

## Remaining Childless in Affluent Economies: a Comparison of France, West Germany, Italy and Spain, 1994-2001

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**Abstract:** This article explores why women delay childbearing and increase their likelihood to remain childless in Spain, Italy, West Germany and France. We take a macro-micro perspective and show that national institutions influence women's life transitions, in particular partnership and motherhood. For coupled women, we find two alternative modes out of childlessness. In countries with high direct and indirect child costs, like Spain and Italy, entering a male-breadwinner couple or occupying a stable and high-income position facilitates motherhood, while in the French context motherhood is most likely in a dual-earner partnership.

**Key words:** childlessness, family formation, European comparative analysis.

**Résumé:** Cet article explore les raisons pour lesquelles les femmes retardent la procréation au risque de ne pas avoir d'enfants, en Espagne, Italie, Allemagne de l'Ouest et France. A l'aide d'une perspective macro-micro, nous démontrons que les politiques nationales influencent les transitions dans la vie des femmes, et notamment la mise en couple et la maternité. Pour les femmes en couple, il y a deux façons de faire la transition vers le premier enfant. Dans les pays où les coûts directs et indirects de l'enfant sont élevés, comme l'Italie et l'Espagne, le fait de devenir femme au foyer avec un conjoint qui travaille, ou encore d'occuper une position professionnelle stable et bien rémunérée facilite la maternité, alors que dans le contexte de la France, la maternité est plus probable dans le cadre de couples bi-actifs.

**Mots-clés :** non-maternité, formation des familles , perspective comparative européenne

## **1 Introduction**

The phenomenon of childlessness is increasing in Western European societies. In some countries and among some highly educated women one third of women at the end of their fecund life are childless. In addition, the visibility of childlessness is increasing, as more women stay without children for longer periods of their life, even if they end up having children at a late stage of their life. This research is mainly interested in the reasons for the increasing prevalence of childlessness. In order to explore this demographic trend, we study the factors that encourage childless women born between 1955 and 1982 to experience motherhood in the period between 1994 and 2001 in a selected group of Western European countries.

The increasing prevalence of childlessness is interpreted here as the result of two parallel processes which take place both at the macro and micro level. At the macro level, the increasing propensity to remain childless occurs in tandem with increasing uncertainty in the labour market during longer periods of the individual's life-course and higher human capital investment by women, leading also to higher expectations concerning individual autonomy and self-realisation. Labour market uncertainty is mainly caused by labour force flexibilisation that has taken place in most Western societies in recent decades. We maintain that uncertainty is partly responsible for the progressive delay of motherhood and the eventual increase in unintended childlessness. Economic uncertainty must be placed in context, because institutional settings differently affect individuals' perceptions of insecurity in the labour market. Therefore, a similar degree of labour market deregulation may not cause the same reactions on individuals providing there are other institutions that have an effect on their transitions into parenthood, for instance, through public intervention (i.e. labour market policies, housing policies, family policies). We shall consequently test the extent to which different forms of uncertainty produce different demographic outcomes across countries. At the micro level, we posit that most women need to meet a minimum set of conditions before engaging in motherhood. This set of conditions may include job stability, a minimum income level, adequate housing and time flexibility, which again might be more or less feasible according to the institutional context.

The institutional research questions explored here require a comparative framework for which the following European countries have been selected: West Germany, Spain, Italy and France. They represent different institutional contexts and different levels of childlessness. The research strategy followed consists of exploring the extent to which motherhood decisions are mainly shaped by the national institutional context (i.e. the fact of living in a particular country with a given welfare regime) and the individual constraints related to the economic, labour market or family situation. Binary probit regression models are used to estimate the relative risks of having a first child. The regression models control for the selection bias that is likely to arise in panel data (this is further discussed in section 2.2). The analysis is based on the eight waves (1994-2001) of the European Community Household Panel (ECHP).

The article is organised in two main parts. The first part introduces main patterns and explanations of current fertility behaviour, and, particularly the increasing incidence of childlessness. The second part describes the empirical analysis (the rationale of the comparative research, data and methodology) and discusses the main findings.

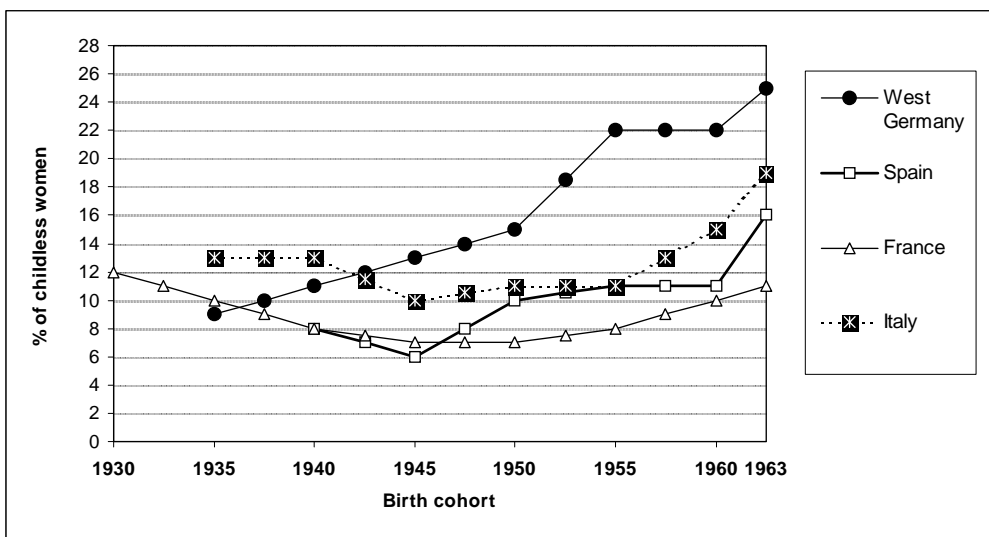
## **2 The Low Fertility Context in Western Europe**

We are currently situated within a scenario of low fertility in most Western European countries and of very low fertility in southern countries such as Italy and Spain. Completed fertility of

women born in 1963 (this birth cohort was approaching the end of their reproductive life by 2005), has been of 2.06 children per woman in France, 1.58 in West Germany, 1.66 in Spain and 1.57 in Italy. The decline in complete fertility is related to a new family organisation, where the timing of childbearing has been delayed and the prevalence of different birth orders has also changed (Frejka and Sardon 2004). The increasing proportion of childless women coupled with the reduction of higher birth orders affects levels of completed fertility (Devolder 2005).

Permanent childlessness has indeed increased in most western countries, especially among women born after the 1950s. The increasing trend of childlessness is illustrated in Figure 1. The relatively high levels of childlessness are outstanding among West German women born in 1963 (22%). These women reached their forties by the year 2003. There are also relatively high levels among women from the same birth cohort in Italy (19%). Current levels of childlessness are not rare from a historical point of view. They are, for instance, below the levels reached by women born at the beginning of the 20th century in Western countries (Rowland 1998). The interesting aspect, though, is the diverging trend in the prevalence of childlessness in contemporary Europe, which makes a comparative analysis far more attractive. In “very low fertility” Spain, Italy and West Germany, the 1963/65 female cohorts had high proportions of childless women (16 to 25%) and low proportions of women with three or more children (13 to 22%), as shown by Frejka and Sardon (2004, p. 336, 124, 151) and Dorbritz (2001). In contrast, the proportion of childless women in “high fertility” France among the 1963 birth cohort is only 13% and the proportion with three or more children reaches 29%, significantly higher than in the former countries (Toulemon 2001). Thus, in these four countries, the high incidence of childlessness is an important component of the low national completed fertility levels among the youngest cohorts (1).

**Figure 1: Proportion of Childless Women by Cohort (1930-1963): West Germany, Spain, France and Italy**



Source: Eurostat 2005; Dorbritz 2001 and Toulemon (2001) for German and French data from the 1960's.

The above-mentioned trends pose many questions, such as why are more women not engaging in motherhood at all in these apparently affluent Western economies? Some explanations for the changes in fertility behaviour are discussed in the next section.

## **2.1 Paths to Childlessness**

Studies on childlessness show that this phenomenon might be the result of very different processes, such as not finding the right partner and refusing lone-motherhood, postponing motherhood and then experiencing fecundity problems, freely choosing not to have children or choosing not to have children as a constrained choice in a context in which children appear to be an unattractive decision. As recent qualitative and quantitative studies on childlessness have shown, childless women may also be a heterogeneous group due to a wide range of motivations from which the decision of not having children arises (Hakim 2004, Mencarini and Tanturri 2005, Gillespie 1999). Sociologists and demographers define childlessness in very different ways, but there is agreement in distinguishing voluntary from involuntary childlessness. The former are individuals who do not have children, who do not want to have children in the future and whose childlessness is intentional. Involuntary childlessness is, instead, applied to individuals who have fecundity problems and those who want to have children or who are uncertain about wanting children and eventually end their fertile life without children. Yet, the distinction between voluntary and involuntary childlessness is rather difficult to establish, for different reasons.

Individuals may change their mind and expectations quite frequently, so voluntarily childless people may quite easily change into the category of mothers or women who want to have children (Houseknecht 1987). McAllister and Clarke (1998) and Weston and Qu (2001) show that few couples make an irrevocable choice at the beginning of their lives. Thus, if researchers want to capture these different groups of childless women, they need to have longitudinal data for women who have finished their reproductive life and information on the evolution of their intentions about having children since the beginning of their fecund life. This data, however, are seldom available (Heaton et al. 1999).

The survey used in this research does not capture motivations and preferences around motherhood. We can only attempt to identify the effect of some socio-economic disadvantages or country-specific constraints on the decision to have a child as opposed to remaining childless. This analysis shows which type of restrictions influence the transition out of childlessness and to what extent. Thus, it does not study why people, who have a “minimal set of conditions” to become parents, as developed below, do not have children. This article studies unintended childlessness, defined as those people who are uncertain about having children or who want to have children and postpone childbearing for very different reasons, such as not being able to find the right partner, suffering a partnership-breakdown or waiting for the “right” moment within a partnership. Postponement increases the risk of final childlessness for all these groups. Which are the main problems or constraints a young-adult and childless woman may possibly face in contemporary Europe? This is the topic of discussion for next section.

## **2.2 Explaining Postponement of Childbearing and Childlessness**

The progressive postponement of motherhood, the reduction of higher birth orders and the increase in the proportion of women and men who will never experience motherhood/parenthood partly reflect new values and preferences around the family (Lesthaeghe 1995, Hakim 2003). Hakim's preference theory (2000, 2003) is the most comprehensive and elaborated theory that considers changing female preferences as the primary determinants of women's behaviour in prosperous modern societies. According to this sociologist, in most rich modern societies since about 1965, women have gained control over reproduction thanks to the contraceptive revolution. In addition, the equal opportunities revolution, the expansion of white-collar occupations, and the creation of jobs for secondary earners are all changes that have increased the importance of

personal preferences and of lifestyle choices in women's lives. Thus, preferences determine to a great extent the incidence of childlessness and the number of children that women have. From this perspective, childlessness is most frequently voluntary and a result of a lifestyle that prioritises careers, personal development and material wellbeing over family life. Thus, rising childlessness may be the result of a polarisation of women's choices into either a work-oriented or a family-oriented life, and the increasing prevalence of women choosing the former lifestyle (Hakim 2004).

