

Title: Higher Fertility in Low Fertility Country (Caucasus case in Russia)

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This study is connected with fertility analysis in one of the highest fertility region of Russia - the Caucasus regions. The purpose of the study is to estimate the cohort fertility and tempo effect of sharp decreasing of fertility in this region in the 1990-th and to study some factors of differences in fertility (type of settlements, nationality, etc.).

Data: Russian Census 2002. Demographic Yearbooks.

Methodology: The method of parity-progression table. The Bongaarts-Feeney method (tempo adjusted fertility).

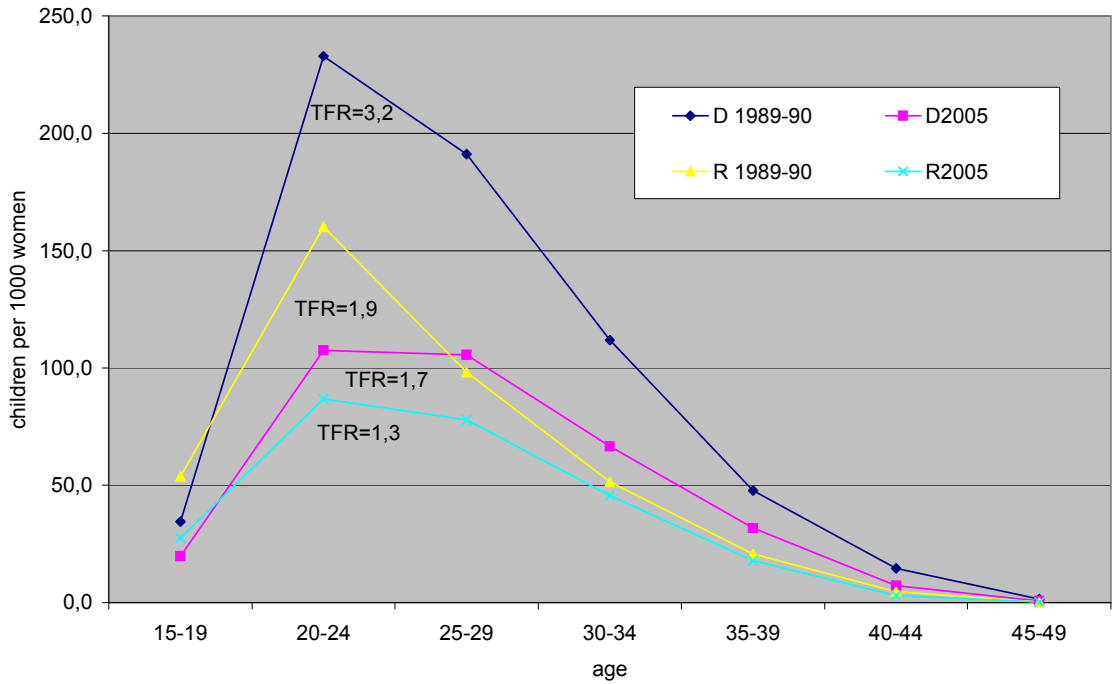
Russia is the low fertility country. Period TFR was fluctuating around 2 children per woman from the end of 1960-th till the beginning of the 1990-th years. Then it sharply dropped to 1,15 (1999) and slightly increased to 1,3 in the last years.

However Russia is multinational country, and some nations (some regions) have different level of fertility. So cold «high fertility» (period TFR is equal 1,9-2,9 child per woman) appearances in 1/10 of Russian regions inspite of weak influence on average level of fertilitly in countries (because of population share).

One of the «high fertility» regions is Caucasus region, where demographic transition started later and had special timing and speed of transition. Economic transition of 1990-th in Russia also influenced period TFR decreasing in this region. Picture 1 shows pre-transition and post-transition age-specific fertility rates in Russian Federation and in one of the highest fertility region of Caucasus (Daghestan).

