

Realization of fertility intentions in a comparative perspective: which macro level conditions do matter?

by Zsolt Spéder

Abstract

Previous research clearly showed the effect of different individual factors (age, partnership, parity, labour market position, attitudes) on the realization of short term (within three years) fertility intentions. The sparse comparative analyses revealed that after controlling individual factors (compositional effects) country differences remain. Our related key question is as follows: what kind of macro level factors may explain differences in realization of fertility intentions. Based on the pooled data of 11 European countries in the Generation and Gender Survey, encompassing different kinds of macro-level indicators and employing *multilevel approach* we seek for macro conditions that contribute to realization of fertility intention. Among the macro level factors we consider such usually explored indices as GDP per capita, unemployment, extension of the welfare state; but we also experiment with some unusual societal level factors as economic dynamism or value orientations towards having children.

Previous research, selected

A quite extensive literature focuses on the *individual (group specific) determinants* of realizing or non-realizing fertility intentions in one country (Berrington 2004, Dommermuth et al. 2014; Kunst, Trappe 2016; Heaton et al. 1999; Morgan, Rackin 2010; Philipov 2009, Pailhé, Regnier-Lolier 2017; Schoen et al. 1999; Toulemon, Testa 2006). Also some comparative analyses highlight the universal micro-level features supporting the realization of short term fertility intentions (Régnier-Lolier, A. & Vignoli, D. 2011, Kapitány-Spéder 2012). Based on these studies several common factors could be identified. The *demographic factors*, such as age, partnership status and parity, clearly influence the success or failure of realization. People who are middle aged (35+ in the sub-sample), who live outside a partnership and with higher parity are less likely to realize their childbearing plans (cf. references above). In several countries (Italy, Hungary, Switzerland) childless people are more probable to “postpone”, than people having a child. Partnership, self-evidently, is a prerequisite of successful realization of the intention. Additionally in some countries the form of partnership does also matter. For example, the uncertainty of childbearing decisions in a cohabiting partnership is also noticeable in France and Hungary.

Influences of *socio-economic status* (education, income, labour market of the woman and her partner) are not comprehensive and affect the analysed countries differently. Whereas in Italy the education level of the male partner is determining the failure of realization, in France the women’s characteristics are more pronounced. Labour market uncertainty also contributes to the failure of realization especially in Italy. Moreover, in Germany the failure of realization is higher either if the man is unemployed, or if the woman is full-time employed.

Finally, *family norms and attitudes* also matter, but less powerfully. *Subjective norms* affect significantly in some countries (Heaton et al. 1999, Kuhnt, Trappe 2017). That means, those, who state that ‘important others’ expect their childbearing have a higher chance of realizing their intentions than those who do not.

Comparative research found significant *country variations* in the realization of short term childbearing intentions, especially between Western European and Eastern European countries. Of those who planned to have a child within three years, two-fifths actually succeeded in France and Germany, one-third in Hungary and Georgia, and one-fifth in Bulgaria (Spéder, Kapitány 2014). After taking into consideration the rates of realization in a two years intention-outcome time interval, and different countries (Netherlands, Switzerland, Hungary and Bulgaria), the West-East divide remain present. Additionally, according to the comparison of France and Italy, there are no significant differences between the two examined countries (Regnier-Lolier, Vignoli 2011). Lastly, after employing multivariate modelling, the difference between Western European and Eastern European

countries increase: in post-communist countries the chance of realizing childbearing intentions was less than half of the probabilities present in the western countries. Concerning the European West-East divide, people from lower subjective income levels in post-communist countries have a lower chance of realizing their intentions than those belonging to middle or higher income groups. It seems that *unfavourable financial* situation during ‘turbulent times’ significantly *increases* the risk of failing to realize intentions.

However, it is noteworthy, that with the inclusion of more and more countries, some differences can be identified within the Western and Eastern European countries as well. Switzerland had lower realization than the Netherlands (Kapitány, Spéder 2012). According to an Austrian-Hungarian comparison, country differences between the two countries hardly differ in the rate of realization (Rieder, Bubner-Ennsner 2016). Lastly, having a closer look, the difference between Hungary and Bulgaria, two post-communist countries, are also noteworthy.