However, the new fertility patterns are also interpreted as the result of constrained or unintended choices. This is at least indicated by several studies which show that the desired number of children is far from the levels really attained by many Western European women (Bernardi 2005). Since this work studies unintended childlessness, the key issue is why individuals, women in particular, are unable to achieve their reproductive goals. Let us briefly summarise some of the explanations that appear to be particularly relevant to understanding this question. A recurrent explanation is related to the fact that women have to adjust their family life to their work life in order to handle their occupational obligations. These adjustments may produce the postponement of family formation, especially among highly educated women (Oppenheimer 1988). The institutional national context is also made responsible for facilitating different strategies of family formation and of family and paid work conciliation and, consequently, influencing demographic behaviour (McDonald 2000, Pinelli et al. 2001, Garrido and Malo 2005). Institutional national context refers to the structures that support the combination of paid work and unpaid work. Parents can be supported for childrearing by the provision of time (i.e. maternity leave, paternity leave, parental leave, care leave, career breaks and flexible working time patterns), money (i.e. family allowance, housing allowances, social security, social assistance, tax allowances) and services (i.e. nursery places for small children, schooling and after school services), which are available in different degrees across Western European countries (Bettio and Plantenga 2004).

Social scientists from the New Home Economics would also argue that the explanation for rising childlessness is found in the increase in both female labour force participation and wages which causes a rise in the opportunity costs of having children (Becker 1993; Pollak 1985). Empirical studies have shown that further educational enrolment has caused a particular delay in family formation among higher educated women in countries such as Germany, but also a delay and lower fertility rates in countries such as Italy or Spain (Blossfeld 1996).

Increasing job instability and uncertainty is also blamed for current demographic and childbearing behaviour. The idea is that individuals feel less confident to make long-term commitments such as marriage and motherhood/parenthood (Kohler, Billari and Ortega 2002, Nazio and Blossfeld 2003, Bernardi and Nazio 2005). This uncertainty, however, may be mediated by institutional contexts. As argued by Schmid (2000) and Blossfeld et al. (2005) different institutions can favour "secure transitions" in a context of growing labour force deregulation.

In our view there is some truth in all of the above-mentioned explanations. However, we still lack a more holistic explanation which is able to encompass current micro and macro level theories on fertility decisions. Furthermore, we also lack explanations that emphasise the longitudinal dimension of family formation and childbearing. We attempt to take on board some of these elements by proposing the notion of the "Minimal Set of Conditions for Motherhood".

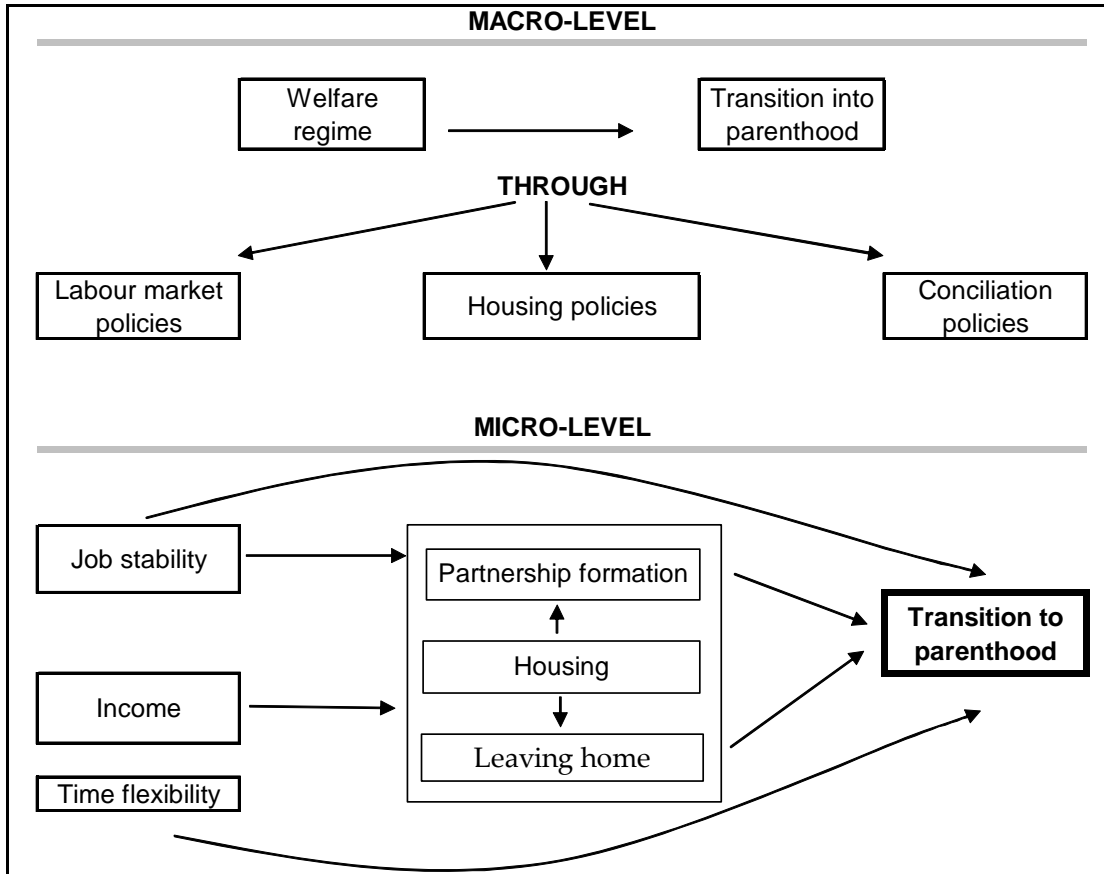
It is clear that as women's economic and social situation improves, the conditions and expectations around motherhood also change. Women in affluent Western countries have many more options than ever before. However, women have also attained higher expectations for self-fulfilment in all spheres of life. For professional women, it is not easy to accommodate ideals of

fertility with demanding educational and occupational careers; non-professional women are nowadays more often employed and have to combine paid with unpaid work. In affluent societies women may have sufficient economic resources - in relative terms - to have children, but encounter many other difficulties when mating and establishing an independent household, attaining a standard of life that guarantees a minimum quality of life for them and their child/ren or when searching for enough time flexibility to enjoy combining motherhood and paid work. There is a minimal set of conditions which will favour or ease the transition to motherhood and the exit from childlessness for most people (2).

Figure 2 illustrates this notion of the “Minimal Set of Conditions for Motherhood”. At the macro level, the national institutional context shapes the transition into parenthood through three different channels: labour market regulation, housing policies and support for combining care and paid work. These three macro-level factors are important, because we assume at the micro-level that there are three conditions that have to be fulfilled in order to make the transition to the first child. It has to be clarified that these conditions for motherhood are thought to explain childbearing within partnerships, since most children are born within marital or consensual unions. According to results of the United Nations Family and Fertility Surveys, the percentage of women not living in any partnership at the time of delivery of their first baby were 3.6% in Spain, 5% in Italy, 9% in France and 9% in West Germany ([www.unecce.org/ead/pau/ffs](http://www.unecce.org/ead/pau/ffs)).

At the micro level, individuals have first to find employment, have to rely on a partner or on a private/public income transfer to leave the parental home and establish themselves in an independent dwelling. Second, individuals have to mate and make the transition to marriage or cohabitation. Third, they have also to find a dwelling in which to live together. In some countries the transition to an independent dwelling is a transition which runs in tandem with union formation, as is often the case in Southern Europe, whereas in other countries it frequently precedes partnership formation (Garrido and Requena 1996, González 2001, Jurado 2001). Fourth, at least one member of the couple has to reach some job or income stability, a minimum income and some time and time flexibility to be able to care for a child. The latter may be substituted by buying external services. If these four conditions are met, individuals may perceive that they have attained the necessary objective conditions to make the transition to parenthood. This does not mean that subjective factors, such as preferences, are not important, as mentioned above, but this analysis is centred on restrictions and opportunities.

**Figure 2: The Macro-Micro Dimensions to Explain Couple's Childlessness**



What are the consequences of this perspective for explaining decisions concerning motherhood? At the micro level we posit the following hypotheses for women (3):

1. Women with relatively high personal income will be less likely to exit childlessness due to higher opportunity costs (opportunity costs hypothesis).
2. Women with unstable employment relations will be more likely to postpone or forgo motherhood than women in a long lasting employment position (uncertainty hypothesis).
3. Women with low to medium personal income levels will be less likely to exit childlessness due to the burden of the high direct costs of motherhood (direct costs hypothesis).
4. Women in dual-earner couples are less likely to exit childlessness due to conciliation constraints (conciliation problem hypothesis).

Different institutional contexts will shape direct costs, conciliation and uncertainty problems in different ways. Therefore, we expect that these micro-hypotheses will work differently according to each country, as described in the following macro-level hypotheses:

1. In those national institutional contexts, such as Italy and Spain, that are characterised by low services for working women and poor family subsidies, women have to face high direct costs, opportunity costs and conciliation constraints. So, women in dual-earner couples will be less likely to become a mother. In addition, job uncertainty for a long period during youth is very common and thus favours postponement of transitions into adulthood. Since home acquisition is very frequently considered a prerequisite in order to form a family

and this is conditioned on a minimum level of income, savings, and job stability, a high prevalence of home-ownership means delayed family formation for couples.

2. In those national institutional contexts, such as France, that have generous family benefits and services for working women, it is more likely that women, independently of their income level and partnership situation, become mothers due to the relatively low direct and opportunity costs of motherhood. In addition, many young people live in consensual unions and in rented dwellings, which both may link family formation less strongly to home acquisition and marriage, and as a consequence may favour early transitions into parenthood.
3. In those national institutional contexts, such as West Germany, that offer generous parental leave and family benefits, but relatively scarce public services for mothers, it is more likely that women have to choose between a professional career with high opportunity costs or a family “career” with generous state support. As a consequence, motherhood will be more often associated with women being in a male breadwinner couple. A relatively high prevalence of rented dwellings should make early family formation relatively easy.

The influence of national institutional contexts on women’s childbearing behaviour is far more complex than outlined in the three above-posed ideas. The aim of the empirical research that follows in the next section is to test whether there are specific national institutional contexts or specific constraints at the individual level (e.g. economic uncertainty) influencing motherhood decisions. Next, the comparative research design, data and methodology are further described.

### **3 The Empirical Analysis Out of Childlessness**

This section has been divided into three subsections. The aim of the first section is to describe the rationale of the comparative analysis and the countries selected. We provide some descriptive statistics on the sub-sample selected. The aim of the second section is to explain the main characteristics of the survey and the method chosen to overcome some of the problems posed by demographic analysis with panel data. Finally, the third section introduces the main findings.

#### **3.1 The Comparative Analysis**

The comparative analysis follows two steps. On the one hand, we explore the factors associated with the higher likelihood to leave childlessness within a hypothetical European context where dummy variables control for country differences. On the other hand, we explore the extent to which different variables at the individual level have country-specific effects on the decision to have a first child or to abandon the situation of childlessness.

As for the sample of countries, we have selected four distinct national institutional contexts and fertility patterns. Western Germany is normally clustered within the Conservative Welfare States with scarce public support for reconciling family and paid work. Italy and Spain are clustered within the Southern Welfare States which offer very low support to families with children and with scarce public support for reconciling family and paid work (Fagnani 2002, Naldini 2003). France is often classified within the Conservative model, despite having more public measures than Germany, which are aimed at easing the combination of family and working life (Esping-Andersen 1990, Fagnani 2002, Gornick, Meyers and Ross 1997). Finally, Germany and France have a large sector of social housing, housing allowances and a large proportion of rented dwellings. In contrast, in Italy and Spain, social housing is scarce, housing allowances do not



exist and the rate of rented dwellings is very low (Trilla 2001, Allen et al. 2004). Given that in the latter countries, home acquisition is very often considered a prerequisite in order to form a family and that the expenses related to acquisition of a house might be especially heavy among young households, housing policies are relevant to understanding differences in family formation processes, such as the timing and the type of the first partnership in an independent dwelling which consequently also affects the timing of childbearing (Jurado 2003).

