Why Not the Second Child?

An Economic Analysis of Fertility Behaviour of Russian Parents

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Abstract

This study examines fertility decision making through the analysis of short-term, time-dependent fertility intentions of childless and parity one individuals using the ordered logit model. The theoretical framework is Ajzen's model of social psychology "Theory of Planned Behaviour", which considers intentions as determined by three factors: attitudes, subjective norms, and perceived behavioural control. The country of analysis is Russia, a post-communist country with peculiar characteristics: Russia is a low fertility country characterized by no, or very modest first child postponement and a very sharp decline in the second order births. In 2004, the first wave of the Generations and Gender Survey was carried out with a set of questions designed to implement the Theory of Planned Behaviour. Results show that the three factors are significant determinants of fertility intentions and interesting insights emerge for the intentions to have a second child. First, the effect of attitudes is increasing with parity and it is gender-specific: in particular, women are more sensible to negative attitudes towards childbearing than men. Second, fathers attribute stronger importance to perceived behavioural control than mothers. This scenario reconciles with a traditional family model and it highlights the difficulties of working mothers to balance work and childcare duties.

1. Introduction

Total fertility rate has been decreasing in the last decades all over the industrialized countries as recognized by an extensive literature on fertility development (Del Boca 2002, Billari and Kohler 2004, Kohler et al 2002, Narayan and Peng 2006), and the Russian Federation is no exception (Philipov and Jasilioniene 2008, Zakharov 2008). The Russian population has dealt with dramatic changes since the late Eighties which involved the structure of the economy, employment, and housing. Each one of these features has an impact on the decisions about family formation, and both fertility intentions and behaviour have indeed been deeply modified since the Soviet period not only in Russia, but in all Eastern European countries.

The case of Russia is peculiar among transition countries because of the dramatic shock that fertility experienced just in few years around 1989 and the increased male mortality, which are likely to exacerbate the secular trend of declining population (Zakharov 2008). Total fertility rate dropped deeply under the replacement level of 2.1 children per woman in the early Nineties and it is now at 1.4, on a slightly increasing path after two decades of decline (Grogan 2002, 2006).

Although the habits of Russian families have changed through time, the Russian society still maintains its own traditional characteristics as for fertility behaviour (Zakharov 2008). The main difference between Western European countries and Russia in this setting is the postponement of fertility. Aggregate statistics and the literature (Billari and Kohler 2004; Kesseli 2008; Zakharov 2008) show that mean maternal age at first childbirth has been stable at 24-25 years old since the Sixties for Russian women, whereas today it is much higher in Western European countries and particularly in Southern Europe. On the other hand, the age-specific birth rates of Russian women aged 24-30 years suffered a severe decline: the combined analysis of these data proves that the trend is currently the one of having only one child in young adulthood.

The aim of this article is to make a contribution to the field of Russian fertility development by analyzing the determinants of reproductive intentions among a sample of Russian women and men using the logistic regression model.

This is motivated by the evidence that the decline of fertility is caused by decreasing numbers of second births (Rieck 2006).

What determines the decision to enter into motherhood and then to have the second child? What is the role of economic, social and behavioural factors?

The focus of this study is on short-term (three years), parity-specific fertility intentions analyzed within the theoretical framework of the Theory of Planned Behaviour (Ajzen 1991; Ajzen and Fishbein 2005) with the aim to shed light on the mechanisms behind family formation in post-Soviet Russia.

The dataset is the first wave – with data from 2004 - of the Generations and Gender Survey, a multi-country survey coordinated by the United Nations Commission for Europe. The Russian Generations and Gender Survey includes a set of questions designed to implement the model for the study of fertility intentions (Vikat et al. 2007).

How people decide about having children and how the impact of several factors changes with parity is a crucial question to be answered in order to understand fertility development. It is straightforward to see what affects the intentions to have children and why, in the Russian setting, most of the parents decide not to have the second child. Parents of only one child are indeed the focus of the policy called Maternity Capital Program implemented by the Russian government since 2007 to give incentives toward the decision to have the second child. Women giving birth to or adopting the second or subsequent child[1] are eligible to apply for a grant set at 344,000 roubles (8,600 euro) in 2010, not to be spent before the child turns three years old. The grant was set at 250,000 roubles when the program started and it is indexed on inflation. It can be used for loans, housing, education, or added to the mother's pension fund.

In light of the measures introduced by this policy, though data availability does not allow testing the effectiveness of the Maternity Capital Program at this stage[2], it is essential to provide insights on the relative weight attributed by Russian parents to economic circumstances (e.g. income, employment status) and compliance with norms.

So far the literature on fertility has emphasized the role of economic and ideational factors on childbearing behaviour. The economic approach dates back to Gary Becker. In his seminal work, Becker (1960) modelled the demand for children in the context of a trade off between quality and quantity where children are considered as consumer durables. Further studies (Becker and Lewis 1973, Willis 1973) extended this framework to a setting where fertility is the combination of a price effect and an income effect which acts through labour participation. On the other hand, the ideational approach of the Second Demographic Transition (Lesthaeghe 1995) highlights the role of ideational and cultural changes in contemporary societies where individualism and self-realization could reduce fertility levels.

