Estimating effects of 2007 family policy changes on probability of second and subsequent births in Russia

Svetlana Biryukova,

Oxana Sinyavskaya,

Irina Nurimanova,

Center for Studies of Income and Living Standards

- The purpose and objectives of the study;

- Novelties of family policy reform in 2007;

- Theoretical background;

- Method and data;

- Panel analysis;

- Simi-panel analysis;

- Outcomes.

Goal of the study – estimation of influence of the new family policy measures introduced in 2007 on overall fertility outcomes and fertility intentions.

Objectives of the study:
➢ To consider various researches devoted to family policy influence and
➢ To review fertility behaviour in Russia;
➢ To determine the main factors of new family policy;
➢ To analyze the cumulative impact of the 2007 policy measures on fertility outcomes.

1. a lump-sum birth grant for those who had their child born, adopted or fostered was added to the system of family benefits;

2. the monthly allowance paid to working mothers;

3. the monthly childcare allowance for children under 1.5 years old;*

4. the maternity (family) capital program

*total amount of new rules concerning childcare allowance increased by about 90 000 rubles for the whole period

❑Economic theory predicts effect of birth-related allowances, which increase household income, on fertility would be most probably positive (Becker, 1991);

❑Positive effect of the child allowances on the timing and spacing births (Gauthier, 2007,2008);

❑Positive effect of cash benefits on fertility (Gauthier, 2007; Milligan, 2005; Boccuzzo et al., 2008; Drago at al., 2009; Parr and Guest, 2011);

❑Positive impact of cash benefits and child allowances on the calendar of births (Vobecka, Buts & Reyes, 2013; Zakharov, 2013).

Data: Russian Generations and Gender Survey

Panel Sample
(1196 observations)

upper age limit – 49 years old

Semi-panel Sample
(1408 obs in 1 period and
1104 obs in 2 period)

upper age limit – 49 years old

1 period: 2004 – August 2007
2 period: September 2007 - 2011

The regression analysis presented is based on *a binary logistic model*.

$$F(x) = \Lambda(x) = \frac{e^x}{1 + e^x}$$

*The exponential of the regression coefficients in the binary logistic regression indicate differences in chances of births corresponding to different variables.

**Table 1** — Frequencies of second and subsequent births in the panel sample

	Interval 1		Interval 2	
	Abs.	Sample %	Abs.	Sample %
Sample of female respondents				
A woman had not another child born	1115	93.2	1104	92.3
A woman had another (second or subsequent) child born	81	6.8	92	7.7
Total	*1196*	*100.0*	*1196*	*100.0*

Table 2 — Fertility intentions of women in the two semi-panel samples

		Interval 1		Interval 2	
		Abs.	Sample %	Abs.	Sample %
Intentions to have another child in the coming 3 years	Definitely not	817	58.0	569	51.5
	Probably not	297	21.1	276	25.0
	Probably yes	182	12.9	170	15.4
	Definitely yes	94	6.7	76	6.9
System missing		*18*	*1.3*	*13*	*1.2*
Total		*1408*	*100.0*	*1104*	*100.0*

