THE REJUVENATION OF MOTHERHOOD IN DAGESTAN: TREND OR ARTEFACT? (PRELIMINARY RESULTS OF A RURAL POPULATION SURVEY)*

KONSTANTIN KAZENIN, VLADIMIR KOZLOV

This article is devoted to the dynamics of the mean age at childbearing in Dagestan, an indicator which has differed significantly from the overall Russian trend within the last decade. The paper is based both on data from official sources and preliminary results from field research conducted by the authors in the rural areas of Dagestan. The data from both sources strongly support the idea of a decrease in the childbearing age in the republic, both for the mean age at childbearing (MAB) without parities and for the mean age at childbearing at first and second births.

The existing literature highlights, inter alia, two main factors inhibiting the increase of the MAB usually expected with a decrease of the total fertility rate. The first factor is the important role of religion (mainly Islam) in the society, and the second is the "traditional" structure of the family. Our preliminary results lead us to the conclusion that the first factor is more important.

Key words: *demographic transition, mean age at childbearing, Dagestan*.

INTRODUCTION

The subject of research in this article is the dynamics of the mean age of mother in Dagestan. These dynamics are of considerable interest because they differ significantly from those in the rest of Russia. In the Russian Federation as a whole, the last decade has seen a steady increase in the mean age of mother, both without regard to birth parity and according to individual parities, including the first and second. In Dagestan, however, there has been a rejuvenation of motherhood, which manifests itself both in a reduction in the overall mean age of mother and in a decrease in the mean age of the "start" of procreation.

This situation is very unusual, in particular because in Dagestan at the present time there are signs of the completion of the "first demographic transition". Following the reduction in mortality in the 1950s-1960s, there was a decrease in fertility in the region, which by the end of the 1990s had reached the replacement level. In most countries where the first demographic transition has already taken place, it has been accompanied by an increase in the mean age of mother. The opposite dynamics observed in Dagestan require an explanation.

The article, whose main goal is to raise the problem, discusses both official statistics and preliminary data from our field research conducted in a sample of rural settlements in Dagestan. The trend towards the absence of ageing and, in some locations, even to the rejuvenation of fertility, is confirmed by all sources of data used in the article. Field research already at this stage provides some basis for discussing the causes of this phenomenon.

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The first section of the article presents data on the dynamics of the overall level of fertility in post-Soviet Dagestan, showing the end there of the first demographic transition, which in most of the regions of Russia had occurred by the start of the 1960s. The second section summarises the official statistics on the mean age of mother in rural Dagestan. The separate attention paid to fertility in the countryside is due to the fact that our field research at this stage concerns rural areas. Also, possible problems with the reliability of the official data are briefly discussed. The third section contains the currently available results of our field research, and the fourth section formulates hypotheses explaining the non-standard "timing" of fertility in the region.

1. DYNAMICS OF FERTILITY IN POST-SOVIET DAGESTAN: EVIDENCE OF THE COMPLETION OF THE FIRST DEMOGRAPHIC TRANSITION

Despite the fact that the second demographic transition began about 20 years ago in Russia, phenomena characteristic of the end of the first demographic transition are more typical for Dagestan now. The official statistics on fertility in Dagestan for 1990-2014[1] show that during this period fertility in the region decreased to a level that is believed to ensure reproduction but not population growth: the total fertility rate (TFR) in Dagestan in 1990 was 3.1, and in 2014 it was 2.08 (Rosstat data)[2]. It is important to note that the decline in the TFR paralleled the intensive, region-wide migration of the Russian population, whose decline in fertility, including in Dagestan, had occurred much earlier. Perhaps this did in part affect the overall decline in the region's fertility, but the share of Russians (as well as other ethnic groups whose demographic transition had already occurred by this time) in the population of the republic was quite small by 1990[3]. In addition, the decline in fertility in this period occurred also among the indigenous peoples of the republic (for more details on the "ethnic" aspect of declining fertility, see below).

The reduction of the TFR occurred both in urban and rural Dagestan, but the absolute level of the TFR in the countryside, as expected, exceeded that in the city. After 2007, there was an increase in the TFR, reflecting the well-known trend for Russia as a whole, associated with the state policy on the maintenance of fertility. The overall level of the TFR in Dagestan did not, however, surpass the level corresponding to simple reproduction of the population. As in the rest of Russia, this recent increase in fertility has not reached those levels at which, when there is a lag in fertility, it is appropriate to talk about a "stalling" demographic transition [Bongaarts 2006; 2008; Ezeh, Mberu, Emina 2009; Cetorelli, Leone 2012].

[1] At the time of submission of the article, the data for 2015 were preliminary.
[2] According to preliminary data of Rosstat, in 2015 the TFR in Dagestan dropped to 2.02.
[3] According to the 1989 Population Census, about 9.2% of the population. From 1979 to 2010, there was a decrease from 11.6 to 3.6%.

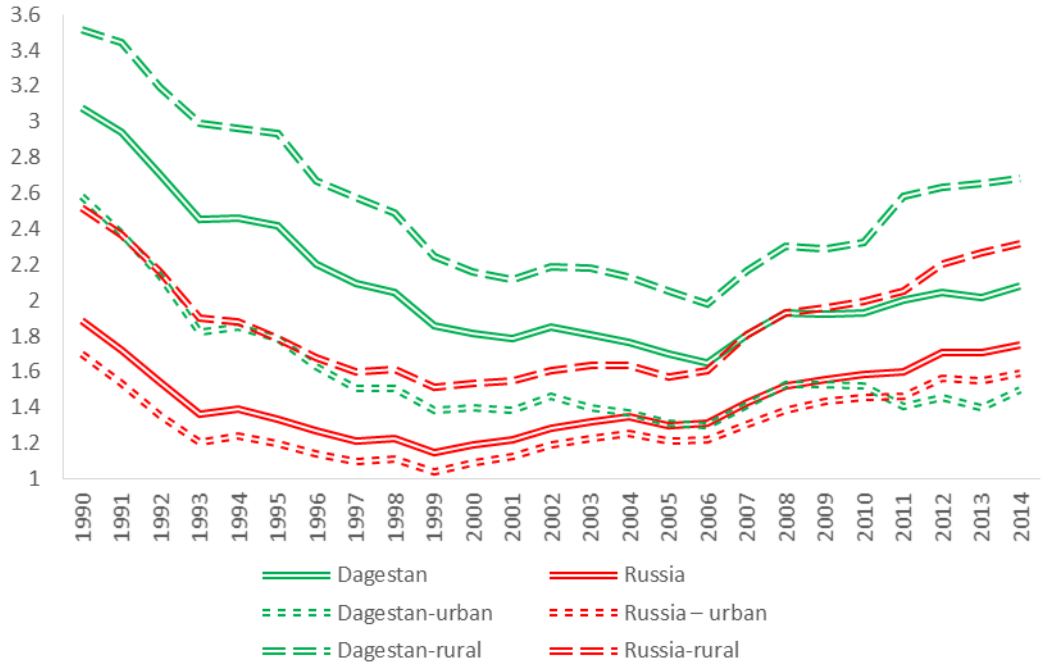

Figure 1. Total fertility rate in Dagestan and Russia in 1990-2014, children per woman

Source: Authors' calculations based on [Appendix of Demoscope Weekly 2016; RusFMD 2016].

Dagestan's chronological "lag" behind the rest of Russia in its fertility reduction is shown in Figure 1. In addition, as can be seen in Figure 2, the TFR in Dagestan for the period 1990-2014 decreased most in comparison with the regions of the North Caucasus, as well as with a number of national republics of Siberia[4]. At the same time, we note that the current fertility rate of the rural population deviates from that of 1990 approximately by the same amount as in other republics of the North Caucasus.

Based on the data of the Russian Census of 2010 (hereinafter, RC-2010), the decline in fertility in Dagestan began before 1990 and, in the decades that preceded it, occurred in all indigenous ethnic groups. Figure 3 shows the overall fertility rate in different age groups that had completed or were completing their childbearing careers by 2010, for the major indigenous ethnic groups in Dagestan. It is evident that, for all indigenous ethnic groups, the total number of children per woman for women who in 2010 were 40-45 years old is at least a third lower than for women who in 2010 were 70 or older. The graph also shows that the fertility of older age groups in different ethnic groups was not the same. For example, among Lak women who in 2010 were 70 or older, the total number of children per woman was about 40% lower than among Tabasarans. It is interesting that interethnic contrasts observed in older age groups were partially reproduced among the youngest. Thus, among women who in 2010 were 40-44 years old, the lowest level of this indicator after the Russians was observed among Laks, as well as among the Nogais, who in the older generations occupied a position in the middle of the hierarchy. On the other hand, fertility

[4] Not including Chechnya and Ingushetia. Also in the figure for comparison are regions with a relatively high proportion of titular nations in the population.

declined fastest among the Tabasarans (who demonstrated the highest rates in our sample for the generations born in 1940 and earlier).