Labour markets also vary, even if all four countries are known for their “closed employment relations” with the consequences of large amounts of precarious jobs and many difficulties for young people entering the labour market (Blossfeld et al. 2005). However, Germany shows low rates of fixed-term contracts and, in general, comparatively low youth unemployment rates at the period of this analysis. In 2001, only 6.3% of women aged 25 to 29 were unemployed, while the respective rates were 16.9% in Spain, 18.6% in Italy and 13.1% in France (Eurostat 2005). In addition, fixed-term contracts have a major impact in Spain, where as many as 42.9% of women aged 15 to 39 in 2001 had a fixed-term contract as compared to 19.5% in Germany, 15% in Italy and 23.6% in France in the same age group (Eurostat 2005).

Concerning fertility patterns, the countries selected display relevant differences, in particular with respect to the prevalence of childlessness (see section 1). Table 1 reports the proportion of childlessness for women aged 40-41 which stems from the first wave of the European Community Household Panel (ECHP). This birth cohort, born in the mid-1950s, is not yet representative of the low fertility levels later reached by women born in the early 1960s, but this is the oldest cohort which reached the end of their reproductive life by the mid-1990’s when the first wave of the ECHP was conducted. The levels of childlessness by country seem to go in the same direction as the patterns arising from register data (see Figure 1). In addition, for this birth cohort childlessness is positively correlated with educational level and, is particularly high among women with a tertiary education level in West Germany.

Table 1: Percentage of Childless Women Aged 40-41 (Birth cohort 1953-1954): Italy, Spain, France and West Germany, 1994

	Childless Women by Educational Level:			
	Childless	Less than secondary	Secondary	Tertiary
Italy	8.2	6.3	8.9	13.9
France	8.8	10.2	12.0	18.3
Spain	11.6	4.5	12.2	20.9
West Germany	18.9	9.0	14.6	43.6

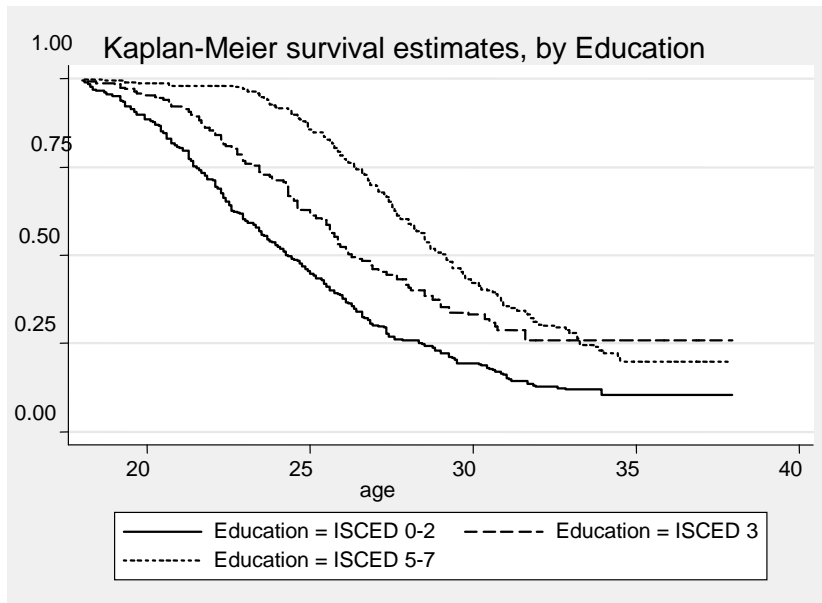
Source: 1st wave ECHP; weighted data.

Figure 3 illustrates timing and intensity patterns of the transition out of childlessness in the four countries according to education level. The curves show the proportion of women, according to age, who are still childless for the cohort of women born in 1963-68. Two important patterns can be observed. First with respect to timing, in Italy and Spain women have their first child later than in France, and in West Germany timing is also later for highly educated women. In all countries, a higher education level means a delay of the transition to motherhood. Second, with respect to intensity, the proportion of childless women in France at age 37 is the lowest, including highly educated women, who have the lowest proportion of all countries (ISCED 5-7; thinner dotted line). Highly educated French women reach even lower levels of childlessness than their medium-educated counterparts (ISCED 3; striped line). In West Germany, highly educated

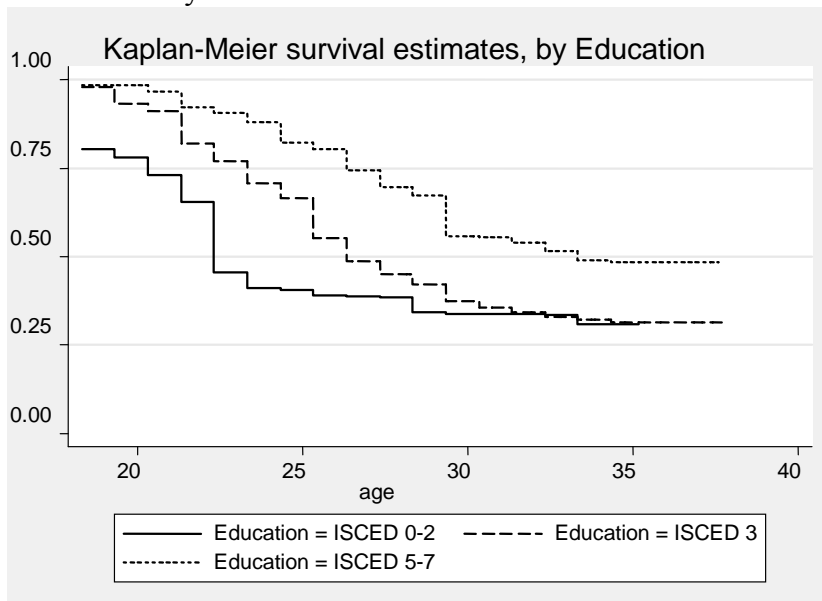
women stand out; they are the least likely to have a child in comparison to the highly educated in the other countries. Among this cohort, the proportion of childlessness seems to increase with education, France being the exception. It should be noted, however, that Figure 3 relies on data from a relatively young birth cohort (women born in 1963-68, aged 33-38 in 2001) and does not control for other relevant socio-economic variables (income and job stability), which according to our hypotheses influence motherhood decisions. A multivariate methodology is needed to take the analysis further. The methodology is discussed next.

**Figure 3: Kaplan-Meier Estimates of Remaining Childless by Educational Attainment: Cohort born in 1963-68 in France, Italy, Spain and West Germany**

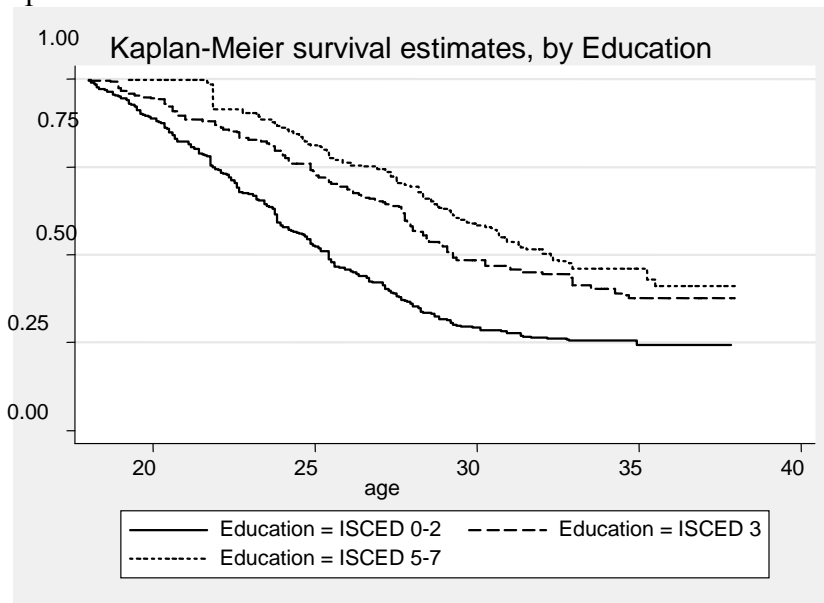
France



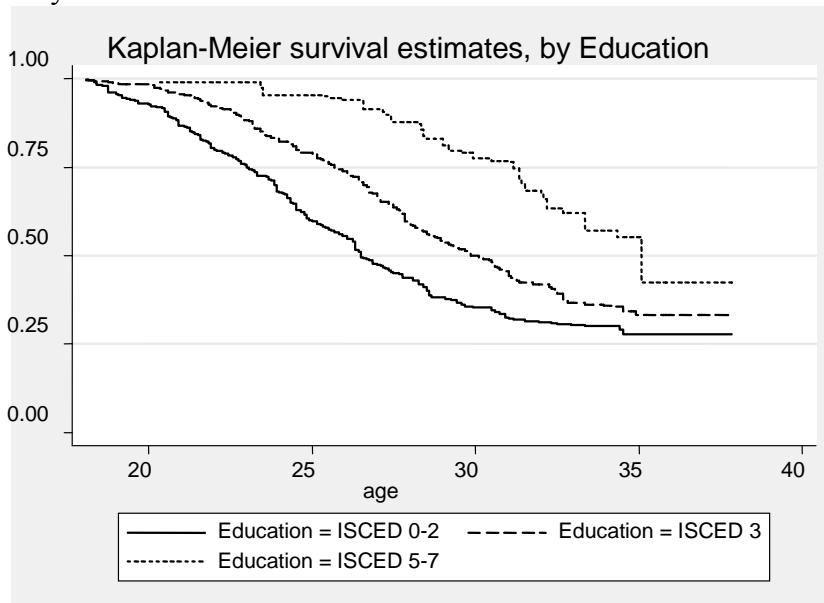
West Germany



## Spain



## Italy



Source: own calculations based on ECHP (8 waves).

Note: ISCED 0-2 = attained less than second stage of secondary education, ISCED 3 = attained second stage of secondary education, ISCED 5-7 = attained third level education.