Source: Calculations based on the Russian GGS data.
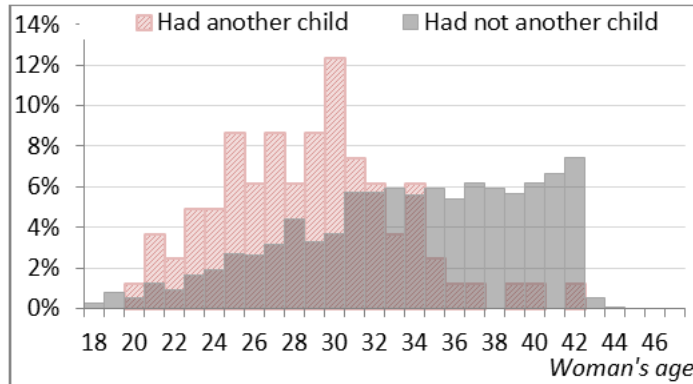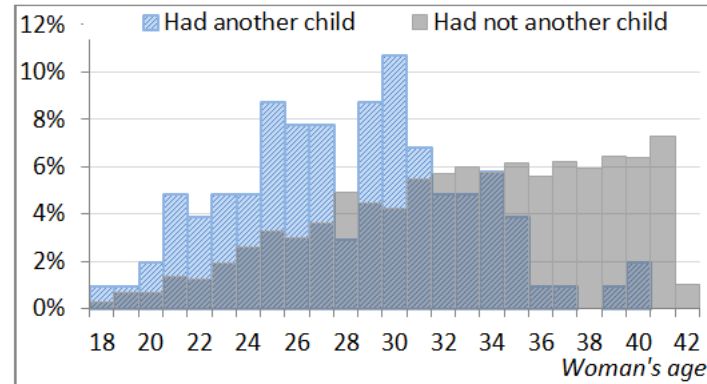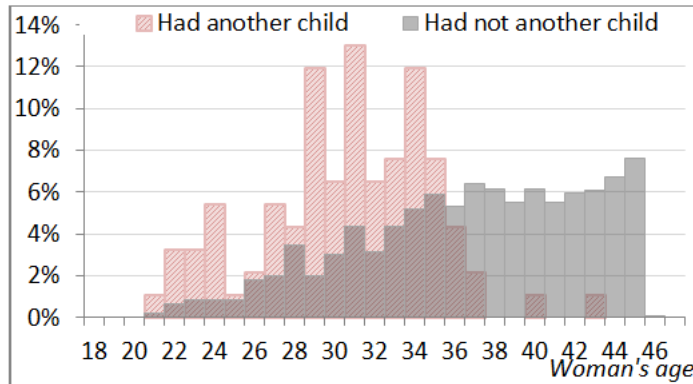
Figure 1 — Age distribution of women who had and had not another child born at the beginning of the observation period

Source: Calculations based on the Russian GGS data.
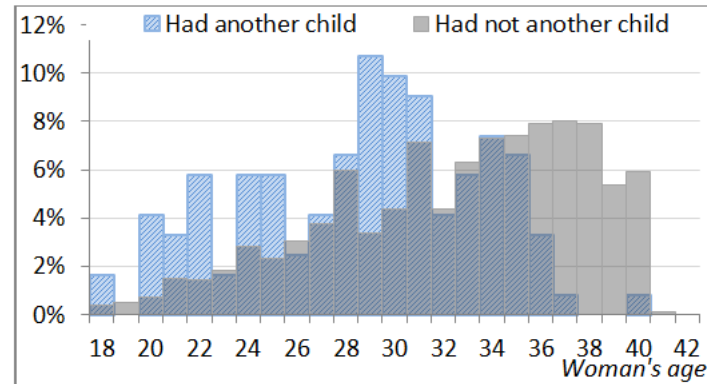
a. Panel sample (female respondents), Interval 1

c. Semi-panel sample, Interval 1
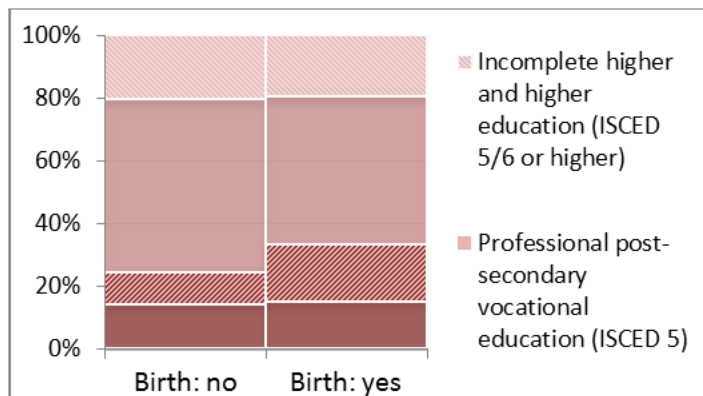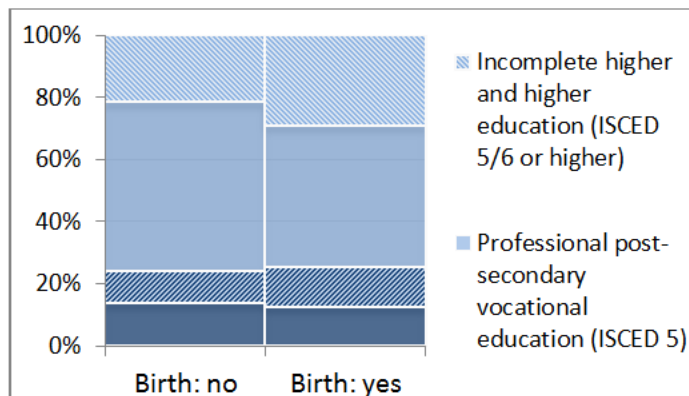
b. Panel sample (female respondents), Interval 2