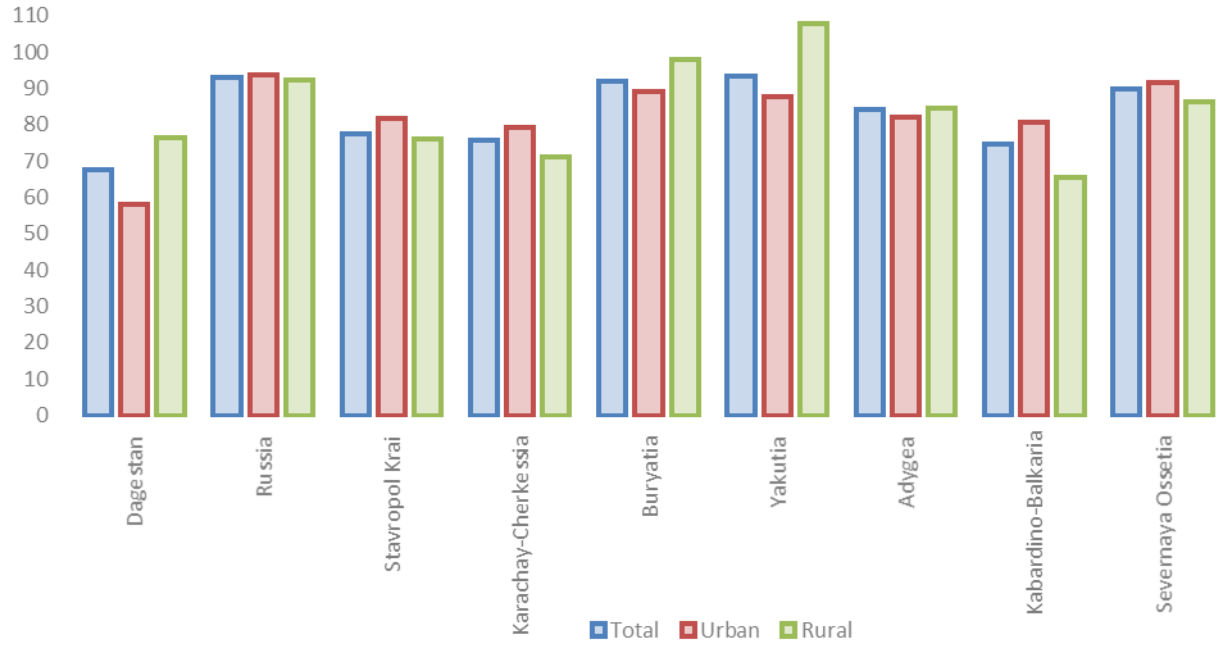

Figure 2. The ratio of the total fertility rate of 2014 to the level of 1990, %

Sources: [Demograficheskiy ezhegodnik... 2015], authors' calculations based on [Appendix of Demoscope Weekly 2016].

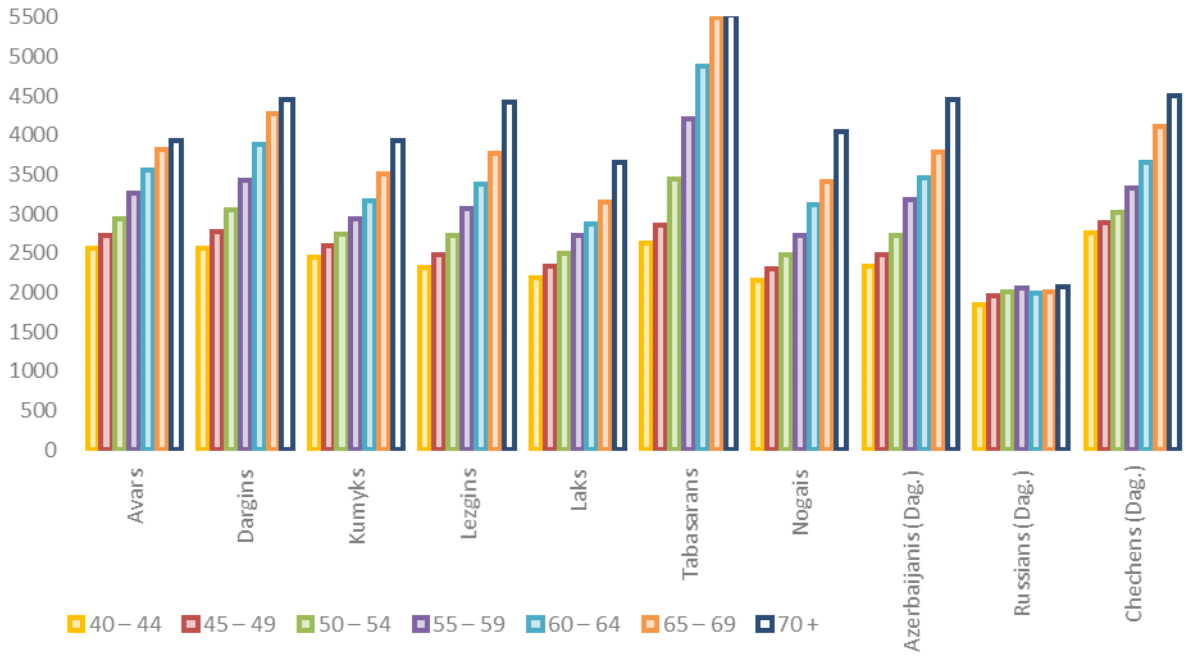

Figure 3. Cumulative fertility of Dagestan women reaching a certain age by 2010, according to ethnic group, per 1000 women of the corresponding age, indicating the number of children born

Source: Authors' calculations based on [RC-2010].

Let us summarise our examination of the most common statistical data on fertility. Official statistics show that in the post-Soviet period in Dagestan there was a reduction in fertility corresponding to the first demographic transition. This process, according to official sources, affected both the city and the country and took place for all the major indigenous peoples of the republic, although not entirely synchronously. In most of the regions of Central Russia, the first demographic transition took place much earlier, with the second demographic transition beginning in the mid-1990s in Russia. Some increase in fertility in Dagestan since 2007 corresponded to the all-Russian trend, hence it is not a unique phenomenon.

2. DYNAMICS OF MATERNAL AGE IN POST-SOVIET DAGESTAN: STATISTICAL DATA

Let us now turn to the official data on maternal age. The differences between Dagestan and Russia as a whole are quite significant. This applies to both current values and trends.

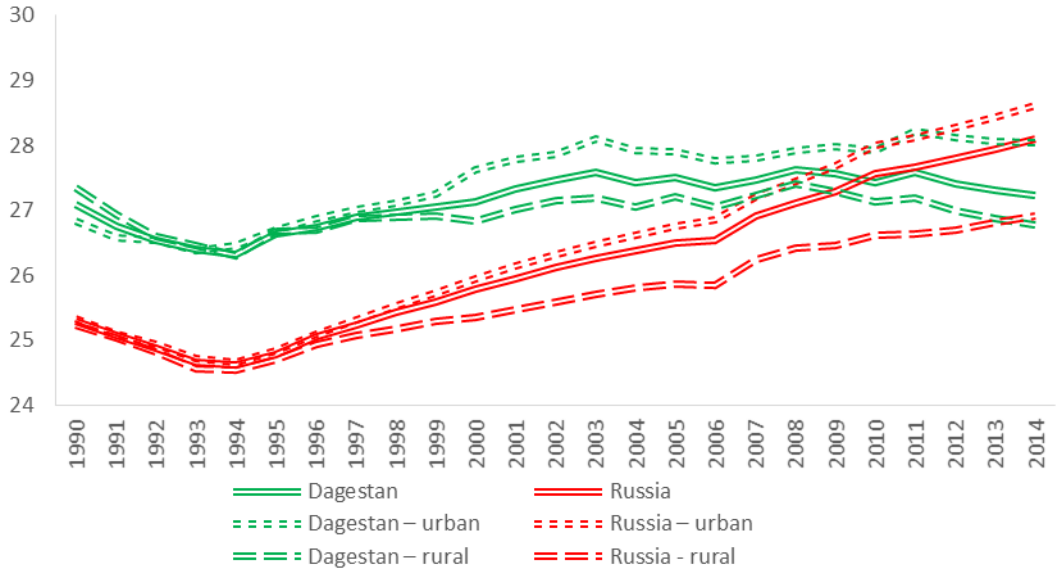

Figure 4. The mean age of mother at birth in Dagestan and Russia, not accounting for birth parity

Source: Authors' calculations according to [RusFMD 2016].

