Women's education and fertility in Spain : the impact of educational attainment and of educational choice on first, second and third births

Author(s):	Martín García, Teresa
Year:	2006
Type	Thesis (doctoral)
University:	Instituto Juan March de Estudios e Investigaciones, Centro de Estudios Avanzados en Ciencias Sociales, European University Institute, Florence, 2005.
City:	Madrid
Number of pages:	xiv, 273 p.

Abstract:

Utilizando modelos de análisis de la historia de los acontecimientos con los datos de la Encuesta Española de Fecundidad y Familia, esta tesis analiza si todas las mujeres retrasan y/o abandonan la maternidad como consecuencia de una mejor educación y de mayores oportunidades en el mercado de trabajo en las últimas décadas, o si por el contrario existen diferencias entre mujeres según su educación. Los resultados obtenidos indican que la clase social continúa siendo un factor decisivo en el comportamiento demográfico femenino: las mujeres con un nivel inferior de educación tienen un número mayor de hijos. Pero en contra de lo previsto por la teoría económica de la familia, no existe una relación lineal negativa entre fecundidad y educación en España. Las mujeres más educadas no tienen siempre una probabilidad menor de ser madres o de tener más hijos. El trabajo propone que las decisiones relativas a la educación no deben considerarse exógenas a las decisiones sobre la fecundidad. Siguiendo investigaciones previas, la tesis demuestra que la educación y la fecundidad de las mujeres se determinan en cierto modo de manera conjunta como consecuencia de la existencia de una serie de factores comunes (no observados), y por lo tanto, ambas decisiones tienen que tratarse como procesos endógenos para evitar resultados erróneos. Es decir, las decisiones sobre la fecundidad son endógenas al comportamiento de minimizar los costes y maximizar los beneficios por parte de la mujer: así, aquellas mujeres que no quieren (o no tienen la intención) de ser madres a una edad temprana permanecen en el sistema educativo durante más tiempo; y al contrario, las mujeres que tienen un deseo mayor de ser madres (incluido el deseo de tener un número mayor de hijos) aceleran ambos procesos. La investigación también demuestra que un nivel superior de educación no lleva necesariamente a abandonar la maternidad. Tan importante como el nivel de estudios es el tipo de educación que la mujer elige, dado que éste es un buen instrumento para estimar la heterogeneidad no observada que hay detrás de la endogeneidad y por lo tanto, influye también en el proceso de formación de la familia. Dicho de otro modo, la elección de un tipo determinado de educación se explica en función de las preferencias individuales que cada mujer tiene respecto al tipo de vida que desea, y así las mujeres pueden manifestar

una orientación positiva hacia la formación de la propia familia con independencia de su nivel de educación. En concreto, los estudios que tienen que ver con el cuidado de las personas o aquellos que enfatizan el contacto interpersonal influyen de manera positiva en la fecundidad en España. Las mismas normas, actitudes y valores influyen en las decisiones femeninas relativas a ambos procesos, es decir, en el proceso educativo (nivel y tipo) durante los primeros años de juventud y en la maternidad una vez que la mujer entra en una unión.

Instituto Juan March de Estudios e Investigaciones

TERESA MARTÍN GARCÍA

WOMEN'S EDUCATION AND FERTILITY IN SPAIN

THE IMPACT OF EDUCATIONAL ATTAINMENT
AND OF EDUCATIONAL CHOICE ON FIRST,
SECOND AND THIRD BIRTHS

MADRID
2 0 0 6

Centro de Estudios Avanzados en Ciencias Sociales

Teresa Martín García es licenciada en Derecho por la Universidad Autónoma de Madrid. Formó parte de la duodécima promoción de estudiantes del Centro de Estudios Avanzados en Ciencias Sociales del Instituto Juan March de Estudios e Investigaciones, donde obtuvo el título de *Master* en 2001. En el propio Centro elaboró su tesis doctoral bajo la dirección del Profesor Gøsta Esping-Andersen.

A mi padre, Fabián Martín

CONTENTS

i

iii

List of Figures

List of Tables

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Chapter 7

vi

ABSTRACT

Applying event history models to data from the Spanish Family and Fertility Survey, this dissertation tries to give an answer to the specific research question of whether all women forgo and/or delay motherhood as a result of better education and improved career opportunities in the last decades, or whether there are <u>intra–women differences</u> regarding fertility according to their educational attainment. Broadly speaking, results show that social class is still a strong predictor of fertility patterns: low–income women/families have a greater number of children. But contrary to what has been hypothesized by the economic theory of the family, there is not a linear relationship between fertility and education in Spain. The most highly educated women do not always have the lowest probability of becoming mothers and of having a higher number of children.

The study proposes that educational choices should not be taken as exogenous to fertility choices. Following previous studies, it demonstrates that education and fertility are to some extent jointly determined by some <u>common (unmeasured) determinants</u> and therefore must be analyzed as endogenous processes in order not to get biased results. This is, fertility choices are an endogenous part of women's maximizing behavior: women who do not want (or do not have the intention) to become mothers early might attend school for a longer period of time; and conversely, women with stronger fertility intentions (including higher total fertility) might speed up both processes.

The research also shows that the level of education does not necessarily lead to abandon motherhood. As important as the level, is the type because <u>women's type of education</u> is proved to be a good instrument to estimate the unobserved heterogeneity behind endogeneity and consequently might also influence family

formation. In other words, the choice of a specific type of educational training is subject to individual preferences about a desired life style, in which women show a particular orientation towards family building, irrespective of their educational attainment. More precisely, those studies concerned with the care of individuals and/or emphasizing interpersonal skills positively influence fertility in Spain. The same norms, attitudes and value orientations seem to influence the decisions made by women in both the process of education (level and type) in their early adulthood and that of motherhood once they have entered a partnership.

ACKNOWLEDGEMENTS

xiv

CHAPTER 1. INTRODUCTION

1.1. Introduction

Today all studies highlight two types of causal mechanisms in order to explain fertility in Western societies. Some demographers consider decreasing fertility and the current decreases below replacement levels as being part of the so–called second demographic transition since "[w]ith increasing economic prosperity there has been a transition to postmaterialism which can be characterized by substantial changes in attitudes to marriage, family and sexuality." (Van de Kaa, 1987, cit. in: Blossfeld, 1995: 7) Increased individualization and the emancipation of women, are viewed as the driving forces that explain the decline of births and the new patterns of marriage formation over the recent decades, with a systematic trend towards a delay in the age of first marriage, and the increase in cohabitation and marital dissolution, through divorce (Alwin, 1996: 176). In addition, cohabitation, living–apart–together, one person households, non–family households and single motherhood have increasingly emerged as alternative living arrangements to the more conventional marriage (González–López and Solsona Pairó, 2000: 49, 63).

This value–driven theory helps to account successfully for the overall fertility pattern that has occurred in advanced countries in recent decades. Yet, it is certainly less useful in explaining fertility during the baby–boom years on the one hand and cross–country variations on the other. Regarding the first issue, it is well known that fertility had started to decline long before World War II,

increased during the post–war decades, and then decreased again to today's levels which are below replacement in almost all European countries. It is difficult to explain why post–materialist values did not apply in the post–war decades of the baby–boom. And, there are important variations in the recent shifts in family formation in different countries. Van de Kaa (1987) emphasizes that these differences are due to the cultural specific characteristics that facilitate or impede demographic change. Protestantism, stressing the importance of individual autonomy and consequently women's economic independence, has favored these changes while Catholicism has delayed them. Reher (1998) also stresses the importance of historical cultural forms of family formation which differentiate Northern and Southern Europe.

Table 1.1. Composition of households by type* [1995]

	One–person household	Couples with no children	Couples with children	Lone–Parent families	Others
DENMARK	17	26	50	6	2
FRANCE	12	20	56	7	5
GERMANY	14	25	50	5	5
ITALY	8	16	66	7	3
NETHERLANDS	13	25	56	5	1
SPAIN	**4**	**11**	**61**	**6**	**17**
SWEDEN	24	31	31	3	11
UK	11	22	52	10	11.8

Source: EUROSTAT, *Demographic Data,* New Cronos Database, 2000. In: OECD Education at a Glance, 2000.
Notes: * The calculations are based on the proportion of persons living in private households by type of household.

Table 1.2. Number of divorces per 100 marriages

	1970	1980	1990	2000
DENMARK	26.2	51.4	43.6	37
FRANCE	9.9	24.3	36.9	40
GERMANY	18.1	28.4	30	46
ITALY	4.2	3.7	8.7	12
NETHERLANDS	8.3	28.5	29.7	37
SPAIN	-	-	**10.5**	**17**
SWEDEN	29.9	52.9	47.8	53.9
UK	13.4	38.2	44.1	52.7

Source: EUROSTAT, Demographic Data, New Cronos Database, 2000. In: OECD Education at a Glance, 2000 & OECD. Society at a Glance, 2002.

There are also important cross–national variations regarding fertility despite "the tendency towards the secularization of religion and the rise of humanistic ideational structures emphasizing individual freedom of choice." (Alwin, 1996: 179) In fact, TABLE 1.3 shows that fertility is slightly increasing in North America and Northern Europe since the 1990s, and is getting closer to replacement levels.[1] While, in all Western European countries except France and Ireland it fluctuates at a very low level from 1.3 to 1.7, and is far below replacement levels in the Southern Europe (EUROSTAT). Spain and Italy are two of the countries with the lowest fertility in the world (1.2) since 1993 (Kohler et al., 2001).[2]

---

[1] In 2000, total fertility rates were 2.13 in the USA, and 1.77, 1.73, 2.08 and 1.85 in Denmark, Finland, Iceland, and Norway respectively. Sweden, however, had a total fertility rate of 1.54.

[2] Within each country, there are regions in which fertility levels have been far below 1 for more than a decade. For instance, Asturias dropped below 1 in 1989 and has decreased even further more recently. In 2001, it was still the province with the lowest low fertility: 0.87. Galicia also

Table 1.3. Total fertility rates

	1970	1980	1990	2000
AUSTRIA	2.29	1.62	1.45	1.34
BELGIUM	2.25	1.68	1.62	1.66
DENMARK	1.95	1.55	1.67	1.77
FINLAND	1.83	1.63	1.78	1.73
FRANCE	2.47	1.95	1.78	1.89
GERMANY	2.03	1.56	1.45	1.36
GREECE	2.39	2.21	1.39	1.29
IRELAND	3.93	3.25	2.11	1.89
ITALY	2.42	1.64	1.33	1.23
LUXEMBOURG	1.98	1.49	1.61	1.79
NETHERLANDS	2.57	1.60	1.62	1.72
PORTUGAL	2.83	2.18	1.57	1.52
SPAIN	**2.90**	**2.20**	**1.36**	**1.24**
SWEDEN	1.92	1.68	2.13	1.54
UK	2.43	1.90	1.83	1.65
US	-	1.84	2.08	2.13
EU mean	2.26	1.87	1.64	1.57

Source: EUROSTAT, Demographic Data, New Cronos Database, 2000. In: OECD Education at a Glance, 2000 & OECD. Society at a Glance, 2002.

Therefore, post–materialist values seem insufficient in explaining cross–national variation in fertility decreases and the recent shifts in family formation presented above. A second explanation for the decline in births is provided by microeconomic theory. Economists (Becker, 1981; Willis, 1987) have stressed that "women's growing economic independence as a result of better education and improved career opportunities is one of the major factors in the decline in fertility since a growth in the earning power of women raises the relative cost of children and thereby reduces the demand for them." (Blossfeld and Huinink, 1991: 144, 146) Due to the gender division of labor within the family, the

---

reached a far below replacement 0.95 level in 2001. Liguria, in Italy, displays similar patterns (0.97 in 1997).

mother's time accounts for the majority of the total opportunity costs of parenthood. At a micro–level, this would imply that the higher the woman's educational attainment and the greater her labor opportunities, the lower the number of children. At a cross–country level, fertility rates should be inversely correlated to female employment rates and relative earnings of females.

It is a given empirical fact that women have been delaying their first births since the 1970s in most Western European countries. During the same period, fertility levels have decreased in many countries, such that nowadays they are far below replacement. Young women experience their transition to adulthood in significantly different ways from earlier generations. In all European countries, the improvement in educational opportunities for younger cohorts is clear, and women in particular have benefited from this trend (Shavit and Blossfeld, 1993; Blossfeld, 1995: 16, 17). Currently, young women study for a longer period of their lives. This fact is considered as pivotal in the postponement of starting a family in general. Fertility choices, more particularly, are influenced due to the wider choice of lifestyles with which women are confronted (Hoem, 1986; Blossfeld, 1995; Liefbroer and Corijn, 1999; Billari et al., 2001). Moreover, the emergence of new life style patterns and the range of choices are shown to be more dominant for women than for men, as they move into and through adulthood (Rindfuss et al., 1987). In the past, individuals formed a family and entered into parenthood relatively early. Most women basically aspired to marrying and becoming housewives. Motherhood was a common and expected event in the life of a woman.

The increasing number of females in the workforce is undoubtedly an important indicator of the changing position of women. In some countries, "there are more women in the labor market than out of it, and women are likely to continue to stream into the workplace in the coming years, especially the younger groups." (Gerson, 1985: 1) In addition, "young women have not simply joined the work force in historically high numbers; they have also shown a growing commitment to steady, long–term,

full–time workplace attachment, resembling male workers." (Gerson, 1985: 7) "More than half of all women of working age, and more than half of all married women living with their partners, are now in the labor market (...), increasingly sharing responsibility for producing an adequate income for the household." (Blau, Ferber and Winkler, 1992: 1, 39) In other words, there are changes taking place in female work patterns and family trends as a result of changes in their preferences (Liefbroer, 1999). Young women want to pursue a career and due to adverse circumstances in a given setting, they may have to choose between their career and family.[3]

In short, much of the recent fertility decline can be seen as resultant of the growth in educational attainment and paid employment among women in most advanced societies. But this hypothesis is too simplistic and in this case the empirical facts seem not to match with theoretical applications (Hoem, 1993: 101). Firstly, numerous studies have shown that the traditional negative correlation between women's employment and fertility has now become a positive one. In fact, Southern European countries are characterized by low rates in female employment and low fertility levels. For instance, in the 25–40 age–group, women's participation in the labor market has increased to historically high levels in the past two decades in Spain. But, aggregate rates there are still below 60 percent, which is far below the levels of over 80 percent in North America and Northern Europe. The Nordic countries, however, have "one of the highest fertility levels in Europe at the same time as the labor participation rates for women are at a record high." (Hoem, 1993: 103; Kravdal, 1992, 2001; Andersson, 2000; Ahn and Mira, 2001; Jaumotte, 2003; Engelhardt and Prskawetz, 2004) Secondly, fertility has not declined in the US despite the rise in women's earnings relative to

---

[3] Hereafter, the term "work" will refer to the paid employment undertaken by women outside the home. I agree with the statement that all women, irrespective of remuneration, "work", but the important question in terms of the present research is when, how, and where they work outside the home (Gerson, 1985: 1).

those of males in recent decades. It seems clear that female labor opportunities have increased and at this point households with two earners are increasingly the norm. Therefore, the bond of contention is the extent to which state policies aim to free women from the burden of family obligations (substitution effect), and the degree to which motherhood is compatible with work (opportunity costs of children). Thirdly, empirical reality also shows that Scandinavian fertility is now positively related to education, since the highest fertility levels correspond to women with tertiary education.[4]

Thus, higher female educational attainment and participation in the labor market does not necessarily reduce the attractiveness of marriage and parenthood, as New Home Economics suggest. Longer periods in education, more spread use of contraceptive and family planning techniques and the legalization of abortion in most European countries[5] have permitted the separation of sexual relations from marriage with a corresponding increase in age at first marriage. In demography, it is a well–established fact that the postponement of family formation reduces the number of fertile years for a woman (Blossfeld, 1995). Women, by prolonging their presence in the educational system, postpone their transition from youth to adulthood and therefore delay motherhood (Ermisch,

---

[4] However, this is only partly true. For higher–birth orders, for instance, previous studies have indeed showed that education has a positive impact on birth rates in the Nordic countries, net of age and duration since previous births, according to models estimated separately for third births (Berinde, 1999; Kravdal, 1992). But Kravdal (2001) has also shown that when all three–parity transitions are modeled jointly, with a common unobserved factor included, negative effects of educational level appear in Norway. Further research should be made in this direction in other countries such as Sweden and Denmark in order to be able to conclude that the Nordic countries indeed represent a positive scenario regarding the stimulating effect of education on fertility. Perhaps high fertility rates among the better–educated are simply the result of a selection problem despite the public support for working women and extensive mother–friendly labor markets.

[5] Ireland is the only exception.

1990; Cigno, 1991, Gustafsson, 2001: 225). An increasing age at first birth might then affect overall fertility. In addition, the conflict between career and family roles is more vivid for better–educated women in their early adult years. And, consequently, they delay childbearing as long as is possible in order to decrease their lifetime earning loss.

Women have delayed motherhood in recent decades, and the average age at first birth is now more or less the same in advanced countries. For instance, the Danish average age at first birth is now very similar to that of the Spanish or the Italian, but Denmark has higher fertility rates. Therefore, the extent to which postponement has a real effect on the decline of women's overall fertility cannot be predicted straightaway, and it is not a sufficient explanation for cross–country variations in fertility. The trends depend to a large extent, on the characteristics of the family, the labor market, and the welfare state in which fertility takes place.

Table 1.4. Mean age of women at first birth

	1970	1980	1990	2000
DENMARK	23.7	24.6	26.4	28.9
FRANCE	23.8	24.9	27	28.7
GERMANY	23.6	24.1	26.9	28
IRELAND	25.3	24.9	26.3	27.8
ITALY	25.1	25.1	26.9	29.2
NETHERLANDS	24.3	25.6	27.6	28.6
SPAIN	**24.1**	**24.6**	**26.5**	**29.3**
SWEDEN	23.9	25.5	26.3	27.9
UK	23.9	25.1	27.3	29.1

Source: EUROSTAT, Demographic Data, New Cronos Database, 2000. In: OECD Education at a Glance, 2000 & OECD. Society at a Glance, 2002.

In this way, there is some evidence to suggest that in countries with low fertility, the effect of delaying first births might be more significant, than it would be in countries with higher fertility levels. Southern European countries "exhibit a strong negative association between the onset and the level of fertility, and the postponement effect has not weakened substantially in more recent cohorts." (Kohler et al., 2001: 10) Here, low fertility seems to persist and there is little time for recovery from this. In Italy or Spain "the postponement effect is high, and it implies a relative reduction of completed fertility between 2.9 and 5.1 percent for each one–year delay in the onset of parenthood." (Kohler et al., 2001: 9)

In other contexts, postponement is counteracted by the catch–up effect. In Denmark, for instance, "the postponement of child birth is associated with an increased fertility at older ages. Hence, the postponement is not fully reflected in a decreased completed fertility." (Jensen, 2002: 2) Danish women born in the period 1930–1952 who had few or no children until age 30 tended to have more children after that age. "The effect of the woman's length in education on fertility until age 30 is stronger than the effect on completed fertility and this can be seen as evidence of a postponement of child birth due to education and a partial catch–up. This is further confirmed by looking at fertility after age 30, where education has a significantly positive effect with an increasing importance for younger cohorts, which reveals clearly the catch–up effect in Denmark."[6] (Jensen, 2002: 10) Sweden is also an example of a country with very successful recuperation.

To sum up, it is the catch–up effect and not the postponement of entry into motherhood that is the real issue, and this tells us that "the causes of the fertility decline must be found elsewhere than in a theory of labor–specific or education–based human capital accumulation on the individual level." (Hoem, 1993: 101) The importance of children does not diminish to the same extent that

---

[6] For the cohorts 1952–1958, the postponement effect equals 2.9 percent for Italy and 3.8 percent for Spain, which are substantially above the levels in Denmark (Kohler et al, 2001: 9).

women increase their investment in education for all women. There are inter–female differences across countries and even within countries, such that postponement does not unconditionally lead to decreased overall fertility. As noted, research shows the positive effect of education on completed fertility in Scandinavian countries (Hoem and Hoem, 1989; Kravdal, 1992; Hoem, 1993; Berinde, 1999). Moreover, women constitute a heterogeneous group (Hakim, 1997; Bernardi, 1999), and some women might follow traditional patterns more closely than others (Lappegard, 2000: 8). This means that each woman displays a varied range of responses to the structural dilemmas facing all women (Gerson, 1985: 11), i.e., there are individual effects that stem from heterogeneity in women's preferences and constraints.[7] The present dissertation tries to provide an answer to the specific research question of whether all women, irrespective of their educational attainment, delay and/or forgo motherhood or whether there are intra–female differences regarding fertility; according to their educational attainment and their educational choice, in the particular case of Spain.

Spain is a country of special interest. Despite the fact that it is traditionally considered a Catholic and familialist country, Spain has been among the first countries to reach levels of "lowest–low fertility" (Kohler et al., 2002).[8] Over recent decades, the total fertility rate in Spain fell drastically from 2.90 to 1.18, one of the lowest in Europe since 1993. The mean age at first birth increased from 24.5 to above 28 in the 1990s. Now it is almost 31. In 1960, 45.8 percent of all births in Spain were undergone by women aged 30 years and over. These figures decreased to 38, 34.6 and 36.3 percent in 1975, 1980 and 1985 respectively, but they increased to 43.9, 45.5 and 49 in the 1990s (1990, 1992 and 1995) (Bosveld,

---

[7] In fact, the composition of individual impact is part of the previously mentioned country effect.

[8] "Lowest–low" fertility is a term coned by Kohler et al. (2002) to designate period total fertility rates fewer than 1.3 children per women. In the nineties, fourteen countries (mainly concentrated in Southern, Central and Eastern Europe) attained such fertility levels.

1996). The similarities in the statistics in the decades of the sixties and the nineties in the contribution of women over 30 "conceals a decrease in quantum and a decrease in tempo, i.e., couples have fewer children and births are realized at a higher age of the mother." (Gustafsson, 2001: 227, 228) It seems, therefore, that the catch–up effect does not counteract the postponement of motherhood in Spain, and the result of this might be the lack of recuperation, in terms of completed fertility, in the medium to long term.

The main hypothesis of the present research is that both inter and intra–country variation in family formation in general, and fertility choices in particular, depend on the perceptions of risks as seen by individuals. The inadequacy of a wide range of social provisions (universal and subsidized childcare, sufficient parental leave, the possibility of staying at home with remuneration when a child is sick, and/or the legal right to reduce working hours when a parent has a young child), the incapability of purchasing home in the absence of other options offered or promoted by the state, and the widespread precariousness and insecurity in the labor market, push Spanish youths to perceive their lives as being "more vulnerable and insecure", and consequently they might "refrain from taking certain risks." (Esping–Andersen et al., 2002: 8) Most people postpone first union and entry into motherhood, squeeze their child preferences or even forgo them. However, when asked how many children they think is the ideal number in a family, preferences seem to converge with those of Europe. TABLE 1.5 presents evidence to suggest that in Spain women are more inclined toward the two–child norm, irrespective of their educational attainment. The same results are reflected in the Spanish latest available data (Centro de Investigaciones Sociológicas, 2004, not shown here). The reason for which they end up having fewer or no children cannot simply be that young

Spanish women have a preference for fewer children than, for instance, their Danish counterparts.[9]

Table 1.5. Children's preferences in Spain

	PRIMARY EDUCATED WOMEN	LOWER–SECONDARY EDUCATED WOMEN	UPPER–SECONDARY EDUCATED WOMEN	TERTIARY EDUCATED WOMEN
0-1	3.56	6.37	6.26	7.08
1-2	3.12	3.80	5.13	4.72
2	**44.64**	**55.29**	**50.14**	**51.97**
2-3	16.62	12.83	14.81	11.02
3+	32	21.99	24.45	24.79

Source: Family and Fertility Survey (1995).[10]
Notes: All birth cohorts included. The question asked was: "How many children do you think is the ideal number for a family to have in this country?" [Question 617]

Due to the long–term costs of having a child, fertility choices are driven by women's opportunities and constraints (Liefbroer, 1999). Thus all women do not have the same response function *u(y)*, as defined over income and class, in the trade–off between fertility behavior and work. There exists a substantive criterion, which influences the order of the relationship between resources and freedom. This is that income of all women cannot be treated symmetrically, regardless of the difficulties faced by some women in comparison to others, in order to convert income into well–being and freedom (Sen, 1992: 29). In other words, the resources available to a woman may be a very poor indicator of the freedom

---

[9] Although the link between preferences and actual future behavior is ambiguous, at best (Lesthaeghe, 1983, 1998), nevertheless it indicates that children still assume a central position in many women's lives.

[10] FFS henceforth.

she really enjoys in choosing the number of children she has, and/or how much remunerated work she wants to pursue in the labor market. Comparisons of the resources available to women cannot serve as the basis for the comparison of their freedoms. This assertion outlines the first challenge for the present dissertation: the substantive question of how to identify the key exogenous factors that may or may not impact on the choices made by females on birth related issues in Spain, while also accounting for individual preferences.

In addition, lives are structured along trajectories, and such trajectories are interrelated (Upchurch et al., 1995). For instance, education and motherhood are embedded in a choice process in which young women aspire to a strategic balance of their family–life aims, along with their goals in other domains (Liefbroer, 1999). In other words, decisions about fertility are endogenous to the life projects of women and their preferences in family formation, education and career (Lesthaeghe, 1998). In fact, "by a combination of accident and choice, some women are more likely not to take much education, have a child early in life and remain a homemaker for longer than others." (Hoem and Hoem, 1989: 65) The methodological question of how to outline the endogenous processes of education and fertility is the second challenge. Section 1.2 below describes the methodological problems involved in studying fertility behavior, and this provides the analytical framework, which will be applied in this research.

1.2. The role of education in interdependent life courses: from an exogenous to an endogenous interpretation

An increasing number of analyses assume endogeneity when studying women's education and fertility; but many still treat educational enrollment and attainment as exogenous factors which impact on the timing of fertility and about fertility decisions. This dissertation will investigate the interrelationship between education and family formation choices because "education, as

measured as a higher age, can be taken as a proxy for earlier educational goals and strategies that may not be exogenous to fertility choices." (Kravdal, 2001: 197) In contrast to previous studies that show that postponement in the timing of family formation is driven exclusively by longer educational enrollment (see, for instance: Blossfeld and Huinink, 1991), I contend that education and fertility may be jointly determined by common (unmeasured) determinants. Therefore, these should be analyzed as endogenous processes in order to avoid biased results (Lillard, 1993; Lillard, Panis and Upchuch, 1994; Lillard, Brien and Waite, 1995).

Demographers have highlighted the important role of attitudes and values in determining demographic behavior (Van de Kaa, 1987; Lesthaeghe and Surkyn, 1988; Lesthaeghe and Moors, 1995; Alwin, 1996). Numerous empirical studies have demonstrated that there is indeed a strong link between attitudes and subsequent demographic behavior. For instance, "studies show that attitudes about childbearing, marriage, cohabitation, premarital sex, and residential independence each have an important impact on the corresponding behavior." (Thornton and Camburn, 1987; Axinn and Thornton, 1992; Goldscheider and Goldscheider, 1993; cit. in Barber and Axinn, 1998: 130) But all these analyses "are limited to associations between a demographic behavior and attitudes about that same specific behavior." (Barber and Axinn, 1998: 130)

However, attitudes toward childbearing are seen as having an important impact on other family formation behaviors and on other domains of the life of individuals. For instance, the norms, attitudes and value orientations of the individual may influence both fertility and the completion of education simultaneously (Lesthaeghe and Surkyn, 1988; Lesthaeghe and Moors, 1995; Alwin, 1996).[11] Therefore, a woman with a high propensity to bear

---

[11] In this dissertation I maintain a *functionalist* interpretation of the individual's values as deeply rooted motivations guiding or explaining certain attitudes, opinions, norms that direct (at least part of) human

children might also be more likely to prematurely cease education or choose certain types of education in those contexts in which (as occurs in Spain) family and professional career are not easily compatible. If this were so and the hazard models employed did not take this fact into account, the outcome would be a selection effect at higher ages, where women with a lower propensity towards family are over–represented.

