



## **A summary of all findings in Work package 4<sup>1</sup>**

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<sup>1</sup> Non-edited version.

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## **Executive summary: Understanding the intentions – behaviour link in fertility behavior**

Our investigations focused on understanding the differences between fertility intentions and outcomes. Much research has recently been conducted in this field. Studies carried out in the framework of the REPRO project review the relevant literature in detail and show that the divergence in results and conclusions is partly to be attributed to different theoretical approaches, but mostly due to the fact that fertility intentions and preferences can be understood in many different ways and are operationalised very differently.

In our investigations we focused on certain types of intentions. The comparative studies carried out by the Hungarian researchers analysed the fulfillment and failure of short-term, time-related fertility intentions, while the two country studies examined the determinants of family size intentions.

The studies focused on different aspects of the relation between intention and behaviour. The two studies by the Hungarian team concentrated on the success and failure of positive childbearing intentions within two years. They compare Switzerland, the Netherlands, Hungary and Bulgaria. One study aimed at understanding the influence of societal context on the realisation of childbearing. The goal of the other study was to identify demographic, social and ideational (attitudinal) links. We wanted to see which factors help or hinder individuals with firm fertility preferences (for first or second children) at a certain point of time in realising or abandoning their plans. Because we compare the fertility intentions of individuals from four countries, the comparative perspective of this question enables us to analyse whether similar demographic and social factors influence the realisation of fertility preferences. Furthermore, we wanted to see, using a British dataset, whether those who are not fulfilling their intentions still maintain them or abandon them in the future. The study is based on 16 waves of the British Household Panel Survey (BHPS) and focused on differences between fertility expectations early in life and realised fertility at the end of the reproductive years. It investigated the causes for revising expected family size in both directions. As a last part, a study on France examined the impact of labour market uncertainty on fertility behaviour, and especially on the intention to have a(nother) child at all as well as on the timing of childbearing.

### **Definition and distribution of the crucial intention–behaviour variable in two DRI studies**

The harmonised fertility intention–behaviour variable describes three outcomes of positive (yes), time-dependent fertility intentions. First, it identifies whether the intention to have a(nother) child within two years will be fulfilled within three years. Those who intended to have a child within two years and successfully realised this intention within three years were called ‘*intentional parents*’. Secondly, we

also wanted to know whether and to which extent unrealised intentions were ‘reversible’. We divided the people who intended to have a child within two years but failed to do so for various reasons into two groups: the first group, i.e. the ‘postponers’, are those who upheld their intention to have children in the subsequent wave of our panel. The second group are those who discarded their plans, i.e. the ‘abandoners’.

*Table 1*

Basic types of positive fertility intentions and outcomes

Fertility intention-outcome types	Fertility intention within <b>two</b> years (at 1 <sup>st</sup> wave)	Had a birth within <b>three</b> years (between the 1 <sup>st</sup> and 2 <sup>nd</sup> waves)	Intend to have a child in subsequent wave
Intentional parents	Yes	Yes	<del>Yes</del>
Postponers	Yes	No	Yes
Abandoners	Yes	No	No

We constructed this intention–behaviour variable for four European countries based on four different follow-up studies.<sup>2</sup> The distribution of the fertility intention–outcome variable reveals basic differences among the relevant countries. The rate of successful realisation is quite high in the Netherlands: 75% realised their two-year intention within three years. The realisation rate is slightly above 50% in Switzerland, while only around 40% realized their fertility intentions in Hungary and Bulgaria. Regarding failures, 18% of all respondents intending to have another child abandoned their fertility plans in Switzerland, Hungary and Bulgaria. This figure is almost two times higher than the one for the Netherlands. The share of postponers also varies: in Hungary and Bulgaria it surpasses by a small margin that of intentional parents. The corresponding figure in Switzerland is also quite high.

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<sup>2</sup> For details on data and harmonisation see Spéder & Kapitány 2010.

Table 2

Distribution of different fertility intention–behavioural outcomes

Fertility outcomes	Countries			
	Netherlands	Switzerland	Hungary	Bulgaria
Intentional parents	75	55	40	38
Postponers	15	(27)	42	44
Abandoners	11	(18)	18	18

The research aimed to identify mechanisms and factors responsible for country differences.<sup>3</sup> We found and described three different ones that (might) contribute to understanding country differences. (1) Compositional effects are partly responsible for country differences: in the former communist countries, the share of people living alone (but having stable, not cohabiting partnerships) among those intending to have a(nother) child is higher. It is a well-known fact that the chances to realise fertility intentions are lower for these groups as compared to those cohabiting with a partner. (2) Mechanisms at the country level that weaken the intention–behavior relation were also identified and described. Differences among western and post-communism countries could originate from the different pace of social development, and in particular the *co-existence* of a normative system of childbearing that is gradually changing in combination with rapidly changing conditions. The weaker relationship between intentions and actions can be explained by exceptionally fast social changes and differences in the pace of development in the social sub-systems. (3) A mechanism of ‘unrealistic optimism’ might also play a role.

### **Explaining the factors responsible for the success and failure in the realisation of childbearing intentions**

Using the four harmonised longitudinal panel surveys it was possible to identify fundamental similarities and also some country differences with respect to the determining factors. Utilising *multinomial logistic regressions*, we specified factors influencing the realisation of intentions, postponement and abandonment of future childbearing in the Netherlands, Switzerland, Hungary and Bulgaria. We tested demographic, socio-economic and attitudinal factors.

*Age* is a reliable predictor of the constructed intention–behavior relationships. Those who failed to realise their intentions within three years were obviously older than those who succeeded (Table 3). The result clearly supports the so-called biological clock hypothesis: both postponers and abandoners

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<sup>3</sup> The mechanisms are discussed in detail in the DRI studies.

are older than intentional parents. At least in the relation parents vs. postponers, our results do not confirm the functioning of a social age norm, since postponers were not younger than intentional parents. A clear age difference between postponers and abandoners was found in two of the four countries (HU, NL), and a slight age difference in Bulgaria: abandoners were older than postponers. This result fits with the concept that abandonment (childlessness or fewer children than intended) is a result of perpetual postponement. Nevertheless, the Swiss case does not support this interpretation.

*Parity*, the number of children, has a significant impact in most cases (14 out of 16 coefficients). Regarding the relation between intentional parents and postponers, we clearly see that *childless people (parity 0) have a higher risk of becoming postponers as compared to realizing their intentions*. There is only one exception, but only in relation to parity 0 and parity 1: in Bulgaria, people with one child postpone childbearing with a higher likelihood than childless people. The Bulgarian case needs further investigation, but one explanation might be that the higher likelihood for postponement at parity 1 indicates an increasing prevalence of involuntary one-child-families. Comparing abandoners and intentional parents, it seems that parents with one (and more) child(ren) in Bulgaria, Hungary and in the Netherlands are significantly more likely to abandon their intentions to have another child than childless people. In Switzerland, the relation is reverse: childless people (parity 0) run a higher risk of abandoning their intentions than people with children (parity 1 and parity 2+). The Swiss behaviour seems to be an outlier: the higher risk of being an abandoner among those with parity 0 and in relation to higher parities points to, and is an indicator of, the high childlessness in Switzerland. Summarising the parity-specific analysis, we have to emphasise that the realisation of positive short-term childbearing intentions differs depending on the parity-specific context. However, we also want to underline that, in addition to general relations, we could also identify country-specific behaviours.

*Partnership status* exhibits a clear influence if comparing single non-cohabitants with married (and cohabitating) partners. Moreover, in all four countries, partnership is a prerequisite for the realisation of fertility intentions. Comparing cohabitation and marriage, we could not find strong significant differences. Nor could we identify marked differences with respect to the link between the realisation of fertility intentions and the type of partnership, measured as described above.<sup>4</sup>

Changes in relationship status clearly influence the realisation of fertility intentions: as expected, *separation* is an obstacle. Also the type of failure is interesting: in three of the four countries studied, people who dissolve their partnership abandon their short-term fertility intention. The exception are the Netherlands, where there is no difference between postponers and abandoners. This

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<sup>4</sup> It should, however, be noted that we found significant influences among women in Hungary. Among those with negative intentions, cohabitators also had a higher chance to realize their negative fertility intentions than married people.

result clearly supports the assumption that life course changes strongly influence the intention–behaviour relation.

In three of the four countries, *education* clearly influences the fertility plans of intentional parents. The likelihood of being an abandoner decreases with rising education levels. Coefficients comparing ‘intentional parents’ and ‘postponers’ show contradictory results. In the two western countries, there is no educational difference between intentional parents and postponers. This does not apply to the two eastern countries. In Bulgaria, people with higher education are more prone to postpone, while individuals with higher education are more inclined to realise their short-term fertility intentions in Hungary. The results for Hungary suggest that people with higher education are better informed about their fertility decision and/or conflicting life goals and that opportunity cost do not deter them from their fertility plans, while perceived opportunity costs might make the respondents in Bulgaria postpone the realisation of their short-term fertility intentions.

*Labor market effects:* No significant results were found in the comparative analysis, but specific relations were identified in France (see summary of the Pailhé-Solaz study below). Two main reasons could be responsible for this result: first of all and in line with the pertinent literature, gender differences related to the labor market could be very strong, but in the comparative analysis we could not differentiate by gender. Secondly, our employment variable is quite rough-and-ready. The “no job” category includes many different statuses, especially in the case of women, e.g. unemployed, on parental leave, housewife, student, other inactive dependent, etc. This points out the need to use more refined employment status categories.



Table 3

Multinomial regression predicting patterns of realisation of time-dependent intentions  
(Odds ratios predicting the risk of being an intentional parent, a postponer or an abandoner)<sup>5\*</sup>

	Postponers				Abandoners <sup>a</sup>			
	Nether-lands	Switzer-land	Hungary	Bulgaria	Nether-lands	Switzer-land	Hungary	Bulgaria
Age	.990	1.094***	1.116***	1.045***	1.303***	1.080**	1.315***	1.170***
Female	1	1	1	1	1	1	1	1
Male	1.552	1.044	.883	.888	3.605***	.789	.486***	1.340**
Parity 0	1	1	1	1	1	1	1	1
Parity 1	.336***	.137***	.648**	1.457***	1.610	.240***	3.477***	5.679***
Parity 2+	.463	.254***	.377***	.522**	2.842**	.575	5.196***	15.932***
Married at wave 1	1	1	1	1	1	1	1	1
Cohab at wave I	1.440	.601	1.163	1.115	1.170	.300**	.808	.490***
Alone at wave I	2.355	4.273***	4.198	6.845***	2.690*	6.993***	3.670***	3.019***
No lost partner	1	1	1	1	1	1	1	1
'Lost' partner	10.425***	3.767	4.150***	2.384***	9.455**	54.62***	6.232***	5.484***
Education	.948	.994	.945*	1.040*	.825**	.962	.848***	.935***
No job	1	1	1	1	1	1	1	1
Job	.640	.828	1.165	.937	1.394	1.708	1.150	1.052
Catholic**	1	1	1	1	1	1	1	1
Calvinist	3.539*	1.365	1.232		.991	.733	.934	
Other religion	5.757**	4.070***	.883	.941	.664	.857	.444**	1.009
No religion	2.629*	1.371	1.467	1.011	.988	1.930	1.039	.407***
Chi-Square:	119	122	432	745				
Df:	24	24	24	22				
Nagelk. R <sup>2</sup>	0.28	0.32	0.38	0.33				
N:	458	408	1069	2196				

\*The reference category are 'intentional parents', i.e. those who realised their two-years intention within three years.

\*\*For Bulgaria, the reference category is 'orthodox'.

## **Changes in expected family size intentions: understanding the gap between expected family size and achieved fertility<sup>6</sup>**

One of the questions which motivated the British research team to use 16 waves of the British Household Panel Survey (BHPS) relates to the fact that individuals' reported fertility expectations early in life are, on average, higher than their realised fertility at the end of their reproductive years. It asks whether this difference should be interpreted as an unmet need for children (i.e. whether people continue to *want* the number of children they wanted earlier in life, but they revise their expectations downwards as they come to realise that they will be constrained, biologically, economically, or for some other reason, to have fewer children than they want). Alternatively, does it simply reflect a process of individuals changing their minds over their lives about the number of children they want, for reasons unrelated to constraints. This research shows that it is *not* correct to think solely in terms of an unmet need.

The researchers identified several reasons why people adjust their fertility. One has arguably little to do with constraints: both men and women adjust their expected fertility, upwards, as well as downwards, to fit in with their partners' expectations. Others are mainly of structural and demographic character. Age has a clear influence: revisions of expectations in both upward and downward directions are more common in younger than in older individuals. Gender differences in relation to the labour market are clear: male employment and earnings play very little role; it is women's employment and earnings which affect both their own probability and the probability of their partner, in revising their expectations.

Iacovou & Tavares worked out a specific parity-expectation variable in order to identify parity-specific influences. They differentiated according to whether births bring achieved fertility to expected family size or not. "Having a first child, when an individual initially wanted one child, is associated with an increase in expectations for both men and women. Having a second child, when the individual initially wanted two children, is associated with a much more modest probability of increased expectations for women, and no increase at all for men. ... Looking at births which do not bring achieved fertility up to expected fertility as measured at year 1, we see that first births which fall into this category (i.e. first births to individuals who initially expected to have two or more children) are associated with an increased probability of *both* increases *and* decreases in expectations for men, but they are associated only with reduced expectations for women. Second and subsequent births to women who would have expected to go on to have even more children are associated with an even stronger increase in the probability of reducing one's expectations" (p. 15). Based on their results they argue for a decision-making model where fertility decisions are made sequentially and revised on the arrival of the new child.

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<sup>6</sup> This section is a summary of University of Essex research.

They also investigated the role of *personality traits*, using the Big Five typology (Agreeableness, Openness, Neuroticism, Extraversion, Conscientiousness). Based on their analyses they conclude that personality traits are significant in defining the number of children an individual expects to have, but they are not a significant influence on changes in expectations.

The finding that revisions occur in both upward and downward directions is important in itself. This research shows (a) that *both types of revisions occur* and (b) that *the determinants of these revisions are not equal and opposite*. There is a clear benefit in separating out the two types of revisions for analytical purposes. The fact that upward revisions occur and account for around one third of all revisions adds weight to the argument that individuals revise their fertility expectations for a range of rich and complex reasons, not all of which are related to constraints on their lives.

### **The influence of labour market uncertainty on fertility outcomes<sup>7</sup>**

The study of Pailhé and Solaz examines the impact of labour market uncertainty on fertility in detail. It investigates whether temporary jobs and unemployment merely delay fertility or also have an impact on completed fertility. The study uses a variety of indicators of fertility, namely a) intention to have a(nother) child at all, b) timing of childbearing and c) completed fertility. Models were always considered separately by gender.

In all models, gender differences played a role. The analysis of the influence of labour market factors on the timing of fertility intentions (intention to have a child within three years) revealed the following relationship: employment uncertainty plays a decisive role in different ways for men and women in France (Table 4). Being unemployed decreases fertility plans for men but not for women. Women working in insecure jobs, on the other hand, cut back their plans, while this is not the case for men. These results suggest that for men it is important to get a job regardless of its quality or stability before becoming fathers. Patterns of behaviour among women seem to be more heterogeneous: those who favour their career intend to get a stable job before becoming mothers, unlike those who favour their family plans.

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<sup>7</sup> This section is a summary of the INED study.

*Table 4*  
Fertility intention, having a child within 3 years  
(logistic regression, OR)

	Men		Women	
	1	2	1	2
<i>Current professional situation</i>				
Stable job		Ref.		Ref.
Non stable	1.422 (1.51)	1.427 (1.52)	0.659** (1.99)	0.659** (1.99)
Unemployed	0.645 (1.55)	0.606* (1.76)	0.792 (1.00)	0.783 (1.05)
Student	0.780 (0.51)	1.042 (0.08)	0.245*** (3.79)	0.229*** (3.80)
Out of labour force			1.026 (0.13)	1.024 (0.12)
<i>Partner's professional situation</i>				
Stable job		Ref.		Ref.
Unstable job		0.969 (0.14)		1.287 (1.12)
Unemployed		0.896 (0.46)		0.842 (0.66)
Student		0.438** (2.29)		1.292 (0.47)
Out of labour force		0.744 (1.35)		
Observations	1526	1526	1820	1820
Absolute value of z statistics in parentheses				
* significant at 10%; ** significant at 5%; *** significant at 1%				

Pailhé and Solaz also analyse the timing of fertility, i.e. the birth of the first and second child(ren). They found that being *unemployed* has an effect on the timing of entry into parenthood for men only, but holding a *short-term contract* has a specific effect for both men and women: an insecure job delays the arrival of the first child for both men and women. Once the childbearing process has started, economic uncertainty ceases to affect the timing of the second and third births. It is also possible that men assume that having a child will have fewer negative consequences for their career.

Lastly, the labour market situation does not affect completed fertility, except for men who were unemployed for a long time during their working life. Economic uncertainty thus has a weak

effect on fertility plans and timing in France, has and an even weaker effect on completed fertility, maybe because uncertainty on the labour market is balanced by the guarantee of a stable and generous governmental family policy in France regardless of a citizen's employment status.

The results illustrate how the social roles of men and women continue to differ in France, where men continue to be the main breadwinners. Moreover, the impact of unemployment is lower than in other countries, probably thanks to France's quite generous social policies. Finally, this study also shows that in countries such as France that offer social protection in case of unemployment and have a strong family policy, fertility is less affected by job insecurity than in countries offering a less support for families and lower levels of job protection. It is possible to anticipate that the current economic crisis will have a weaker effect on fertility in France than elsewhere.

### **Identifying a micro-macro link: towards a behavioural understanding of postponement<sup>8</sup>**

The focus on individual behavior and the fulfillment and failure of realising fertility intentions enabled us to draw conclusions about individual behaviour and macro-level fertility, i.e. to look into the *postponement "black-box"*. We found that the literature implicitly assumes that many people intend to have a child later in life. Our results revealed a different cause: postponement of fertility is *the result of a failure to realise childbearing intentions*. Therefore, macro-level postponement in the former communist countries is mostly the result of involuntarily postponed or revised childbearing intentions. This does not imply that postponement of fertility is not also a result of intended childbearing at later ages, however it means, that involuntary postponement also plays a role, especially in times of rapid social changes.

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<sup>8</sup> This issue is discussed in the DRI studies.

# **I. Overview and introduction**

## **I.1. Aims and framework**

The central objective of the REPRO project is to gain deeper insights into the processes underlying the changes in European fertility behaviour, and to generate new scientific information and policy-oriented knowledge on the factors that drive changes in birth rates and influence the reproductive decision-making of contemporary Europeans.

The research carried out in WP4 ‘The micro level: fertility behaviour’, – based on theoretical models using the intention-behaviour link, especially the Theory of Planned Behavior (TPB) –, targeted to analyse fertility behaviour and utilize advantages of longitudinal follow-up surveys. We intended to identify those social, economic, cultural, and ideational factors that determine fertility intentions and their realisation, especially *the realization of intended births*, at the micro-level.

A report about appropriate methods, country analyses and comparative studies was foreseen, and will be reported about in the next.

Work was imagined in cooperation with the other work packages, especially in close relation with WP3 ‘The micro-level: fertility intentions’. The two micro approaches, employed in the WP3 and WP4, are closely linked and based on a common theory, the TPB by Icek Ajzen. WP3 concentrates on the *formation of intentions*, and WP4 researches the *realization of intentions*, i.e., the second phase of fertility decision according to Ajzen’s model. This division of tasks legitimates that those contributing to WP4 focuses on the realization of fertility intentions, and only marginally deal with the issue of emerging intentions.

Since this approach requires information about intentions at a given time, and about whether or not these intentions were realized later, the analysis of this ‘second phase’ of decision making *concentrates on follow up/longitudinal panel studies*.

## **I.2. Work and deviations until month 24**

As in all scientific work, our first step was collecting and evaluating the relevant research and accomplishing a structured overview in this area. The results of the literature review are presented in the State-of-the-Art Review; all individual studies include an overview of the relevant scientific approaches as well as research results. In order to select the most appropriate methods for further analyse specific attention was given to evaluating the methods

utilised in follow-up studies. After discussing the different statistical approaches, carried out by the University of Essex group, and in view of the fact that mostly two waves of the panel survey are available, *logistic regression as a simple and appropriate technique was suggested.*

After collection information on available follow up surveys and taking into consideration in our research design, – the stress on fertility intention and behaviour –we concluded, that our originally planned analyses could be carried out no more than in eight European countries. As at the beginning planned, we considered the available surveys in Bulgaria, France, Germany, Hungary, Italy, Norway, The Netherlands, United Kingdom. Due to different reasons, in three of this countries (France, Germany, Italy), the analyses using at least two waves of a panel could not carried out. At the same time, we found one additional survey, the Swiss Household Panel Survey (SHPS), that could be utilised in our research. The analyse of Swizerland using the SHPS could be understood, as a special case of ‘German speaaking countries’, and therefore could substitute partly the imagined role of the German analyse. Since the Norwegian GGP combines survey and administrative data, and due to a later start and delay of the survey field work, the Norwegian analyse could not accomplished until the end of the WP4. However an analysis will be available at the end of the REPRO Project. Due to some inappropriateness of the French ‘Les Intentions de Fécondité’ Survey, our colleagues at INED analysed the very recent ‘Family and Employer Survey’ and focused on the relationship between labour market uncertainty and fertility intentions and outcomes.

Four data sets, the Bulgarian Social Capital Survey, the Dutch Netherlands Kinship Panel Survey, the Hungarian GGS (‘Turning points of the life course’) and the Swiss Household Panel survey could be harmonized in order to enable comparative analyse on a jointed data-set.

As a result we accomplished four analyse until the end oft the WP4. Two comparative analyses using the harmonised data sets, a longitudinal analyse of the British Household Panel Survey, and an analysis using the French Family and Employment Survey could be carried out. The analysis of the Norwegian Generation and Gender Survey will follow. The harmonized data set also enabled to carry our not only a European comparisons with limited number of societies, but also enabled the originally planned an East-West comparison.

### **I.3. Work from month 19 to month 24**

During the last 6 months of the project, in addition to the work reported in the Deliverable 4.11 (at month 18), we accomplished the following research activities:

- adding one more harmonized country–data (Bulgaria) to the comparative data–set;
- analysing the four country data, including also Bulgarian;
- enlarging the comparative analyse with a theoretical part and with a stronger east–west comparison;
- finalizing and fine-tuning the 16 waves analysis of the British Household Panel Survey;
- finalizing and fine-tuning the analysis of the French ‘Family and Employer Survey’;
- summarising the research–results in an ‘Executive summary’.



## II. Differing patterns of birth intention realisation: looking into the postponement ‘black-box’

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### Introduction

The aim of our research is to analyze whether fertility intentions will be fulfilled at the same extent in all social contexts. We do agree with those approaches that assume the formulation of intentions and subsequent fertility behavior could be understood using the a general concept of human behavior, a theory of social action (independent of the preferred theoretical model of behavior or social action). We do not exclude however, that certain social groups have specific behavioral patterns; respectively we assume that in different macro-social contexts (e.g. different social environment or different era in the same country) fertility decisions, in our case the realization of fertility intentions can vary. Our research concentrate on this latter: we study whether realization of fertility intentions follows the same pattern in different societal contexts (countries).

The empirical analysis of this above described question next to reveling interesting results leads us to formulation of a crucial theoretical question. It provides us with the introspection to the “black-box” of postponement, which has not been revealed until now. More specifically, we approach the understanding of the behavioral interpretation of postponement. In general, we are faced with the question, which kind of relationship do exist between individual action and social context, furthermore, whether there is *also* a reversed relationship between individual action and the context, and in what degree does the individual action contribute to the emergence of its own context.

We compare the fertility behavior of fecund individuals in four countries. The selection of countries had practical reasons: we compare surveys of such countries, where we could harmonize data. Even though we do not get information about all the developed welfare regimes of Europe, Switzerland, the Netherlands, Hungary and Bulgaria differ significantly.

The discrepancy of fertility intentions and the fertility behavior has for a long time been in the centre of demographic and social psychological studies. The review of relevant literature is the base of our empirical analysis. It has to be preceded however by the review of *literature on intentions*, since we try to avoid the trap of reviewing such research results, which do not apply to the inconsistency between intentions and real action, i.e. the focus of

our study. We will also review briefly the literature *on postponement*, one of the key concepts of recent fertility research, since the results of our investigation could be relevant for its understandings. Then, we provide relevant information about *the four studied countries*. It will be followed by the introduction of the four utilized data sets, the barriers of our harmonizing work. The presentation and discussion of the results will be short; however their interpretation will take longer. The reason is that they raise very complex and relevant questions with regard to the major conception of postponement, and in general about micro and macro relationships of fertility behavior and fertility trends. We do not think that we are able to answer all posed e questions but we are sure that we raise such relevant research problem, which is worth for considering it in the future.

## **II.1. The place of short term fertility intentions in studying fertility intentions and fertility behaviour**

Although there exists some skepticism about the use of intentions as predictors of future behavior, the research on fertility behavior often points out its key role in decision making. Surveying longitudinal analysis we see also divergent conclusions: Critical approaches stress that intentions alone have no or hardly any determining role on fertility behaviors; they are more properly seen as mediators (Westoff and Ryder, 1977, Toulemon, Testa 2005). Other studies, however, reach a dissimilar conclusion: the explanatory power of intentions is exceptionally high. Furthermore, intentions are independent and are not merely mediating factors of fertility behavior (Schoen et al. 1999; Berrington, 2004).

Considering the above mentioned research we agree with Miller and Pasta who point out the theoretical and conceptual problems and disagreement in the operationalization of intentions (Miller and Pasta 1995:531). To avoid a rash conclusion, firstly it should be examined, whether different studies use the same concept of intentions, and if not, what kind of conceptual differences there are. (It is also an inherent question if a given type of intention fits the aimed theoretical aim.) Secondly, it should be closely considered, whether the operationalization of a given type of intention is the same or not. Lastly, indicators, as criteria of successful realization should be considered.

The literature on longitudinal follow-up studies reviewed by us offers at least three different concepts of intentions:

(1) *family size intention*<sup>9</sup>,

(2) *intention to have any (more) child(ren) at all*

(*intended childlessness is a special case of this avenue of research*)

(3) the intention of having a(nother) child *within a given time period*

Additionally two specific dimensions could be also measured.

(4) the *degree of certainty* of the childbearing intention and

(5) whether *the intentions of the partners* coincide.

Population studies usually use birth as ultimate *criteria of realization*, but social-psychological approaches stress the behavioral element, the so called proceptive behavior. Besides they stress the multifaceted character of this behavior and the biological limits of successful realization of intentions. Sticking to the birth as behavioral outcome it is clear, that the three different kinds of intentions require different behavioral outcomes as measure of intention-fulfillment. Family size intentions, but also general fertility intentions (having a child at all) need data at the time of the end (or at a very late phase) of the propagative carrier, since the success in realization can be assessed only at that time. To understand the time-related or timing intentions, we need information about the given time window or age deadline. Therefore it needs a shorter time to observe.

The assessment of predictability of the intentions may depend on the kind of intentions measured and on what kind of indices of realization could be retrieved.

(1) The longitudinal study of the relationship between intended family size and observed fertility clearly indicates that (individual) completed fertility involves a considerable underrealization as well as overrealization of the intentions (Quesnel- Vallée and Morgan, 2003). Reports about France (Monier 1989) and Hungary (Kamarás and Szukics 2003) also documented overestimations of future family size (underrealization of intentions). Liefbroer, who discusses this question in detail reports not only downward (and upward) adjustment of family size intention, but also identifies factors and mechanisms – such as changes in partnership and activity status, fertility events and aging – which contribute to changes in individual family size intentions (Liefbroer, 2008).

(2) Contrary conclusions are drawn in studies about the intention to have (any more) children *at all* (Westoff and Ryder, 1977; Schoen et al. 1999; Berrington 2004). While Westoff and Ryder have fundamental doubts about the independent influence of intentions, they are quite

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<sup>9</sup> Since we will not explore empirically the intentions of family size (number of children), we do not discuss overlaps and differences of such concepts as “ideal number of children”, “personally desired” number of children or “how many more children are you planning to have” and the like.

manifest for Berrington. Furthermore, Schoen et al. explicitly advocate the additional predictive power of intentions: “Intentions to have or not to have a child or another child and the certainty of those intentions for future childbearing are strongly and consistently related to future fertility behavior.” (Schoen et al. 1999: 798).

Since childlessness is an increasing phenomenon in some countries (Dorbritz, Ruckdeschl, 2004), we observe a growing interest toward this issue, to understand whether it is the result of intended behavior or of unintended postponing behavior (Sobotka, 2008).

(3) There is no consensus concerning the effects of *time-dependent intentions* that are central for our study. According to Schoen et al, if the intention concerns the “foreseeable future” (in their case, the following 4 years, then it has a significant impact on fertility behavior. On the contrary, Westoff and Ryder found that intentions for the subsequent two-year period are not highly predictive for the realizations within that two-year period but are indicative of the likelihood of childbearing in the far future.

(4) There is a clear consensus about the effect of the *certainty* of intentions. All previous research has underscored that the certainty of intentions contributes significantly to the prediction of the next childbearing (Westoff and Ryder, 1977; Schoen et al. 1999, Philipov and Testa , 2007).

(5) Studies examining the opinion of *partners* are mostly agree when they conclude that the intention of the partner is (also) important. If there is no agreement of intentions between the partners, it is less likely that the respondent will realize his/her fertility intention (Thomson 1977, Miller and Pasta 1995, Phlipov and Testa, 2007).

Lastly, we should mention the case of *operationalization*. Besides intention, fertility desires and expected fertility (expected number of children) are also often used, and sometimes the ideal number of births is also understood as indices of birth intentions. If approaching from a crude perspective, these are all the same subjective representation of future fertility behavior. Approaching this issue from the decision making process, although all the mentioned subjective aspects are strongly related, they are not necessary the same. Miller and Pasta for example differentiated clearly desire and intention. Since both are linked to future fertility behavior, desires are antecedents of intentions but do not direct behavior. Intentions, on the contrary, “when the conditions are right...are translated into instrumental behavior” (Miller and Paste 1995b:221). Of course we are well aware, that in many cases the options of researcher are limited, since they must work with a given concept, with given questionnaire wording. They should work with the data. taking into consideration the given options and limitations. Rarely are they free, and can put their concept into wording as Miller

and Pasta have done. We are aware of all the above aspects while we assess whether intentions are good predictors of (future) fertility behavior.