d. Semi-panel sample, Interval 2

Figure 2 — Composition of women who had and had not another child born by education level at the beginning of the observation period
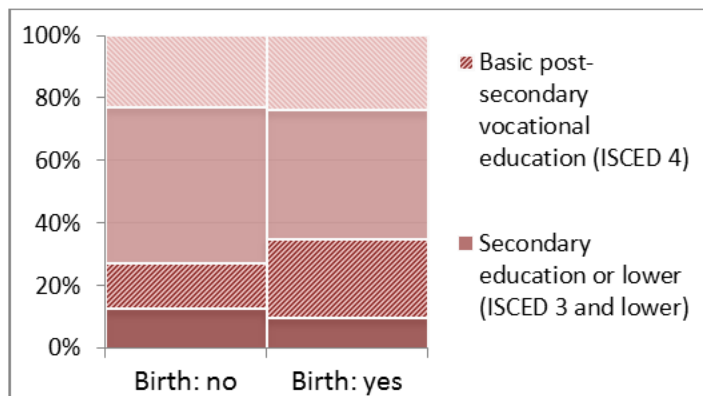
Source: Calculations based on the Russian GGS data.

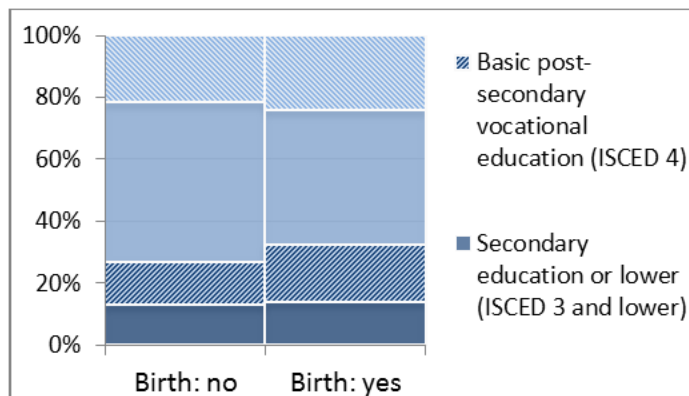*a. Panel sample (female respondents), Interval 1*