The strategy of modeling applied in this dissertation will take account of the above–mentioned situation in order to provide reliable estimates of the effects of educational enrollment and attainment on fertility. I am not only interested in exploring how frequencies of births are influenced by education (levels and types) at a given age, but also in the effect of motherhood on subsequent educational attainment. For instance, an unplanned birth may render it impossible to achieve priorly held educational aims. This is because the woman will need to at least suspend her education, or also her goals may be reconsidered due to an unanticipated state of childlessness, which allows the woman to study for longer.[12] In both cases, the impact of education on fertility would be more positive than is reflected by the statistics. Following the approach developed by Lillard (1993), I will use simultaneous hazard models, with correlated unobserved heterogeneity, in order to deconstruct these issues. "Education is a good indicator of different choices in living arrangements over the life course." (González–López and Solsona Pairó, 2000: 65) The orientation of a woman's values of education and employment over family, for instance, might in part explain choices in both spheres of her life. In other words, "the birth of a first child and the participation in the labor market influence each other, although

---

action. Consequently, my interest lies less in what values are, and more in how they affect the individual's (demographic) behavior.

[12] Very few studies have acknowledged the fact that age at first birth impacts upon the educational enrollment of the woman (Hofferth and Moore, 1979; Marini, 1984, cit. in Blossfeld, 1995: 10). Most previous research stresses that the dominant effect is from educational enrollment on the timing of entry into motherhood.

both events might be jointly determined by the cognition, orientations and relative values that women attach to family life and their work career (Bernhard, 1990; Willekens, 1991)." (Baizán, in: Corijn and Klijzing, 2001: 301)

The simultaneous modeling allows for the control of the heterogeneity of individuals at the micro level.[13] Direct measurement of the changes in values and attitudes on individuals' family formation behavior would be desirable but unfortunately, no current data set provides the required information for Spain.[14]

---

[13] Heterogeneity at macro and micro level influences timing and intentions to have a child or more children. At the macro level, Section 1.1 shows how the second demographic transition hypothesis and the changes towards post–materialist values might lead to a delay or even a forgoing of motherhood. At the micro level, given the contextual environment, each woman makes her own lifestyle choices according to her subjective norms, beliefs and value orientations. This *cultural* component, however, has been omitted in the dominant New Home Economics theory.

[14] There are two ways of measuring selection effects. "First, asking retrospective questions pertaining to earlier circumstances and/or positions in a single survey. Second, using panel data with the measurement of positions, material conditions and values at each wave. Only the latter is trustworthy in establishing the net effects of values–based selection because the value orientations can be measured well before actual transitions occur, controlling for other socio–economic characteristics." (Lesthaeghe and Moors, 1995: 220–221) Nowadays there are only two such panels, both American, that demonstrate that the strength of the net effects of the mother's values on their children, and on the choices made by the children prior to the age 23, regarding living arrangements and family formation. "Particularly maternal religiosity and the mother's gender relation attitudes proved to have strong net effects on the value orientations of the children themselves (...) Furthermore, religiosity in the children's generation continued to produce a clear selection effect on their subsequent behavior (...) Moreover, differences by gender emerged. For women, the likelihood of subsequent selection into cohabitation rather than marriage on the one hand, and employment versus becoming a housewife on the other, increased significantly with career and consumption aspirations, higher degrees of

The Spanish Family and Fertility Survey (1995) used in this dissertation focuses on the timing of events and does not provide any information on the values, attitudes or beliefs of individuals. This is a challenge for future research on fertility preferences, since cross–sectional data only provides an overall degree of association between value orientations and life course choices. Such data fails to show whether this is predominantly the result of a strong selection effect (an individual is self–selective over various life course–paths depending on prior value orientations and goals in life) or of an affirmation effect (the individual reinforces values depending on life course choices, life cycle stages or socio–economic position) (Lesthaeghe and Moors, 1995: 220). Consequently, the effects of these cultural factors on birth transitions can only be indirectly investigated using the available data, i.e., through the hypothesized correlation between processes (Baizán, 2001; in: Corijn and Klijzing, 2001: 280). Here, I maintain that this unobserved correlation might be interpreted in terms of individual preferences and values.[15]

Put another way, women who according to their value orientation have less of a desire to have children will simultaneously prefer to invest more in education as an alternative strategy. In fact, attitudes toward childbearing and educational expectations are shown to be negatively correlated in those

---

secularization at the onset, and with more egalitarian gender role aspirations." (Lesthaeghe and Moors, 1995: 222, 236)

[15] Few studies have dealt with the personality of individuals as a determinant of the transition to adulthood. Some adhere to the so–called Berkely Guidance Study (in: Corijn and Klijzing, 2001). There, the findings suggest that personality impacts upon the timing and outcomes of later transitions in one's life. However, the mechanisms used to account for these effects are somewhat different than the ones I propose in my research. In the study, shyness and ill temperedness are taken as the driving mechanisms. I defend a broader view towards the role of women as individuals, workers, wives and mothers in terms of values, orientations and attitudes. All these roles influence the choice of women in education/career and motherhood at the different stages in their lives.

contexts in which, due to adverse circumstances and high societal risks, women are forced to choose between family and a career (Barber et al., 2002). Each of the separate decisions taken –to be enrolled in education, to attain a certain level of education and to start a family– are part of the same family–building process. Consequently, the same unobservable component impacts upon both the process of education and that of motherhood, but in an opposite manner.

Using the same reasoning, Brian, Lillard and Waite in 1999 proposed a series of models for the entry into marriage, cohabitation and non–marital pregnancy. These models also accounted explicitly for the heterogeneity that arises due to unmeasurable factors of individuals and the correlation of these across processes. The study found that the heterogeneity of components was strongly and positively correlated, i.e., that cohabitation, marriage, and non–marital conception are all part of the same process, in which individuals who are more likely to experience one event are also more likely to go through another. In other words, "values regarding one dimension of family formation, fertility preferences, affect behavior in a different dimension of family formation, cohabitation and marriage." (Barber and Axinn, 1998: 129)

In a previous and pioneering work, Lillard demonstrated that couples in marriages with a higher probability of dissolution have delayed childbearing behavior and a smaller completed family size (Lillard, 1993). Billari, Baizán and Aasve (2001) found that there is a significant positive correlation between unobserved factors simultaneously affecting the probabilities of leaving home and the occurrence of first birth in Spain, and that such correlation is higher for first unions and first births. The same authors confirmed the existence of a strong selection effect, which influences both union formation and first births in Spain (2003). In addition, Coppola (2004) demonstrated that the completion of education increases the probability of entering into first unions, and that individual unobserved characteristics influence the occurrence of the two processes at the same time in Italy and Spain. No study

has dealt with the issue of fertility and education and therefore, the present dissertation is aimed at fulfilling this gap in the literature.

For an increased understanding of the role of the education, I differentiate the effect of the educational enrollment from that of educational attainment, i.e., a distinction is made between the institutional and the human capital effect of education. The impact of the level of education on birth rates is often explained by the independence hypothesis that predicts a negative (net) effect (Becker, 1981; Blossfeld and Huinink, 1991; Oppenheimer, 1994). These previous studies, however, have focused exclusively on the impact of education on the woman's preferences for career opportunities and the income potentials as a result of greater individual autonomy. This dissertation will go beyond this and will aim to stress the role of education as a measure of individual autonomy in the sense of economic independence and of mental independence. "One of the advantages of education is that it opens up new opportunities and allows the individual greater control over his/her own circumstances." (Hoem and Hoem, 1989: 64) It may be that higher levels of education and increased autonomy for women do not necessarily make them abandon motherhood, but perhaps it does make them more aware of fertility choices.

Therefore, the content of the education –indicated by the type of education that the woman has engaged in– might be a good instrument in estimating the unobserved heterogeneity behind endogeneity, and consequently, this might also have an influence on family formation. In previous studies, Hoem has already outlined this idea as a plausible research hypothesis, and yet he never fully explored such a deduction (Hoem, 1986; Hoem and Hoem, 1989: 64–65). I incorporate the type of education in my analyses, in order to capture important differences in the fertility of women within the same spectrum of education. "Income issues give us indeed insights and are proved to be particularly useful for the discussion of marginal changes and marginal differences when other things remain equal, but they are incomplete as an explanation of major behavior differences." (Hoem and Hoem, 1989: 64) There is a dimension of individual personality that

cannot be directly observed and which determines behavior among women. The type of education has commonly been related to the gender segregation in the educational system, and subsequently in the labor market (Jonsson, 1999).[16] Existing comparative research has focused on the degree of sex segregation in organizations and/or occupations, and has highlighted negative outcomes in terms of the integration of women (Blau, Ferber and Winkler, 1992: 159 & ff; Crompton and Sanderson, 1990; Hakim, 1997; Van de Werfhorst, 2004). However, no study has gone further in determining the specific consequences of educational segregation in the demographic behavior of individuals.

My aim is to demonstrate that the preferences in childbearing patterns for women will also reflect on the areas in which they have been educated. In other words, the choice of a specific type of educational training is subject to individual preferences towards a desired life style, in which women show a particular orientation towards family formation, irrespective of their educational attainment. I defend that the level of education should not necessarily lead to an abandonment of family formation desires. I also suggest a mechanism that might link the type of education undertaken by women in their early adulthood and their fertility decisions once they have entered a relationship. The same norms, attitudes and value orientations might influence both the decisions made in the process of education (level and type) and the nature of motherhood at different stages in the lives of women.

1.3. Structure of the thesis

The thesis consists of eight chapters, included the present introduction. The theoretical perspective, described in Chapter 2, presents the main hypotheses regarding the socio–economic changes that have occurred in recent decades and their impact on

---

[16] Jonsson demonstrates that sex segregation in the field–of–study choice is, for instance, persistently high in Sweden, while men and women nowadays reach similar educational levels.

the process of family formation. The simultaneous modeling approach defended here allows for a successful summary of the contribution of the different theories. Chapter 3 includes a descriptive analysis of the transition to adulthood over recent decades, and it describes the historical transformation of the welfare state, female integration in the labor market and the characteristics of the family in Spain. The intertwining of these three spheres –the family, the labor market, and the state– provides a framework in understanding Spanish fertility in the past few decades. Chapter 4 introduces the empirical research. This outlines the data and presents the models and the variables used in the analyses of the first, second and third births in Spain.

Chapter 5 proposes a reassessment of the impact of educational enrollment and attainment on the timing of first birth and examines the joint determinants of education and family formation. In this chapter, I show that family formation and educational choices are interrelated. In contrast to the so–called role expectation hypothesis that predicts a postponement in the timing of first birth driven exclusively by the lengthening of educational enrollment, I find that both the process of having the first child and that of leaving the educational system might be jointly determined by common (unmeasured) factors. In addition, my research shows that the effect of education on childbearing varies according to the type of education undertaken. In contrast to the well–known human capital hypothesis that predicts a negative (net) effect of educational attainment on first birth, I find that the effect of educational attainment does not necessarily lead to a postponement of family formation. More precisely, those studies concerned with the care of individuals and/or emphasizing relational abilities positively influence the timing of first birth in Spain.

Chapters 6 and 7 investigate the role of women's education in the transition to the second and third births respectively. They apply the utility maximizing model of the New Home Economics and broaden it, by considering as a positive impact the time–squeeze effect, the income, and some family–oriented values that

are associated with the level and type of education. Findings show that conflict between family and career does not occur with equal intensity across different educational groups in Spain. In fact, there are educational attainment differentials, and differences by types of education, in the decision to have the second and the third child. Finally, a discussion of the main findings of the dissertation, and some concluding remarks follow in Chapter 8.

CHAPTER 2. THEORETICAL FRAMEWORK

During the transition from youth to adulthood, women are involved in the achievement of different interrelated events that are seen as outcomes of processes that interact dynamically with each other, and with the multiple contexts in which the woman lives (De Bruijn, 1999). The theoretical perspective of the present dissertation belongs to this general framework which integrates key aspects of the life course approach (Buchmann, 1989; Liefbroer, 1999) with decision making theory (Ajzen, 1991). Furthermore, it allows for the incorporation of specific sociological and economic theories of family formation and the role of education. This chapter presents the main hypotheses regarding the process of the increasing socio–economic independence of women and that of family formation in the industrialized countries.

2.1. The impact of the changes in sociodemographic and economic characteristics on the process of family formation: an overview of the major theories

As mentioned in the introductory section, cultural conditions of fertility have changed rapidly over time in industrialized countries (Lesthaeghe and Surkyn, 1988; Oppenheimer, 1994). Different cohorts have experienced changes in the economic and social conditions in their upbringings, and consequently they have reached adulthood with different relative aspirations for family

and marriage, work life, and material well being. But, people of the same cohort adopt differing views in response to these changes, i.e., each individual chooses from various possible combinations of choices, because there are in existence personal preferences regarding family formation and the entry into parenthood. In this sense, the mechanisms explaining the individual action regarding fertility can be multiple in nature. Therefore, the different theories outlined here are not seen as being in conflict, but instead examine a complex phenomenon by looking at it from different points of view.

2.1.1. The effect of women's educational attainment on family formation

2.1.1.1. The economic theory of the family

According to Becker (1981), the main proponent of the so–called New Home Economics, men and women are trading partners who decide to marry only as far as each of them gains more by marrying than by remaining unmarried. In this sense, it has been traditionally believed that men and women each offer something different to marriage. Men are viewed as the providers of food, shelter and protection, while women are in a better position for domestic duties and for the caring of children. In other words, efficiency is taken as being higher in market work for men and in domestic work for women (theory of the comparative advantage). The defenders of the economic theory of the family claim that this traditional work specialization and the interdependence between the members, are the main incentives for partners to marry and the primary causes of stability within the family. Also, this stability is expected to be correlated with fertility since "married couples support more children than single people or divorcees." (Kamarás, 2003: 6)

However, "the gain from marriage is reduced by a rise in the earnings and labor force participation of women because a sexual

division of labor becomes less advantageous." (Mincer, 1974; Becker, 1981: 248) Consequently, Becker sees education and increased job opportunities as the major factors that make women delay or even forgo marriage. Marriage becomes less appealing because the gender division of labor is less advantageous for both sexes. Similar outcomes are predicted by the economic theory of the family concerning the decision to enter into motherhood.

2.1.1.2. Human capital investments

As a framework for analyzing fertility, the comparative advantage model (Becker, 1981) recognizes that "women's growing economic independence as a result of better education and improved career opportunities is (also) one of the major factors in the decline in fertility (...), since a growth in the earning power of women raises the relative cost of children and thereby reduces the demand for them." (cit. in: Blossfeld and Huinink, 1991: 144, 146) Children are produced and reared by parents, who on the one hand avail of their own time, and on the other use goods and services purchased in the market such as clothing, food, housing, education, etc (Becker, 1981: 96). Due to the traditional gender–division of labor within the family, the mother's time accounts for the majority of the total costs (Blau, Ferber and Winkler, 1992: 281). The higher the woman's educational attainment, the higher the value of her time and the more it will impact upon the relative costs of children. Therefore, the ***human capital hypothesis*** predicts that highly educated women will also postpone or even avoid motherhood (Willis, 1973; Becker, 1981). Becker uses two behavioral mechanisms to explain the close relationship between educational attainment and family formation: the price effect and the income effect:[1]

---

[1] In the following exposition, I draw heavily on Becker's *Treatise on the Family* (Becker, 1981: 94&ff.).

Each family maximizes a utility function of the quantity of children *n*; the expenditure on the quality of each child *q*; and the aggregate quantity of other goods *Z*:

$$U = U(n, q, Z) \tag{1}$$

The total cost of producing and rearing children differs regarding the parents' time and the work division within the household. Given that the cost of children is p_n and the cost of *Z* is π_z, the income constraint is denoted by (Becker, 1981: 96):

$$p_n n + \pi_z Z = I \tag{2}$$

This income constraint and the marginal utility condition determine the optimal quantities of *n* and *Z* (Becker, 1981: 96):

$$\frac{\partial U}{\partial n} \bigg/ \frac{\partial U}{\partial Z} = \frac{MU_n}{MU_z} = \frac{p_n}{\pi_z} \tag{3}$$

An increase in p_n relative to π_z reduces the demand for children and increases the demand for other goods. "The growth in the earning power of women during the last hundred years in developed countries is a major cause of both the large increase in labor force participation of married women and the large decline in fertility." (Becker, 1981: 98) In fact, the New Home Economics literature predicts that the higher the level of the woman's education, the higher the value of her time and therefore, the higher the opportunity cost of children. This is because apart from the income which is forgone during the time spent by the woman out of the labor market, she is also likely to pay a higher price in terms of wage depreciation and career advancement (Blau, Ferber and Winkler, 1992: 41).

In addition, together with the relative price of children, the demand for them depends on the *family income.* The economic

approach maintains that there exists a negative association between family income and fertility since the relative price of children increases with income. This is the case perhaps because the female partners of men with higher incomes tend to participate more in the labor market (Mincer, 1963),[2] or because these women value their time (Willis, 1973). For instance, the higher the level of the woman's education, the more she accepts that children cannot always be cared for on a full–time basis by one of their own parents (or close relatives), and that alternative care is an extremely valid substitute [See Table 2.1 below]. In fact, evidence confirms that the employment of mothers has no negative effect on the welfare of children. Harmful effects may exist only when women experience unemployment, stressful jobs, and vulnerable or insecure employment as children may receive less attention from parents (Lynch, 2000). On the contrary, the well–being of mothers, as a result of good working conditions, might have a positive impact on the family in general, and on the outlook of the children in particular. Moreover, the employment of mothers increases family income and helps to prevent children's material deprivation (Esping–Andersen et al., 2002: 49, 56, 58, 67)

Table 2.1. Women's attitudes towards childcare in Spain

WOMAN'S EDUCATION	Strongly agree	Agree	Disagree	Strongly disagree
Primary	7.9	**51.9**	33.8	6.4
Secondary	6.1	31.1	47.4	15.4
University	1.2	20.5	**66.6**	11.7

Source: European Values Survey for Spain (1999).[3]
Notes: All birth cohorts included. The question asked was: "Do you agree with the following statement: pre–school children suffer if the mother works and cannot take care of them personally." [Q46B]

---

[2] In countries with precarious female employment, they might be some of the few insider women in the labor market.

[3] Data from the Central Archive for Empirical Social Research (ZA).

But the most important reason why the effective price of children rises with income is that the budget constraint is non–linear, due to the interaction between the quantity and quality of children (Becker, 1981: 102). According to Becker, this explains the rapid changes in the quantity of children over time, even though there are no close substitutes for children and the income elasticity of quantity is not large. The utility function (1) distinguishes the quality of children from other goods. Let us consider, as Becker does, p_c as the constant cost of a unit of quality, q as the total quality of each child, and $p_c qn$ as the total amount spent on children (Becker, 1981: 103). In this case, the income constraint is not linear, but depends multiplicatively on n and q, and equals the following utility function:

$$p_c qn + \pi_z Z = I \qquad (4)$$

Given this income constraint, the equilibrium conditions are obtained by maximizing utility (Becker, 1981: 103):

$$\frac{\partial U}{\partial n} = MU_n = \lambda p_c q = \lambda \pi_n$$

$$\frac{\partial U}{\partial q} = MU_q = \lambda p_c n = \lambda \pi_q$$

$$\frac{\partial U}{\partial Z} = MU_z = \lambda \pi_z \qquad (5)$$

π_n and π_q are the shadow prices of n and q. These two prices depend on p_c, the cost of a unit of quality, but π_n depends on q and π_q depends on n. "An increase in q raises the amount spent in each child and therefore, it raises the relevant cost of each child. Analogously, an increase in n raises the cost of adding to the quality of each child because a larger number of children would be affected." (Becker, 1981: 103) In addition, the significant recent

reduction in fertility can be explained not only by the interaction between quantity and quality (an increase in income can reduce fertility through the interaction with quality), but also by the higher rates of return of quality that an increase in income implies (Becker, 1981: 112).[4]

However, the interaction of income with quality needs a further specification. The abovementioned traditional utility function (4) lacks an important element that constitutes a key issue for a high proportion of women in Spain at least: the free labor component. This is, as it will be referred to hereforth, the possibility of relying on a parent –generally the mother of the woman– for the responsibility of child caring. Due to the scarce, almost non–existent, public day nurseries available for under–age children in Spain, the vast majority of grandparents take care of them while women opt for paid employment (Tobío, 1999). This family model, based on a strong solidarity between various generations, decreases the amount spent on each child, and therefore, reduces the relative cost of children.[5] Women and their families substitute formal, for informal childcare, and this reduces the relative price of childcare and, therefore, increases the relative return of employment (Jaumotte, 2003: 9). In addition, the size of child quality expenditure is one of the major determinants of the optimal time of maternity (Gustafsson, 2001). In other words, this

---

[4] Happel et al. (1984) shows that "the more money parents spend on a child including educational expenses and the longer the period parents keep paying for their child, the higher will be the shadow price of a child, and consequently, the later in life they want to enter into parenthood or the higher the probability that they refrain from having the child." (cit. in: Gustafsson, 2001: 242)

[5] Some authors highlight that after the assumption of a general decline of family bonds during the period of modernization, in the last decade the full extent of the family has been discovered as "a kinship and especially a generational system beyond the nuclear household, which ranges across several different types of "solidarity": spatial and emotional closeness, frequent contact, *personal and instrumental support* as well as massive flows of money and goods." (Kohli, Künemund & Lüdicke, 2005: 1) [the cursive is mine]

"free gift" that some women receive, is linked to the quality of each child *(q)* and consequently it should not be ignored in the income constraint:[6]

$$I = p_c qn + \pi_z Z + \Omega \qquad (6)$$

Further developments in neoclassical economics, however, do not predict the postponement or avoidance of fertility as a result of a higher accumulation of human capital. Instead this foresees an advancement of the onset of fertility if the woman's lifetime earning potential from market activity is steeply increased (Cigno and Ermisch, 1989). It is the case that, more often than not, better–educated women earn higher wages and have a steeper lifetime earning potential that allows them to actively contribute to the household income and to support a larger family (Kravdal, 1992: 468). Therefore, the income effect (or the effect of financial resources in general) might be stronger and more dominant than that of the opportunity cost for the better–educated women (Ermisch, 1990, Ermisch and Francesconi, 1999). This forms as the ***income effect hypothesis***. To put it in another way, a higher initial human capital might encourage births, by its income effect.

In addition, women with high educational qualifications are likely to have better–educated men as partners, given the high level of homogamy generally (Kalmijn, 1998), and more

---

[6] Undoubtedly, it also affects *q* regarding the shortage of care provided to the child by the grandparent(s) in comparison to that provided by public day nurseries or by other private modes of caring. Leaving aside the affection, love and caring side, Ω might not guarantee the equalization of a reasonable standard of living for all children, which is argued to be one of the positive outcomes of the universal subsidized childcare provision. In this sense, social differentials in terms of social capital, social integration and child development, for instance, might appear from the onset and might persist through the childhood. In addition, many women do not count on this informal option and this creates inequalities among them in the way they can reconcile their career and family life.

specifically in Spain (González–López, 2001). Higher lifetime earnings on the male side, might reinforce the income effect that permits a couple to fulfill their desire for parenthood. This is, better–educated women and couples will have more available financial resources in order to purchase care in the market, despite the lack of subsidized childcare in some contexts. The data is quite illustrative in this sense. Table 2.2 shows responses to a number of reasons for not having a child or more children in Spain. The women were asked which reason was the single most important [FFS, 1995]. All groups of women, irrespective of their educational attainment, offer that the rearing of children entails many worries and problems. However, a high proportion of less educated women, 25 percent, consider children as being expensive, and they find them unaffordable, whereas only 7.69 percent of the highly educated answer in such a manner. For the latter, the second main reason for not wanting a child or more children is that children make it difficult for them to have a career (20.51 percent).

2.1.1.3. Wage rates

"The independence argument presented by the economic theory is an argument about wage rates, not about educational attainment as such." (Sørensen, cit. in: Blossfeld, 1995: 230) Education is taken as a proxy for a woman's lifetime wage potential, but it is in fact a poor indicator of her real earnings and the career opportunities in the labor market. Consequently, "[a]n increase in women's educational attainment and a closing of the gap in men's and women's education are not synonymous with a closing of the gender–gap in wages, and this fact is consistent with the continuation of men's comparative advantage with respect to women." (Sørensen, cit. in: Blossfeld, 1995: 230) Female participation in the labor market is explained, to a great extent, by home production, which has traditionally been considered as a better alternative to market production, for women than for men.

Table 2.2. Reasons for not having a child or subsequent children in Spain, by the woman's educational level [FFS, 1995]

	PRIMARY		LOWER–SECONDARY		UPPER–SECONDARY		TERTIARY	
	Important	Not important	Important	Not important	Important	Not important	Important	Not important
Children are expensive, especially as they get older	**51.86**	48.14	46.97	53.03	27.5	**72.5**	35.60	**64.40**
Children make it more difficult for a woman to have a career	55.37	44.63	50.88	49.12	38.75	61.25	51.73	48.27
Pregnancies, births, and the care of children are challenging for a woman	51.19	48.81	49.12	50.88	57.50	42.50	55.18	44.82
There would not be enough time for other important things in life	**36.73**	63.27	37.82	62.18	34.61	65.39	**46.56**	53.44
Bringing up children entails many worries and problems	69.92	30.08	68.80	31.20	67.09	32.91	58.62	41.38
My house is unsuitable for a larger family	29.45	70.55	20.50	79.50	20	80	10.34	89.66

Source: FFS (1995). Own elaboration.
Notes: All birth cohorts included. The question was: "I am going to read out a number of possible reasons for not wanting a child or more children. Could you please tell me for each of them whether, for you personally, that reason is important or not important at this time?" [Question 609]

	PRIMARY	LOWER–SECONDARY	UPPER–SECONDARY	TERTIARY
Children are expensive, especially as they get older	**25**	22.98	10.90	**7.69**
Children make it more difficult for a woman to have a career	14.58	10.19	**20**	**20.51**
Pregnancies, births, and the care of children are challenging for a woman	13.28	14.72	10.90	10.25
There would not be enough time for other important things in life	**1.56**	4.20	1.82	**10.25**
Bringing up children entails many worries and problems	41.14	45.79	54.54	48.71
My house is unsuitable for a larger family	4.42	2.10	1.82	2.56

Source: FFS (1995). Own elaboration.

Notes: All birth cohorts included. The question was: "Of the reasons indicated as being important for not wanting a child or more children, which one would you say is the single most important for you personally at this time?." [Question 61

In this sense, the elasticity of female labor supply to wages is high, particularly for married women. In addition, children increase this elasticity because they imply more opportunities for home production (Jaumotte, 2003: 7).

"The econometric so called timing and spacing literature has used current female wages and male incomes as the main explanatory variables to the postponement of maternity, and the decrease in total fertility rates." (Gustafsson, 2001: 225, 230) In fact, there is empirical support of the negative effect of female wages in Sweden, the USA, and Canada (Gustafsson, 2001: 231). However, Tarisan finds a significant and positive effect of the female wage rate in Sweden once controlled for parental benefits and childcare (Tarisan, 1995, cit. in Gustafsson, 2001: 231, 232). Therefore, not only is the decision surrounding motherhood influenced by current female wages (the direct loss of earnings in the time spent out of the labor market), but also by the lifetime earnings (wage depreciation or loss of human capital during the period at home) (Joshi, 1998; Meertens, 1998; Gustafsson, 2001: 236).

$$C_j = W_j + \beta W L_j \qquad (7)$$

In the above–cited equation of the cost of opportunity of giving birth, the wage depreciation is a function of the woman's educational attainment. Generally speaking, female attachment to the labor market is higher for better–educated women, as education increases the woman's potential earnings and reduces the benefits of specialization within the couple (Jaumotte, 2003: 7). In fact, for less educated women the lifetime earning pattern is characterized by a modest steep growth in their early labor career, followed by a flatter profile. These women maintain a more or less constant opportunity cost during the largest part of their childbearing period. Working in the labor market is worthwhile as long as the (additional) wage of the woman permits the purchase of the required goods and services, in order to make up for the lost home production. Most of these women might leave the labor

market when children arrive, or they might maintain an interrupted career.