We devote our attention to time dependent fertility intentions. Our selection is based on theoretical and practical decision. The more practical one is that we wanted to have intentions *and* fertility behavior from longitudinal surveys. The attempt to have more European countries, shortened the length of the time span available, and made us focus to time dependent fertility intentions. The selection of time dependent intentions seemed also advantageous from the point of view of the historical period of fertility change, from the context of often mentioned “process of postponement”. In such times, the study of time-dependent fertility intentions is highly justifiable, though research questions must be formulated in a way to suit the particular situation: *have people who planned to have children within 1/2/3 years succeeded in realizing their intentions within the specified time period? Have those who failed to realize their plans within their particular period of time abandoned them altogether or do they still maintain their childbearing intentions?*

## **II.2. The intention-behavior link: assumptions and research results on the realisation of short-term birth intentions**

Extensive literature can be found about the attitude-behavior link in general, and also on fertility intentions and realization in particular. To review the social psychological literature is almost impossible, therefore we limited ourselves only to the assessment of the approaches, which are relevant for demographers for the explanation of fertility behavior. The *theory of planned behavior* (from now on referred to as TPB) developed by Ajzen (1988) is a widely accepted approach among researchers of demographic actions (Liefbroer et al. 1994, Schoen et al. 1999., Philipov et. al. 2006). It serve as a common theoretical foundation of this project as well, since it assumes a quite close and straightforward relation between intention and behavior. This theory presumes that intention is the best predictor of behavioral outcome (action). It postulates three different, independent determinants of intentions. These are: a) attitudes towards the given behavior, b) subjective norm, and c) perceived behavioral control. In this theory, demographic variables, socio-economic status, and personality traits are external factors shaping the above mentioned three determinants (antecedents) of intention. Discussing the TPB, *Schoen et al.* pointed out that it is generally rather neglected, that the intention–behavior relation is not without problems. Studying closely the original theory, we can find several indications to factors which “can disrupt the intention–behavior relation”

(Ajzen 1988:132). Perceived behavioral control exactly “refers the perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles” (ibid: 132). It is important in our approach, that this factor not only influences forming (easing or impeding) intentions, but also has a *direct link* to behavior (ibid: 134). Ajzen mentions a number of such internal and external factors: emotions, changing opportunity structures, dependence on others, unforeseen life-course events. The inconsistency between the intentions and the action - particularly with regard to fertility – is perceived by the followers of the above mentioned theory as well, and they test their hypotheses concerning the divergences. (Davidson and Jaccard, 1979; Rindfuss et al. 1988).

Miller and Pasta worked out behavioral model for understanding fertility behavior and is widely used in the study childbearing behavior (Miller and Pasta 1994, 1995). This is a sequential decision making model. Intentions play a central role in it, which are rooted in the desire for having children and change them into fertility behavior. Intentions are almost decisions [“decision made but not yet executed” quotes Testa]. Childbearing behavior – which Miller and Pasta describe as proceptive and contraceptive – is determined by tree types of intentions: timing, family size and the general childbearing desires. It has to be noted, that Miller and Pasta consider timing the most important determinant of childbearing behavior, which is also confirmed by our statistical analysis. Even though it is not included in their decision-making model, they discuss among their preliminary assumptions and in the analysis, which demographic and socio-economic factors hinder the realization of childbearing intentions (Miller and Pasta 1995).

The perception of inconsistency between fertility intentions and fertility behavior by demographers and sociologists dates back to the first longitudinal follow-up studies of this kind. The results of these studies have led to questioning the predicting value of intentions (Westoff and Ryder 1977) despite the fact, that the fertility intentions seemed the most powerful predictors of future childbearing action.

In the measure of inconsistency between intentions and behavior that fact played an important role that the intentions were measured –especially by demographers and sociologists - very generously and with many different methods (see the previous chapter). However, after applying more accurate measures there were still significant inconsistencies between the intentions and the realization. Prior discussing the reasons of these above described inconsistencies, it is worth highlighting the characteristics of the already mentioned two theoretical behavior models.

According to the understanding of Rindfuss et al. there is inconsistency in TPB, if the regarded action is not univocal, and if the aim, context and time of the action is not specified (Rindfuss et al. 1988: XX ff). According to the sequence model of Miller and Pasta in reference to the achievement of fertility intentions we have to change the intention-action pair to “intuition-behavior-outcome sequence<sup>10</sup>, furthermore we have to note that conception behavior and the lack of contraception leads to the intended consequences (child birth). The conception behavior, moreover (can) contain(s) numerous behavioral and biotechnological elements as well (Miller, Pasta 1995:534 ff).

According to research findings the relationship between fertility intentions and fertility outcomes can be influenced by the following factors

- The extent and sharpness how well–defined intentions are
- Biological factors
- Demographic (social) group characteristics of the individuals
- Occurrence of (unexpected) life events
- Periodical or contextual effect

It is obvious that we review the analyses about the inconsistencies from the viewpoint of our current research. We focus on those studies, which deal with the birth of the subsequent child.

Big majority of the analyses calls attention to and statistically proves that the thoughtfulness and certainty of intentions increases the chance of realization of those intentions (Westoff, Ryder 1977, Rindfuss et al. 1988, Shoen et al. 1999, Testa and Toulemon 2006, Philipov 2009).

There is also consensus about the fact that the realization of those intentions is more probable, which are time-wise determined, and which are closer to the time of surveying. Miller and Pasta considers timing intentions to be the most important factors of action, which is proven by analyses (Miller and Pasta 1995). Researchers testing the Fishbein–Ajzen model also found that the closer the time of the behavior (outcomes) to the time of the survey is, the bigger predictive value the intention has (Davidson and Jaccard 1979). Ajzen also emphasized the importance of timing. Furthermore, sociological studies have also concluded that analyses including time have greater predicting power regarding childbearing (Shoen et al, 1999). Therefore, it is assumed that with time (between surveying and realization) the relationship

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<sup>10</sup> We have to note that the demographic analyses of intentions concern the results (child births) and not the action. Precondition of childbirth is the abruption of contraception and the start of conception.

between the intention measured at the time of the survey and the consequence of acting at later time becomes weaker. With time the probability of contextual change of action becomes higher. Furthermore, the probability that such life-course events occur, which alter intention also becomes higher. All these factors contribute to the reversion of original intentions.

Results are also steady with respect to the fact that *negative intentions* realize with higher probability than positive intentions. In other words: contraceptive intentions predict the non-birth of a child better, than child birth intentions predict childbearing (Westoff and Ryder 1977; Davidson and Beach, 1981; Rindfuss et al. 1988; Philipov 2009).

The *intention of the partner*, agreement or disagreement of the intentions of partners has influence on the realization according to both social psychological and sociological studies. It is apparent: probability of realization of intentions is lower, if there is disagreement in the intention of the partners (Miller and Pasta, 1995; Thomson, 1999).

*Biological factors*, fecundity has an explicit role in the model of Miller and Pasta (Miller, Pasta 1995: 534), and Ajzen also refers to it as the most important barrier of realization of intentions (Ajzen 1988:129). Demographic studies also highlight this factor (Rindfuss et al. 1988).

We discuss the role of demographic and socio-economic factors in the realization of intentions in Kapitány and Spéder 2010. Here we only note that demographic and socio-economic variables in social psychological studies do not contribute to understanding of fertility behavior, while in the demographic and sociological studies, and the Kapitány and Spéder 2010 is such a one, age, parity, the time since the birth of the last child etc. have significant effect on the intention-realization relationship.

More assume that (unexpected) *life course events* have effect on the previously intended actions. Miller and Pasta emphasize events connected to reproduction (e.g. separation, divorce). Rindfuss et al. claims that these events alter the context of action, which highly determine the success of action (Rindfuss et al. 1988). Liefbroer introduces an effect mechanism, in which life course events modify the intended family size, therefore alter the intentions (Liefbroer 2009). Time has an important role in this respect: the more time passes since the measurement of intentions, the higher the probability of modified intentions, and therefore the action of the original intention will not occur.

There is less research on the effect of *macro-social factors* on the relationship of intention-behavior, which would be important for our comparative study. Rindfuss et al. noticed the time-wise changing rate of the realization of negative and positive fertility intentions, and assume that it is caused by *periodical effect* („strong delaying effects of period



factors” Rindfuss et al. 1988:198). Davidson and Beach also hypothesize that economic recession – primarily through the modification of intentions – can possibly worsen the chance that positive intentions are realized (Davidson and Beach, 1981). Testa and Toulemon considers “low fertility context” such factor, in which people tend to prefer postponement (failure of positive intentions) to the birth of non-desired child (failure of negative intention), (Testa and Toulemon 2006: 45). This assumption can be considered as a continuation of the theory by Westoff and Ryeder. They relate *inconsistency to conformity*, and assume that if people plan behavior, which opposes the ruling behavior of the given social context, or in other words if their intentions are non-conforming, then despite the original plans one can observe more conformity in the reality. Therefore, conform behavior will occur, which opposes the original intentions. Consequently, minority intentions seem to realize with a lower probability (Westoff and Ryder 1977:443-445).

There are three further mechanisms, which are important to mention. Davidson and Beach consider the “inertia-effect” partially responsive for realization of positive childbearing intentions with a greater failure. According to their assumption, if there are two behavioral options to choose from, and one of them is the option for the maintenance of former behavior, then the selection of the new alternative is realized with a higher failure. In case of childbearing, in the modern society the “I do not give birth to a child” (therefore “I use contraceptives”) can be considered the behavior maintaining status quo. Hence the negative intention (“I do not want to have a child”) realizes with higher probability, than the positive intentions (“I do want to have a child”). Rindfuss et al. believe that the occurrence of this mechanism is realistic.

Rindfuss et al., based on the research of Davidson and Beach assume two further mechanisms, which can partly be related to the principle of inertia. They do not disclose that attitudes (and intentions) and the behaviors have different thresholds: one factor can possibly change the attitudes creating intentions; however it cannot “cause” behavior (Rindfuss et al. 1988).

Finally, more assume that women, particularly when they are young, have an overly optimistic view on their fecundity (Nauk and Oestby 2002, Westoff and Ryder, 1977). Hence their desires form such intentions, which can be realized only with difficulties. These ideas can be linked to the concept of “unrealistic optimism” of Weinstein (Weinstein 1980).

### II.3. A short introduction to the prevailing ‘concept of postponement’

Postponement is an unavoidable concept in the description of fertility change and in the discussion of changing childbearing behavior today in contemporary Europe (See Sobotka 2004 for a review of the literature)<sup>11</sup>. According to Billari and colleagues “postponement has been the mayor *keyword*” in the study of demographic trends in developed societies (Billari et al. 2006). It is also a key element of the theory of the “second demographic transition” (van de Kaa 1987, Lesthaeghe 1995, Lesthaeghe and Moors 2000) and that of “postponement transition” (Kohler et al. 2002). It is even more surprising than to read in the introduction of a collection reporting about a conference on postponement, that the question “How exactly should postponement be defined?” still remained (Billari et al. 2006:1.).

Surveying some of the basic studies on postponement (eg. Sobotka, 2004, 2008, Lesthaeghe, 2000, Lesthaeghe and Moors 2000, Billari et al. 2006, Frejka, 2008, Sobotka, 2008) we could easily affirm that the concept is used for the interpretation of various phenomena. Its absolutely distinct interpretations and one non-articulated assumption can be revealed. It is most often used for the description of the phenomena of delayed first childbirth (growing age of first motherhood). Therefore the mean age at first birth (MAFB) is constantly growing from a certain point of time. Lesthaeghe calls it “period-postponement”. In this case postponement is considered as a macro-social feature of fertility and society.

According to the cohort-specific approach, postponement describes that a given cohort has their (first) child later, than an earlier birth cohort. Sobotka claims that we can talk about postponement is a cohort-specific way if fertility starting at later time is finished with the same amount of children (Sobotka 2004), having the same size of completed fertility. Others slit up the process into two sub processes: postponement only implies that child bearing occurs at later time (aging of fertility) and accelerating fertility increases in a later phase of the life course, is described by “recuperation” (Lesthaeghe 2000).

Finally we can conclude that if there is no explicit statement about it, texts *implicitly* assume that *individual behavior can be characterized by the practice of postponement*. It cannot be different, one can presuppose, since the mean age increases (We return to this issue later in detail.) Thus, indicators of postponement are of macro-level. Argumentation often gets to individual level. And the more popular term “postponement” is, the more visible is the lack of its precise definition. Therefore, the question of Billari et al. 2006 is not coincidental.

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<sup>11</sup>Listing the complete literature on postponement is beyond our limits.

The adequate usage of postponement in the French context is addressed in a recent paper of Bhrolchháin and Toulemon when they ask “whether in the case of France, it is correct to interpret the fertility trends of the last few decades as reflecting postponement of childbearing?” (Bhrolchháin and Toulemon 2003:3). They assume, that the concept of postponement implies a downward trend in fertility at younger ages and should be followed by an upward trend on the one hand, on the other hand these two processes have a common cause. They argued, that the prevailing usage of the concept of postponement is macro-statistical one, and describes the aging of fertility, furthermore many different kind of processes could be resulted in aging. They are asking for a behavioral understanding of postponement. According to the feature the available data, they could test two types of statistical relations that could be indications of postponement. Firstly, the proportion of childlessness and the propensity of childless women to have a first birth are “moderately positively related” (ibid.17), and that support the postponement assumption. Secondly, there is no clear feedback (lag) among birth rates in a  $t$  time and in a  $t+x$  time, which questions the assumed relation. As a conclusion they posit different alternative scenarios that could produce ageing of fertility, and advocate one for a behavioral understanding of postponement.

Less attention is being placed on the *relationship between individual childbearing<sup>12</sup> behavior and macro-level postponement*. Approaching from this different angle, grounded on the opportunity of the longitudinal data available, and based on our results, we are also supporting the efforts, that behavioral practices behind fertility aging should also be investigated. Furthermore, perhaps the concept of postponement should be extended and/or refined, or the behavioral concept of postponement should be developed. Our approach is based *on individual and group-specific level*. We do not want to construct alternative assumptions (or scenarios as Bhrolchháin and Toulemon name it), but only would like to pose explicitly the question if the *postponement is a consciously planned decision of the individuals or not?* Or is it a result of permanent revision of the timing of the first and next child?

In some studies we observe the implicit assumption that postponement is a result of conscious decision. In such statements, „voluntary postponement may lead to involuntary childlessness” (Billari et al. 2006:6), the authors assume, that people want to have (consciously, voluntarily) children later as older generations. This assumption fits perfectly the macro-social or statistical understandings of postponement. The postponement at the

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<sup>12</sup> Speaking about individuals usually means partnership childbearing, but we do not touch the issue partnership agreements and disagreements.

macro level *is a result of individual intended birth in later ages*. The title of Berrington's articles ("Perpetual postponers?") may assume us different procedures. People are constantly shifting and revising their intentions, which will result also in later ages if any.

#### **II.4. Two western and two post-communist countries**

The selection of the compared countries was determined by the availability of suitable longitudinal data-sets. Namely, only those longitudinal data-sets were considered, that included time-dependent fertility intention questions, and if these questions could be subject for harmonization. These are: The Netherlands, Switzerland, Hungary and Bulgaria

Brief description of these countries seems impossible, however we cannot avoid it. Even though there are significant differences between the countries, the most spectacular difference exist between the two post-Socialist and the two Western European countries, with regard to demographic situation, economic potential and welfare regimes.

##### Selected characteristics of the populations

The start of the recent fertility decline in Switzerland and in the Netherlands was observed in the beginning of the 1970s. The TFR was 2,57 in the Netherlands and 2,10 in Switzerland in 1970, while a decade later in 1980 it was 1,60 and 1,55. The nadir occurred around 1985 in the Netherlands (1,51), whereas in Switzerland it was around the year 2000. The degree of decline was therefore somewhat faster and bigger in the Dutch context. In the era of our study the TFR was 1,77 in the Netherlands and 1,42 in Switzerland (in 2005). In the early years of the new millennium one can observe a gradual incline of fertility, whereby the Dutch trend seems to be more dynamic. According to Lesthaeghe recuperation is characteristic in both countries, though the Netherlands can be considered the classical example of this phenomenon (Lesthaeghe, 2001).

Switzerland can be described by high childlessness in European comparison. 27,9% of women born in 1963 remained childless. In Bulgaria the proportion of childless woman of the same birth year was 4,8% (Dobritz and Rusckdeschl, 2005:64).

One additional feature has to be highlighted in reference to the two Western European countries: both are accepting immigrants, but in Switzerland the proportion of foreigners is much higher (Münz, 2003). It has some influence on fertility as well. For instance the TFR of women born in Switzerland was 1,27, while of those born outside Switzerland was 1,87 in 2005 (BFS, 2008). In the Netherlands similar phenomena can be observed in case of Moroccan and Turkish immigrants (Hearing et al., 2002).

In Hungary and Bulgaria during State Socialism – as an effect of massive population political interventions (Andorka, 1978: 353ff) – TFR was above level 2. Its radical decrease started after the democratic transitions and was faster in Bulgaria. In eight years its level decreased from 1,9 to 1,1 and reached its nadir. It was then followed by a very slow and erratic increase. On the other hand, Hungary can be characterised by constant stagnation since 1999 (Figure 1).

*Figure 1*

Total fertility rate in the Netherlands, Switzerland, Hungary and Bulgaria, 1998-2007

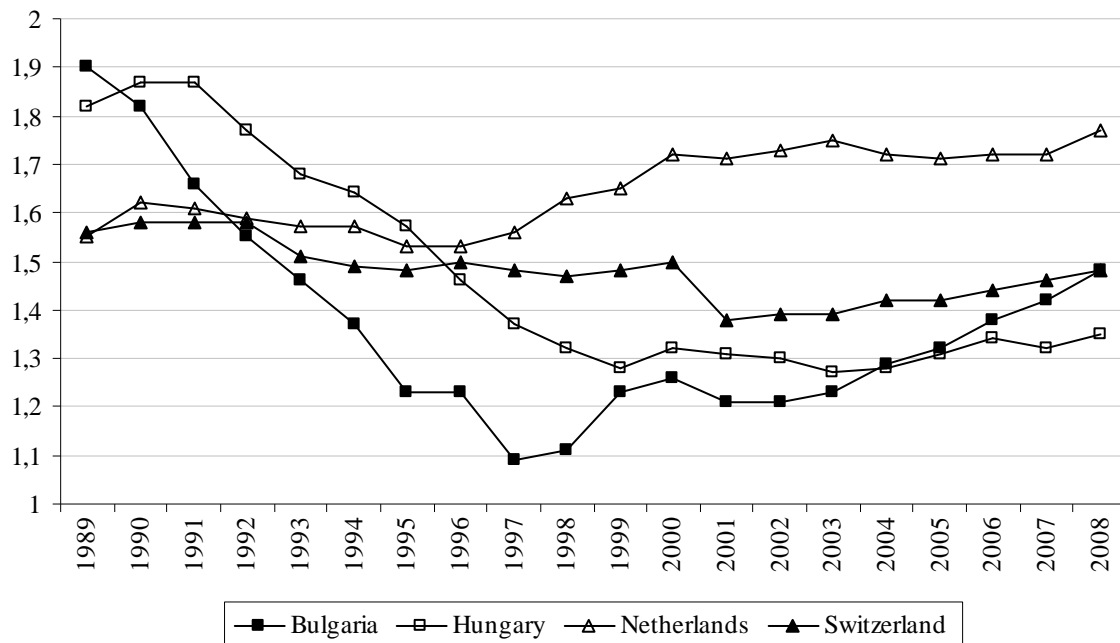
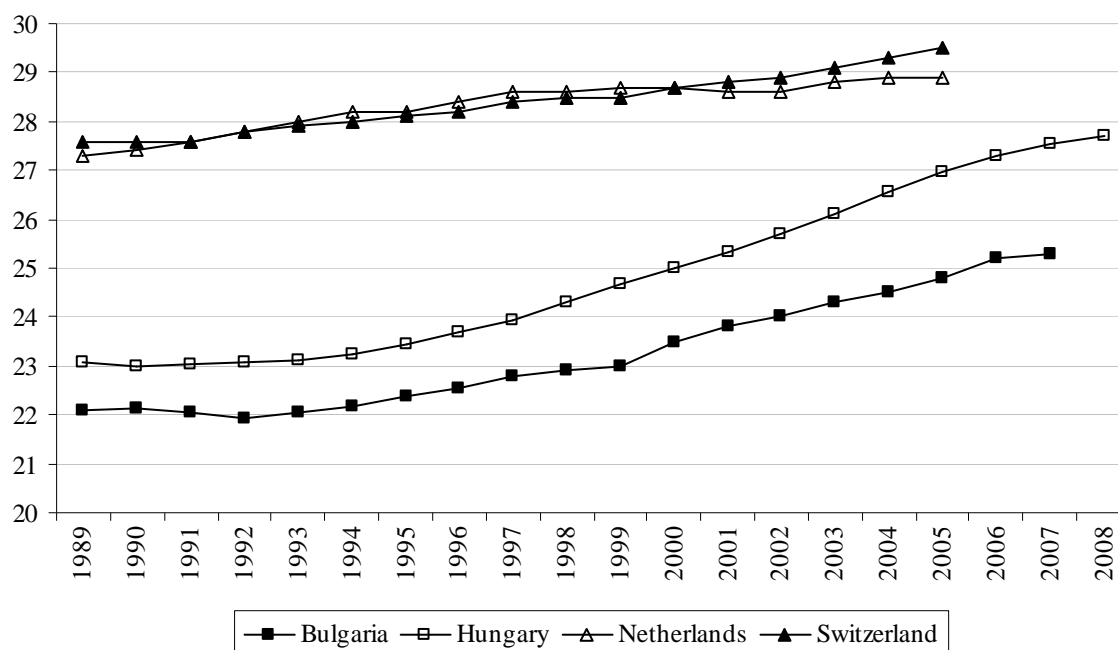


Figure 2

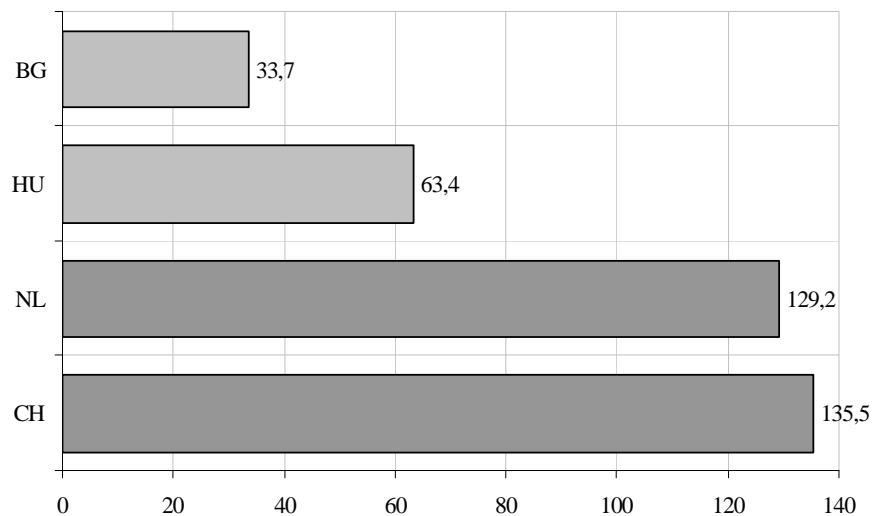
Mean age of mothers at first birth in Netherlands, Switzerland, Hungary and Bulgaria, 1998–2007



Some features of economic circumstances:

The disparity is even bigger if one reviews some basic characteristics of the economy. The per capita GDP measured with purchasing power parity is similar in the Netherlands and Switzerland, but in European comparison is high and in 2004 it was double of the Hungarian and was almost four times higher than that of Bulgaria. It also indicates that there is significant difference in the standard of living (almost double) in Hungary and in Bulgaria (Figure 3). Regarding the comparison of labour market in the two Western European countries, employment rate is much higher, especially the employment of women. It is however partially caused by the fact that in these countries the rate of female part-time employment is very high. In this respect Switzerland and the Netherlands – even compared to EU-15 countries - can be considered more similar: within female employment the part-time female employment is very high in the two countries (31,7% and 43,9% respectively).

*Figure 3*  
GDP per capita, using PPP in percentage of EU27 mean (2004)



Source: Eurostat

### Ideologies and social political features

The political system of Switzerland, its federative character significantly distinguishes it from those Western countries, including the Netherlands, where the central government performs major redistribution. Consequently, family allowances are of narrow extended, and are far behind of the Dutch. On the other hand the Netherlands cannot be considered a country with pro-natalist policy either (Fokema et al. 2008). The similarity of the two countries can be revealed from the high tolerance demonstrated towards various lifestyles (Fux, 2008).

Hungary and Bulgaria share many commonalities: everyday life in these countries was ruled by very similar – albeit not identical – social forces. Since 1945 the populations lived in a strong redistributive system that profoundly affected and constantly restructured everyday life. It was based on state ownership and central planning. From 1989/90 onwards both countries oriented themselves to the Western European model – taking over the entire political system, developing the conditions of a market economy and privatising state property – developments that culminated after the turn of the millennium in the accession of ten countries to the European Union (Adamski *et al.* 2001). The process of accession was characterised by further restructurings of institutions in accordance with the Western model. The transition to market economy was characterised by the same globalisation processes as in the West.

However some differences remained and some emerged. According to the investigation of *King and Szelényi* Hungary and Bulgaria selected and experienced different

paths of (re)introduction of capitalism, thus gave rise to different structures (King and Szelényi 2005). While Hungary opted for “capitalism from below”, Bulgaria selected “capitalism from above”. According to the assessment of Koytcheva and Philipov the societal transformation in Bulgaria, the “catching up the West” movement is “lagging behind” if compared with another former state socialist countries (Koytcheva and Philipov, 2008: 397)

It is not so easy to compare the family related programs. If considering Bulgaria and Hungary, we can state, that in both counties there were quite generous systems in force prior 1990. Thereafter, the real value of family allowances and the compensation level during maternal and parental leave decreased. If compared, the real value was higher in Hungary. While in Bulgaria the level of compensation was flat-rate, in Hungary it was wage related (70%).

## **II.5. Data and harmonisation**

### Data

We use three originally quite different, but for our research aim harmonized nationally representative, large scale, longitudinal panel surveys. The Hungarian and the Dutch surveys are more similar: they focus on changes in demographic behavior.<sup>13</sup> We use the first two waves of the Netherlands Kinship Panel Survey and the Hungarian Turning Points of the Life Course survey. The time window of the follow up was three years in both cases. In the Swiss survey the follow up was annual, therefore we used the 6<sup>th</sup> and the 9<sup>th</sup> waves for our analysis. The main features of the surveys are reported in the Table 1 below. The first investigated waves occurred between 2002 and 2004, and the subsequent investigated waves between 2005 and 2007. All three surveys were nationally of high priority, special methodological attentions were devoted to them. Although the questionnaire programs of the four surveys were quite different, we believed that some questions are suitable for comparison. All the four surveys, although in a different manner, contained questions on time-related fertility intentions, and provided an accurate account of the births happening between the waves.

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<sup>13</sup> Both surveys will be incorporated in the Generations and Gender Survey (GGS) after harmonisation.



*Table 1.*  
Technical information about the surveys

Name of the survey	Netherlands	Switzerland	Hungary	Bulgaria
	‘Netherlands Kinship Panel Survey’ (Netherlands GGS survey)	Schweitzer Household-Panel (SHPSI.-SHPSII.)	‘Turning Points of the Life Course’ (Hungarian GGS survey)	Social Capital Survey
Fieldwork first wave	2003/4 (1st wave)	2004 (6th wave)	2001/2 (1st wave)	2002
Fieldwork second wave	2006/7 (2nd wave)	2007 (9th wave)	2004/5 (2 <sup>nd</sup> wave)	2005
Non-adjusted panel attrition (inclusive deaths, emigration etc.) between the two waves			17%	25%
Longitudinal sample size (Unweighted N)	6326		13540	7481
The number of people intending to have a(nother) child within two years (subsample, unweighted – N)	458	385	1056	2196
Weighting variables	Bweight0	WP07L1S	S2_suly	
Weighted subsample	493	409	1069	
Description of data, methods, field-work	Erikson at all., 2006	Dykstra at all., 2007	Kapitány ed. 2003 (in Hungarian)	
Home page of the surveys	<a href="http://www.nkps.nl">www.nkps.nl</a>	<a href="http://www.swisspanel.ch">www.swisspanel.ch</a>	<a href="http://www.demografia.hu">www.demografia.hu</a>	

For the sake of our analysis we selected a subsample of the surveys. Firstly we introduced an age limit: we selected females between age 18 and 45 years, and males age between 18 and 50 years. Only those were selected among them, who intended to have a(nother) child and could be interviewed subsequently.<sup>14</sup>

### Harmonization

Since we deal with four independent surveys, it is not surprising, that the intention-questions were framed and phrased differently. (See the table below!) However, we believed we could construct an intention-variable that is comparable. (The two years time window of the Swiss and Bulgarian questions is the reason for having the two years time-window for the intention-question.) Furthermore pregnant women at the time of the interview were handled differently in the three countries. We believe to solve the existing contradiction with adding second wave pregnant to intentional parents<sup>15</sup>.

<sup>14</sup> In the Swiss case with those who were asked personally in the two investigated periods.

<sup>15</sup> We wanted to exclude this group from the analysis, but in the Swiss data we were not able to select those males, whose partner was pregnant at the time of the second interview.

Netherlands	Switzerland	Hungary	Bulgaria
<p><b>Do you think you'll have {more} children in the future?</b>  <i>yes /no / don't know</i>            IF YES</p> <p><b>Within how many years' time would you like to have your {first / next} child?</b>  <i>If pregnant / parter pregnant= 0</i></p>	<p><b>Do you intend to have a child in the next 24 months?</b>            Yes / no</p> <p>Pregnant women: not counting the child you are currently pregnant with = another child in addition to the one you are expecting?</p>	<p><b>Would like to have additional child(ren)?</b>            Yes / pregnant-partner pregnant /no, does not want / cannot have more children /don't know            IF YES</p> <p><b>At what age would you like to have your next child?</b></p>	<p>Do you intend to have (another) child during the next two years?  <b>Definitely Yes</b>  <b>Probably Yes</b>  <b>Probably No</b>  <b>Definitely No</b>  <i>Interviewer: if the respondent/partner is pregnant add: besides the one you are expecting?</i></p>

## II.6. Results

### II.6.1. Individual behaviour: the fertility intention-behaviour link

Our investigation concentrates on time-dependent intentions, and considers also whether failed intentions will be maintained or abandoned. We investigate whether the positive fertility intention, the intention to have a(nother) child within two years, will succeed or not. The fact, that the length of intention and the time period for realization do not match is due to the limitations of the different surveys. Those who intended to have a child within three years and successfully realized this intention were called “*intentional parents.*” We were also interested how “revisable” are those intentions which could not be realized. We divided the people who intended to have a child within two years but failed for some reason, into two groups: one group for those who maintained their intention to have children at the subsequent wave whom we called “*postponers*”, and another group who abandoned their plans, called “*abandoners.*” These distinctions provide us with an opportunity to understand the reasons for unsuccessful realization and allow us a glimpse into the mechanism of postponement. The table below shows the logical construction of our crucial variable. (The limitation of our comparison will be discussed later in detail.)