In this section, we will consider two parameters: the mean age of mother and fertility rates in different age groups.

2.1. The mean age of mother in rural areas

As the data of the Russian Fertility and Mortality Database (RusFMD) show, the Dagestani and all-Russian dynamics of maternal age are correlated in different ways for different birth orders. At the birth of the first child in Dagestan, the mean age of mother does not currently show a tendency to increase, unlike in Russia as a whole (Figure 5). In Dagestan, it began to decline from 2006 and remained approximately at the same level from 2008 to 2013, while in rural Russia for the entire period reflected by the graph, there was a steady increase in the indicator with a short period of stabilization in the period when pronatalist family policies were enacted (2006-2008).

The mean age of mother at birth of a second child in Dagestan increased until 2005, then fell a little, returned in 2008 to the 2005 level, and after this short "rebound" resumed its decline. In rural Russia, the decline after a steady 15-year growth began in 2009. In 2011-2013, in Dagestan, the decline was almost 3 times greater than in Russia as a whole.

The dynamics of the mother's age at the birth of the third child in rural Dagestan and in rural Russia are approximately the same. Nevertheless, in the 2000s the indicators began to diverge, and by 2013 in Dagestan the mean age of mother at birth of the third child was 0.8 years lower than in Russia as a whole. Taking into account the stably higher share of births of low parities in the total number of births, it was to be expected that Dagestan would not demonstrate in the 2010s the all-Russian growth of mean maternal age without taking into account birth order. As can be seen in Figure 4, in Russia as a whole this indicator is increasing, while in Dagestan it is decreasing.

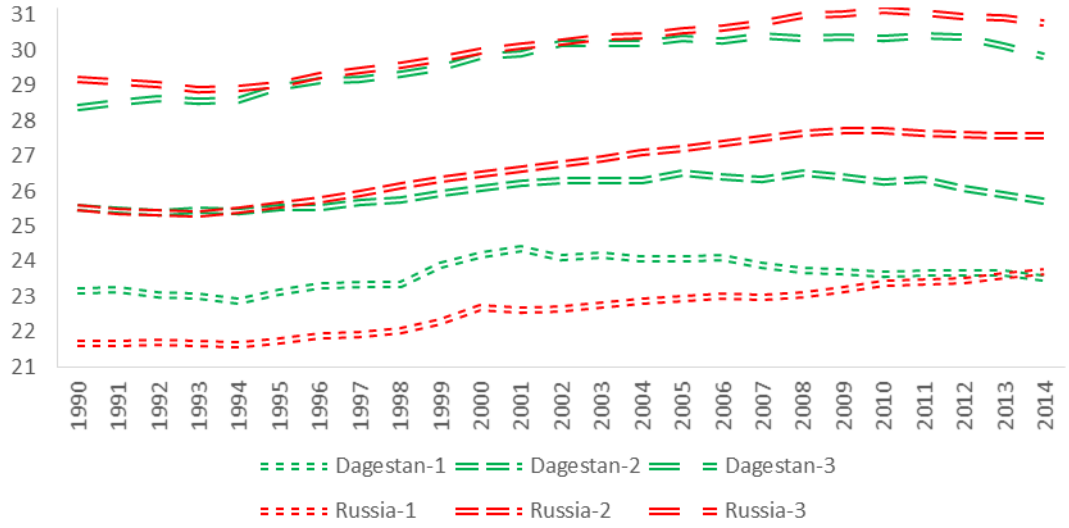

Figure 5. The mean age of mother at birth of children of different parities in the rural areas of Russia and Dagestan

Source: Authors' calculations according to [RusFMD 2016].

The notion that the divergence in the dynamics of maternal age in rural Dagestan and in rural Russia as a whole occurred precisely in the 2000s is confirmed by the RC-2010 data, on the basis of which the mean age of mother at birth of the first child can be calculated both for annual periods and for the cohorts of mothers of different birth years. As shown in Figure 6, which reflects the dynamics of the mean age of mother at birth of the first child by the year of birth of mothers for the age groups of those born in 1930-1975, the age of mother at birth of the first child in rural Dagestan and in rural Russia basically changed for these age groups in parallel, with the age being constantly higher in Dagestan. In particular, the lowering of the mean age of the start of maternity in the age groups of women born in the 1960s, which is commonly associated with the measures of the Soviet government to increase fertility in the 1980s [Zakharov, Ivanova 1996], was even more significant in Dagestan than in Russia as a whole. A noticeable discrepancy in the trends can be seen only among women born in the late 1960s and early 1970s.

If we consider the mean age of mother according to the year of birth of the child according to the data of the RC-2010, it is clear that Dagestan in the 1960s began to correspond to the all-Russian trend, from which it had deviated somewhat in the 1950s: in the republic the indicator grew, while in Russia there were fluctuations. Data for the 2000s as a whole confirm the results of current statistics: despite the sharp increase in the mean age of mother in rural Russia nearly to the highest post-war values, the indicator stagnated in Dagestan.

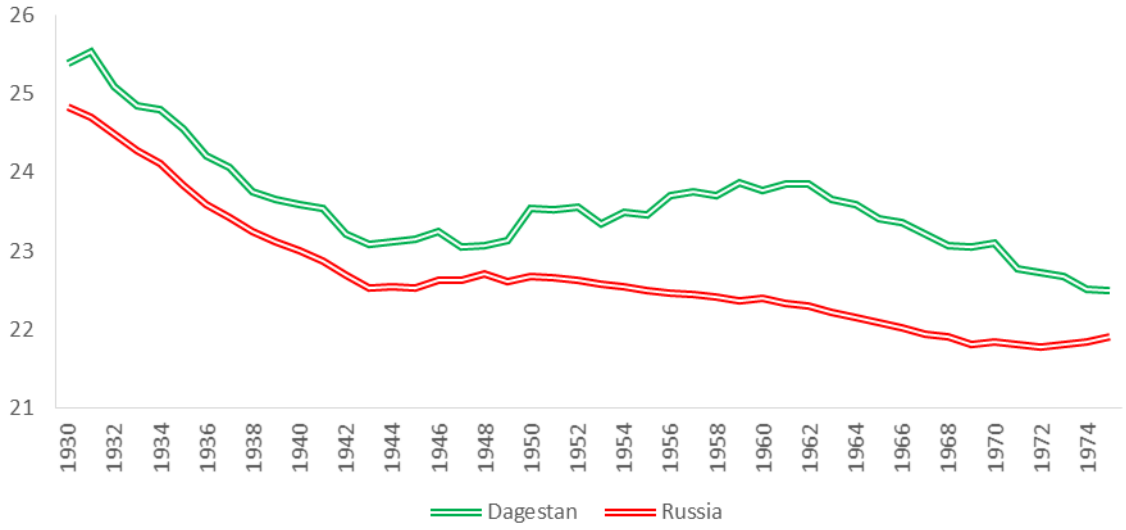

Figure 6. The mean age of mother at birth of the first child in Dagestan and Russia. Cohort indicators for years of birth of mothers

Source: Authors' calculations according to [RC-2010].

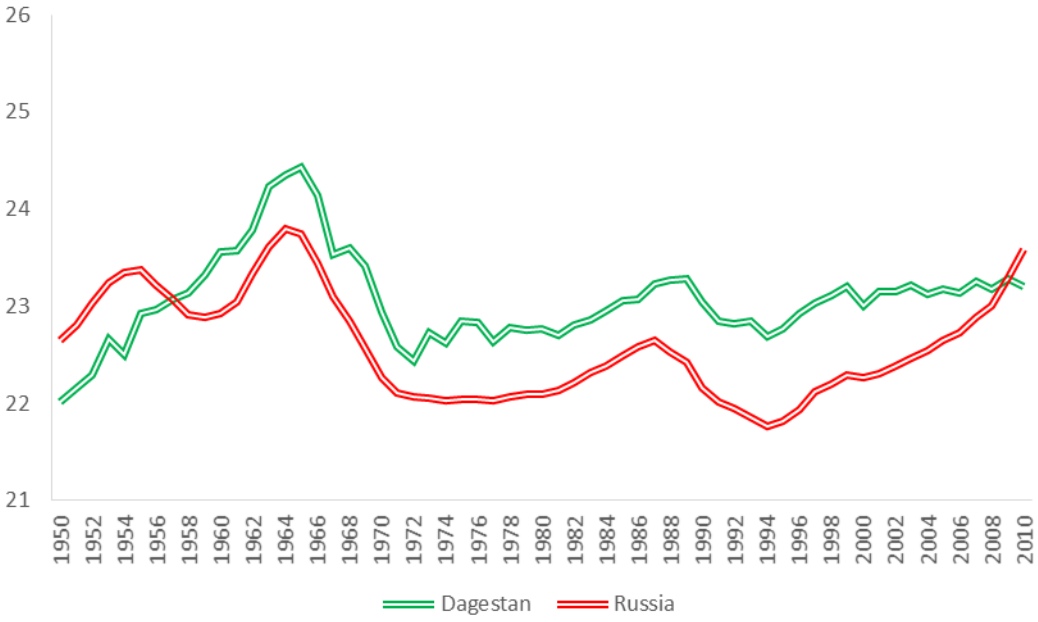

Figure 7. The mean age of mother at birth of the first child in Dagestan and Russia. Indicators for calendar periods by birth years of children

Source: Authors' calculations according to [RC-2010].