Our current analysis aims to reveal *what kind of macro-level determinants may contribute to the remaining country level differences in the realization of short term fertility intentions.*

Data and method

Our analysis is based on data from the Generations and Gender Survey (GGS), which captures the dynamic features of demographic changes by collecting longitudinal data (Vikat *et al.* 2007). The GGS is a follow-up study; sample members are interviewed at three-year intervals. Our analysis takes into account *every European country* where data are available for the *first two waves* of the GGS. In the countries under survey the first interview took place from 2004 (Hungary) to 2012 (Sweden), with the second following (principally) three years later. Sample attrition rate between the two waves may be considered as usual in most countries, though Germany and Czech Republic had a much smaller sample. However, based on a preliminary analysis (Bartus, Spéder 2015), we included also those countries into the pooled data where attrition rate was unusually high.

The *sub-sample* we analysed concerns those of *reproductive age*. Taking into consideration the necessity of any comparisons, that the analysed age groups of the initial country samples should be identical, people aged 21-44 at the first wave were included in the analysis. Further limitation: due to theoretical and technical considerations the sample size used has been slightly reduced; *every woman* answering the fertility intention questions has been included in the sample, whereas only *men who have a female partner* are included. As a second step, and according to the requirement of the research question, in our multivariate analyse we concentrate on realization and failure of ‘wanting a child’ intention. Therefore only those who have answered the intention question of *intended to have a child within three years* positively in the first wave are included in the analysis.

Our macro level variables are calculated using different *comparative data sources* as the EUROSTAT, ILO data-set, TransMONEE data base, and the European Values Survey.

Due to comparative purpose the *dependent variable* is defined as follows: having a child or not between the 7-36 months after the first interview.

In the present investigation *multilevel binary logistic regression* model was employed to model the realization of fertility intentions among eleven European countries on the pooled dataset. Country specific individual level data typically have multilevel structure since subjects within the same country may have outcomes that are correlated with one another due to similarity of a general contextual effect. If the observed outcomes are not independent as assumed by the conventional single level logistic regression, the model is unable to account for intra cluster correlation. Furthermore, ignoring the multilevel structure of data can result biases in parameter estimates and their standard errors. Accounting within cluster correlation allows us to make appropriate estimate of the phenomenon. We used random intercept logistic regression models. The model derives its name from the fact that the intercept is allowed to vary randomly across countries through the introduction of cluster (country) specific random effects. The estimates of the extent of similarity of subjects within country can give important insight into the group level effects on individual fertility behaviour. Moreover, in accordance with our primary interest here, we extended our models by adding country specific attributes to measure explicitly the size of the effect of different structural conditions.

Results

i) Basic distributions: the rate of realization having a child and not having a child within three years

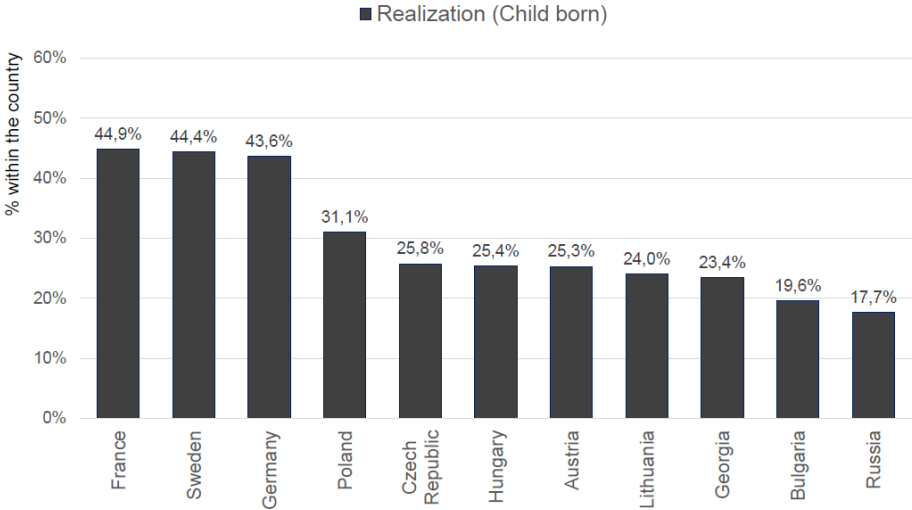
The basic distributions (Table 1 and Table 2) clearly support earlier results that no-intention (Table 2) is realised with a much higher risk as yes intention (Table 1), namely intention to have a child. We do not discuss this result extensively here, only stress that no intention is realized close to perfectly, almost without any cross-country variation. Furthermore, as Table 1 shows at the first glance, the level of realisation is much lower than in case of positive (yes) intentions, while additionally a considerable variation exists between the countries in the rate of realization.(Here we do not discuss the different rate of realization of the two kinds of intentions.)