*Table 3*  
Basic types of positive fertility intention-behavioral outcome links

Fertility intention-outcome Types	Fertility intention within <b>two</b> years (at the 1 <sup>st</sup> wave)	Had a birth within <b>three</b> years (between the 1 <sup>st</sup> and 2 <sup>nd</sup> waves)	Intend to have a child at subsequent wave
Intentional parents	Yes	Yes	
Postponers	Yes	No	Yes
Abandoners	Yes	No	No

### *II.6.2. Basic distributions of fertility intention-behaviour*

The basic distribution of our dependent variable, the fertility intention-outcome variable, reveals basic differences among the countries. The rate of successful realization is quite high in the Netherlands: four of people could realize their two-year-long intention within three years. The ratio of realization surpasses only slightly the 50 percent level in Switzerland . Lastly, in Hungary two fifth of the time-dependent fertility intentions could be realized. The ratio of successful realizers seems to be quite low in Hungary and in Bulgaria.

We could make an estimation based on the French longitudinal survey “Les intentions de fécondité”.<sup>16</sup> According to these data 54.7% of those who intended to have (certainly or probable) a(nother) child in 1998 could realize their intentions. Among those failed, around the half (21,3%) intended certainly or probably to have a(nother) child within five years, and the another half (24%) abandoned their fertility intentions.

Considering failures, one fifth of the persons intending to have another child abandoned their fertility plans in Switzerland, Hungary and Bulgaria. That is almost two times higher than in the Netherlands. The ratios of postponers are also clearly different: in Hungary the ratio of postponers surpasses that of intentional parents. The corresponding figure in Switzerland is also quite high.

*Table 4*  
The distribution of different fertility intention-behavioral outcome

Fertility outcomes	Countries			
	Netherlands	Switzerland	Hungary	Bulgaria
Intentional parents	75	55	40	38
Postponers	15	(27)	42	44
Abandoners	11	(18)	18	18

<sup>16</sup> We did not include the French data, because it a) had a much higher attrition, and b) we could not harmonize the variables used in our modeling.

### *II.6.3. Explaining country differences in the realisation of positive fertility intentions*

#### *a) Compositional effects*

The failure of realization and the kind of failure strongly depend on the demographic characteristics of the social groups in our case as well (Kapitány, Spéder, 2010). Age, parity, partnership, duration of partnership, duration since the last birth and education clearly influenced the realization of fertility intentions. If in one or another society/country the share of any of the specific social group/sub-population is overrepresented among those intending to have another child within three year, than the country-differences in the rate of successful realization should be ascribed to such kind of disproportions. In our twin-study we stressed, that living alone without a partner lowers significantly the rate of successful realization, i.e. the rate of intentional parents. We also noted that the size of this social group, those living alone is clearly higher in Hungary and Bulgaria than in Switzerland and in The Netherlands. We also noted, that many of these people living alone has stable partner-relation, but probably the housing market conditions probably hinders their cohabitation. Nevertheless, it is reasonable to compare realization according to partnership type, and looking closer how far country-differences are dependent from the mentioned overrepresentation (Table 4).

Although the distribution changes somewhat, and the share of postponers shrunk in all of the studied countries the basic relation of intention-behavior outcomes and country-specific differences remained unchanged. We can conclude that also among stable cohabiting people the share of intentional parents is less than 50 percent in Hungary and Bulgaria. In Switzerland 3/5 of the people intending to have a child within three years could realize their intentions. The highest rate, close to 4/5 of the people, could be found in The Netherlands. If we disaggregate the distribution, we will find similar differences: the relation of the three outcome categories will differ among The Netherlands, Switzerland and the two other former Socialist countries at all parity level. (cf. appendix, Table A1).

According to these results we can state that country-differences in the rate of successful realization could not be ascribed to the different composition of population having short term intentions. Compositional effects did not explain the strong country differences among those who successfully fulfilled their intentions.

Table 5

The distribution of different fertility intention-behavioral outcome among people having cohabiting partnership (marriage and cohabitation together)

Fertility outcomes	Countries			
	Netherlands	Switzerland	Hungary	Bulgaria
Intentional parents	77,2	61,5	46,2	45,0
Postponers	9,8	24,8	33,5	31,5
Abandoners	12,9	14,8	20,5	23,5

b) *Different grade of rationality in the countries*

We do not have any empirical insight concerning the scope of rationality and the kind of rationality of decisions in the four countries. We could list only some considerations in this regards.

Of course, we can not completely preclude the possibility, that there are some differences among the countries in the rationality/well-planning in childbearing decision-making. However, it is hardly believable, that in two such highly developed countries as Switzerland and The Netherlands, the rationality of social action differs in such a large extent. Research, which analyze value-orientation in a comparative approach show quite high values of rationalization in Switzerland and The Netherlands, and in many value-maps the two countries are quite close to each other (cf. Fux, 2008)

Fertility research in Hungary investigate and show since decades how well fertility behavior is planned. Historical studies found the signs of family planning (using natural contraceptives) in th 18<sup>th</sup> century (Andorka 1970). Studies based on opinion research state, that women were clearly planning the timing and number of their children during State Socialist time (S. Molnár 1982). Therefore, we do not believe that having a child is a less conscious decision in some other countries, but we do not have clear evidences.

Hence, we assume, that differences are attributed to other type of societal context.

c) *Societies as contextual factors for fertility behavior* (postponement behavior).

In order to understand country differences we could utilize the *research on attitude-behavior relation*, as discussed before, but we could also broaden our perspective retrieving some sociological understandings of social action. In our former investigations we tried to make use of *Merton's action theory*, although we limited its relevance to „turbulent historical periods” (see. Spéder, Kamarás 2008: 655ff., Philipov et al. 2006: 293). In our view, Merton's action theory corresponds to some extent with social-psychological approaches, since he postulates

an independent role to the cultural system, and includes in this social acknowledged aims, purposes, which closely correspond with intentions.<sup>17</sup> He describes the social life using the duality of *cultural system and social structure*. Individuals pursue goals embedded in a system of cultural values. The norms of this system also prescribe the legitimate means for attaining these goals within the social structure. The social system, very simplistically, could be seen as enabler and/or hinderer of purposeful social action since their opportunity structure and the distribution of resources strongly influence social action.

The prevalence of different kind of social action types, such as conformity, ritualism, retrieval, innovation, and rebellion is highly dependent on form interdependence of the cultural system and social structure. Conformity is prevailing overwhelmingly during times of well functioning of society, in times of “social peace”, whereas social anomic actions (retrieval, ritualism, ..) are characteristic during periods in “turbulent times”, when the institutional system radically changes and transformations are comprehensive. This is fundamentally characterized by the mismatch of values, prescriptions, and the ways of achieving values (Merton, 1980). During the period of “turbulent times” non-conformist behaviour (innovation, retreatism, rebellion) is well spread, since the majority of people have not found the new “modus vivendi” yet.

Based on Merton’s theory and also using the above mentioned social-psychological approaches we could make a trial to identify some societal components which especially in former communist countries divert people from realization. What could be the origin of the weak relation among intention and behavior? We give some ideas regarding beliefs, attitudes on the one hand social structure on the other hand.

c1) *Diverse pace of the transformation of culture and structure: the “inertia of normative beliefs”.*

Focusing on intentions we can ask: why do people create non-realistic plans? Do not they know realistically their circumstances? Or do they have such ideas and beliefs, which do not correspond to reality? We assume that ideas about and conditions of family formation transform in a different pace, which lead to the weakening of the relationship between intentions and behaviour. One possibility that we consider realistic, is that *ideas about family formation and the social schemes about the timing of becoming a parent change much slower than the conditions of family forming.*

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<sup>17</sup> Of course the correspondence is far from perfect, and we should devote more time to analyze compatibility of the sociological and social-psychological approaches in the future. .

Let us start with the beliefs! We are aware that early marriage and early start of childbearing was common practice in the Socialist countries. Therefore, these ideas and norms about the “right timing of parenting” (in someone’s early twenties) are more internalised by the population. We can also state that inertia of beliefs and expectations is characteristic in these countries. We assume that these beliefs and expectations (will) probably change slowly. Moreover, we cannot exclude that there are some groups, which by adhering to these very principles aim to “survive” the changes, and wish to be loyal to earlier life styles in these turbulent times.<sup>18</sup> Others however – the reformers, rebels – searching new routes accommodate themselves rapidly and reject the former norms. They do it even if the parental norms – transforming slower – still expect early parenting.

What does characterise structural relationships? Parallel to the democratic transitions there were dynamic social changes as well. The frequency of structural changes – privatisation, transformation of institutions, basic changes in the welfare system, and the like – emerged rapidly in a short time, and led to income and status mobility. It was not only that a relatively static (Socialist and redistributive) society made the first steps toward a constantly changing market economy system, but also that this social change is *much faster* than the change experienced by modern democracies and market economies (Zapf 1996, Habich and Spéder 2000). The new market economies next to the European market had to enter the intense globalising system (Mills and Blossfeld 2005). This *double standard of pace* [*die zwei Geschwindigkeiten*] was conceptualised by Zapf, a theorist of modernity (Zapf, 1996).

We assume the *co-existence* of a slowly-changing normative system of childbearing on the one hand and on the other hand rapidly changing conditions. Therefore, the weaker relationship between intentions and actions can be explained by unprecedented fast social changes and differences of pace of societal sub-systems.

The above assumption seems to contradict with the thesis of the “second demographic transition (SDT)”, since the SDT describe high importance to rapid value changes. And many demographers consider the spread of western values to be the main motor of fertility transition. Furthermore, the rapid diffusion of cohabitation<sup>19</sup> is hardly imaginable without a profound value change, and therefore supports the relevance of the SDT approach.

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<sup>18</sup> This hypothesis is very similar to the „uncertainty reduction” of Hetcher et al.

<sup>19</sup> The question if cohabitation and postponing and/or abandoning children could be *signs of the same process* should be investigated more closely. Certainly, both are departures from old type of family formation. However one should not forget that the spread of cohabitation (and many other modern values) started already before the democratic transitions (Spéder, 2006, Hoem, et al., 2008). Furthermore, cohabitation rather replaces and substitute the institution of marriage than it contradicts it. Thirdly, marriage as final relationship destination still exists among the youth. And finally, the contradiction between the intentions and action exists on the level of

## c2) Underestimation of the barriers of childbearing

Our interpretation can be based on the “unrealistic optimism” approach of Neugarten 1980. Then we do not have to indicate our hypotheses with regard to the norms, which are present during the phase of transformation. Actors can be unrealistically optimistic in their intentions, if they judge their control over childbearing overly optimistically. On the other hand, in accordance with the concept of Ajzen, they underestimate the hindering external conditions. They have misleading perceptions of the real housing market or their situation on the labour market, and once they wanted to realise their intentions, they recognised that their conditions did not reflect their prior expectations.

It is well known, that the housing of the post-Socialist countries were privatised. The renting sector is very low, therefore for entering the housing market one needs considerable resources, starting capital. This is one of the reasons why after the democratic transition the separation from parents in living arrangements became longer (Murinkó, 2009), that many are “prisoners” of the parental home and their own parenting also starts in their parents’ home (Ongaro, Saraceno, 2005, Spéder, 2008). Though we are not aware of the clear mechanisms, it seems that the labour market can also create unforeseen barriers. According to our studies, some people of a certain labour market condition, – like people of the middle class or those who are employed but would like to have their subsequent child – , can realise their short term plans in a very low proportion (10-15%) (Spéder, Kapitány, 2008). And finally, not only the occurrence of non-expected life events but the non-occurrence of expected life events (failure of moving together and starting cohabitation) can modify the time horizon of childbearing and can motivate individuals to postpone, revise their intentions. Further research is needed to see which barriers do the individuals underestimate, and which components of the conditions they judge too optimistically and therefore such fertility intentions emerge, which cannot be realised or can be realised only with difficulties.

Both hypotheses are based on the fact that starting from the 1990s in the post-Socialist countries there were radical structural and institutional changes. These transformations were faster than it was observed in the modern societies, especially if we compare them to the period before the democratic changes. The two hypotheses are different with regard to intentions: in the latter case we only assume that in the era of fast transformations it is very difficult to obtain a realistic picture about the circumstances of actions. Therefore

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relationships as well, since only very few consider marriage to be outdated, but the willingness to marry gradually decreases.



underestimating the barriers seems easy, and “unrealistically optimistic” intentions can be formed. In the former case we also hypothesised that cultural norms – the norms about timing of childbearing – transformed more slowly than the structural circumstances, and people reacted to these changes with “stepping back” and postponing their actions.

These two hypotheses do not contradict each other. Actually, they can work as mutual integrative mechanisms. We do not disclose either that other mechanisms also have influence on them, and that in the post-Socialist countries positive childbearing intentions can be realised only in very low degree. However, we claim that in the explanation we cannot avoid structural changes and their very fast pace.

c3) Why is there difference between the Netherlands and Switzerland?

The above hypotheses can serve as justification for the differences between the Western and the post-Socialist countries. Yet, it does not (or only in a low degree) provide guidelines for comprehending the divergence between the Swiss and the Dutch realities. Our first hypothesis (c1) is surely not adequate for the explanation of the dissimilarity of the above two countries. Taking the second hypothesis (c2) one has to review the possible barriers of childbearing behaviour.

Considering the structural side, it would be crucial to clarify comparatively the conditions of childbearing. Firstly, by analysing the housing market one can observe high proportion of rented properties in both countries. It can, according to our view, and in relation to systems where owned-housing is overwhelming, ensure relative fast access to housing and more flexible accommodation, thus fewer barriers for people. However, in Switzerland the proportion of real estate owners is smaller; therefore one would have to face less obstacles of childbearing there. Our results show the opposite. For that reason, there is either no effect of the above feature of housing market, or it is reverse. Then, for example, people think that owning a property is a “precondition” of childbearing.<sup>20</sup> It would explain why the Swiss are more hindered in their childbearing plans.

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<sup>20</sup> According to a Swiss survey 86% of the Swiss population would like to live in their own property.

#### *II.6.4. Discussion of results: towards a behavioural understanding of postponement*

Now we would like to turn our attention to a general issue: what does the result of our investigation indicate for the general concept of postponement. Otherwise: how far it questions the concept of postponement, or how much it adds to the understanding of the prevailing concept of postponement.

As we reported earlier, the literature until now, usually focused on the macro-features of societies or the cohort behavior, while it neglected to look into the individual mechanism behind the rise of the mean age at first birth, etc. (Lesthaeghe 2001, Sobotka, 2004, Billari, et al. 2006). The studies were not interested in the phenomenon, whether the postponement is a result of *voluntary or involuntary* social action. There is an indirect/hidden assumption that people *intended to have birth*, for whatever reasons, *later in their life*. (Because they strived for higher education, because they wanted to have a stable job, economic independence, because the transformation opened bright future for many young people, and the like). This assumption might be right, and then the aging of fertility, the increasing mean age of first and all births is a consequence of individual planned behavior. We did not investigate the reality of this mechanism.

We investigated the realization of within two year fertility intention, and arrived to the conclusion that many people could not realize, but the majority of them maintained their intention to have children at later time in the life-course. For the future realizer of this group, for a quite important share of the people, postponement of births includes involuntary behavioral elements, such as revisions of the birth timing. Involuntary in the sense, that the births are originally foreseen in an earlier time-point in the life course. Therefore, we could report about a new kind of causation: postponement of fertility is the result of failure in realization of childbearing intentions. Macro level postponement thus is in a great extent the consequence of involuntary postponement. This causation could be an element of the “behavioral understanding of postponement” in the sense as Bhrolchháin and Toulemon 2003 advocated it. It did not mean that intended late birth is not an element of the behavioral understanding of postponement, although we could not measure it here.

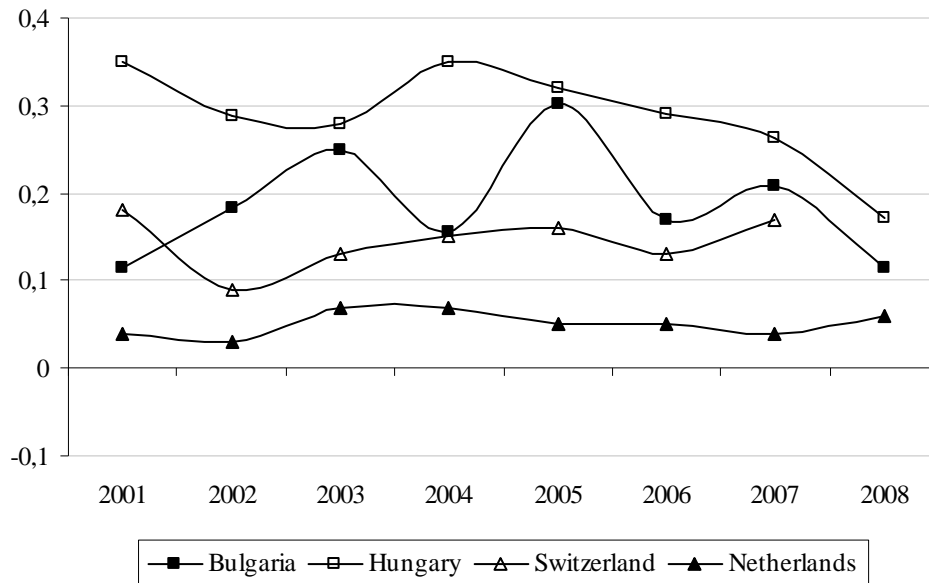
Our graphs show the annual change in the mean age of first and all births (Table 3a and 3b).

Of course, in order to have a more accurate picture we should have more information about advanced and unintended births, about dynamics of intention forming, revisions of

intentions, and about social differences of involvement in planning the childbirth. Nevertheless, involuntary postponement of childbearing should be included into the understanding of reproductive decision making in time of aging fertility.

*Figure 3*

Yearly changes in mean age of all births in the four countries, 2001-2007



### *II.6.5. Concluding remarks*

We investigated the realization of short term fertility intentions in four European countries, owing different welfare regimes, and differing fertility developments. The success of realization was quite different in the four countries, which motivated us to consider country level context as being responsible for the different strength of intention-behavior link. We argued that the pace of social change in the former communist countries, and the unparallel change of cultural system and structure could be responsible for the looser relationship between intention and behavior. Our results enhanced also considerations about individual childbearing behavior and macro level fertility postponement, to look into the *postponement "black-box"*. Until this research, demographic analysis rarely posed the questions of individual behavior during the time of postponement. We found that the literature implicitly assumed that that many people intended to have a birth, for whatever the reason, later in their life. That is the basic feature of postponement at individual level. Our results revealed a different causation: postponement of fertility is *a result of failure in realization of childbearing intentions*. Therefore, macro level postponement is in a large extent the result of

involuntary postponed or revised childbearing intentions. This does not mean that postponement of fertility is not a result of realization of birth in later ages, since we could not measure that process on our data.

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Table A1

The distribution of different fertility intention-behavioral outcome according parities at wave 1

Parity / Fertility outcomes	Countries			
	Netherlands	Switzerland	Hungary	Bulgaria
<b>Parity0 (N=)</b>	210	185	555	923
Intentional parents	73	39	38	38
Postponers	18	40	56	57
Abandoners	9	21	6	5
<b>Parity1 (N=)</b>	186	150	324	724
Intentional parents	78	74	45	39
Postponers	6	14	33	35
Abandoners	16	12	23	26
<b>Parity2+(N=)</b>	62	74	190	549
Intentional parents	(65)	(55)	35	31
Postponers	(6)	(23)	18	9
Abandoners	(29)	(22)	47	60
<b>All (N=)</b>	458	408	1069	2196
Intentional parents	74	55	40	38
Postponers	11	27	42	44
Abandoners	15	18	18	18

Table A2

The distribution of different fertility intention-behavioral outcome among people living in different partnership-form at wave 1

Partnership forms/ Fertility outcomes	Countries			
	Netherlands	Switzerland	Hungary	Bulgaria
<b>Married (N=)</b>	278	278	578	1176
Intentional parents	78	61	47	42,0
Postponers	8	23	31	31,0
Abandoners	14	15	22	27,0
<b>Non-marrital cohabitation (N=)</b>	142	77	207	363
Intentional parents	73	(60)	45	55
Postponers	15	(29)	41	33
Abandoners	13	(12)	14	12
<b>Living alone (N=)</b>	38	54	285	657
Intentional parents	((53))	(15)	21	21
Postponers	((24))	(46)	67	72
Abandoners	((24))	(39)	12	7
<b>All (N=)</b>	458	408	1069	2196
Intentional parents	74	55	40	38
Postponers	11	27	42	43
Abandoners	15	18	18	18

### **III. Realisation, postponement and abandonment**

Comparing determining factors of successful realization of childbearing intentions in four European countries<sup>21</sup>

By

Balázs Kapitány, Zsolt Spéder (Demographic Research Institute, Budapest)

#### **Abstract**

This study investigates the realization of time-related positive fertility intentions using a comparative approach. Four medium size European countries (two Western /the Netherlands and Switzerland / and two post-communist /Hungary and Bulgaria/) having rather different fertility regimes are compared. Using four longitudinal panel surveys harmonized recently by the authors, it is possible to frame a typology of fertility intentions and outcomes, and to identify basic similarities and country differences of the determining factors. Utilizing multinomial logistic regressions we unfold factors influencing realization of intentions, postponement and abandonment of future childbearing. Age, partnership status and education seem to influence fertility intention outcomes in the same way in the Netherlands, Switzerland, Hungary and Bulgaria. However, the effects of parity and religious denomination differ partly in the four studied countries.

#### **III.1. Introduction**

Our analysis is centered on the understanding of differences between fertility intentions and outcomes. Much research has been recently conducted in this field (Shoen et al. 1999, Heaton et al. 1999, Noack, Østby 2002, Berrington 2004, Quesnel-Vallée and Morgan 2003, Testa and Toulemon 2006). We do not intend to review them in detail, since we have already done it previously. There, we claimed that the differences in research results might be caused by the fact that fertility intentions and preferences can be understood in many different ways and can be grouped to various categories (Spéder, Kapitány 2009, see also Miller, Pasta 1995). In our study we analyze a certain type of intention, namely the factor of fulfillment and failure of short-term, time-related fertility intentions. We are interested to see which factors contribute to or hinder individuals with firm fertility preferences (of the first or the second children) at a certain point of time to realize or abandon their plans. The *comparative approach* of this

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<sup>21</sup> This research was carried out within the project “Reproductive decision-making in a macro-micro perspective REPRO”. Grant Agreement: SSH-2007-3.1.2- 217173.



question –since we compare the fertility intentions of individuals from four countries– enables us to analyze whether the same demographic and social factors influence the realization and abandoning of fertility preferences. Furthermore, we want to see whether those who are not fulfilling these intentions still maintain them or abandon them in the future.

With our analysis we continue the stream, which we started within the FERTINT research project<sup>22</sup>, and conducted already about Hungary (Spéder, Kapitány 2009). This current paper is a “twin sibling” of the study (Spéder, Kapitány 2010) in which we generally discussed fertility intentions in European context, the societal context of unsuccessfulness, and its connection to a specific historic period. If necessary we will only refer to and not repeat the argumentation of this article.

Our analysis is built upon the following stream of thought. Firstly, we briefly review the relevant literature, after which we introduce some social characteristics of the four studied countries and report some population relevant features of it. Then, we describe the dataset created by us and we define the barrier of our analysis. The construction of preliminary hypotheses is based on the relevant literature, which is then followed by the explanation and evaluation of the analysis of the given hypothesis. Therefore, the creation and the test of individual hypotheses are not executed in chapters but within particular chapters. Finally, the article is summarized in a short conclusion.

### **III.2. Relevant literature on intention-related fertility behaviour and longitudinal research**

When studying the fertility intentions of the fulfillers, the postponers and the abandoners, there is big temptation to consider all the results, which analyze the social determination of fertility behavior. More specifically, the ones which reveal which social and attitudinal factors influence whether an individual becomes a parent, and whether the second and/or third children will be born. Even though these studies are undoubtedly important, in our analysis we make use of only the literature that utilized fertility intentions in some form. Another selecting criterion was that based on our preliminary hypotheses we utilized only those analyses, which were *longitudinal*, therefore studied the elements of the intentions measured at a certain point of time and compared them to the subsequent childbirths.

One key question of the relevant literature is, whether the intentions have intermediary or individual role. Rindfuss et al. based on their research emphasized the intermediary role

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<sup>22</sup> The articles of the FERTINT project can be found in the special edition of the European Journal of Population 2009/4.

(Rindfuss et al. 1988)<sup>23</sup>. Recent analyses however articulate the *direct effect* of intentions (Shoen et al. 1999, Berington, 2004, Testa and Toulemon 2006). The essential result of the above analyses and debates is that the *timing* and *certainty* of the intentions, furthermore the consideration of the *partner's intentions* plays an important role in the chance of realization of these intentions. Moreover, it is also apparent in the analyses that further demographic and social factors contribute to successful childbearing intentions and also to their postponement.

We learnt the key methodological idea from Heaton et al., who next to studying the fulfillment of intentions, also analyze the changes in intentions and their social and attitudinal factors<sup>24</sup> (Heaton et al. 1999.) Even though the results of their analysis of certain factors do not resemble the “right” results of their referred theory, they revealed several social and attitudinal factors influence whether an individual can fulfill his/her fertility intentions, and whether he/she changes them with the course of time. The studies of Berington assisted our research in this respect also (Berington 2004).

Finally, even if only indirectly, we built on those longitudinal studies, which deal with fulfillment of family size ideals (Quesnell, Vallé-Morgan 2004, Noack and Østby 2002, Berington 2004.) The results of these studies indicate that the final number of children is the consequence of over- and underachievement of initial fertility intentions. Underachievement in a certain time period is revealed also by our research. However for this study, since we focus on various intention types, those results of the above studies are particularly interesting, which indicate the factors that contribute to over- and underachievement.

We have to mention that according to social psychological approaches – for example the Theory of Planned Behavior (TPB) by Ajzen on which the REPRO project was built, or the model by Miller and Pasta – demographic and social factors play role in the formulation of intentions, and these factors should not be manifested in the behavior and the outcome of behavior (birth). However, numerous factors may play role in the strength of the intention-behavior relationship, according to the authors (Ajzen 1988, Miller and Pasta 1995). We tried to review these theories in the previously mentioned “twin sibling” study (Spéder, Kapitány 2010). Hereby, we validate the sociological and demographic approach, according to which *certain social positions and demographic situations can create favorable or unfavorable circumstances for the maintaining of intentions and for its power of action-forming role.*

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<sup>23</sup> The TPB concept used by REPRO is connected rather to the previous. .

<sup>24</sup> It is important to note that Heaton et al. do not study intentions restricted in time, but intention in general.

### III.3. Methods and context

#### III.3.1. Analytical research question and dependent variable

Our investigation concentrates on time-dependent intentions, and considers also whether failed intentions will be maintained or abandoned. We investigate whether the positive fertility intention, the intention to have a(nother) child within two years, will be fulfilled or not within three years. (The fact that the time frame of the intention and the time period for realization do not match is due to the limitations of the different surveys analyzed.<sup>25</sup>) Those who intended to have a child within two years and successfully realized this intention within three years were called “*intentional parents*.” Furthermore, we were also interested how “reversible” are those intentions that could not be realized. We divided the people who intended to have a child within two years but failed for some reason, into two groups: one group of those who maintained their intention to have children at the subsequent wave whom we called “*postponers*”, and the another group who abandoned their plans, we called “*abandoners*.” These distinctions provide us with an opportunity to understand factors of various changes in intentions. The table below shows the logical construction of our crucial variable.

Basic types of positive fertility intentions and outcomes

Fertility intention-outcome Types	Fertility intention within <b>two</b> years (at the 1 <sup>st</sup> wave)	Had a birth within <b>three</b> years (between the 1 <sup>st</sup> and 2 <sup>nd</sup> waves)	Intend to have a child at subsequent wave
Intentional parents	Yes	Yes	
Postponers	Yes	No	Yes
Abandoners	Yes	No	No

#### III.3.2. Data, sample and methods

We use three quite different, but nationally representative large scale longitudinal panel surveys. The Hungarian and the Dutch surveys resemble each other: they focus on changes in demographic behavior.<sup>26</sup> We use the first two waves of the Netherlands Kinship Panel Survey

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<sup>25</sup> Much research supports our approach. Since the realization of intentions is strongly correlated with the time frame (cf. Shoen, et al., 1989), and short-run intentions could also be understood as „strong”, or „involved” intentions, we believe that this approach is legitimate.

<sup>26</sup> Both surveys will be incorporated in the Generations and Gender Surveys (GGS) after harmonization.

(Dykstra et al. 2007) and the Hungarian Turning Points of the Life Course survey (Kapitány et al. 2003). The time frame of the follow up was three years in both cases. In the case of Switzerland, the Swiss Household Panel survey's follow up was organized annually, therefore we used the 6<sup>th</sup> and the 9<sup>th</sup> waves for our analysis (Voorpostel, et al. 2009). In the Bulgarian Social Capital survey somewhat more than ten thousand women and men at age 18-35 years were interviewed between 2002 and 2005<sup>27</sup>. The main features of the surveys are described in Spéder and Kapitány 2010. The first investigated waves of the surveys were between 2002 and 2004, and the subsequent investigated waves between 2005 and 2007. All four surveys were nationally of high priority. Special methodological attention was devoted to them. Although the questionnaire programs of the four surveys were rather different, we believe that some questions are suitable for comparison. All the four surveys, though in a different manner, contained questions on time-related fertility intentions, and provided an accurate account of births between the waves.

Since we deal with four independent surveys, it is not surprising that during the harmonization we faced many problems, described in Spéder and Kapitány 2010. However, we think that we could construct a comparable dependent (intention-outcome variable) as well as comparable independent variable covering basic factors of intention-behavior relation.

For the sake of our analysis we selected a sub sample of the surveys. First we introduced an age limit: we selected females between the age of 18 and 45 years, and males aged between 18 and 50 years. Among them only those persons were selected who intended to have a(nother) child, and only those who were interviewed at subsequent time.

We applied multinomial regression in our analysis. This method was used by Heaton et al. (1999) and Berrington (2004) to study the relationship between fertility intentions and behavior of childless people. We utilized also this approach in our study of Hungary (Spéder, Kapitány, 2009). Since our research question is aimed at exploring the gap between intentions and behavior, and at understanding failures of realizing positive intentions, we used the intentional parents as *reference group*.

As we have shown in DRI Report 1 and we repeat here as well, the basic distribution of our dependent variable, the fertility intention-outcome variable, reveals basic differences among the countries. The rate of successful realization is quite high in the Netherlands: three of four people could realize their two-year-intention within three years. The ratio of

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<sup>27</sup> The Bulgarian survey was carried out in the project „The Impact of Social Capital and Coping Strategies on Reproductive and Marital Behavior” organized by the MPDIR Rostock and the Bulgarian Academy of Science. (See Bühler, Philipov, 2005).

realization surpasses in Switzerland only slightly the level of 50 percent. Lastly, in Hungary and Bulgaria two fifth of the time-dependent fertility intentions could be realized. The ratio of the successful realizer seems to be quite low in Hungary and Bulgaria. We devoted our complete Report 1 to describe country-specific similarities, and possible reasons behind them. In this study we focus on similarities and dissimilarities of determining factors.