Thus, data on the mean age of mother show that a significant discrepancy in the dynamics of maternal age between rural Dagestan and rural Russia as a whole arose only in the 2000s. All observed differences in dynamics led to greater stability of young motherhood in Dagestan in comparison with Russia as a whole.

Note that the differences in the starting age of maternity can only partially be explained by differences in marital behaviour. Figure 8 shows that, in general, the proportion of women who have never married (registered and unregistered) is approximately the same for ages 16-17 and 18-19 in Russia and Dagestan (if we compare Russia with Dagestan and rural Russia with rural Dagestan). By the age of 25-39 years, a small difference in the proportion of never-married women appears – approximately 4-5 percentage points.

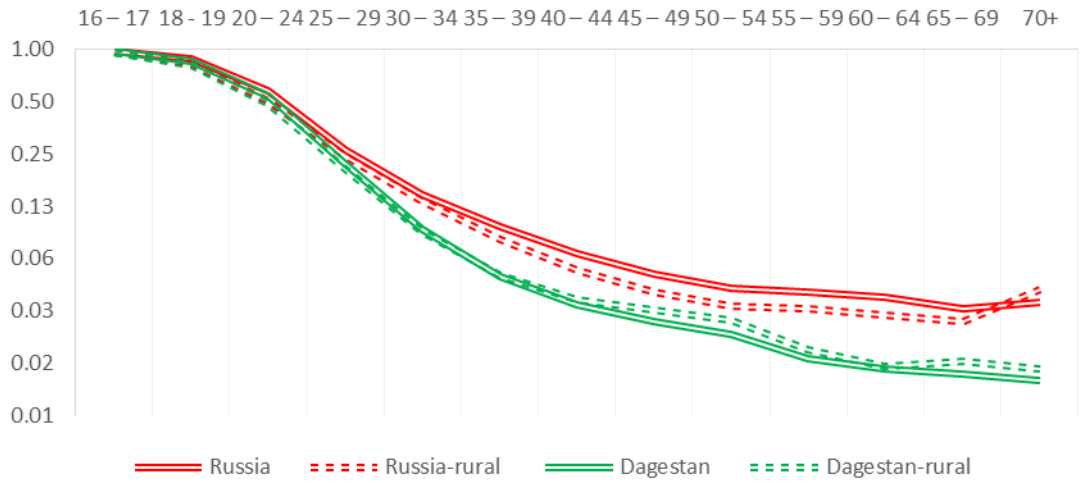

Figure 8. The proportion of never-married women to reach a certain age in Russia and Dagestan in 2010 among those indicating their marital status

Note: in logarithmic scale

Source: [RC-2010].

2.2. Age-specific fertility rates

Dagestan's trend toward a younger motherhood than in Russia as a whole is also evident from the dynamics of age-specific fertility rates. Figure 9 shows the age-specific rates for rural Dagestan without taking into account the order of birth.

The dynamics of the age-specific fertility rates in rural Dagestan and in rural Russia as a whole at the beginning of the 2010s differed in young age groups: in the 15-19-year-old group in Dagestan there was growth amidst a fall in Russia as a whole, and in the 20-24-year-old group in Dagestan there was faster growth. This corresponds to the trend towards younger motherhood in Dagestan. It is also clear that at the previous stage, in 2005-2008, the rates for young age groups grew in Russia as a whole, but then this growth slowed down compared to Dagestan's, or stopped altogether.

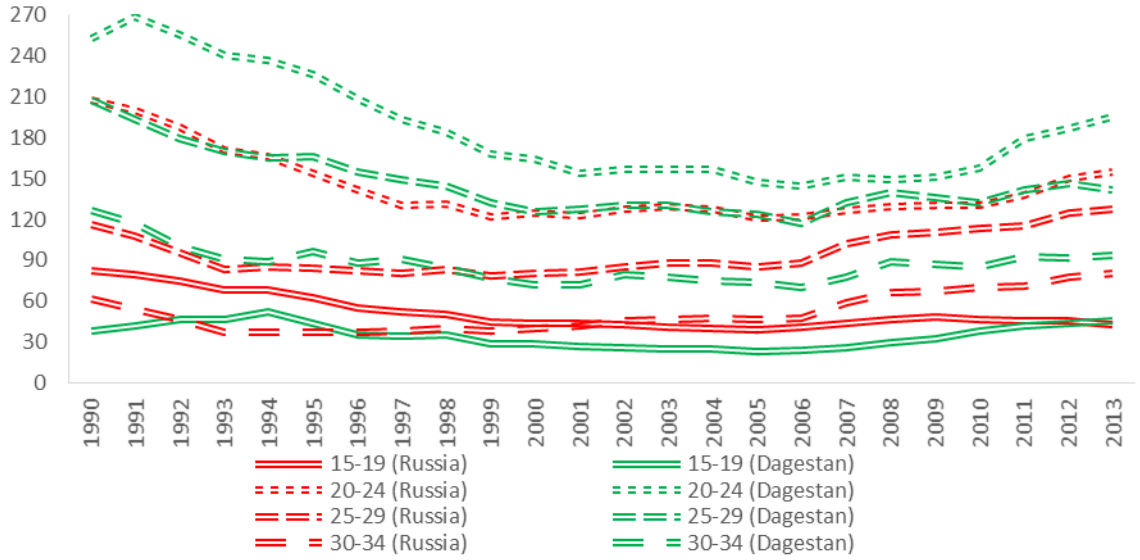

Figure 9. Age-specific fertility rates in rural Dagestan in 1990-2013, per 1000 women, not accounting for birth parity

Source: Authors' calculations according to [RusFMD 2016].

The difference in trends concerning the age of motherhood is also shown by the age-specific fertility rates for first children. Figures 10 and 11 show this difference for rural Russia and rural Dagestan in 1990, 2000 and 2010. In rural Russia, the distribution of the start of motherhood by age in 2010 was much more "flat" than in 2000 and 1990, due to an increase in the births of first children at later ages, whereas in Dagestan no such changes occurred: age-specific rates in 2010 and 2014 were higher than in 2000 at young ages, at which there was even a slight increase compared to 1990.

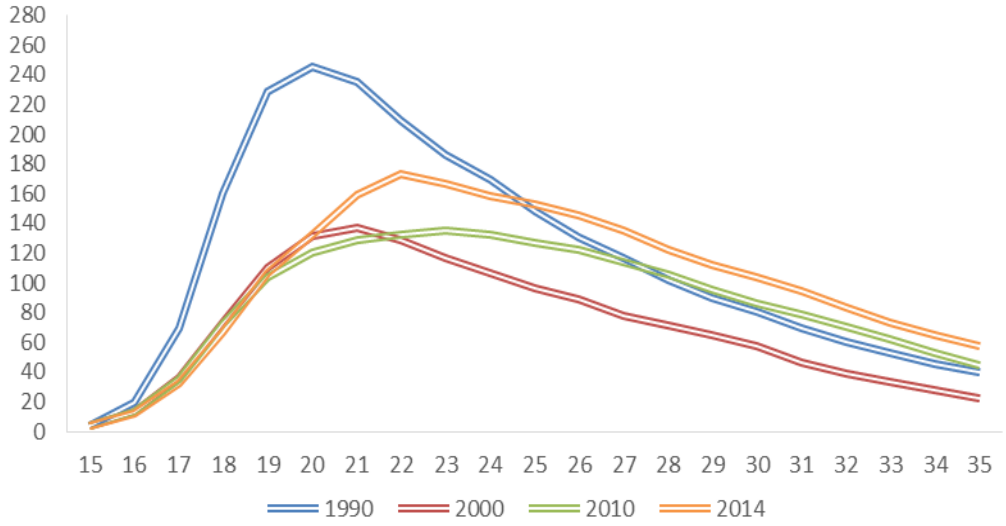

Figure 10. Age-specific fertility rates for the first parity in rural Russia, per 1000 women

Source: Authors' calculations according to [RusFMD 2016].