ii) East-West differences

The analyse of the pooled data of the 11 countries restated the results of our former 5 country comparison (Spéder, Kapitány 2014). Namely, remarkable difference exist between Western European countries (Sweden, France, Germany, Austria) and Eastern European (post-communist) countries (Czech republic, Hungary, Poland, Bulgaria, Russia, Georgia) . Eastern European countries had 0.544 odds ratio in realizing fertility intention compered to Western countries. (Model not shown here). Significant interaction effect is found regarding east-west on the one hand and perceived financial situation on the other hand. Furthermore, the age of the women has an additional effect in post-communist countries.

Table 1

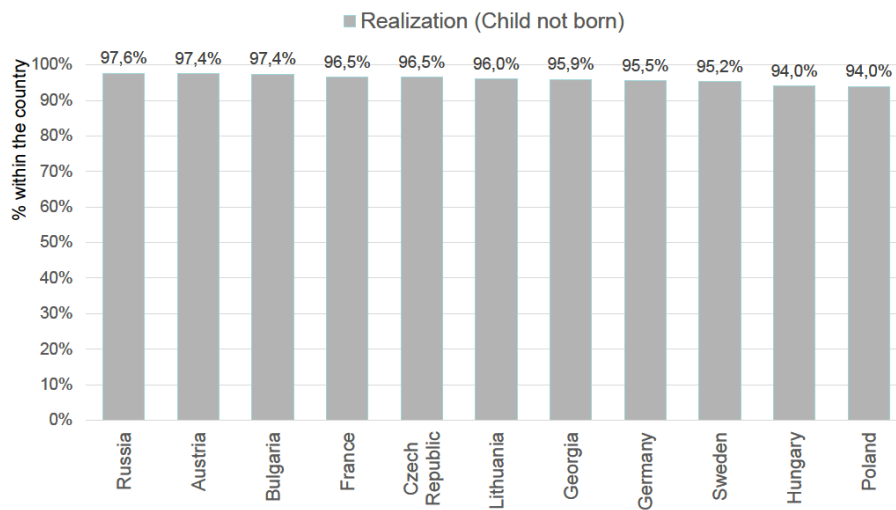
The rate of having a child within 7-36 Months among those intending to have a child within 3 years, European countries, all females aged 21-44 and partnered male aged 21-44, at the beginning of the century (various years between 2004-2015)



Source: own calculation, GGS first and second waves

Table 2

The rate of not having a child within 7-36 months among those not intending to have a child within 3 years, European countries, all females aged 21-44 and partnered male aged 21-44, at the beginning of the century (various years between 2004-2015)



Source: own calculation, GGS first and second waves

iii) Multilevel model using different macro-variables

In search for revealing general county-specific factors, we assumed four kinds of country-specific factors may be responsible.

(1) First, economic development, the affluence of the society may be of relevance in case of realization of stated fertility intention. Our earlier results showed that in poorer countries the more people are better off (with more resources), the more they are able to counterbalance unexpected events, therefore can stick to their original intention. This result directed us to the assumption that this mechanism may work on the societal level also. (A kind of counterargument would be that there is no clear indication that more well-off countries used to have more children.)