*Table 1*  
The distribution of different fertility-intention outcomes

Fertility outcomes	Countries			
	Netherlands	Switzerland	Hungary	Bulgaria
Intentional parents	75	55	40	38
Postponers	15	(27)	42	44
Abandoners	11	(18)	18	18

### *III.3.3. The country context: fertility tendencies in the Netherlands, Switzerland, Hungary and Bulgaria, 2000-2007*

The selection of countries to be compared was determined by the availability of suitable longitudinal data-sets. Namely, only those longitudinal data-sets were considered, which included time-dependent fertility intention questions, and if these questions could be subject for harmonization.

The Netherlands: The level of fertility is quite high and stable in the European context, and mothers give birth to their first child in a later age (Fokema, et al., 2008). The Netherlands is also a case, where recuperation in later ages emerged quite early in western European comparison (Lesthaeghe, 2001), and is an example of increasing fertility after the long decline. It belongs to the exceptional European countries where some anti-aging of fertility occurred: around the turn of the century some decrease in mean age at first birth could be recognized. In the period of our investigation between 2004 and 2007, the mean age of mother at the first childbirth increased somewhat by 0.2 years. The total fertility rate resides at a high European level, above 1.7. All that indicates, that the Netherlands represents an established stable fertility regime.

Switzerland: Low and very late (advanced) fertility is characteristic of Switzerland. Furthermore, the mean age of mothers at birth continuously rises. As long around the beginning of the 90's the mean age of mothers at childbirth was lower than in the Netherlands. at the time of our inquiry, at the mid of the first decade of the 21<sup>st</sup> century, the mean age of mothers in Switzerland surpassed that of the Netherlands. The mean age at the

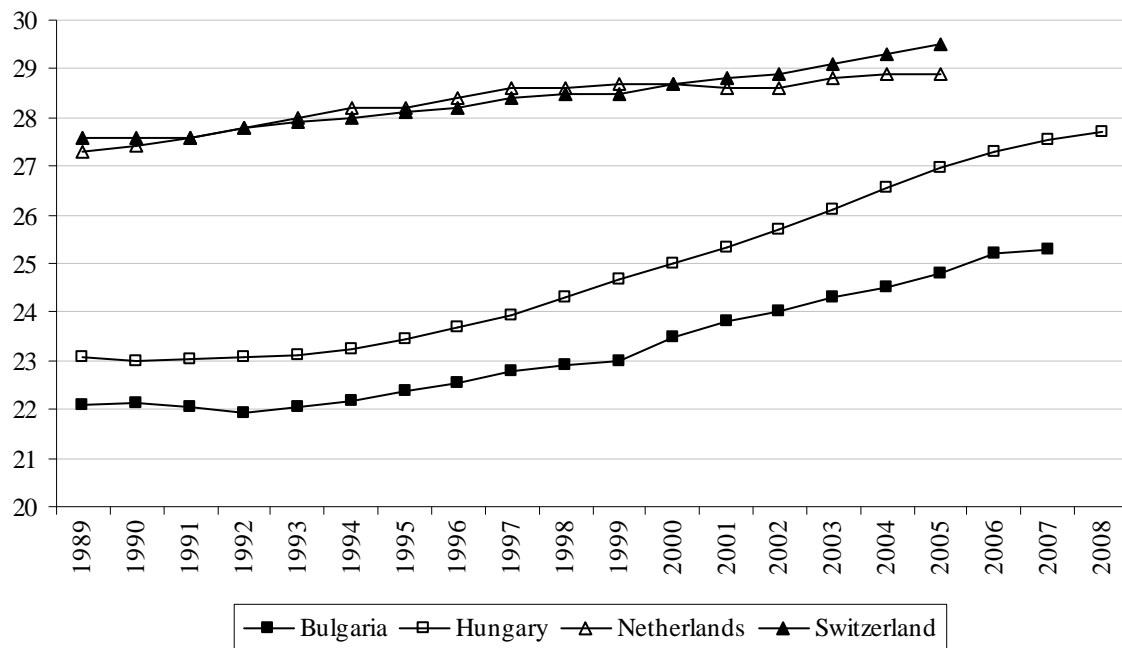
time of first childbirth was 29.8 years in Switzerland, which is one of the highest in the world. The mean age of the mothers at childbirth increased in Switzerland with 0.5 years during the investigated three years (2004-2007). The TFR was around 1.45 at the time of the investigation.

Hungary: The Hungarian fertility transition started at the beginning of the 1990's. From 1991 over 7 years the level of fertility (TFR) dropped from 1.84 to 1.3, and since that time has fluctuated slightly around the 1.3 level. The mean age of mothers at first birth increases permanently since the second half of the 1990's. The fertility transition happened and happens in Central Eastern Europe with a higher pace than in Western Europe. During the investigated period, from 2001 to 2004 the mean age of mothers at first birth increased from 25.3 year to 26.3 year. If this postponement distortion was acknowledged in the calculation of the TFR, than the adjusted fertility would be as high as 1.75 according the Bongaarts-Feeny formula (Bongaarts, Feeney, 2000).

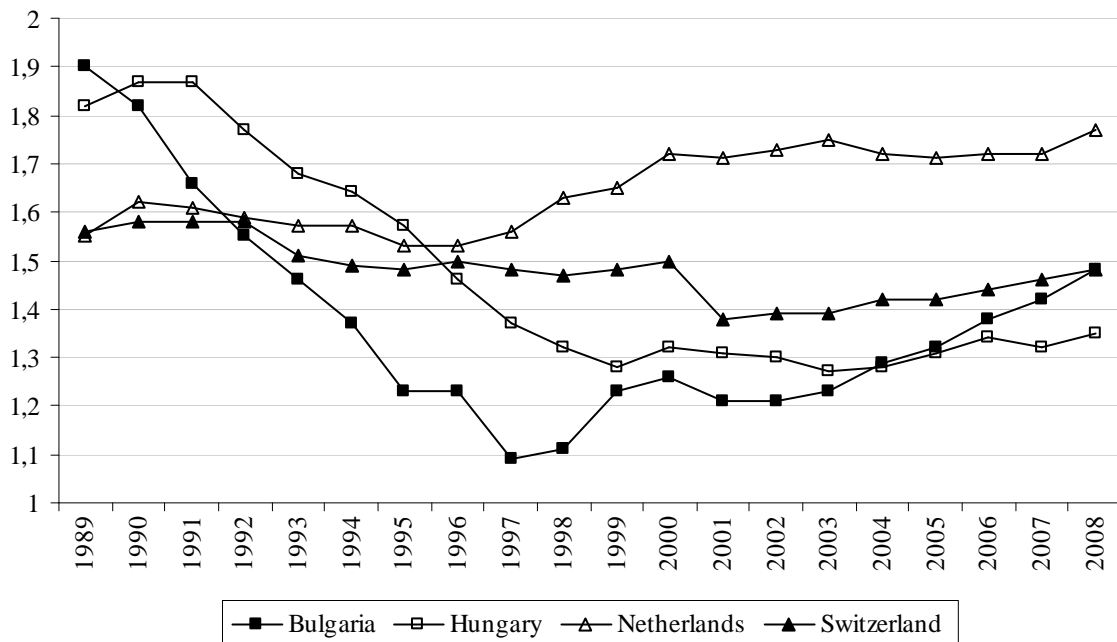
Bulgaria: Bulgarian fertility went hand-in-hand with the fertility transition of former Communist and Eastern European countries. During the investigated period the transition process was in operation: the mean age at the first birth increased by 0.8 years from 2002 to 2005. At the same time the Bulgarian fertility showed a very slight increase. It reached its lowest level at the end of the 1990's (1997-1998) at a level slightly above 1.1. Between 2002 and 2005 it increased by 0.1. Koyscheva and Pghilipove state, that the Bulgarian societal transition was somewhat behind compared to other Central European countries, and the economic and social crisis was somewhat deeper (Koytcheva, E. and D. Philipov, 2008)

This very brief description of the four countries would not and could not give a comprehensive account of differences in fertility at macro level. Our aim was rather to show that the subject of this study, the individual and group specific behavior, is embedded in quite different fertility regime setting.

*Figure 1*  
 Mean age of mothers at all births in Netherlands, Switzerland, Hungary and Bulgaria, 1998–2007



*Figure 2*  
 Total fertility rate in the Netherlands, Switzerland Bulgaria and Hungary, 1989-2007



### III.4. Analysis of explaining factors: hypotheses and results

#### *Age*

##### Research results and assumptions:

Previous research found overwhelmingly a positive relation between age of the respondent and the realization of intentions. The study about fertility expectation and their realization carried out by Noack and Østby (2000) stresses the salient role of demographic variables having realistic expectations. Being younger (18-24 years) gives way higher likelihood of belonging to a more realistic group, according to fertility expectations. Shoen et al. (1999) shows that controlling all the types of intentions and other background factors, younger respondents have a higher likelihood of having a child. Also in the most recent Bulgarian context, those below age 30 have significantly higher opportunity to get a child if controlling all kinds of intentions (Philipov, 2009). Berrington (2004) studying a more specific sample, namely childless people between the ages of 30 and 39, also concluded that the advancement of age decreases the chance of successfully realizing childbearing intentions.

Results of the research from Heaton et al. (1999) and Testa and Toulemon (2006) call also the attention to the kinds of failures of fertility intentions. Focusing on childless people, Heaton et al. (1999) on the one side found that older people are more prone “to switch to childlessness”, but also to switch from “not wanting any child to parenthood”. On the other side, they do not found any age differences between “intentional parents” and “postponers”<sup>28</sup>. Testa and Toulemon found that the predicted probability of involuntary postponement<sup>29</sup> increases inevitably with age until age 32, and then resides at a high level and later perhaps declines. They draw the conclusion, that “those who failed to have a desired birth and still want to start a family five years later are probable those who cannot have a child due their high age and the resultant limited fecundity” (p. 65). Indeed, most of the research which found the significant relation between failure of realization and advanced age assume the operation of biological factors.<sup>30</sup> However, some research assume that life-style factors at later age may conflict stronger with childbearing decisions. (Philipov, 2009) We summarized the above mentioned research results below “*biological-clock*” hypothesis, namely with growing

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<sup>28</sup> Here is necessary to mention that our categorization differs somewhat from theirs. Although we learned from their way of construction, they do not incorporate the time frame of the intention in measuring fertility intentions.

<sup>29</sup> Testa and Toulemon’s „involuntary postponement” corresponds perfectly with our „postponer” category.

<sup>30</sup> Shown by Leridion 1995.



age the realization of intention will increasingly be unsuccessful, since fecundity decreases with age. This will, perhaps, lead to abandonment of childbearing intentions in later age.

Although none of the reviewed research results supports directly an alternative hypothesis, some researchers suggest considering alternative approaches. Research showing higher instability of intentions in younger ages (Rindfuss et al 1988) indirectly supports higher failures of intention-realization in earlier phase of the life course. Miller and Pasta in their study of intention-behavior relation also assumed a higher tenacity of realization fertility intention. “The time pressure associated with greater age, longer marital duration, and greater age of previous child are likely to promote the occurrence of proception.” (ders. p 535). However, their analysis of young married couples did not support this assumption. Consideration about the prevalence of age norms in the modern societies (Settersten and Hagestad 1996, Billari et al., 2009) could also suggest a higher likelihood of realization at older age. If social deadlines for childbearing exist (cf. Mynarska,2009), people are conscious of the deadline of specific action accordingly, than we can assume that people approaching this age limits, whatever happens, will strive to realize their intentions. Consequently, the social age limit hypothesis assumes that with growing age postponement decreases.

The above considerations enable us to develop our hypotheses about the role of age in fulfillment and failure of time related fertility intentions:

1a. If considering the *intentional parents vs. postponers*, according the “biological clock” postponers will be older, according the “social age limit” idea, in contrary, younger will be more prone to postponement.

1b. If considering *intentional parents vs. abandoners*, based on the biological aging approach, we expect a higher risk of abandonment with increasing age; and similarly, being aged (perhaps after the social age limit), abandonment happens only at late age.

1c. Abandoning fertility intention (definitely) is discussed in research dealing with childlessness. It is mostly emphasized that the majority of the childless individuals did not originally intend to stay childless. However, by constantly postponing and revisiting the decision of childbearing, they became childless (see Berrington 2004). All these insights allow us to formulate another hypothesis, incorporating age as well: comparing the postponers and the abandoners, the postponers will be younger, while the abandoners will be older.

### Result:

Age is a confident predictor of the above described types of intention-behavior relationships; in 7 out of 8 relations it has significant effect. (cf. Table 4, first line.). Those who failed to

realize their intentions within three years -- regardless of the changes in their intentions -- are clearly older than those who succeeded. The result clearly supports the “biological clock” hypothesis: both postponers and abandoners are older than intentional parents. Only in the Netherlands we could not find age-differences among posponers and intentional parents, which was also found by Heaton at al.. The results, at least in the relation parents vs. postponers, reject the functioning of a “social age norm”, since postponers are not younger than intentional parents. In two of the four countries (HU, NL) a clear and in Bulgaria a slight age difference could be identified between postponers and abandoners: abandoners are older than postponers. This result fit into the concept that abandonment (childlessness, or less child as intended) is a result of “perpetual postponement” (Berrington). Nevertheless, the Switzer case does not support into this concept.

### *Parity*

#### Research results and assumptions:

It is difficult to review the literature of intentions when it comes to describing the possible effects of parity, especially which kind of the parity-context for realization of time related intention could have. Much research concentrates on intentions of childless people, and try to understand the phenomenon of becoming a parent (Rindfuss, et al., 1988., Heaton, et al., 1999, Berrington, 2004, Testa and Toulemon, 2006). Only some research includes both parity-specific information and time-related intentions/desires in their models (Berrington, 2004, Schoen, et al. 1999). However, we can also utilize the results of those who are investigating family size intentions in the life course (Quesnel-Vallée and Morgan (2003). Since we wish to understand realization of timing fertility intentions, we would like to avoid the trap to discuss results analyzing fertility behavior and parity, and we limit ourselves to longitudinal studies working also with intentions.

The longitudinal studies including parity information incorporate parity usually as controlling variables, therefore parity relevant results are frequently “by products” of analyses focusing on fertility intentions. In the research carried out by Schoen at al. 1999 those who have one child usually show higher likelihood of getting another child within the two waves. The strength of parity effect depends also on the duration, since the last birth, namely shorter duration increases the likelihood of getting a child. However, among non-married women (living along or in cohabitation) also women of parity<sup>3</sup> had significantly higher chance of getting another child. Berrington (2004) analyzing the British Household Panel Survey found

that in a given 6-year period, those with no child or one child had the highest likelihood of realizing their (further) childbearing intentions.

Studies investigating childless people stress the instability of intentions in younger ages (Rindfuss et al., 1988) and that many of the people do not realize and postpone childbearing intentions (Heaton et al., 1999). In the US, among childless people in their propagative age, 45 percent of those who intended<sup>31</sup> to have a child did not realize their intention within 5 years. In France, as Testa and Toulemont reported 54 percent of childless people stated “I want a child within five years” got a child within the five years period (ders. p. 57). These results let us to assume that among childless people we may assume low realization of intention and high postponement. This assumption coincide with those approaches which report about competing and conflicting life goals (Barber 2001, Rindfuss et al. 1988), since this group exhibits the widest array of alternative life goals competing with childbearing (Barber, 2001)

We can learn also from longitudinal studies investigating realization of family size intentions. Quesnel-Vallée and Morgan (2003) highlighted that those intending to have two children have the highest chance of realizing their initial intentions. Furthermore, those planning to have no child or one child often will have more, while those intending to have three or more often will have less. From this study we can develop a conclusion for our purpose: people with two or more children may have a lower chance of realization than those having none or only one child.

According to the described research we assume:

2a) Childless people will demonstrate higher likelihood of postponing and lower likelihood of abandoning their plans in relation to successful realization (intentional parents).

2b) People with one child will have the highest likelihood of realization of their fertility intention within three years.

2c) People with two or more children will be more prone to abandon than to realize or to postpone their plans.

### Result:

In the very most cases (14 from 16 coefficients), the effect of the number of children appears to be significant, and the remaining 2 coefficients corresponds with the direction of the others. Our assumption in most of our countries seems to be confirmed, but not all and not in all

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<sup>31</sup> The intention did not refer to a time window.

countries. Regarding the relation intentional parents and postponers, we see unambiguously that *childless people (parity0) have a higher risk to be postponers than successfully realizing their intentions*. It confirms assumptions that conflicting life goals prevent the realization mostly in case of childlessness (Rindfuss, et al., 1988, Barber 2001), or support the concept that having the first child narrows down realization alternative life goals. One exception seems to exist, but only in relation to parity0 and parity1: in Bulgaria people with one child postpone with higher likelihood than childless people. (However, comparing childless and two or more parities, the general relations could be found also in Bulgaria: childless people are more prone to postpone than people with two or more children.) The Bulgarian case needs further investigation, but one explanation could be offered: higher likelihood at parity can be a sign of increasing prevalence of involuntary one-child-families. This could be a sign of diffusion the single child family model found in Russia and Ukraine (Adveev 2003, Perelli-Harris 2005, Philipov2009).

If we compare those who abandon their childbearing intentions to those who realize them, it seems that people in Bulgaria, Hungary and in the Netherlands with one (and more) child(ren) are significantly more likely to abandon their intentions than childless people. This is in accordance with our third (H2c) expectation. Conversely, in Switzerland the relation is reversed: childless people (Parity 0) are at higher risk of abandoning their intentions than people with children (Parity 1 and Parity 2+ <sup>32</sup>). This result raised our attention to differences between fertility regimes in Europe. In two Eastern and one Western European country people abandon their childbearing intentions if they have more children, or at least one. In this respect the Swiss behavior seems to be an outlier: the higher risk of being an abandoner among parity 0 and in relation to higher parities point to, and is indicator of, the high childlessness in Switzerland (Dorbritz, Ruckdeschel 2005.)

Analysing our second assumption (H2b) and studying whether people with one child (parity0) have the highest chance to be intentional parent, namely not being a postponer neither an abandoner is also very important. Only the relation of intentional parents vs. abandoners seems to support this assumptions, since those with higher (2+) parity are more prone to abandon their short term fertility intentions and downsizing their family size intentions by it. If considering the relation of postponement and successful realization, the coefficients at parity2+ is not clearly higher than at parity1, so this does not support our third

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<sup>32</sup> Although in parity 2+ the odds are clearly lower in relation to parity 0, but not significant.

assumption. Therefore the idea, having two children is the most successful project, got only a partial support.

To summarize our parity specific analysis, we have to emphasize that on the one hand realization of positive short term childbearing intentions differ according the parity-specific context. On the other hand, we should also highlight that in addition to general associations we could also identify a country-specific behavior.

### *Partnership:*

#### Research results and assumptions:

Research explicitly claim that cohabiting partnership, especially marriage is prerequisite of the realization of childbearing intentions (Heaton et al, 1999, Schoen et al. 1999, Berrington, 2004, Testa and Toulemon, 2006, Spéder, Kapitány, 2009). This should be true also in our case, although partnership relation is also one of the strongest factors determining the emergence of short-term childbearing intention (cf. Philipov et al., 2006, Billari et al, 2009). Consequently: partnership form dominates the whole decision making process from the emergence of intentions until the conception.

It is a more intriguing question whether the form of partnership (marriage or cohabitation) has any effect on the realization of intentions. It seems that in some countries, such as France, where cohabitation is widespread, this form of partnership has but a modest effect on the chances of childbearing (Toulemon and Testa, 2005). Conversely, in the United States, cohabiting couples are less likely to realize their intentions (Heaton et al., 1999). Heaton et al. conclude: “despite documented increase in non-marital childbearing, a close relationship between having children and marriage persist.” (ders. 536). In a more detailed analysis, we also find that those females living in cohabitation succeed less in realizing their positive intentions (Spéder and Kapitány, 2009). We agree with the authors who pointed out that the meaning of cohabitation differs from country to country (Heuveline and Timberlake 2004), which is directly related to the prevalence of cohabitation within the countries as well. The three countries are interesting cases from this perspective, since cohabitation as a form of partnership is rather widespread. Based on the above research results we should have two assumptions:

3a) Cohabiting people (married and non-marital partnerships) will have a higher likelihood of successful realization than people living alone. (This is a very plausible assumption, however one should keep in mind that we included only those single, cohabiting respondents in our analyses who intended to have a child within the next two years.)

3b) Cohabiting people are perhaps less committed to each other (Waite 2000); therefore, the rate of realization of intentions will be lower than among married. However, due to different meaning of cohabitation, we expect differences across the countries.

Of course, alteration or permanence in partnership behavior will also clearly influence the risks of realization (Heaton et al. 1999, Testa and Toulemon 2006). We can expect commonsensical association: on the one hand, separation or divorce will increase the likelihood of being a postponer or abandoner. Starting a cohabitation or getting married will, on the other hand, increase the likelihood of being a successful realizer (intentional parent)<sup>33</sup>. This assumption is in accordance with the social-psychological approach, since in their understanding (unexpected) life course events could discourage actors from realizing their earlier intentions (Ajzen, 1988, Miller and Pasta 1995). Our third, partnership-relevant assumption is based on the above mentioned associations:

(3c) Separated people will have a much higher likelihood than cohabiting people, independently from the institutional form of the partnership. We also assume that separated people will have lower chance of realization than single ones have.

### Result:

Partnership status exhibits a clear influence if comparing single non-cohabitants with married (and cohabitators). Furthermore, partnership is in all the four countries a prerequisite to the realization of fertility intentions (Schoen, 1999, Philipov and Testa 2007). (One can ask whether asking people living alone to state their childbearing intentions is irrelevant, but we should also consider that many of them may have dating and/or LAT partnerships.) Comparing cohabitation and marriage, we could not find strong significant differences. Regarding the realization of fertility intentions the type of partnership, measured in the mentioned way, we could not identify clear differences either.<sup>34</sup>

Changes in relationship status clearly influence success in realization: separation, as expected, hinders the realization of fertility intentions. Also the type of failure is interesting: in three of the four studied countries, people who dissolve their partnership abandon their short-term fertility intention. (Especially high is the odds becoming an abandoner in Switzerland.) The exception is The Netherlands, where there is no difference between

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<sup>33</sup> Here is no space, and no reason to go into the question of the mutual relation of childbearing and partnership behavior.

<sup>34</sup> Here should be noted, that for Hungary we find significant influences among women. Considering negative intentions too cohabitators had a higher chance to realize their negative fertility intentions than married people (Spéder, Kapitány, 2009).

postponers and abandoners. We should also highlight, that this result clearly supports the assumption, that life-course changes strongly influence the intention-behavior relation. However, they may not weaken the relation, but probably force changes in intentions, at least in short run. This could again have long-term consequences, lessening long term family size intentions (cf. Liefbroer, 2009).

### *Level of education*

#### Research results and assumptions:

Research results with reference to education are ambiguous. In the studies analyzing US data the education usually plays a role in analyzing intention and behavior. Heaton et al. found that higher educated individuals are more prone to postpone their intentions (Heaton et al. 1999). Quesnel-Vallée and Morgan examining family size intentions came to the conclusion, that higher educated women, but not men, underachieve their initial intended parity (Quesnel-Vallée and Morgan 2003). In the study using the two waves of the NSHF only education plays a significant role among non-married women (living either alone or in cohabitation), and at the similar manner as earlier: among highly educated fewer children were born (Schoen et al., 1999). Explanation of these results follows economic causation: highly educated women invest resources in building human capital and getting a child has high opportunity costs. Results of various European studies differ from each other. Testa and Toulemon found that higher educated French women could realize their intentions with higher likelihood, although they note the possibility of the bias of their childless sample<sup>35</sup>. Berrington found no educational differences, but includes also income in her model. She claims that high income, indeed has a positive effect on realization of intentions (Berington, 2004). Lastly, Noack and Østby did not find educational effect on having realistic fertility expectations in Norway (Noack, Østby, 2000).

The effect of education could also strongly vary according to other variables in the model. If no income variables are included, than it can mediate effects of economic resources (“income effect”), and if no relevant ideational factors are present in the model, education could mediate effects of value orientations. There is a variety of lifestyles and cultural resources that are bound up also with education<sup>36</sup>. Furthermore, it could also be important to highlight that people with a higher level of education are generally more informed and

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<sup>35</sup> It may happened that their working sample overrepresented low educated women having biological (fecundity) limitation.

<sup>36</sup> For instance, employment motivations differ as well: among those with a higher level of education, career perspectives dominate, while those with a lower level of education are more concerned with making a living.

knowledgeable – by virtue of it, and we can assume that intended parenthood will be the most pervasive among them. Lastly, the mentioned human capital aspect (“opportunity cost effect”) should not be neglected either.

According to the above described research results and based on our considerations listed above, we expect country-specific relation among level of education and realization of intentions.

### Results:

In three of the four countries education clearly influences the abandonment in relation to intentional parents. With increasing level of education the likelihood of being an abandoner decreases. Coefficients comparing “successful realizer” and “postponer” show contradictory results. In the two Western countries there is no educational difference between parents and postponers. In the two Eastern countries results are the opposite. In Bulgaria the people with higher education are more prone to postpone. In Hungary, on the contrary, individuals with higher education are more inclined to realizing their short term intention. The results in Hungary suggest that people with higher education are more “knowledgeable” about their fertility decision and/or conflicting life goals, and the opportunity cost do not deter them from their fertility plans. In Bulgaria, on the contrary, perhaps perceived opportunity cost make the respondents postpone the realization of their short term fertility intentions.

### *Economic activity: having a job*

#### Assumptions and former results:

It is a difficult to assess the role of economic activity, having a job and/or being unemployed on realization of fertility intentions. Rindfuss et al. indicate that male unemployment hinders the realization of fertility intentions. Adsera in Spain, Testa and Toulemon in France found the same relation: unemployed are prevented from realizing their childbearing intentions (Adsera 2005, Testa and Toulemon 2006). We also found that employed men were more likely to realize their fertility plans than unemployed men (Spéder, Kapitány, 2009). This correspond with the well know income-effect mechanism assumed at work among males (Ermisch, 2002). As far as *women* are concerned, according to previous research the effect of employment on fertility behavior is ambivalent, (cf. Kreyenfeld, 2001). Two simultaneous influences at work could be here assumed: the effect of opportunity cost and the income effect. Previous studies on the realization of intentions suggest that the income effect is most likely to be at work, however no clear proof could be retrieved.



Although, the combined analysis of men and women is mostly problematic due to these above described differences, we assume that among men, those employed will be the most likely to realize their childbearing plans.

### Results:

No significant results were found until now. Two main reasons could cause it: firstly, according to the literature gender differences related to labor market could be the strongest. This calls the attention to the gendered analyzes. Secondly, our “employment” variable is quite rough-and-ready. The “no-job” category includes many different statuses, especially in case of women. Namely: unemployed, on parental leave, housewife, student, other inactive dependent, etc. However, also employed (job) individuals are quite heterogeneous in terms of their occupational status, entrepreneurial status, type of contract, and the like. This calls the attention to an analyze using more refined employment status categories.

### *Religious denomination*

#### Research results and assumptions:

The investigation of beliefs, attitudes and values in the analysis of realization of fertility intentions and of investigations of the strength of intention in explaining births is restricted, and it corresponds with social-psychological approaches of social action. According these approaches -- regardless whether employing the Theory of Planned Behavior by Ajzen, or the decision making model developed by Miller and Pasta 1994 -- intentions are formed by the action related attitudes, social norms and perceived constrains (Ajzen, 1988).<sup>37</sup> Furthermore, subjective measures should not have any additional effects if following the reasoning of these approaches. Since the intention-behavior could be weak due to individual, life course specific or period-related reasons<sup>38</sup>, we agree with those who also include subjective variables in investigations focusing on the strength of intentions on fertility behavior (cf. Heaton et al., 1999, Berrington, 2004, Philipov, 2009, Spéder, Kapitány, 2009). All these studies point to the additional effects of subjective factors.

Heaton et al. included the most ideational variables in their analyses (Heaton et al., 1999). Some of their results are as expected: strong leisure orientation inclines people to postpone, and agreement with negative consequences of mother’ employment (“working is

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<sup>37</sup> Miller and Pasta developed a more fertility-relevant model of social action (Miller and Pasta, 1995), but here we only aimed to highlight that intentions are formed by different types of beliefs, evaluations, etc.

<sup>38</sup> We give a more detailed discussion of this issue in the study Spéder, Kapitány 2010.

harmful for children”) support realization. Carrier-orientation, surprisingly, does not have significant effect on the relation of intentional parents versus postponers. Berrington shows that gender role attitudes, namely being more egalitarian, increase the chance of childless females in their 30’s to receive a child (Berrington, 2004). In the Hungarian setting we revealed that non-religiousness of women increase the likelihood of being an abandoner, and males’ bright “future outlook” (high overall satisfaction) contribute to being an intentional parent and not an abandoner (Spéder and Kapitány 2009). Testa and Toulemon (2006) did not find effect of religiousness in France.

Unfortunately, our comparative data-set provides a very limited space for comparing ideational factors. We could retrieve the religious denomination in the analysis. This could be an interesting issue *per se*.

While an impressive number of demographic analyses investigated the effect of religious affiliation on fertility behavior in the United States (cf. the reviews of Lehrer 2004; McQuillan 2004), European demographic research has been dominated by the view that in our increasingly secular societies, religious affiliation has lost its bearing on demographic behavior. Out of the very rear comparative analyses in Europe in this respect, Philipov and Berghammer (2007) findings , present a mixed picture according to different fertility intentions and preferences. Multi-denominational countries showed contradictory evidences regarding preferences. Now however, our dependent variable is different: we focus on intentional outcomes.

All the four studied countries are religiously mixed, and differ in the representation of the different denominations. In Hungary Roman Catholics are in majority, and Protestants (Calvinists and Lutherans) in minority. In Switzerland, which is the country of Calvin, Protestants and Roman Catholics are equally represented in the society. The Netherlands, within the four countries, could be seen as a country of non-religiousness, although Roman Catholics and Protestants are also present. In Bulgaria the majority of the population belongs to the Greek Catholic (orthodox) church.

- a) We assume that non-religious will be more inclined to be abandoners than intentional parents.
- b) We also expected that Roman Catholics will have a higher likelihood of realizing their childbearing intentions.