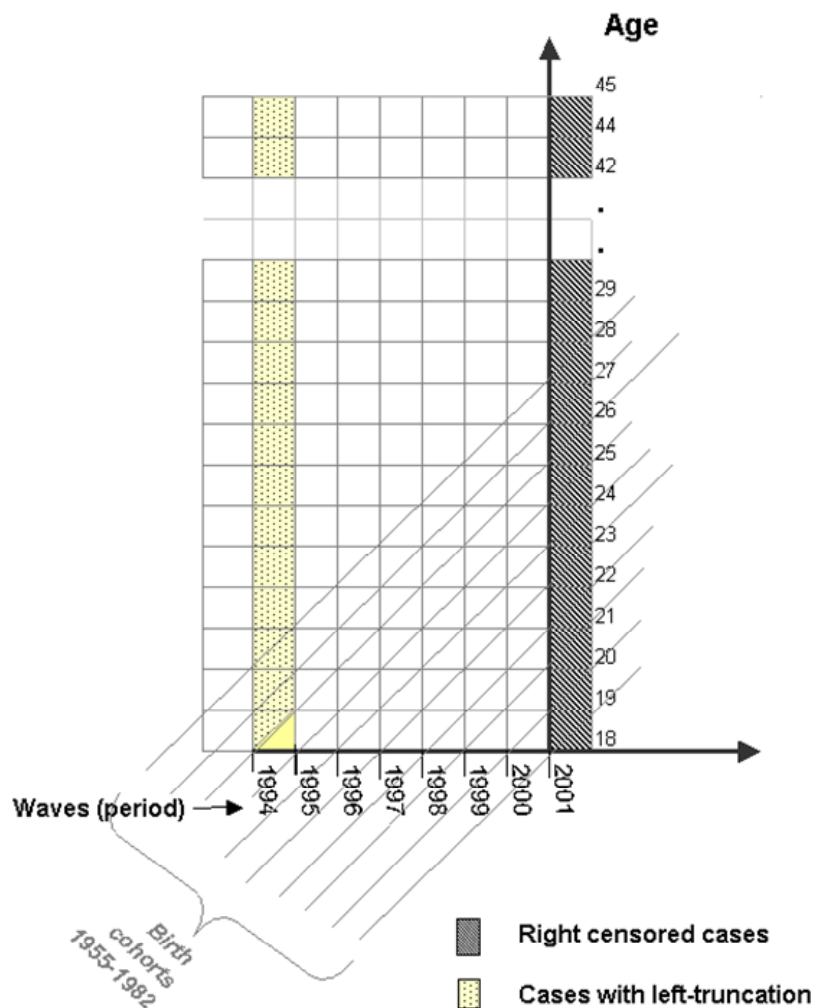
### 3.2 Data and methodology

This research is based on the European Community Household Panel (ECHP). ECHP data on fertility are available from two sources: cross-sectional data of the household structure from which children living in the household can be identified (newly born children are automatically included as a part of the survey population), and retrospective data consisting of one question included in the 1<sup>st</sup> wave on whether women have “had or adopted any children, apart from children living in this household” in which case they were asked to give the dates of birthdays. We have combined these two sources of information. The sample selected consists of women born between 1955 and 1982. We have, on the one hand, childless women aged 18-39 identified

in the first wave (1994) using retrospective information and, on the other hand, new cases of childless women in the same age group (18-39) entering subsequent waves and for which cross-sectional information on the household structure is available. For the new cases being added (2<sup>nd</sup> and above) we assume that these women did not have a child before. The event of interest is not fixed at the children's birthday but the year before (pregnancy) in order to capture the socio-economic and family conditions that may have determined the decision of having a baby. Therefore, the last wave has been omitted. We have not considered cases of women with adopted children, whereby the child was either the only one or the first one, given that the relationship between events (women's socio-economic situation, child's birthday and adoption time) might be confusing. We use an unbalanced panel with the 8 waves available (for further description of the events see Appendix A).

A lexis diagram has been presented to depict the 'prospective' analysis conducted with our sample population: childless women observed from 1994 onwards (see Figure 4). The diagram shows three dimensions of the sample analysed: time period (1994-2000), cohort (women born 1955 and 1982) and age (18 was the youngest age to be in the sample and 39 was the oldest to remain in the sample).

**Figure 4: A three-dimensional Space of the Sample Selected from the ECHP data: Time Period, Birth Cohorts and Age**



As is shown in Figure 4, survey data in the first year of observation (1<sup>st</sup> wave) are particularly problematic because some observations are left-truncated. Left-truncation refers to the ignorance

about the event of interest and about the covariates over a portion of the distribution. Left-truncation arises because some women in the sample became at risk of motherhood some time ago (see the number of drop out cases in Table 2). Therefore, there may arise problems with the sample due to a not randomly observed population (childless women), which in turn may lead to biased inferences about the outcome variable. A sample-selection problem mainly occurs when data on the dependent variable are missing non-randomly, conditional on the independent variables. In our case, left-truncation would lead to an estimate of the likelihood of entering motherhood that is biased downward from the true regression line.

**Table 2: Sample of Childless Women Aged 18-39 at First Wave (1994)**

	France	Italy	Spain	West Germany
Left-truncated cases (♀ had a child before 1994)	1,690	1,666	1,720	1,163
Childless women	1,384	2,191	2,077	1,009

Source: own calculations based on the first wave of the ECHP.

Potential problems of sample selection are dealt with by the use of a probit regression with Heckman selection (this type of model is fully reviewed by authors such as Winship and Mare 1992). In particular, we apply a discrete-time survival model with sample selection, as applied by other researchers using the ECHP, in order to account for any possible bias that might arise because the ECHP does not include retrospective histories on fertility (Aasve et al. 2002). The model consists of two equations: a selection equation, and the outcome of interest equation. The outcome equation is a discrete-time event history model with a probit specification that measures the event of having a first child during the seven waves in which we observe the respondents. The selection equation measures whether the individual had already had a first child prior to the first wave or, in other words, the selection bias. Figure 3 shows, for instance, that education implied different timing and intensity at first birth. Therefore, we could presume that lower educated women had the child at younger ages and they would be more likely to be over-represented among left-truncated observations in 1994.

The Heckman probit model consists of the outcome equation,

$$y = v\beta + u_1 \quad (1)$$

and the selection equation (in both cases, dependent variables are binary: 1,0),

$$z\gamma + u_2 > 0 \quad (2)$$

where the following holds,

$$\begin{aligned} u_1 &\sim N(0, \sigma) \\ u_2 &\sim N(0, 1) \\ \text{corr}(u_1, u_2) &= \rho \end{aligned}$$

When  $\rho = 0$  OLS regression provides unbiased estimates, when  $\rho \neq 0$  the OLS estimates are biased.

The Heckman selection model allows improvement of the estimates of the parameters in the regression model by using information from women who have had children prior to the survey (1994). It also provides consistent, asymptotically efficient estimates for all parameters in the model. In addition to the two equations, Heckman estimates  $\rho$ , which is the correlation of the residuals in the two equations. If they are not correlated, then regression estimates are unbiased.

The probit model is defined as:  $\Pr(y=1|X) = \Phi(X'\beta)$  Where P is the probability; y is a dummy variable for the relative risk of having a first child;  $\Phi$  is the cumulative function of the standard normal distribution; X is a vector of variables which affects women's propensity to have a first child; and  $\beta$  is a vector of unknown parameters. The interpretation of a probit coefficient, b, is that a one-unit increase in the predictor leads to increasing the probit score by b standard deviations.

The dependent variable for the outcome equation (1) is coded 0 if a woman is childless, coded 1 the year a woman is pregnant (one-year lag the childbirth date), while the rest of the observations are left as missing. The dependent variable for the selection equation (2) is coded 1 if a woman is childless or has had a first child in a given panel year (sample of interest in the first equation) and 0 otherwise; therefore all of the missing values in the first equation are set to zero.

The explanatory variables included in the analyses follow our hypotheses. They are *stability in the labour market measured by the duration of employment* (time-varying categorical variable that captures the relationship with the labour market and the time spent in the current job); *stability in the labour market measured by the type of contract* (time-varying categorical variable that captures the relationship with the labour market: long-term contract, fixed-term or casual, self-employed and other employees); *housing tenancy* (a dummy variable that reflects whether the dwelling is owned or rented); total *net personal income* (time-varying categorical variable that controls for the quartiles of total net income in the previous year) (4); it includes income from work (wage and salary earnings and self-employment earnings), other non-work private income (capital income, property/rental income and private transfers received, and pensions and other social transfers); *type of partnership* (time-varying categorical variable that combines the situation of women and their partners in the labour market according to the following status: employed, unemployed, and economically inactive); and *marital status* (time-varying dummy variable that captures whether women are married or in a consensual union). The variables that control to some extent for timing differences in the transition out of childlessness are *age* (dummy variable that is meant to approximate the non-monolithic pattern of age dependence of the transition to the first child); and *educational attainment* (time-varying categorical variable consisting of three large categories: less than second stage of secondary, second stage of secondary and third level education);

### 3.3 Results of The Multivariate Analysis

This section analyses the sample bias of the data, compares the difference between a probit model and a probit with control for selection bias, analyses the relative risks of having a first child within a hypothetical European territory (pooled data where country dummies are included in the models) and, finally, conducts individual analyses to test specific country effects on the transition to motherhood.

Firstly, the analysis of the sample bias has been conducted through descriptive statistics and we have also tested the advantage of the Heckman probit selection model over an independent probit

model (see Table 3). The choice of the variables for the selection equation of entering the childless sample is very much based on theory about fertility behaviour. Thus, the likelihood of being childless in a given year for a group of women would very much depend on their age (the older the woman the less likely to be childless up to a certain ceiling), on their educational attainment (highly-educated may be over-represented in the sample of childless women) and on the fact of having formed a partnership. There may be other variables influencing selectivity effects, but these are the chief elements stemming from substantive theory. The comparison of both regression models confirm the need to control for the selection problem, since the coefficients of the ordinary probit model differ from those of the Heckman Sample Selection model and the test of independence of the equations of the latter model is negative. The first model with sample selection provides high negative effects for the oldest age group of women (the standardized probit index for women in the 33 to 39 age category is, on average and *ceteris paribus*, -0.56 of a standard deviation lower than for women aged 18-25), while the ordinary probit model without sample selection provides positive and significant effects for the same age group. In addition, the interaction effect between women's age and educational attainment provides higher significant effects in the model with sample selection. This means that the sample of women aged 18-39 who were childless when they entered the panel is biased.

We acknowledge the fact that "Heckman's method is no panacea for selection problems and, when its assumptions are not met, may yield misleading results" (Winship and Mare 1992, pp. 342). Models in Table 3 include only variables central to our theoretical argument in the pooled data models, namely, the fact that no matter whether we control for women's education and age, country characteristics (national institutional contexts) will make a difference in the relative risk that a woman will have a baby as opposed to remaining childless. Country dummies are indeed highly significant in both models: the probit with selection model and the ordinary probit model. Thus, having compared both probit models, we proceed with the third section which shows the results of the multivariate analysis: models with pooled data.

**Table 3: Results of a Probit Model with Sample Selection and of an Ordinary Probit Model**

Heckman Sample Selection			Probit Model		
<b>Outcome equation: leaving childlessness</b>					
	$\beta$	s.e.		$\beta$	s.e.
Age: 18-25	--		Age: 18-25	--	
26-32	0.21 ***	0.048	26-32	0.66 ***	0.055
33-39	-0.56 ***	0.065	33-39	0.31 ***	0.081
Edu: Low	--		Edu: Low	--	
Medium	-0.22 ***	0.051	Medium	-0.24 ***	0.053
High	-0.11	0.079	High	-0.15 *	0.080
Missing education <sup>b</sup>	-0.47 ***	0.128	Missing education	-0.56 ***	0.130
Age 26-32 * Medium	0.30 ***	0.072	Age 26-32 * Medium	0.08	0.079
Age 26-32 * High	0.28 ***	0.093	Age 26-32 * High	0.01	0.098
Age 26-32 * missing	0.47 *	0.240	Age 26-32 * missing	0.25	0.259
Age 33-39 * Medium	0.49 ***	0.104	Age 33-39 * Medium	0.23 *	0.125
Age 33-39 * High	0.62 ***	0.118	Age 33-39 * High	0.27 **	0.134
Age 33-39 * missing	0.90 ***	0.311	Age 33-39 * missing	0.52	0.366
France	--		France	--	
Italy	-0.19 ***	0.035	Italy	-0.30 ***	0.040
Spain	-0.24 ***	0.035	Spain	-0.36 ***	0.040
West Germany	-0.15 ***	0.051	West Germany	-0.19 ***	0.057
Constant	-1.93 ***	0.038	Constant	-1.82 ***	0.040
<b>Selection equation: entering the childless sample</b>					
Age: 18-25	--				
26-32	-0.86 ***	0.035			
33-39	-1.62 ***	0.042			
Edu.: Low	--				
Medium	0.44 ***	0.037			
High	0.63 ***	0.049			
Missing education	0.44 ***	0.103			
Living with a partner <sup>a</sup>	-1.82 ***	0.036			
Constant	1.75 ***	0.038			
Correlation (RHO)	0.02	0.020	Log pseudo-likelihood		-4337
Number of obs.:	72,32		Wald chi-square		1534
Uncensored obs.:	3,885		Number of obs.		38,852
LR test of indep. eqns. (H0: rho = 0), [Prob>chi2]	138	0.0000			

Source: own elaborations on European Community Household Panel (coefficients with longitudinal base weights of interviewed persons (variable: pg003)).