c. Semi-panel sample, Interval 1

b. Panel sample (female respondents), Interval 2

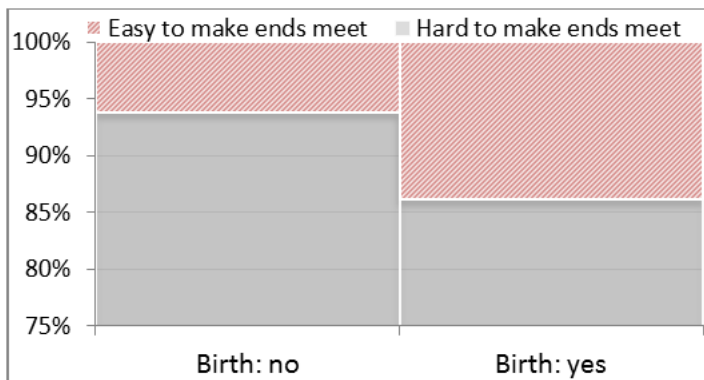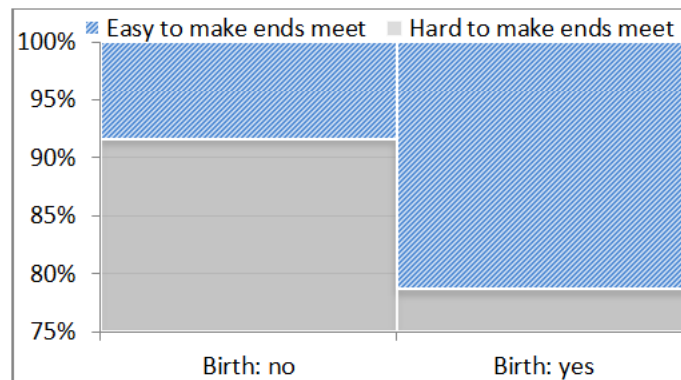*d. Semi-panel sample, Interval 2*

Figure 3 — Composition of women who had and had not another child born by self-estimated income level at the beginning of the observation period

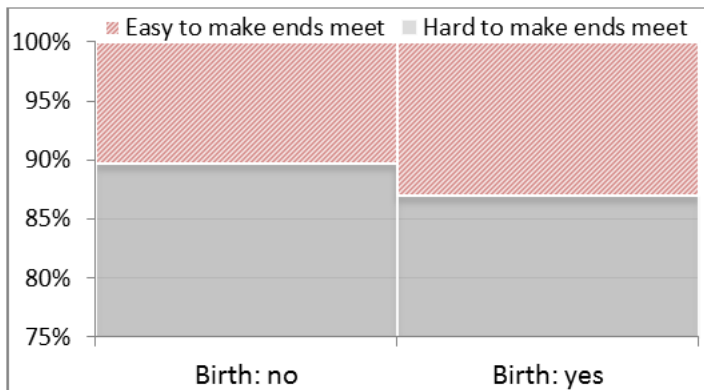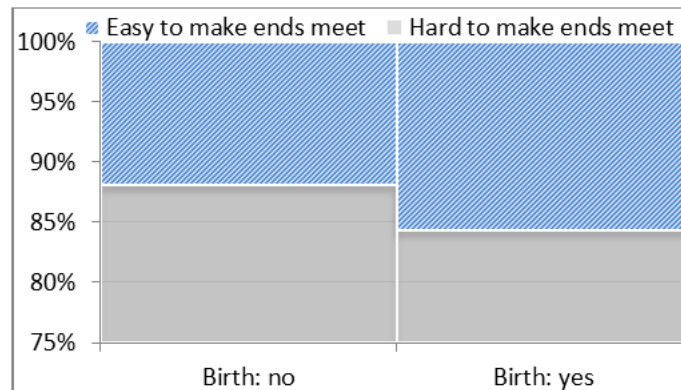*Source*: Calculations based on the Russian GGS data.

Panel Analysis

Factors			Sample of female respondents
Area of living	Urban (REF)		1
	Rural		1.23
Age of a woman at the start of observation	18-24 years old (REF)		1
	25-29 years old		0.42**
	30-34 years old		0.40*
	35-39 years old		0.17***
	40-47 years old		0.07***
Generation (birth cohort) of a woman	1960-1969 (REF)		1
	1970-1974		3.13**
	1975-1979		3.23*
	1980-1986		1.79
A woman's highest education level at the start of observation	Secondary education or lower (ISCED 3 and lower, REF)		1
	Basic post-secondary vocational education (ISCED 4)		2.07**
	Professional post-secondary vocational education (ISCED 5)		0.91
	Incomplete higher and higher education (ISCED 5/6 or higher)		1.04
Number of children a woman already had at the start of observation	1 (REF)		1
	2 or more		0.33***
Age of the woman's youngest child at the start of observation	0-1 years old (REF)		1
	2-3 years old		2.10*
	4-6 years old		4.07***
	7-15 years old		2.89**
	16 years old and older		1.95
A woman's partner status at the start of observation	Does not have a partner (REF)		1
	Has a partner		3.78***
New partner during the observation period	No (REF)		1
	Yes: found a partner or changed a partner		2.35**
Household income status (self-estimation) at the start of observation	Hard to make ends meet (REF)		1
	Not hard to make ends meet		1.11
A woman's employment status at the start of observation	Working (REF)		1
	On a childcare leave		2.06*
	Jobless		1.46
	Economically inactive (including studying)		0.90
Interval	Before the introduction of new policy measures (REF)		1
	After the introduction of new policy measures		1.62**
Pseudo R-squared (Nagelkerke)			0.215
Log likelihood (pseudo)			-487.7
χ^2 (df)			174.5 (23)
Significance of the model			***