[1] If the grant was not requested for the previous child, i.e. the second/third child

[2] The first wave of the GGS uses data collected in 2004 whereas the Maternity Capital Program began in 2007

The decline of Russian fertility has been studied extensively by Russian demographers (Zakharov 1999, 2008; Zakharov and Ivanova 1996) and various facts emerged. First, the declining secular trend of fertility is in line with the predictions of the framework designed by Becker. Second, transition countries began to follow the path of the Second Demographic Transition with a delay with respect to Western European countries, mainly because of the pro-natalist policies of the Soviet Union. Third, the economic crisis argument must be considered when transition countries are analyzed. According to this argument, transition countries experienced sharply declining fertility rates as a response to uncertainty, unemployment and wage reductions following the collapse of the Soviet Union. Also anomie, relative deprivation, and the feeling to be poorer with respect to other people or to the previous years could depress family formation and fertility (see Philipov et al 2006 for the cases of Bulgaria and Hungary).

The theory of planned behaviour considers intentions as determined by three factors: attitudes toward the behaviour, subjective norms and perceived behavioural control. Economic and ideational theories enter within this framework through the background factors, which affected the formation of beliefs.

The paper is organized as follows. Paragraph 2 describes the theoretical framework used to analyze fertility intentions and the hypotheses to be tested in the empirical analysis. Paragraph 3 presents the research questions. Paragraph 4 describes data and method. Results are presented and discussed in paragraph 5. The last paragraph concludes.

2. The Theory of Planned Behaviour and fertility intentions

The theory of planned behaviour (TPB from now onward) is a model of social psychology (Ajzen 1991, Ajzen and Fishbein 2005) which focuses on the individual's intention to perform certain behaviour. The model is an extension of the Theory of Reasoned Action (Fishbein and Ajzen 1975a,b) which considers also a factor called *perceived behavioural control*.

According to this theory, the intention to perform certain behaviour or to attain a certain goal is the immediate antecedent of the behaviour itself and it is determined by three factors: attitudes toward the behaviour, subjective norms and perceived behavioural control.

Attitude is defined as an individual's positive or negative evaluation about the consequences of the performance of the particular behaviour. A subjective norm is how the individual perceives that those who are important to him/her would react to his/her performance of the

behaviour. Perceived behavioural control is the perception of the individual of the ease or difficulty of performing the behaviour. Both subjective norms and perceived behavioural control emphasize the perception of the individual over the listed circumstances.

Figure 1 shows a graphical representation of the framework

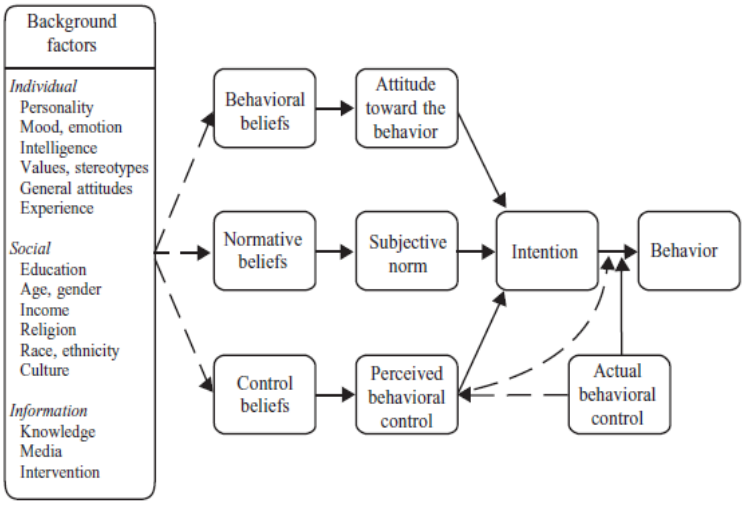

Figure 1 The theories of planned behavior and reasoned action (Ajzen and Fishbein 2005, p.194)

The TPB is the theoretical background of a new and so far rather limited empirical literature on the topic of fertility intentions. This strand of literature aims at testing the empirical validity of the TPB looking at parity-specific progression. In particular, Billari et al (2009), Dommermuth et al (2011) and Mencarini et al (2011) are closely related to this study because they implement the TPB using national GGSs (for Bulgaria, Norway and Italy respectively). Other papers use intentions to analyze various environments. Cooke (2004) uses data from the German Socio Economic Panel to analyze predictors of tasks division within the family and how tasks division affects the intention to have the second child. Craig and Siminski (2010) employ data from the Household, Income and Labor Dynamics in Australia Survey to test for the effect of tasks division and time allocation of fathers on the probability to move to higher parity. Philipov et al (2006) study the impact of anomie and social capital on fertility intentions in two Eastern European countries, Bulgaria and Hungary.

In the analysis of intentions, timing is an important feature for the reliability of results[3]. Having a child involves a sequence of actions whose distance in time is likely to be unknown.

[3] Miller and Pasta (2005), Billari et al (2009), Dommermuth et al (2011)

As Miller and Pasta (1995) highlights, in the case of childbearing intentions the longer the time frame within which the intention is not fulfilled, the less likely it will ever be.