### Results:

The *table* shows the results of different denominations in relation to being a (Roman) Catholic. The results are selective and contradictory. In Hungary and the Netherlands non

religious individuals seem to be more likely to postpone than realize their intentions. In the Netherlands, Roman Catholics have a significantly higher chance than those of any other denomination to realize their fertility intentions. In Switzerland there are no differences among Roman Catholics, Protestants, and non-religious people: only those belonging to other religion seem to postpone their intentions with a higher likelihood. In Bulgaria, surprisingly, non-religious in relation to Greek Catholics show lower likelihood of being abandoners than intentional parents. These results indicate the need of further research on religiousness and religious denomination.

*Table 4*  
 Multinomial Regression Predicting Patterns of Realization of Time-Dependent Intentions  
 (Odds ratios predicting the risk being Intentional parent, Postponer or Abandoner)\*

	Postponers				Abandoners <sup>a</sup>			
	Netherland s	Switzer- land	Hungary	Bulgaria	Netherlan ds	Switzerla nd	Hungary	Bulgaria
Age	,990	1,094***	1,116***	1,045***	1,303***	1,080**	1,315***	1,170***
Female	1	1	1	1	1	1	1	1
Male	1,552	1,044	,883	,888	3,605***	,789	,486***	1,340**
Parity0	1	1	1	1	1	1	1	1
Parity1	,336***	,137***	,648**	1,457***	1,610	,240***	3,477***	5,679***
Parity2+	,463	,254***	,377***	,522**	2,842**	,575	5,196***	15,932***
Married at wave 1	1	1	1	1	1	1	1	1
Cohab at wave I	1,440	,601	1,163	1,115	1,170	,300**	,808	,490***
Alone at wave I	2,355	4,273***	4,198	6,845***	2,690*	6,993***	3,670***	3,019***
No lost partner	1	1	1	1	1	1	1	1
'Lost' partner	10,425***	3,767	4,150***	2,384***	9,455**	54,62***	6,232***	5,484***
Education	,948	,994	,945*	1,040*	,825**	,962	,848***	,935***
No job	1	1	1	1	1	1	1	1
Job	,640	,828	1,165	,937	1,394	1,708	1,150	1,052
Catholic**	1	1	1	1	1	1	1	1
Calvinist	3,539*	1,365	1,232		,991	,733	,934	
Other religion	5,757**	4,070***	,883	,941	,664	,857	,444**	1,009
No religion	2,629*	1,371	1,467	1,011	,988	1,930	1,039	,407***
Chi-Square:	119	122	432	745				
Df:	24	24	24	22				
Nagelk. R <sup>2</sup> .	0.28	0.32	0.38	0.33				
N:	458	408	1069	2196				

\*The reference category: „intentional parents”, those successfully realized their two years intentions within three years.

\*\* In case of Bulgaria the reference category: 'orthodox'.

### **III.5. Concluding remarks**

We aimed to compare factors influencing the likelihood of realization of short-term fertility intentions. We focused on the issue, whether the same factors (the same forces) lead to non-realization (postponement or abandonment) of fertility intentions. Since we used data, which was obtained from research focusing differing research questions, after the harmonization done by the authors, only a limited number of comparable variables (factors) could be utilized. Based on these limited number of variables, we could observe very strong and mostly similar kind of influences of such socio-demographic variables such as age, parity and partnership. At the same time, we also found interesting and important country-specific differences. The multivariate analyses revealed that the intention-behavior relation differ at some parities among the countries. Unintended childlessness is revealed in Switzerland, and the unintended increase of one-child families was identified in Bulgaria.

The investigation of structural (socio-economic) and ideational factors was not that successful. Since we could retrieve only limitedly harmonized variables of that kind, and also were forced using very rough variables, we could only recognize and suggest that structural and ideational factors also could influence the intention-realization relation (cf. Spéder, Kapitány, 2009). We assume that not only education but employment status and/or occupational status on the one hand, and general perception of life, perceived anomie or partnership quality could also contribute to success and failure of realization of fertility intentions. Last but not least, although only sparsely included in the analyses, life-course factors had clear and strong effects. Additional and other type of life course event will probably be as important as partnership break-down for the understandings of failure (or success) of intentions.

We are well aware of the limitation of our study, and we are also sure that with the future availability of the Generation Gender Survey our results could be refined.

## Appendix:

### Means and Standard Deviations of Independent Variables

	Netherlands		Switzerland		Hungary		Bulgaria	
	Means	Std. Dev.	Means	Means	Means	Std. Dev.	Means	Std. Dev.
Age	31,4	4,6	29,2	27,4	27,4	4,6	33,0	5,3
Sex (0-male; 1 female)	0,67	0,47	0,49	0,48	0,48	0,47	0,48	0,50
Parity1	0,41	0,49	0,30	0,33	0,33	0,49	0,37	0,48
Parity2+	0,14	0,34	0,17	0,25	0,25	0,34	0,18	0,39
Cohabiting at w1	0,31	0,46	0,19	0,13	0,13	0,46	0,19	0,39
Alone at w1	0,07	0,26	0,27	0,26	0,26	0,26	0,13	0,34
Separated from partner	0,02	0,14	0,04	0,03	0,03	0,14	0,02	0,15
Job	0,85	0,36	0,76	0,79	0,79	0,36	0,85	0,35
Education (continuous, classes)	14,6	2,1	11,7	11,6	11,6	2,1	13,2	2,7
Calvinist	0,18	0,38	0,15	–	–	0,38	0,34	0,47
Other religious denomination	0,06	0,23	0,11	0,14	0,14	0,23	0,08	0,27
Non-religious	0,57	0,50	0,21	0,09	0,09	0,50	0,13	0,34

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## **IV. Why do people change their expectations of childbearing?**

by

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### **Abstract**

If women are interviewed around the start of their childbearing years and asked how many children they want, these aspirations are consistently higher than the number of children they eventually go on to have. The degree to which women's aspirations outstrip their realised fertility differs between countries and between different groups of women, but in developed countries this is a robust finding. What is not clear is whether this "under-achievement" occurs because women are constrained (by work, economic circumstances or other factors) into having fewer children than they want, or whether it occurs because women update their aspirations over their childbearing years. Distinguishing between these two scenarios is important because they have very different implications in terms of social policy. We address this question using 17 waves of the British Household Panel Survey (BHPS), looking at the degree to which women amend their childbearing aspirations over the course of their lives, and the determinants of their original aspirations, changes in aspirations, and realised fertility.

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### **IV.1. Introduction**

In recent years, birth rates have been falling across the developed world, to levels well below replacement in many countries (Kohler et al 2002, Billari and Kohler 2004). This has led to a renewed interest in fertility intentions as one determinant of achieved fertility. There is already a well-developed literature on how fertility intentions are formed, as well as on the relationship between intended and realised fertility (Morgan 2001, Hageven and Morgan 2005, Micheli and Bernardi 2003).



However, there is as yet little research into the way in which individuals *revise* their fertility intentions over the course of their lives. This is potentially a very important issue: failing to acknowledge that intentions change over the life course implies that they are formed early on, remain an essentially static goal to be pursued during one's reproductive life, and to be either fulfilled or unfulfilled at the end of it.

In fact, existing cross-sectional evidence suggests that individuals *do* change their reproductive intentions over their lives. Van Peer (2002) finds that there is a much poorer match between the intentions of younger women and their eventual achieved fertility than there is between intentions and outcomes for older women; Smallwood and Jefferies (2003) show that, in general, the older the woman the more likely she is to express the intention for fewer than two or more children than two children; and Goldstein et al. (2003) show that the ideal number of children reported by respondents decreases with age.

Two papers which use a multivariate framework to examine the determinants of revisions in fertility intentions over the life course are those by Heiland et al. (2008) and Liefbroer (2008). However, both these papers are based on models which assume that downward revisions in fertility intentions are equal and opposite to upward revisions – and which therefore constrain the determinants of upward and downward revisions to be equal and opposite. In this paper we use a more flexible multivariate framework, which allows us to analyse separately the determinants of upward and downward revisions in fertility intentions; we show clearly that these are not “equal and opposite” concepts, but that different factors are at play in the two scenarios.

Our analysis is based on longitudinal data from the British Household Panel Survey (BHPS). We exploit the fact that the BHPS is a household survey to analyse the effects on adjustments to expectations, not only of individuals' own characteristics, but also of the characteristics of their partners, showing that partner characteristics are an important determining factor, and that there are important asymmetries between men and women.

## **IV.2. Background**

As early as the 1950s, questions on fertility intentions were introduced into the American Fertility Survey with the purpose of helping to improve fertility forecasts. (Westoff and Ryder, 1977). Following this, there has been a great deal of research into the relationship between fertility intentions and later outcomes, and in particular, into the validity of fertility intentions as predictors of fertility behaviour. Despite the general consensus that there is a

strong link between intended and achieved fertility, it is also recognized that there is substantial discrepancy between the two measures: fertility intentions are far from being a perfect predictor for achieved fertility, which generally falls short of reported expectations (Morgan 2001; Smallwood and Jefferies 2003).

The gap between average intended and achieved fertility has increased over recent decades as the fall of fertility to below-replacement levels in many developed countries has not been accompanied by an equal fall in fertility intentions (Bongaarts 2001). This increasing gap between intended and achieved fertility has often been conceptualised as reflecting an “unmet need for children” arising from constraints, biological, economic and social, to childbearing (Coleman 2004; Bradatan and Firebaugh 2007; Liefbroer 2008; and Philipov et al 2009).

However, it is far from clear that these differences at the aggregate level indicate a generalised unmet need at the individual level. For a start, although on average achieved fertility falls short of intended fertility, this average is composed of some individuals falling short of their intended fertility, while others exceed it: Quesnel-Vallée and Morgan (2003) show that in the American case, the relatively close congruence between aggregate intention and observed fertility is mainly explained by the fact that individual-level errors cancel each other out, rather than by the ability of American women to anticipate how many children they will have. Hagewen and Morgan (2005) make a similar argument by pointing out that even though fertility plans may be attenuated by fertility postponement, infecundity and competition with other activities, they might also be augmented by factors such as unwanted fertility: while in the U.S. the latter factors compensate for the former, this might not hold universally. Implicitly this suggests that the gap between average fertility intentions and behaviour observed in Europe does not necessarily imply that all women fail to realize their fertility intentions - only that more women have fewer children than they intended, than have more. So, this gap between intended fertility on the one hand, and achieved fertility on the other, should not necessarily be interpreted as an unmet need for children (Smallwood and Jefferies 2003).

Another reason why it is problematic to interpret the gap between intended and realised fertility as indicative of an unmet need at the individual level, is that this gap changes in size according to the age at which individuals are first asked to state their intentions: the gap is in general larger, the earlier in life that women are asked about their original intentions (Van Peer 2002, Smallwood and Jefferies, 2003). This is because women’s intended fertility falls steadily with age. Heiland et al. 2008 conceptualise this decrease with age as arising

from an adaptive mechanism whereby women realise that they are unlikely to achieve their intentions, and adapt their intentions accordingly. We argue that it is entirely plausible that this type of adaptive mechanism accounts for a proportion of changes in intentions; however, we argue that some changes in intentions are also likely to arise because people simply change their minds about the number of children they would like to have. Lee (1980) makes this point eloquently, while Westoff and Ryder (1977) provide empirical evidence: of women who originally said they intended to have another child, but did not go on to have one, about 70% said at a follow-up interview that this was because they changed their minds. (Among those who had said they did not want more children, but went on to have one, only 25% said that that they had changed their minds – the other three quarters said that the birth just happened).

Other studies confirm this: Monnier (1989) finds that changes in intention depend on the nature of the original intention and, to a lesser extent, on parity. Berrington (2004) examines fertility intentions in the UK, and describes how these differ by age, parity and gender; she also examines the role of conflicting intentions between partners. Both these studies show that while downward adjustment in intentions is more frequent than upward adjustment, adjustments in both directions are common.

Heiland et al. (2008), using a West German longitudinal survey, find that up to 50% of all individuals report different total desired fertility across interviews (6 to 7 years apart). They estimate two models: a linear probability model of whether individual's total desired family size is unstable; and a fixed-effects model using the two observations they have on the desired family size. In their panel estimates they find that having children between the first and the second wave increases the total number of children wanted among women with children. However, given that the question used refers to total desired fertility, this could be reflecting post-rationalization. The authors hypothesise that life course experiences cause people to alter their perceptions of the costs and benefits of childbearing, thereby affecting desired fertility but provide very weak empirical confirmation for this hypothesis.

Liefbroer (2008) uses data from a Dutch panel survey to address the question of the stability of family size intentions. A random-slope model is estimated to examine whether the age-related change in family size intentions varies between respondents, and whether this variation in the slope can be explained by differences between individuals in their experiences in the family and the occupational life domains. The results show that, on average, family size intentions are adjusted downwards with increasing age.

There is evidence that the mismatch between fertility intentions and outcomes is patterned – as Morgan (2001) points out. Having children, for example, is correlated with revising upwards. Monnier (1989) interprets his results as an indication that decisions are made sequentially - Nambodiri (1983) and Udry (1983) suggest the same – and that intentions are revised whenever a new baby is born. The arrival of a child brings more information about childbearing and childrearing and, at least for some women, this additional information might make the balance tip in favour of the benefits of having children.

Before proceeding, we make one further observation. The papers we have discussed relate to different concepts of projected fertility: some measure intended fertility, others measure desired or ideal fertility, and others use expected fertility. Miller (1992) and others have investigated the differences between these concepts of future fertility, concluding that they do measure subtly different concepts. Thus, it is important to note that the measure of projected fertility we use in this paper relates to *expected* fertility.

### **IV.3. Data**

The data used in this analysis come from the British Household Panel Survey (BHPS), a UK-based survey which has been conducted each year since 1991 on a nationally representative sample of about 10,000 individuals in 5500 households. The BHPS is household-based, meaning that each year every member of sample households aged 16 years or over is interviewed. 17 waves of data are available, with the latest available wave being collected in 2007.

As well as a rich set of background variables, the BHPS asks a set of questions relating to expected fertility. Respondents aged 45 or under (women) and 50 or under (men) are asked: “Do you think you will have any [more] children?” and (if the answer to the first question is positive): “How many [more] children do you think you will have?”

The questions on expected fertility are asked in wave 2, and repeated in Waves 8, 12, 13 and 17, as well as Wave 11 for certain subsamples. These repeated observations potentially allow us to examine changes in fertility expectations over different time intervals: short-term year-on-year changes (between Waves 11, 12 and 13); medium-term changes (using the five- or six-year intervals between Waves 2 and 8, 8 and 13, and 12 and 17); and long-term changes (between Waves 2 and 17).

Among the 84% of eligible respondents who gave full answers to these questions in the relevant waves, there are several sources of ambiguity in the data. First, around 8% of

respondents answered “don’t know” to the question on whether they expected to have any [more] children. Second, some respondents who had answered the first question in the affirmative went on to answer “don’t know” when asked how many [more] children they expected to have (here, the numbers were smaller, comprising under 2% of additional cases. All these cases have been dropped from the sample. The third source of ambiguity relates to approximately 2% of respondents who were pregnant (or their partner was pregnant) at the time of interview. In these cases, it is not clear whether the question “how many [more] children do you think you will have?” it is not clear whether the respondent should include the already-conceived child in the total, or not. In fact, pregnant respondents report expecting rather fewer additional children than others, so we have assumed that their responses reflect additional children *over and above* the child already on the way. This assumption affects our estimates hardly at all.

For respondents with no existing children, these questions provide information on expected fertility; for respondents who do have one or more children, the answers to these questions must be added to the number of children they already have, in order to arrive at total expected fertility.

In fact, questions on total achieved fertility were not carried in every wave of the BHPS: they were carried at Wave 2, but not repeated again until Wave 8, after which the questions were asked annually to all new entrants to the survey (each respondent is asked this question only once over the course of the survey). For the years when a respondent did not reply to this question, we calculate a measure of achieved fertility as follows. Starting with the year in which a respondent was asked about the number of children he or she had had, we carry this number forward to the following year, increasing the total by one (or by two or more in the case of multiple births) if a new baby is present in the household who had not been born at the previous interview, and who is recorded in the household grid as being the child of the respondent. We carry this running total forward year by year, adding to the total each time a new baby is observed.

For women, this procedure is likely to be highly reliable; for men it will be slightly less so. There are two potential sources of error. Rendall et al. (1999) find evidence of under-reporting of achieved fertility among men, relating almost exclusively to children who no longer live with them. In addition, there is the possibility that we may miss some of the new babies fathered by men in the sample, who do not live in the same household as their female (ex-) partners. In fact, this second source of error appears extremely small in our survey;

however, there does appear to be some under-reporting of achieved fertility, of the order of 0.3 children.

*Figure 1*  
 Expected and achieved by age and gender, for two cohorts

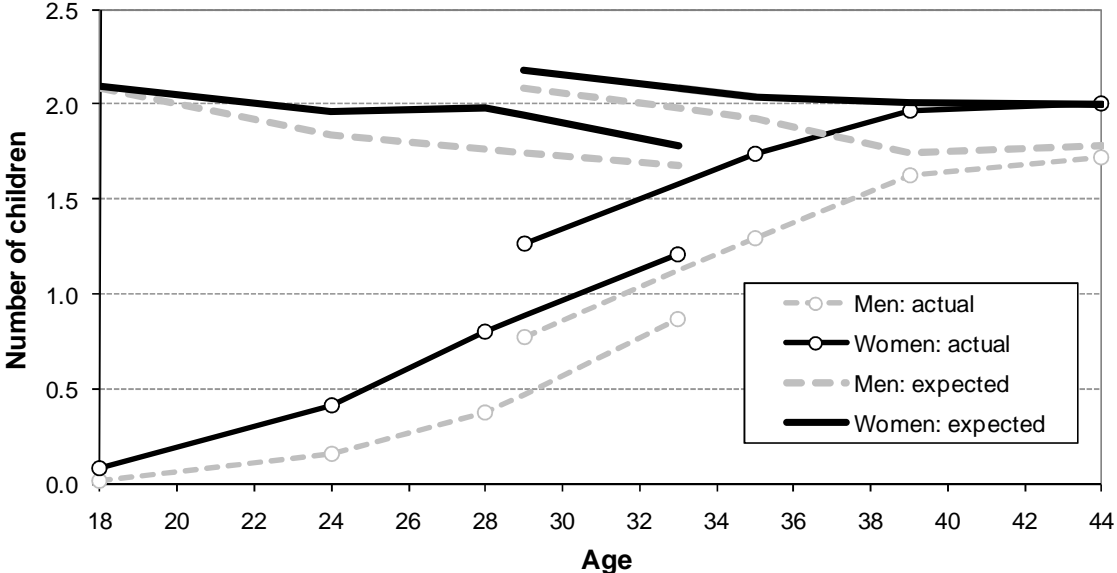


Figure 1 plots both expected and achieved fertility for two cohorts of men and women in the BHPS. The first series relates to those aged 17-19 in 1992, and plots expected and achieved fertility in waves 2, 8, 12 and 17. As the BHPS is not yet long enough to follow this cohort right through their reproductive lives – they are aged only 33 in Wave 17 - the second series presents the same information for an older cohort, who are aged 28-30 at Wave 2 and 43-45 in Wave 17.

In the absence of a cohort effect, these two series would overlap perfectly between ages 29 and 33, with no discontinuity. However, in the context of falling fertility, we do of course observe differences. At age 29, average actual fertility stands at 1.3 for the older cohort and 0.8 for the younger cohort; expected fertility stands at 2.2 for the older cohort against 1.9 for the younger.

Two further features of these graphs stand out. The decrease with age in the gap between expected and actual fertility arises partly because actual fertility increases with age, but also because expected fertility decreases. For the younger cohort, expected fertility falls by 0.3 children (women) and 0.4 children (men) between the ages of 18 and 33; for the older cohort it falls by around 0.2 children (women) and 0.3 children (men) between the ages of 29

and 44. This reduction is of the same order as the reduction recorded by Liefbroer (2008), although rather smaller.

Finally, we note that this graph presents evidence of the systematic under-reporting of fertility by men, as reported by Rendall et al. (1999). The vertical difference between the male and female graphs is around 0.5 children; however, because men have their children somewhat later than women, this gap does not properly represent the degree of under-reporting, which may be estimated by the gap between the male line and the female line shifted rightwards by two years. For both cohorts, this appears to be of the order of 0.2 or 0.3 children per man; this is also the order suggested by the gap between the graphs at age 44.

#### **IV.4. Methods**

The majority of the multivariate results which we report in this paper are estimated using a multinomial logit framework, in which our dependent variable is defined as changes in expectations over a six-year period. Three outcomes are specified separately: the reference group consists of individuals whose expectations do not change over the period, while the other two groups are defined as individuals whose expectations increase and decrease over the same period.

The multinomial logit model is in many ways a more basic model than some others which have been used in this type of analysis, but it has one important advantage, namely that it allows us to examine increases in fertility expectations separately from decreases. Other papers in this area have used analytical frameworks which constrain the coefficients on factors explaining increases in expectations to be equal and opposite to the coefficients on the factors explaining decreases in expectations: for example, Liefbroer (2009) uses a random slopes model with intended family size as the dependent variable, while Heiland et al (2008) estimate fixed and random effects models. One of our aims in this paper is to examine whether increases in fertility expectations may indeed be thought of as equal and opposite to decreases in expectations, and we therefore use an analytical framework which permits us to examine this.

We mentioned in the previous section that the timing of questions in the BHPS allows us to examine changes in expectations over the short term (one year); the medium term (five or six years) and the long term (fifteen years). The multivariate results we present focus on changes over the medium term: we achieve similar results if we switch the focus to short-term changes, although with a lower degree of precision, because fewer people amend their

expectations in this shorter time-span. We did not feel it appropriate to estimate this model over long-term changes, because almost all the explanatory factors in the model are measured in the original time period, and the relevance of these factors over a period of fifteen years is unclear.

The estimates we report treat all individuals whose expectations increase as members of the same group, rather than distinguishing between people whose expectations increase by one, by two, and so on. We did experiment with a more refined version of the dependent variable which took this into account, in order to examine whether the determinants of large changes in expectations differ from the determinants of small changes. However, what little extra insight was gained from this approach was far outweighed by the loss in simplicity of the results.

**IV.5. Results**

*IV.5.1 Expected fertility and fertility outcomes*

This paper is motivated by the discrepancy between people’s intended fertility towards the beginning of their reproductive lives, and their achieved fertility towards the end of their reproductive lives. We begin this section with some descriptive statistics which tabulate this discrepancy.

Table 1 tabulates expected fertility at Wave 2, using the sample of men and women aged 25–35. The first two columns relate to the whole sample, the right-hand columns to men and women who have not (yet) had any children. Among both groups there is a distinct modality at 2; among those who have not had children, there is also a substantial group (21% of men, 24% of women) who do not expect to have children.

*Table 1*  
Expected number of children measured at Wave 2 (men and women aged 25–35)

	All		Those with no children (yet)	
	Men	Women	Men	Women
None	9.6	8.6	21.2	24.2
1	9.7	10.7	7.8	12.1
2	51.7	49.6	57.3	51.4
3	21.1	21.8	11.4	8.7
4	6.2	7.4	2.4	3.4
5+	1.8	2.0	0.0	0.3



In Table 2, we examine the relationship between expected fertility and later outcomes. Panel 1 of Table 2 takes as a sample all men and women aged 25–35 at Wave 2 of BHPS, and tabulates expected fertility at Wave 2 against the actual outcome 15 years later in 2007. Of those who wanted no children, 83% of men and 88% of women actually went on to have no children, and may therefore be said to have achieved their desired level of fertility. Of those who wanted one child, 66% of men and 61% of women achieved this; this group were several times more likely to overshoot their target by having two or more children, than to under-achieve, by having no children. Of those who wanted two children, 61% of men and 69% of women achieved this target, with the majority of those who did not achieve their target achieving fewer, rather than more, children than they expected. Of course, these figures include men and women who have already achieved their desired number of children. In panel 2 we restrict the sample to those who have not yet had any children; among this sample, the percentage of people achieving their expected fertility is dramatically lower than in the full sample; the only individuals who have a greater than 50% chance of achieving their desired fertility are those who do not want any children, and women who want only one child.

Three stylised facts may be drawn from Table 2:

People who do not expect to have children are more likely to achieve this target than people who do expect to have children; it is in some sense easier not to have children than to have children.

In general, the higher an individual's expected fertility, the lower is the probability that he or she will achieve this exactly.

Among men and women who have not yet had children but who expect to go on to have children, well under half will go on to fulfil that expectation exactly.

Among those who do not exactly achieve their expected fertility, there is a substantial degree of “overshooting” as well as “undershooting”.

This last point suggests that any analysis of the relationship between expected and achieved fertility should not think only in terms of the problem of individuals having *fewer* children than they wanted, but should also consider the other side of the coin: namely, that many individuals go on to have *more* children than they originally wanted.

Table 2

Expected number of children and actual number 15 years later (row percentages)

**Panel 1: Men and women aged 25-35 at Wave 2 (40-50 at wave 17)**

		Actual number of children at Wave 17					
Men		0	1	2	3	4	5+
Number of children expected at Wave 2	0	<b>82.5</b>	11.8	2.8	3.0	0.0	0.0
	1	4.1	<b>66.1</b>	22.7	5.3	1.8	0.0
	2	14.7	13.8	<b>61.3</b>	7.8	1.9	0.5
	3	5.2	5.1	27.5	<b>54.6</b>	7.2	0.4
	4	5.5	12.5	10.6	22.1	<b>42.3</b>	7.1
	5+	0.0	2.3	0.0	0.0	20.0	<b>77.7</b>
Women		0	1	2	3	4	5+
Number of children expected at Wave 2	0	<b>87.7</b>	5.5	4.4	2.5	0.0	0.0
	1	10.2	<b>61.2</b>	24.4	0.0	4.2	0.0
	2	10.5	11.3	<b>69.1</b>	8.8	0.4	0.0
	3	1.7	3.5	21.8	<b>63.3</b>	7.4	2.4
	4	7.7	2.6	11.9	20.1	<b>55.5</b>	2.2
	5+	4.2	0.0	2.1	10.0	31.5	<b>52.2</b>

**Panel 2: People aged 25-35 at Wave 2 who no children at Wave 2**

		Actual number of children at Wave 17				
Men		0	1	2	3	4+
No. of children expected at Wave 2	0	<b>82.5</b>	11.8	2.8	3.0	0.0
	1	9.5	<b>46.3</b>	36.9	7.3	0.0
	2	30.7	20.4	<b>40.8</b>	5.9	2.2
	3	24.7	4.5	34.1	<b>32.2</b>	4.5
	4+	23.8	15.9	8.4	51.9	<b>0.0</b>
Women		0	1	2	3	4+
No. of children expected at Wave 2	0	<b>87.7</b>	5.5	4.4	2.5	0.0
	1	28.5	<b>51.7</b>	19.8	0.0	0.0
	2	31.0	23.5	<b>38.9</b>	6.6	0.0
	3	12.7	9.6	40.4	<b>31.6</b>	5.7
	4+	38.0	11.4	11.3	28.8	<b>10.5</b>

Table 2 as it stands does not allow us to calculate the relative importance of under- and over-shooting targets, because the figures are presented as row percentages. However, a simple calculation produces the figures tabulated in Table 3, which show that the majority of people aged 25–35 (61% of men and 67% of women) go on to achieve exactly their expected number of children 15 years later; 27% of men and 22% of women have fewer children than they expected, while 12% of men and 11% of women have more children than they expected.

Thus, among this sample, people who have more children than they originally expected account for between one quarter and one third of people who do not have exactly the number of children they originally expected.

*Table 3*  
Percentage of men and women aged 25–35 who achieve under, exactly and over their expected number of children 15 years later

	Men	Women
Has fewer children than expected	27.0	22.1
Has exactly the number expected	61.2	67.2
Has more children than expected	11.8	10.7

*IV.5.2. Revisions in fertility expectations*

The main focus of this paper is to examine the way in which individuals revise their fertility expectations over the course of their lives. Before proceeding to multivariate analysis in which we examine the determinants of these revisions in expectations, we present descriptive statistics on these revisions. Table 4 tabulates expected fertility at two points in time six years apart, for men and women aged 20–39; the figures are row percentages. Thus (for example) 85.4% of men who initially expressed the expectation that they would not have children expressed the same intention again six years later; 5.4% of men who initially said they expected to have no children said six years later that they expected to have one child; and so on.

The majority of people do not change their expectations; however, this varies according to the number of children they originally wanted. We found in the previous section that individuals who do not expect to have children are more likely than others to realise that expectations exactly; in the same way, we also find here that individuals who do not expect to have children are more likely than other people to maintain their expectations constant. Among both men and women, the groups most likely to change their expectations are people who expect to have only one child and those who expect three children; in all cases, expectations tend to move towards the modal expectation, which is two children. Men are rather more likely to amend their expectations than women.

*Table 4*  
changes in fertility expectations over the medium term: men and women aged 20–39

		Expected fertility six years later					
Initial fertility expectation	Men	0	1	2	3	4+	
		0	<b>85.4</b>	5.4	7.2	2.1	0.0
		1	7.7	<b>61.8</b>	25.7	4.4	0.4
		2	5.8	10.6	<b>76.9</b>	5.9	0.9
		3	1.9	4.2	26.7	<b>63.2</b>	4.1
		4+	1.7	2.8	8.7	16.2	<b>70.7</b>
		Expected fertility six years later					
Women	0	1	2	3	4+		
	0	<b>87.3</b>	8.1	4.0	0.6	0.0	
	1	7.1	<b>72.2</b>	18.4	2.3	0.0	
	2	3.4	7.3	<b>79.9</b>	9.0	0.4	
	3	0.3	2.6	20.8	<b>71.7</b>	4.6	
	4+	0.7	1.1	11.0	15.0	<b>72.2</b>	

In reporting statistics for a sample of individuals spanning the age range from 20 to 39, Table 4 masks the fact that there is a good deal of heterogeneity between age groups. Table 5 divides the sample into four age groups, and summarises revisions in expected fertility for each of them.

*Table 5*  
Revisions in their fertility expectations over a six-year period, by age

		Revise down	Stay the same	Revise up	Revise down by 2 or more	Revise up by 2 or more
Men	20-24	33.3	54.9	11.8	9.8	2.5
	25-29	23.9	59.7	16.4	7.1	1.1
	30-34	15.9	75.2	8.9	4.3	0.6
	35-39	6.3	90.0	3.7	1.7	0.2
Women	20-24	27.1	54.1	18.8	16.3	2.5
	25-29	19.8	66.9	13.3	12.2	1.1
	30-34	10.2	81.7	8.1	7.5	0.6
	35-39	4.0	93.7	2.3	2.1	0.2

The first three columns in Table 5 sum to 100%, and show the percentages who revise their expectations downwards; whose expectations stay the same; or who revise them upwards. The two right-hand columns show the percentages of people who adjust their fertility expectations over this period by more than one child; these serve to demonstrate that although the majority

of people who change their expectations do so by only one child, a substantial minority change their expectations by two or more children.