\*Statistically significant at the 0.10 level; \*\* at the 0.05 level; \*\*\*at the 0.01 level .

-- Reference category. <sup>a</sup> Reference category: not living with a partner. <sup>b</sup> Most missing cases are people still at school, who were not assigned any value about highest educational level attained.

Note: cluster on pid (personal identification number) has been used to adjust standard errors for intragroup correlation given that there are repeated person-year observations across the panel.

### 3.3.1 The Influence of National Institutional Contexts

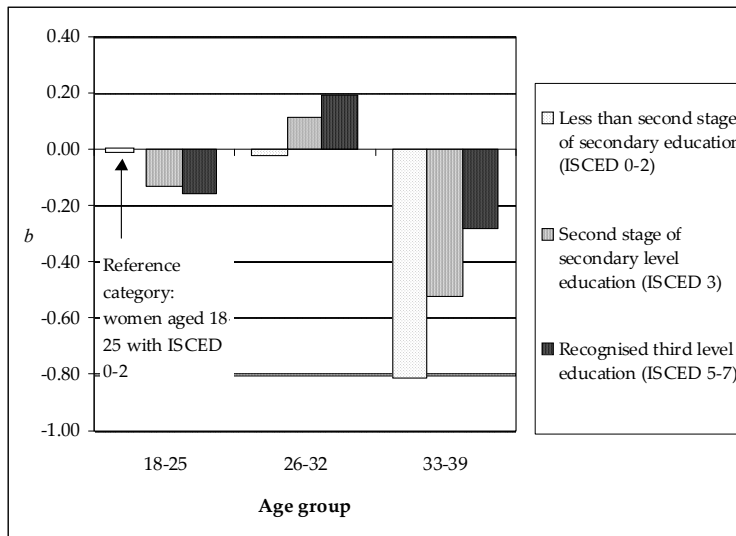
Table 4 shows the probit model which controls for the sample selection bias for the four countries analysed, including new variables about women's labour market and income characteristics. The models included in Table 4 intent to shed more light on the conditions that women had to fulfil in order to make the transition to a first child during 1994 to 2000. First of all, models 1, 2 and 3 provide highly significant country effects which suggest the importance of the national institutional context to explain the transition into motherhood. As expected, French women in particular are more likely to exit childlessness compared to their counterparts in Italy, Spain and



West Germany. Secondly, there is an interaction effect between age and education. As can be seen from Figure 5, this interaction effect shows the different propensity of having a first child according to the stage in the women's life cycle and her educational attainment. The estimated coefficient suggests that an increase in education raises the standardised probit index of having a first child at age 26 to 32, for medium to high-educated women, as compared to low educated women aged 18-25 (reference category). At age 33 to 39, however, the standardised probit index for having a first child decreases, particularly among low to medium educated women who did not have a child before. This means that a higher investment in education leads to a postponement in the transition to motherhood, and this increases the risk of ending up as a childless woman. According to Toulemon (1995), 20% of women who try to conceive their child at age 35 do not succeed, in contrast to 12% at age 30, 8% at age 25 and 4% at age 20. Can a given personal income level and job stability reduce this high risk of childlessness among highly educated women?

Yes, the negative effect of a high education level disappears, if employment duration is taken into account (Table 4: model 3). In addition, postponement of motherhood among medium to high-educated women, as indicated by the age-education interaction effect, diminishes somewhat once the personal income level is introduced (model 2). In the case of high-educated women, the postponement effect is even lower, if employment stability is the main independent variable. Both results show that the higher likelihood of postponement and childlessness of medium to high-educated women is weaker among women at higher income quartiles and with employment duration of 3 to 6 years. So, with respect to women's employment and income situation, it can be stated that regardless of age and educational level, women who are within the education system and with unstable employment relations (fixed-term contracts, a recent employment relation or unemployment) have a low propensity to have a first child (model 1 and model 3). This model shows also that economically inactive women are more prone to have a first child than all other women, even those in a permanent job position. The latter is in line with Becker's idea of the importance of opportunity costs for having children (Becker 1993). The New Home Economics framework does not take into account variations in national institutional contexts and the way they affect women's opportunity costs. In national institutional contexts where mothers receive State support, they do not need to renounce employment for motherhood. As a consequence, motherhood may have very low opportunity costs. In countries where women cannot rely on State support, only high-income women can overcome the opportunity costs associated with motherhood. In fact, in model 2 women of the two highest personal income quartiles have less difficulty in exiting childlessness compared to lower-income groups (model 2), which points to relatively low opportunity cost constraints among higher income groups. To conclude, after controlling for differences in national institutional contexts represented by the four countries, some common "European" conditions to exit childlessness appear: being economically inactive, having a permanent job, and having a longer-lasting job position together with a relatively high income seems to favour motherhood.

**Figure 5 Coefficient of the Interaction Effect between Educational Attainment and Age on the Likelihood of Having a First Child**



Note: All interactions are statistically significant (see Table 4). Coefficients controlling for women's relation with the labour market in model 1.

This evidence confirms our micro-level hypotheses, since the results seem to indicate that there are two main paths leading to motherhood. The first one entails overcoming the uncertainty and conciliation problem constraints through a gender division of labour within the partnership: homemaking. This will also explain the higher propensity of low-educated women to enter motherhood even at an early stage of their life cycle as shown in Figure 5. The other path resolves opportunity and direct cost constraints through the acquisition of a well-paid and stable job, which will mainly increase the chances of entering motherhood.

Another important conclusion from Table 4 is that the analysed individual level factors are not able to explain away country differences. As predicted by the first macro-level hypothesis, French women have systematically higher chances of leaving childlessness than their Spanish, Italian or West German counterparts (all three country dummies have a negative significant effect as compared to France). This means that there is some evidence that the French institutional context is more favourable to motherhood. This may be related to lower direct costs and conciliation constraints of motherhood, due to a greater and more women-friendly offer of public services for mothers, more maternal and parental leave measures, shorter working hours, generous child benefits or other features of the French national institutional context, such as more positive attitudes towards the employment of women with small children in France compared to West Germany, for instance (Fagnani 2002). Another possible explanation might be that partnership formation, a demographic event potentially affecting fertility behaviour, occurs earlier in France than in the other three countries, at least for the cohorts born between 1956-1965 (Billari and Wilson 2001). The question is then whether these country singularities will remain in a sub-sample of women who are already living with a partner: will French women still have similar higher risks of entering motherhood if we only take coupled women into account, and will all types of partnerships equally encourage motherhood? These questions are explored in Table 5 with a sub-sample of women living with a partner.

**Table 4: Probability of Having a First Child for Women Aged 18-39 Observed across 1994-2000 (Probit Model with Sample Selection)**

<b>Outcome equation: leaving childlessness</b>						
	<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>	
	$\beta$	s.e.	$B$	s.e.	$\beta$	s.e.
Age: 18-25	--		--		--	
26-32	-0.02	0.050	-0.05	0.050	0.16***	0.050
33-39	-0.81***	0.069	-0.84***	0.069	-0.60***	0.068
Edu: Low	--		--		--	
Medium	-0.13**	0.054	-0.14**	0.054	-0.22***	0.052
High	-0.16*	0.080	-0.16**	0.081	-0.12	0.078
Edu. missing <sup>a</sup>	-0.32**	0.135	-0.31**	0.135	-0.45***	0.128
Age 26-32 * Medium	0.27***	0.073	0.25***	0.074	0.29***	0.072
Age 26-32 * High	0.37***	0.094	0.34***	0.095	0.27***	0.093
Age 26-32 * missing	0.31	0.260	0.28	0.258	0.48**	0.238
Age 33-39 * Medium	0.42***	0.105	0.39***	0.102	0.48***	0.105
Age 33-39 * High	0.69***	0.121	0.65***	0.121	0.57***	0.119
Age 33-39 * missing	0.81***	0.310	0.70**	0.317	0.88***	0.326
France	--		--		--	
Italy	-0.19***	0.037	-0.22***	0.039	-0.17***	0.036
Spain	-0.21***	0.037	-0.25***	0.039	-0.21***	0.036
West Germany	-0.16***	0.053	-0.18***	0.053	-0.18***	0.052
Permanent employment	--		--			
Contract unspecified	0.01	0.01	0.02	0.050		
Fixed-term / short-term / casual	-0.17***	-0.17	-0.11**	0.052		
self-employment	-0.03	-0.03	0.02	0.102		
In education	-0.84***	-0.84	-0.69***	0.080		
Unemployed	-0.19***	-0.19	-0.06	0.056		
Economically inactive	0.06	0.06	0.22***	0.056		
1st ♀'s income quartile			--			
2nd ♀'s income quartile			0.05	0.057		
3rd ♀'s income quartile			0.18***	0.051		
4th ♀'s income quartile			0.28***	0.062		
Economically inactive					--	
Unemployed					-0.04	-0.04
Employment duration: < 2 years					0.09**	0.09
Employment duration: 3-6 years					0.28***	0.28
Employment duration: > 7 years					0.12**	0.12
Self-employed					0.13	0.13
Constant	-1.67***	0.046	-1.83***	0.062	-1.99***	0.044
<b>Selection equation: entering the childless sample</b>						
Age: 18-25	--		--		--	
26-32	-0.86***	0.035	-0.86***	0.035	-0.86***	0.035
33-39	-1.63***	0.042	-1.63***	0.042	-1.62***	0.042
Edu: Low	--		--		--	
Medium	0.44***	0.037	0.44***	0.037	0.44***	0.037
High	0.63***	0.049	0.63***	0.049	0.63***	0.049
Edu. Missing	0.44***	0.101	0.44***	0.101	0.44***	0.102
Living with a partner	-1.82***	0.036	-1.82***	0.036	-1.82***	0.036
Constant	1.75***	0.037	1.75***	0.037	1.75***	0.038
Correlation (RHO):	0.91	0.020	0.90	0.020	0.91	0.018
Number of obs.:	72,229		72,229		72,329	
Censored obs.:	33,477		33,477		33,477	
(H0: rho = 0), [Prob>chi2]	170	0.0000	182	0.0000	215	0.0000

\*Statistically significant at the 0.10 level; \*\* at the 0.05 level; \*\*\*at the 0.01 level . - - Reference category.

<sup>a</sup> Most missing cases are people still at school, for whom we cannot know the highest educational level attained.

There are several reasons for restricting the sample to coupled women. One of the reasons is that most fertility still occurs within partnerships. Actually, one of the factors that drive childlessness is the situation of young-adult women not being in a partnership due to non-mating, or to prior partnership breakdown. All the socio-economic constraints that hinder having a first child, as seen before, may also hinder having a stable partnership and once a woman manages to form a couple, socioeconomic constraints may be less relevant, also because then she does not only rely on her resources but also on her partner's.