The reliability of intentions *per se* is sometimes debated. How much can researchers rely on the assumption that an individual is able to make rational predictions on his/her future life, given that future conditions are unknown? Manski (1990, p.940) stresses that *"divergences may simply reflect the dependence of behaviour on events not yet realized at the time of the survey"* and not being caused by the inability of the individual to make correct predictions on his/her future. Both Manski (1990) and Morgan (1981) stress that a solution to improve reliability is to extend the set of choice available for response, for example through the adoption of an ordered response variable like the one designed in the Russian GGS. Using data from the 1965 and 1970 National Fertility Study, Morgan (1981) finds that proportions up to 50 percent of respondents were uncertainty on their parity-specific intentions, and that uncertainty is related to age and parity.

In the following paragraphs I will define attitudes, subjective norms, perceived behavioural control, and the role of background factors. The hypotheses which will guide the empirical analysis are illustrated on a factor basis.

2.1 Attitudes

Attitude toward the behaviour refers to *"the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question"* (Ajzen 1991, p.188). The more favourable the attitude, the more likely the individual will intend to perform the behaviour. Attitudes are influenced by behavioural beliefs and they develop from the beliefs people hold about the object of the attitude (p.191). Attributes are then linked to the behaviour. The implementation of the TPB allows to distinguish between attributes which are positively or negatively evaluated and ultimately to link positive/negative attitude toward the behaviour to the certainty of the intention. In the case of childbearing, the more positive the attitude toward becoming a parent, the more likely the individual will intend to have a child. In the empirical parity-specific analysis, the hypothesis H1 is that attitudes should bear higher relevance for higher parity progression than for transition into parenthood, given that parents had the chance to evaluate the outcome of having a child.

2.2 Subjective norms

Subjective norm refers to *"the perceived social pressure to perform or not to perform the behavior"* (Ajzen 1991, p.188). *No Man Is an Island,* therefore social environment and

networks of friends/relatives likely affect decisions and behaviour of the individuals themselves. As for attitudes, the more favourable is the perception of the norm, the more likely the individual will intend to accomplish it. According to the TPB, the subjective norm is the product between the strength of normative beliefs and individual motivation to comply with beliefs.

The existence of subjective norms in the context of fertility intentions is linked to the Second Demographic Transition and the increased importance of self-realization and individual autonomy in modern societies with respect to traditional ones. Post-communist countries entered into the Second Demographic Transition with a delay with respect to Western European countries. Evidence and the literature[4] suggest that for specific features such as age at first birth, they still remain on their traditional patterns. The same reasoning is valid for childlessness, which is far from being a social norm in traditional societies. For these reasons, in the empirical analysis the hypothesis H2a is that subjective norms should bear higher relevance for transition into parenthood rather than for higher parity progression. Parents have direct experience of childbearing; therefore they will be less likely to be influenced by their perception of friends' and relatives' opinions, rather than young individuals without children. The former are also more likely to assign a lower weight to their compliance to other people's beliefs about their expected family size.

Women and men could react differently to subjective norms: in particular, women could be more sensible than men to the issue of compliance to fertility-related norms. In a context where childlessness is far from being a social norm, the hypothesis H2b is that subjective norms could be more important form women than for men.

2.3 Perceived behavioural control

Perceived behavioural control refers to *"the perceived ease or difficulty of performing the behavior"* (Ajzen 1991, p.188). As with positive attitudes and norms, the stronger perceived behavioural control (i.e. the more the individual feels to be in control of his/her life) the more likely the individual will intend to behave accordingly. The concept refers to the perceived ability to control internal and external constraints such as health status, work and financial situation. Given their experience as parents, in the empirical analysis the hypothesis H3 is that perceived behavioural control should bear a higher weight for parents rather than for childless people. This hypothesis is driven also by the fact that childless people generally are younger than parents, and could feel a higher degree of uncertainty.

[4] Kohlmann and Zuev (2001), Kesseli (2008), Zakharov (2008)

2.4 Background factors and actual controls

As shown in figure 1, both the background factors and the actual controls of perceived behavioural control should not have a direct effect on the dependent variable once attitudes, subjective norms and perceived behavioural control are controlled for. In fact, they *could* affect intentions only indirectly through the TPB factors: *"the dotted line indicates that […] there is no necessary connection between background factors and beliefs"* (Ajzen and Fishbein 1995, p. 197). As in the studies for Bulgaria and Norway, due to the fact that issues on phrasing and understanding of the questions, measurement and operationalization of the model could arise, I do not assume *a priori* to be in the ideal theoretical setting of the TPB in this study. Different issues arise with regard to the background factors and actual controls. First, the theory does not list a full set of background factors, which could then refer to both economic and ideational theories, besides the standard demographic variables used in population studies. Second, should one or more TPB factors fail to capture each and every background factor and its effect in the empirical model, some background variables could still be significant on the empirics. Given that the TPB factors capture *perceptions* of the respondents, a statistically significant background factor would likely indicate that the item *per se* overrules perceptions. Third, should perceived behavioural control lose significance once actual controls are added to the analysis, doubts about the ability of the questions to capture both objective measures and perceptions could arise. The hypotheses H4 test first, whether the TPB factors fully absorb the effect of background factors on intentions (hypothesis H4a); second, whether perceived behavioural control correctly includes both objective measures and perceptions (hypothesis H4b). If the hypothesis H4a is confirmed, none of the background factors should be statistically significant once the TPB factors are controlled for. Second, if perceived behavioural control remains significant once actual controls are added to the regression (H4b is confirmed), this evidence will be confirmatory about the valid implementation of the TPB in the Russian GGS, in particular about the effectiveness of the empirical model to capture both actual controls and the how they are perceived. (Billari, Philipov, and Testa 2005).