Better–educated women, however, stay longer in education and enter into the labor market at a higher age, with a better human capital and a potentially higher rate of return to this investment.[7] Growth in earnings is gradual since both age and on the job experience are the major determinants of their wage rate. Consequently, the opportunity costs of motherhood are higher during the earlier years of their careers, than they are later. Early childbearing and the likely interruption of the working life –part– or full–time for a number of years– would imply a loss of wages during that period and a threat to their future earnings (Blau, Ferber and Winkler, 1992: 41; Liefbroer and Corijn, 1999: 54).

Highly educated women are also likely to pay a high price in terms of career advancement since the rate at which the woman's career skills decay is higher, and they often are given promotion only on the condition that they are not pregnant or do not plan on a child in the near future. This results in postponing or refraining from children altogether (Gustafsson, 2001: 226). In this sense, Happel et al. (1984), Ermisch (1989, 1990: 12), and Cigno (1989, 1991) show that women with steeper earnings, i.e., women with a higher pay per unit of human capital, decrease the tempo of fertility and consequently, they have their children later in life because children are relatively less costly by then.[8] Some of these women might then remain childless or might have fewer children because they display a preference for a longer career in the labor market, and they might not catch up fertility.

---

[7] Differences might appear, however, according to the profile of these human capital investments (Gustafsson, 2001).

[8] For instance, Happel et al. (1984) demonstrate that low skilled women have their first births earlier than women in high skilled occupations. The Cigno and Ermisch's study (1989) shows that women in semi-skilled or manual occupations enter into motherhood earlier than more–skilled women in clerical occupations (cit. in: Gustafsson, 2001: 240 & ff.)

In addition, monetary gains depend on the educational attainment, but the higher the woman's educational level the more often she mentions a real interest and enjoyment in the content of her job. Conversely, less educated women declare their social contacts at work and the relief from the domestic burden as the most important advantages of their jobs in comparison with being homemakers (Hoem, 1993: 114). The size of child quality expenditure related to this, will also determine the decision and the timing of motherhood.

2.1.2. Differential effect of education as a result of country–specific differences

Given the relatively similar levels of modernization in European countries, the diversity and complexity of the sociodemographic–economic changes that have occurred in recent decades demonstrate that there is not a straight linear relationship between trends in women's education and patterns of family formation. Women's educational attainment and the independence that it implies have a different impact according to the "countries' dominant cultural values, family and religion traditions, and family policies." (Lesthaeghe and Surkyin, 1988, cit. in: Blossfeld, 1995: 11)

Therefore, the effect of educational attainment, net of educational enrollment, might not be the same in all countries (Blossfeld, 1995). In other words, the institutional context challenges the economic theory of marriage and parenthood that predicts a negative effect of education. The working *societal differences hypothesis* is that a growth in education might delay marriage and motherhood in all societies, but once educational enrollment is controlled, educational attainment may diminish the probability of marrying and of becoming a parent only in those societies in which there is a traditional family system, i.e., the division of labor that assigns men to paid employment and women to non–paid domestic work. In some societies, family life and

participation in the labor force might be more compatible than in others (Liefbroer and Corijn, 1999: 46, 52).

In fact, there is empirical evidence that suggests that there is no effect from the educational attainment of women in the transition to the first child in Sweden, Hungary and West Germany, whereas it is positive in the United States, strongly negative in Italy, and weakly negative in the Netherlands and France (Blossfeld, 1995; Oppenheimer, 1994, 1995). Thus the important issue is to determine the cost of having a child at different stages in the life of a woman in a given context. The marginal productivity of men and women in market and domestic work does not depend exclusively, as Becker argues, on the individuals' investment in human capital. Public policies that favor female employment and decrease the time spent out of the labor market –the most important element of the shadow price of having a child or more children– are shown to have a positive effect in decreasing the age of motherhood and in overall fertility levels (Gustafsson, 2001: 244–245).

In this sense, numerous studies have already demonstrated that the welfare state plays an important role in shaping the cost of opportunity of births through income tax rates, the parental leave and care benefits, the direct expenditure for children, child allowances and/or the expenditure on childcare (Oláh, 1996; Berinde, 1999; Gustafsson and Stafford, 1994; Sundstrom and Duvander, 1999; Karsten and Kreyenfeld, 2000; Gustafsson, 2001). In addition, "the education–work linkage is dependent of the social structural conditions within which individuals operate." (Van de Werfhorst, 2004: 3) All things being equal the accumulated human capital of women, the anti–discrimination laws in pay and career opportunities, the wage rates, the return on human capital and the flexibility of working arrangements in a given labor market, will impact upon the shadow price of having a child or more children (Blau, Ferber and Winkler, 1992; Liefbroer and Corijn, 1999; Gustafsson, 2001; Jaumotte, 2003).

2.1.3. Bargaining power within the relationship of a couple

From a sociological perspective, economic theories lack in their references to power within households. Not only is educational attainment an indicator of women's earning capacity. But it might also reflect as to their bargaining power (Blossfeld, 1995: 13; Blossfeld and Drobnic, 2001). The New Home Economics predicts that the given sex differences provide a comparative advantage, as "women's employment outside the home is not necessarily accompanied by an increase in the amount of housework done by her husband." (Blau, Ferber and Winkler, 1992: 46–47) Therefore, "the division of household labor is an outcome of negotiations between the spouses. The individual with higher earnings, or the provider, has more resources to strike a deal in his/her best interests and will therefore do less housework than his/her less well–paid counterpart, the dependent." (Blossfeld and Drobnic, 2001: 26)

Power struggles within the couple may be substantially determined by the national institutions on the one hand, and by the educational attainment of the woman on the other. Welfare states can diminish the power traditionally held by men within the family when they facilitate female participation in the labor market. If this is not the case, not only are there cross–national differences in female labor participation rates, but there are also higher marriage inequalities and penalties for having children for women within each country. But apart from these "women friendly" policies which harmonize motherhood and careers, states might also incite men to be more involved in the unpaid domestic roles so that a more gender equal distribution of the household duties is achieved. In fact, there is some evidence that male contribution to domestic and caring responsibilities in Nordic countries is successfully augmented by welfare incentives (Esping–Andersen, 2002: 21).

At this time, women spend more time in education and follow a career whose profile, at least for the better–educated, is increasingly similar to that of men and this ongoing change

imposes important challenges to policies. It means that policy in these areas cannot focus exclusively on the female side. The increasingly masculine profile of the female life course must be accompanied by a similar feminization of the male trajectory in order to achieve gender equality (Esping–Andersen et al., 2002: 70, 71, 88). There are signs that males are moving closer to the female employment profile, as a result of involuntary work interruptions caused by employment instability, unemployment or precarious jobs (especially among the less educated). But this is not the real issue. The important aspect is the extent to which men's behavior is more "feminine", in a voluntary capacity. The woman pays an extremely high price if she has a child or more children, and the man does nothing at home because it is the woman who has the double burden of her career and family obligations.

Regarding female educational attainment, better–educated women "bargain better and more often with their partner for a more equal distribution of labor in the household than women that have less financial power as a resource." (Ott, 1995, cit. in: Berinde, 1999: 373) Whether employed or not, women continue to carry the burden of care and housework responsibilities (Brines, 1994; Marini and Shelton, 1993), but research reveals that "better educated men do more because they hold more egalitarian sex roles attitudes." (Turner, 1990: 104) In sum, the way in which women bargain within the household differs among women from different educational groups, and this fact might allow for better opportunities for highly educated women.

2.1.4. The effect of women's educational enrollment on family formation

Similarly, from a sociological point of view, "there exist normative expectations in society according to which young people who attend school are *not at risk* of entering parenthood." (Blossfeld and Huinink, 1991: 147) The roles as students and

mothers are extraordinarily demanding, and therefore most women delay motherhood until they are finished with the educational system (Rindfuss et al., 1988, cit. in: Blossfeld and Huinink, 1991: 147; Liefbroer and Corijn, 1999). Moreover, this view is often complemented by the idea that women, who have not left education, are often economically dependent on their parents, making family formation unlikely (Hoem, 1986, 1989; Blossfeld and Huinink, 1991; Marini, 1984, 1995; Blossfeld, 1995; Lesthaeghe and Moors, 1995: 217). This institutional effect of education is in line with the literature on age grading which emphasizes the role of age, sex and the status people occupy, in explaining their demographic behavior. Therefore, not only are the roles of student and mother incompatible, but also there is a breakaway from the sequence of the status in which childbearing takes place after completion of education *(role expectation hypothesis)*. In other words, setting up a household seems to be a pre–requisite for family formation, and more often than not, this only occurs after having left the educational system (Baizán, 2001).

Hence, "women delay marriage and fertility for the simple fact that they are participating in the educational system and not because they have accumulated a greater stock of human capital." (Goldscheider and Waite, 1986; Oppenheimer, 1988; Blossfeld and Huinink, 1991: 147; Axinn and Thornton, 1992; Manning, 1995; Blossfeld, 1995: 23, 26) Therefore, better–educated women are older when they enter into motherhood because they spend more time in education. Postponement implies that women have less time before reaching the biological limits of fertility. It may occur, then, that more educated women, i.e., women who stay longer in education, speed up their subsequent births in order to avoid these fertility limits *(catching up effect hypothesis)*.

2.1.5. Different types of education

Traditional analyses of female fertility can be challenged in two ways. Firstly, the human capital hypothesis is based on a very narrow concept of education, such as that which Becker proposes, and this is problematic. According to the New Home Economics approach, more education implies more autonomy in terms of economic independence, i.e., more career opportunities and income potentials. But, education might also be a measure of individual autonomy in the sense of mental independence. The higher the education, the greater the opportunities and the greater the control the individual might have over his/her own circumstances, including potential parenthood (Hoem and Hoem, 1989: 64). Therefore, more increased levels of education and autonomy implied does not necessarily lead to an abandonment of women's fertility, but it does imply a greater awareness of their fertility choices.

The profile of education, indicated by the type of education that the woman has engaged in, might also influence family formation (*type of education hypothesis*). This is, human capital issues are incomplete explanations of the major differences regarding fertility among women within the same educational level. The woman's educational goals and strategies are not exogenous to her fertility behavior (Kravdal, 2001: 197). The choice of a specific type of educational training might be subject to individual preferences for a desired lifestyle, in which the woman displays a particular orientation towards family formation, irrespective of her educational attainment.[9] The same norms,

---

[9] Here, the type of education refers mainly to the field of education undertaken by the woman. However, other dimensions could also be relevant, for instance the presence (lack of) religious values transmitted in the educational institutions. In fact, previous research maintains that "besides pronatalist values and contraceptive proscription, religiosity is assumed to be linked to family oriented attitudes and traditional gender ideals," (Castro Martín, 1992: 239) which could be reinforced (or not) by the educational system. The FFS does not include any dynamic

attitudes and value orientations might therefore both influence the decisions made in the process of education (level and type) and the decisions on motherhood, at different stages of the woman's life.

Previous sociological research argues that the individuals' choice of subject "must be understood within the system of both economic and cultural stratification, as they choose subjects that correspond to their parents' positions in both the economic and the cultural hierarchy." (Van de Werfhorst et al., 2003: 2–3) This means that the expected female preferences for "socially oriented programs" might be attributable to the gender–specific socialization since "men and women are traditionally raised with different expectations and receive different education and training." (Blau, Ferber and Winkler, 1992: 41). Family, friends, teachers and the media shape attitudes and behavior of individuals and influence their occupational orientation and the roles they undertake in their working lives. In fact, Lesthaeghe and Moors point out that apart from opportunities and socio–economic positions, "the quality of parental relationships and values developed during adolescence might direct ambitions, study careers and professional options." (Lesthateghe and Moors, 1995: 220) In this sense, parents play an important role in shaping the foundations of sex role ideologies and behaviors. In particular, that of women's, because more often than not, as Hakim asserts, "women are the first to give dolls to their daughters and guns to their sons (...) It is mothers who create housewives in their own image because some women treat their children as extensions of themselves, especially girl children." (Hakim, 1996: 211)

Therefore from an early age, boys and girls might be taught "to aspire to and train for sex appropriate lines of work (...) Women might be socialized to emphasize appropriate "feminine" personality traits like subordinate, nurturant, and emotional. Traditionally male fields might be stereotyped as requiring "masculine" personality traits like dominance, competitiveness,

---

information on religion and this is the reason for which the woman's religious activity has not been included in the analyses.

and rationality. Having internalized the idea of what is properly female, women might then avoid male fields because they perceive a psychic cost in acting in an "unfeminine" manner or simply because they feel unequipped to do so." (Blau, Ferber and Winkler, 1992: 197) Gilligan (1993), one of the defenders of the theory of qualitative personality differences between women and men, considers men as being "more individualistic, achievement–oriented, detached from others, oriented more towards powers, distinctive activity and success", and she argues that "women describe themselves in terms of personal relationships, are unselfish, concerned about fulfilling the needs of others and feel powerless." (Hakim, 1996: 98ff.)[10] From this perspective, it seems reasonable to argue that horizontal segregation in the field of study could only be eliminated through intensive socialization aimed at eradicating sex differences in terms of personality and behavior.

Another explanation –from a rational choice perspective– is that of the concept of comparative advantage (Jonsson, 1999; Van de Werfhorst et al., 2003; Van de Werfhorst, 2004). The comparative advantage in arts, humanities, social studies and care subjects as held by women, helps to explain the fact that they are less likely than men to choose scientific and technical fields of studies. Individuals have a higher success in subjects that they are comparatively good at, and are also more likely to enjoy their "best" subjects. This means that women make conscious field–of–study decisions, on the basis of the probability of success in a given subject. Some empirical research shows that gender is indeed associated with comparative advantage in Great Britain and Sweden, where the difference between reading and mathematics scores is skewed in favor of reading for girls at age 11 and "children who were relatively good at reading compared to mathematics at the age 11 were most likely to go into the arts and

---

[10] In fact, Hakim argues that "the masculine goals of high earnings, promotion opportunities, up–to–dateness and opportunities for training an updating contrast with the social goals of greater importance to women: good relations with colleagues and managers, a friendly atmosphere and a pleasing workplace." (Hakim, 1996: 102, 114)

social studies." (Van de Werfhorst et al., 2003: 24; Jonsson, 1999: 398) PISA data similarly confirms this working hypothesis for a broader range of countries.

Finally, the subject choice might depend on the individual's knowledge of labor market returns and outcomes. In other words, choices might depend on the woman's desirable commitment to the labor market at a later age because "boys and girls value differently important characteristics of the occupations different educational sectors are likely to lead to." (Jonsson, 1999: 394; Baizán, 2003: 11) Some women will select fields of study that lead to part–time work or allow some temporary withdrawal from the labor market (Polachek, 1981). Others will look for a more protective attachment to the labor market, for instance, for employment in the public sector (England, 1992; Marini and Fan, 1997). Apart from greater flexibility, women find in public employment a good option because "they tend to choose jobs with fixed or predicable earnings, whereas men more often choose jobs with a substantial element of pay contingent on performance, consistent with research showing sex differences in risk aversion." (Chauvin and Ash, 1994; cit. in: Hakim, 1996: 183)

In addition, human capital proponents argue that the interruption of the expected participation in the labor market also helps explain sex–typical choice patterns. "In some fields, as in science and engineering, technological change progresses rapidly. A woman returning from a labor force interruption will not only have to contend with her depreciation of skills over the interim but also with the advancement of the field during her absence. On the other hand, in such other fields as teaching, the pace of technological progress is slower. A woman returning from a work force interruption is likely to find that her earnings fall less steeply. Women anticipating traditional roles are, therefore, expected to avoid fields where the rate of technological change is rapid and to concentrate in fields where the cost of work force interruptions is lower." (Blau, Ferber and Winkler, 1992: 196) Therefore, women's choice of education is all about maximizing

earnings and minimizing wage depreciation from interrupted employment.

All in all, since men and women have different life plans, studies in arts, humanities, social studies and care might permit a better compatibility between family and career for women. To put it in another way, both men and women have "different images or perceptions of their future occupational and family career (...) Many girls anticipate their role as being responsible for the family and the home, and thus choose an educational path that increases their productivity in both spheres." (Jonsson, 1999: 394) However, it is interesting to highlight that "labor market prospects might be a more important criterion to select a field of study in a commodified welfare state than in a decommodified welfare state."[11] (Van de Werfhorst, 2004: 8) This makes the question of the field–of–study choice particularly relevant in the case of Spain. "In countries with a high level of decommodification (e.g. Scandinavian countries), people who select fields of study of poor labor market value, are still eligible for various social benefits even if they can not find a job after leaving school." (Van de Werfhorst, 2004: 8) In Spain, eligibility for social benefits depends on previous work experience, so individuals might carefully decide upon subjects on the basis of future labor market prospects. Moreover, high levels of unemployment (especially female) might stimulate more labor oriented investments, rather than specific skills (Estevez–Abe et al., 2001).

Furthermore, the experiences and the ideas transmitted in different fields of studies have also a socialization effect that might impact upon fertility outcomes (***role hiatus hypothesis***). Lesthaeghe and Moors define this as the affirmation (or negation) effect, i.e., "the subsequent reinforcement (or weakening) of certain values depending on living arrangement, life cycle stage or socio–economic position." (Lesthaeghe and Moors, 1995: 220) Women who choose a teaching career, for instance, are exposed to

---

[11] The concept of decommodification refers to the extent to which social benefits are separated from the market (Esping–Andersen, 1990).

experiences and ideas that might positively reinforce their values and attitudes towards motherhood during young adulthood. People in different social roles adapt their attitudes and social expectations to the experiences that are implicit in the status they themselves occupy, which might constitute a discontinuity with the traditional life course (Spitze, 1978; Bidwell and Kassarda, 1980; Alwin, 1996; Beets et al., 1999).

For instance, Spitze (1978) analyzed in a longitudinal study the effect of college attendance on family attitudes, predicting that women will have less traditional family values if they are enrolled for longer in a full–time education. Waite et al. (1986), referring to the leaving of the parental home to live in a non–family household, offer several explanatory mechanisms that could also be applied to enrollment in the educational system. "First, educational enrollment weakens parental control, making it easier for the individual to adopt attitudes that parents might disapprove. Second, young adults in the educational system learn skills that strengthen their confidence to manage without a family. Third, being in high school or university exposes young adults to experiences and ideas that they might not have encountered if they had adopted other roles [e.g. involvement in the job market, homemaker]." (Beets et al., 1999: 102–103) In other words, being a student and the prospect of a high educational attainment might increase the individuals' power in the relationship with their parents and increase the feeling of detachment towards them, further fueling the mechanism of the adoption of new attitudes that might also favor responsible parenthood.

Secondly, the common human capital hypothesis gives more weight to the cost of children, than to the benefits of children. Undoubtedly, costs that are associated with fertility decisions are different for individuals from varying educational levels; but so are the emotional benefits of motherhood. In contrast to the human capital hypothesis that predicts a negative (net) effect of educational attainment on the woman's child preferences, the type of education hypothesis proposes that the effect of educational attainment does not necessarily lead to an abandonment of family

formation. Economists do not generally analyze the determinants of individuals' preferences. The two approaches are complementary rather than competing. The rational decision that the woman makes regarding education (level and type) and concerning fertility might be recognized without having to neglect the cultural element that shapes preferences in both spheres. In fact, Lesthaeghe and Surkyn (1988) emphasize that each individual has a cultural capital and a "preference map" of stability at ages around which the transition to adulthood is centered and diverse family forms preferred.

In this sense, Bourdieu states that the cultural capital is distributed differently among the different sections of the dominant classes (Bourdieu, 1983).[12] For instance, "when the level of education is the same, teachers and art specialists practice the activity of visiting a museum to a distinctively greater extent than do other categories and, particularly, other sections of dominant classes." (Bourdieu, 1977: 492) The individual's social status is a two–dimensional space: one based on economic capital and one based on cultural capital (Van de Werfhorst et al, 2003: 8). Therefore, the preferences of better–educated women might not always be tilted towards having none or fewer children than the two–child norm. Some of these women might also appreciate children and the emotional benefits of motherhood (Kravdal, 2001) and consequently, they might be more ready to enter into motherhood and even to have more children "because of their greater confidence about their ability to control non–familial opportunities even after the arrival of an additional child." (Hoem and Hoem, 1989: 64)

---

[12] According to the author, capital can present itself in three forms: "as economic capital, which is immediately and directly convertible into money and may be institutionalized in the form of property rights; as cultural capital, which is convertible, on certain conditions, into economic capital and may be institutionalized in the form of educational qualifications; and as social capital, made up of social obligations, which is convertible, in certain conditions, into economic capital and might be institutionalized in the form of a title of mobility." (Bourdieu, 1983: 243)

Previous research has shown that parents value children differently. It can be argued that less educated women, who have not gone through the education process, might give more importance to the so–called "social normative benefits" that children imply. "More than finishing school, going to work, or even getting married, motherhood establishes the woman as a truly mature, stable, and acceptable member of the community and provides her access to other institutions of adult society." (Hoffman and Hoffman, 1973: 47) In other words, "many women welcome motherhood as a confirmation of their sexual and social identities." (Hakim, 1996: 91) For them, becoming mothers is defined as their major role and aim in life. Motherhood is the normal culmination of the socialization process and they start a family (even if it is only with one child) in order to receive social approval. Table 2.3 below reflects this idea with figures.[13]

Table 2.3. Women's attitudes towards motherhood in Spain

	NEEDS CHILDREN		NOT NECESSARY	
WOMAN'S EDUCATION	Women>40	Women<40	Women>40	Women<40
Primary education	**66.8**	41.5	33.2	58.5
Secondary education	48.3	34.0	51.7	66.0
University education	37.1	27.5	62.9	**72.5**

Source: European Values Survey for Spain (1999).[14]
Notes: All birth cohorts included. The question asked was: "Do you agree with the following statement: women need children in order to be fulfilled." [Q42]

---

[13] It demonstrates, however, that it is less so for the younger cohorts. The younger the woman, the less she considers it as being absolutely necessary to have children in order for a woman to be fulfilled. Although, differences still persist regarding the woman's educational attainment. For the better educated, more than 70 percent of those younger than 40 years state that women do not necessarily need children for their own fulfillment.

[14] Data from the Central Archive for Empirical Social Research (ZA).

However, better–educated women who have demonstrated preferences towards having children through their educational choice, might concede more importance to the psychological benefits of children. "These women gain a sense of creativity, accomplishment, self–affirmation and achievement, not only from producing a child, but also from meeting the challenges and crises that inevitably occur as part of the rearing process and from observing the child's responses to their efforts." (Hoffman and Hoffman, 1973: 54) These women may be more concerned with the "quality" of children and might consider, for instance, that having another child is best for the first child in order to avoid loneliness. Hence, "it is possible that a *cultural* component of higher education, rather than the mere economic opportunities or higher social status associated with it, is responsible for the selection effect in favor of motherhood." (Lesthaeghe and Moors, 1995: 236)

Table 2.4 shows some evidence in this way of reasoning. It shows some data on a number of reasons for having a child or more children in Spain [FFS, 1995]. A high proportion of better–educated women declare that children impart a special feeling of joy (40.56 percent), and give a sense of responsibility and help a woman to develop (21.68 percent), while a lower proportion of women with less education declare the case as so (26.73 and 7.42 percent respectively). For the less educated women, it is important that children make it less likely that one will be alone in old age (10.89 percent), and that they strengthen the relationship with the partner (9.90 percent). The higher the level of the woman's education, the less she will consider these reasons as being the most important ones for having a child or more children (1.39 and 2.09 percent respectively for the category of women with university qualifications).

Table 2.4. Reasons for having a child or subsequent children in Spain, by the woman's educational level [FFS, 1995]

	PRIMARY		LOWER–SECONDARY		UPPER–SECONDARY		TERTIARY	
	Important	Not important	Important	Not important	Important	Not important	Important	Not important
Children make it less likely that one will be lonely in old age	**57.28**	42.72	39.93	60.07	32.46	67.54	27.21	**72.79**
Children give a sense of responsibility and help a person to develop	74.52	25.48	74.80	25.20	71.18	28.82	69.38	30.62
It is a great experience to see children grow up and develop	96.71	3.29	96.20	3.80	91.77	8.23	92.62	7.38
It provides satisfaction to see the family being continued	94.83	5.16	95.74	4.26	90.83	9.17	84.14	15.86
Having children imparts a special feeling of joy	95.65	4.45	95.95	4.05	95.40	4.60	92.95	7.05
Having children strengthens the relationship with a partner	**66.84**	33.16	59.39	40.61	50	50	43.75	**56.25**

Source: FFS (1995). Own elaboration.
Notes: All birth cohorts included. The question was: "I am going to read out a number of possible reasons for wanting a child or more children. Could you please tell me for each of them whether, for you personally, that reason is important or not important at this time?" [Question 614]

	PRIMARY	LOWER–SECONDARY	UPPER–SECONDARY	TERTIARY
Children make it less likely that one will be lonely in old age	**10.89**	2.60	.88	**1.39**
Children give a sense of responsibility and help a person to develop	**7.42**	17.11	21.68	**21.68**
It is a great experience to see children grow up and develop	23.76	20.19	23.45	23.77
It provides satisfaction to see the family being continued	**21.28**	18.92	11.06	**10.48**
Having children imparts a special feeling of joy	**26.73**	33.20	34.95	**40.56**
Having children strengthens the relationship with a partner	**9.90**	7.96	7.96	**2.09**

Source: FFS (1995). Own elaboration.

Notes: All birth cohorts included. The question was: "Of the reasons indicated as being important for wanting a child or more children, which one would you say is the single most important for you personally at this time?."
[Question 616]

2.1.6. Interrelated life–course trajectories, simultaneous decision making processes and unobserved heterogeneity

In 1991, Blossfeld and Huinink demonstrated that the level of educational attainment did not influence the entry into marriage and motherhood for women in West Germany. The authors defended that long periods in education, of successive birth cohorts of women, were "the most important factor responsible for change in the process of family formation." (Blossfeld, 1995: Preface xii) But these two common views –the human capital hypothesis and the role expectation hypothesis– cannot always be theoretically and empirically supported. Women's increasing economic independence on the one hand, and the improvement in educational opportunities (together with normative expectations that young people who are in education are not ready to marry and enter into parenthood) on the other, are incomplete explanations for the recent changes in the process of family formation.

Blossfeld and Huinink succeeded in showing that the economic theory of the family could have been traditionally supported due mainly to the specific methods and types of data used in earlier studies: cross–sectional and aggregated time–series data. The differentiation between the effects of the levels of education and educational enrollment using life course data, permitted them to test and challenge previous findings and interpretations. But, in the Blossfeld and Huinink's study, both educational attainment and enrollment are treated as exogenous factors that impact on timing and decision concerning fertility. From a theoretical point of view, however, they should not be taken as being exogenous to fertility choices (Kravdal, 2001). In other words, education and fertility might be jointly determined by common (unmeasured) determinants and therefore, must be analyzed as endogenous processes, in order to avoid biased results (Lillard, 1993; Lillard, Panis and Upchuch, 1994; Lillard, Brien and Waite, 1995). In addition, the work by Blossfeld and Huinink (1991) introduces the importance of social norms in the

interpretation of individual behavior. However, the authors do not measure them directly or indirectly.

This alternative perspective, which can be termed the ***common determinants hypothesis***, considers the timing of the departure from education and the entrance into motherhood as been potentially jointly determined. Hence, to take educational enrollment, at a given moment in the woman's life course as a predictor of her fertility will provide a biased result unless the common determinants of both processes are taken into account. Orientations towards motherhood and career are antagonistic alternatives for young women (Barber et al., 2002). Those women who do not want (or do not have the intention) to become mothers early might attend school for a longer period of time; and conversely, women with stronger fertility intentions (including higher total fertility) might speed up both processes.

