

Title: **The Effect of Education on Second Births in Russia**

Author: Dorothea Rieck

Affiliation: Max Planck Institute for Demographic Research

Konrad-Zuse-Str. 1, 18057 Rostock, Germany

Phone: +49-381-2081-231

Fax: +49-381-2081-531

E-mail: [rieck@demogr.mpg.de](mailto:rieck@demogr.mpg.de)

**Topic:**

Since the beginning of the political and economic transition of the late 1980s and early 1990s, significant changes in the demographic behavior have been observed in Russia. In the 1980s the Total Fertility Rate (TFR) was slightly over 2.3 children per women. During the 1990s the TFR decreased by approximately 50 percent to 1.17 in 1999. This drop is basically caused by a reduction in second births. The decline in period fertility followed the political and economic transition that started in 1990.

In this study, we examine determinants of second birth risks before and during the transition period, focusing on the impact of female education. Educational attainment serves as an indicator for differences between individuals in many ways. First, education can be seen as an indicator for income potential, labor-force behavior and social status. Second, the age of entry into motherhood and the timing and spacing of subsequent births is influenced by the length of educational attendance.

**Theoretical considerations:**

According to the economic approach regarding family formation processes, human capital and hence education plays a crucial role in the timing of childbearing and in the number of children a woman bears. These considerations are different for the time periods before and during the economic and political transformation.

In times of the Soviet Union a network of public childcare, parental leave schemes and financial benefits enabled women to reconcile working life and being a mother. Moreover, the state-regulated labor market with mostly full-time employment of women, no unemployment and relatively fixed wage grids had a positive influence

on women's return into the labor market, their further employment and earnings. Therefore, the opportunity costs as well as the direct costs of childrearing were relative similar for all women. According to this, we assume no or only little differentiations by educational attainment for the pretransitional phase.

After the political and economic transition the institutional conditions changed dramatically. The transformation processes led to serious financial constraints and a labor market crisis. As a consequence real wages declined and unemployment increased. For most Russians this meant a serious worsening of living conditions. Particularly families with children were affected. Furthermore costs for childcare increased. Former governmental supported childcare programs were eliminated and monetary support decreased. Altogether economic and institutional conditions after the 1990s gave only little incentives to have children.

We assume that after the transition due to labor market uncertainties and the increasing demand for human capital, the educational level gets more and more important. We conclude that Russian women do not only postpone their first birth, but also regarding the second birth we expect lower second birth intensities for higher educated women, who have higher career and earning prospects and have also higher opportunity costs.

Furthermore, we assume a timing effect for women with a higher education. Higher educated women postpone their first birth because of the longer enrolment in the educational system. Due to biological limitations they have less time for planning the second child and therefore they get the second child faster after the first one than their lower educated counterparts.

### **Data:**

For our analysis we use two datasets: The Russian Generations and Gender Survey (GGS) which was conducted between June and August 2004 and the Education and Employment Survey (EES) which was conducted in 2005 and represents a sub-sample of the GGS. In our study we analyze Russian women aging between 14 and 45 years. The sample consists of women who had at least one child and were at risk of having a second child.

### **Research Methods:**

For the analysis we apply event history techniques. Multiplicative piece-wise constant hazard-regression models are estimated to measure second birth intensities for Russian women. The process time starts at the date of the first birth and ends with the date of birth of the second child. Cases are censored also at age 45 or, if the respondent does not have a second child, at the date of interview.

### **Findings:**

The main focus of the study was to investigate how the educational level influences the second birth intensities.

Regarding an increasing importance of human capital in times of economic uncertainties, it is argued that a higher educational level and therewith often the preference to a job career, lead to a postponement of family formation. In line with this argumentation we assume that particularly for higher educated women the compatibility of family and work is more complicated after the transition. Due to increasing opportunity- and direct costs of children we assume a lower second birth risk for highly educated women for the period after 1990. Our preliminary results partly support this hypothesis. Whereas in the 1980s the second birth risks for all educational levels are relative similar, the risks are decreasing fundamental in the period 1990 and later. The decrease of second birth risks is strongest for highly educated women. Now we have the highest second birth risks for low educated women.

As we assume in our second hypotheses, there may be a tempo effect for highly educated women. This means that due to a longer education period and biological limitations, highly educated women have their second child faster after the first one than their lower educated counterparts. To analyze this, we use an interaction between education and the age of the first child. The results do not show such an effect. We only find a weak tempo effect for lower educated women. Furthermore, we do not find any tempo effect between the educational groups.

### **Conclusions:**

In our study we have modelled the effect of education on second birth risks. On the one hand, the results support our first hypothesis on the influence of the educational level on second birth risks. On the other hand, we did not find any evidence for our

second hypothesis regarding a potential tempo effect, showing that highly educated women have their births faster than their lower educated counterparts.

Hence, we conclude that there might be other determinants of second birth risks than educational level or the effect of timing. These factors need to be examined.

In a further part of our paper we will investigate the *selection hypothesis*. Are there any unobserved characteristics that influence women's childbearing behavior independent of their educational level, for example regarding their attitudes towards family life and/or working career? There may be subgroups that are more family oriented while others attach greater importance to their working life.