The last box of the TPB (i.e. behaviour) is out of the scope of this study. The available dataset from the Russian GGS is limited to the first wave, therefore it is not possible at the present stage to collect longitudinal data, nor test for the degree of compliance between intentions and behaviour.

3. Hypotheses and research questions

In this paragraph, I briefly discuss the research questions and the underlying hypothesis.

Q1: Do attitudes, subjective norms and perceived behavioural control affect fertility intentions?

This question refers to the empirical effectiveness of the TPB in 2004 in Russia, a lowest-low fertility country. With respect to the Soviet period, when the chances to consistently and safely control contraception were not full and abortion was widespread (Zakharov 2008), it is now possible to effectively control fertility with condoms or pill. The availability of safe and effective means of contraception is indeed a necessary step towards the expression of rational intentions and the implementation of the TPB.

Q2: Do the TPB factors have a parity-specific effect?

Transition into parenthood is a life-changing decision which affects the life of the parents-to-be more deeply than the progression to higher parities. The hypotheses are that moving from parity 0 to parity 1, individuals attribute higher importance to attitudes (H1) and perceived behavioural control (H3) rather than to subjective norms. Conversely, subjective norms should be more important for childless people than for parents (hypothesis H2a).

Q3: Do the TPB factors have a gender-specific effect?

The way in which childbearing affects women and men is obviously different because health, availability of time and the employment condition of the mother bear more profound changes than fathers'. The hypothesis (H2b) here is that there could be a gender-specific effect of the TPB factors and in particular that childless women could be more sensible to subjective norms than men in the Russian context, where childlessness is not a social norm.

Q4: What is the role of the background factors and actual controls on the empirics?

According to the TPB, attitudes, subjective norms and perceived behavioural control could be influenced by some background factors, whereas the latter should not have a direct effect on intentions (H4a). The set of background factors will include demographic and socio-economic characteristics of the respondent. With regard to actual controls, if correctly specified, perceived behavioural control should remain significant once actual controls are added to the analysis (H4b).

In addition to the listed hypotheses and research questions, the relative importance of the TPB factors could be useful to provide preliminary insights on the possible effectiveness of the policy Maternity Capital Program. In particular, attitudes could be influenced more

rapidly by the introduction of new policies with respect to subjective norms, which also entail ideational, long-term beliefs.

4. Data and method

In this study, I use data from the first wave of the Russian GGS carried out in Russia in 2004. The GGS is part of the Generations and Gender Program, a cross-national study on family relationships coordinated by the United Nations Economic Commission for Europe. The aim of the GGS is to study what factors influence fertility, family formation, and the relation between generations. It is designed as a panel survey with three waves, at an interval of three years. Konig (2001) uses the German and the Hungarian editions of the survey to analyze the differences in fertility intentions in the two countries; Balbo (2009) analyzes fertility intentions in Georgia and Rieck (2006) focuses on the influence of economic conditions on fertility intentions among Russian men. Billari et al (2009), Dommermuth et al (2011) and Mencarini et al (2011) implement the TPB using national GGS for Bulgaria, Norway and Italy respectively. Billari et al (2009) implement the TPB using the first wave of the Bulgarian survey, while Dommermuth et al (2011) analyze timing of fertility intentions in Norway. They both use logistic regression models and do not analyze the realization of the intentions due to data availability, as in this study. Mencarini et al (2011) instead adopt graphical models techniques and implement the whole TPB shown in Figure 1.

In this study the sample includes 1,649 women and 1,382 men aged 18-40 years old, childless or with at most one child: 675 women and 817 men at parity zero (40 and 59 percent respectively); 974 women and 565 men at parity one. The sample includes both single individuals and individuals in couple. Pregnant respondents/respondent's partners are excluded from the sample.

The technique used in the empirical analysis of parity and gender-specific childbearing intentions is the ordered logistic regression model; reported coefficients are odds-ratios.

4.1 Dependent variable - intentions

The dependent variable is the intention to have a/another child within three years, "*Do you intend to have a/another child during the next three years?*" It is an ordered response variable which takes four values on a scale from 1 to 4, "definitely not, probably not, probably yes, definitely yes". I divided respondents in four groups based on sex and parity (childless respondents and parents with one child). The base outcome will be "definitely not intending to have a/another child".