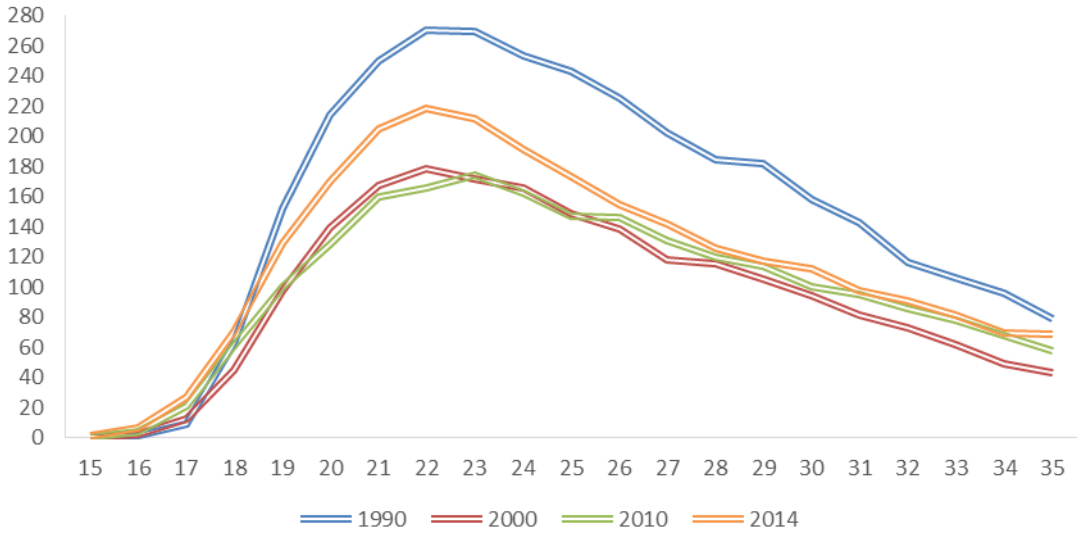

Figure 11. Age-specific fertility rates for the first parity in rural Dagestan, per 1000 women

Source: Authors' calculations according to [RusFMD 2016].

Let us summarise. Rural Dagestan as of 2014 differed little from rural Russia as a whole in terms of the general level and trends of fertility, but showed marked differences in the age of motherhood. It is the absence of the "ageing" of motherhood in Dagestan that creates a clear contrast with all-Russian trends, even in the countryside, where, compared to the city, there was no such significant ageing and shifting of the age of childbearing to older ages. Before that, there was no contrast; it appeared only at the turn of the 2000s-2010s.

2.3. Reliability of the results

There is frequent criticism among experts of the reliability of the census, thus of current data on the total population of Dagestan [Andreev 2012; Bogoyavlenskiy 2008, 2012; Shakhbanov 2011, 2012]. Accordingly, the level of fertility in the cities of Dagestan seems to be very doubtful to researchers, roughly corresponding to the level of Central Russia. When adjusting the data after the census, it is necessary to declare a migration increase, which is not confirmed by the researchers of Dagestan (sociologists and ethnographers) who do not work directly with statistics.

Let us consider what population distortions will look like when analysing fertility. There is reason to believe that there are no large discrepancies between the real and declared number of births in Dagestan, i.e., there are no statistically significant distortions of births. To confirm this hypothesis, let us turn to the data of the Social Insurance Fund (SIF). According to them, it can be assumed that some children do not get into the SIF report, which leads to slightly lower values of the total fertility rate in the whole of the country, if they are calculated according to the data of the SIF, not of Rosstat[5]. However, this discrepancy may not be related to "distortions" in a pure form, since part of the births can occur at home and do not fall immediately into the data of the fund.

[5] Thus, the TFR calculated for a similar number of women by age according to the number of births from the SIF in 2013 is about 1.9 in Dagestan, and according to Rosstat it is 2.015.

The period average parity (PAP)[6], calculated on the basis of SIF data, but using the denominator (the number of women in different age groups) of Rosstat, indicates a fertility of approximately 1.9 children per woman, which is lower than the TFR. The reason may be an overstatement of the size of the permanent population (because of the higher denominator value, the final age-specific fertility rate becomes lower). On the other hand, this discrepancy (uncharacteristic for modern Russia, where the PAP exceeds the TFR) may be caused by the absence of the practice of postponing the birth of children and by the forced decrease in the mean age of mother.

However, the SIF data still allow one to see some strangeness in the republic's fertility. If we consider the share of births by parity – even according to the data of the SIF, which are slightly incomplete – it turns out that Dagestan is among the leading regions in the percentage of children of third and higher parities (31.4% of all children born), outstripping the Republic of Altai, Yakutia and – just behind – Tuva (regions with a TFR sufficient for extended reproduction and, according to Rosstat data, exceeding the level of Dagestan; see, for example, Figure 2). Consequently, the real TFR in the republic may indeed be higher. However, this is not necessarily the case: according to the same SIF data, a distribution similar to Dagestan's is shown by the Republic of Kalmykia (29.8% of births were of children of third or higher orders in 2013, with a figure in Dagestan of 30%), where the TFR was below 1.89 in the observed period, and there are practically no reports of incorrect registration.

A serious problem with official statistics of the population in Dagestan, as shown by experts [Andreev 2012], is overcounting the population of the republic. This is often caused by a double count: for example, rural residents are counted both in the city to which they migrate, in some cases temporarily, and in the countryside. Overcounting, according to E.M. Andreev, occurred during the All-Russian population censuses in 2002 (RC-2002, where the population according to the census differed from pre-census calculations by 380,000 people) and 2010 (which diverged by more than 150,000). These figures are indirectly confirmed by the data of voting lists. Due to overcounting, the real denominator in calculating fertility rates will be significantly lower than indicated by the statistical authorities, which leads to an underestimation of fertility in official statistics. Most likely, the low rates of TFR in the cities of Dagestan, based on official statistics, are explained precisely by this.

At the same time, the problem of incorrect counting of the population is not the same for different ages. According to Andreev, as a result of the RC-2010, in the entire population of Dagestan there was a decline in the size of the cohort born in 1981-1985. If this is an undercount, then the real age indices of women of this age will be lower, since we are dealing with a lower denominator. However, if, as experts assume, the RC-2002 data show that the size of these generations was overestimated, then there is a return to the original size, and this cohort will not affect the initial fertility and the age of the mother. At the same time, there was a probable overestimation of the younger population born in around 1990 in the RC-2010. Thus, in addition to the fact that in such circumstances the age-specific fertility rates must in reality be higher, they should be higher precisely at young ages, which can lead not only to a truly higher TFR, but also to a lower age of the mother than observed.

[6] Weighted average of TFR by birth parity.

Thus, we can conclude that those adjustments that could be made for fertility data in Dagestan, taking into account the probable errors in official statistics, are unlikely to lead to an increase in the maternity age indicators.

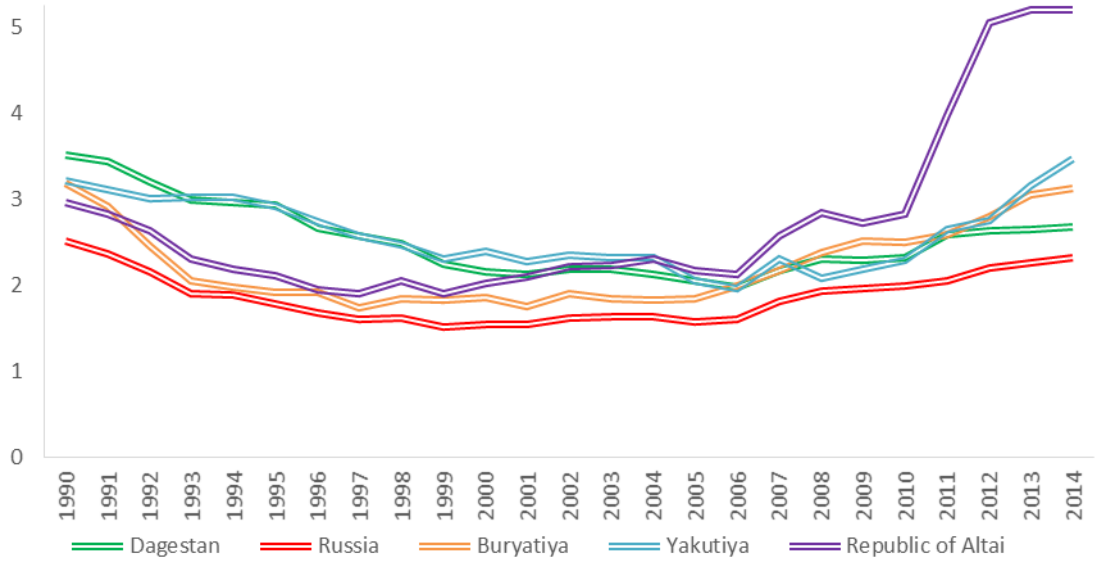

Figure 12. The total fertility rate in rural areas of several regions of Russia, 1990-2014, children per 1 woman

Source: authors' calculations according to unpublished data of Rosstat and [RusFMD 2016].