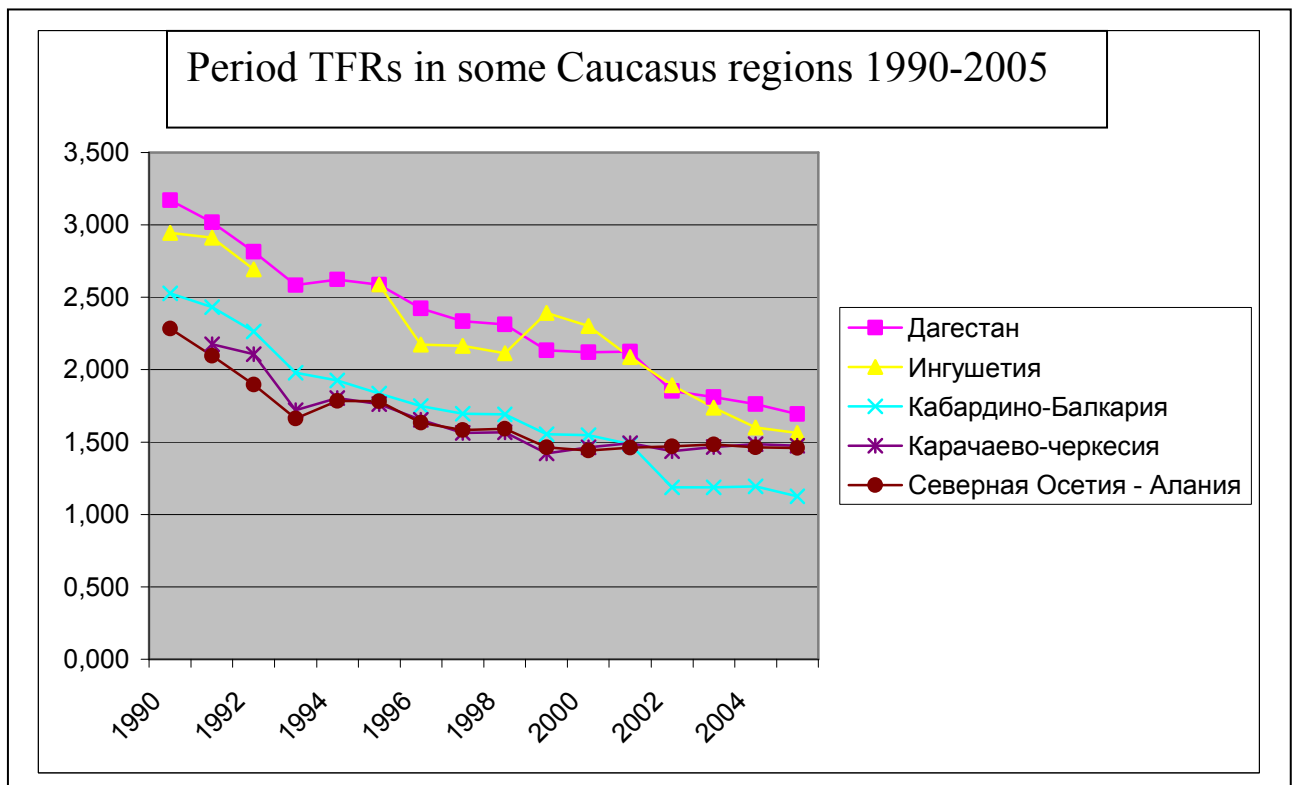
Picture 1. Age-specific fertility rates in Russian Federation and Daghestan in 1990 and 2005.

Age-specific fertility rate in Russia and Daghestan in 1989-90 and 2005



Moreover period TFRs in various parts inside of Caucasia region are different, including period of sharp decreasing of TFR in 1990-2005. Picture 2 illustrates this differences in fertility level in period of 1990-2005 .

Picture 2. Period TFRs in some Caucasia regions 1990-2005



Дagестан = Dagestan, Ингушетия = Ingushetia, Кабардино-Балкария = Cabardino-Balkaria, Карачаево-Черкесия = Carachaevo-Cherkessia, Северная Осетия-Алания = Severnaya Osetia-Alania

According to demographic transition concept long-term trends in fertility in Caucasus regions in Russia are declining. Sharp decreasing of fertility in this region after the 1990 year is obviously.

However cohorts fertility is still on reproductive level in some part of Caucasus regions or it is more than one in other parts of Russia. Moreover we should remember that 1968-72 female cohort does not still finish its reproductive history. Table 1 presents the results of cohort fertility analysis.

Table 1. Cohort TFRs (the cohorts born from 1932 to 1972) in some Caucasus regions

Female Cohorts	Daghestan	Ingushetia	Cabardino-Balkaria	Carachaevo-Cherkessia	Severnaya Osetia - Alania
1968-72	2,053	2,128	1,625	1,588	1,467
1963-67	2,51	2,973	2,016	1,966	1,853
1958-62	2,813	3,668	2,222	2,183	2,085
1953-57	3,063	4,105	2,286	2,334	2,201
1948-52	3,38	4,438	2,319	2,38	2,232
1943-47	3,61	4,795	2,396	2,374	2,231
1938-42	3,919	5,158	2,621	2,667	2,28
1933-37	4,191	5,312	2,807	2,922	2,375
1932<	3,86	4,955	2,796	2,864	2,525

It is important that there were more significantly changes in period fertility of younger woman (20-29 ages) in the investigated period. So we should propose tempo effect on fertility. What is tempo effect on fertility declining in this region during 1990-th years? Bongaarts-Feeney methods (Bongaarts and Feeney 1998) was used in calculation of tempo adjusted TFRs in Caucasus region:

$$TFR^*(t) = \frac{TFR(t)}{1-r(t)}$$

$$r(t) = \frac{dMAB(t)}{dt}, \text{ r-rate of increasing in mean age of birth.}$$

The results are in Table 2.

Table 2. Tempo adjusted fertility (1995-2004) in some Caucasus regions

	Daghestan	Ingushetia	Cabardino-Balkaria	Severnaya Osetia – Alania
Adjusted TFR* (1995-2004)	2,43	2,71	1,78	1,71
Period TFR (1995-2004)	2,14	2,10	1,53	1,53
Cohort TFR (1958-72)	2,46	2,92	1,95	1,80

Modern trends of fertility in Caucasus Russian regions are the result of timing shift in fertility by significant way. Real cohorts of young women have higher level of fertility than period one.

The differentiation of fertility inside Caucasus regions depends on urbanization, type of settlement, and nationalities (**the results in process...**).