The following stylised facts may be drawn from this table:

The proportion of people whose intentions are stable over time is higher among older age groups, and the proportion of individuals revising their expectations upwards or downwards is higher at younger ages and lower at older ages. The only exception to this is that men in the 25–29 age group are more likely to revise their expectations upwards than men in the 20–24 age group.

More people revise their expectations downwards than upwards. Upward revisions account for about 40% of total revisions, except for the youngest group of men, where they account for only about 25% of total revisions.

The importance of these findings lies in the way they motivate our multivariate analysis. Studies in this area tend to treat revisions in fertility expectations as (a) occurring in a downwards direction, and (b) a phenomenon concentrated among older women in reaction to the reality of the biological clock. In fact, we have shown that although it is true that more downward than upward revisions do occur; and that the mean trajectory of fertility expectations over the life course is therefore downwards, a very substantial proportion of revisions occur in the upwards direction. In addition, it is not true that downward revisions in fertility expectations are concentrated among older women; in fact, downward revisions are far more common among *younger* men and women, reflecting the generally higher fluidity of expectations among the younger age group. While it may certainly be true that the reasons for downward revisions differ between different age groups, and that limitations of the biological clock play a significant role for older women, the fact that younger women are more likely to revise their expectations downwards should be borne in mind when interpreting the multivariate analysis.

#### *IV.5.3 Revisions in expectations: multivariate analysis*

Earlier in this paper, we noted that the BHPS allows us to examine changes in expectations over three time frames: short-term year-on-year changes; medium-term changes over six years; and longer-term changes over 15 years. We focus here on changes over the medium term. It is possible to estimate equations looking at changes over the longer term; the problem is that because the BHPS only records fertility expectations for women up to age 45 and men up to age 50, changes over the longer term are observable only for women who are aged

under 30, and men who are aged under 35, in Wave 2. Equations estimating short-term changes may be estimated over the full sample, and produce qualitatively similar results to the ones we display here; however, the estimates are less well defined because the percentage of individuals changing their expectations between one year and the next is smaller than the percentage changing their expectations over a six-year period.

The first specification reported in Table 6 shows regressions which include only selected personal-level characteristics as covariates. These include a quadratic in age; a dichotomous variable indicating whether the individual has a partner in the base year; dichotomous variables indicating whether the individual gains or loses a partner between the two observations; the individual's income; and whether the individual has a job.

This first specification is rather parsimonious; it is worth mentioning that we experimented with a wide range of additional covariates which were not finally included. We experimented with a more sophisticated specification for partnership status, including variables distinguishing between marriage and cohabitation, and variables identifying complex trajectories through partnership formation and dissolution. However, this specification yielded no additional information, and was abandoned in favour of the simpler specification. We tried including indicators of ethnicity; the coefficients on all such indicators were consistently insignificant, so we also dropped these from the regressions. We tested different ways of including educational attainment in the regressions, but found that when income was also included, educational attainment had no effect and served only to confound our estimates. We tried including an indicator of the size of the individual's family of origin, an indicator of the individual's birth order in his or her family of origin, and a set of variables capturing the Big Five personality traits. All of these are significant in regressions in which fertility expectation is the dependent variable; however, they are found to have no effect when the locus of interest is not fertility expectations, but changes in these expectations.

In respect of age, this first set of regressions shows that for both men and women, the probability of either increasing or decreasing expectations is increasing in age and decreasing in age squared. Examining the coefficients more closely shows that the turning point in this function occurs in the early twenties for men, and at age 15 or 16 for women – in other words, this confirms the earlier descriptive finding that revisions in expectations in both upward and downward directions are more common in younger than in older individuals. Having a partner is associated with a lower probability of reducing one's expectations, but is not significantly associated with the probability of increasing one's expectations, while there is no significant association at all with getting or losing a partner over the six-year period. Personal income

plays a significant role for women, with increased income being associated with a higher probability of reducing one's expectations. If labour market status is omitted from the equation, personal income is also associated with a lower probability of increasing expectations for women; as it is, it is the coefficient on women's employment status which is negative. There is no effect at all from personal income or employment status for men.

The second specification also includes variables relating to the individual's partner. Because the age of an individual and his or her partner tend to be closely related, controlling for partner's age presents problems of collinearity, and we have not done this. We include a pair of dichotomous variables indicating whether an individual's partner expects to have more, or fewer, children than the individual him- or herself. There is clear evidence that people adjust their expectations in accordance with those of their partners. Both men and women whose partners expect to have more children than they do are likely to revise their expectations upwards; and both men and women whose partners expect to have fewer children than they do are likely to revise their expectations downwards. The effect appears to be stronger in the downwards direction, indicating that one reason for the general downward trajectory of expectations over the reproductive life may be associated with couples' expectations tending to adjust towards the lower of the two individual expectations. Variables relating to partner's income and employment status are also included<sup>39</sup>; the coefficients on these variables are insignificant for women, but significant for men. Men whose partners have higher incomes are more likely to revise their expectations downwards; men whose partners have a job are less likely to revise their expectations upwards. We observe here that male employment and earnings play very little role here; it is women's employment and earnings which affect both their own probability, and the probability of their partner, revising their expectations.

The next specification adds a set of variables relating to childbirths which intervene between the two years at which expectations are measured. It is not altogether simple to operationalise these variables. Because of the way expected fertility is constructed, any birth which brings an individual's total number of children to a total higher than the number of children he or she previously expected to have will have the effect of increasing that individual's expected number of children. Births which bring an individual's total number of children up to the expected total will by definition mean that the individual cannot reduce their expectations in the second period. Thus, simply adding in an indicator for new births, or

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<sup>39</sup> In order to preserve sample sizes, partner variables are set to the mean in the case of income, or the modal value in the case of the dichotomous variables, where the individual has no partner or data for the partner is missing.

for the number of new births, during the intervening six-year period, means that we will to an extent be observing effects which occur purely by construction, rather than because of any effect on behaviour. We therefore take the following approach, defining a set of variables:

Birth_equal_1	a first birth, when expected fertility in the initial year is 1
Birth_equal_2	a second birth, when expected fertility in the initial year is 2
Birth_equal_3	a third or higher order birth, which brings achieved fertility up to expected fertility measured in the initial year
Birth_lower_1	a first birth, when expected fertility in the initial year is $\geq 2$
Birth_lower_2+	a second or higher-order birth, after which achieved fertility is still lower than expected fertility measured in the initial year

The reference group is individuals who had no new children over the period; 357 individuals who had children which brought their achieved fertility by the end of the second period over their expected fertility measured in the first period are excluded from the sample in this specification.

Having a first child, when an individual initially wanted one child, is associated with an increase in expectations for both men and women. Having a second child, when the individual initially wanted two children, is associated with a much more modest probability of increased expectations for women, and no increase at all for men. There is no analogous increase in expectations, for either men or women, associated with having a third or higher-order birth which brings achieved fertility equal to expected fertility in the first year, over the period.

Looking now at births which do not bring achieved fertility up to expected fertility as measured at year 1, we see that first births which fall into this category (i.e., first births to individuals who initially expected to have two or more children) are associated with an increased probability of *both* increases *and* decreases in expectations for men, but they are associated only with reduced expectations for women. Second and subsequent births to women who would have expected to go on to have even more children are associated with an even stronger increase in the probability of reducing one's expectations. It appears that an element of learning may be operating: people form their expectations, and amend them in the light of what they discover about being the parent of a particular number of children. This is consistent with the suggestion of Monnier (1989), Nambodiri (1983) and Udry (1983) who suggest that childbearing decisions are made sequentially and revised on the arrival of a new child; here, we have refined these results to show that these effects occur in both directions, and that they vary by gender and by parity.

The final specification in Table 6 includes interactions with age. Liefbroer (2009) points to the importance of interacting key variables with age, in order to identify a possible



effect from the biological clock. Here, we began with a full set of interaction terms, and retained those which were significant at the 10% level or better in any of the four equations reported. The interaction between birth\_lower\_1 and age is significant for both men and women. This indicates that the increased probability of a reduction in expectations observed in people who initially said they expected to have more than one child, and who went on to have a first child, is more pronounced for older mothers and fathers.

Table 6

MEN	REDUCE EXPECTATIONS					INCREASE EXPECTATIONS				
	II	II	III	IV	IV: Age interactions	II	II	III	IV	IV: Age interactions
Age	0.330***	0.321***	0.301**	0.303*		0.524***	0.503***	0.379*	0.493**	
Age squared	-0.007***	-0.007***	-0.007***	-0.006**		-0.011***	-0.010***	-0.008**	-0.009***	
Has a partner	-0.377*	-0.543	-0.648	1.315	-0.067*	0.34	1.450***	-0.324	4.083***	-0.088*
Gets a partner	0.131	0.145	-0.034	2.594*	-0.103*	0.311	0.329	-0.376	0.21	0.009
Loses a partner	0.526	0.726*	0.846**	-1.075	0.061	-0.049	-0.084	0.68	1.255	-0.05
Monthly Income x 100	-0.001	-0.006	0	-0.038	0.001	0.005	0	0.021	-0.062	0.002
Has a job	-0.107	-0.066	-0.134	0.887	-0.038	-0.241	-0.026	-0.235	0.811	-0.026
Partner wants more children		0.168	0.131	0.177			1.129***	1.662***	0.908***	
Partner wants fewer children		1.593***	1.239***	1.294***			0.399	0.598	0.617	
Partner has job		-0.254	-0.27	-0.223			-0.785**	-0.387	-0.853**	
Partner monthly income x 100		0.043**	0.042*	0.040*			0.032	0.057*	0.037	
Birth_equal_1			.	.				2.390***	1.041*	
Birth_equal_2			.	.				0.499	-1.185**	
Birth_equal_3			.	.				0.001	-2.100*	
Birth_lower_1 <sup>st</sup>			1.153***	-2.702*	0.138**			1.334***	-1.194	0.04
Birth_lower_2+			3.208***	3.287***				0.755	-1.146	
Constant	-4.089**	-4.155**	-3.863**	-4.573**		-7.957***	-9.038***	-7.809**	-9.264***	
N	2359	2359	2262	2359						
Pseudo R-squared	0.132	0.159	0.272	0.243						
WOMEN	REDUCE EXPECTATIONS					INCREASE EXPECTATIONS				
	II	II	III	IV	IV: Age interactions	II	II	III	IV	IV: Age interactions
Age	0.281*	0.245	0.312*	0.249		0.215	0.216	0.082	0.178	
Age squared	-0.008***	-0.007**	-0.008***	-0.007*		-0.006**	-0.006**	-0.005	-0.005	
Has a partner	-0.29	-0.52	-0.31	0.51	-0.028	0.025	0.805**	0.453	3.877***	-0.107**
Gets a partner	-0.304	-0.297	-0.438	-0.486	0.003	0.269	0.28	0.155	0.088	0.015
Loses a partner	-0.136	-0.14	-0.107	3.924	-0.149	-0.439	-0.362	0.261	-1.092	0.022
Monthly Income x 100	0.036**	0.040**	0.033*	-0.271**	0.010**	0.015	0.016	0.044	-0.261*	0.009**
Has a job	-0.173	-0.189	-0.236	3.362**	-0.121**	-0.634**	-0.641**	-0.175	1.708	-0.080*
Partner wants more children		0.336	0.555	0.645*			0.924***	1.079**	0.842**	
Partner wants fewer children		1.546***	1.315***	1.456***			0.013	1.141**	0.187	
Partner has job		0.494	0.466	0.51			0.122	-0.394	0.134	
Partner monthly income x 100		-0.014	-0.014	-0.016			-0.009	0.029*	-0.002	
Birth_equal_1			.	.				2.346***	0.972*	
Birth_equal_2			.	.				0.712*	-0.786**	
Birth_equal_3			.	.				-0.972	-2.824**	
Birth_lower_1 <sup>st</sup>			0.930***	-5.658***	0.258***			0.185	-3.909	0.116
Birth_lower_2+			3.473***	3.554***				1.246	-0.386	
Constant	-2.914	-2.843	-4.016*	-3.57		-2.418	-3.429	-2.227	-3.249	
N	2347	2347	2207	2347						
Pseudo R-squared	0.108	0.130	0.255	0.227						

The interaction coefficients on income and labour market status are also significant for women. This indicates a complex interaction between earnings and labour market status. Women with jobs are more likely to revise their intentions downwards, but this tendency is less marked among older women – especially those with high monthly incomes. This may be indicative of delayed fertility decisions among high-earning women.

## IV.6. Conclusions

Our conclusions are as follows. One of the questions which motivated this research relates to the fact that individuals' reported fertility expectations early in life are on average higher than their realised fertility at the end of their reproductive years. It asks whether this difference should be interpreted as an unmet need for children (ie, whether people continue to want the number of children they wanted earlier in life, but they revise their expectations downwards as they come to realise that they will be constrained, biologically, economically, or for some other reason, to have fewer children than they want). Alternatively, does it simply reflect a process of individuals changing their minds over their lives about the number of children they want, for reasons unrelated to constraints. This research shows that it is not correct to think solely in terms of an unmet need. We have identified at least one reason why people adjust their fertility which arguably has little to do with constraints: both men and women adjust their expected fertility, upwards, as well as downwards, to fit in with their partners' expectations. In fact, the finding that revisions occur in both upward and downward directions is important in itself – our research shows (a) that both types of revisions occur, and (b) that they are not equal and opposite. There is a clear benefit in separating out the two types of revisions for analytical purposes; and the fact that upward revisions occur, and account for around one third of all revisions, adds weight to the argument that individuals revise their fertility expectations for a range of rich and complex reasons, not all of which are related to constraints on their lives.

The descriptive analysis demonstrated that men and women revise their fertility expectations both upwards and downwards. One innovative feature of our multivariate analysis is that we analyse these upward and downward revisions separately, rather than assuming that they are equal and opposite phenomena. We find good evidence that upward and downward revisions are *not* equal and opposite phenomena, but that they have rather different determinants.

Both upward and downward revisions are made in response to the expectations of a partner: both men and women revise their expectations upwards if their partner expects to have more children than they do; and both men and women revise their expectations downwards if their partner wants fewer children than they do. Income is also a factor in both directions, but the effect varies interestingly by gender. Women whose own incomes are higher are more likely than other women to decrease, and less likely to increase, their fertility expectations over the six-year period. However, the effect for men relates not to their own

income but to their female partner's income: men with higher-earning partners are more likely to decrease, and less likely to increase, their expectations.

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## **V. Does economic uncertainty affect plans, timing or level of fertility? Evidence from France**

by

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Since the eighties, there has been a rise in uncertainty on the labour market in most European countries. Unemployment and job instability have sharply increased. Entering the labour market is particularly difficult for young people, especially in France: The unemployment rate of people under 25 is about 20% in 2007, which is four points higher than the EU-25 average (Eurostat, 2007). In addition to unemployment, young people face increasing employment flexibility. Term-limited working contracts and marginal employment have become a common experience during the early life course.

Economic uncertainty has been identified as one of the main explanations for postponement of fertility in Europe (Blossfeld et al., 2005), and the increase in the age of parenthood is considered as one of the main explanations for the decrease in fertility (Koehler et al., 2002; Sobotka, 2004). But there is an alternative explanation regarding the link between job uncertainty and fertility. In a context of economic uncertainty, people (mainly women) may prefer to invest in maternity, since the private sphere is less uncertain than the public one. This explanation may be particularly strong in a context where fertility is highly valued.

France holds a rather particular position in Europe with one of the highest fertility levels: In 2006, the total fertility rate was up to two children per woman, very close to the “replacement level”. Apart from this specificity, other demographic characteristics are not very different from other Western European countries: like elsewhere in Europe, the number of marriages has dramatically declined while unmarried cohabitation is rising and entry into parenthood being delayed. As in many Welfare state countries, female labour force participation is quite high, even for mothers. According to the latest census by the National Institute for Statistical Studies (INSEE), the labour force participation rate of mothers aged 25 to 49 is 89.8% with one child, 85.3% with two children and 67% with three children.

This high level of period fertility despite a high rate of youth unemployment is somewhat puzzling. Does economic uncertainty have really no effect on fertility in France?

Another specificity of France is the large range of social support from the state. For instance, 51% of people aged 18 to 29 receive some form of social support (housing allowances, student grants, family benefits, etc.). But unemployment benefit is available from 4 months of work and social assistance is available only from 25.

This article examines the impact of work uncertainty on fertility in France. It investigates whether temporary jobs and unemployment merely delay fertility or also bear an impact on completed fertility. The originality of the paper lies on the variety of indicators of fertility used. Indeed, we proceed in three steps, using three different indicators. First, we analyze fertility plans according to the current employment situation of both partners. Second, we study the timing of childbearing according to the job security path. Lastly, completed fertility of women and men is investigated.

## **V.1.The national context**

### *V.1.1. Reconciliation policies include family policy measures as well as labour market policies*

France's fertility level can be partly explained by its active family policy developed after the Second World War, and adapted in the 1980's to facilitate women's entry into the labour force. This policy is the result of a battle, fuelled by pro-natalists, between the conservative supporters of family values and the promoters of state-supported individual equality. French family policy thus encompasses a wide range of measures based on varying ideological backgrounds, and it is difficult to classify in comparison to the more precisely focused family policies of other European welfare states. The active family policy seems to have created especially positive attitudes towards two- or three child families in France.

France has a rather generous and diversified family benefit system. Public expenditure devoted to families is quite high. According to Eurostat data, it was up to 2.8% of GDP in 2003, which is higher than the EU-25 average (2.1%), only behind Denmark, Sweden, Finland, Luxemburg and Germany. However, the Eurostat nomenclature does not take into account all benefits for families (such as the tax reduction system called *quotient familial* described below or early schooling). Including fiscal support for families, the State contribution is estimated to be 3.6% of GDP. Hence, France may be seen as the European country with the most substantial family policy (Adema and Ladaique 2005).

French family policy combines allowances designed to reduce the cost of children. These allowances specifically target families with three or more children. Universal family benefits exist, but they are only given to families with two or more children, with a progressive scale. Several means-tested allowances are also available. But public family expenditure is not the only reason for the high French fertility level. One important feature of the system lies in the possibility given to women (and men) to combine work and family in

their everyday life. Subsidized daycare allows this combination. In France, babies can be cared for from the age of 3 months, either in *crèches* or by subsidized registered childminders. From the age of 3, all children can attend nursery school (*écoles maternelles*). This provides educational experiences to children under the supervision of professionally qualified teachers. Note that this kind of school is free of charge and of high quality. Moreover, school hours are quite long: from 8:30 to 16:30, and subsidized care facilities are often provided by municipalities before and after school hours. School meals are available during lunchtime. At the age of two, 25% of children attend school, and almost all children after this age.

According to the OECD data base, 42.9% of French children under 3 are enrolled in formal care, almost the same proportion as in Sweden (44%) and twice the proportion in Germany (21.2%). Comparing Sweden and France, two high-fertility countries, public expenditure on childcare is globally high in both countries. France spends more on education since school starts at the age of three, while Sweden reports higher expenditures on childcare. The enrolment rates of children aged 0–2 in formal care are similar in both countries.

The French parental leave is long but the financial compensation is quite low. During three years after a birth, parents who stop working for a while to raise their child receive a fixed allowance (about half of the minimum wage). The allowance is halved for parents who continue to work part-time. This allowance was created in 1985, and was only given to parents with three or more children. In 1994, it was made available to parents of a second child; and in 2004 for the first one (only during 6 months). Although the take-up rate has not reached the level of Northern countries, it is quite high: 10% after a first birth, 30% for second births and 39% for third and subsequent births (Mahieu, 2005). But the take-up rate for part-time parental leave is rather low: five%, 20% and 10%, respectively.

*Table 1*  
Family policy indicators

	Sweden	France
<b>Spending as a % of GDP, 2005</b>		
Childcare	0,58	0,36
Pre-primary education	0,40	0,64
<b>Public expenditure on pre-school per child (US\$, PPP converted), 2005</b>		
Childcare support	6 409	2 858
Pre-primary education	3 627	4 679
<b>Enrolment rates of children in formal care or early education services (%)<sup>2</sup>, 2006</b>		
0 - 2 years	44	43
3 - 5 years	86	100
<b>Duration of leave (weeks), 2006/2007</b>		
Maternity Leave	12	16
Paternity leave <sup>1</sup>	11,7	2
Parental leave <sup>2</sup>	72	156
<b>% rate of allowance (%)<sup>3</sup>, 2006/2007</b>		
Maternity Leave	80	100
Parental leave	73,3	19,9

Notes:

- 1) Information refers to the entitlement for paternity leave *stricto sensu* and the father quota included in some parental leave regulations.
- 2) Information refers to parental leave (not including periods of leave for exclusive use by mothers and fathers) and subsequent prolonged periods of leave to care for young children (in France).
- 3) The “rate of allowance” is defined as the ratio between the full-time equivalent payment and the corresponding entitlement in number of weeks.

Source: OECD Family database, 2009 (from Social Expenditure database 1980-2005; OECD Education database

### *V.1.2. Rigidity or flexibility of the labour market*

Another important element in the context of the work-family balance is the labour market structure. Ana Matyasiak proposed two indexes of national labour market in relation to the work-family balance. The first one (ENTRY) describes the magnitude of the barriers to labour market entry from a weighted average of three indicators: the unemployment rate, the youth unemployment rate and the gender differences between male and female unemployment rates. The second (FLUX) evaluates the average of work arrangements flexibility in the country, composed by the percentage of women working part-time, and the level of opportunities to adjust working hours to family responsibilities. We propose to focus on the components of these two indicators.

France has a quite high unemployment rate compared to other European countries (table 2). In 2008, the unemployment rate was 7.8%, the fourth highest level in Europe

(behind Spain, Slovakia and Hungary). After a regular decrease from 2006, it started to increase with the economic crisis (Figure 1).

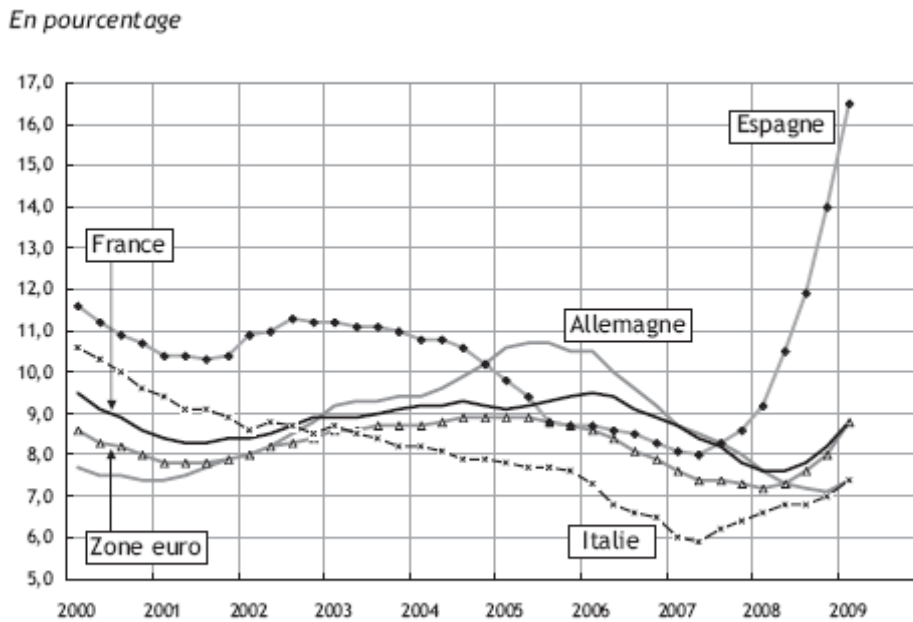
*Table 2*  
Unemployment in the European Union

	<i>2008: yearly average</i>			
	<b>Number of unemployed (thousands)</b>	<b>Unemployment rate (%)</b>		
		<b>Total</b>	<b>Men</b>	<b>Women</b>
Austria	162,3	3,8	3,6	4,1
Belgium	333,4	7	6,5	7,6
Bulgaria	199,7	5,6	5,5	5,8
Cyprus	14,4	3,7	3,2	4,3
Czech Republic	229,8	4,4	3,5	5,6
Denmark	98	3,3	3	3,7
Estonia	38,4	5,5	5,8	5,3
Finland	172,1	6,4	6,1	6,7
<b>France</b>	<b>2 230,10</b>	<b>7,8</b>	<b>7,2</b>	<b>8,3</b>
Germany	3 141,20	7,3	7,4	7,2
Greece	377,9	7,7	5,1	11,4
Hungary	329,1	7,8	7,6	8,1
Ireland	140,9	6,3	7,5	4,8
Italy	1 691,90	6,8	5,5	8,5
Latvia	90,5	7,5	8	6,9
Lithuania	94,3	5,8	6,1	5,6
Luxembourg	10,3	4,9	4	6
Malta	10,2	6	5,6	6,6
Poland	1 210,70	7,1	6,4	8
Portugal	427,1	7,7	6,6	9
Romania	575,5	5,8	6,7	4,7
Slovakia	255,7	9,5	8,4	10,9
Slovenia	45,5	4,4	4	4,8
Spain	2 590,60	11,3	10,1	13
Sweden	302,7	6,2	5,9	6,5
The Netherlands	243	2,8	2,5	3
United Kingdom	1 752,50	5,6	6,1	5,1
<b>EU 27</b>	<b>16 768,00</b>	<b>7</b>	<b>6,6</b>	<b>7,5</b>

Source: Eurostat, July 2009.



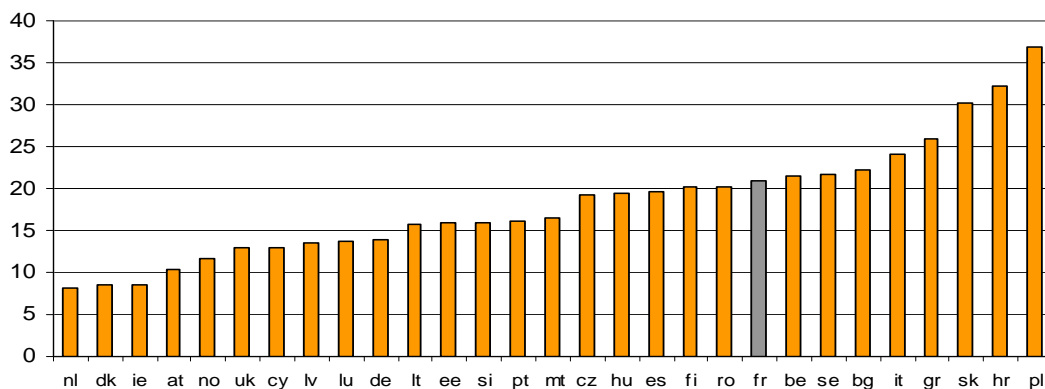
*Figure 1*  
Unemployment rate in the Euro Zone



Source : Eurostat.

The youth unemployment rate (under 25 years) is particularly high in France: it exceeds 20% in 2005, a level also reached in Southern and Central countries (Figure 2).

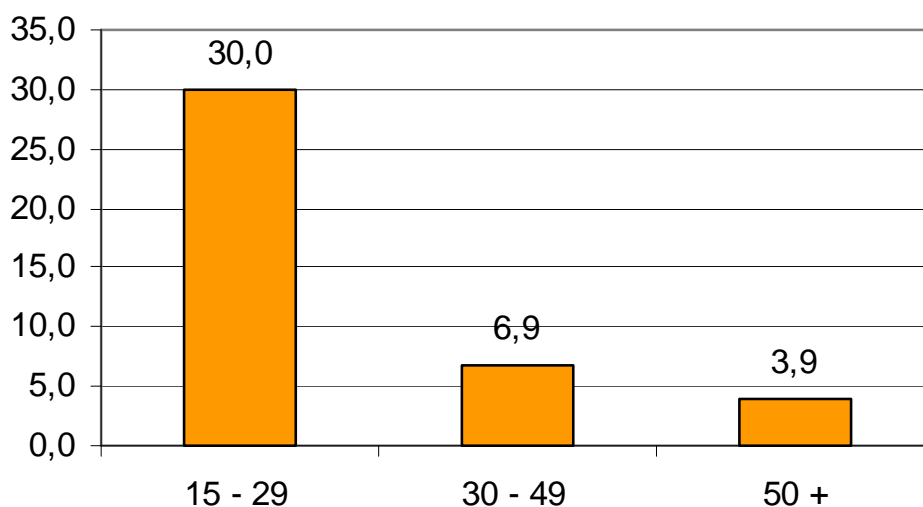
*Figure 2*  
Unemployment rate 15–24



Source: Eurostat, 2005

In addition to unemployment, young people also face increasing employment flexibility (Figure 3) with non permanent jobs. About one third of workers under thirty years old have a fixed-term contract. This frequency decreases with the age.

*Figure 3*  
Non permanent job by age in France (2006), %



I

*Source:* LFS, 2006

The female unemployment rate is higher than the male rate (according to the ILO definition). The gender gap narrowed between 2000 and 2006: the gap was up to 3.6 percentage points in 2000 and only 1.6 points in 2008 (ISQ 2009). The gender gap for long-term unemployment in 2006 is less than 1 point. One reason for this difference may be that long-term unemployed women may give up looking for a job, and thus be considered as inactive.

One specificity of the French unemployment is its long duration (Table 3). The average length is more than one year (14 months in 2006). 40% of unemployed people have been out of work for one year and more, 21% for 2 years and more. This long term unemployment mainly concerns persons aged 50 and over. Flows from unemployment to employment are rather low: according to LFS data, the likelihood of finding employment in T when being unemployed in T-1 is 34% in 2007. According to the Ministry of Labour records, the turnover rate is 45.6% in 2007 in companies with 10 workers and more.

