

The differences in cohort fertility of Russian women with and without migration experience: Census-based estimates

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The influence of migration on fertility has been a long-standing concern in population studies. Until now within this topic international migration has been gaining more attention than internal one (Gabrielli, Paterno, White 2008). Yet this last aspect becomes particularly important in Russia, a large country with relatively high internal migration rates¹. This study aims to incorporate discussion on the relationship between internal migration and fertility in Russia into this broad research topic.

Previous studies in this field point to the following mechanisms of migration and fertility interaction: socialization, adaptation, selectivity, and disruption (Caldwell 1982; Kulu 2005; Persson, Hoem 2014). Each of them provides the arguments in favor of either the positive or to the negative impact of migration on fertility, and some might provide both depending on the circumstances of the migration. But perhaps the strongest aspect of the relationship between migration and fertility is that moving and having a child are competing life events (Massey *et al* 1993). The negative influence of migration on fertility grows higher with increasing costs of move in terms of time spent on preparing for it and then on the assimilation. Regarding internal migration this effect might occur particularly powerful in respect of moves to megalopolises and big cities due to greater competition in the labour market and higher housing prices in these areas. As the Russian internal migration flows are characterized by urbanization trend (Nefedova, Treivish 2003), this effect gains high importance in the context of the study.

Generally, both international and internal migration flows often go from less developed regions to more developed ones, and usually it means moving from the area with relatively high fertility to the area with lower fertility. In such cases adaptation leads to lower fertility of migrants in comparison with the average rates in the sending regions; yet it remains higher than that in the receiving region. One objective of this study was to check out this pattern in relation to the Russian internal migration.

Another objective of this study was to assess the impact of the Russian internal migration on the overall country fertility, or to find out if there is a loss in the fertility rate due to intense migration.

The study is based on the Russian population Census-2010 micro data. From that we selected 28.2 million women born in 1950-1979 so the youngest cohort we examined was thirty years old at the Census moment. According to this data, about 60% of Russian women with children had their first child born after the last of the moves that had already happened to her.

Our estimates based on this data show that women who had lived in the same place since their birth actually have on average *lower* fertility compared to those who moved within the region or outside of it (see Table 1). One major exception is migration to the *capital cities*, Moscow and Saint-Petersburg. Women moving to these cities end up with lower fertility; this could affect the overall picture greatly as Russian internal migration flows are highly unbalanced. Tendency towards urbanization remains strong, and the Moscow agglomeration appears to be a center of attraction for all Russian citizens, even for those living far away from the capital.

Table 1 — Cumulative cohort fertility rate at the Census moment calculated for women with different migration biographies

	All women born in 1950-1979	By generations of women		
		Born in 1950-1959	Born in 1960-1969	Born in 1970-1979
Never moved, live in their birth place	1.532	1.734	1.603	1.332
Moved within the birth region	1.814	1.967	1.845	1.562
Moved outside the birth region but not to <i>capital cities</i>	1.785	1.934	1.781	1.509
Moved to one of the <i>capital cities</i> , Moscow or S.-Petersburg	1.474	1.592	1.494	1.236

Source: Calculations based on the 2010 Census data

¹ According to the Russian Census-2010, only 46.2% of the country population has been permanently living in the place of their residence since birth.

The observed group differences vary across the regions. Still, Figure 1a shows that in most regions women who have never migrated over their lifetime have on average *fewer* children than those who migrated to or within that region. We observe the opposite situation only in 4 regions out of 83 covered by the analysis, and in 10 regions fertility rates of migrant and non-migrant women are equal. Estimated for the differences pictured on Figure 1a, Moran's I test (Moran, 1950) showed low and positive spatial autocorrelation², which indicates the absence of any strong spatial pattern.

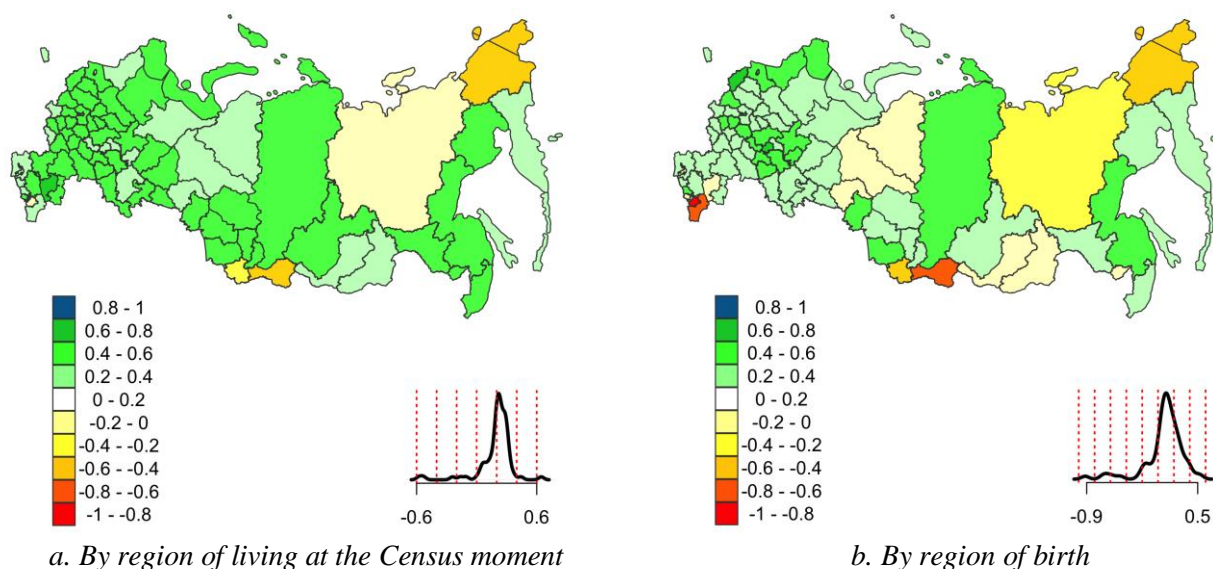


Figure 1. Differences in cumulative cohort fertility rates at the Census moment between migrant and non-migrant women born in 1950-1979