We also note that, since our field study concerns the rural population, it is more important for us to understand the extent to which an incorrect calculation of the denominator is possible for rural residents. It is believed that in a number of regions of the Russian Federation, in rural areas there is an undercounting of the adult population together with full registration of all children born (for example, because parents who moved to the city for permanent or temporary work are counted in the city[7], while their children are registered in the village, where the adults go to give birth). This leads to a clear overestimation of the TFR of the rural population. With such statistical distortions, an abrupt change in this indicator for rural areas is expected, which is observed in a number of regions with a small population (Figure 12). When compared with the "jumps" observed in Yakutia and the Republic of Altai (regions where the problem of undercounting the adult population in the countryside is well known), it is evident that in Dagestan the dynamics of the TFR in the countryside are more "smooth", which suggests that for this region this problem is irrelevant (although we should not forget about the large population of Dagestan in comparison with Yakutia and the Republic of Altai). On the basis of this comparison, it is more likely in Dagestan that a double count is taken of both the adult population and of children in the village and in the city, which for the village means registration of residents actually living in cities. However, this distortion of the data should not cause the artificial growth of fertility in the countryside.

[7] Especially if they were counted in the city.

Nevertheless, given the criticisms that exist about the quality of population registration in Dagestan, it is important to conduct field research to confirm and explain the phenomenon of unusual births in the republic.

3. AGE OF MOTHER IN SOME VILLAGES OF DAGESTAN: FIELD DATA CONFIRM THE STATISTICS

The official data sources presented above are partially confirmed by our data on fertility in some villages of Dagestan. These data were obtained during a field study we conducted in 2015-2016. In total, during our study, the birth rate was studied in 20 villages distributed among the main geographical zones of Dagestan (mountains, foothills, plains) and in whose populations all the most numerous ethnic groups of the republic are represented. The main source of information during the study was data from rural medical institutions in the cities of Dagestan, where medical records of children born in 2013-2014 provided information about the age of the child's mother and the birth parity. Only those medical records that contained records of visits to the doctor during the previous year (a proxy for rural residence) were taken into account. To assess the extent to which the number of children accounted for in this way is different from the total number of children born in the village in the years indicated, the number of accounted children was compared with the records of the health facility and of the rural administration for the relevant years. The overall reliability of these health facilities regarding the number of children was also controlled by comparing these data for older children with the data of the rural school on the number of pupils of the same age.

At the time of writing, we had processed data for 11 of the 20 villages studied, so our observations are purely preliminary. Table 1 shows the villages for which data are considered below. In all these villages, the number of births used in our study was at least 70% of the births that occurred in the village according to the consolidated data of local medical institutions, and at least 50% of births which took place according to the village administration. Thus, we can speak of sufficient representativeness of the data available to us.

Table 1. Data on the villages included in the study

Geographic zone	Village (nationality and population size)
Mountains	Kubachi (Dargins; 3060); Kumukh (Laks; 1930)
Foothills	Leninaul (Avars and Chechens; 8340); Tukhchar (Avars, Laks and Chechens; 3567); Karabudakhkent (Kumyks and Dargins; 15,356), Dorgely (Kumyks; 5783)
Plains	Tsadakh (Avars; 503); Tamazatube (Nogais; 1718); L'vovskoe-1 (Kumyk; 1262)

Figure 13 shows the data on the mean age of mother in the studied villages in 2013 and 2014 (without taking birth parity into account). It can be seen in the figure that there is significant variation in the indicator across the villages, but the mean age of mother for all the villages studied at the moment in 2013 (25.92) and in 2014 (25.03) is slightly below the mean values for the years indicated for rural Dagestan (26.88 and 26.77, respectively; see Figure 4). Thus, the results for this sample of villages are consistent with the data of RusFMD and Rosstat on the rejuvenation of

motherhood in Dagestan, indicating the current value of the mother's mean age as somewhat younger than calculated according to official data for the republic.

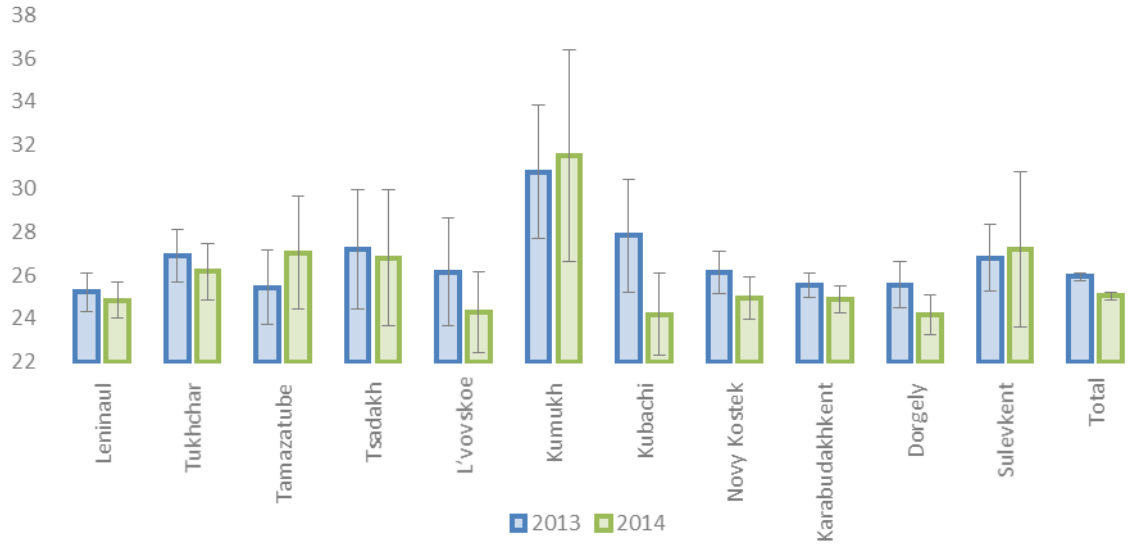

Figure 13. The mean age of mother in some villages of Dagestan in 2013-2014, not accounting for birth parity

Notes: Confidence intervals are constructed according to the normal distribution for the number of observations (childbirths) over 30 and the t-distribution for the number of observations under 30. Confidence intervals are shown for p-value < 0.05.

It is interesting to note that villages with a low mean age of mother are found both in the foothills (Dorgeli, Leninaul) and on the plains (Lvovskoe-1). The opposite is also true: an above-average age for the country can be found in the mountains (Kubachi in 2013, Kumukh), on the plains (Tsadakh, Sulevkent) and in the foothills (Tukhchar).

In four of the villages surveyed we were able to obtain data on the mean age of mother in 2011-2012. In none of these villages did the age of the mother not change monotonically, but the mean age of mother during these years for these villages turned out to be even lower than in rural Dagestan as a whole.

Table 2. The mean age of mother in some villages of Dagestan in 2011-2014, not accounting for birth parity

Village (ethnic group)	2011	2012	2013	2014
Leninaul (Avars and Chechens)	24.80 (104)	25.61 (145)	25.21 (123)	24.83 (149)
Kubachi (Dargins)	25.45 (31)	26.15 (34)	27.82 (17)	24.19 (31)
Tsadakh (Avars)	28.85 (13)	25.47 (15)	27.18 (17)	26.78 (17)
Lvov-1 (Kumyks)	24.81 (27)	24.46 (37)	26.29 (34)	24.28 (33)

Note: The total number of registered births is in parentheses.