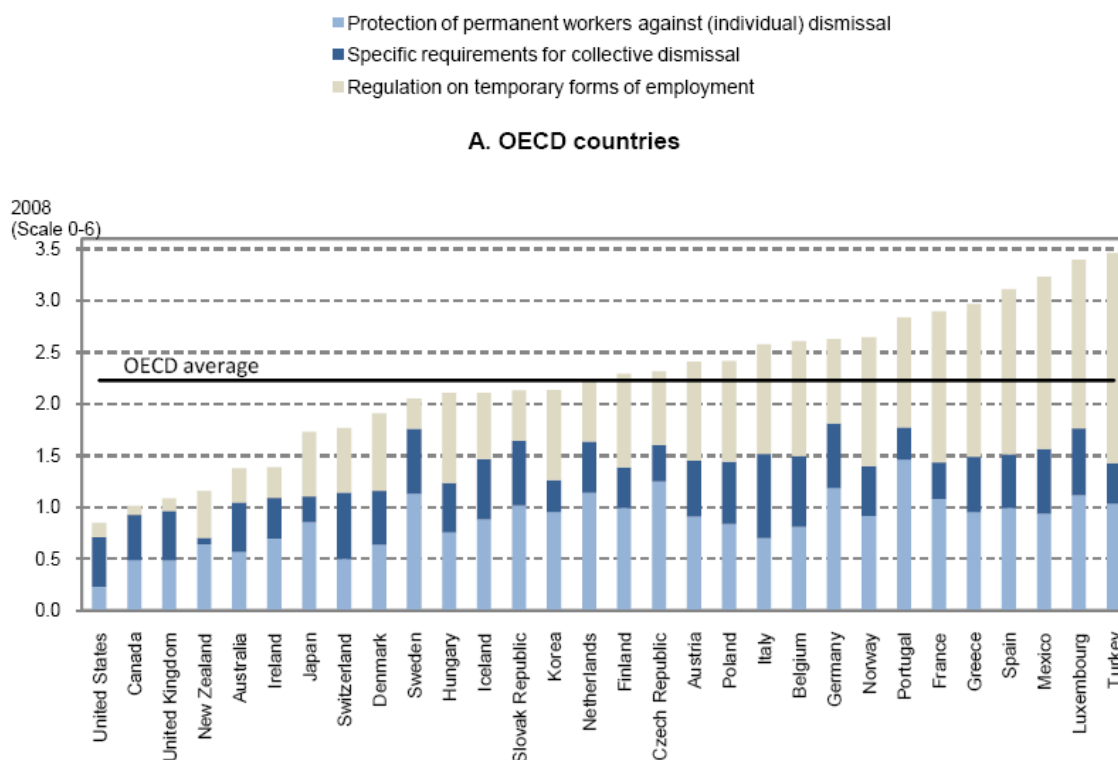
*Table 3*  
Proportion of long term unemployment among unemployed people

	%, 2007	
Age	<i>Unemployed for one year and more</i>	<i>Unemployed for 2 years and more</i>
<b>Women</b>	<b>40,1</b>	<b>20,8</b>
15–24	19,8	6,7
25–49	41,0	20,6
50 +	61,8	39,0
<b>Men</b>	<b>40,6</b>	<b>22,2</b>
15–24	29,4	12,0
25–49	39,7	21,9
50 +	59,2	37,5
<b>Total</b>	<b>40,4</b>	<b>21,5</b>

Note : Yearly average, BIT definition, Metropolitan France,.  
Source: Insee, Labour force survey 2007.

The level of employment protection is quite high in France compared to other European countries (Figure 4). It is particularly strong for people holding temporary contracts.

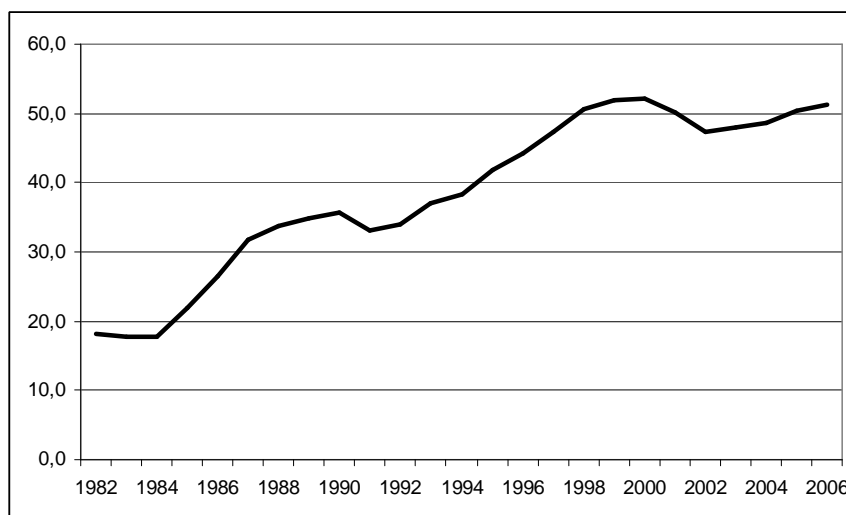
*Figure 4*  
Strictness of employment protection 2008



Source: D. Venn, "Legislation, collective bargaining and enforcement: updating the OECD employment protection indicators", OECD-ELSA Working Paper, 2009.

In spite of this employment regulation on temporary forms of employment, one major change in the labour market over the last decades has been the growth of unstable jobs. The share of non-standard contacts such as short-term and temporary contracts, government-sponsored jobs and apprenticeships increased from less than 20% to more than 50% between 1982 and 2006 especially for young people (Figure 5). Those contracts have a fixed duration of 3 to 18 months which cannot be renewed more than twice. Thus, people may work under these contracts for a long time. The transition rate from short term to long term contract within two years is 32% in the public sector and 38% in the private sector. This transition rate increases to respectively 44% and 48% within three years (Bunel, 2006). More than 50% of companies use those contracts, for several reasons: to face uncertainty and seasonal variation in demand or to test the performance of applicants, as a probation period.

*Figure 5*  
Share of non-standard work contracts among employed youth, %



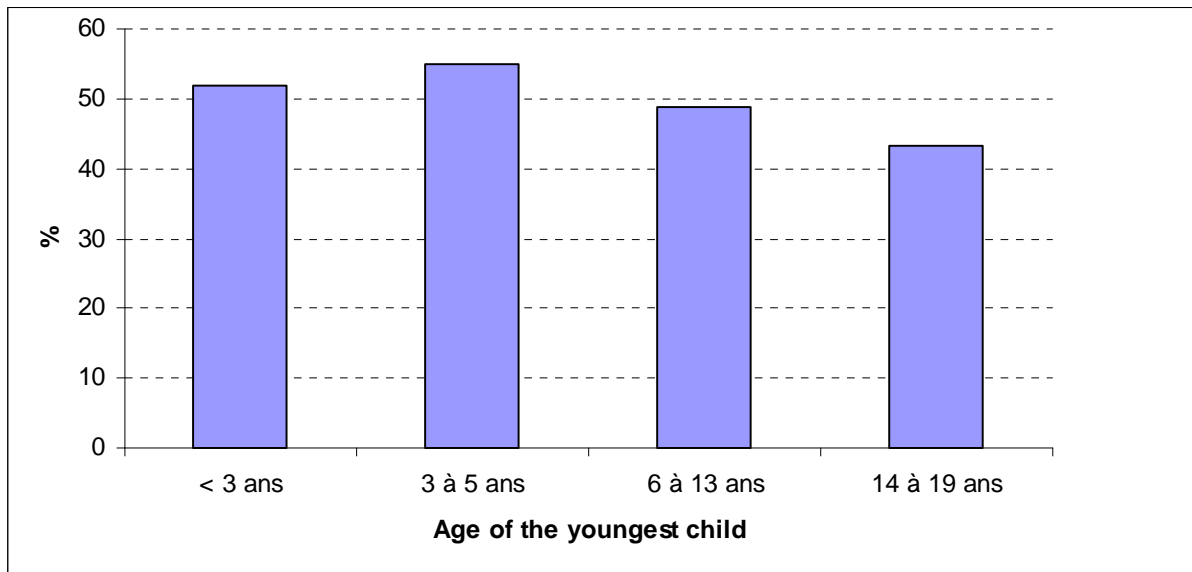
*Source:* Insee, Labour force surveys, 1982–2006

In France part-time jobs represent a relative small share of all jobs: 13.4% against 17.9% in the EU-15. In 2007, 31% of women wage-earners and 5.6% of men worked part-time (Eurostat). According to the OECD database, the frequencies of part-time work among mothers with children under 6 is 23% against 41.2% in Sweden and 46% in Germany.

To combine childrearing and employment, parents need to enjoy a certain degree of flexibility of their working arrangements. The availability of these flexible arrangements is quite widespread, and it varies with the age of the children (Figure 6). More than half of parents of a young child may benefit from this type of arrangement.

Figure 6

Availability of flexible time arrangements for personal reasons at work, employees only, %



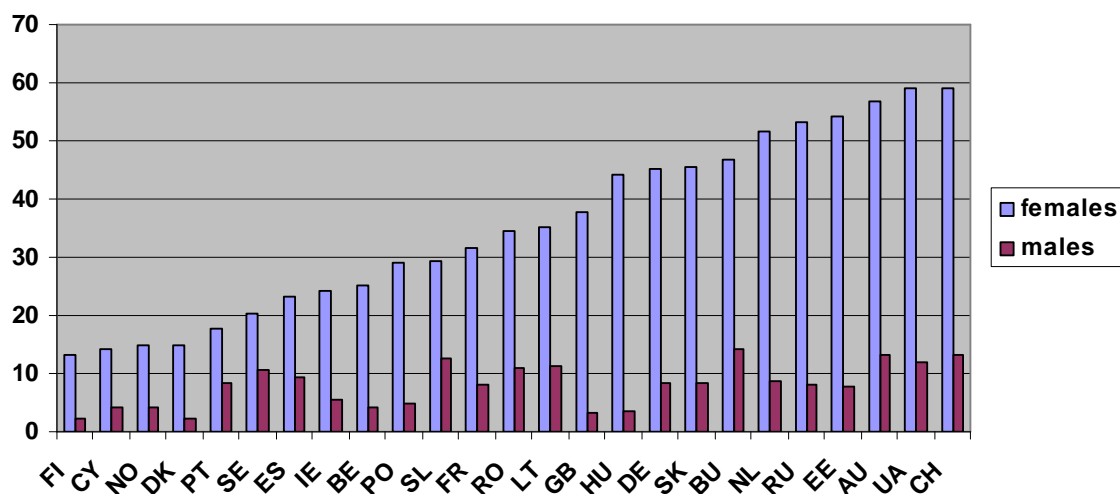
Source: French GGS 2005

### V.1.3. Gender norms

In Europe, France is in an intermediate position in terms of gender norms. For instance, less than 30% of people report disapproving of full-time employment for mothers of young children (Figure 7). This figure reaches almost 45% in Germany and Hungary. In Sweden, this percentage is lower, around only 20%.

Figure 7

Percentage disapproving of full-time employment of mothers with a child under the age of 4



Source: Liefbroer Merz (2009)

French men and women also express quite traditional attitudes when questioned about the satisfaction they derive from staying at home (Table 4). There seem to be an overall consensus on these matters between men and women. Over 40% of men and women agree with the opinion that preschool children suffer when their mother works. The most dividing issue relates to the attitudes toward rights of men and women to get a job when unemployment is high. Women tend to be more egalitarian.

Table 4

Distribution of men's and women's answers to questions about gender roles, column %

	<i>When jobs are scarce, men should have more rights than women to get a job</i>		<i>A pre-school child is likely to suffer if his/her mother works</i>		<i>Looking after the home or family is just as fulfilling as working for pay</i>	
	<i>men</i>	<i>women</i>	<i>men</i>	<i>women</i>	<i>men</i>	<i>women</i>
Totally agree	10.7	9.6	20.0	18.8	46.2	39.5
More agree	8.2	9.1	27.3	24.1	24.5	21.6
Neither agree, nor disagree	16.2	10.1	16.1	15.2	13.2	15.6
More disagree	12.1	12.1	16.1	17.3	7.5	13.6
Totally disagree	52.8	59.2	20.5	24.6	8.6	9.8

Source: GGS, 2005

Although opinions are slowly moving to an egalitarian pattern of gender roles, Time Use Surveys, show important gender differences in the allocation of time between men and women (Table 5). For instance, in France, women spend more than twice as much time as men in childcare. This gender gap in time allocation increases with the number of children in the household.

*Table 5*

Percentage of time dedicated to care work, by sex and number of children under school age<sup>1</sup>

	<i>Care declared as primary and secondary activity<sup>2</sup></i>					
	<i>Men age 25 to 44<sup>3</sup></i>			<i>Women age 25 to 44<sup>3</sup></i>		
	<i>No Child</i>	<i>1 child</i>	<i>2 children or more</i>	<i>No Child</i>	<i>1 child</i>	<i>2 children or more</i>
Germany	1,2	5,9	8,4	2,6	14,4	21,2
Poland	1,8	6,4	7,3	2,8	14,0	18,3
Sweden	1,6	6,5	9,0	2,9	13,0	17,2
France	1,1	3,6	4,5	2,2	8,8	12,8

*Year:* 1999: France ; 2001: Sweden, 2002: Germany; 2004 Poland

1) School age refers to children under age 7

2) Care work includes here all episodes of care work declared as primary or secondary activity

*Source:* For European countries, National Time Use Surveys as reported in the HETUS dataset.

#### *V.1.4. Wage structure, gender wage gap and minimum wage*

The average wage in France was 22,000 € in 2004 for a full-time job in the private sector. In 2006, 10% of full time wage earners earned less than 12,718 € per year, 20 % less than 14,219 €. The interdecile ratio was 2.9 (Table 6)

**Table 6**

Distribution of net wages in private sector (including semi-public firms)

<b>Décile</b>	2006, current euros		
	<b>Women</b>	<b>Men</b>	<b>Total</b>
D1	12 075	13 181	12 718
D2	13 431	14 776	14 219
D3	14 531	16 209	15 545
D4	15 715	17 729	16 977
<b>Median</b>	<b>17 141</b>	<b>19 466</b>	<b>18 631</b>
D6	18 924	21 657	20 685
D7	21 300	24 734	23 430
D8	24 590	29 787	27 826
D9	30 962	40 306	36 941
D9/D1	2,6	3,1	2,9

Coverage: Full time wage earners in private and semi-public sector.

*Source:* Insee, DADS 2006.

Women earn less than men on average. The “gender wage gap” measures the difference between male and female earnings expressed as a percentage of male earnings. France remains in an intermediate position in terms of the gender wage gap. Women’s average gross income was 11% lower than that of men in 2006. This figure has remained relatively stable in the last decade. This gender gap indicator is 13% in the European community, ranging from 3% in the more wage-equalitarian country such as Malta to more than 20% in Austria, Finland and Slovakia.

The extent of the gap varies with the position of men and women taken as reference in the distribution of earnings. The gender gap remains small at the 80th percentile and the 20th percentile; it is higher in Germany (OECD family database).

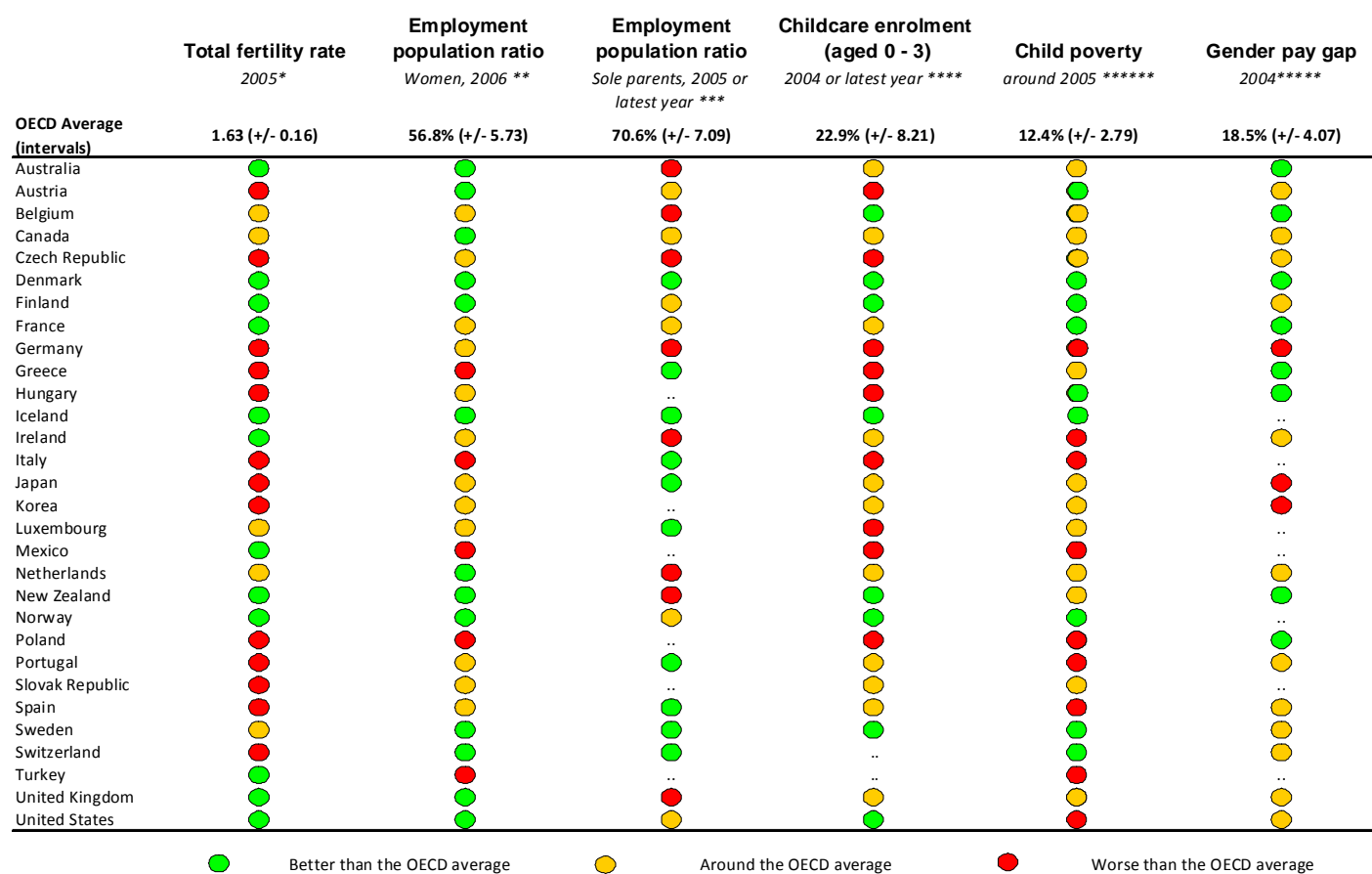
France has a national minimum wage which is updated every year in July by the government, according to the inflation (the increase cannot be lower). It was increased by 1.3% from 1 July 2009, bringing the hourly rate to €8.82. In 2004, 15% of the working population received the minimum wage.

### **Conclusion: An intermediate position**

Figure 9 summarizes the relative position of OECD countries regarding fertility, female employment, childcare facilities, children poverty and the gender wage gap (Figure 9). France is in a “good position” regarding fertility and the gender wage gap, its level is intermediate concerning female employment and childcare facilities.



*Figure 9*  
Relative position of OECD countries in terms of work-family balance



Countries are categorised in high or low groups if they are half a standard deviation above or below the OECD average.

\*Year of reference for total fertility rates - Canada: 2004

\*\* Data for Luxembourg concerns 2005.

\*\*\* Data are for 2005 except for Denmark, (1999), Belgium, Canada, Germany, Greece, Italy, Japan, Spain (2001), Finland and Portugal, (2002), Iceland and Norway (2003), the Netherlands (2004), and 2006 2nd quarter for Switzerland.

\*\*\*\*Data are for 2004 except for Australia, Denmark, Korea and the United States (2005); Finland, Greece, Iceland, Norway and the Slovak Republic (2003); France (2002); Germany and Canada (2001) and Italy and Ireland (2000).

\*\*\*\*\*The child poverty rate is defined as the share of children with equivalised incomes less than 50% of the median for the entire population.

\*\*\*\*\* Data are for 2004 except for Belgium, Czech Republic, Finland, Greece, Japan, Portugal, Sweden, Switzerland and the United Kingdom (2003); France, Germany, Korea, Poland and Spain (2002) and Hungary and Ireland (2000).

Source: Durand M., Adema W., Thévenon O., 2009

## V.2. Fertility intentions

Since the eighties, there has been a rise in uncertainty on the labour market. Unemployment and job instability have sharply increased. As we have seen in the previous section, entering the labour market is particularly difficult for young people.

Economic uncertainty has been identified as one of the main explanations for postponement of fertility in Europe (Blossfeld et Mills, 2003): in an uncertain economic context, the cost of having children may be perceived as higher and it is assumed that young people will wait until they hold a permanent job before entering into parenthood (Kohler, Billari, Ortega, 2005; Adsera 2004). Among the five pre-conditions for transition to parenthood, i.e. being in partnership, having completed full-time education and training, having a home of one's own, being in employment with adequate income and a sense of security, the last two concern job uncertainty (Hobcraft and Kiernan 1995). The increase in the age of parenthood is considered as one of the main explanations for the decrease of fertility.

But there is an alternative explanation regarding the link between job uncertainty and fertility. In a context of economic uncertainty, people (mainly women) may prefer to invest in maternity, since the private sphere is less uncertain than the public one. This explanation may be particularly strong in a context where fertility is highly valued (Friedman et al. 1994; McDonald 2000).

This report examines the impact of work uncertainty on fertility in France. It investigates whether temporary jobs and unemployment merely delay fertility or also impact on completed fertility. Different dimensions of fertility are studied for men and women respectively, i.e. intentions, timing and completed fertility

Up to now, the research on the impact of work uncertainty on fertility has mainly focused on the effect of female work uncertainty. The underlying assumption was that women are the main driver of fertility. So far, the literature on fertility intentions has only considered female intentions. Previous studies performed on the timing of fertility have also concentrated on women. Only rare studies have given attention to the impact of male unemployment. However, male unemployment may have a higher impact since their earnings are generally higher than those of their spouse. The impact of male and female employment situation will be examined.

Fertility intentions are often used by demographers to capture individual wishes or to predict fertility behaviours. The aim of this section is to measure the sensitivity of fertility

intentions to economic constraints. Does unemployment lead partners to postpone or abandon childbearing plans? There are at least five concepts of intentions : 1) intended family size, 2) intention to have children at all, 3) the intention of having a child within a given time period, 4) the degree of certainty of the childbearing intention and 5) whether the intentions of the partners coincide (Speder and Kapitany, 2009). We will focus on the intention of having a child within a given time period, that differs from desires or preferences which captures social norms and ideals (Fahlén and Olàh 2009). Individuals may take into account constraints and economic factors while formulating these time-dependent intentions, it thus may offer a better measure of future fertility. Uncertainty may postpone family formation (Blossfeld et al., 2005) by postponing fertility plans.

*V.2.1. Method*

The dataset used is the French “Families and Employers” survey (INED, 2004-2005). It is described in the appendix. Our sample comprises 1526 men and 1820 women aged 20-40 with a partner (co-resident or not) and not pregnant. Among them, 9% of men and women hold a fixed term contract. 9% of women and 7% of men are unemployed (Figure 1).

*Figure 1*  
Employment status of men and women aged 20–40



People living in partnership are asked about their fertility plans. The question is the following:  
*Would you like to have or to adopt a(another) child, now or later?*

- ✓ *I am pregnant or my partner is pregnant*
- ✓ *Yes*
- ✓ *No*
- ✓ *Maybe*
- ✓ *Don't know*

If the respondent declares he/she intends to have a child, he/she is asked:  
*In how many years?*

*And*

*Is this delay connected to your professional situation?*

*Is this delay connected to your partner's professional situation?*

If the respondent hesitates or doesn't know, he/she is asked:

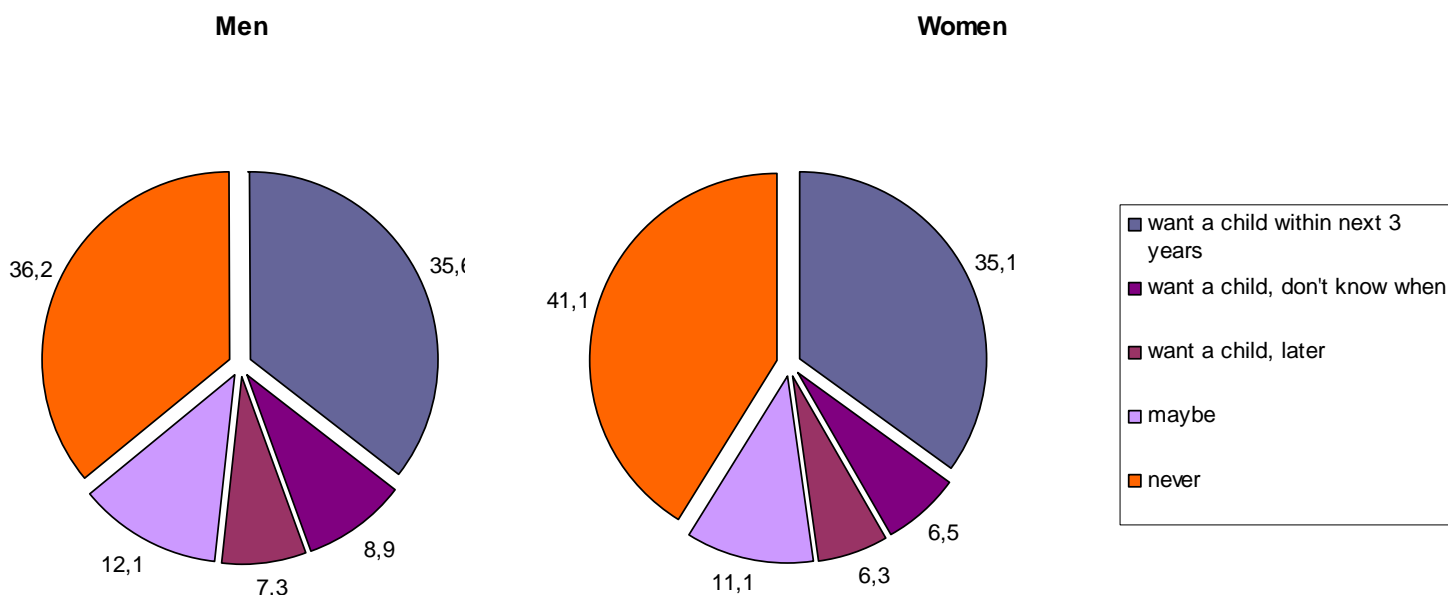
*Is your hesitation connected to your professional situation?*

*Is your hesitation connected to your partner's professional situation?*

#### V.2.1.1. Fertility intentions in France

In France, a family of two children is a largely dominant ideal and few people do not want a child. In our sample, about one third of men and women aged 20-40 declare they want to have a child during the next 3 years (Figure 2). About 7% want a child later. Fertility plans vary little by gender except the fact that women more frequently declare not wanting a child at all. Nearly one out of five individuals are undecided about fertility decisions. About 10% of men and women don't know when they intend to have a child, and about 10% don't know whether they want a child.

*Figure 2*  
 Fertility intentions of men and women

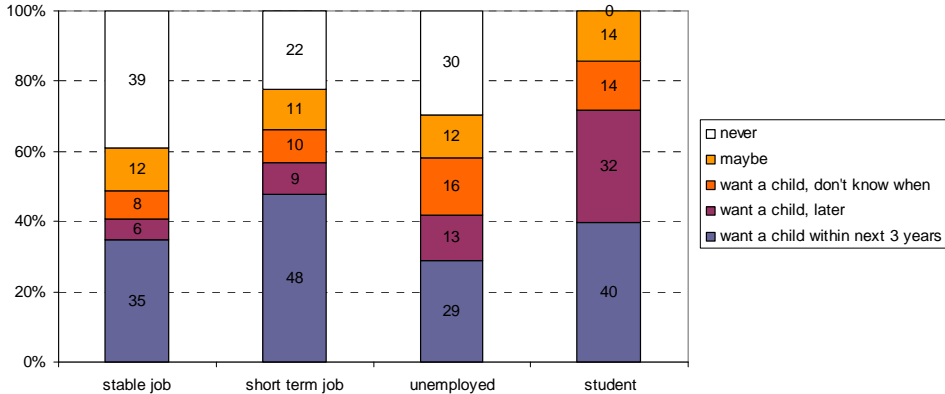


### Fertility plans and professional status

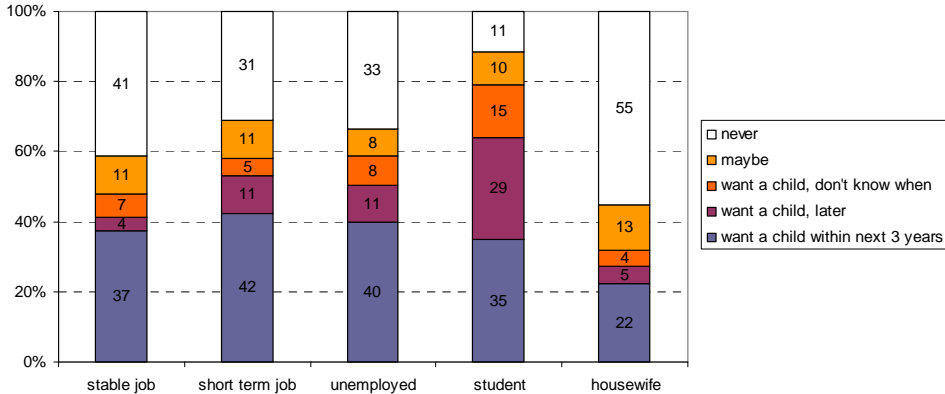
Plans vary according to professional status (Figure 3). Women in stable jobs have lower fertility plans but they are older on average: the median age of women in stable jobs is 33 while it is 30 for women holding a fixed-term contract, 31 for unemployed women and 23 for students. Thus, a large share of them have completed their fertility. Moreover, few women in stable jobs intend to postpone fertility, contrary to those in fixed-term jobs or who are unemployed.

Compared to men in stable jobs, unemployed men intend to delay fertility much more often. They are also more hesitant about the timing of fertility. Compared to their female counterparts, unemployed men are also more likely to postpone fertility: respectively 13% and 29% of unemployed men and women want a child but not within 3 years. On the other hand, men holding a fixed-term contract want a child earlier than women in the same position: respectively 48% and 42% of men and women holding a fixed-term contract want a child within the next 3 years.

Figure 3  
Fertility plans by professional status  
Fertility plans, by professional status, men



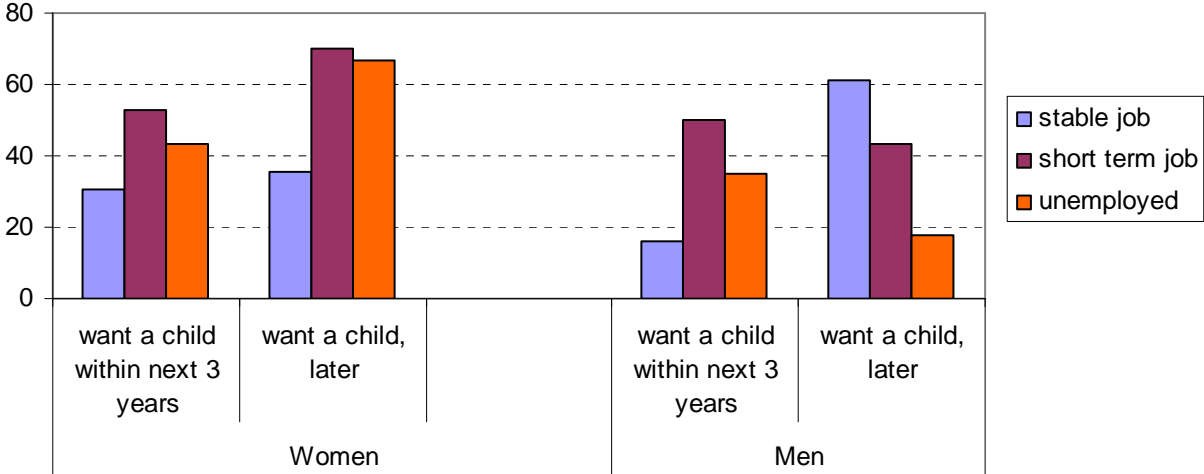
Fertility plans, by professional status, women



Women declare more frequently that their timing plans are connected to their professional situation when they hold a fixed-term contract or are unemployed, especially when they intend to postpone fertility (Figure 4). It seems having a stable job is a condition for having a child.