(2) Secondly, it may be that the welfare state institutions, especially family related supports and services may be crucial in realization. The welfare state is a key institution of stability in a market economy. One of its main roles is to counterbalance market failures. We may assume, that the wider the welfare state intervention is, the more help assured in case of needs. Consequently, the wither the welfare case intervention, the higher rate of realization. More specifically, we can assume that family related benefits are more relevant on the one hand, since these are aimed to support families and childbearing.

(3) Thirdly, we assume, that economic dynamism, dramatic changes in everyday peoples structural circumstances may hinder the realization of intentions, since they are unpredictable and create unfavourable circumstances for people intending to have a child. We will measure economic dynamism with youth unemployment fluctuation. This is a dynamic variable that measures the difference of maximum and minimum unemployment in a relevant time frame.

(4) Lastly, the culture, prevailing majority beliefs about childbearing or about proper family life, may also influence realization. We assume that in more family oriented societies public beliefs support more strongly the realization of fertility intentions.

Table 3

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
Micro level variables														
<i>Gender</i>														
female	1.0383262		1.0396366		1.0399297		1.0392697		1.0371911		1.0395043		1.0392139	
<i>Women's age</i>														
25-28	0.9881515		0.9912253		0.9919946		0.9910377		0.9875318		0.9928306		0.9914556	
29-34	0.8679012		0.8716753		0.8731432		0.8718888		0.8672285		0.8737087		0.8734640	
35-	0.4021872	***	0.4043106	***	0.4044185	***	0.4040069	***	0.4022220	***	0.4050002	***	0.4042840	***
<i>Partnership status</i>														
LAT	0.5551787	***	0.5562479	***	0.5564052	***	0.5564824	***	0.5545936	***	0.5560095	***	0.5565082	***
Without	0.3054381	***	0.3027977	***	0.3034107	***	0.3034499	***	0.3061050	***	0.3037356	***	0.3041535	***
<i>Parity</i>														
0	1.1383509	.	1.1342683		1.1347092		1.1357313		1.1389295		1.1315953		1.1359540	
1	0.7060913	***	0.7015528	***	0.7005764	***	0.7025276	***	0.7079755	***	0.7003524	***	0.7017694	***
<i>LM position (female)</i>														
unemployed	1.2490433	*	1.2381780	*	1.2421110	*	1.2408857	*	1.2497020	*	1.2407532	*	1.2441656	*
maternity	1.3684845	***	1.3643065	***	1.3666289	***	1.3667970	***	1.3723607	***	1.3711208	***	1.3722017	***
other non active	0.7957408	.	0.7961906		0.7966666		0.7965238		0.7986921		0.7987157		0.7970757	
<i>Level of education</i>														
secondary	0.9755587		0.9723511		0.9732104		0.9744850		0.9779045		0.9752325		0.9784880	
tertiary	1.0885226		1.0794177		1.0802386		1.0826665		1.0928521		1.0801157		1.0863262	
<i>Subjective norm (index)</i>														
	0.9566967	***	0.9573006	***	0.9572145	***	0.9571434	***	0.9421515	***	0.9571803	***	0.9570152	***
<i>Perceived financial situation</i>														
some difficulties	1.0370888		1.0420286		1.0422034		1.0408227		1.0360001		1.0440400		1.0411509	
easy	1.1971758	*	1.2083137	*	1.2171612	*	1.2114828	*	1.1988548	*	1.2199467	*	1.2172329	*
Macro level variables														
GDP per capita at t-1 time (ppp)	1.0109769	***												
Inflation at t-1 year			0.8921421	*										
Dynamics of youth unemployment					0.9565096	*								
Family cash benefits as ratio of the GDP							1.4311600	NS						
All social protection as ratio of GDP									1.0625096	***				
Attitudes towards cohabitation											1.0258614	NS		
Strong conviction in individual decision on fertility													1.0259833	***
(Intercept)	0.2808990		1.0208575		1.0572706		0.4211943	*	0.2201049	***	0.3681059	*	0.1494868	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Reference person: male, aged 21-24, co-resident partner, 2+ children, woman works, primary education, great financial difficulties