Note that the mean age of mother at first birth depends on the distribution of children by birth parity. Therefore, in order to obtain a more adequate picture, it is necessary to refer to the mean age of mother at birth of the first child in the studied villages in 2013-2014. Unfortunately,

the significance of this indicator in a number of villages can be considered low because of the small number of births. Only in four villages does the number of births exceed 30 in at least one of the two surveyed years (and only in Leninaul and Karabudakhken is it higher for both years).

In 2013, the mean age of mother at first birth in rural Dagestan according to the RusFMD was 23.68 years. Of the surveyed villages, this level was exceeded in 2013 only in three, and in two of them (Kubachi, Lvovskoe-1) the total number of first births was very low (below 10), meaning the data of these villages can hardly be statistically significant. In another village, where the indicator in 2013 was higher than the mean for Dagestan (Novy Kostek), in 2014 the age of the start of motherhood decreased to 22.14 years. In general, in 2013 the mean age of mother at first birth in our sample was 22.27 years, and in the next year it went down to 21.36 years (a downward trend noted in RusFMD, but there the figure is still above 23 years).

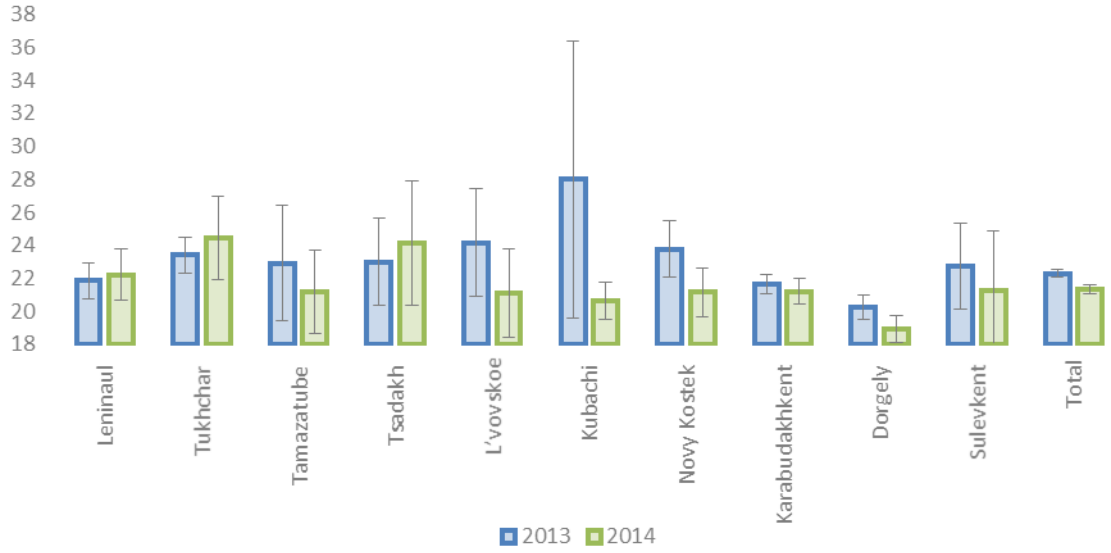

Figure 14. The mean age of mother at the birth of a first child in some villages of Dagestan in 2013-2014

Note: Confidence intervals are constructed according to the normal distribution for the number of observations (childbirths) over 30 and the t-distribution for the number of observations under 30.

It should be noted that there are a number of reasons, in addition to the aforementioned statistical overcounting of women at young reproductive ages, for the lower age of the mother in our sample compared to that for Dagestan as a whole. Firstly, our sample is not weighted according to the representation of various ethnic groups in the general population of Dagestan, as well as to their distribution across plains, mountains and foothills. Secondly, in calculating the mean age of mother, we use the number of children born in a given year, rather than the age-specific fertility rates (since data on the age structure currently are not available for all the villages). Thirdly, we do not have data about age, but about the year of the mother's birth, and in order to avoid a possible overestimation when calculating age according to the formula "year of observation minus the year of birth", we weigh the number of births not at the middle but at the beginning of the age interval, which also leads to certain inaccuracies.

4. POSSIBLE REASONS FOR THE ABSENCE OF "AGEING" OF MATERNITY

In this section, we discuss possible reasons for the absence of "ageing" of motherhood in rural Dagestan. One hypothesis might be that the rejuvenation of fertility is associated with Islamisation – a process that undoubtedly affects family life in post-Soviet Dagestan. The role of Islam as a factor influencing fertility has been repeatedly discussed in the literature [Mazrui 1994; Morgan et al. 2002]. High fertility in some societies is considered by researchers as a consequence of the great role of Islam in their lives. Conversely, the decline in fertility observed in recent decades in most Muslim countries is associated with a decrease in the regulatory role of Islam in society [Heaton 1996; Hirschmann, Rindfuss 1980; Eltighani 2009; Barbieri et al. 1996; Shah 2004].

However, a comparison of the data of a large number of Muslim countries shows that the correlation between Islamisation and high fertility may not be as strong as is often assumed. E. Kaufmann [2008] notes that, based on the results of the World Values Survey, among countries where surveys within the framework of this project have registered the great role of religious values in the society, there are also countries with low (about 2 births per woman) fertility (for example, Azerbaijan and Indonesia). On the other hand, according to the same study, there are countries with a predominantly Islamic population in which a relatively modest role of religious values coexists with high fertility (for example, Tanzania, Uganda). The work of Berman and Stepanyan [2003] examines the correlation between fertility in Muslim families of a number of countries and the level of Islamisation of the family, as determined by whether the children in the family attend a secular or Islamic school. It turns out that the degree to which fertility in families determined by this indicator as Islamic is greater than in other families differs significantly from country to country. However, in none of the countries investigated does this difference exceed 30%. Such a result, according to the authors, shows that Islamisation influences fertility, but that this influence is much more modest than the influence of a number of other religions, in particular Judaism, where fertility among Orthodox Israelis is many times higher than among the other groups of the country's Jewish population.

At the moment, we can only make preliminary judgments about the extent to which Islamisation is "responsible" for the rejuvenation of fertility in Dagestan. Between some villages of our sample, the contrast in the role of religion in the life of the village is very noticeable. Namely, in the villages of Novy Kostek, Leninaul, Dorgeli and Karabudakhkent, judging by interviews with local residents conducted in 2014-2015, religion plays a primary role in the organisation of rural life, as evidenced by such phenomena as the active participation of rural imams and other religious authorities in addressing various issues of rural life, full attendance at Friday prayers, etc. Several other villages surveyed – Kubachi, Kumukh, Sulevkent and Tamazatube – are, in contrast, currently notable for the modest role of Islam in organising their lives. For the remaining villages, it is not possible to draw an unambiguous conclusion about the magnitude of Islam's role there.

According to Figure 13, out of four villages where the role of Islam is great, the mean age of motherhood in 2013-2014 was consistently lower than the mean for all the villages studied in Dorgeli and Karabudakhkent. At the same time, in three of these villages (Leninaul, Karabudakhkent and Dorgeli) in 2013-2014 the mean age of mother at birth of the first child was under 23 years (with the mean for rural Dagestan being 23.68 years in 2013). In another (New

Kostek), the mean age of the onset of maternity was higher than the mean for Dagestan in 2013, but in 2014 it also fell below 23 years.

However, low maternity ages are also observed for some villages with a small role of Islam in rural self-organisation, for example, Tazantube and Sulevkent. Therefore, it is impossible to say that villages with a low level of Islamisation regularly have a higher age of motherhood.

Thus, within the limited space of the villages under consideration, the thesis about the role of Islam in the "non-ageing" of motherhood on the whole finds some confirmation, but requires further study.

Let us turn to another explanation, apart from "Islamisation", of the absence of "ageing" of fertility, an explanation involving the preservation of traditional mechanisms of family organisation, manifested primarily in the following of age and gender hierarchies. Without considering here the general definition of the concept of "traditionality", we note that, in relation to the age of motherhood, this concept involves the repetition of timing of major demographic events in young generations, including the birth of children. The link between the "traditionality" of family organisation and the early start of maternity has been demonstrated for a number of countries with a predominantly Muslim population, including, for example, Uzbekistan [Barbieri et al. 1996].

In the case of Dagestan, the explanation of the slowing-down of the ageing of motherhood as the result of preserving the traditional characteristics of family life is problematic, primarily because the age of motherhood in Dagestan was not stable in the post-Soviet period, nor in the last Soviet decades (Figures 6 and 7). Given the variability of the age-specific features of fertility in the last few decades, their current status can be recognised as reflecting a certain "tradition" only on the basis of fairly arbitrary assumptions.