The results are contrasting for men who intend to postpone fertility: those in stable jobs more often declare that their situation plays a role. Perhaps those men are not satisfied with their current job, they intend to earn more, to get promotion before having children.

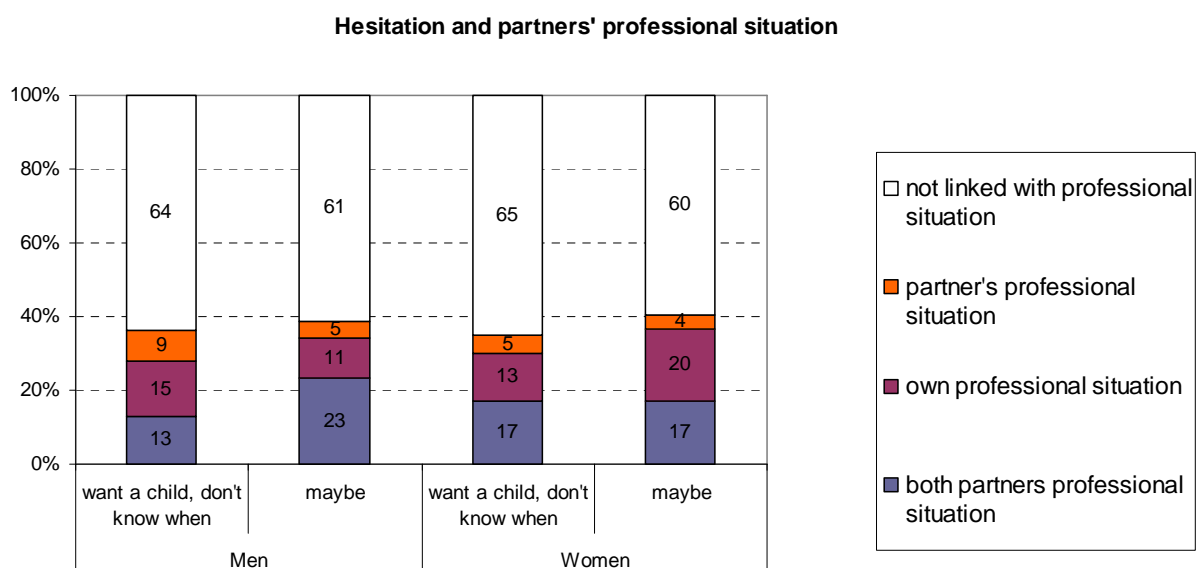
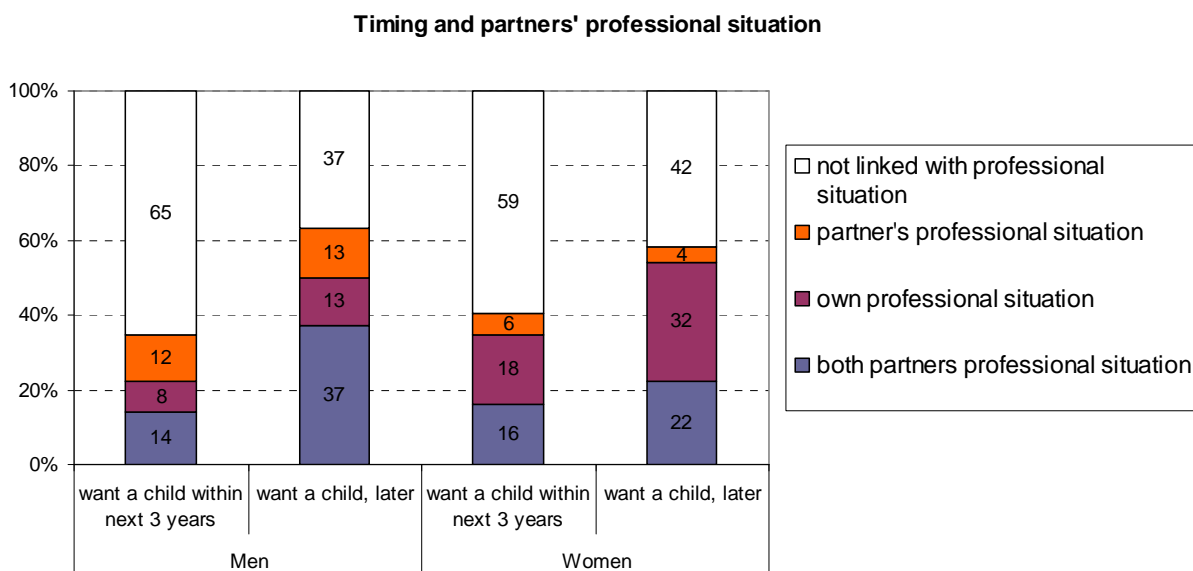
*Figure 4*  
Timing linked with own professional situation



**A couple perspective**

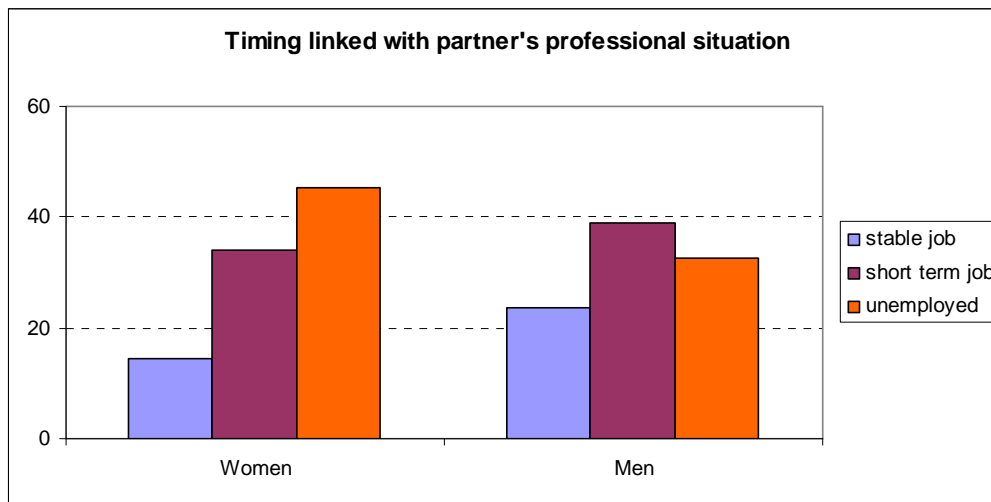
People were also asked if their partner’s professional situation influences their plans. The answer to this question was crossed with the previous one. Four cases can be distinguished: timing plans depend on i) both partners’ professional situation, ii) the respondent’s professional situation, iii) his/her partner’s professional situation, iv) it depends on neither professional situation. Figure 5 shows the distribution of these four cases. Men and women who intend to have a child within 3 years declare less often that their timing is related to both partners’ professional situation than those who want a child later. Thus, they seem less constrained by their professional situation. Women are more likely to declare that their intended timing is linked with their own situation while men declare more often that both situations matter or that their partner’s situation only matters. The partner’s professional situation is much less frequently quoted as a factor for hesitation concerning fertility plans.

*Figure 5*  
Fertility plans and professional situation of partners



Women whose partner is unemployed declare more frequently that their intended timing of childbearing is linked with his professional situation (Figure 6). This is also quite frequent for women whose partner holds a fixed term contract. Men seem more concerned when their partner holds a fixed-term contract.

*Figure 6*  
Timing linked with partner's professional situation



#### V.2.1.2. The effect of professional status

A logistic model was built on the probability of wanting a child within the next three years<sup>40</sup>. We control for the number of children, religiosity, the educational level, age, the number of siblings, immigrant status and the household income. In a second specification, professional characteristics of the partner were added. Separate regressions were conducted for men and women. The results are displayed in Table 1.

*Women holding a fixed-term contract have lower fertility intentions.*

Table 1 presents the results of the logistic regression that estimates the desire to have a child within the next three years. Being a student clearly decreases fertility plans for both men and women. The preventive effect of being in education on becoming a parent is particularly high for women. Unemployment affects men's and women's fertility intentions differently: being unemployed decreases men's fertility plans, while it is not significant for women. One can argue that unemployed women are a heterogeneous population. The impact of unemployment may differ according to the educational level or family background. Unfortunately, the sample is too small to analyse the impact of unemployment according to educational level. For women, holding an unstable job lowers fertility plans. It is not significant for men. Those women wait for a permanent job before thinking of having children. After controlling for own employment status, the employment status of the partner has a rather small impact, except for men whose partner is a student.

<sup>40</sup> Other time periods were tested (within two years) and the results are very similar.



Other variables introduced in the regression play as expected on fertility plans. Fertility plans increase with age (at a decreasing rate) education level, and number of siblings, while they decrease when people have more than one child. There is not so much difference between men and women regarding those additional variables, with the exception of religiosity which has a positive impact on fertility plans only for women.

*Table 1*  
Fertility plans within 3 years (logistic regression, OR)

	Men		Women	
	1	2	1	2
Current professional situation				
Stable job		Ref.		Ref.
non stable	1.422 (1.51)	1.427 (1.52)	0.659** (1.99)	0.659** (1.99)
unemployed	0.645 (1.55)	0.606* (1.76)	0.792 (1.00)	0.783 (1.05)
student	0.780 (0.51)	1.042 (0.08)	0.245*** (3.79)	0.229*** (3.80)
Out of labour force			1.026 (0.13)	1.024 (0.12)
Partner's professional situation				
Stable job		Ref.		Ref.
unstable job		0.969 (0.14)		1.287 (1.12)
unemployed		0.896 (0.46)		0.842 (0.66)
student		0.438** (2.29)		1.292 (0.47)
Out of labour force		0.744 (1.35)		
Observations	1526	1526	1820	1820
Absolute value of z statistics in parentheses				
* significant at 10%; ** significant at 5%; *** significant at 1%				

In France, employment uncertainty plays a decisive role in different ways for men and women. Being unemployed decreases fertility plans only for men. Women working on insecure jobs reduce their fertility plans. These results suggest that for men it is important to get a job, whatever its quality or stability, before becoming fathers. Women's behaviours seem more heterogeneous: those who favour their career intend to get a stable job before becoming mothers, unlike those who favour their family plans.

A gap between fertility aspirations and behaviours persists. It depends obviously on fecundity but also on all possible unexpected shocks such as death or disease of the partner, couple dissolution, but also changes of position on the labour market (Toulemon and Testa,

2005). Thus, the explanatory power of intentions may be only partial and the impact of employment position on fertility timing and completed fertility has to be studied.

**V.3. Fertility realisations**

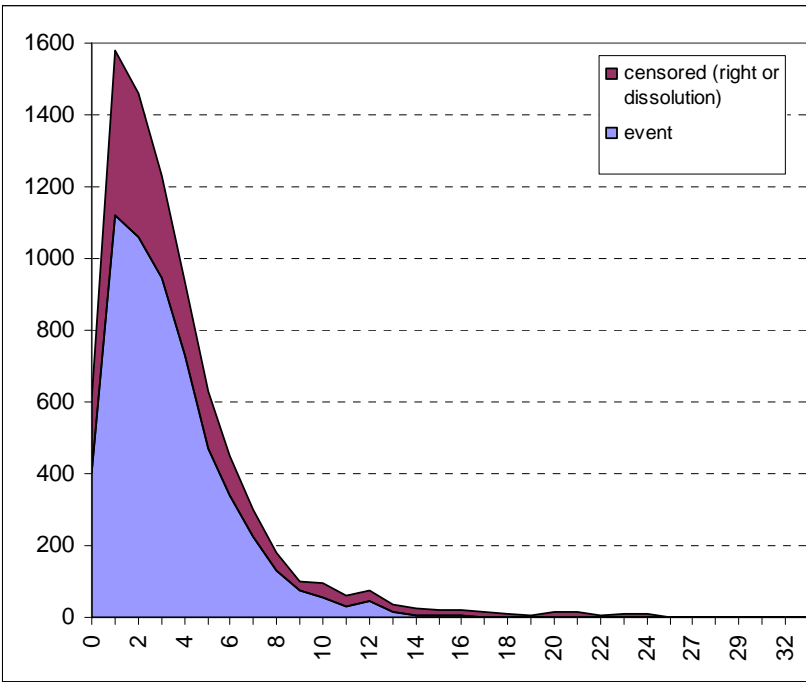
*V.3.1. Birth timing: does insecure job history affect timing of childbearing?*

Fertility behaviours may differ from intentions, especially in a context of strong economic constraints, when people hold an insecure job or encounter a job loss. Couples may wait until both partners get a secure job before childbearing and thus be unable to realize their intentions.

In this section the effect of economic uncertainty on the timing of first and second childbearing is considered. For this purpose, duration models (Cox model) are performed on the timing between first partnership and first child, and the timing between the two first births. We consider that people are at risk of childbearing since their first partnership. We do include people having given birth before their first partnership (only 125 in our sample). Our sample thus comprises women and men having already formed a couple (3537 men and 4659 women).

Figure 1 represents the distribution of this timing: event and censored. The duration is right-censored if the couple has no children at the date of interview or at the couple dissolution date. After ten years of union, the risk of childbearing is very low, and most of the first births occur in the first five years following union formation.

*Figure 1*  
Distribution of timing between first partnership and child within this partnership.



An insecure job or unemployment may affect the timing of childbearing in different ways, according to when it occurs: at the beginning of the union or after. We test several hypotheses: Does economic uncertainty affect childbearing decisions more strongly when it occurs at the beginning of union or later? Does uncertainty affect today's decisions directly? In which way? Lastly, does the accumulation of insecure job spells affect the childbearing process?

To answer those questions, two periods are distinguished in practice. First, the professional situation at the beginning of the union is crucial. Indeed, when the couple begins its common life, it builds itself around these professional statuses. For instance, if one partner is unemployed at the couple formation, the sharing of domestic tasks and the organization of social life and leisure will be different. Solaz (2005) showed that unemployment of the male partner tends to balance the domestic task sharing whereas the unemployment of the female partner tends to reinforce the usual unequal sharing between partners. Since there is very huge inertia in housework sharing within a couple and since housework division may have an impact on fertility plans (Mencarini, Tanturri 2006), we expect that the professional situations between partners at the beginning of the couple may have a long term impact on fertility intentions and timing.

The professional situations at the beginning of the union are as follows in our sample: around 81% of men have a job and 62% of women. Unfortunately, our survey does not distinguish between permanent or non-permanent jobs at this stage. Men are less likely to be unemployed than women since they may wait for a stable job before forming a couple (Ekert-Jaffé Solaz 2000): 3.6% of men and 6.3% of women are receiving unemployment benefit. A quite significant share of partners are students (10.2 % men and 19% of women).

*Table 1*  
Professional situation at the beginning of union

%	Men	Women
Working	81.2	62.3
Military service	3.6	0.1
Unemployed	3.4	6.3
Student	10.2	19.1
Inactive/ housewife	1.6	12.2

Since persons doing their national service become very scarce one year after the couple formation, they are grouped with students in what follows.

Secondly, the current professional situation is also introduced in the model as a dynamic, variable. Indeed, economic uncertainty may also affect the couple's childbearing timing by the so-called "surprise effect" (Weiss and Willis 1997).

Lastly, the number and the accumulation of unemployment spells may also delay fertility decisions. Note that that we do not take into account insecure employment or unemployment spells that occur before partnership formation.

For this purpose, we use different indicators:

- Professional situation at the beginning of the union for each partner
- Professional situation during partnership (last year)
- The ratio of unemployment (insecure job) to activity period

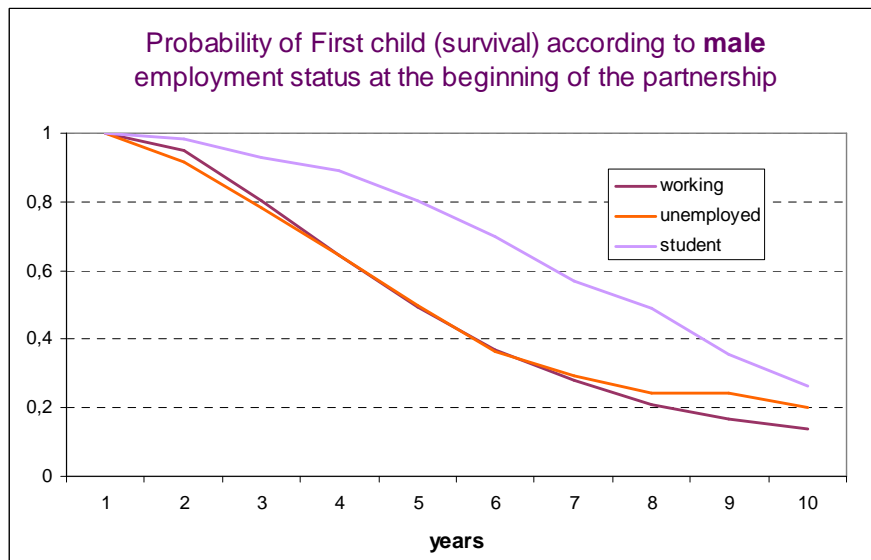
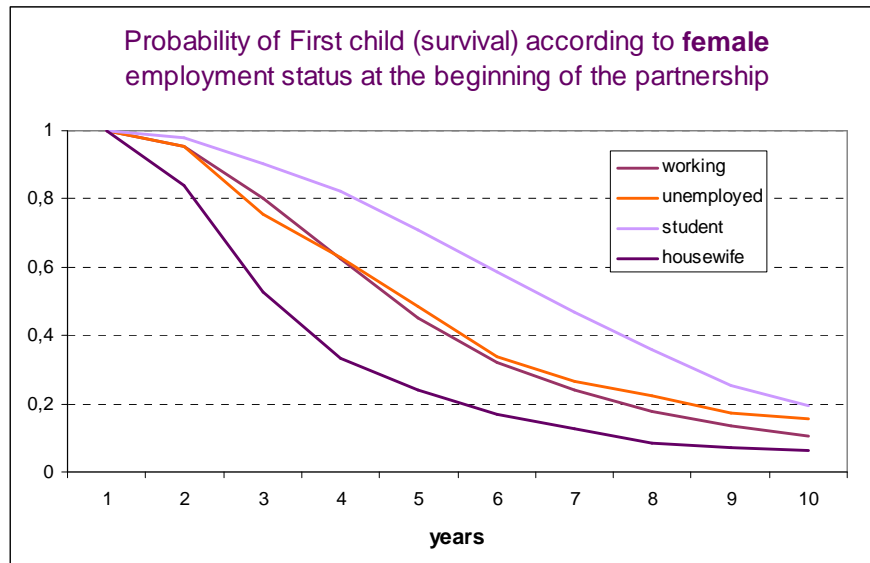
With respect to the timing of fertility, two kinds of dynamic variables are built. The first one indicates an uncertain work position one year before, it is computed for each calendar year. The second one is the ratio of the number of years with unemployment spells to the number of years since the first job. This figure is computed for each year too. The same type of longitudinal indicators were built regarding the spells of insecure employment (short-term, apprenticeship or temporary), and inactivity.

For the timing of fertility, survival analysis, i.e. Kaplan Meier and Cox models is used. The timing between the first partnership and the arrival of the first child, and the timing between the two first births are analysed.

Figure 2 represent survival curves as a function of professional situation at the beginning of partnership, for men and women respectively. The timing of parenthood is similar for people working at the time of their first partnership and for unemployed people: there is no difference in their speed of entry into parenthood, observed for both men and women.

By contrast, a huge difference can be observed in the speed of entry into parenthood between students and employed people: from the beginning of the union, students, and men particularly, are the slowest to become parents. 80% of male students are still childless five years after the first partnership, 60% after six years and 50% after seven years. On the contrary, homemakers in their first partnership are the fastest to have children: 40% have a child within the first two years of the union, 70% during the first four years after the partnership started.

Figure 2



Multivariate regression confirms these first results (Table 2). After controlling for cohort and education, religiosity, age at union formation, and the number of siblings, there is no effect of unemployment at the beginning of partnership on the timing of childbearing. There is no memory effect since being unemployed at union formation does not affect future timing. Inactive women bring forward births and students delay, whether men or women. The effect is almost null for men when partners' characteristics are also introduced, whereas it remains for women. One reason may be that the pregnancy is more detrimental for women's higher education than for that of men.

Table 2

Semi-parametric duration model (Cox) on the timing between first partnership and first child

Professional situation	Men			Women				
	at the beginning of partnership	last year (dynamic)	ratios (dynamic)	at the beginning of partnership	last year (dynamic)	ratios (dynamic)		
<i>Respondent's professional situation</i>								
Working	<i>ref</i>	<i>Ref</i>	<i>ref</i>	<i>ref</i>	<i>Ref</i>	<i>ref</i>		
Unemployed	-0.05	-0.023	-0.274**	-0.112	-0.094	0.024		
insecure job			-0.163*			-0.206***		
Student	-0.224***	-0.089	-0.483***	-0.252***	-0.254***	-0.630***		
homemaker				0.399***	0.346***	0.284***		
<i>Partner's professional situation</i>								
Working		<i>Ref</i>	<i>ref</i>		<i>Ref</i>	<i>ref</i>		
Unemployed		-0.099			-0.012			
Student		-0.348***			-0.124*			
homemaker		0.470***						
<i>Ratios</i>								
unemployment						0.091		
job insecurity						-0.327***		
N	3554	3300	3537	3537	4358	3667	4359	4359
Events	2422	2251	2424	2424	3260	2630	3260	3261

□, \*\*\*, \*\*, \* significant at 11%, 10%, 5%, 1%.

controlled for religiosity, type of union (dynamic), education, belonging to a large family (number of siblings=2+), age at first partnership, cohort.

A spell of unemployment or an insecure job during partnership (the job situation the previous year) tends to delay the first child for men. The unfavourable situation on the French labour market, reflected by high unemployment, may be an additional reason for postponing the first childbearing. For women, only insecure jobs have this postponement effect. Unemployed women neither accelerate nor delay pregnancy. In other words, women do not take advantage of unemployment to have children.

The accumulation of unemployment spells and non-permanent jobs tends to decrease the likelihood of entry into parenthood for men. For women, only the accumulation of non-permanent jobs has a negative effect.

Other covariates:

Having a low level of education accelerates first child timing for men and for women, but the educational effect is stronger for women. Coming from a large family accelerates fertility for both men and women.

But as all unemployed persons do not have the same job prospects, we crossed economic uncertainty with the level of education. Being unemployed delays only for the low educated men, whereas short-term jobs postpone for educated men and women (Table 3).

*Table 3*  
Crossed uncertainty (t-1) and education

	Men	Women
Unemployed*high educated:	n	n
Unemployed*low educated	- 0,29**	n
Short-term*high educated	-0,39**	-0,35*
Short-term*low educated	n	n

**For the arrival of a second child**, there is no effect for men. For women, there is a reverse effect: having an insecure employment path before first child tends to accelerate the arrival of the second. Women discouraged by the job market, may decide more quickly to invest in family life.

### *V.3.2. Completed fertility: does unemployment cause missing births?*

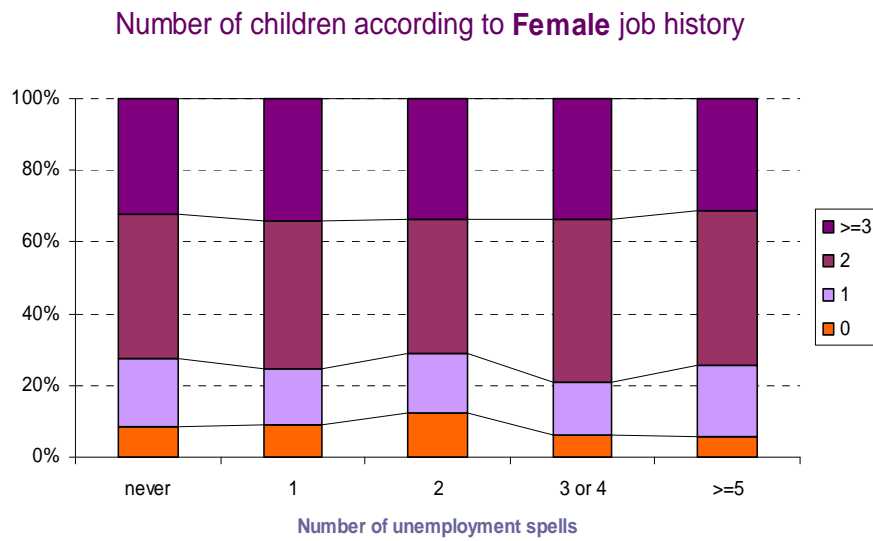
Couples facing economic uncertainty may decide to delay births, which can result in a lower number of children. To test the level of fertility according to the labour market situation of partners, we performed a ordered polytomic model on the number of children of people having almost reached the end of their reproductive life, i.e. people aged 40 years and more.

In fact, we took the liberty of calling “completed fertility”, the number of children reached at the age of 40.

Figure 3 represents the total number of children by the age of 40 according to individual job history, for men and women respectively. The distribution of people by their number of children is given for those who had never been unemployed from the beginning of their first partnership, for those who where unemployed once, twice, and so on. This figure shows that for women the distribution by number of children is the same, whatever their unemployment history. Therefore, it seems that for women unemployment neither prevents nor leads to having children.

For men, on the other hand, the number of children varies a great deal with unemployment history. Men who have experienced several unemployment spells are more likely to remain childless and less likely to have two children or more. Thus, with respect to these descriptive statistics, it seems that unemployment spells decrease the probability of having children for men.

Figure 3



The results are confirmed by the multivariate analysis. We perform a ordered probit model controlling for the same set of covariates (number of siblings, religiosity, social group, level of education<sup>o</sup> and two additional variables which summarize marital life : number of years in partnership and number of partnerships (Table 4). The size of the sample aged 40-49 years is around 1500.

Our covariates of interest are the ratio of unemployment (number of years with unemployment spells ( $\geq 6$  months) / time spent since completion of education) and the ratio of insecure employment (number of years with insecure unemployment spells/ time spent since completion of education).

The model confirms the previous results. The unemployment ratio has a negative impact for men, but insecure jobs do not affect completed fertility.



*Table 4*  
Ordered polytomic model on the number of children at age 40

	MEN		WOMEN
Ratio unemployment	-1,075	***	-0,238
Ratio insecure job	0,332		0,067
Ratio homemaker			1,381 ***
Number of siblings	0,108	***	0,082 ***
Religiosity =high	0,300	***	0,165 ***
Origine2	-0,092		-0,311 ***
Origine3	0,107		0,056
Ratio marital life	0,118	***	0,083 ***
2 unions and +	0,037		0,112 *
Social group			
Farmer	-0,031		0,086
Higher-level occupations	-0,110		0,126
Intermediate occupations	-0,156		0,072
Always inactive			-0,371 **
Manual worker	-0,015		0,051
Education (ref= low)			
High	0,296	***	0,098
Medium	0,224	***	0,051
No qualifications	0,120		0,114
/Cut1	0,794		0,296
/Cut2	1,568		1,219
/Cut3	2,740		2,523
/Cut4	3,781		3,616
N	1464		1635

One limitation to our study is that our samples on timing and completed fertility are different. We tried to perform timing models on persons aged 40+ only and results are robust, only slightly significant for non permanent jobs which were more scarce for this generation.

## Conclusion

Being unemployed has a negative impact on fertility plans for men, but has no effect on the timing of entry into parenthood for both men and women. Holding a short term contract has more effect: women working on insecure jobs reduce their fertility plans. De facto, fertility is delayed in case of insecure jobs for men and women, but only for the first childbearing: people wait to get a stable job before entry into parenthood. Once the childbearing process begins, there is no longer any effect of economic uncertainty on the timing of the second and third births. Completed fertility is not affected, except for men who have been unemployed for a long time during their working life.

Economic uncertainty thus has a weak effect on fertility plans and timing, but has an even weaker effect on completed fertility, maybe because uncertainty on the labour market is balanced by the guarantee of a stable and generous state family policy whatever their employment status.

Employment uncertainty may influence fertility in opposing directions: it may postpone or accelerate childbearing. The examination of intentions, timing and completed fertility in France demonstrates that employment uncertainty plays a decisive role in different ways for men and women. Unemployment reduces fertility for men while it has no impact for women, for whom short-term jobs postpone fertility.

These results reflect that for men it is important to get a job, whatever its quality or stability, before becoming fathers. Women's behaviours are more heterogeneous: those who give priority to their career intend to get a stable job before becoming mothers, unlike those who give priority to their family plans. They illustrate how the social roles of men and women continue to differ in France, men still being the main breadwinners. Moreover, the impact of unemployment is lower than in other countries, probably because France has quite generous family and employment policies.

This study examined the impact of job uncertainty on the timing of fertility during partnership. But job uncertainty most likely postpones couple formation, which in turn postpones fertility. Further research should be carried in order to evaluate the implication of this effect.

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## Appendix:

### **Data and methods**

The data set used here comes from the *Family and Employer survey* conducted by INED in 2004-2005. The sample comprises about 9,500 individuals aged from 20 to 49. Two persons per household were interviewed. Data were extracted for all female and male respondents in couples, or who had one child or more.

This survey includes retrospective work histories: respondents were asked for their employment situation in every year between their 18th birthday and the survey date. For each family event reported (couple formation, childbearing), the individual is asked about a precise definition of his/her employment situation (wage-earner/self-employed, public/ private, type of contract). Some questions deal with the fertility plans.

Our sample, based on a quite homogeneous generation (20-49 years old in 2004), is adapted according to the subject studied. To study completed fertility, the sample is restricted to individuals who are at least 40 (even if fertility is still not completed, especially for men). We use all females and males who have already formed a couple to study timing of first birth, and couples who already have one child to study second births. Lastly, we study fertility plans using a sample composed of all couples (at the survey date).

*Several methods are also used, including ordered multinomial probit on the fertility reached at age 40. For the timing between couple formation and the first child and between first and second childbearing, we use survival analysis: Kaplan Meier and Cox models. Lastly for the intention of childbearing, we use a logit model on the choice, and a least squares model on the intended timing in the event of childbearing desire.*

The control covariates are education, cohort, religiosity, age at the first union, number of siblings, nationality, and income. The covariates of interest are the occupational history and more particularly the number and length of unemployment spells and short-term job spells, the employment situation at key moments such as union formation and around the births. We produced some longitudinal indicators of uncertainty, e.g. ratio of the number of years with unemployment spells lasting more than 6 months to the number of years since the first job. We did the same with the spells of insecure employment (short-term, apprenticeship or temporary), and inactivity in order to make comparisons.