Therefore, women who continue in higher education might be a selected group also possessing characteristics that favor delayed fertility, or adhering to particular norms concerning these behaviors. Educational completion and motherhood might be simultaneously driven by constant (unmeasured) common factors in value orientations and norms, that lead women to choose a specific life–course path out of a set of alternative possibilities.[15] There might also exist a reversed causality between the dependent event of having a child or more children and the explanatory educational variable. For instance, when the anticipation of having a child impacts on the decision to cease in the education. In this case, the estimated parameters in the hazard regression will also be biased and will not reflect the independent effect of education on starting a family.

In addition, women who already have at least one child are a specific group, with higher preferences for children and values that strongly emphasize the process of caring and rearing children in comparison to other women within the same educational group

---

[15] Unfortunately, as noted before, such personal preferences and the dynamic information on ideological background are unobserved in the typical demographic surveys.

(selection effect hypothesis). In other words, there are mechanisms "whereby individuals select themselves over the various living arrangements and life cycle stages depending on their prior value orientations and meaning–giving goals in life." (Lesthaeghe and Moors, 1995: 220) In this sense, "the fact that women of second/third parity are a select group may play an important role in shaping the relationship between mothers' education and higher birth orders." (Kravdal, 1992: 471) Hence, the New Home Economics theory that predicts high opportunity costs for the highly educated needs to be qualified. The choice of becoming a home–maker and having a high number of children, or the choice of becoming mother notwithstanding participation in the labor market does not depend solely on the level of education. But, it is influenced by a selection effect stemming from a woman's cultural viewpoint, which must be controlled in the analysis in order to get reliable estimates. In formal terms, the n_{th} outcome is partly determined by previous outcomes.

In sum, this work defends the proposal that education and fertility decisions are made by selecting from competitive possibilities. Also, some individual characteristics do have influence on careers at the same time because life is structured along trajectories, which are interrelated (Upchurch et al., 1995; Liefbroer, 1999). Hence, from a theoretical viewpoint, the dissertation is aimed at investigating whether previous findings regarding the increasing female economic independence (level and type of education) and educational enrollment will hold true in Spain, when simultaneous modeling is applied and the unobserved heterogeneity component is controlled. Or, conversely, it will be established whether results will demonstrate the endogeneity of both processes, (i.e., family formation decisions and educational choices are interrelated), together with the existence of individual constant (unmeasured) factors that explain a specific life–course path out from a set of alternative possibilities. "The value orientations of young women might be strongly associated with their being employed or housewives and, through this option with

still being childless or already being a parent." (Lesthaeghe and Moors, 1995: 220, 233)

The emphasis on attributes, value orientations and subjective norms does not imply that they alone completely determine demographic behavior. As presented in this chapter, other factors might also play an important role, but cultural influences are expected to explain behavior in a significant way. Cultural influences alter social structures at the macro–level, and impact on decision making processes at the micro–level. Each woman decides from various prospective combinations of options concerning education, motherhood and career, because women reach adulthood with differing aspirations for family and married life, their working lives and material well–being (Crimmins et al., 1991). But in any given cultural environment, the population of each country is heterogeneous in assimilating and accepting these social norms, and each woman displays her own preferences and tastes. The same subjective norms, beliefs, needs and value orientations influence the woman when making choices in many domains in her life. The ability of the individual to choose from different options is also recognized by Becker, but economists fail to explain heterogeneity (or the meaning of utility) by drawing on the existence of individual values. Figure 2.1 summarizes the major hypotheses presented here and those used for the empirical analyses in Chapters 5 to 7.

Figure 2.1. Summary of the main research hypotheses used in the analyses

MACRO LEVEL

INCREASED FEMALE EDUCATIONAL ATTAINMENT   INCREASED FEMALE LABOR PARTICIPATION   POSTMATERIALIST VALUES
Secularization / Individualism

SOCIO–DEMOGRAPHIC ECONOMIC SHIFTS

FAMILY SYSTEM
Second Demographic Transition Ho.

MICRO LEVEL

WOMAN'S EDUCATIONAL ENROLLMENT

Role Expectation Ho.

WOMAN'S EDUCATIONAL ATTAINMENT

Type of education Ho.

Role Hiatus Ho.

Family of origin

DISTRIBUTION OF HOUSEWORK

Bargaining Power Ho.

Catching Up Ho.

WOMAN'S PARTICIPATION IN THE LABOR MARKET

WOMAN'S VALUE ORIENTATIONS
TOWARDS FAMILY AND CAREER

Common Determinants Ho.

Societal Differences Ho

Income Constraints

Income Effect Ho.

Relative Price of Children

Human Capital Ho.

* LABOR MARKET   .
   - Wage rate
   - Return on Human Capital
   - Public Employment
   - Flexibility of working arrangements, etc.
* WELFARE STATE PROVISION
   - Income tax
   - Maternity, Parental, Childcare Leave
   - Direct Expenditure for Children
   - Child Allowances and Benefits
   - Expenditure on Childcare, etc.

PROCESS OF FAMILY FORMATION
Female heterogeneity

CHAPTER 3. THE INTERTWINING OF THE LABOR MARKET, THE FAMILY, AND THE STATE IN THE SPANISH CONTEXT

It is clear that the explanation for the apparent Spanish paradox regarding low female participation rates in the labor market and lowest–low fertility levels, cannot exclusively hinge on the conflict between the increase in female economic independence and their traditional family role. There clearly is empirical evidence that suggests that Nordic countries, for instance, have succeeded in achieving high rates in both spheres. In this sense, it has been argued that "there are different family models due to the existence of different types of welfare states and labor markets" (Bettio and Villa, 1996, cit. in Bernardi, 1999: 65). In fact, female education, cultural attitudes, general labor market conditions, and state provisions remain as the major determinants of female labor force participation and fertility. The characteristics of the Spanish institutional context (most particularly the rigidity, imperfection and precariousness of the labor market for all workers and especially for women and the young) and the scarcity of policies aimed at reconciling a career and family life are pervasive on family formation in general, and to fertility in particular (Ahn and Mira, 2001; Jaumotte, 2003).

This chapter provides the context within which formal theory described in Chapter 2 will be applied, and for which the empirical results will be interpreted. I firstly analyze the changes that have occurred in the timing of the most significant events in the

transition to adulthood in recent decades (Corijn and Klijzing, 2001; Baizán, 2003). I emphasize the similarities and differences across cohorts in comparison with other Western societies, in order to see whether there are convergent trends or whether inter–country variation persists and helps to explain different fertility outcomes. A description of the dynamic interconnection of the labor market, the family and the state follows. As noted, these three areas combined provide the analytical framework, which helps us understand past and present fertility trends.

3.1. Transition to adulthood in Spain over recent decades

Adulthood is an important stage in the individual's life as it marks the beginning of a wide scope of careers in general, and the dual relationship of education/work and family, in particular (Buchmann, 1989). Successful transition to adulthood provides the basis for autonomy and security, which establishes the individual as a truly mature and integrated member of society. A number of crucial intertwined events take place during this period in one's life: departing from the educational system, attaining the first job, leaving the parental home and establishing a new household, entering into the first union and parenthood. But the timing in the sequence of these events has varied across countries, as a by–product of the interplay between a multitude of socio–economic and socio–cultural opportunities and constraints, in both the institutional and personal contexts (Corijn and Klijzing, 2001: 3).

In Spain, the transition to adulthood has undergone profound changes, and has been repeatedly postponed in the past two decades (Castro Martín, 1993; Baizán, 2001; Billari et al., 2001; Baizán, 2003). Today, the youth find it difficult to "get started", due to longer periods spent in the educational system and the delay in the transition to stable employment (Esping–Andersen et al., 2002). Given the difficulties in becoming economically autonomous, youths postpone departure from the parental home and consequently, the formation of their own households, entry

into a union and embarking on parenthood. It is now the case that each of these events appear as a sine qua non condition for the next, and the result is an infinite delay in becoming adults. This well known "postponement syndrome" in Southern European countries (Livi Bacci, 1997) is likely to continue well beyond the age of thirty for younger cohorts. Thus, the issue of when and how the transition is achieved is important because it is a crucial determinant in the individual's ulterior lifestyle and well–being.

The nexus between the trajectories of the individual in the transition to adulthood and the intertwining of the labor market, the family, and the state constitute a solid framework in understanding past and recent trends of fertility. This is so in the sense that cross–country differences in the individuals' transition to adulthood depend to a great extent on the typology of the welfare state to which they belong to (Esping–Andersen, 1999). Each place provides a different institutional context that, through combinations of specific opportunities and constraints, shapes the transition to adulthood for citizens in diverse ways.

Esping–Andersen's three worlds clearly capture the reality of the recent past (Esping–Andersen, 1990). Southern European countries, the so–called "familialist" regimes, are characterized by a strong commitment to the maintenance of the traditional family in the provision of social services. Neither the state nor the market provides certain services, because an ability on the part of the family to assist its members is assumed. In addition, each regime type is associated with a dominant pattern of stratification, and the stratification of the familialist countries regarding entitlements to social rights is not universal. It is based on the individual's position in the labor market, which does not guarantee equal opportunities for all individuals, and does not eliminate divergences among them.

The assumption is that the family has unlimited resources in providing welfare. It is also taken as given that the social risks of members diminish the serious consequences that the postponement of the transition to adulthood could otherwise provoke, for a high proportion of young men and women who continue in the parental

home beyond the age of thirty. It is precisely among the youth that social risks are higher, because this age group is frequently exposed to unstable employment and high unemployment rates. Long delays in attaining to the first job and related transitions to adulthood, might perpetuate serious risks of social exclusion for the population of lower social classes. In other words, the resources of parents become more important if young women and men are forced to rely on their parents for longer periods, making the youth more vulnerable, fragile and threatened (Esping–Andersen et al., 2002: 20, 27; Kohli, 2004: 286). The incapability of affording the expenses related to accommodation (rental or purchase) does nothing to encourage employed youth to leave the home of their parents (Baizán, 2003: 8).[1]

The assignment of important responsibilities to the family, as a key welfare provider, together with the state and the market is often based on the traditional gender–division of labor within the family, which provokes "unbalanced outcomes regarding rights and duties for both women and men." (León Borja, 2002: 137, 139) Working mothers' activity in the labor market, for instance, is more often than not possible in Spain as an outcome of the kinship family model based on grandparents –generally women's mothers– who care for grandchildren while their daughters work. However, young women perceive their future with increasing uncertainty, and more and more women refrain from forming a household and entering into motherhood. This postponement might have important societal consequences, such as very low fertility levels; because many of them do not catch up to the desired number of children at a later age, as they find it difficult to reconcile work and family life. Prolonged lowest–low fertility constitutes a threat in the financial viability of the Spanish welfare state in the future (Esping–Andersen, 1999: 70).

---

[1] In Denmark, for instance, the proportion of youths who live independently (even though they do not have a permanent job) is much higher than in Spain (Sarasa, 2001).

3.2. Departing from the educational system and attaining first employment in the Spanish labor market

It has been argued that the increase in educational enrollment has been accompanied by a postponement in family formation. In Spain, both the process of departing from the educational system and that of embarking on parenthood, have increasingly been postponed (Castro Martín, 1993; Baizán, 2001; Billari et al., 2001; Baizán, 2003). The Spanish educational system underwent important transformations during the seventies and, particularly, during the eighties. Changes were aimed at promoting both secondary and university studies, and these changes primarily favored the emerging middle classes (Puelles Benítez, 1986; Boyd–Barret and O'Malley, 1995).[2] Data demonstrates that 75 percent of women in the 1945–54 cohort finished school when they were 16 years of age (16.6), while the 1965–70 cohort members did so at age 22 (22.1). For men, the age at leaving education has also increased: 75 percent left education at age 17 (17.8) and at age 22 (22.4) respectively.[3] The average level of educational attainment, therefore, has risen across cohorts. Now the proportion of the population that has attained at least upper secondary education has increased from 18 percent (birth cohort 1937–46) to 57 percent (birth cohort 1967–76).[4] Secondly, the percentage of the population that has attained university studies

---

[2] With the Ley General de Educación (1970), the minimal compulsory age to leave the educational system was established at 14 years (increased in the nineties by the Ley de Ordenación General del Sistema Educativo to 16). In addition, the Ley de Reforma Universitaria (1983) played an important role in the multiplication of the number of universities. However, the territorial distribution of these centers was aimed at "shortening" the distance between the educational center and the place of residence of the students, which has had clear consequences in the postponement of leaving the parental home.

[3] Same cohorts. Source: FFS 1995.

[4] Source: OCDE 2001.

ranges from 10.5 percent to 35.5 percent for the afore–mentioned birth cohorts.

Regarding the educational attainment of the youngest cohorts however, the average level of educational attainment in Spain seems to be "lengthy, but inefficient" from a comparative point of view (Baizán, 2003: 12). In 2001, only Italy (57.5%) and Portugal (32.5%) have similarly low proportions of the population aged 25–34 attaining upper secondary education at a minimum; far below the figures of Continental and Northern European countries (for instance, 78% in France, 85.5% in Germany, 74% in the Netherlands, 86.5% in Denmark, 87% in Finland, 93.5% in Norway, and 90.5% in Sweden). The proportion of young men and women aged 25–34 who have attained tertiary education (35.5 percent), however, is equal or even higher to the figures in North and Western Europe,[5] and is above those in the Southern European countries (13.5% in Portugal, 11.5% in Italy). But, it has been frequently argued that the university constitutes a sort of "parking lot" for youth who would be otherwise unemployed due to the inefficiency of the educational system in Spain and the difficulties they encounter in attaining their first job (Garrido, 1992, cit. in Baizán, 2003: 13).

However, higher than average educational attainment across cohorts has diminished, while not abolishing class and gender differences in Spain. Firstly, there has been an important reduction in the differences between female and male educational attainment. The gender gap is indeed narrowing across cohorts and it disappears for the youngest groups. In fact, educational attainment of women at certain ages has even surpassed slightly that of men, and women have joined the work force in record numbers. This demonstrates an increasing commitment to a life–long attachment to the labor market; resembling the outlook of male workers (Gerson, 1985: 7). The proportion of women who have attained at least upper secondary education in 2001 has gone

---

[5] 34.5% in France, 21.5% in Germany, 26.5% in the Netherlands, 29.5% in Denmark, 38% in Finland, 35% in Norway, and 36.5% in Sweden.

from 14 percent (birth cohort 1937–46) to 59 percent (1967–76). Corresponding figures for university education are 7 and 39 percent respectively.[6] A significant 55.6 percent of the gross university enrollment ratio was made up of women in the late 1990s (Bricall, 2000).

But, horizontal gender segregation in the educational system still persists, and this might have important consequences in female labor integration (Blau, Ferber and Winkler, 1992: 159 & ff; Crompton and Sanserson, 1990; Hakim, 1997) and in female demographic behavior. Most occupational groups nowadays have a higher female representation, because women are more evenly distributed across occupations in the 1990s than in the past (Hakim, 1996: 154). But, some occupations reflect higher sex segregation scores across age cohorts. Some authors argue that the explanation for this might be that "in practice, many women use their educational qualifications to improve their prospects in the marriage market rather than the labor market." (Hakim, 1996: 161) However, a more plausible explanation may be that the difficulties that now face most working women with children, tend to increase the subject–choice and occupational segregation. This is given that certain "women–friendly jobs" offer security, good salaries and more flexibility and make certain careers more compatible with a family. Women know this, and they may consequently make choices between different lifestyles. The aspirations, attitudes and behavior of the group of women who choose certain fields of studies during education and who decide on the so–called "mother–friendly employment" later in life, are in sharp contrast with the aspirations, attitudes and behavior of other female groups (Jonsson, 1999: 394).[7] In Spain, data confirms this bias in

---

[6] In both cases, the average level of female educational attainment for the youngest cohort (1967–76) is higher than that of men's. Male figures have gone from 22 to 55 percent for upper secondary education and from 14 to 32 percent for university studies.

[7] Blossfeld also showed that there had been an increasing trend in the field–of–study and occupational segregation across age cohorts in

educational choice, when we see the proportion of women with tertiary education educated in specific subjects categories traditionally viewed as feminine: 76 percent in health and welfare programs, and 72 percent in humanities, arts and education.[8]

Secondly, increased education alone has not been a sufficient mechanism in effectively eliminating class differences in Spain. Previous research shows that the successful equalization of educational opportunities in Sweden, for instance, has been possible thanks to the effectiveness of the Swedish system in reducing differences in everyday opportunities and lifestyles (Shavit and Blossfeld, 1993: 101–129). In Spain, the imperfection and precariousness of the labor market obliges more and more youths to invest in education as the scarcity of job opportunities is strongly linked to the individual's educational attainment (level and type). Although, today a university degree is not a guarantee of a "good" job and this is especially true for women. The lower the woman's level of education, the lesser her opportunities of gaining employment and of becoming independent from her husband and the burdens of housework and childbearing. This is a crucial issue since "female participation in the labor market is also the nexus of concerns about gender equity, poverty and child well–being." (Jaumotte, 2003: 5)

The lack of equality in living conditions in Spain, thus, has probably been the major determinant in the persistent association between social origins and educational opportunity (Erikson and Goldthorpe, 1992; Shavit and Blossfeld, 1993; Dronkers, 1993). Parental support is essential in order to access to the educational system. Scholarships, fellowships, funds or state services such as transportation, meals, housing, etc. are scarce and insufficient.[9]

Germany, despite the equalization of educational attainment for men and women (Blossfeld, 1987).

[8] Mean in Europe: 69.3 and 69.7 percent respectively. Percentage of tertiary qualifications awarded to women, by subject category in 2000. Source: OECD, 2001.

[9] In fact, the percentage of GDP spent in education has considerably increased in the last two decades but it presupposes that the family of

Students rarely work while they are at school and they postpone attaining first jobs due to important difficulties in the access. As a result, they also postpone the departure from the parental home and they lengthen the period of exposure to parental resources (both material and social capital). This may serve to accentuate social differences.

The comparative inefficiency of the educational system in Spain is also reflected in the increasing postponement in attaining the first job. The Spanish educational system does not encourage undertaking work experience while the individual is in education, and this has a two–fold effect. On the one hand, contrary to what happens in other contexts (for instance, in Nordic countries), the system discourages further education for adults; on the other, it does not facilitate a smooth transition from education to the first job as there is often a lack in the practical knowledge required in the specific labor position, and this non–experience penalizes graduates in their search for employment (Baizán, 2003: 12&ff.). Half of men and women in the oldest cohort (1945–54), found the first job when they were 15.5 and 16.8 years respectively.[10] Focusing on the youngest cohort (1965–70), the median age for getting the first job is 18.8 for men and 20.1 for women. Therefore, younger cohorts also postpone the attainment of their first job.[11] In addition, the transition from the departure from education to the first job has increased across cohorts, being 1.9 years (males) and 2.3 years (females) higher than the median age at leaving school for the youngest.

From the eighties onwards, the general postponement in attaining the first job coincided in Spain with the incorporation of women into the work force in historically high numbers. The rise is not the result of changes in the behavior of all women, but from

origin supports students (even adult students) in all their basic needs (Baizán, 2003: 13, footnote 4).

[10] Source: FFS 1995.

[11] These figures would undoubtedly be bigger if the "first job" were to be defined only as a stable, secure and quality–job and not only as the first employment achieved.

the progressive entry of younger cohorts into the labor market as they reached working age. On one side, the proportion of women who have traditional housewife roles and never participate in the labor market has diminished in the last two decades,[12] while the proportion of working women with a life–long attachment to the labor market has increased. In other words, shifts in female work patterns have occurred because young women have altered their preferences regarding work and family. The consequence is an increasing inter–dependence between the family and a career (Liefbroer, 1999).

The greatest increase in female labor force participation occurred in Spain between 1981 and 1991; much later than in the other European countries. In 1980, the female participation rate was 28.5. Two decades later, it was 43.8.[13] Despite the important increase over two decades, the proportion of women in the labor market is low from a comparative point of view, particularly for lesser-educated women.[14] Currently, almost all highly educated women participate in the labor market, irrespective of their civil status. As happens in contexts such as Scandinavian countries or in the United States, in which the female participation in the labor market is high, better–educated women remain in the labor market and do not become housewives when they get married. However, the proportion of less educated married working women is much lower in Spain than in the afore–mentioned places, especially among low educated women with young children –only 20/25 percent among the less educated (40/50 percent in the other

---

[12] Mclanahan et al. show that today the traditional housewife role almost nowhere is higher than 30 percent (Mclanahan et al., 1995). In the Scandinavian countries, for instance, almost half of all household income corresponds to women's earnings (Esping–Andersen et al., 2002: 69).

[13] Source: OECD 2002. *Society at a Glance.*

[14] Only Italy (41.1) and Greece (41.2) have similar low female participation rates in Europe. The Nordic countries –Denmark (71.4%), Norway (73.8%) and Sweden (73.5%)– show the current highest female participation rates. In these countries, the increase was strongly linked to the expansion of the educational system and the feminist ideologies.

advanced societies), and less than 15 percent among working mothers (OECD, 2001c: Table 4.I, cited in: Esping–Andersen et al., 2002: 39; footnote 12&44). One of the explanations of this is that employers impose high costs on motherhood: they prefer males because female workers might diminish their productivity due to births and children. In fact, Spanish employers often force women to contractually agree on their dismissal when accepting a job or they communicate that their contract will not be prolonged if they become pregnant at a later date (Esping–Andersen et al., 2002: 59, 89).

Integration of women and the young in the labor market and their labor prospects are thus highly uncertain in Spain, because it seems clear that low–paid jobs, the precariousness of the temporary employment and the high unemployment impact mainly upon these two groups (González López and Solsona Pairó, 2000: 73). Spanish policies have not encouraged women to maintain a strong attachment to the labor market, especially when they have young children. Consequently, young women are especially thoughtful before establishing a new household and entering into motherhood. In 1984, the Law 863 on temporary employment was passed.[15] The measure was conceived as a strategy aimed at making the labor market more flexible: the new temporary contracts were only applied to the new workers and the protection provided to former permanent workers was guaranteed. However, nowadays the share of employment of a temporary within total dependent employment is one of the highest in Europe: 32.1 percent (30.6 percent for men and 34.6 percent for women).[16] These types of temporary contracts are characterized by an important loss in earnings over time given the wage discrimination and the high risk of unemployment in the short term. In addition, such contracts impose heavy constraints regarding further knowledge, time flexibility for personal needs, and the access to paid sick leave or parental leave (Baizán, 2004: 3).

---

[15] Ley 863/1984 de Contratos Temporales sin Causa Objetiva.

[16] European country mean: 10.7 in 2000. Source: OECD (2002). *Society at a glance.*

In fact, male, and especially female, unemployment increased to record numbers during the eighties. In 1980, the male unemployment rate was 10.8. By 1985, it had raised to 20.1. From that time onwards, it remained at high levels. Corresponding figures for women were 12.8 and 25.1, respectively. In addition, female unemployment rates continued to increase during the 1980s and 1990s (30.6 in 1995).[17] In the beginning of the 2000s, the standardized unemployment rate bottomed out at 10.6 in Spain. Although unemployment continues to be higher for women than for men, irrespective of female educational attainment: 6.5 for men and 14.7 for women. Only Italy (9.4) and Greece (10.4) had similar levels of unemployment and gender differences in unemployment rates at that time.[18] Also 44 per cent of the total unemployment is long–term unemployment (>12 months); which is above the European average. The highest female employment levels, the lowest female unemployment rates, the smallest differences by gender and educational attainment, and the most insignificant gender wage gaps, appear in Scandinavian countries.

The selected flexibilization of the labor market from the eighties has therefore provoked an increasing division between those inside and those outside the labor market. The protection given to stable workers coexists with an absolute absence of regulations for those who do not have a stable and/or a permanent position in the workforce. This implies polarization and leads to a great number of social problems, as it certainly impacts upon workers' career prospects, it reduces their resources, and generates new forms of insecurity that affect the opportunities of individuals and those of the dependent members in the household. In fact, social differences persist and are likely to become strengthened in Spain due to the accentuated division between the increasing number of individuals/households with uncertain prospects in the labor market and the strong dual–earning households.

---

[17] Source: INE 2003.

[18] Italy: 5.9 for men and 12.9 for women; Greece: 6.1 / 14.9. Data year: 2001. Source: OECD 2003.

All of this implies substantial risks to family formation and fertility in Spain. Young people, and particularly young women might be permanently unemployed, or attain low–paid or unstable jobs. In other contexts, this may occur temporarily, for instance when the individual leaves school and enters into the labor market for the first time. In Spain, for the most part the integration of workers into the workforce is not linked to a single event (attaining the first job), but it is postponed repeatedly and sometimes it does not occur at all (Baizán, 2003: 17).[19] In fact, a significant proportion of women have a high probability of remaining persistently entrapped in labor market exclusion, in such a way that their fertility decisions are affected (Esping–Andersen et al., 2002: 6, 22, 33).[20] Additionally, this affects less educated women. Currently, 41 percent of the youngest women (aged 25–34) have not attained at least upper secondary education,[21] and this group of women finds it difficult to find their way into the labor market and maintain an interrupted career.

Low female participation rates in Spain also depend on the lack of reforms on family and social policy, and the scarcity of measures aimed at maintaining women with young children in the labor market. In fact, the labor market is characterized by a lacuna in the available jobs in the public sector, with few possibilities for part–time employment. As to the former issue, it is generally expected that women with regular and protected employment, such as the so–called "women–friendly jobs" in the public sector, have much higher birth rates than those who do not (Hoem, 2000; Baizán, 2004). It has been proposed that higher levels of public employment makes it easier for women to combine work and motherhood, because "people employed in the public sector have commonly more protective labor contracts and more flexible

---

[19] Baizán states that this precariousness might be permanently prolonged up to age of 35 for a high proportion of youths.

[20] Esping–Andersen distinguishes between temporary and persistent deprivation. It is persistent deprivation that affects fertility decisions because it constraints the individual's opportunities.

[21] 45 percent of men in the same age group. Source: OECD 2001.

working hours than most others." (Garrido and Calvo, 1993; Hoem, Prskawetz and Neyer, 1999: 11)

In this sense, research already carried out has shown the comparative gap in employment rates in women–friendly jobs as measured by percentage point deviations from Denmark; where the so–called "soft economy" jobs are plentiful. Spain displays a –2.2, and –10.7 values in order to indicate the employment rates within the education sector on the one hand, and health, and social work sector on the other (Esping–Andersen et al., 2002: 76–77 & Table 3.2). Regarding public sector positions, the difference is even greater: 53 percent of all female posts are public jobs in Denmark, while female public employment accounts for a much smaller figure in Spain where less than 10 percent of women occupy public employment and among them, 27.81 percent do not have a permanent contract.[22] Consequently, the majority of working women have more demanding jobs, are not able to spend as much time as desired with children and/or suffer the stressful double burden of work and family. In addition, the advantages of education might not be reinforced as much as they are in Denmark, and in all those countries where the public sector is the main employer of better–educated women.[23]

---

[22] The total share of public employment over total salaried employment in Spain is 19.48 percent in 2003 (9.91 percent for men and 9.57 for women). INE, 2003.

[23] This solution has been strongly criticized by some authors, arguing that inequality still persists. Women are present in the labor market in higher numbers, birth rates are relatively higher and earning differentials are reduced in these countries, they say. But, there exists a strong gender–segregation in the labor market (Wright et al., 1995; Hakim, 1996: 6, 150). In fact, the expansion of the so–called "soft economy" jobs offers security, good salaries and flexibility for mothers, but they do so at the cost of "a virtual female employment ghetto." (Esping–Andersen et al., 2002: 75) Despite the paradox and the criticisms, I think it is interesting to highlight that the equality of payment, the guarantee of universal social rights and for the most part "women–friendly jobs" (mostly in the public sector) offer great benefits to women and to fertility levels.