Semi-panel Analysis

		2004-2007 sample (Interval 1)		2007-2011 sample (Interval 2)	
		Model A: demographic factors	Model B demographic and socio-economic factors	Model A: demographic factors	Model B demographic and socio-economic factors
Area of living	Urban (REF)	1	1	1	1
	Rural	1.20	1.45	1.19	1.18
Age of a woman at the start of observation	18-24 years old (REF)	1***	1***	1***	1***
	25-29 years old	0.67	0.58	0.38***	0.32***
	30-34 years old	0.65	0.57	0.65	0.54
	35-39 years old	0.15***	0.12***	0.22***	0.18***
	40-42 years old	0.11**	0.08***	0.03***	0.02***
A woman's highest education level at the start of observation	Secondary education or lower (ISCED 3 and lower. REF)		1		1
	Basic post-secondary vocational education (ISCED 4)		1.60		1.53
	Professional post-secondary vocational education (ISCED 5)		1.16		1.14
	Incomplete higher and higher education (ISCED 5/6 or higher)		1.70		1.43
Number of children a woman already had at the start of observation	1 (REF)	1***	1***	1***	1***
	2	0.14***	0.15***	0.29***	0.29***
	3 or more	0.95	1.20	1.24	1.42
Age of the woman's youngest child at the start of observation	0-1 years old (REF)	1**	1***	1	1
	2-3 years old	1.18	1.75	1.15	1.11
	4-6 years old	2.46**	4.93***	1.25	1.31
	7-15 years old	1.39	2.98**	0.86	0.94
	16 years old and older	0.47	1.12	1.15	1.34
A woman's partner status at the start of observation	Does not have a partner (REF)	1	1	1	1
	Has a partner	7.11***	7.32***	1.39	1.06
New partner during the observation period	No (REF)	1	1	1	1
	Yes: found a partner or changed a partner	2.40**	2.74***	1.21	0.61
Household income status (self-estimation) at the start of observation	Hard to make ends meet (REF)		1		1
	Not hard to make ends meet		2.31***		1.14
A woman's employment status at the start of observation	Working (REF)		1*		1
	On a childcare leave		2.48**		1.03
	Jobless		0.45		3.49*
	Economically inactive (including studying)		1.32		0.85
Pseudo R-squared (Nagelkerke)		0.225	0.257	0.155	0.166
Log likelihood (pseudo)		601.4	581.5	674.1	667.5

- The 2007 policy measures had significant cumulative effect on fertility;

- Monthly childcare allowance assignment is an important component of the 2007 policy reform;

- Demographic factors are more strongly correlated with the probability of second and consequent births than socioeconomic characteristics. Partner status and age are still the most powerful factors in explaining fertility outcomes.

- Cohort changes not only have a positive impact on period fertility but the inclusion of the cohort variable into the model lowers odds ratios for the interval variable. This means that observed growth in the probability of second and subsequent births can be partially explained by the ongoing changes in the national fertility model.

Спасибо
за внимание!

101000, Россия, Москва, Мясницкая ул., д. 20
Тел.: (495) 621-7983, факс: (495) 628-7931
www.hse.ru