In all three models reported in Table 5 for coupled women, age and education become the most important factors behind motherhood. Women in a partnership and at the end of their fertile life have a high probability of exiting childlessness, if they had not had a child at a younger age. What matters most for a woman's transition into motherhood when she lives with a partner? Model 3 shows that a woman is more likely to exit childlessness, if she lives in a male-breadwinner couple (i.e. he employed, she economically inactive) as compared to a dual-earner couple, regardless of the women's personal income. However, women with a high income are also more likely to become mothers. In addition, if the couple owns their home, women are also more likely to have a first child. The situation of a couple living in a rented dwelling decreases the standardised probit index (i.e. the propensity of having a first child) by -0.18 of a standard index. This means that for many couples, owning the dwelling is an important condition in order to have a first child. Thus, as before, models in Table 5 show that there are two main pathways to motherhood: to be in a male-breadwinner couple or to have a high personal income, which are two ways to cope with conciliation and opportunity cost constraints.

Another interesting result is the disappearance of most country effects in model 1 and model 2 in Table 5, except for West Germany. This is in line with the above-mentioned idea that national institutional contexts may differently affect the propensity of entering a stable partnership but, once a partnership is formed, the relative risks of entering motherhood are not so different across countries. In Western European countries the main policies influencing early home-leaving and partnership formation are the promotion of youth employment, scholarships and housing policies (Jurado 2001). The persistence of a significant West German effect may point to cultural differences, as shown by Fagnani (2002), which together with socio-economic variables are responsible for a long tradition of high rates of childlessness, irrespective of partnership formation. The emergence of country differences in model 3 is due to the omission of education as a control variable. In the following section, country models have been performed in order to better assess national differences between individual level patterns, since we have not been able to completely remove country effects.

**Table 5: Probability of Having a First Child for Women Living with a partner Aged 18-39 Observed across 1994-2000 (Probit Model with Sample Selection).**

<b>Outcome equation: leaving childlessness</b>						
	<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>	
	$\beta$	s.e.	$\beta$	s.e.	$\beta$	s.e.
Age: 18-25	--		--		--	
26-32	0.82***	0.82	0.80***	0.044	0.01	0.088
33-39	1.40***	1.40	1.36***	0.094	-0.60***	0.153
Edu: Low	--		--		--	
Medium	-0.42***	-0.42	-0.43***	0.047		
High	-0.57***	-0.57	-0.58***	0.057		
Edu. Missing <sup>a</sup>	-0.47***	-0.47	-0.48***	0.140		
France	--		--		--	
Italy	0.00	0.00	-0.03	0.021	-0.13*	0.065
Spain	-0.01	-0.01	-0.03	0.025	-0.16**	0.064
West Germany	-0.07***	-0.07	-0.09***	0.034	-0.36***	0.081
Logarithm partners' net income			0.00	0.003		
1 <sup>st</sup> ♀'s income quartile			--		--	
2 <sup>nd</sup> ♀'s income quartile			-0.05*	0.030	-0.12	0.090
3 <sup>rd</sup> ♀'s income quartile			0.01	0.019	0.11	0.079
4 <sup>th</sup> ♀'s income quartile			0.03	0.023	0.21**	0.085
Dual-earner couple					--	
He employed & she inactive					0.18**	0.074
He employed & she unemployed					-0.05	0.078
She employed & he out of work					-0.18*	0.105
Other partnerships					-0.14	0.103
Tenant-subtenant, paying rent					-0.18***	0.054
Constant	0.27***	0.27	0.26***	0.052	-0.96***	0.117
<b>Selection equation: entering the childless sample</b>						
Age: 18-25	--		--		--	
26-32	-0.88***	0.038	-0.88***	0.038	-0.88***	0.038
33-39	-1.60***	0.048	-1.60***	0.048	-1.60***	0.048
Edu: Low	--		--		--	
Medium	0.44***	0.043	0.44***	0.043	0.44***	0.044
High	0.63***	0.051	0.63***	0.051	0.63***	0.051
Edu. Missing	0.43***	0.130	0.43***	0.131	0.42***	0.133
Constant	-0.04	0.039	-0.04	0.039	-0.04	0.040
<b>Correlation (RHO)</b>	-1.00	0.004	-0.99	0.011	0.17	0.129
Number of obs.:	37,659		37,659		37,654	
Censored obs.:	30,363		30,363		30,363	
(H0: rho = 0), [Prob>chi2]	20	0.0000	12	0.0006	1.63	0.2017

\*Statistically significant at the 0.10 level; \*\* at the 0.05 level; \*\*\*at the 0.01 level. -- Reference category.

<sup>a</sup> Most missing cases are people still at school, for whom we cannot know the highest educational level attained.

### 3.3.2 Country Specificities in the Conditions to Motherhood

This is the fourth and last section of the empirical analysis. Here four different tables report the results of the countries analysed (see Appendix B, C, D and E). The first two models in each table include both women without partners and woman living in a partnership, whereas models 3 and 4 only include coupled women. Next, country specific results are consecutively reported.

The results for Spain are illustrated in Appendix B. As expected, model 1 shows that fixed-term contracts and unemployment constitute important barriers to the transition to a first child in Spain

compared to a permanent job and to a homemaker position, after controlling for personal income, while employment duration does not appear to have a significant effect. In the Spanish case, education generally has a negative effect, even after controlling for socio-economic variables. Only the inclusion of income into the analysis (model 1) decreases somewhat the effect of a medium level education compared to model 2. The persistence of the education effect may be related to the increasing mating problems of highly educated women in Spain.

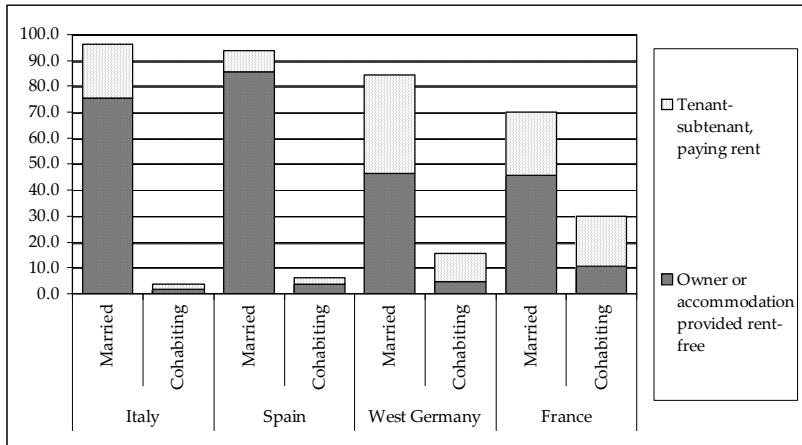
As is well known, most fertility in Spain occurs within partnerships, thus all above-mentioned problems to become a mother may be mediated by partnership status. A woman's likelihood to become a mother, when she has a partner, increases if she is married, if she belongs to the 4th income quartile or if she is a housewife. This confirms our previous interpretation of the two ways to motherhood. The highest probability to exit childlessness is to be economically inactive or to belong to the highest income quartile, which are two different ways to cope with family-work conciliation problems. Women who are not employed manage to have a child, surely because their partner earns a sufficiently high income, and women with a high income can externalise a great deal of unpaid work to the market in a Welfare context of limited public policies for working mothers. It is worth noting that the partners' income yields no significant effect on women's propensity to have a first child. To own one's dwelling and to be married instead of being in a consensual union seem to be other conditions that facilitate exiting childlessness. Given the peculiarities of the Spanish housing market, and the delay of marriages related to the former (Jurado 2003), both particularities explain the delay of first childbirth in this country.

The results for France are illustrated in Appendix C. We find in model 1 a linear positive effect of income, which once more contradicts opportunity costs of having children as one of the most important obstacles. Like in all previous models, to be in education or to be unemployed makes it more difficult to exit childlessness, whereas fixed-term contracts do not show any effect compared to permanent employment. Employment duration has a significant effect, but there is only a slight difference between a short and a long duration, which indicates that in France it is more important to have a job, rather than being a housewife, regardless of job duration (model 2). The models of women in partnerships sustain this interpretation, since being a dual-earner couple or being in a couple where she is employed and he is unemployed is a more fruitful ground for motherhood than the breadwinner family model (model 4). The positive effect of income on the propensity to abandon childlessness, which arose in models 1 and 2 (all women), decreases and even disappears in models 3 and 4 (sample restricted to coupled women). Thus, coupled women are more likely to become mothers if they have a low education, a high income or if they live in a dual-earner couple. Therefore, our conciliation problem hypothesis is falsified for France, and so confirms our macro-level ideas. In the French context, women in dual-earner couples seem to be able to better combine paid and unpaid family work compared to Spain or Italy, where male-breadwinner couples represent a favourable background for exiting childlessness.

Unlike in Spain, to be married or to be a homeowner is not so important for having a child. This is easy to understand given the larger diffusion of consensual unions, the French housing policies and the higher use of rented dwellings in France as compared to Italy or Spain. In addition, renting and consensual unions are linked to each other, since the French housing policy favours renting and thus indirectly consensual unions compared to the Spanish housing policy (Jurado 2003). Figure 6 illustrates the proportion of women aged 18-39 in married and in consensual unions who live in rented dwellings. Both France and West Germany show a higher prevalence of consensual unions and of rented dwellings than in the Southern countries (Italy and Spain). To sum up, the peculiarity of the French seems to be that being in paid employment favours

motherhood more than being a housewife. The French family model is characterised by a high incidence of dual-earner couples in which women tend to work on a full-time basis (Franco and Winqvist 2002).

**Figure 6: Women Living with a Partner (aged 18-39) by Marital Status and Housing Tenure: Italy, Spain, West Germany and France, 2000**



Source: ECHP.

Note: the two columns (married and cohabiting) make up the 100% of women living with a partner in each country for the age group 18-39. There were 4% cohabiting women in Italy, 6% in Spain, 15% in West Germany and 30% in France (cross-sectional weighted data for wave 7).

The results for Italy are illustrated in Appendix D. Unlike in Spain and similarly to France, fixed-term contracts are not a barrier to the transition to a first child. Furthermore, unlike Spain and France, unemployment does not negatively affect the likelihood to become a mother. Instead, homemakers and unemployed women seem more likely to become mothers when compared to women with a permanent job. In Italy we find a comparatively strong income effect (model 1 and model 4 in Appendix D), like in France.

With respect to the type of partnership, the male breadwinner family model and the couples of an employed male and an unemployed female are the more likely sites to exit childlessness. Yet, similarly to Spain, there is a positive income effect which means that for employed women, to be above the first income quartile increases the likelihood of exiting childlessness. Just as in Spain, there are two different pathways to motherhood in Italy, either through the male breadwinner family or through the women having a medium to high personal income. In both Italy and Spain, being in cohabitation inhibits motherhood and in Italy, contrary to Spain, homeownership does not seem to influence motherhood. The non-significant effect of living in a rented dwelling on motherhood may be explained due to the endogenous effect of partnership formation and the house acquisition in Italy, i.e. that very few women who are in partnership are living in a rented dwelling.

Finally, the results for West Germany are illustrated in Appendix E. These results differ to the others due to the reduced number of variables revealing significant effects. The most striking result is the non-significant effect of income. We basically found in models 1 and 2 (see Appendix E) that unemployed women and women with 3 to 6 years of employment duration have a higher propensity to have a first child compared to women in a permanent job and to inactive women respectively, which is similar to the corresponding Italian models. To be married and to be in a partnership, where she is unemployed and he is employed, eases motherhood, like in Italy,

while home-ownership also has a positive effect, like in Spain. The positive effect of unemployment shall be interpreted in the context of the German national institutional context. The relative generosity of the unemployment protection system may be an incentive to motherhood. As argued by Schmitt (2005) unemployment and particularly long-term unemployment is positively correlated with the entry into motherhood because, on the one hand, unemployed women are eligible for maternity leave payments and parental leave (means tested flat rate payment) and, on the other hand, childcare services are limited and rather costly for families.