As to the latter issue, flexible labor policies, these "increase employee productivity by decreasing absenteeism and turnover and they positively influence family functioning by decreasing work/family conflict." (Hoem, Prskawetz and Neyer, 1999: 32) Comparatively speaking, the availability of part–time work is rare in Spain (less than 16 percent of employed women aged 25–54 in 1999),[24] and it is characterized by two dimensions. Firstly, part–time jobs mostly offer low level occupations requiring little in terms of qualifications and offering limited chances of upward mobility. Secondly, a high proportion of part–time work is only temporary employment in Spain. Firms create part–time employment in order to obtain cheaper and more flexible labor. Therefore, female part–time jobs are often characterized in Spain by "poor wages and benefits, low job tenure, and absence of training, reducing women's prospects of promotion and putting them at a higher risk of dropping out of the labor market." (Jaumotte, 2003: 12, 21&ff) Both dimensions, together with the disincentives in the type of taxation, explain the decline in the preferences for part–time over the past two decades in Spain.

But, the difficulties faced by young adults in the labor market have not been compensated by income supplements or other services from the welfare state. Young people cope with this labor precariousness by drawing on the support obtained from the family of origin. For instance, today almost one fourth of the unemployed population is made up of youths under 25 years of age.[25] In Spain, participation in the labor market is the main way of accessing to welfare benefits. As a result, there are no social benefits for those in search of the first job, and unemployed young men and women mostly remain in the parental home. The family kinship model in Southern European countries provides welfare

---

[24] 54.3 percent in the Netherlands and 38.6 percent in UK. Source: OECD Labor Market Statistics 2000.

[25] 28.7 (2000) and 22.4 (2003). In the past, the proportion of youths among the unemployed population was even higher: 47.6 (1985), 31.8 (1990) and 45.1 (1995). Source: INE 2003; Baizán 2003.

and assumes protection from the risks of poverty.[26] For instance, in Italy 90 percent of the unemployed aged 20–30 depend exclusively on parental support (Esping-Andersen et al., 2002: 32). In fact, it has been sustained that in Southern Europe "[t]he role played by the family in coping with very high unemployment rates appear very clearly as an important factor explaining how such high levels could be socially acceptable without provoking a major crisis." (González–López, 2002: 35–36; Jurado, 2001). However, the strong bonds of solidarity between parents and children strengthen and prolong family dependence, because individuals have extremely low migration rates,[27] and they encounter more difficulties in changing their place of residence in order to access to a new (better) job.

Outside of other considerations of a more psychological character, family dependence is expected to be incompatible with assuming responsibilities as a homeowner, partner and parent in these countries. No doubt, being hosted for a longer period might allow for the accumulation of savings towards accommodational rent or purchase (Bernardi and Poggio, 2002: 8), but the postponement in the departure from parental home might also serve to accentuate social differences in this sphere (Bernardi 2000). More and more young people cannot become homeowners on their own because they cannot count on "sufficient resources, stability in the household situation and prospects of stability in the future." (Feijten et al., 2003: 233–234, 250). The capability of accumulating financial resources might then depend, to a great extent, on the amount of economic and capital cultural that is available within the family.

---

[26] "Family support of young unemployed people in Southern Europe (however) might not avert youth poverty when households are workless and lack resources" and this can accentuates more the social differences (Esping–Andersen et al., 2002: 44).

[27] In fact, the Spanish educational system provides relatively few opportunities to change the place of residence in order to study, and the overwhelming majority of students live in the parental home (Billari et al., 2001).

House purchase has been the most dynamic demand component in Spain since the end of the 1980s, while prices have steeply increased (Girouard and Blöndal, 2001; OECD, 2003). Consequently, most young people are out of the housing market, due to the high prices of purchase and the absenteeism of the state in providing subsidizing housing. In 2000, less than 15 percent of housing was rented (only 2 percent of subsidized renting), far below the European average.[28] Most public support comes in the form of fiscal deductions, which do not benefit youths as they are situated in the lowest tax ranges and more often than not do not reach the minimal amount for taxation (Baizán, 2003: 22). The issue of exactly when individuals buy homes, relative to work and family events, is a matter of interest for our research purposes. Unfortunately, housing data is not available in the FFS survey used in the present dissertation and this remains a topic for further research in the future. Past and present trends in Spain regarding family formation follows in section 3.3.

3.3. The family formation process in Spain: entry into the first union and parenthood

The freedom to choose in the timing and in the type of the transitions in one's life differs among countries, due to contextual variances. As illustrated in the introductory section, some trends in the life course trajectories of individuals are increasingly similar in many European countries, but cross–country variation still persists (Van de Kaa, 1987; Lesthaeghe and Surkyn, 1988). Strict defenders of the second demographic transition assume that differences between Southern European countries and Northern and Western Europe, relate exclusively to the speed and/or delay with which changes have occurred (Múñoz Pérez, 1989; Kiernan, 1993). Therefore, "the South will experience a similar structural

---

[28] The new socialist government elected in March 2004 aims at increasing this figure up to the 20 per cent in the next coming years [Current European mean: 18 percent. Source: http://www.ine.it]

transformation of the family system but with a delay of one or two decades." (Blossfeld, 1995: 19)

Opponents argue, however, that there are profound inter–country divergences regarding the prevalence of living arrangements such as non–family households, unmarried cohabitation, and unmarried parenthood (Kuijsten, 1999; De Beer et al., 2000). Liefbroer (1998) uses certain indicators of the changes that constitute the second demographic transition hypothesis: the total fertility rate, the total first marriage rate, the percentage of extra–marital births (as an indicator of non–marital cohabitation) and the total divorce rate. In his view, there has been a strong interrelation in the trends that have occurred in these indicators from the sixties to today. Spain scores low in many of these patterns. In this section, I describe the difficulties young men and women currently encounter in establishing a family, and I will outline the characteristics of the Spanish family system over recent decades.

Older birth cohorts formed families and entered into parenthood relatively early in Spain. Most women aspired to getting married and becoming housewives. Men directly left school for a stable job. Relatively good conditions, in terms of stability and permanence, were guaranteed to most workers at that time. Parenthood could then be seen as a common and immediate event in the life. However, younger birth cohorts, especially females, have changed their work and family preferences and young women nowadays show a clear preference for a life–long attachment to the workforce. Indeed we seem to be in the midst of a relatively recent female revolution in which young women, due to increasing "freedom of choice" in comparison with that of their mothers, appear also to be more unstable and uncertain in both individual and career paths than they were in the past (Esping–Andersen et al., 2002: 2). As a matter of fact, young women have progressively encountered more difficulties as they enter into the labor market. This explains why, despite the general tendency towards religious secularization and the emphasis on individualism that characterize the recent shifts in family

formation (Alwin, 1996; Corijn and Klijzing, 2001), the Spanish youth continues to postpone union formation, and "any postponement in the marriage timing is likely to imply a further delay in leaving the parental home." (Baizán, 2001: 282)

In fact, leaving the parental home occurs in Spain much later than the transition point at the end of the educational enrollment, and the start of the first employment for both men and women. According to FFS data (1995), half of men and women in the oldest cohort (1945–54) left the parental home when they were 25.6 and 23.1 years, respectively. Focusing on the youngest cohort of individuals (born after 1965), the median age at leaving the parental home is somewhat older; 27 years for men and 24 for women.[29] More recent data, however, show that the postponement trend has progressively risen such that at the end of the 1990s, the median age at leaving the parental home is 29 for men and 27 for women (Baizán, 2003: 21),[30] and it is likely to go beyond age 30 (Baizán, 2001: 284; Jurado, 2001). In Europe, the largest cross–country differences in the family formation process correspond to this dimension (Billari et al., 2001). In Northern Europe, the median age for leaving the parental home occurs for men around 21–23 years, and for women around 20–22 (Corijn and Klijzing, 2001).

In addition, not only are differences related to the timing but also to the type of departure. Contrary to what happens in other European countries, most men and women in Spain follow the standardized traditional transition of leaving the parental home in order to get married, and this trend even increases from older to younger birth cohorts (Blossfeld, 1995: 12; Baizán, 2003: 23). Very few depart from the parental home in order to live independently, before union formation. Today, the highest average ages in departing from the home are found in Spain, Italy and

---

[29] For the youngest cohort, data are right censored even before 50 percent of the sample had experienced this transition so it is only possible to know the trend, not the exact inter–quartile Q_2.

[30] Source: European Community Household Panel (ECHP) Survey , 1994–98.

Poland (Corijn and Klijzing, 2001), where the first departure from the parental home is strongly related to the start of the first (married or unmarried) union. The fact that the Spanish youth can rely neither on the state nor on the labor market to fulfill certain needs, and that they spend long periods at the parental home limits the possibility of living alone before forming a union, which is a common phenomenon in other countries. For instance, less than 5 percent of men and women leave the parental home in order to start a union in Sweden.[31] In France, only half of the youths do so (Billari et al., 2001). It is argued that this scarce, almost non–existent, type of departure from the parental home affects the lifestyles and preferences for most Spanish young people.

The increase in the school enrollment is seen as competing with family life, due to the restrictions in time and money. And consequently, it implies the postponement of family formation in Spain and in all European countries (Blossfeld, 1995). But, the incompatibility between educational enrollment and the departure of the parental home is stronger in countries with less supportive policies regarding scholarships, housing subsidies and free transport, among others. "The more generous a social welfare regime is, therefore, the less likely it is that young adults will hesitant about assuming responsible adult roles." (Corijn and Klijzing, 2001) In Sweden, for instance, half of the men and more than 70 percent of the women leave the parental home even though they are still in education (Billari et al., 2001).

Increasing postponement is also found in the entry into first union formation and parenthood in the Spanish context. The postponement in the timing of marriage is found in both Catholic and non–Catholic countries; but variations in the median age at marriage persist. The median age for the first union for men and women in the oldest cohort (1945–54) was 26.1 and 23.4 years respectively. Focusing on the youngest cohort of individuals (born after 1965), the median age has risen up to more than 28 years for

---

[31] Sweden is also one of the countries with an almost total subsidized coverage to students.

men and 25 for women. Postponement in the union formation implies "a decline in the number of women married in the prime fertility ages and hence a reduction in reproductive potential." (Delgado, in: Blossfeld, 1995: 197, 208). Cohorts born in 1960–1965, and particularly the youngest cohort born after 1965, show also a postponement trend with respect to initial parenthood. Longer periods in education, and a wider use of contraceptive techniques, permit better family planning. Almost three–quarters of men (81 percent) and more than half of women (54.5 percent) from the individuals born after 1960, remain childless by the age of 30.[32]

It has been argued that "women delay marriage and fertility for the simple fact that they are participating in the educational system and not because the have accumulated greater stock of human capital." (Blossfeld and Huinink, 1991: 147). However, education is also viewed as one of the most important determinants of the timing of the first birth in Spain (Castro Martín, 1992, 1993). The opportunity cost of motherhood is extremely high for the youngest better–educated women, who display a clear preference for a life–long attachment to the labor market. In Spain, childbearing responsibilities are often shared according to traditional gender roles. Child rearing and employment are rarely fully compatible, and a withdrawal from the workforce threatens the woman's position in the labor market and her upward mobility (Kreyenfeld, 2000: 1). As a result, more and more better–educated women forgo motherhood, or at least postpone it, until they have left the education system and are settled in the labor market (Brewster and Rindfuss, 1996). Delays in the age of the first birth are not always accompanied by a catch up effect at a later age and consequently, they affect the woman's overall fertility level (Kohler, Billari and Ortega, 2001; Ortega and

---

[32] Median ages at first birth for the 1945–54 birth cohort: 27.3 for men and 24.3 for women. Corresponding figures for individuals born after 1965 increases to more than 30 years for men and 27 for women. Source: FFS 1995.

Kohler, 2001). Spain, with Italy, is one of the countries with the lowest–low fertility in the world.

Period total fertility rates (TFR) constitute an easy way of measuring fertility levels and trends.[33] In Spain, as happened in almost all industrialized countries, fertility has declined to unprecedently low levels since the eighties. Spain's TFR peaked in the seventies (2.90 in 1970, 2.80 in 1975 and 2.20 in 1980), and then dropped dramatically. From 1985 onwards, the average number of children per woman has decreased to a level that is almost 40 per cent below the replacement level (1.64 in 1985, 1.36 in 1990, 1.18 in 1995 and 1.24 in 2000). First–order births imply the most significant variation, which went from 37.87 per cent of total fertility in 1975 to 52.12 per cent in 2000. Corresponding figures for second–order births are 30.09 and 36.85 respectively, i.e., a six–percentage gain in total fertility is attained. Profound declines for third and subsequent births lead to a decrease in the final family size.

Marriage has also undergone profound changes in Spain. Now marriage has become more of an individual choice than an economic or social need. Marriage rates displayed a decreasing trend for a large part of the eighties and nineties, but the decline has ceased since 1998. Marriage has been increasingly postponed, but it is still a pivotal event in the lives of Spaniards. In 2000, the portion of first marriages out of the total number of marriages is 93.4 percent for men and 94.6 percent for women.[34] Research points to the fact that marriage might be more selective in Spain, or Italy, than it is in other countries, where marriage is no longer the most important option for couples who want to live together. In Sweden or France, for instance, where marriage is less traditional, the impact of the educational level for partners might decrease, and be less important than in Spain. In Spain, selection is still expected to continue (Blossfeld, 1995: 13).

---

[33] Measured by adding age–specific fertility rates for each year of interest.

[34] Source: INE 2003.

In Northern and Central Europe, a high proportion of marriages are preceded by a period of non–marital cohabitation. In France, more and more consensual unions are not followed by marriage (Corijn and Klijzing, 2001). However, the increasing postponement of first marriage has not gone hand in hand with the inclusion of less traditional living arrangements in Spain. There, there seems to have been relatively limited transformations in the way individuals form a family or a household. The increasing pluralisation of household structures seems not only to apply to the younger birth cohorts in Spain (Baizán, 2001: 280). However, unmarried cohabitation is not a common alternative: only 1.27 and 4 percent of the population aged 18 or over in 1991 and 1995 respectively (Delgado Pérez, 1997). In addition, for the most part unmarried cohabitation is simply an initial or a temporary measure prior to the entry into a marriage. It is argued that policy disincentives and the dominance of traditional cultural values might explain the cross–country variations that exist in this sphere (Van de Kaa, 1987; Lesthaeghe and Surkyn, 1988; González–López, 2002: 32).

The disconnection between the first marriage and initial parenthood, which characterizes the second demographic transition hypothesis, does not yet apply to Spain with the same intensity it does in other countries. The reversal of the marriage–parenthood sequence, i.e., the proportion of non–marital births is increasing (from 2.25 in 1960 to 16.3 in 1999), but it is still low in comparative terms. In Italy and Spain the rule still remains that women are married when they have their first child, and so parenthood is delayed as marriage is postponed. In fact, more than 90 percent of the children of parity one are born within a marital union in Spain. Sweden (53) and Denmark (46.5) have the highest percentage of births outside marriage.[35] In these countries, the embarking on the motherhood within a consensual union is more common, than within a marital union. Again, contextual differences between countries help to determine the degree of

---

[35] Source: Council of Europe, 2000 and EUROSTAT, 1998.

decoupling of events and the prevalence of reversed orders. Those countries that are likely to restrict opportunities for decoupling the departure of the parental home and first marriage, are also more reluctant in reversing the order of marriage and parenthood, and vice versa (Corijn and Kiljzing, 2001: 8).

The introduction of divorce also occurred at different rates in European countries. Spanish women born in the late stage of the Francoist regime, have had more opportunities than women born earlier. The 1978 Spanish Constitution legalized contraception. It also imposed, on the one hand, the equal treatment of men and women within marriage, and on the other, the equality of children born to unmarried couples with those children born within a marital union. Legislation permitting divorce is also recent. The Spanish Divorce Law was passed in June 1981. Since then, the number of divorces has increased but it is still low. Abortion was legalized in 1985.[36] More than half of marriages result in divorce in Belgium (59%), Sweden (53.9), UK (52.7) and the US (51.1). Southern European countries display the lowest divorce rates, and the highest marriage duration average at divorce. The divorce rate for Spain was 17 per cent in 1998.[37]

Last, "since a role always bears a functional or representational relationship to one or more other roles, change in one role always means change in a system of roles, e.g., women's roles cannot change without complementary change in the men's role." (Turner, 1990: 88) In this sense, the gender roles of men have changed much less than those of women, in most European countries. Female employment does not necessarily lead to more egalitarian lifestyles, and while now men are undertaking an increasing proportion of the domestic duties within families, most

---

[36] Abortion was made legal from 1985 onwards "if practiced by qualified medical personnel in one of the following circumstances: where there is a physical or mental health risk to the pregnant mother; where pregnancy is a result of rape; or where there is a danger of the fetus being born with severe mental and physical defects." (Delgado, Ch.9, in: Blossfeld, 1995: 195)

[37] Source: INE 2003.

men "increase their absolute level of work little, if at all, when their wives are employed." (Turner, 1990: 104) Therefore, the primary characteristic of the current division of labor within the household is that (whether employed or not), women continue to carry out the majority of the housework (Marini and Shelton, 1993; Brines, 1994). This is especially apparent in Spain, where there are still gender inequalities in the allocation of time to undertake domestic and remunerated labor (Table 3.1).

The sharing of childrearing and housework according to traditional gender roles affects, to a great extent, the cost of opportunity for women when they decide to enter or remain in the labor market. In fact, duties in the home are used to explain women's weaker attachment to the labor market (Jaumotte, 2003: 6). Differences in the female educational attainment might accentuate intra–women differences when the private sphere is taken into account: women's education appears negatively correlated to the household and childcare periods, and to the levels of task segregation inside the home, partly due to the high level of educational homogamy (Kalmijn, 1998; Gónzalez López, 2000). Individuals choose partners with compatible views on their roles within the relationship (Hakim, 1996: 91). More educated women generally hold more egalitarian sex roles attitudes and do less homework, while their male counterparts carry out more duties in the home (Turner, 1990: 104). The figures in Table 3.1 corroborate this hypothesis in the Spanish context. But generally speaking, the gender–specific division of labor within the family has remained true to the traditional model in Spain. In Southern European countries, couples share family responsibilities in strong but unequal terms. Most women cope with the major aspects of housework and care burdens, and this fact inhibits their lifestyles and careers; explaining delayed and low fertility.[38]

---

[38] Hakim argues that the majority of wives display satisfaction with their partners' contribution to housework and childcare, so that the domestic slavery that sometimes exists cannot be blamed on men. But, it is self–imposed (Hakim, 1996: 48, 87). However, the burden of the household and motherhood tasks might be only diminished for the group

3.4. The role of the welfare state

Relatively low levels of female labor participation leads to a waste of human capital. But, it also results in smaller tax base, which pressurizes the financial viability of the Spanish welfare state. Despite new socio–demographic patterns, the increasing shifts in the preferences regarding family and work, and the uncertainties that most young people now face in the transition to adulthood, the Spanish family and social policy remains obsolete and inefficient. The state does not socialize the costs of establishing a family and the traditional family plays a significant role as a social provider (Esping–Andersen, 1990: 27–28). This accentuates social differences, and impedes equality in living conditions for the entire population. In addition, it reinforces the traditional gender division of labor within the family, and the maintenance of a patriarchal family model. Paradoxically, as is shown in the present dissertation, the so–called Spanish "familialist" system has now a pervasive impact on family formation.

Family–oriented programs substantially decreased in the last phase of the dictatorship period, and during the 1990s. During the transition period, a social protection system was adopted, but not profoundly transformed, and it fell behind, in terms of the changes in the lives of individuals (León Borja, 2002: 142). General demands for family policies, and more specifically, for caring responsibilities, "have not been advanced successfully by any social or policy actor, including feminist advocates, as an attempt

---

of women with more educated partners. The total work hours of men and women (hours of paid employment and unpaid domestic work) is still far from convergence in Spain.

Table 3.1. Gender structure in Spain: division of household and childcare activities

	PRIMARY					LOW–SECONDARY				
	Self	Partner	Both	Members	Others	Self	Partner	Both	Members	Others
Preparation of meals	90.6	0.64	4.74	2.56	1.41	84.5	1.71	8.71	3.23	1.84
Shopping	79.8	2.43	14.3	2.95	0.38	67.7	4.48	25.4	1.97	0.39
Keeping the household budget	70	5.64	23.2	1.02	0.12	61.8	6.91	30.3	0.92	0
Doing the dishes	84.2	0.91	9.10	4.81	0.91	70.2	3.57	22.3	2.56	1.34
Taking care of infants' meals	82.5	2.13	12.8	1.77	0.71	72.7	1.73	22.4	1.59	0.53
Dressing children	82.5	1.71	12.3	2.05	1.36	71.2	2.75	23.5	1.83	0.65
Looking after sick children	69.9	0.71	27.7	1.07	0.53	64.4	1.20	32.5	0.60	1.20
Playing with children	27.6	10.1	55.1	5.44	1.81	24.7	8.06	64.8	1.90	0.81
Helping them with homework	40.8	14.8	31.3	9.66	3.30	49.1	10.1	36.2	2.48	2.11

	UPPER-SECONDARY					TERTIARY				
	Self	Partner	Both	Members	Others	Self	Partner	Both	Members	Others
Preparation of meals	68.8	5.46	16.9	3.27	5.46	61.3	3.87	18.7	1.93	14.2
Shopping	49.7	8.10	40	1.62	0.54	48.1	5.76	41.6	1.28	3.20
Keeping the household budget	42.4	10.3	47.3	0	0	38.3	14.28	46.1	1.29	0
Doing the dishes	48.3	8.42	35.9	2.24	5.05	38.2	13.88	34.7	0	13.2
Taking care of infants' meals	55	2.50	37.5	0	5	57.5	1.14	36.8	1.14	3.44
Dressing children	53.1	3.70	40.7	0	2.46	56.8	2.27	38.6	0	2.27
Looking after sick children	41.1	4.03	54.0	0.80	0.80	48.1	0.96	49.0	0.96	0.96
Playing with children	15.3	12.9	70.1	1.61	0	15.1	5.66	79.2	0	0
Helping them with homework	35.7	10.7	53.5	0	0	42.6	5.55	50	0	1.85

Source: Spanish FFS (1995). Own elaboration.
Notes: The question asked was "Could you indicate who usually performs each of the following activities: mostly yourself, mostly your partner, both of you equally, mostly other members of this household, or mostly other persons not belonging to this household?" [Questions 902 and 904]

to distance themselves from the authoritarian past, where the official discourse continuously affirmed that motherhood was the principal duty of women toward the state and the family. Any pronatalist policy –implicit or explicit–, has been associated with Francoist symbols and measures, and has thus been avoided." (Valiente, 2002: 61; Valiente, 1995: 254–255)

Therefore, despite the important changes that have occurred in the traditional family model in Spain, there have not been similarly profound policy changes, with regard to family issues in the political arena (Alberti, 1997, cit. in: León Borja, 2002: 144). During the sixties, however, feminist organizations, trade unionists and politicians in Nordic countries established childcare measures that were universal and explicitly aimed at favoring equal access to the labor force for women. In Spain, preschool programs for 3 to 6 year old children have been considered by all political parties that have come to power after Franco. They have been regarded as educational measures that benefit children, especially those from low–income families, and not as a means of assisting women to combine paid and domestic work. Also, another distinguishing feature of the Spanish setting is the scarce, almost non–existent level of subsidized childcare for children from infancy to 3 years of age.

In Spain, as it likewise occurs in most countries, preferences for female participation in the labor force have increased over the past few decades, but they do not correspond to actual female participation rates; particularly among women with young children, where the male breadwinner model is still more common than it seems to be desired (Jaumotte, 2003: 7, 27, 28). According to previous conceptualizations (Hakim, 1996), we can say that most women in the oldest cohorts were totally family–oriented in Spain. For them, life was mainly focused on marriage and children, and they exceptionally participated in the labor market. Today, this category of women is increasingly disappearing. In recent years the "housewife model" is no longer valid. However, only a small proportion of women –from all cohorts, included the youngest– maintain an uninterrupted period in the labor market or

are, in Hakim's terminology, fully career–oriented. She argues that this trajectory is always an individual choice, in the sense that most women choose a dual role as a mother and a worker by pursuing conventionally female educational choices and jobs (Hakim, 1996: 71). The Spanish reality suggests, however, that in order not to sacrifice motherhood, most women are constrained to at least suspend their careers. Some women freely decide that being a mother is their chosen career, and their lifestyles are geared in this direction, despite the expanding labor opportunities in recent times. But, not all women currently avail of both options; in Hakim's words, "taking jobs when they like, on an equal basis with men, but retreating to the sanctuary of the home to revert to their other role as homemaker and mother whenever they please." (Hakim, 1996: 1)

In locations where there is a plentiful supply of quality part–time employment, some of the considerations put forward by Hakim in her book *Key Issues in Women's Work. Female Heterogeneity and the Polarization of Women's Employment* (1996) can make sense. In the Spanish case this remains doubtful however. Part–time female workers, or what she calls the dual role women, are not a category lying half–way between women working full–time and women outside the labor market, regarding attitudes and behavior. Hakim argues that such women think much more similarly to full–time housewives, as long as they depend on the partner, assume their primary role as housewife and agree on the division of sex roles. In Spain, most women assume the dual role, but it is not always a free choice. Most working women who work full–time could be classified as dual role workers. This is not because they have a central self–identity as a housemaker, despite working full-time, but it is because they work full–time prior to embarking on motherhood. More often than not, these women are obliged to leave the labor market at childbirth, due to the incompatibility problem. And, they rarely re–reenter the labor market, or they only do so in a full–time capacity after their children are old enough.

In other words, for most women lifelong employment is not a free real option in Spain and consequently, women end up pursuing a dual role as worker and wife/mother. In fact, it is important to keep in mind that, despite the female labor market revolution, the proportion of dual career households has increased much less than the proportion of dual earner households recently. In other words, the traditional post–war division of labor, in which women were completely out of the labor market, has been replaced by a modern division of labor with more women employed outside the home. But, female employment is often viewed as "subordinate to her domestic responsibilities and less demanding than her husband's." (Hakim, 1996: 206)

"The concept of de–familiation refers to the degree to which households' welfare and caring responsibilities are relaxed –either via welfare state provision, or via market provision." (Esping–Andersen, 1999: 51) According to Esping–Andersen's typology of welfare states, Spain belongs to the continental type: the welfare state is heavily based on transfers, and it offers very few social services, reinforcing the traditional role of the family as a social provider (Esping–Andersen, 1990: 27–28). In fact, the public expenditure on family issues in Spain, during the last two decades, is one of the lowest in the advanced countries. In 1980, only 0.03 and 0.45 percent of GDP was spent on publicized family services and family cash benefits, respectively. In 1999, the corresponding figures are 0.11 and 0.29, i.e., transfers were even decreased with respect to previous years.[39] Other continental welfare states –for instance Germany, Austria, Belgium and France– spent 1.93, 1.92, 2.06 and 1.46 percent of their GDP on family cash benefits in 1999; far above that of Spain. Nordic countries not only score high

---

[39] Public Expenditure in Family Services and Family Cash Benefits (1980–1999). Source: OECD. Society at a Glance. 2002. Aggregated data on "Family Services" include Formal Day Care; Family Other Benefits in–Kind; Household Services; and/or Personal Services. Aggregated data on "Family Cash Benefits" include Family Allowances for Children; Lone Parent Cash Benefits; Family Support Benefits; Family Other Cash Benefits; and/or Maternity and Parental Leave.

in public expenditure on family cash benefits, but they have the highest expenditure in family services during the two last decades. It seems clear then that the higher the expenditure of a state on services, the more services that state should be able to provide.

