged 20–24 it showed a multidirectional trend. Moreover, the growth of age-specific birth rates among middle-aged women (30–39 years of age) and older (40–44 years of age) in reproductive age reaches its peak, which indicates the implementation of the births, which would not be implemented without additional incentives. Motherhood for women in older childbearing age is a planned stage of life, the implementation of

which may be affected (and has already been affected) by demographic policy measures [3, p. 613].

The growth of age-specific birth rates in Nenets Autonomous Okrug was more uniform and reached its peak among women 35–39 years of age. In the Republic of Tuva in all age groups the increase in the birth rate was almost identical. In these two regions the growth of the birth rate was observed in the youngest group of childbearing age (15–19 years old); the birth rate increased in the group of women 20–24 years of age more significantly than in other regions. In the Republic of Sakha (Yakutia) the increase in the birth rate was also fairly uniform in all age groups, except the group of those aged 15–19, in which it remained almost at the same level in 2006–2015.

Chukotka Autonomous Okrug has the lowest growth rates of age-specific fertility rates. They were negative in the group of women 15–19 years of age. In the group of those aged 20–24 it decreased more often than increased. In the rest age groups the birth rate dynamics also did not form a stable positive trend: in some years there was a slight increase, in others – a decrease. This can be partly explained by the small size of the population in Chukotka Autonomous Okrug, when any random demographic event affects the level of the indicator. However, in the Nenets Autonomous Okrug under the same circumstances there is a continuous increase. Obviously, the unfavorable socio-

economic situation in Chukotka AO, a low demand for housing in the conditions of out-migration and accelerated transition of the indigenous population to the intention to have few children nullify the effectiveness of the demographic policy, the main aim of which is the improvement of housing conditions.

The maximum growth rate of the total fertility rate in the absolute majority of the northern regions was observed immediately after the demographic policy measures began to be implemented, which indicates the immediate reaction of the population [12, p. 134]. Stagnation and reduction in the dynamics of this indicator was prevented by the development of a new phase of demographic policy since 2011. However, in certain years, most northern regions experienced negative growth of the total fertility rate: in 2011 in the Arkhangelsk Oblast, in 2011 and 2013 in Nenets and Chukotka autonomous okrugs, in 2013 in the Republic of Karelia, in 2014 in the Magadan Oblast, in 2015 in the Republic of Komi, Khanty-Mansi and Yamalo-Nenets autonomous okrugs, the republics of Tuva and Sakha (Yakutia). Due to adverse changes in the age structure in recent years in Russia as a whole and in its northern regions, except for Nenets Autonomous Okrug and the Sakhalin Oblast, a stagnation or reduction in the total fertility rate is observed.

Reproductive behavior of the population is sensitive to costly measures that encourage childbirth, since the low standard of living

observed in families with children remains its limiting factor [2, p. 73]. In order to prevent resistance of the negative dynamics and increase in the depth of the birth rate decline, it is important to maintain the chosen course of demographic policy.

Thus, the effect of the modern demographic policy measures has led to increase in the contribution of behavioral components in the birth rate of the population of Russia's northern regions due to the increase in its intensity. After we calculated the hypothetical number of births in a real age structure and age-related factors for 2006 adopted as the standard, it was possible to identify that in the northern subjects of the Russian Federation, due to the changes in the reproductive behavior of the population the number of children born in 2007–2015 was greater by 195.6 thousand, or by 18.8% than the number of children that would have been born if the intensity of childbearing had remained at the level of 2006. In 2011–2015, when the structure of fertile contingents was deteriorating and demographic policy measures were boosted, the importance of behavioral factors in shaping the birth rate increased. If in 2007–2010 due to the increase

in the intensity of childbearing 11.6% of additional births were implemented, then in 2011–2015 the changes in the reproductive behavior significantly compensated for the elimination of the favorable impact of the structure factor on the birth rate, enhancing its role in the formation of the final birth rate up to 24.2% of additional births.

Due to the fact that the issue concerning the improvement of the living conditions of families with children in the northern regions of Russia remains critical, the intensity of childbearing will still react to stimulating events for a long time, and its surge will occur immediately after the introduction of new measures of family support (especially those that are economically significant). Despite the complexity of this goal, it is necessary to elaborate a paradigm of the demographic policy of the state that simultaneously meets two important objectives: provision of social support to families with children and the formation of a uniform intensity of childbearing in the long term in order to smooth its wave oscillations to a maximum degree. All this can be implemented if demographic policy will, above all, be long-term, sustainable and successive.

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