4.2 Attitudes

Vikat et al (2007) describe the operationalization of the TPB in national GGSs. For Russia, a block of eleven questions refers to *attitudes toward to behaviour*, i.e. attitudes toward the intention to have a/another child. Each question asks "*Suppose that during the next three years you were to have a/another child. I would like you to tell me what effect you think this would have on various aspects of your life"* on a scale from 1 (much better) to 5 (much worse). I refer to *positive attitudes* as those questions that evaluate the consequences of having a child as benefits, to *negative attitudes* as those questions that evaluate the consequences of having a child as costs. First I reversed the scale then I collapsed the five categories into three: -1 (much worse/worse), 0 (neither worse not better), +1 (better/much better). For negative attitudes instead, the scale will be -1 (much better/better), 0, +1 (much worse/worse). The advantage of this scaling system is that in the logistic models, odds-ratios will directly show the effect of an increase in positive and negative perceptions[5].

4.3 Subjective norms

For subjective norms, the Russian GGS reports three questions. Each one asks *"Although you may feel that the decision to have a/another child is yours (and your partner's/spouse's) alone, it is likely that others have opinions about what you should do. I'm going to read out some statements about what other people might think about you having a/another child during the next three years"* on a scale from 1 (strongly agree) to 5 (strongly disagree). I reversed the scale into 1 (strongly disagree) to 5 (strongly agree) then I collapsed the five categories into three: -1 (strongly disagree/disagree), 0 (neither agree nor disagree), +1 (agree/strongly agree).

4.4 Perceived behavioural control

For perceived behavioural control, the questionnaire of the Russian GGS reports two sets of questions as in the Bulgarian case. The first set (PBC1) concerns how much would the decision depend on the listed circumstances. The second set (PBC2) concerns how much the respondent feels in control over the listed circumstances. The former is composed of nine questions. Each question asks "*How much would the decision on whether to have or not to have a/another child during the next three years depend on the following?"* on a scale from 1 (not at all) to 4 (a great deal). The latter is composed of five questions, each one asking "*How*

[5] This scaling system is in line with the one adopted by the Bulgarian survey of Billari et al (2009), whose questionnaire was designed to assign high values to better/much better for positive attitudes, and worse/much worse for negative attitudes.

much control do you feel you will have over the following areas in the next three years" on a scale from 1 (not al all) to 4 (a great deal). These last five questions are related to financial situation, work, housing conditions, health, and family life. For the empirical analysis I retained only the four items listed in both sets (financial and situation, housing condition and health status) and I constructed four categorical variables weighting control (PBC2) with the importance of each item (PBC1). Each variable takes values (-1; 0; +1) according to this criterion: value 0 if the item is not at all important, no matter the degree of control[6] (value 1 in PBC1); value +1 if the degree of control is higher or equal to the importance of the item (PBC2≥PBC1); value -1 if the degree of control is lower than the importance of the item (PBC2<PBC1). The variable used in the empirical analysis is the sum of the four variables.

Following Billari et al (2009), Dommermuth et al (2011) and Mencarini et al (2011), I performed a series of alpha factor analysis with non-orthogonal rotation to verify the validity and reliability of the questions used as measures of the TPB factors. The factor structure may be different for the four groups of respondents (women/men, parity 0/parity 1 respondents may rate the items differently) so I performed the factor analysis by group. To establish the number of retained factors, I applied the Cattell scree plot test and the Kaiser criterion. Table 1 reports alpha reliability coefficients and factor loadings for the four groups.

[6] The underlying rationale is that if the respondent attributes no importance at all to the specific item, then the control he/she has on the same item is irrelevant.

Table 1 Factor loadings and alpha reliability coefficients for the three TPB factors

	Childless women	Childless men	Women, parity 1	Men, parity 1
ATTITUDES[a]*: If you were to have a/another baby during the next three years, would it be better or worse for*				
The possibility to do what you want	0.76 (-)	0.76 (-)	0.78 (-)	0.70 (-)
Your employment opportunities	0.80 (-)	0.67 (-)	0.79 (-)	0.68 (-)
Your financial situation	0.77 (-)	0.75 (-)	0.74 (-)	0.75 (-)
Your sexual life	0.31 (-)	0.54 (-)	0.37 (-)	0.40 (-)
What people around you think of you	0.62 (+)	0.63 (+)	0.62 (+)	0.54 (+)
The joy and satisfaction you get from life	0.74 (+)	0.75 (+)	0.73 (+)	0.73 (+)
The closeness between you and your partner/spouse	0.68 (+)	0.63 (+)	0.58 (+)	0.69 (+)
Your partner's/spouse's employment opportunities	0.54 (-)	0.65 (-)	0.47 (-)	0.65 (-)
The care and security you may get in old age	0.52 (+)	0.54 (+)	0.75 (+)	0.67 (+)
Certainty in your life	0.76 (+)	0.76 (+)	0.79 (+)	0.71 (+)
The closeness between you and your parents	0.63 (+)	0.69 (+)	0.69 (+)	0.63 (+)
Alpha reliability coefficient	.76	.77	.81	.79
SUBJECTIVE NORMS*: Other people may have opinions about you having a/another child during the next three years. To what extent do you agree or disagree with these statements?*				
Most friends think I should	0.92	0.87	0.88	0.90
My parents think I should	0.94	0.95	0.90	0.93
Most of my relatives think I should	0.96	0.96	0.94	0.95
Alpha reliability coefficient	.94	.92	.89	.92