The lack of significance of many variables in West Germany has two possible explanations. The first explanation, the less interesting and perhaps more problematic, may be related to the small sample. Actually, many of the coefficients show effects that are in line with previous interpretations but they are non-significant. The second explanation, which is far more interesting, is related to the polarisation of West German women as put forward by some case studies (Roloff and Dorbritz 1999). That is to say, there is a group of women, possibly concentrated among the highly educated, but not only, that systematically neglects motherhood; whereas another group of women engage in motherhood regardless of their occupational or partnership circumstances, as also suggested by preference theory (Hakim 2003).

To conclude, we find two main pathways to abandon childlessness in Italy and Spain (employment with medium-high income or economic inactivity) and one main pathway in France (employment). In West Germany the likelihood to enter motherhood is relatively high among unemployed women and women who stay in their current job for 3 to 6 years, but results have to be confirmed with further research. Altogether, our results at the individual level contradict the opportunity costs hypothesis and to some extent confirms the direct costs hypothesis for France, Spain and Italy, while also confirming the uncertainty hypothesis, in varying forms, for Spain, Italy and West Germany. Interestingly, a male-breadwinner partnership compared to a dual earner couple is a positive factor for the transition to a first child only in Spain and Italy, while in France the contrary is true. Thus, the conciliation problem hypothesis is falsified for the French case. These results are in line with the macro-level hypothesis of high direct costs, opportunity costs, conciliation and uncertainty constraints in Southern Europe. However, the existence of direct costs effects in the French institutional context is surprising. Yet, this is not in contradiction with the outcome that the French context favours motherhood compared to the other three national contexts. The French models show that this positive context effect is related to a strongly implemented and socially accepted dual earner family, which represents by far the best living arrangement to exit childlessness.

#### **4 Summary and Conclusions**

Is there a minimum set of conditions to exit unintended childlessness and to have a baby? The research shows that, in general, a number of socio-economic conditions have to be fulfilled in order to have a first child in the four countries studied: to be out of school and to be in a partnership. Apart from this, there are different pathways to exit childlessness among the European countries analysed (France, West Germany, Italy and Spain). In national institutional contexts that pose more problems for reconciling family and employment - which is the case in West Germany and particularly in Italy and Spain - women follow two paths. First, motherhood occurs more easily within male-breadwinner couples. Alternatively, women tend to pursue motherhood after having reached a comparatively high personal income and/or job stability as a way to overcome the relatively high direct costs, opportunity costs and conciliation problems of having a child. In national institutional contexts that are more supportive of mothers'



employment, as in the case of France, most women fall within the second category. That is to say, women expect to reach job security and gain experience in the workplace and to be in dual-earner couples in order to have a first child. Since it is easier to combine family and employment in this context, the opportunity costs of a child are relatively low.

Thus, national institutional contexts influence distinctly different motherhood decisions. In most of our analyses, country-specific effects have remained significant. In other words, childless women have different propensities to enter motherhood according to the country. This scenario changed, however, once we restricted the analysis to women living with a partner. In this case the only country where women's behaviour was significantly different was West Germany. This finding suggests that most of the institutional factors delaying or hampering motherhood occur during the transition from the parental home to an independent household and partnership formation. When women have already formed a partnership, after controlling for differences in age and education, they tend to have similar chances of entering motherhood regardless of the country of residence, except in West Germany. This result is in line with other research, which points to specific cultural factors in West Germany that force women to make hard choices: to pursue a work career without children or to interrupt employment (or to be unemployed) when a first child arrives. Among the four countries, West Germany is also the country with the highest proportion of voluntary childless women and men as shown by different representative surveys. The German findings need to be contrasted in further research.

The evidence presented here supports the idea that exiting childlessness is the final step of previous life transitions, which occur earlier in France than in the other countries, including the transition to the first child. The earlier French timing of the transition to motherhood is another factor which may contribute to lower rates of childlessness, since postponement of motherhood increases the risk of childlessness.

The policy implications of this research are twofold. Firstly, public policies that favour early independent living and early partnership formation of youth may also facilitate earlier motherhood. Secondly, policies directed to ameliorate the personal employment stability and income conditions of working women may also encourage decisions to exit unintended childlessness of women who want to stay in employment rather than full-time homemaking.

## 5 Appendices

### Appendix A:

Number of Events (Year of Pregnancy) across the Panel among Women Aged 18-39: France, Italy, Spain and West Germany

Person-years:	<b>Waves:</b>							
	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>Total</b>
<b><i>France</i></b>								
At risk:	1,319	1,273	1,294	1,208	1,112	1,017	949	8,172
Events:	65	78	79	90	63	79	53	<b>507</b>
<b><i>Italy</i></b>								
At risk:	2,118	2,188	2,223	2,066	1,986	1,933	1,843	14,357
Events:	65	80	76	71	98	84	50	<b>524</b>
<b><i>Spain</i></b>								
At risk:	2,026	1,932	1,965	1,883	1,770	1,697	1,588	12,861
Events:	51	71	64	63	76	82	55	<b>462</b>
<b><i>West Germany</i></b>								
At risk:	943	977	955	931	918	892	885	6,501
Events:	54	48	53	45	47	61	13	<b>321</b>

Source: own calculations with the eight waves of the ECHP.

**Appendix B: Probability of Having a First Child for Women Aged 18-39 Observed across 1994-2000 (Probit Model with Sample Selection): Spain**

<b>Outcome equation: leaving childlessness</b>								
	ALL WOMEN AGED 18-39				WOMEN WITH A PARTNER			
	Model 1		Model 2		Model 3		Model 4	
	$\beta$	s.e.	$\beta$	s.e.	$\beta$	s.e.	$\beta$	s.e.
Age: 18-25	--		--		--		--	
26-32	-0.02	0.093	0.19**	0.090	0.63***	0.204	0.09	0.122
33-39	-0.90***	0.133	-0.65***	0.118	0.87	0.542	-0.40*	0.213
Edu: Low	--		--		--		--	
Medium	-0.33**	0.132	-0.62***	0.128	-0.48***	0.152		
High	-0.52***	0.165	-0.53***	0.158	-0.62***	0.220		
Age 26-32 * Medium	0.42***	0.162	0.67***	0.163				
Age 26-32 * High	0.69***	0.186	0.68***	0.179				
Age 33-39 * Medium	0.91***	0.214	1.23***	0.209				
Age 33-39 * High	1.09***	0.230	1.07***	0.221				
<b>Labour market situation:</b>								
Permanent employment	--							
Contract unspecified	-0.13	0.113						
Fixed-term / short-term / casual	-0.25***	0.084						
Self-employed	0.09	0.117						
In education	-0.92***	0.143						
Unemployed	-0.19**	0.093						
Economically inactive	0.14	0.098						
Ln of partners' net income <sup>a</sup>					0.001	0.011		
1st ♀'s income quartile	--				--		--	
2 <sup>nd</sup> ♀'s income quartile	-0.33**	0.142			-0.27	-0.27	-0.28	0.231
3rd ♀'s income quartile	0.00	0.077			-0.02	-0.02	0.06	0.137
4th ♀'s income quartile	0.22**	0.089			0.18*	0.18	0.34**	0.143
<b>Duration in employment:</b>								
Economically inactive			--					
Unemployed			-0.16*	0.090				
Employment duration: < 2 years			-0.13	0.086				
Employment duration: 3-6 years			0.12	0.090				
Employment duration: > 7 years			0.08	0.085				
Self-employed			0.06	0.123				
<b>Non-marital partnership</b>					-0.58**	0.228		
Dual-earner couple							--	
He employed & she inactive							0.38***	0.143
He employed & she unemployed							-0.11	0.131
She employed & he out of work							-0.19	0.237
Other partnerships							0.06	0.192
<b>Tenant-subtenant, paying rent</b>							-0.21**	0.106
Constant	-1.91***	0.107	-2.07***	0.076	-0.20	0.470	-1.33***	0.171
<b>Selection equation: entering the childless sample</b>								
Age: 18-25	--		--		--		--	
26-32	-0.82***	0.074	-0.82***	0.075	-0.88***	0.086	-0.88***	0.086
33-39	-1.68***	0.086	-1.67***	0.086	-1.79***	0.106	-1.78***	0.106
Edu: Low	--		--		--		--	
Medium	0.59***	0.074	0.59***	0.074	0.58***	0.091	0.58***	0.092
High	0.83***	0.104	0.83***	0.105	0.89***	0.087	0.89***	0.087
Living with a partner	-2.02***	0.087	-2.02***	0.087				
Constant	1.86***	0.073	1.86***	0.073	-0.06	0.084	-0.06	0.084
<b>Correlation (RHO)</b>	0.93	0.029	0.98	0.019	-0.69	0.311	0.23	0.144
Number of obs.:	19,930		19,932		9,286		9,282	
Censored obs.:	8,243		8,243		7,593		7,593	
(H0: rho = 0), [Prob>chi2]	57.37	0.0000	31.64	0.0000	2.03	0.1537	2.31	0.128

\*Statistically significant at the 0.10 level; \*\* at the 0.05 level; \*\*\*at the 0.01 level . - - Reference category.

<sup>a</sup>Natural logarithm of annual net income.

**Appendix C: Probability of Having a First Child for Women Aged 18-39 Observed across 1994-2000 (Probit Model with Sample Selection): France**