It is argued that de–familiarization is generally a precondition for the capacity that women have to commodify themselves, i.e., to participate in the labor market (Orloff, 1993). But, the Spanish welfare state does little to facilitate female participation in the labor market. In fact, employment rates for women with young children increased in the 1990s in Spain (from 29.8 percent in 1989 to 41.8 in 1999). Yet this figure is low in comparative terms. In 1999, the percentage of working mothers with children under age 6 in France, Germany, the Netherlands, Norway or Sweden was 56.2, 51.1, 60.7, 72.8, and 76.1 respectively.[40] In 1999, only 47.6 percent and 43.3 percent of women participate in the labor market when they have one or two/more children respectively (Italy and Greece also show the lowest female participation rates when there is presence of children: 52.1/42.4; Greece: 53.9/50.3). In summary, in Spain the relatively modest increase in the overall female participation rate, in the last few decades, has concerned mainly single women or married women with no children; while in Northern and Western Europe, the increase also incorporates mothers.

The scarcity of subsidized childcare and the high cost of childcare services oblige most families to provide their own care. It is primarily the woman who withdraws from employment in order to embark on motherhood and raise children. In other words, the social protection system also presumes strong levels of family dependence in this sphere. In fact, female activity in the labor market is frequently only possible as a result of the "kinship family model formed by the strong bonds of solidarity within the

---

[40] Employment rates for women and mothers with children under age 6 (1989–1999). Source: OECD, 2001. Employment Outlook, and Adema (forthcoming). *An Overview of Benefits that Foster the Reconciliation of Work and Family Life in OECD Countries.* Labor Market and Social Policy Paper. Paris.

extended family of various generations." (Jurado and Naldini, 1996, cit. in: González–López and Solsona Pairó, 2000: 54). Grandmothers –generally women's mothers– play a crucial role in the organization of the working women's everyday life, since they take care of children while the women opt for paid employment (Tobío, 1999). In addition, wealthier women/ families might opt for private childcare services in order to reduce the family's welfare and care burden.

However, both strategies appear problematic. Firstly, the childcare sector cannot guarantee the appropriateness of the care provided by professionals, and this is vitally important from the viewpoint of the well–being of children. "In contrast to other countries, paid care provided for children under six in private homes (by baby–sitters, child minders, etc.) is not regulated by the Spanish state; there are no regulations regarding, for instance, the qualifications of care providers, the maximum number of children who can be cared for by one adult, or the characteristics of the home where care is provided." (Valiente, 2002: 60) Secondly, private modes of care "rests on women's shoulders and, in this way, it perpetuates their disadvantage in paid employment and the gender gap in the allocation of unpaid work." (González–López and Solsona Pairó, 2000: 59) Such care reinforces differences in social classes among women, because private services create inequalities from the "top" downwards, and fails in providing for the most needy women, who cannot afford such care.[41]

It is true today, as already mentioned, that activities of housewives and childbearing are no longer the dominant tasks for young women across all advanced societies. But, despite the fact that childbearing and childcare take up only a small proportion of

---

[41] If the states does not assume this responsibility in the future, a third problem –not relevant in this dissertation because the period studied goes up to the early 1990s– will be that today's mothers will not be available for the care responsibility of their daughters' children in the future. Most women in the younger cohorts themselves work in the labor market, and this means that the possibility of relying on inter–generation solidarity will not exist in the future.

the entire life of a woman, these are full–time and extremely demanding activities that occur in some of the most important years in the life course of a woman; that is within the period of entering and becoming established in the labor market. The remaining part of this section analyzes a multitude of factors that, apart from the labor market failures described in section 3.1.1, are serious barriers for women who want a career, without having to renounce their motherhood role.

The treatment of women as second earners in the context of taxation

The Spanish tax system does not encourage the labor participation of married women, in comparison with men and single women. In Europe, no system taxes married women and mothers less than men and single women, for the only reason that their labor supply is more elastic and therefore, more sensitive to marginal tax rates.[42] This would be incompatible with the general principle of equal taxation for the same income. However, there is cross–country variation in the way married women are effectively taxed. In Spain, married couples can choose to pay tax jointly, but it is shown that this is only advantageous for couples with very low primary and secondary incomes (Dingeldey, 1998, cit. in Jaumotte, 2003: 30). In the more common separate taxation scenario, second earners (often women whose labor supply is more elastic due to precariousness of the labor market) and single individuals are not taxed equally, as happens in other European countries (Sweden, Finland, and Greece). This relatively high tax burden for second earners considerably diminishes the labor supply decision for many women in Spain; especially that of

---

[42] "The relevant "marginal" tax rate (...) is the average tax rate on the second–earner's earnings, defined as the proportion of these earnings that goes into paying increased household taxes." (Jaumotte, 2003: 8)

women with lower income who probably find less convenient to leave the home for paid employment (Smith et al., 2003).[43]

Maternity, parental, and childcare leave

The Law 39/1999, has introduced some improvements at reconciling work and family life following the European Directive 92/85. On one hand, this legislation incorporates a broader set of social actors: it permits fathers to avail of leaves, although it does not encourage them to do so.[44] In Iceland (1999) and Norway (1993), for instance, a quota system was passed by law, according to which fathers were forced to be on paid parental leave, for three months in the first case, and for one month in the second. No doubt, there are high cross–country differences regarding men's use of parental leave: only 2 percent of men used parental leave in Spain while 82 percent of fathers did so in Iceland (one–sixth of fathers on their own on leave, five–sixths of fathers on leave with the mother) and 85 percent in Norway (53 percent on their own and 47 percent with the mother) [Report Custom, Culture and Caring, 2004; Esping –Andersen et al., 2002: 92]. Therefore, it is important to highlight that the weak and slow feminization of men with regard to a more equal division of housework and childcare activities in Spain is occurring in recent times in spite of an almost complete lack of policy incentives. This strengthens the costs of children for working women.

At the same time this legislation extends the period of leave to 16 weeks (18 for multiple births) and in so doing, recognizes that the compatibility between family and work is not merely a question of flexibility during the child's initial weeks, but that it is a more complex and durable issue. Moreover, this policy still falls

---

[43] Italy and Germany have similar tax burdens for second earners.

[44] The Law 39/1999 increases the durability of the maximum period given to the father from four weeks to the entire period, with the only exception of the six weeks after the birth, that always correspond to the mother.

short of that of other countries. In Europe, the longest paid leave period is found in France (73 weeks) and the Nordic countries: Denmark (42), Finland (55) and Sweden (40). In Iceland, the law passed in 1999 introduced nine months. Norwegian parental leave consists of a 42/52 week period, with 80/100 percent wage paid (Report Custom, Culture and Caring, 2004). Spanish workers can also request leave in order to take care of a sick child, although parents can only take the first two days at full pay. Law 39/1999 extends this right to both parents –either in succession or simultaneously– and assures the maintenance of the employment for a period of three years.

A broad range of research shows that paid parental leave increases labor participation rates and consequently, stimulates fertility (Ruhm, 1998). However, long periods spent outside the labor market on parental leave, might impact on the future wages and career advancement of women; or on the possibilities of returning to the labor market (Ondrich et al., 1998; Edin and Gustafsson, 2001). In Spain, the key issue is not the length of the parental leave, but the lack of job guarantees, and the relatively high proportion of women who have not attained at least upper secondary education and remain as low-skilled workers.[45] The period of paid parental leave, as noted, has increased from the 1999 level, such that workers are entitled to a relatively high maximum of 164 weeks (16 weeks paid). But, the remaining problem is that parental leave is not accompanied by stable and secure conditions in the labor market, in particular for women, and many times this fact inhibits them from having a child or more children.

Also, as stated, participation in the labor force is the main way of attaining welfare benefits in Spain.[46] The right to parental leave

---

[45] Besides, the marginal effect of additional parental leave on female participation seems to be only negative beyond 20 weeks; this falls short of the maximum number of weeks in Spain (16). In: Jaumotte, 2003: 25.

[46] There are two exceptions: on the one hand, compulsory education from 6 to 16 years old, and on the other health care. They both are universal programs.

is not a universal social right based on citizenship. Therefore, the protection provided to some women co–exists with an absolute absence of regulation for others. The problem does not lie in the norm itself, but instead in its application, since the law remains useless for those women who do not have a stable and/or a permanent position in the labor market. Women are obliged to have worked 180 days, in a period of five years prior to the birth, in order to benefit from Law 39/1999. Many part–time, temporary female workers including those who work as "helpers" in autonomous jobs constitute a considerable proportion of women who encounter difficulties in fulfilling this requirement, due to their weak and unstable attachment to the labor market.[47]

Child benefits

Recently, the conservative PP government undertook some reforms aimed at expanding fiscal deductions, in order to benefit families with children, irrespective of income level. The so–called Plan Integral de Apoyo a la Familia (2001) included this, and other measures such as a €100 monthly salary for working mothers with children of up to 3 years of age. This marked a substantial departure from the previous policy of socialist

---

[47] For women who work as house cleaners, the Law Régimen Especial del Hogar obliges the employer to register them for Social Security if they work more than 80 hours per month. Women must do so if they work at least 72 hours per month. But in practice, most of these women do not reach a minimum of hours and above all, these activities occur in a black economy. Autonomous work is also a problem for women in Spain. Non–salaried women make up a high percentage of working women in the country, from a comparative perspective (6% for women and .3% for men) [FFS 1995]. Many of them "help" their partners in family enterprises (shops, bars, etc.). Very few are registered for Social Security, and they cannot benefit from the legislation in this area.

governments.[48] It also implied a new approach to policies related to the family that characterized the continental type of welfare state. But to date, due to financial constraints and the arrival of a new socialist government into power in March 2004, this measure merely remains as an aspect in the political discourse (León Borja, 2002: 157). Fiscal deductions for dependent members are insufficient, and cannot operate as substitutes for family benefits.

Cross–country variation within continental welfare states exist with regard to the size and the type of childcare support provided to families through benefits (family allowances for children, lone parent cash benefits, family support benefits, etc.). In most cases, governments opt for child benefits in order to reduce child poverty and to guarantee equality for all families. In Spain, however, child benefits have been a rare occurrence, over recent decades, in supporting families. The percentage increase in the disposable income for families with two children (as opposed to those without children) as a result of child benefits has risen little in Spain in the last two decades: only 2 percent, far below the increase that has occurred in other continental welfare states [Austria (18%), Germany (12%), France (9%)] (Jaumotte, 2003: 11, 31) In other words, child benefits are very low in Spain and there is also a low public childcare expenditure.

Childcare policies

In all societies, women are the main care providers for dependent individuals, such as the elderly, the ill, the disabled or children (Orloff, 1993: 313). In fact, "preschool children appear to be the most important source of work costs for women (Cogan 1980: 328), which renders childcare programs especially

---

[48] "Between 1991 and 1998, the deduction for child care expenses for children under three years old was of a maximum of 25,000 pts per year (150€ approx.), or the equivalent of 15 per cent of child care expenses. There was a ceiling on the taxpayer's income, and both parents had to work outside the home." (Valiente, 2002:60)

important for women. In fact, it is argued that female and male mobility in the workforce is almost identical for men and women aged 16–25 when they first enter the labor market. But, evidence shows that "women are two to four times more likely than men to enter and leave the workforce during the prime age years, irrespectively of the type of occupation they are in." (Hakim, 1996: 131) In Spain, however, social policy has not been aimed at guaranteeing the necessary conditions for the successful fulfillment of the combined roles of mother and worker. Eventhough, it is demonstrated that the availability of subsidized childcare increases the labor force participation rate of women with young children and diminishes work force interruptions for females (Blau, Ferber, Winkler, 1992: 89; Gustafsson and Stafford, 1994; Anderson and Levine, 2000; Del Boca, 2002; Jaumotte, 2003: 9&ff.). Spanish women continue to pay a high price, in terms of wage penalties, because they are forced to leave employment or to spend long periods out of the labor market, in order to take care of the children.

In continental welfare states, services for young children and for the elderly are now an urgent priority (Esping–Andersen et al., 2002: 17). Spain, with its system of public and private nursery schools available for children from 3 to 5 years, could be classified as one of the most developed in the Western countries in this regard. In 2000, the rate of participation was close to 94%, so pre–school entities can be considered as a universal phenomenon. Moreover, there has been an increase in the proportion of children that attend public pre–schools, paralleled by a continuous decrease in the number of children enrolled in private pre–schools in the 1990s (Puelles, 1986; Valiente, 2002). However, public day nurseries, available for children under 3 years of age are scarce, almost non–existent. Only 5 percent of children, aged 2 or under, attended daycare services in Spain by the end of the 1990s (2.5 percent were cared for in public centers). This is far below the proportion of young children who use these services up to the mandatory schooling age in countries such as Denmark (64),

Sweden (48) or France (29), which is another continental–type European country like Spain.[49]

Public entities are run mainly by local governing bodies (therefore, there exist differences between the provincias throughout the country). Priority is given to children from low–income families, and to families where both parents work. As a result, a significant proportion of women are also excluded from these childcare services, due to their non–participation or weak position in the labor market. If a woman leaves the labor market while expecting a child for whatever reason, apart from her job, she also forfits the right to access to childcare for her child, and she is penalized in the process of searching for a new job, precisely due to the care needs of her child. The high cost of childcare, means that a large portion of a less educated woman's wage may be taken up. In fact, it has been demonstrated that apart from other considerations related to gender equality, child development and social integration, childcare subsidies are justified particularly in cases like Spain where "the tax and benefit system distorts the female labor supply, or when a compressed wage structure limits the supply of affordable childcare." (Jaumotte, 2003: 9)

The impact of the scarcity of childcare subsidies on the female labor supply has by now been reduced, as women substitute formal for informal childcare (grandparents are a source of economic care in Spain). But, the fact that the state does not assume responsibility in alleviating the incompatibility of a career

---

[49] Proportion of Young Children who use Day Care Services up to Mandatory Schooling Age (1998–99). Source: OECD. Education at a Glance. 2000. Both public and private centers are included. Data covers four types of formal childcare services: 1) Group care in childcare centers (nurseries, kindergarten, play-schools), which is sometimes organized within the educational system; 2) Residential care: care in the context of specialist services (e.g. for disabled children); 3) Childminders based in their own homes looking after one or more children; 4) Care provided by a carer who is not a family–member but lives with the family.

and a family means that many working women currently face many obstacles. This might be one of the major determinants for the persistence of the lowest–low fertility in the long–term in Spain.[50] Child benefits, when they are as insufficient as they are in Spain, are not alone capable of reducing child poverty. Childcare services are complementary and perhaps more efficient, since it is clear that such resources increase female labor participation, and this is one of the major preventive measures against poverty (Esping–Andersen et al., 2002).

Likewise, public pre–school services cannot operate as substitutes for childcare for parents (especially mothers), since caring hours are shorter than working hours and are often interrupted by breaks. Summer holidays for children are also much longer than holidays for workers.[51] Spain has one of the lowest female employment rates, but most Spanish women who work in the labor force occupy full–time positions, which make even more difficult to combine a career and family (Valiente, 2002: 60). Some measures have been taken to modify opening hours in order to accommodate the needs of working parents. But, this is still an outstanding and urgent need.

---

[50] The increasing portion of old people might also constitute a stronger care burden for women in the future.

[51] Pre–school summer holidays last approximately three months, while workers can go on paid holidays only for one month.

CHAPTER 4. MODELS, DATA AND VARIABLES USED IN THE ANALYSIS

The information provided in chapters 1 to 3 clearly shows that a dynamic, life course perspective is needed in this analysis. Cross–sectional analysis would not be effective in my research. It would not allow for the establishment of whether individuals, in a specific situation, will always remain as they are, or whether the status will simply be a temporary one in their lives. For childless women, for instance, nothing excludes them from having a child after the interview. Therefore, the modeling approach used in the empirical part of the dissertation is event history analysis, which deals with "individual life–course strategies that are updated continuously, as individuals are confronted with a dynamic system of choices, experiences, constraints, and chance outcomes. Such a strategy determines behavior, and produces what appears as a relationship between individual's education and work histories on the one hand, and their family histories on the other." (Hoem and Hoem, 1989: 48) That said, the present chapter describes the simultaneous modeling, the data and the variables used in the empirical section of the dissertation. Further outlines and discussion of the main findings pertaining to first, second and third births follow in chapters 5, 6 and 7, respectively.

4.1. Modeling

4.1.1. Formulation of a continuous time model[1]

Event history analysis is the study of the length of an episode (Yamaguchi, 1991), or the study of the rates at which individuals experience one or more events during a period of exposure to risk. We consider T as a continuous random variable, with values in $(0,\infty)$, that denotes for the duration of an episode, i.e., the waiting time for an event to occur, during a period of exposure to risk.

For a time point t, the cumulative distribution function of T indicates the probability of experiencing the event*:*

$$F(t) = \Pr(T \leq t) = \int_{-\infty}^{t} f(\tau)d\tau = \int_{0}^{t} f(\tau)d\tau$$

The survivor function represents the probability of having survived the event. In other words, the probability of not having experienced the event up to the time point t:

$$G(t) = \Pr(T \geq t)$$

Given that T is a continuous random variable, it holds that:

$$G(t) = \Pr(T > t) = 1 - F(t)$$

Both concepts –the distribution function and the survivor function– are numerically the same, but in event history analysis the survivor function is more commonly used because "it allows

---

[1] In this section, I closely follow the guidelines provided in the seminar "Hazard Regression for Demographers", by Professors F. Billari, A. Arsteen, and P. Baizán at the Max Planck Institute for Demographic Research. Rostock. (2001–2002). See also Blossfeld and Rohwer, 1995, 2002.

for a more intuitive description." (Blossfeld and Rohwer, 2002: 34)

In addition, event history analyses often assume that:

$$\lim_{\Delta t \to 0} F(t) = F(\infty) = 1 - p$$

i.e., there exists a probability p not experiencing the event [$0<p<1$]. I will use survivor functions in the empirical part of the dissertation in order to indicate the long–term survivor women (as they are technically referred to), who "survive" to become mothers or to have another child (Blossfeld and Rohwer, 2002).

Lastly, time t has an impact on the probability of experiencing an event and this makes the use of conditional probabilities in event history analysis necessary as well as hazard regression. The hazard or transition rate at the time point t is:

$$r(t) = \frac{f(t)}{G(t)} = \frac{\Pr(t + dt > T \geq t)dt}{\Pr(T \geq t)} = \Pr(T < t + dt / T \geq t)dt$$

This represents the probability of experiencing an event in the next infinitesimal interval, given that the event has not occurred before. For the purpose of this dissertation, a woman's birth rate h(t) is the probability "that she will experience a pregnancy next month, given her individual characteristics and given that she has not become pregnant by the current month."[2] (Berinde, 1999: 358) Having described the basic concept of a transition rate, I can now move on to formulate the modeling approach.

---

[2] Only individual factors are included in the analysis, but the importance of structural factors has already been pointed out in previous chapters. These include social policy, the unemployment rate, the housing market, the educational reforms, region, the prevailing family model, etc. Available data does not permit the investigation of these directly, but "they often surfaced as indirect explanatory factors." (Corijn and Klijzing, 2001).

4.1.2. Modeling approach

A woman's birth rate depends on time, and a set of covariates *X*. The modeling approach used in the following empirical chapters of this dissertation is event history analysis, which permits the study of the interaction between family and educational/occupational events over the life course. This approach also provides the possibility of linking demographic events to other important aspects of the lives of individuals, which impact on their demographic behavior. The life course perspective helps us to understand human behavior "for the simple reason that it focuses on how individuals themselves perceive their lives and not on how researchers view reality." (Willekens, 1994: 24)

The life course strategy allows us to satisfactorily deal with the issues of right–censored observations and time–varying covariates. Firstly, in the case of retrospective surveys, such as the Spanish Family and Fertility Survey (FFS) used in this dissertation, nothing excluded the women interviewed from experiencing pregnancy after that time. Restricting the analysis to those women who have already had a child at the time of the interview, could be one plausible technique. But, women who have had a child or more children are qualitatively different from those who have not, at the same age. For instance, among women who have not had children, there will be more women holding higher levels of education. Since I am specifically interested in the impact of education on fertility, I would introduce a very important bias in my analysis, if I had not used the life course technique which treats these women as right–censored. Right–censoring is particularly important due to the sort of data available in the FFS. The post–Franco period can be investigated over a longer trajectory, but due to the increasing postponement in the transition to adulthood for younger cohorts, a high proportion of women are inevitably right–censored in the analyses of the second and third births (but less so in the transition to first births). Secondly, some explanatory variables might not be fixed during the episode. A life course analysis resolves the problem of the

value to be chosen for the time–varying covariate at any given time in the observation.

A life event is the most basic element in the life course, which is an evolving process from childhood to adulthood. Life events are universal, but individuals experience these, for instance motherhood, and live through the various stages in different ways. Moreover, individuals do not decide on life events in an isolated manner. Their decisions are part of a general understanding about future developments in different life domains. Some individual characteristics (gender, civil status, place of residence, occupation, educational attainment, et cetera) influence careers in different life domains at the same time. Broadly speaking, "these attributes are objective and measurable, but they may also be subjective and refer to values, opinions, attitudes or evaluations (Scott and Alwin, 1998)." (cit. in Willekens, 1994: 32) Each woman chooses from different combinations of alternatives with regard to education, work and fertility, because there are personal preferences regarding the entry into motherhood. A woman's value orientation towards a career instead of a family, for instance, is the most common influence on her choices in both spheres.

4.1.3. Transition rate model

Life course analysis also helps in building specific models for duration. In some cases, theory or previous empirical research provides a specific shape of time–dependence for the transition rate. The exponential, the Gompertz/Weibull, and the log–logistic distribution are normally applied. These represent a constant, a monotonically decreasing/increasing, and a bell–shaped transition rate respectively. However, there is not one consolidated fertility theory that develops a strong argument for a specific parametric model. "A useful and interesting alternative is to specify only a functional form for the influence of covariates, but leave the shape of the transition rate as unspecified as possible. Such models are known as semi–parametric models." (Blossfeld and Rohwer, 1995:

212) The most widely used semi–parametric model is the proportional Cox model, in which the baseline rate is totally unspecified. However, following previous studies on the topic, I will use piecewise linear exponential models in my research.[3] "The basic idea is to split the time axis into time periods and to assume that transition rates are constant in each of these intervals but can change between them." (Blossfeld and Rohwer, 2002: 120)

The age t is the time–factor in the analyses, divided in intervals. I use time periods of four years, from 15 to age 22; of three years, from 23 to 31; and then open intervals for the analysis of the first child. In the process of departing from educational system, I use time periods of five years, from 11 to age 15; of two

---

[3] Some would probably argue in favor of a Weibull duration function. As noted, life–course fertility models highlight the timing of births with regard to women's utility from a life–time perspective. But, it is not easy to build a single mechanism to explain the dependence upon time of transition rates, as occurs in the Gompertz and Weibull models. In both cases, the transition rate function has indeed a central role in the building of models based on well–known notions of population dynamics or social mechanisms; as it occurs with the monotonically and fast increasing model used for mortality at adult and old age or the monotonically and fast decreasing model used for infant mortality. In the case of fertility, in general it is expected that the probability of having the first child increases with age until about 30 years and then tends to decrease. But, we cannot easily deconstruct a monotonic shape of the transition rate, at least in my case where partnership duration is not included in the models. Had I included the covariate civil status in my analyses, the risk of conception had increased immediately at marriage and this fact would have required another model specification such as the Weibull in order to capture the clear dependence upon time of the first birth transition rate. Since the woman's civil status has not been included, I have opted to explicitly model it through the exponential model. In addition, I am mainly interested in the impact of the educational covariate, independent of any kind of duration dependence. Following Blossfeld and Rohwer (1995), it is more than sufficient to use a semi–parametric approach.

years, from 16 to age 18; of three years, from 19 to age 21; of two years, from 22 to 24 and then open intervals (Chapter 5). For the second and third births, I use time periods of two years from the first to the eighth year of the first and second child respectively, and then open intervals (Chapters 6 and 7). The working assumption is that the risks are constant within one interval, but they might vary from interval to interval.[4]

4.1.4. Modeling for interrelated life–course trajectories, simultaneous decision making processes and unobserved heterogeneity

As already noted, women decide on motherhood at the same time as they choose options related to other spheres of their lives, such as education and/or work. Family formation choices and educational choices are therefore interrelated. I use simultaneous modeling that takes structural variables into account, as well as the reciprocal effects between processes. In addition, both processes are jointly determined by constant (unmeasured) common determinants and should be analyzed as endogenous processes in order to avoid biased results. These factors might be viewed as individual preferences and values which allow a woman choose a specific life–course path from a set of alternative possibilities. Attitudes favorable to union formation and childbearing might be likely to reinforce each other. For instance, viewpoints concerning roles that potentially compete with family formation, such as being a student or being employed, are likely to be adjusted to conform to family formation attitudes (and vice versa).

---

[4] I use three computer packages in the empirical part of the dissertation. First, STATA, for the data management and the graphics. Secondly, TDA (Transition Data Analysis), a specialized computer package for event history modeling. Thirdly, whenever I use structural–equation history models with correlated heterogeneity (Lillard, 1993), the program aML is applied.

For the analysis of first firths (Chapter 5), I initially use a standard specification, with proportional hazard models for both the process of departing the educational system and that of entering into motherhood. This can be represented mathematically in the following way:[5]

$$\ln h(t) = y(t) + \sum_j a_j x_j + \sum_i \alpha_i w_i(t)$$

(1)

The subscript for an individual is omitted for simplicity. *y(t)* denotes a piecewise linear spline that captures the effect of the duration on the intensity. The $\{x_j\}$ denotes fixed time–invariant covariates; and $\{w_i(\cdot)\}$ are a set of time–varying covariates whose values change at discrete times in the spell, and are constant over the time span between those changes (Baizán et al., 2003: 154–155).

However, I suspect that the effect of the educational biography on first births might be biased in the above specification, due to selection problems. Unmeasurable attributes might affect both protracted educational enrollment, and fertility behavior. Thus, I run a joint multiprocess model of educational enrollment and first births. Young women who do not want (or do not have the intention) to enter motherhood early might attend school for a longer period of time; and conversely, women with stronger fertility intentions (including higher total fertility) might speed up both processes. In other words, women who continue to a higher education level might represent a select group also holding characteristics (particular values) that favor delayed fertility, or adhering to specific norms concerning these behaviors.

---

[5] In this exposition, I rely on a similar model of cohabitation, marriage and first birth in Spain as presented in Baizán et al. (2003).

The statistical specification of the two simultaneous hazard rate equations in the analysis of the first child is derived from the framework developed by Lillard (1993):

$$
\ln h^E(t) = y^E(t) + \sum_j a_j x_j + \sum_i \alpha_i w_i(t) + \delta
$$
$$
\ln h^{1B}(t) = y^{1B}(t) + \sum_j b_j x_j + \sum_i \beta_i w_i(t) + \varepsilon
$$

(2)

The superscripts E and 1_B denote the end of educational enrollment and the first birth. Model (2) differs from the above–mentioned Model (1) by the joint estimation of the parameters of the equations and by the inclusion of the random variables δ and ε respectively. These heterogeneity components capture factors that are unobserved and woman–specific, and are assumed to have a joint bi–variate normal distribution:

$$
\begin{pmatrix} \delta \\ \varepsilon \end{pmatrix} \sim N\left(\begin{pmatrix} 0 \\ 0 \end{pmatrix} \begin{pmatrix} \sigma_\delta^2 & \rho_{\varepsilon\delta} \\ \rho_{\delta\varepsilon} & \sigma_\varepsilon^2 \end{pmatrix} \right),
$$

in which $\rho_{\delta\varepsilon}$ is the correlation between the unobserved heterogeneity terms of the processes of leaving the educational system and that of the first birth.[6] The measurement of the correlation between the heterogeneity components of each process is a crucial test of endonegeity between them.