Source: own calculations on Russian GGS 2004
a) The sign + indicates positive attitude (item assigned to factor 1), the sign – indicates negative attitude (item assigned to factor 2)

4.5 Background factors and actual controls

As for background factors, I control for demographic characteristics of the respondent which could have affected the formation of her beliefs or currently affect her behaviour. *Demographic variables* include age of the respondent in age groups, union status and age of the first child (for parents). Union status includes the categories single, co-resident partner, and non-resident partner without disentangling marriage and cohabitation. For parents, the addition of the age of the first child is motivated first, by the level of childcare needed by the child, which is higher for younger children; second, by the fact that, as time passes and the early years of intensive childcare are over, the mother may not be willing to bear again the same duties, but rather be involved in other activities (Rindfuss and Bumpass 1976).

The inclusion of actual controls will allow to test whether perceived behavioural control is correctly specified. *Actual controls* are income, employment status, dwelling size and

health status. Household income is reported for the previous twelve months, in euro. Employment status includes the categories employed, unemployed, student, and other (retired, ill or disabled, looking after the family, military or social service). Dwelling size is a binary variable equal one if there are at least two rooms in the house, zero if the house has only one room. Health status is a binary variable equal to one if the respondent feels in good health, zero otherwise. Summary statistics are shown in table 2.

Table 2 Distribution of respondents by background factors and actual controls

	Childless people		Parents	
	Women	Men	Women	Men
Respondent's characteristics				
Age group %				
18-24	65.93	59.61	16.94	10.09
25-29	19.55	23.5	31.42	27.43
30-34	7.71	10.65	26.08	32.75
35-40	6.81	6.24	25.56	29.73
Good health status%	97.03	96.70	96.20	98.05
Union status %				
Resident partner	25.45	20.62	67.67	83.72
Non-resident pt	33.68	31.98	13.02	10.27
No partner	40.87	47.41	19.32	6.02
Age of the first child	-	-	2.6	2.5
Household income €				
Min	12	5	2	2
Max	26.454	11.378	20.481	19.912
Mean	1.021	1.080	912	1.112
St. dev	1.998	1.637	1.738	1.890
Employment status %				
Employed	52.59	59	78.23	90.62
Unemployed	9.63	12.61	6.16	6.73
Student	31.26	24.11	-	-
Other	6.52	4.28	15.61	2.65
Observations	675	817	974	565

Source: own calculations on Russian GGS 2004

5. Results and discussion

Results for the four ordered logit models are shown in Table 3. Column (1) shows results for the intentions about transition into parenthood, column (2) for the intentions to have the second child. Results are disaggregated also by sex of the respondents. Model (1) implements the TPB controlling for its four factors: positive and negative attitudes, subjective norms and perceived behavioural control (pbc in table 1). Model (2) includes also actual controls for income, employment status, health status and housing. Model (3) controls for the background factors generally used in the literature on fertility.

Reported coefficients are odds-ratios, the TPB factors were standardized with zero mean and standard deviation equal one for comparability.

Table 3 Regression results for parity and gender-specific childbearing intentions, ordered logistic model

	Childless people						Parents, 1 child					
	Women			Men			Women			Men		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
TPB factors												
Attitudes												
Positive	1.34*	1.5**	1.49*	1.52***	1.61***	1.64***	1.5***	1.57***	1.57***	1.59***	1.50***	1.65***
Negative	.70**	.71*	.63**	.86*	.89	.93	.73***	.70***	.69***	.80**	.80**	.74***
Subj. norms	2.29***	1.63**	1.30	2.92***	2.34***	2.18***	1.94***	2***	1.85***	1.92***	2 ***	1.96***
Pbc	1.66***	1.43*	1.58**	1.34***	1.22***	1.17	1.28***	1.18**	1.20**	1.41***	1.36***	1.36***
Actual conditions of perceived behavioural control												
Employment status (ref. employed)												
Unemployed		1.15	1.51		.50 **	.65		1.40	1.24		.76	.81
Student		.15***	.18***		.23 ***	.32***		-			-	-
Other[a]		1.65	.82		.27 **	.29**		1.54*	1.53		1.80	2.32
Household income (ref. first quartiles)												
Second q.		.76	.73		.98	.89		1.28	1.24		.78	.74
Third q.		.31**	.28**		.63*	.62		1.18	1.14		1.36	1.50
Fourth q.		1.44	1.25		.84	.84		1.52*	1.57		.73	.72
Dwelling size (ref. one room)												
Two+ rooms		1.4	1.89		.59***	.84		1.20	1.25		.52*	.52***
Health status (ref. bad health)												
Good health		.22	.21		1.26	1.17		1.52	1.66		1.01	1.52
Background factors of the respondent												
Age (ref. 18-24 years old)												
25-29			1.47			2.19***			1.61*			1.50
30-34			.85			1.48			1.20			1.46
35-40			.68			.63			1.50**			.49
Union status (ref. co-resident partner)												
Non-resident			.48			.44***			.77			2.30**
No partner			.16***			.17***			.67			.36*
Age of the first child (ref. 1 year old and younger)												
2-3 years old									2.43***			.91
4+ years old									1.67*			1.06
Observations	140	116	115	518	453	453	581	524	524	383	350	350
R-sq	.14	.23	.27	.16	.19	.23	.12	.13	.16	.12	.14	.16