Table 3. The mean age of mother of different nationalities in the village of Tukhchar in 2013-2014, without accounting for birth parity

Ethnic group	2013	2014
Laks	27.3 (24)	28 (11)
Chechens	25.62 (16)	27.21 (14)
Avars	27.16 (38)	26.97 (34)

Note: In parentheses is the number of observations.

However, it must also be noted that, in certain aspects, the current age of motherhood does reflect trends that have been present for a long time. This does not, though, apply to the general picture of Dagestan, but rather to those cases that differ from it. For example, the age of motherhood (including the birth of the first child) is higher than the mean indicators in the surveyed villages where the Laks live (see Figures 13 and 14, and Table 1). This trend is not, apparently, fortuitous. In Section 1, we saw (Figure 3) that among the Laks a decrease in fertility occurred in earlier cohorts than in other indigenous peoples of Dagestan. The late age of motherhood among the Laks in the villages studied is in keeping with the general low fertility of this people, who

underwent mass urbanisation earlier than other ethnic groups of Dagestan[8]. The possibility of entrenched family norms of a given ethnos influencing the age of motherhood is supported by data on the village of Tukhchar, where the Laks live together with two other peoples. As can be seen from Table 3, among Laks the mean age of mother in 2013-2014 was higher than that of their neighbours in the village.

Such observations suggest that the reproduction of fertility behaviour from generation to generation within individual ethnic groups can take place. However, the Laks are apparently the only major people who, according to the dynamics of birth parameters, have differed markedly from the other peoples of Dagestan in recent decades. An argument for the claim that current trends in the change in the age of motherhood are related to the preservation of some traditional norms would entail contrasts among many ethnic groups.

5. CONCLUSIONS

In this article, we have put forth evidence that in the Republic of Dagestan the dynamics of the age of motherhood currently differ from those for Russia as a whole. This is reflected in the decrease in the mean age of mother in Dagestan, both without regard to birth parity and at births of the first and second parities. This trend is indicated by various official data, as well as preliminary data from our research on the sample of Dagestan villages. In the light of the foregoing, there is no reason to believe that the observed trends are an "artefact" caused by the unreliability of the data.

The search for an explanation of this phenomenon naturally leads us to the question of what social causes it may be related to. As we have seen in studies of fertility in foreign countries, among other things, two factors are noted that can "slow down" the ageing of motherhood that is expected to come with a decrease in the overall level of fertility. These are, firstly, the role of Islam in the society being studied and, secondly, a high degree of preservation of the traditional family life. We have seen that for Dagestan there are, a priori, more grounds for assuming the influence of the first than of the second factor.

The hypothesis that it is Islam that "maintains" the relatively young age of motherhood in Dagestan today merits rigorous checking, because the degree of observance of Islamic norms is not uniform in this region, with different villages differing significantly. In the examples we provided, it is clear that it is precisely villages where these norms are more strictly observed that are distinguished by "younger" motherhood, but the connection between the age of mother at birth of first child and the observance of Islamic norms is not so obvious. At the same time, we can assume that the level of observance of Islamic norms is to a greater extent an individual parameter, and not a characteristic that refers to whole villages. Accordingly, the hypothesis about the role of Islam as the cause of "young" motherhood should be checked within the framework of an

[8] According to the RC-2010, the percentage of the urban population among the Laks was 71.9%, with an overall level for Dagestan of 45.2%. Laks are one of the most "urban" peoples of Dagestan. It can be assumed that this also affects the "rural" fertility of this people, because between the city and the village in Dagestan there are quite intensive ties between relatives, and urban motherhood is normally assumed to be "older" than rural. Based on this, it can be expected that the ethnic group with the highest proportion of urban population as a result of the "diffuse" influence of urban relatives on rural motherhood in the village will also "grow old".

individual sample survey of mothers of different age groups, which we are currently doing in Dagestan.

LIST OF ABBREVIATIONS

RC-2002 – 2002 Russian population census

RC-2010 – 2010 Russian population census

RusFMD – Russian Fertility and Mortality database

TFR – total fertility rate

PAP – period average parity

SIF – Social Insurance Fund

REFERENCES

Andreev E.M. (2012). O tochnosti rezul'tatov rossiyskikh perepisey naseleniya i stepeni doveriya k raznym istochnikam informatsii [On the accuracy of the Russian census data and the assurance of different demographic sources] // Voprosy statistiki [Problems in statistics]. 11: 21-35.

Appendix of Demoscope Weekly (2016). Coefficient of total fertility by subjects of the Russian Federation, 1990-2014. URL: http: //www.demoscope.ru/weekly/ssp/rus_reg_tfr_gor.php; Age-specific fertility rates for the subjects of the Russian Federation, 1990-2015 URL: http://demoscope.ru/weekly/ssp/rus_reg_asfr.php (date of circulation: May 27, 2016).

Barbieri M., A. Blum, E. Dolgikh, A. Ergashev (1996). Nuptiality, fertility, use of contraception, and fertility policies in Uzbekistan // Population studies. 50 (1): 69-88.

Berman A., A. Stepanyan (2003). Fertility and education in radical Islamic sects: evidence from Asia and Africa // NBER working paper.

Bogoyavlenskiy D.D. (2008). Vse li rossiyskie narody verno poschitali [Were all ethnic groups in Russia correctly counted]? // Demoscope Weekly: 319-320. URL: http://demoscope.ru/weekly/2008/0319/tema01.php (accessed: 05/27/2016).

Bogoyavlenskiy D.D. (2012). Perepis' 2010: etnicheskiy srez [2010 Population Census from the ethnic point of view] // Demoscope Weekly: 531-532. URL: http://demoscope.ru/weekly/2012/0531/tema01.php (accessed: 05/27/2016).

Bongaarts J. (2006). The causes of stalling fertility transitions // Studies in family planning. 1 (1): 1-16.

Bongaarts J. (2008). Fertility transitions in developing countries: progress or stagnation? // Studies in family planning. 39 (1): 105-110.

Cetorelli V., T. Leone (2012). Is fertility stalling in Jordan? // Demographic research. 26 (13): 293-318.

Demograficheskiy ezhegodnik Rossii 2015 [Demographic yearbook of Russia, 2015] (2015). Statisticheskiy sbornik [Statistical yearbook]. Moscow: Rosstat. URL: http://www.gks.ru/free_doc/doc_2015/demo15.pdf (accessed: May 27, 2016).

Eltighani E. (2009). Toward replacement studies in Egypt and Tunisia // Studies in family planning. 40 (3): 215-226.

Ezeh A.C., B.U. Mberu, J.O. Emina (2009). Stall in fertility decline in the Eastern African countries: regional analysis of patterns, determinants and implications // Philosophical transactions of the royal society. 364: 2991-3007.

Heaton T. (1996). Socioeconomic and familial status of women associated with age at first marriage in three Islamic societies // Journal of comparative family studies. 27 (1): 41-58.

Hirschmann C., R. Rindfuss (1980). Social, cultural, and economic determinants of age at the birth of the first child in Peninsular Malaysia // Population studies. 34 (3): 507-518.

Kaufmann E. (2008). Islamism, religiosity and fertility in the Muslim World. Paper presented at the 2008 EPC conference. Barcelona, Spain, 8-11 July.

Mazrui Ali A. (1994). Islamic doctrine and the politics of induced fertility: the African perspective // Population and development review; Supplementary volume: the new politics of the population: conflict and consensus in family planning: 121-134.

Morgan P.S., S. Stash, H.L. Smith, K.O. Mason (2002). Muslim and non-Muslim differences in female autonomy and fertility: evidence from four Asian Countries // Population and development review. 28 (3): 515-537.

RC-2010 (2010). 2010 Russian population census. Volume 10. Fertility. URL: http://www.gks.ru/free_doc/new_site/perepis2010/croc/perepis_itogi1612.htm (date of circulation: May 27, 2016).

RusFMD (2016). The Russian Fertility and Mortality database. Centre of Demographic Research of the New Economic School (accessed: May 27, 2016).

Shakhbanov M. (2011). Dagestanis and the wonders of Azerbaijani statistics // Portal of the Federal Lezgin national-cultural autonomy. URL: http://flnka.ru/digest-analytics/286-marko-shahbanov-dagestancy-i-chudesa-azerbaydzhanskoy-statistiki.html (date of circulation: May 27, 2016).

Shakhbanov M. (2012). Russians, Azerbaijanis, Highlanders: Why are the results of the census in Dagestan distorted? // Information agency Regnum. URL: http://regnum.ru/news/polit/1497900.html (date of circulation: May 27, 2016).