In addition, heterogeneity varies among individuals but it is constant for each person, i.e., women who have had a child might be more likely to have another child than women who have never had one. That is, the h_{th} result is partly determined by previous outcomes. Consequently, for the second parity transition I include two simultaneous hazard equations capturing the time period to

---

[6] Ten support points approximate this distribution.

the first and second births respectively, and the unobserved woman–specific component ε, which captures the woman's proneness towards family building (Chapter 6):

$$\ln h^{1B}(t) = y^{1B}(t) + \sum_j b_j x_j + \sum_i \beta_i w_i(t) + \varepsilon$$

$$\ln h^{2B}(t) = y^{2B}(t) + \sum_j l_j x_j + \sum_i \lambda_i w_i(t) + \varepsilon \quad ,$$

and three simultaneous hazard equations for first, second and third births with the same woman's fecundity term ε in the analysis for third births (Chapter 7):

$$\ln h^{1B}(t) = y^{1B}(t) + \sum_j b_j x_j + \sum_i \beta_i w_i(t) + \varepsilon$$

$$\ln h^{2B}(t) = y^{2B}(t) + \sum_j l_j x_j + \sum_i \lambda_i w_i(t) + \varepsilon$$

$$\ln h^{3B}(t) = y^{3B}(t) + \sum_j p_j x_j + \sum_i \pi_i w_i(t) + \varepsilon$$

In the estimation process, the values of the standard deviations of the heterogeneity components were left free.[7] The values presented were identified by numerical integration (Lillard and Panis, 2000).

4.2. Data source

The data used is taken from the Spanish Fertility and Family Survey (*Encuesta de Fecundidad y Familia*); a retrospective survey conducted by the Centro de Investigaciones Sociológicas

---

[7] Results regarding the sensitivity of results to different values of the variance are shown in the Appendix for each birth parity.

(CIS) from November 1994 to October 1995.[8] This survey provides individual–level data on family dynamics for the birth cohorts born between 1945 and 1977, as well as their employment and educational histories and some social background characteristics. The survey was organized by the Economic Commission for Europe (United Nations) in the framework of the Fertility and Family Surveys Project.[9] The sample design and general results of the Spanish survey are fully described and commented on in Delgado and Castro (1999). The survey covered a total of 4,021 women and 1,991 men. The observed distribution of the number of children born by cohort is shown in Table 4.1.

In comparison with the *Socio–Demographic Survey* (Encuesta Sociodemográfica, ESD) conducted in 1991 by the Spanish National Bureau of Statistics (INE) with a large sample of 160,000 interviews of Spanish people aged 10 and over, the FFS fits better into the scope of my research. Firstly, because it offers more recent data throughout the post–Franco period,[10] and secondly, because it uses a monthly time scale, which is more accurate for the joint analysis of events which occur in quick succession in the different domains of the life course of individuals. In the ESD only the year of occurrence was asked, and not the month. In addition, the FFS survey focuses explicitly on international

---

[8] I thank the library from the Center for the Advanced Studies in the Social Sciences (CEACS) –Juan March Institute, Madrid– for permission to use the Spanish FFS data on which the empirical analyses are based (CIS Study Nº 2181).

[9] Austria (1996), Belgium (1992), Bulgaria (1998), Canada (1990; 1995), Czech Republic (1997), Estonia (1994), Finland (1990), France (1994), Germany (1992), Greece (1999), Hungary (1993), Italy (1996), Latvia (1995), Lithuania (1995), Netherlands (1993), New Zealand (1995), Norway (1989), Poland (1991), Portugal (1997), Slovenia (1995), Spain (1995), Sweden (1993), Switzerland (1995), and the United States (1995).

[10] The post–Franco period can therefore be investigated for a longer trajectory, although this is not always true in the analyses of second and third births due to the general postponement in the transition to adulthood for younger cohorts.

Table 4.1. Distribution of the number of children born in the Spanish FFS sample, by cohort

NUMBER OF CHILDREN	COHORT 1945–54		COHORT 1955–59		COHORT 1960–64		COHORT 1965–77	
	Observations	Percentage	Observations	Percentage	Observations	Percentage	Observations	Percentage
0	72	8.6	55	8.3	130	17.5	1275	72.4
1	101	12.1	122	18.5	208	28.0	303	17.2
2	356	42.6	327	49.5	332	44.6	158	9.0
3	185	22.1	114	17.2	60	8.1	21	1.2
4	84	10.0	27	4.1	12	1.6	5	0.3
5	26	3.1	13	2.0	-	-	-	-
6	6	0.7	2	0.3	2	0.3	-	-
8	3	0.4	1	0.2	-	-	-	-
9	1	0.1	-	-	-	-	-	-
12	2	0.2	-	-	-	-	-	-
TOTAL	836	100	661	100	744	100	1762	100
Sample mean	2.31		1.98		1.49		.40	
Sample Std.dev.	1.34		1.06		.95		.72	
Sample variance	1.81		1.13		.91		.52	

Source: FFS, 1995.

comparability, which may be of interest for future research. The *European Community Household Panel Survey* (ECHP) supplies more recent dynamic data on partnerships, childbearing, educational and occupational biographies. It also offers comparable information across countries through a standardized interview questionnaire, methodology and procedure. However, it has several features that do not make it suitable for the purposes of the present dissertation. For instance, the ECHP does not present data on the type of education, which is a crucial variable for the current study.

It is well known that retrospective surveys are often criticized for a number of reasons. These surveys rely on the memories of individuals, which might well be inaccurate. Respondents might omit some events, or the timing of the event might not be correctly recalled. However, the quality of the Spanish FFS data seems to be relatively reliable. Despite the criticisms, thus, the research on biographical designs, of the type used in the FFS is still particularly valuable for the study of causal relationships. The FFS questionnaire follows an event–oriented design. It is asked whether an event has been experienced (for instance, motherhood); how many events of that kind have been experienced (number of children); and then (recursively) for each event, date of the event and further characteristics.

Eighteen respondents were excluded for the analysis of the first births (Chapter 5) for a twofold reason: they had the conception before the age of 15, or there were missing data on some crucial variables. 61.73% of the sample had given birth to the first child [2471 women]. 836 and 661 women belonged to the oldest cohorts, i.e. they were born in 1945– 54 and 1955–59. The youngest birth cohorts (1960–64 and 1965–77) are composed of 744 and 1762 women, respectively. In the analysis of the second/third births (Chapters 6 and 7), I only included women who did not have twins at first/second births and women whose first/second child did not die before the subsequent child was conceived. These women constitute the majority of the cases. Missing, or inaccurate reported data was also omitted from the

analyses. In Chapter 6, the sample comprises of 2,232 women who gave birth to 1,594 second–children (71.42%). The distribution in cohorts is as follows: 673, 551, 566 and 442 women for the 1945–54, 1955–59, 1960–64 and 1965–77 birth cohorts. For third births, the final sample includes 1,621 women who gave birth to 495 third–children (30.54%). 594, 456, 391 and 180 women belong to the 1945–54, 1955–59, 1960–64 and 1965–77 birth cohorts, respectively.

In an earlier analysis, women who were not in the same marital or non–marital union as they were at the time of the first/second birth were excluded from the sample for second and third births. It has been argued that partners might want additional children in order to confirm a new relationship (Hoem, 1993: 104), and remarriage might foster fertility since "those who marry again bring up more children than those who marry only one." (Kamarás, 2003: 6, 20) In fact, "Vikat et al. (1997) shows that women who have one or two children before the current union have a risk of third birth twice as high as that of women with both children in the same union." (cit. in Berinde, 1999: 358). However, I was suggested not to exclude these cases since these women are worth analyzing: the same logic that applies for the correlated heterogeneity component between education and motherhood might also hold to union/marriage and motherhood (Esping–Andersen, personal communication, 2003).[11] In a small number of cases, the month in which education started and/or finished was absent and therefore these values were assigned randomly.[12]

---

[11] 50 women in the analysis of second births, and 19 for third births.

[12] Only in cases where detailed and completed information on the woman educational/occupational history was available despite the missing date. In these cases, two dates were assigned randomly: June for the date in which education finishes and September for the date in which education starts. These dates correspond with the end and the beginning of the schooling year, respectively.

4.3. Description of the variables

The dependent variable is taken as the time of birth, minus nine months. Using the date of conception, rather than that of birth, avoids changes that may occur between conception and birth, such as the woman's departure from the labor market.[13] In the process of departing from the educational system, the observation is censored when the woman had not left education, at the date of interview. The dependent variable is measured as being the first time the woman left the educational system, after the age of 15, unless the woman interrupted education for less than 16 months. In the latter case, I took the subsequent date of ceasing in education.[14]

In some countries, educational enrollment over time becomes less continuous, and is more often interrupted by periods of participation in the labor market (see: Noack for the Norwegian case, in: Corijn and Klijzing, 2001). This is not the case in Spain, and so I feel justified in not distinguishing between the first and the subsequent breaks in education. In other institutional settings (for example, Germany, Austria), education is frequently combined with apprenticeships and other forms of on–the–job training (see: Hullen and Pfeiffer, Nowak, in: Corijn and Klijzing, 2001) In Spain, the institutionalization of the school–work transition shows that leaving education precedes entering the labor

---

[13] However, I am unable to capture pregnancies that are interrupted by abortions.

[14] Several analyses were conducted in order to test the sensitivity of the results to different specifications of the dependent variable in the process of leaving the educational system. For instance, I measured the dependent variable as the last time the woman left the educational system (up to the date of interview), unless the woman interrupted the education for more than 36 months. In the latter case, I took the corresponding date of leaving school prior to the moment in which this event happened. Neither the magnitude of the effects nor their sign and significance were strongly impacted, so I decided to keep the first time out of the educational system as the dependent variable.

force, and so I do not have to make reference to the fact that young adults might be temporarily out of the educational system for more than 16 months in order to undertake an apprenticeship. In Spain, being absent from the educational system for more than 16 months is synonymous with leaving the education permanently.

When studying the effect of education on first births, observation begins at the age of 15 years, and ends with the conception of the first child or, for right–censored cases, with the date of interview (Chapter 5).[15] For second and third births, observation begins with the date of the first/second birth and ends with the conception of the second/third child or, for right–censored cases, with the date of interview or ten years after first/second birth, whichever occurs first (Chapters 6 and 7).[16]

A description of the covariates listed in Table 4.2 follows. Firstly, I include the number of siblings as an instrument in gauging the woman's propensity towards motherhood. Growing up in a family with a large number of siblings might influence a woman's decision on the number of children in her own family. However, it is also possible that a woman who was an only child herself would want a large family, and would provide siblings for her child. This covariate tries to document these net effects (Chapters 5, 6 and 7).

There have been so many changes in recent decades that age becomes an important determinant in explaining the probability of the individual in following one life–path or another. All the piecewise linear models applied in the empirical part of the dissertation, as we have seen, include age as the baseline. Moreover, all models are controlled for four birth cohorts: 1945–54, 1955–59, 1960–64, and 1965–77 (Chapters 5, 6 and 7). Cohort comparisons not only show the most recent shifts in the process of education and that of fertility in Spain, but they also allow an

---

[15] See also Blossfeld and Huinink, 1991; Kreyenfeld, 2000; Baizán, Aassve and Billari, 2003.

[16] See also Hoem and Hoem, 1989; Kreyenfeld, 2002. Other studies include 9 years after the second birth was born for right–censored cases (Hoem, 1993: 104).

Table 4.2. List of covariates used in the analysis

	COVARIATES	PROCESS			
		LEAVING EDUCATION	FIRST BIRTH	SECOND BIRTH	THIRD BIRTH
FIXED	Birth cohort Number of siblings Residence up to 15 Woman's age at first birth Woman's relative age at first birth Interval between the first two births Sex of the first two children Partner's level of education				
TIME-VARYING	Motherhood status Parents ever disrupted their union Educational enrollment Activity status Woman's type of employment				
TIME-VARYING or FIXED	Woman's educational level		[time-varying]	[fixed]	[fixed]
	Woman's type of education		time-varying	fixed	fixed
OMITTED	Age difference between partners Civil status	- -	- Appendix	- -	- -

Source: FFS, 1995.

examination of the long–term impact of the different individual factors across time. I specifically distinguish women born before 1960 from those born in that year and after, as the latter group of women experienced a change in the Spanish educational system, which took place in 1970.

Additionally, the social and historical context in which individuals live and mature, decisively influences the birth cohorts to which they belong (Garrido, 1992: 108). In the Appendix, I go one step further and I replicate the analyses by including diverse periods in order to see whether my results differ or not. This is, instead of including the birth cohorts, I control the various recent economic scenarios, during which important social and political shifts have taken place (see also Garrrido, 1992: 18, 48–53, 106–109, 174–175). I distinguish four periods: from the last years of the Francoist regime up to 1976; 1977–1984; 1985–1991 and 1992–1995. Broadly speaking, they correspond to phases of development, crisis, recuperation and crisis.[17] If neither the magnitude, nor the sign and significance of the effects of the covariates in general, and that of education in particular, change dramatically after controlling the periods, then the type of education discourse defended in this dissertation will be repeatedly proved as being strong enough not to be dismissed in future research; as has occurred in the past.

"Previous findings suggest that Swedish parents of two daughters, for instance, have a slightly higher third birth risk than that of parents of two boys or a mixed pair of children (B.Hoem, 1993), though this preference for a mixed sex–composition of children faded away over time." (Schullström, 1996, cit. in Berinde, 1999: 360) Wood and Bean, however, point out that the impact of sex composition of previous births should increase with the trend toward smaller family sizes (In: Kohler and Hank, 2000). In order to test out whether this is what has happened in Spain of late decades, I also include the fixed covariate sex of the first two

---

[17] Main determinants: GDP per capita, public social expenditures (as a percentage of GDP), and labor participation/unemployment rates over recent decades. Own elaboration from: INE, EUROSTAT.

children for the analysis of the third births (Chapter 7). The covariate, sex of the first child, did not significantly improve the application of the models and so it was omitted from my final analysis of second births (Chapter 6).

Demographic variables, such as age at first birth, are shown to be important determinants of subsequent births (Hoem and Hoem, 1989; Kravdal, 1992; B.Hoem, 1993; Berinde, 1999). The younger the woman is when she has her first child, the higher the probability of her having subsequent children. I include this variable in my analysis for second and third births (Chapters 6 and 7). I use a dummy variable for the four categories: less than 20 years, from 20 to 25 years, from 26 to 30 years, and more than 30 years.

However, the distribution of the age at first birth differs widely by educational attainment. Better–educated women are usually older than others when they have their first child, because they stay longer in education. For instance, Table 4.3 shows that amongst the women in our sample of all birth cohorts for the analysis of third births, the average age at first birth for those with primary and low secondary education was 22.90 and 23.17. While, for women with upper secondary and university education the average ages were 24.40 and 25.97, respectively. Better–educated women interpret a late age at first birth differently than others. "What is completely normal childbearing behavior for one educational group is quite unusual for another." (B.Hoem, 1996: 337) Table 4.4 illustrates similar results for second births.[18] In order to take account of the fact that the age at first birth has a different meaning for each educational category, I include the covariate relative age at first birth. Following previous analyses, I use the mean age at first birth by educational attainment "to construct an indicator variable for whether a woman's age at first birth is below the group average or above the group average." (Kreyenfeld, 2002: 31)

---

[18] Average mean age at second birth in my sample for the third birth was 26.59 for primary– 27.14 and 28.24 for low– and upper secondary– and 29.30 for better–educated women.

Table 4.3. Relative age at first birth for women at risk of a third child. Cumulative percentages

AGE AT 1ST BIRTH	WOMAN'S EDUCATIONAL LEVEL				
	PRIMARY	LOWER SEC.	UPPER SEC.	TERTIARY	GROUP*
14	0.33	0	0	0	
15	1.33	0.43	0	0	
16	2.49	1.14	0	0.62	
17	5.64	3.14	1.28	0.62	early
18	9.62	7.41	3.84	1.25	
19	16.42	13.96	7.05	2.51	
20	25.87	24.36	12.18	3.77	
21	35.49	33.62	18.59	7.54	
22	47.10	43.73	26.92	15.72	
23	58.37	54.84	41.02	20.75	medium
24	68.82	66.09	49.99	32.70	
25	78.27	76.34	67.30	44.64	
26	85.73	83.60	77.56	56.60	
27	91.04	90.01	85.89	66.55	
28	94.35	93.43	90.38	79.24	late
29	95.67	96.14	92.30	87.42	
30	96.99	97.56	94.23	91.82	
31	98.49	98.41	98.07	93.71	
32	99.00	98.84	98.07	98.11	
33	99.33	99.41	98.07	98.74	very late
34	99.66	99.98	98.71	99.37	
35	99.83	99.98	99.35	99.37	
37	100	100	100	100	
Nº WOMEN	603	702	157	159	1621

Source: FFS, 1995. All birth included (1945–1977).
Notes:
* From: Berinde, 1999.

Table 4.4. Relative age at second birth for women at risk of a third child. Cumulative percentages

AGE AT 2ND BIRTH	WOMAN'S EDUCATIONAL LEVEL				
	PRIMARY	LOWER SEC.	UPPER SEC.	TERTIARY	GROUP *
16	0.33	0	0	0	
17	0.83	0.43	0	0	
18	2.32	0.57	0	0	very early
19	5.47	1.85	0.64	0	
20	7.29	3.98	1.28	1.25	
21	11.93	7.54	6.37	1.88	
22	18.06	13.38	7.01	3.14	
23	24.69	19.65	8.92	5.03	
24	33.81	26.20	14.65	6.91	early
25	41.77	35.31	20.38	14.46	
26	50.39	43.43	28.66	20.12	
27	60.17	53.54	41.40	28.93	
28	69.46	62.65	51.59	38.36	medium
29	75.10	70.91	64.96	48.42	
30	81.07	79.03	75.79	63.52	
31	86.04	86.72	85.34	77.98	late
32	90.18	91.13	88.52	88.64	
33	92.17	93.55	92.98	89.93	
34	94.65	96.82	94.89	94.34	
35	96.65	98.39	96.16	97.48	
36	98.65	99.67	97.43	97.48	very late
37	99.48	99.95	99.34	98.74	
38	99.67	100	99.34	98.74	
39	99.67	100	99.34	99.37	
40	100	100	100	100	
Nº WOMEN	603	702	157	159	1621

Source: FFS, 1995. All birth included (1945–1977).
Notes:
* From: Berinde, 1999: 336.

Moreover, women who have their first two children closely together might have a higher probability of having a third birth. For the interval between the first two births, I include in the analysis of third births three categories which follow the trend of previous investigations (Chapter 7): from 9 to 29 months; from 30 to 53 months; and at least 54 months between first and second births.[19]

The variable educational enrollment reflects whether the woman is within or outside of education in the analysis of the first child (Chapter 5). Additionally, in order to account for the effect of a recent departure from the educational system on entering into motherhood, I experimented with several categories that outline the duration of time since the end of the educational enrollment. Here, I present a specification which indicates whether the woman has left school for up to two years, from two to five years, or more than five years ago.

Furthermore, I use the level of the respondent's education as an approximate measure of human capital. Some previous works have stressed the fact that the impact of education is stronger on parenthood, than on marriage and cohabitation (Liefbroer and Corijn, 1999). The Spanish FFS contains full histories of educational enrollment, that include dates of attainment for each level of education. I include this variable on the basis of the 1997 International Standard Classification of Education (Table 4.5).[20]

---

[19] See: Hoem and Hoem, 1989.

[20] "The International Standard Classification of Education (ISCED) was designed by UNESCO in the early 1970s to serve "as an instrument suitable for assembling, compiling and presenting statistics of education both within individual countries and internationally." It was approved by the International Conference on Education (Geneva, 1975), and was subsequently endorsed by UNESCO's General Conference when it adopted the Revised Recommendation concerning the International Standardization of Educational Statistics at its twentieth session (Paris, 1978). The present classification, now known as ISCED 1997, was approved by the UNESCO General Conference at its 29th session in November 1997."

Table 4.5. Construction of the variable "woman's educational level" on the basis of the ISCED (1997)*

CODE	NAME OF THE LEVEL	CATEGORIES OF THE VARIABLE USED
0	* Pre–primary education	PRIMARY EDUCATION
1	* Primary education [first stage of basic education]	
2	* Lower secondary education [second stage of basic education]	LOWER SECONDARY EDUCATION
3	* Secondary education	UPPER SECONDARY EDUCATION
4	* Post–secondary non university education	TERTIARY EDUCATION
5	* First stage of tertiary education [not leading directly to an advanced research quality]	
6	* Second stage of tertiary education [leading to an advanced research qualification]	

Source: FFS, 1995 [v801 and v805].
Notes:
   * 1997 International Standard Classification of Education. In: http://www.unesco.org/education/information/nfsunesco/doc/isced_1997.htm

The fact that more than 20 percent of the female Spanish sample [22.61%] has not attained at least lower secondary education at the time of the interview, inspired me to include a specific category for primary education. For the analysis of first births, I use a time–varying variable (Chapter 5). But, in Spain most women conclude their studies before the first child is born, so I consider the educational level as a fixed covariate for the analysis of second and third births. I measure this by the highest educational level attained at the time of first births (Chapters 6 and 7).

While the initially dominant segregation of the sexes in the choice of educational level has increasingly disappeared in most Western societies for younger female cohorts (Shavit and Blossfeld, 1993), sex segregation in the field–of–study choice has persisted (Jonsson, 1999, Van de Werfhorst, 2004: 2). Consequently, I try to demonstrate in my work that it is important to differentiate not only the level of education, but also the subjects in which women are educated. I include the type of education for each educational level, in order to incorporate possible differences in fertility among women within the same educational level (this is a time–varying covariate in the analysis of first births [Chapter 5] and fixed–covariate for the second and third births [Chapters 6 and 7]). Choosing particular types of educational training might be related to particular orientations held by women for family formation and I propose a link between the type of education a woman undertakes in her early adulthood and her fertility decisions once she has entered a partnership. This relationship is made up of the values that the woman holds which influence the decisions taken by her during both processes, at different stages in her life.

In my research, one branch of educational studies includes those related to the care of individuals and studies which involve specific social skills or relational capacities; especially studies requiring close communication with other people and expressive capacities. Previous research has also distinguished between the sexes and the choice of the two most "sex–typical" educational

sectors; namely science/technology/engineering on one hand, and caregiving/nursing/social sciences/humanities on the other (Jonsson, 1999: 391).[21] Such studies draw on characteristics that can be seen as an extension of traditional female roles. Moreover, my choice is based on prior research concerning the attitudes of individuals towards work: women do prefer to "help others" and to "work with people" (Bengtsson, 1972; Gamberale, Sconfienza and Hagström, 1996; cit. in Jonsson, 1999: 394). Men, however, are traditionally described as being more career oriented and driven by high incomes. The reason for this might be, according to psychologists, that "most women express and define themselves in terms of social relationships whereas most men focus on personal achievement within hierarchies." (Gilligan, 1993; Beutel and Marini, 1995; cit. in Hakim, 1996: 114)

In fact, according to OECD and the FFS data, women constitute the majority of students in these subjects (Tables 4.6 and 4.7), although some inter–cohort differences appear in the corresponding ratio (Bricall, 2000). All other studies are grouped together in another category for the purposes of this dissertation, as they often lead to occupations that are male–dominated such as those in business, technical and/or professional occupations. "These particular occupations and professions are male in that they draw on specifically masculine characteristics, such as rationality, detachment, extraordinary levels of commitment, and so on." (Crompton, 2001: 50&ff.) In Table 4.8, I present in detail the classification of educational types used in the analysis.[22]

---

[21] In this sense, for instance, "across a range of very different countries, women in a traditionally professional occupation (medicine) have been demonstrated to be more likely to develop domestic and employment careers in which family life has been accommodated or prioritized than have women in a managerial occupation (medium– and high–level managers in retail banking)." (Crompton, 2001: 48)

[22] Different combinations were tested before the final specification of the variable. I present here the final specification which best fits with the arguments developed in this section and in Chapter 2 (Section 2.1.5).

Table 4.6. Percentage of tertiary qualifications[1] awarded to women in the OECD countries, by subject category in the year 2000

COUNTRY	All fields of study	Health and welfare	Life sciences, physical sciences and agriculture	Maths and computer services	Humanities, arts and education	Social sciences, business, law and services	Engineering, manufacturing and construction
AUSTRIA	32	59	46	15	66	49	18
BELGIUM	53	59	40	25	65	52	21
CANADA	52	74	53	28	68	58	23
CZECH REP.	53	70	45	12	71	54	27
DENMARK	49	59	48	28	69	44	26
FINLAND	59	84	51	35	77	65	19
FRANCE	56	60	49	31	73	59	24
GERMANY	46[2]	56	38	23	69	43	20
GREECE	-	-	-	-	-	-	-
HUNGARY	35	70	42	17	71	51	21
ICELAND	59	82	57	22	83	57	25
IRELAND	60	75	53	41	69	57	24
ITALY	56	58	51	54	82	55	28
NETHERLANDS	66	76	37	16	71	49	13
NORWAY	52	82	46	15	75	48	27
POLAND	68	68	64	58	78	64	24
PORTUGAL	65	77	61	37	78	64	35
SLOVAK REP.	52[2]	69	41	17	71	50	30
SPAIN	**59[2]**	**76**	**52**	**34**	**72**	**60**	**27**
SWEDEN	93	79	53	39	75	57	25
SWITZERLAND	26	54	33	16	62	35	11
UK	54	71	52	27	67	55	20
USA	56	75	51	33	68	53	21
Country mean	54.6	69.7	48.3	28.3	71.8	51	23.1

Source: OCDE, 2001.
Notes: (1) Tertiary–type A (Second Degree) & Advanced Research Programs [ISCED–97 levels]. (2) Tertiary–type B (First Degree).

Table 4.7. Distribution of respondents by the field–of–study in the analysis of the first, second and third births

	FIRST*	SECOND	THIRD
WOMAN'S TYPE OF EDUCATION			
Primary	905 [22.61%]	729 [32.66%]	603 [37.20%]
Low Sec: General [ref.]	1122 [28.03%]	739 [33.11%]	527 [32.51%]
Low Sec: Care & Relational Skills	112 [2.80%]	60 [2.69%]	40 [2.47%]
Low Sec: Others	488 [12.19%]	213 [9.54%]	135 [8.33%]
Upper Sec: General	250 [6.25%]	110 [4.93%]	71 [4.38%]
Upper Sec: Care & Relational Skills	223 [5.57%]	54 [2.47%]	35 [2.16%]
Upper Sec: Others	396 [9.89%]	85 [3.81%]	51 [3.15%]
Tertiary: Care & Relational Skills	335 [8.37%]	176 [7.89%]	119 [7.34%]
Tertiary: Others	172 [4.30%]	66 [2.96%]	40 [2.47%]
	4003	2232	1621

Source: FFS 1995.

Notes:

* Type of education of the highest level of education attained by the woman at the time of the interview.

Table 4.8. Construction of the variable "woman's type of education for each educational level"

	PRIMARY EDUCATION	LOWER/UPPER SECONDARY	TERTIARY EDUCATION
GENERAL STUDIES	General Primary Education (1)	General Lower/Upper Education (2)	
STUDIES RELATED TO THE CARE OF INDIVIDUALS OR INVOLVING SOCIAL SKILLS OR RELATIONAL CAPACITIES		Training on teacher and education science; medical and health; fine and applied arts; humanities; religion and theology; social and behavioral science; law and jurisprudence; and home economics (domestic science) programs (3)	Teaching and education sciences; medical and health; fine and applied arts; humanities; religion and theology; social and behavioral sciences; law and jurisprudence (5)
OTHER STUDIES		Training on natural science; commercial and business administration; mathematics and computer science; trade, craft and industrial; engineering; architectural and town-planning; agriculture, forestry and fishery; service trade; transport and communication; mass communication and other programs (4)	Natural sciences; commercial and business administration; mathematics and computer sciences; engineering; architecture; mass communication; service trade; transport and communication; agriculture; forestry and fishery and other programs (6)

Source: FFS, 1995.
Notes:
(1) Primary; (2) Low Sec: General & Upper Sec: General; (3) Low Sec: Care & Relational Skills & Upper Sec: Care & Relational Skills; (4) Low Sec: Others & Upper Sec: Others; (5) Tertiary: Care & Relational Skills; and (6) Tertiary: Others, in TABLE 5.1 (Chapter 5), TABLE 6.1 (Chapter 6), and TABLE 7.1 (Chapter 7).