Reported coefficients are odds-ratios. The TPB factors were standardized (0 mean, standard deviation equal 1)
* indicates p-value < .10, ** indicates p-value < .05, *** indicates p-value < .01
a) For parents, the categories "student" and "other" are merged due to the limited number of students in both groups

Model (1) includes only the four TPB factors. All of them have a consistently significant effect on the intention[7] to have a/another child as predicted by the theory. Odds-ratios for positive and negative attitudes move in the expected opposite directions. The stronger is the agreement with subjective norms of friends, parents, and relatives, the higher the certainty of childbearing intentions will be. The same is true for perceived behavioural control: the odds-ratio is higher than one, i.e. the higher the degree of perceived control on important items, the

[7] In the discussion I refer to "effects on intention" for explanation purposes. In ordered logistic models, the interpretation would be that for a one unit change in the predictor variable, the odds for cases in a group higher than the baseline are the proportional odds time larger. The baseline is "definitely not intending to have a/another child" and the three higher categories are "probably not/probably yes/definitely intending to have a/another child".

higher the intention. As a general result, the data provide strong evidence in favour of Q1**:** attitudes (both positive and negative), subjective norms, and perceived behavioural control significantly affect childbearing intentions. The result is valid for all of the four groups of respondents.

Research questions Q2 and Q3 referred to parity and gender-specific effects of the TPB factors. Subjective norms are the factor with the strongest effect on intention for both parities, and their effect is decreasing in parity as stated in the hypothesis H2a. This result suggests that compliance with social norms and the feeling of social acceptance are still high valued in the Russian society and significantly contribute to stronger intentions towards childbearing.

The effect of attitudes instead is increasing with parity, meaning that H1 is confirmed. Attitudes' effect is also differentiated by sex.

Negative attitudes refer to increasing concerns for financial and employment conditions, sexual life and the availability of free time. They are more critical for women than for men and they bear higher weight for parents than for childless people.

These results shed light on two important results: first, women have higher negative concerns due to childbearing-related risks for their employment conditions and free time than men; second, experienced parents have deeper insights on childbearing than childless people.

As for perceived behavioural control, results prove different than expected in H3. In any case does perceived behavioural control affect intentions more than subjective norms. Its magnitude is higher for childless women than for mothers (odds-ratios 1.66 and 1.28 respectively). For men instead, H3 is confirmed: perceived behavioural control bears higher importance for fathers than for childless men (odds-ratio 1.41 and 1.34 respectively). This gender and parity-differentiated result might reflect the traditional roles within the family, where the father is still considered the breadwinner parent. In fact on the one hand, young childless women attribute higher importance to perceived control over income and work than mothers. As shown in table 2, the former are younger, out of a stable relationship and participate less in the labour market than the latter. On the other hand, men attribute higher importance to being in control over financial and employment conditions once they bear the responsibility of a family in a context where their partners likely face difficulties in balancing work and childcare duties for the first child.

Finally, with regard to the gender-specific effects in Q3, as discussed so far two patterns appear, for attitudes and perceived behavioural control. On the one hand, positive attitudes have higher weight for men than for women, whereas the opposite is true for negative

attitudes. On the other hand, the dynamic of perceived behavioural control interestingly reconciles with the traditional family model.

Hypothesis H2b instead is not confirmed: women are not more sensible to subjective norms than men; in fact the opposite is true for childless people.

Model (2) includes also actual control to test whether the hypothesis H4b is verified. If correctly designed, perceived behavioural control should remain significant after the inclusion of actual controls. In the Russian GGS, these are income, employment status, housing condition and health status. Results show that hypothesis H4b is verified, which means that the way in which perceived behavioural control is constructed (weighting control and importance of each item) fully entails both actual circumstances and perceptions.

Nor housing either health status show a systemic significant effect on the intentions to have children. On the other hand, being a student has a consistent detrimental effect on the intentions to have a first child for both men and women (odds-ratios .15 and .23 respectively).

Interestingly, once actual controls for income and employment status are added, for both childless women and men the significance of negative attitudes decreases, whereas it is unchanged for parents. For childless men, the inclusion of income fully absorbs the effect of negative attitudes. As in model (1), hypothesis H1 is confirmed, and negative attitudes bear a higher weight for women than for men. This evidence is in line first, with the dynamic of perceived behavioural control and the traditional family model seen so far; second, with the results of the factor analysis shown in table 1, where “financial situation” was a high-weighted item for negative attitudes. Finally, the higher importance attributed to *attitudes* rather than to *objective measures* by fathers than by childless men, likely reflects the stronger self-awareness of older fathers with a stable job and a family with respect to younger men.