Source: Calculations based on the 2010 Census data

Figure 1b demonstrates that women who have left their birth place actually also have *more* children in comparison to those who have lived in the very same place since birth. Again, there are some exceptions. Yet, they are few. Here Moran's I test shows higher spatial autocorrelation³. In fact, the negative difference is only observed in respect of a small number of regions with relatively high birth rates situated in two areas of the country. In Russia, there are a few regions showing high birth rates located around the Caucasus Mountains and near the Altai. These regions are just entering the second demographic transition and there we register high fertility together with relatively low average age for motherhood, while fertility regimes in all other regions come close to the models of the European countries. Consequently, we do not observe a lot of variation either in the fertility itself or in the fertility differences between migrant and non-migrant women across Russian regions. As seen from Figures 1a and 1b, these differences in the developed regions, i.e. capital regions and some oil-producing ones, and in economically depressed regions are rather close.

Moves within the region have even stronger positive impact on fertility (Figure 2). In most cases, intraregional moves contribute to the urbanization, i.e. appear to be moves from villages to towns, or from small and medium-sized towns to cities or to the regional center. Such moves usually are escape from economically depressed areas and therefore they provide an opportunity to more fully realize personal fertility goals. As to the migration between the settlements of the same type, it might be related to the matrimonial motives and hence affect fertility directly. Generally, comparing to the interregional migration, intraregional one improves living conditions at lower costs, which is why its positive influence on fertility is stronger. In this way higher fertility of women migrated within their birth region in comparison with those who have moved out of it actually proves that migration and fertility are still competitive life events in Russia. Apparently, in Russian case a positive effect of an economic gain from the migration overlaps a negative effect coming from the disruption of a childbearing career.

² MI = 0.133, significant at 0.05 level.

³ MI = 0.336, significant at 0.01 level.

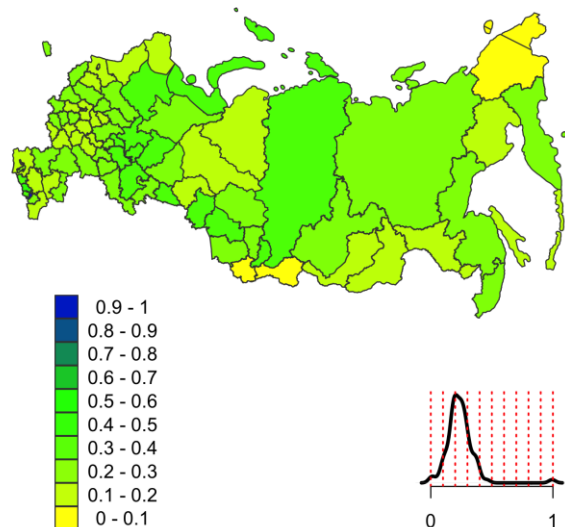


Figure 2. Differences in cumulative cohort fertility rates at the Census moment

between women who migrated within their birth region and non-migrant women born in 1950-1979

Source: Calculations based on the 2010 Census data

To assess the impact of economic parameters on the changes in fertility level we estimated a set of linear models basing on the sample of regions. All variables characterizing level of regional economic development, namely, share of poor population or share of urban population, and some others, turned out to be insignificant. Most likely, they did not exert any significant influence due to the specifics of the spatial development of Russia. In this country, at the macro level there are only a few economically developed regions with high living standards. Apart from the two capital agglomerations there are about 5 rich regions specializing on the oil and gas production. All other regions (and there are more than 70 of them left), despite all the differences in their economic structure, spatial distribution of the residents or geographic location, are characterized by a low and roughly equal population living standard. Given the existing Census data⁴, we can only treat migration to the capital regions as provoked by economic reasons and higher level of economic development of the destination region. In all other cases the motives of migration might not be obvious from the aggregated regional parameter as they might be linked to the local labour or economic opportunities attractive for a particular migrant.

Generally, we conclude that Russia benefits from internal migration in terms of eventual fertility. Whether it is intraregional or interregional migration, it is positively associated with childbearing. In one of our earlier studies⁵ we showed that women moved to the regions with lower fertility still have more children, than their compatriots who have never migrated. The captured effects did not change their directions when we controlled for the woman's year of birth and for the type of settlement she lives in. Overall moving out of the birth region is combined with the cohort fertility reduction only when women head to the capital agglomerations or other regions with substantially lower fertility than in their native regions. Move to capital regions causes decrease in fertility due to the need to adapt to the high competition in every sphere of economic life on the one hand and to the very low fertility norms in the destination region on the other hand. We suppose that in Russia migration usually leads to strong improvements in the individual economic perspectives, and positive effects of these changes overcome negative effects coming from the disruption of a childbearing career. At the same time within the regression analysis we found out that the level of economic development in the destination region does not have any significant influence on fertility changes. The reason here is that changes on the individual level, not at the regional one, play a decisive role.

⁴ One of serious shortages of the 2010 Russian Census data is the lack of information about the type of settlement a person was born in. Because of that we cannot allocate urbanizational migration, which is most closely related to the economic motives.

⁵ Biryukova S., Tyndik A. *Impact of internal migration on cohort fertility: case of Russia*, presented within the poster session at the BSPS-2015 Conference.

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