<b>Outcome equation: leaving childlessness</b>								
	<b>ALL WOMEN AGED 18-39</b>				<b>WOMEN WITH A PARTNER</b>			
	<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>		<b>Model 4</b>	
	$\beta$	s.e.	$\beta$	s.e.	$\beta$	s.e.	$\beta$	s.e.
Age: 18-25	--		--		--		--	
26-32	-0.30***	0.086	-0.14*	0.086	0.75***	0.221	0.10	0.192
33-39	-1.33***	0.148	-1.11***	0.155	0.98**	0.498	-0.46	0.344
Edu: Low	--		--		--			
Medium	-0.10	0.090	-0.18**	0.085	-0.39***	0.109		
High	-0.04	0.107	0.00	0.103	-0.36***	0.132		
Edu. Missing <sup>a</sup>	-0.38**	0.159	-0.50***	0.150	-0.54***	0.199		
Age 26-32 * Medium	0.19	0.135	0.27**	0.132				
Age 26-32 * High	0.30**	0.135	0.28**	0.130				
Age 26-32 * missing	0.08	0.432	0.47	0.344				
Age 33-39 * Medium	0.37*	0.215	0.45**	0.217				
Age 33-39 * High	0.86***	0.204	0.80***	0.206				
Age 33-39 * missing	0.84*	0.475	0.95**	0.460				
<b>Labour market situation:</b>								
Permanent employment	--							
Contract unspecified	0.05	0.071						
Fixed-term / short-term / casual	0.00	0.086						
Self-employed	-0.13	0.231						
In education	-0.88***	0.132						
Unemployed	-0.25***	0.083						
Economically inactive	0.00	0.101						
Ln of partners' net income <sup>a</sup>					0.01	0.015		
1st ♀'s income quartile	--				--		--	
2 <sup>nd</sup> ♀'s income quartile	0.11	0.084			-0.04	0.087	-0.12	0.123
3rd ♀'s income quartile	0.18*	0.096			0.07	0.089	-0.02	0.128
4th ♀'s income quartile	0.28**	0.109			0.21*	0.110	0.14	0.145
<b>Duration in employment:</b>								
Economically inactive			--					
Unemployed			0.02	0.101				
Employment duration: < 2 years			0.44***	0.077				
Employment duration: 3-6 years			0.48***	0.092				
Employment duration: > 7 years			0.38***	0.097				
Self-employed			0.28	0.235				
<b>Non-marital partnership</b>					-0.35***	0.134		
Dual-earner couple							--	
He employed & she inactive							-0.23*	0.120
He employed & she unemployed							-0.38***	0.133
She employed & he out of work							-0.23	0.144
Other partnerships							-0.40***	0.151
<b>Tenant-subtenant, paying rent</b>							-0.04	0.080
Constant	-1.70***	0.096	-2.08***	0.068	-0.05	0.273	-0.94***	0.167
<b>Selection equation: entering the childless sample</b>								
Age: 18-25	--		--		--		--	
26-32	-1.13***	0.052	-1.13***	0.052	-1.17***	0.059	-1.17***	0.059
33-39	-1.95***	0.070	-1.94***	0.070	-1.96***	0.083	-1.95***	0.083
Edu: Low	--		--		--		--	
Medium	0.41***	0.070	0.41***	0.070	0.39***	0.083	0.39***	0.085
High	0.58***	0.069	0.59***	0.069	0.53***	0.080	0.53***	0.080
Edu. Missing	0.46***	0.121	0.47***	0.124	0.43***	0.165	0.43**	0.169
Living with a partner	-1.64***	0.056	-1.64***	0.056				
Constant	1.71***	0.060	1.71***	0.060	0.15**	0.062	0.15**	0.063
<b>Correlation (RHO)</b>	0.95	0.041	0.95	0.042	-0.80	0.194	0.15	0.222
Number of obs.:	16,415		16,474		9,754		9,753	
Censored obs.:	8,839		8,839		7,835		7,835	
(H0: rho = 0), [Prob>chi2]	18.23	0.0003	19.17	0.0000	4.06	0.0439	0.44	0.506

\*Statistically significant at the 0.10 level; \*\* at the 0.05 level; \*\*\* at the 0.01 level. -- Reference category. <sup>a</sup> Most missing cases are people still at school, for whom we cannot know the highest educational level attained.

**Appendix D: Probability of Having a First Child for Women Aged 18-39 Observed across 1994-2000 (Probit Model with Sample Selection): Italy**

<b>Outcome equation: leaving childlessness</b>								
	<b>ALL WOMEN AGED 18-39</b>				<b>WOMEN WITH A PARTNER</b>			
	<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>		<b>Model 4</b>	
	$\beta$	s.e.	$\beta$	s.e.	$\beta$	s.e.	$\beta$	s.e.
Age: 18-25	--		--		--		--	
26-32	0.09	0.093	0.30***	0.094	-0.25*	0.142	-0.08	0.166
33-39	-0.52***	0.112	-0.29***	0.109	-0.92***	0.216	-0.65**	0.299
Edu: Low	--		--		--		--	
High	-0.09	0.103	-0.18*	0.100	0.08	0.103		
Edu. Missing <sup>a</sup>	-0.87**	0.363	-0.83***	0.312				
Age 26-32 * High	0.25**	0.124	0.27**	0.122				
Age 26-32 * missing	1.06**	0.473	1.07**	0.443				
Age 33-39 * High	0.24	0.152	0.33**	0.152				
Age 33-39 * missing	-1.47***	0.387	-3.08***	0.363				
<b>Labour market situation:</b>								
Permanent employment	--							
Contract unspecified	0.01	0.094						
Fixed-term / short-term / casual	-0.17	0.118						
Self-employed	-0.05	0.106						
In education	-0.61***	0.148						
Unemployed	0.19*	0.100						
Economically inactive	0.51***	0.100						
Ln of partners' net income <sup>a</sup>					0.02*	0.011		
1 <sup>st</sup> ♀'s income quartile	--		--		--		--	
2 <sup>nd</sup> ♀'s income quartile	0.16	0.176			0.32	0.292	0.54*	0.290
3 <sup>rd</sup> ♀'s income quartile	0.42***	0.082			0.12	0.109	0.41***	0.135
4 <sup>th</sup> ♀'s income quartile	0.55***	0.106			0.16	0.108	0.52***	0.153
<b>Duration in employment:</b>								
Economically inactive			--					
Unemployed			-0.07	-0.07				
Employment duration: < 2 years			-0.05	-0.05				
Employment duration: 3-6 years			0.20**	0.20				
Employment duration: > 7 years			0.04	0.04				
Self-employed			-0.09	-0.09				
<b>Non-marital partnership</b>					-0.62**	0.243		
Dual-earner couple							--	
He employed & she inactive							0.52***	0.143
He employed & she unemployed							0.28*	0.147
She employed & he out of work							-0.35	0.290
Other partnerships							-0.08	0.268
<b>Tenant-subtenant, paying rent</b>							-0.14	0.102
Constant	-2.44***	0.108	-2.19***	0.076	-1.40***	0.299	-1.24***	0.316
<b>Selection equation: entering the childless sample</b>								
Age: 18-25	--		--		--		--	
26-32	-0.66***	0.065	-0.66***	0.065	-0.53***	0.088	-0.52***	0.088
33-39	-1.35***	0.077	-1.35***	0.077	-1.13***	0.100	-1.12***	0.099
Edu: Low	--		--		--		--	
High	0.36***	0.061	0.36***	0.062	0.35***	0.073	0.35***	0.073
Edu. missing	0.25	0.158	0.24	0.159			-0.15	0.270
Partnership	-2.12***	0.065	-2.13***	0.065				
Constant	1.97***	0.062	1.97***	0.063	-0.27***	0.089	-0.28***	0.089
<b>Correlation (RHO)</b>	0.91	0.028	0.94	0.019	0.34	0.302	0.06	0.323
Number of obs.:	22,89	1	22,896		10,228		10,302	
Censored obs.:	9,132		9,132		8,505		8,566	
(H0: rho = 0), [Prob>chi2]	91.82	0.0000	111.3	0.0000	1.08	0.2998	0.04	0.846

\*Statistically significant at the 0.10 level; \*\* at the 0.05 level; \*\*\*at the 0.01 level . - - Reference category. Note: educational attainment is collapsed into two main groups (low and high education) in models 3 and 4. <sup>a</sup> Most missing cases are people still at school, for whom we cannot know the highest educational level attained.

**Appendix E: Probability of Having a First Child for Women Aged 18-39 Observed across 1994-2000 (Probit Model with Sample Selection): West Germany**

<b>Outcome equation: leaving childlessness</b>								
	<b>ALL WOMEN AGED 18-39</b>				<b>WOMEN WITH A PARTNER</b>			
	<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>		<b>Model 4</b>	
	$\beta$	s.e.	$\beta$	s.e.	$\beta$	s.e.	$\beta$	s.e.
Age: 18-25	--		--		--		--	
26-32	0.18	0.186	0.22**	0.111	0.02	0.264	-0.08	0.245
33-39	-0.84***	0.244	-0.30	0.191	-0.81*	0.415	-0.99***	0.372
Edu: Low	--		--		--		--	
Medium	-0.03	0.141	0.02	0.102	-0.10	0.180		
High	-0.25	0.322	-0.09	0.166	-0.19	0.283		
Edu. Missing <sup>a</sup>	0.34	0.375	0.21	0.252	-0.30	0.422		
Age 26-32 * Medium	-0.06	0.217						
Age 26-32 * High	0.02	0.388						
Age 26-32 * missing	-0.75	0.599						
Age 33-39 * Medium	0.49*	0.278						
Age 33-39 * High	0.61	0.423						
Age 33-39 * missing	0.93*	0.519						
<b>Labour market situation:</b>								
Permanent employment	--							
Contract unspecified	0.13	0.138						
Fixed-term / short-term / casual	0.05	0.154						
Self-employed	0.34	0.339						
In education	-0.31	0.198						
Unemployed	0.38*	0.198						
Economically inactive	-0.08	0.220						
Ln of partners' net income <sup>a</sup>					-0.01	0.020		
1st ♀'s income quartile	--				--		--	
2 <sup>nd</sup> ♀'s income quartile	0.12	0.222			-0.40	0.315	-0.41	0.318
3rd ♀'s income quartile	0.28	0.262			0.05	0.292	-0.09	0.319
4th ♀'s income quartile	0.22	0.279			-0.07	0.294	-0.20	0.318
<b>Duration in employment:</b>								
Economically inactive			--					
Unemployed			0.44*	0.225				
Employment duration: < 2 years			0.06	0.165				
Employment duration: 3-6 years			0.39**	0.181				
Employment duration: > 7 years			0.10	0.178				
Self-employed			0.53	0.347				
<b>Non-marital partnership</b>					-0.46***	0.167		
Dual-earner couple							--	
He employed & she inactive							-0.23	0.278
He employed & she unemployed							0.58*	0.297
She employed & he out of work							0.04	0.228
Other partnerships							-0.05	0.197
<b>Tenant-subtenant, paying rent</b>							-0.41***	0.149
Constant	-2.13***	0.234	-2.21***	0.152	-0.76	0.467	-0.89**	0.414
<b>Selection equation: entering the childless sample</b>								
Age: 18-25	--		--		--		--	
26-32	-0.84***	0.095	-0.84***	0.096	-0.82***	0.091	-0.82***	0.091
33-39	-1.56***	0.109	-1.56***	0.110	-1.54***	0.112	-1.54***	0.112
Edu: Low	--		--		--		--	
Medium	0.43***	0.093	0.43***	0.093	0.41***	0.104	0.41***	0.105
High	0.72***	0.159	0.73***	0.159	0.80***	0.172	0.80***	0.172
Edu. missing	0.70*	0.356	0.70**	0.350	0.69*	0.405	0.70*	0.415
Partnership	-1.37***	0.086	-1.38***	0.086				
Constant	1.33***	0.092	1.33***	0.092	-0.06	0.101	-0.06	0.101
<b>Correlation (RHO)</b>	0.62	0.127	0.64	0.140	0.04	0.325	0.27	0.445
Number of obs.:	12,979		13,013		8,317		8,317	
Censored obs.:	7,261		7,261		6,369		6,369	
(H0: rho = 0), [Prob>chi2]	12.36	0.0004	10.29	0.0013	0.01	0.9117	0.33	0.567

\*Statistically significant at the 0.10 level; \*\* at the 0.05 level; \*\*\*at the 0.01 level . - - Reference category. <sup>a</sup> Most missing cases are people still at school, for whom we cannot know the highest educational level attained.

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## Notes

1. This does not imply that these two combinations of parity distributions explain all European cross-country differences. For instance, in England and Wales the total cohort fertility rates since the 1940 cohort are very similar to the French ones. That is to say, they are “high”, despite having a high rate of childless women among the 1960-65 cohort. In contrast to their counterparts in West-Germany, Spain and Italy, this British cohort has very high proportions of women with three and more children (Frejka and Sardon 2004, p. 88).

2. This ideal typical notion tries to describe how most people come to have children, but it does not deny the existence of some social groups which follow other paths, such as teenage mothers.

3. The hypothesis that women in jobs with more time flexibility are more likely to exit childlessness could not be tested with the used survey data, due to the lack of adequate information on this.

4. In order to make income comparable across countries and over time, income is expressed in 1990 value using national consumer price indices, and cross-national differences in currency and price levels are normalized using the OECD purchasing power parity standards for the same year of reference.

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