Model (3) includes also the background factors. If the significant effect of the TPB factors remains once background characteristics are controlled for, the evidence confirms that the design of the TPB factor in this study and the Russian GGS correctly absorbs any effect of the background factor. Model (3) also allows to test whether any background factor directly affects intentions, although this should not be the case in the ideal theoretical design of the theory. The evidence on hypothesis H4a is mixed**.** For childless women, the effect of subjective norms dissolves with the addition of age and union status of the respondent. This means that the age of the woman and her union status overrule the effect of social pressure: in particular, being single has a strong detrimental effect on fertility intentions as expected (odds-ratio .16). The trend of having the first child in the early twenties (24-25years old) is

confirmed. For mothers, the intensity of the intention is increasing with age, in particular for the age groups 25-29 years old and 35-40 years old. While the former is the common one for second births in Russia, the latter reflects the awareness to fulfil intentions before fecundity eventually ceases.

For childless men, perceived behavioural control loses significance once age and union status are controlled for. A similar result is found in Dommermuth et al (2011) for all parities. It means that the objective measures of age and union status overrule the importance of perceptions of childless men to be in control over their financial, employment condition or housing. In particular, the greatest effects are found for the age group 25-29 years and for single respondents (odds-ratios 2.19 and .17 respectively). For fathers indeed, all the four TPB factors remain significant once the background factors are controlled for, and age no longer absorbs perceived behavioural control.

6. Conclusion

This article presented an analysis of fertility intentions within the framework of the theory of planned behaviour (TPB - Ajzen 1991, Ajzen and Fishbein 2005). The sample is composed of four groups of Russia individuals differentiated by sex and parity (zero or one) of the respondent. The theory was implemented in the Russian Generations and Gender Survey, which offers a specific set of questions (Vikat et al 2007). According to the theory of planned behaviour, intentions are the immediate antecedent of behaviour. Intentions are determined by three factors: attitudes toward the behaviour, subjective norms, and perceived behavioural control.

Interesting insights emerged from this study. First, attitudes towards the behaviour are more important for parents than for childless respondents, whereas the opposite is true for subjective norms. This result suggests that childless people are more sensible to fertility-related social norms than parents, who instead attribute stronger relevance to objective circumstances such as the effect of childbearing on their financial situation or employment condition. Second, perceived behavioural control is a significant determinant of intentions, but its expected stronger effect on the intention of parents, with respect to childless people, is confirmed only for men. Interestingly, this scenario reflects the traditional family-model of the breadwinner father, while mothers attribute decreasing importance to perceived behavioural control with respect to younger women out of a stable relationship. Third, the inclusion of actual control does not leave out perceived behavioural control, but income and employment status attenuates the significance of negative attitudes for childless respondents.

It is likely that parents are more self-aware than respondents without children, who happened to be younger and probably less in control over some circumstances than parents. Fourth, the addition of demographic background factors has different effects by parity. On the one hand, the TPB factors remain significant after the inclusion of the background factors for parents. On the other hand, age and union status overrules subjective norms for childless women, and perceived behavioural control for childless men. Different insights emerge: for childless women, age and being in a stable relationship have a stronger effect on the intention to become mother than perceptions about social pressure. For childless men, the same objective factors are more important than the perceived control over circumstances such as income, employment, or housing.

As for the intentions to have a second child, interesting results emerge. First, the greatest effect for both women and men is found in subjective norms: normative pressure is an important determinant of intentions in traditional societies, and the intensity of the intentions to have a second child increases in the consensus of friends or relatives more than in the other TPB factors. The effect is not parity-specific. Also in the Bulgarian study the "opinion of important others" was a strongly significant determinant of intentions. Second, the role of the breadwinner father emerges from this study as fathers attribute stronger importance to perceived behavioural control than mothers. Third, negative attitudes towards the availability of free time, financial situation, and employment status are more critical for women than for men. In light of having a second child, these two result reconcile: women feel stronger negative concerns towards their future financial situation and employment opportunities than men, who conversely attribute higher importance to being in control over the same circumstances given their role within the family.

Finally, this study allowed to provide few insights on what the degree of success of the policy Maternity Capital Program could be. It is worth stressing that this study did not rely on longitudinal data, thus insights are tentative and not directly policy-related. As Billari et al (2009) discuss, it is likely that attitudes are more affected by the introduction of new policies with respect to subjective norms, which entail also long term, ideational beliefs. On the other hand, in low fertility countries or in periods of uncertainty, it is likely that social pressure calls for not having children, as it is indeed the case in this study: up to 60 percent of mothers disagree with the statement "my friends and parents think I should have the second child". In light of the results of this study, interventions should focus on the reduction of negative attitudes towards childbearing for mothers: for a one unit increase in negative attitudes, the odds of *not* intending to have a second child are 1.42 for mothers, meaning that they could

cancel out the positive effect of perceived behavioural control. Fathers indeed are more optimistic than mothers on subjective norms: only up to 35 percent of fathers disagree with the statement "my friends and parents think I should have the second child", whereas the share is 60 percent for mothers. Given that the concerns of mothers are related to employment opportunities and financial situation, policies focused on the reduction of these uncertainties (for e.g. the Maternity Capital Program allows to assign the grant to the pension fund of the mother or to use it to pay off mortgage loans) could help to sustain the two children family model.

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