Preliminary results

Based on our first modelling results GDP per capita, social protection (rate of the social expenditures to the GDP), but not the size of family cash support seems to have significant influence. (cf. Table 3, Model 1 and Model 5, vs. Model 4) Not the unemployment rate, but the dynamics of unemployment rate (Model 3) is more important, what is in line with our third assumption. Regarding the cultural factors the average acceptance of cohabitation does not have an effect (Model 7). Further research is needed to check if other ideational orientations, prevailing beliefs have effects.

Further research

These are preliminary results. It is foreseen to continue our research in the following aspects. (i) We will experiment with some additional macro-level factors that are in line with our assumption, and may measure the relevant qualities of the societies better. (ii) We will include two macro level factors not correlating and substituting each other in the models. (iii) The size of the macro level factors will be compared and evaluated using statistical measures. (iv) A discussion of the results will follow the evaluation.

Selected references:

- Bartus, T., Spéder, Zs., 2015. Panel Attrition in the GGP Data. Evidence from Nine European Countries Presentation at the 3d GGS User conference, Vienna 30 November 1 December, Vienna Institute of Demography
- Berrington, A., 2004. Perpetual postponers? Women's, men's and couple's fertility intentions and subsequent fertility behaviour. *Population Trends* 117, 9-19.
- Kuhnt, A-K., Trappe, H., 2016. Channels of social influence on the realization of short-term fertility intentions in Germany. *Advancement of Life Course Research*, 16-29.
- Dommermuth, L. Klobas, J., Lappegård, T., 2013. Realization of Fertility intentions by different time frames. *Advancement in the Life Course Research*, vol. 24. No. 1. p- 34-46.
- Heaton, T.B., Jacobson, C.K. and Holland, K., 1999. Persistence and Change in Decisions to Remain Childless. *Journal of Marriage and Family* 61(2): 531–539.
- Morgan, S. P., Rackin, H. 2010. The Correspondence between Fertility Intentions and Behavior in the United States. *Population and Development Review*, 36: 91–118.
- Pailhe, A., Regnier-Loilier, A., 2017. The Impact of Unemployment on the Realization of Fertility Intentions. In. Regnier-Loilier, A., eds. *A Longitudinal Approach to Family Trajectories in France*. INED, Population Studies 7. p. 123-145.
- Philipov, D., 2009. The Effect of Competing Intentions and Behaviour on Short-term Childbearing Intentions and Subsequent Childbearing. *European Journal of Population*, 25(4), 525–548..
- Régnier-Loilier, A. & Vignoli, D. 2011. Fertility Intentions and Obstacles to their Realization in France and Italy. *Population-E*. 66(2), 361-390.
- Rieder, E., Bubner-Ennsner, I., 2016. Realisation of fertility intention in Austria and Hungary: are Capitals Different? *Vienna Institute of Demography, Working Papers 08*. p. 29.
- Schoen, R., Astone, N.M., Kim, Y.J., Nathanson, C.A. and Fields, J.M., 1999. Do Fertility Intentions Affect Fertility Behavior? *Journal of Marriage and the Family* 61(3): 790–799.
- Spéder, Zs. & Kapitány, B. 2009. How are Time-Dependent Childbearing Intentions Realized? Realization, Postponement, Abandonment, Bringing Forward. *European Journal of Population*, 25(4), 503–523.
- Spéder, Zs., Kapitány, B. 2014. Failure to Realize Fertility Intentions: A Key Aspect of the Post-communist Fertility Transition. *Population Research and Policy Review*, January 2014, doi: 10.1007/s11113-013-9313-6.
- Toulemon, L. and R.M. Testa, M.R., 2005. Fertility intentions and actual fertility: A complex relationship. *Population & Societies* No. 415. September, pp. 4.