Even though it is only women who have children, this fact does not imply that women are the only units of analysis. Having children is a decision made by two people, and this is one of the merits of the New Home Economics theory. In fact, Becker and Willis emphasize not only the role of female human capital, but also the earning power of the male partner in fertility decisions and timing (especially in dynamic fertility models). In this sense, educational homogamy might be an important factor for women's fertility. Highly educated women often have a partner also with a high level of education.[23] The father's time is not seen as being affected by childbearing and childcare (Gustafsson, 2001: 230), and assuming that education is a valid indicator for the earning potential (information on income is not available in the FFS), the concurrence of resources within the family may encourage fertility (Heckman and Walker, 1990; Merigan and St Pierre, 1998). I use the woman's partner's educational level as a measure of this effect.[24] Unfortunately, the FFS data set does not allow me to include dynamic information on the husbands/partners' dedication to unpaid work and/or parental leave.

In addition, a time–varying dummy variable is included to control for the woman's activity status. This is an important variable that needs further specification. This is as one of the main questions that can be raised in the present dissertation is whether I

---

[23] "People marry within rather than outside socioeconomic groups, although some groups are more closed than others. Groups at the top and the bottom of the educational hierarchy are more closed than groups in the middle." (Kalmijn 1998: 409)

[24] The variable is not included in the analysis of first births. The reason for this is as follows. The Spanish FFS only offers information on the highest educational level of the partner as attained at the time of the interview. It is, thus impossible to reconstruct his educational history and consequently, I cannot use a time–varying variable for first births. However, I feel justified in considering the educational level of partners as a fixed covariate for the analysis of second and third births because in Spain most of the births occur once the woman(parents) is(are) out of the educational system. In this sense, the variable is taken as being the highest educational level attained by the man at the time of the interview.

am in fact measuring family–oriented values through the type of education of females, or whether it is actually the woman's position in the labor market which is really significant. In order to answer to this question, the women's type of employment is also controlled in a two–fold way. In the first instance, previous research has pointed to the importance of part–time employment for female participation in the labor market (Blossfeld and Hakim, 1997; Hakim, 1998). Many women who opt to work as second earners in the household (Hakim, 1998), or who want to make work and family more compatible choose this type of employment.[25] However, the availability of part–time employment is not consistent in all industrialized countries. In Spain, the scarcity of part–time jobs constrains women to opt of full–time employment or else not to work at all. Also, a high proportion of part–time employment is precarious in Spain, so women may not have the opportunity to decrease the career and family conflict.

In the analysis of second births (Chapter 6), the variable type of employment$_i$ reflects whether the woman is employed or not; and if so, whether she is employed less than 25 h/w,[26] 25–34 h/w, 35–44 h/w, more than 45 h/w, or whether she is employed on a variable schedule. The inclusion of this variable does not significantly change the results with regard to education, so I decided not to include it in the analysis of third births. Yet, the advantages of education is asserted in all those institutional settings in which the public sector is the employer of better–educated women. Unluckily, the FFS data does not reflect whether the woman is employed in the private or in the public sector in Spain. Given the incapability of directly measuring this meaning and the compatibility between work and family, I control the female position in the workforce from another angle. The variable type of employment$_{ii}$ indicates whether the woman is employed or not; and if so, whether she works as a caregiver or as a teaching

---

[25] In the Netherlands, England or Germany, part–time contracts constitute an important resource for female participation in the labor market.

[26] Hours per week.

professional, or else in another field. It is assumed that most care related and teaching employment is public employment and therefore this group of women may enjoy a more compatible relationship between work and family responsibilities.

The covariate age difference between partners,[27] and a time–varying dummy that indicates whether the parents ever disrupted their union before the first birth did not appreciably improve the fit of the models for the first, second and/or third births. Parental divorce is so rare in Spain (especially older cohorts) that no effect appeared. Nor did it have a great impact on the remaining coefficients. It was consequently dropped from the final specification of the birth processes, although it is kept in the study of the process of departure from the educational system. In general, parental divorce might tend to accelerate the completion of education due to economic constraints within the household.

The impact of the duration of the partnership is a standard issue in relevant literature (B.Hoem, 1993),[28] but I do not allow for the probability of marital breakup in my analyses, for two main reasons. Firstly, studies already carried out have shown that couples in marriages with a higher probability of dissolution enter later into parenthood and have smaller families (Lillard, 1993). This means that there is a significant negative correlation between unobserved factors simultaneously affecting both processes. It also implies that we cannot treat the duration of the partnership as an exogenous variable. Secondly, I agree that women make rational choices with costs and benefits, but in my sample I believe that it is not necessary to take account of the cost of marriage dissolution. This would be an absolute must in countries such as Belgium, Sweden, Luxembourg or the United States where half of

---

[27] See: Berinde, 1999.

[28] In Sweden, the most common combination in the variable of age is to have the first child in the 20–25–year age group, at a duration of 8 to 23 months for the lesser educated groups, whereas for the most highly educated women, the age at first birth most often exceed 25 years, at which time they had lived for at least two years with the child's fathers (B.Hoem, 1993: 115–116).

all marriages result in divorce (59, 53.9, 49, and 49.1 percent respectively in 2000).[29]

In Spain, divorce was made legal in 1981. Today, divorce rates are still low (16.5 percent), and they were even lower in the past. Given that I am analyzing the situation in the early 1990s, it is actually irrelevant, in the context of my study, to include this variable due to the small number of divorces present in the data.

In addition, the woman's civil status has been traditionally included as an explanatory variable in the entry into motherhood. The same initial reason outlined in the previous paragraph is applicable here. Recent research has demonstrated the existence of a strong selection effect, which influences both union formation and first births (Baizán et al., 2003).[30] It is beyond the scope of this dissertation to investigate the causal mutual relationship between first union formation and first childbirth, along with education. However, I remain unconvinced in considering the woman's civil status as being exogenous when it is shown that union formation and motherhood are also interdependent life events. This is the main reason for which I omitted the variable civil status in the models; although I include it in the Appendix. There, I show the sensitivity of the results to the inclusion of this variable. I included three categories: "not in a union", "currently cohabiting", and "currently married". Non–marital cohabitation is comparatively low in Spain, particularly for older cohorts, and additionally it became clear that the large majority of births occur within marriage. In my final specification, I only distinguish as to whether the woman is in a union (cohabitation or marriage) or otherwise.

In considering the latter stage of educational enrollment (Chapter 5), I also include the following variables: two fixed covariates (residence up to 15; birth cohort), and three time–

---

[29] Source: EUROSTAT, 2000; OECD, 2000, 2002.

[30] When controlling common determinants, the authors show that the risk of conception increases immediately at marriage, and it continues to be high during the following four years. However, entry into cohabitation provokes a much smaller increase in the relative risk of conception.

varying covariates (parental union disruption, employment situation and motherhood status). The variable motherhood status reflects whether the woman is childless, pregnant or whether she already has a child. The place of residence up to age 15 is a contextual variable, referring to where the woman lived for the longest given period, up to that age. The reference category "rural" includes small towns (municipalities with a population of less than 10,000 inhabitants). The category "urban" refers to municipalities of 10,000 inhabitants or more. A rural place of residence is particularly related to increased difficulties in accessing higher levels of education. The Spanish educational system provides few opportunities to change the place of residence in order to study, and consequently the overwhelming majority of students live in the parental home (Billari et al., 2001). Moreover, individuals in the educational system have extremely low migration rates (Baizán, 2002).

Table 4.9. ISCED (1997) code list describing exactly how educational programs/subjects groups are allocated to the different fields of education used in the analysis*

THE VARIABLE *WOMAN'S TYPE OF EDUCATION* USED IN THE ANALYSIS	DETAILED ISCED FIELDS OF EDUCATION
GENERAL EDUCATION	Basic general programs pre-primary, elementary, primary, secondary, etc. Simple and functional literacy, numeracy.
TEACHER AND EDUCATION SCIENCE	Teacher training for pre-school, kindergarten, elementary school, vocational, practical, non-vocational subject, adult education, teacher trainers and for handicapped children. General and specialized teacher training programs. Education science: curriculum development in non-vocational and vocational subjects. Educational assessments, testing and measurement, educational research, other educational science.
MEDICAL AND HEALTH	Medicine: anatomy, epidemiology, cytology, physiology, immunology and immunoaematology, pathology, anesthesiology, pediatrics, obstetrics and gynecology, internal medicine, surgery, neurology, psychiatry, radiology, ophthalmology. Medical services: public health services, hygiene, pharmacy, pharmacology, therapeutics, rehabilitation, prosthetics, optometry, and nutrition. Nursing: basic nursing, midwifery. Dental services: dental assisting, dental hygienist, dental laboratory technician, and odontology. Social care: care of the disabled, childcare, youth services, gerontological services.

FINE AND APPLIED ARTS	Fine arts: drawing, painting, and sculpture. Performing arts: music, drama, dances. Graphic and audio-visual arts: photography, cinematography, music production, radio and TV production, printing and publishing. Design. Craft skills.
HUMANITIES	Religion and theology. Foreign languages and cultures: living or "dead" languages and their literature, area studies. Native languages: current or vernacular language and its literature. Other humanities: interpretation and translation, linguistics, comparative literature, history, archaeology, philosophy, ethics.
SOCIAL AND BEHAVIORAL SCIENCE	Economics, economic history, political science, sociology, demography, anthropology (except physical anthropology), ethnology, futurology, psychology, geography (except physical geography), peace and conflict s studies, human rights. Social work: counseling, welfare.
LAW AND JURISPRUDENCE	Local magistrates, notaries, law (general, international, labor, maritime, etc.), jurisprudence, history of law.
NATURAL SCIENCE	Natural sciences: Biology, botany, bacteriology, toxicology, microbiology, zoology, entomology, ornithology, genetics, biochemistry, biophysics, other allied sciences, excluding clinical and veterinary sciences. Physical sciences: Astronomy and space sciences, physics, other allied subjects, chemistry, other allied subjects, geology, geophysics, mineralogy, physical anthropology, physical geography and other geosciences, meteorology and other atmospheric sciences including climatic research, marine science, vulcanology, palaeoecology.

COMMERCIAL AND BUSINESS ADMINISTRATION	Retailing, marketing, sales, public relations, real estate. Finance, banking, insurance, investment analysis. Accounting, auditing, bookkeeping. Management, public administration, institutional administration, personnel administration. Secretarial and office work.
MATHEMATICS AND COMPUTER SCIENCE	Mathematics, operations research, numerical analysis, actuarial science, statistics and other allied fields. Computer sciences: system design, computer programming, data processing, networks, operating systems –software development only (hardware development should be classified with the engineering fields).
ENGINEERING	Engineering and engineering trades. Engineering drawing, mechanics, metal work, electricity, electronics, telecommunications, energy and chemical engineering, vehicle maintenance, surveying.
TRADE, CRAFT AND INDUSTRIAL	Food and drink processing, textiles, clothes, footwear, leather, materials (wood, paper, plastic, glass, etc.), mining and extraction.
ARCHITECTURAL AND TOWN-PLANNING	Architecture and town planning. Structural architecture, landscape architecture, community planning, cartography. Building, construction. Civil engineering.
AGRICULTURE, FORESTRY AND FISHERY	Agriculture, crop and livestock production, agronomy, animal husbandry, horticulture and gardening, forestry and forest product techniques, natural parks, wildlife, fisheries, fishery science and technology. Veterinary medicine, veterinary assisting.

SERVICE TRADE	Hotel and catering, travel and tourism, sports and leisure, hairdressing, beauty treatment and other personal services: cleaning, laundry, dry-cleaning, cosmetic services.
TRANSPORT AND COMMUNICATION	Seamanship, ship's officer, nautical science, aircrew, air traffic control, railway operations, road motor vehicle operations, postal service.
OTHER PROGRAMS	Environmental protection: environmental conservation, control and protection, air and water pollution control, labor protection. Security: protection of property and persons: police work and related law enforcement, criminology, fire-protection and fire fighting, civil security. Military.

Source: FFS, 1995 [v806].
Notes:
* 1997 International Standard Classification of Education. In:
http://www.unesco.org/education/information/nfsunesco/doc/isced_1997.htm

CHAPTER 5. A REASSESSMENT OF THE IMPACT OF EDUCATIONAL ENROLLMENT AND ATTAINMENT ON THE TIMING OF FIRST BIRTHS

5.1. Introduction

Recent research has improved our insights into family formation processes. A wide range of studies has emphasized the impact of female educational attainment as being one of the major determinants of the timing of first births, as well as overall fertility levels. Economists, in particular have demonstrated educational choices as ways of accumulating human capital. Also, given that younger women are today more educated and encounter improved career opportunities, a negative relationship is expected between the increasing educational attainment of women and the probability of entering into motherhood. A second hypothesis regarding the effects of education on family formation refers to educational enrollment: the investment of women in human capital impacts upon the timing of entry into motherhood; but the main delaying effect corresponds to their increasing participation in the educational system itself, because students "are not ready" to have children. Both the effect of human capital investments and the institutional effect of education are commonly invoked as the two main hypotheses that explain recent shifts in family formation in most industrialized societies (Blossfeld, 1995).

Table 5.1 below summarizes the effects of education on the rate of entry into motherhood in different countries, according to

Table 5.1. Effect of women's increasing educational attainment on the entry into motherhood, as found in the existing literature

COUNTRY	EFFECT ON ENTRY INTO MOTHERHOOD		STUDY
	Enrollment education	Level of education	
DENMARK	No effect	Weak (–)	Nicoletti & Tanturri, 2005
FLANDERS	Strong (–)	Strong (–)	Liefbroer & Corijn, 1999
FRANCE	Strong (–)	Weak (–)	Leridon & Toulemon, 1995 [1]
HUNGARY	Strong (–)	Weak (–)	Robert & Blossfeld, 1995 [2]
ITALY	No effect	Strong (–)	Pinnelli & De Rose, 1995 [3]
NETHERLANDS	Strong (–)	Weak (–)	De Jong Gierveld & Liefbroer, 1995 [4]
NORWAY	Strong (–)	Weak (–)	Kravdal, 1994
	Strong (–)	Weak (–)	Liefbroer & Corijn, 1999
SPAIN	–	Strong (–)	Castro Martín, 1992
	Strong (–)	Strong (–)	Baizán, 2001
	Strong (–)	Strong (–)	Baizán, Aassve & Billari, 2003
SWEDEN	Strong (–)	Weak (–)	J. Hoem, 1986
	Strong (–)	Weak (–)	B.Hoem, 1993
	Strong (–)	Weak (–)	B.Hoem, 1995 [5]
EAST GERMANY	Strong (–)	Weak (–)	Kreyenfeld, 2004
WEST GERMANY	Strong (–)	No effect*	Blossfeld & Huinink, 1991
	Strong (–)	No effect	Blossfeld & Rohwer, 1995 [6]
	Strong (–)	Strong (–)	Kreyenfeld, 2004
USA	–	Strong (–)	Marini, 1984
	Strong (–)	No effect	Oppenheimer, Blossfeld & Wackerow, 1995 [7]

Source: (1) Blossfeld, 1995: 77–101; (2) Blossfeld, 1995: 211–226; (3) Blossfeld, 1995: 174–190; (4) Blossfeld, 1995: 102–125; (5) Blossfeld, 1995: 35–55; (6) Blossfeld, 1995: 56–76; (7) Blossfeld, 1995: 150–173.

Notes:

* If changes in *career resources of women* over the life course are introduced (...), the effect of the level of education proves to be even significant and positive (Blossfeld and Huinink, 1991: 160).

this existing literature. Clearly, all studies suggest that there are certain normative social expectations that young women, who participate in education, are not at risk of becoming mothers.[1] In fact, educational participation, to a great extent, delays women's entry into motherhood. In most countries there is empirical evidence that supports the economic theory of the family. The negative effect of women's educational attainment suggests that, more often than not, there is a conflict between women's human capital investments and their role as mothers. Women are the main providers of childcare, even in "women–friendly" family systems such as those of Sweden, Denmark and Norway. And, women are still disadvantaged when they interrupt their careers for the birth of a child. Better educated women, therefore, abandon or at least try to postpone the first birth for as long as is possible in order to decrease their lifetime earnings loss. Yet, research demonstrates that this pattern is more evident in traditional family systems with strict gender–specific divisions of labor (Blossfeld, 1995: 24; Liefbroer and Corijn, 1999: 53), and substantial institutional constraints (Gustafsson, 2001: 236).

In this chapter, I examine the issue of first births by re–examining two well–established findings concerning the effects of education on women's family formation, in the Spanish family context. As noted in Chapter 2, in addition to considering educational choices as the quantity of human capital investments, I also see these decisions as expressing orientations concerning future roles and as a place of socialization. This leads me to consider not only the level of education, but also the type of education in the analysis. Furthermore, completing education is viewed as "one of the important steps towards adult status, thus leading to a steep rise in the rate of entry into parenthood." (Blossfeld, 1995: 73) However, I investigate whether the timing of

---

[1] Italy and Denmark are the only exceptions. As to the former, the effect of women's educational enrollment disappears when "being married" is included in the models. As to the latter, women often begin to work before completing their education, and being in education still does not have a strong inhibiting effect.

the departure from education and the entering into parenthood are jointly determined due to the existence of selection effects.

Using the FFS data, I describe the long–term educational attainment of women and the age of entry into motherhood across cohorts. I firstly model the participation of women in the educational system, and their levels of education as a time–varying process over the life course, and then estimate the effects on the probability of having the first birth. Secondly, I also model motherhood status as a changing process, and estimate its effect on the departure from the educational system. My purpose is to demonstrate that education and fertility might be jointly determined, to some extent, by some common (unmeasured) determinants and might be, therefore, endogenous processes. In addition, the type of education is a good instrument in estimating the unobserved heterogeneity behind endogeneity. Section 5.2 describes the main findings regarding these issues.

5.2. Results

Results are presented in Tables 5.2, 5.3 and 5.4 below. Table 5.2 outlines the analysis for the process of first births. Table 5.3 documents leaving the educational system, and Table 5.4 reports the correlation between both processes. For comparative purposes, I include four models: Models 1 and 2 do not include the unobserved heterogeneity components, while Models 3 and 4 do. Models 1 and 3 show the effect of the level of education alone, and in Model 2 and Model 4, I have additionally included the type of education for each educational level. Models 5 and 6 in the Appendix [Table 9.3] display the results when the woman's civil status is controlled. All risks in the models are relative.

Table 5.2. Transition to first births (conception) in Spain. Piecewise linear models, with main effects

	NO HETEROGENEITY					
	MODEL 1			**MODEL 2**		
Parameters	**R. Risk**	Estim.	S.E.	**R. Risk**	Estim.	S.E.
Baseline constant		-4.17	.17***		-4.17	.17***
Age 15 – 20 (slope)		.39	.03***		.39	.03***
Age 21 – 23 (slope)		.19	.03***		.20	.03***
Age 24 – 26 (slope)		.11	.02***		.11	.02***
Age 27 – 32 (slope)		-.07	.02***		-.07	.02***
Age 32 + (slope)		-.25	.04***		-.24	.04***
BIRTH COHORTS						
1945 – 1954 [ref.]						
1955 – 1959	**1.25***	.22	.05	**1.24***	.22	.05
1960 – 1964	**1.10***	.09	.05	**1.10***	.10	.05
1965 – 1977	**0.70***	-.34	.06	**0.71***	-.33	.06
NUMBER OF SIBLINGS						
No siblings	**1.18***	.16	.09	**1.18***	.17	.09
1 – 2 [ref.]						
3 +	**1.14***	.13	.04	**1.13***	.12	.04
ACTIVITY STATUS						
Not employed [ref.]						
Employed	**0.52***	-.64	.03	**0.52***	-.64	.04
EDUCATIONAL ENROLLMENT						
In education	**0.33***	-1.11	.10	**0.33***	-1.10	.10
Out education (0 – 2 years)	**0.68***	-.38	.10	**0.69***	-.36	.10
Out education (2 – 5 years)	**0.99**	-.01	.06	**1.01**	.01	.06
Out education (+ 5 years) [ref.]						
EDUCATIONAL LEVEL						
Primary	**1.20***	.19	.04			
Lower Secondary [ref.]						
Upper Secondary	**0.57***	-.56	.07			
University	**0.68***	-.38	.09			
TYPE OF EDUCATION FOR EACH EDUCATIONAL LEVEL*						
Primary				**1.16***	.15	.04
Low Sec: General [ref.]						
Low Sec: Care & Social Skills				**1.21**	.19	.12
Low Sec: Others				**0.81***	-.20	.07
Upper Sec: General				**0.57***	-.56	.08
Upper Sec: Care & Social				**0.59***	-.52	.18
Upper Sec: Others				**0.47***	-.74	.12
Tertiary: Care & Social Skills				**0.66***	-.41	.10
Tertiary: Others				**0.59***	-.51	.16
Log–likelihood		-33558.70			-33552.45	

Significance levels: ***=p<.01, **=p<.05, *=p<.10.
Time periods of five years, from 15 to age 20; of three years, from 21 to 26; of six years up to 32; and then open intervals.
* See TABLE 4.8 [Chapter 4]

Table 5.2. (cont.) Transition to first births (conception) in Spain. Piecewise linear models, with main effects

Parameters	WITH HETEROGENEITY					
	MODEL 3			MODEL 4		
	R. Risk	Estim.	S.E.	R. Risk	Estim.	S.E.
Baseline constant		-6.26	.35***		-6.23	.35***
Age 15–20 (slope)		.66	.05***		0.67	.05***
Age 21–23 (slope)		.48	.04***		0.49	.04***
Age 24–26 (slope)		.43	.04***		0.44	.04***
Age 27–32 (slope)		.16	.03***		0.16	.03***
Age 32+ (slope)		-.21	.04***		-0.20	.04***
BIRTH COHORTS						
1945 – 1954 [ref.]						
1955 – 1959	1.66***	.51	.13	1.67***	.51	.12
1960 – 1964	1.19	.17	.12	1.22	.20	.12
1965 – 1977	0.54***	-.61	.13	0.57***	-.56	.13
NUMBER OF SIBLINGS						
No siblings	1.47**	.39	.19	1.54**	.43	.19
1 – 2 [ref.]						
3 +	1.41***	.34	.08	1.40***	.34	.08
ACTIVITY STATUS						
Not employed [ref.]						
Employed	0.31***	-1.14	.06	0.31***	-1.15	.06
EDUCATIONAL ENROLLMENT						
In education	0.35***	-1.04	.18	0.32***	-1.11	.18
Out education (0–2 years)	0.71**	-.33	.13	0.70**	-.34	.13
Out education (2–5 years)	1.01	.01	.08	1.01	.01	.08
Out education (+5 y.) [ref.]						
EDUCATIONAL LEVEL						
Primary	1.16	.15	.11			
Lower Secondary [ref.]						
Upper Secondary	0.32***	-1.14	.13			
University	0.29***	-1.22	.18			
TYPE OF EDUCATION FOR EACH EDUCATIONAL LEVEL*						
Primary				1.12	.11	.11
Low Sec: General [ref.]						
Low Sec: Care & Social Skills				1.47	.39	.27
Low Sec: Others				0.68***	-.38	.13
Upper Sec: General				0.31***	-1.17	.16
Upper Sec: Care & Social				0.32***	-1.12	.32
Upper Sec: Others				0.22***	-1.51	.22
Tertiary: Care & Social Skills				0.27***	-1.30	.20
Tertiary: Others				0.22***	-1.49	.30
Log–likelihood	-33320.01			-33313.85		

Significance levels: ***=p<0.01, **=p<0.05, *=p<0.10.

Time periods of five years, from 15 to age 20; of three years, from 21 to 26; of six years up to 32; and then open intervals.

* See TABLE 4.8 [Chapter 4]

Table 5.3. Conclusion of the educational enrollment in Spain. Piecewise linear models, with main effects

| | NO HETEROGENEITY | | | WITH HETEROGENEITY | | | | | |
| | MODELS 1 & 2 | | | MODEL 3 | | | MODEL 4 | | |
Parameters	R. Risks	Estim.	S.E.	R. Risks	Estim.	S.E.	R. Risks	Estim.	S.E.
Baseline constant		-1.90	.05***		-2.74	.13***		-2.72	.13***
Age 11 – 15 (slope)		.04	.01***		.46	.04***		.46	.04***
Age 16 – 18 (slope)		.13	.03*		.32	.04***		.31	.04***
Age 19 – 21 (slope)		.01	.03		.26	.04***		.26	.04***
Age 22 – 24 (slope)		.05	.03		.33	.04***		.33	.04***
Age 25 +		-.02	.01*		.08	.01***		.08	.01***
BIRTH COHORTS									
1945 – 1954 [ref.]									
1955 – 1959	**0.82*****	-.18	.04	**0.48*****	-.72	.11	**0.48*****	-.72	.11
1960 – 1964	**0.68*****	-.38	.05	**0.26*****	-1.32	.13	**0.26*****	-1.32	.13
1965 – 1977	**0.50*****	-.68	.04	**0.13*****	-2.04	.13	**0.13*****	-2.03	.13
RESIDENCE UP TO AGE 15									
Rural (<9,999)	**1.21*****	.19	.03	**1.61*****	.48	.08	**1.60*****	.47	.07
Urban									
(10,000–1,000,000+) [ref.]									
ACTIVITY STATUS									
Not employed [ref.]									
Employed	**1.15*****	.14	.04	**1.63*****	.48	.06	**1.63*****	.48	.06
PARENTAL UNION DISRUPTION									
No disruption [ref.]									
Divorced / separated	**1.24***	.21	.12	**1.20**	.18	.21	**1.20**	.18	.21
MOTHERHOOD STATUS									
No child [ref.]									
Pregnant	**1.86**	.62	.71	**1.36**	.31	.82	**1.38**	.32	.82
Have a 1st child	**0.34*****	-1.07	.12	**0.21*****	-1.53	.16	**0.22*****	-1.51	.16
Log–likelihood	-33558.70 / 33552.45			-33320.01			-33313.85		

Significance levels: ***=p<.01, **=p<.05, *=p<.10.

Time periods of five years, from 11 to age 15; of two years, from 16 to age 18; of 3 years, from 19 to age 21; of 2 years, from 22 to 24; and then open intervals.

Table 5.4. Correlation between the conclusion of the educational system and first births in Spain. Results of estimation

	MODEL 3		MODEL 4	
	Estimate	S.E	Estimate	S.E
STANDARD DEVIATION OF δ	1.91	.11***	1.90	.11***
STANDARD DEVIATION OF ϵ	1.92	.14***	1.93	.14***
CORRELATION $\epsilon \delta$	.21	.04***	.19	.04***

Significance levels: ***=p<.01, **=p<.05, *=p<.10

5.2.1. The interrelationship between the timing of entering motherhood and that of leaving education

As noted, this work proposes that the process of first births and that of leaving the educational system might share some common unmeasured factors. That is, both processes may be influenced by a set of unobservable factors (values, preferences, norms, infecundity) which lead to choosing a specific life–course configuration, out of many alternative choices [common determinants hypothesis]. In my Models 3 and 4, the correlation term between the heterogeneity components of each process is designed to include these common factors. As expected, there is a positive and significant correlation between these heterogeneity components for women, with a value of 0.21*** in Model 3, and of 0.19*** in Model 4. In other words, data confirms that there are unmeasured female–specific characteristics, that impact on her decisions regarding first births and the conclusion of the educational enrollment.

This means that women who are most likely to have a first birth, are also most likely to leave school earlier (and vice versa). I

believe that the inclusion of these common factors adds a complementary perspective to models without heterogeneity (Models 1 and 2). This only reflects the gross effect of educational enrollment in the same way that most of the afore–mentioned studies do (Blossfeld and Huinink, 1991; Blossfeld, 1995). Here, I am also able to distinguish the "causal" (versus a spurious) impact of educational enrollment on first births (Models 3 and 4).[2] In addition, the introduction of correlated heterogeneity modifies the impact of the other covariates (See Table 5.2). For instance, the impact of the birth–cohort, number of siblings, residence up to the age of 15, the woman's activity status, and particularly of the education type, is stronger in models with unobserved correlated heterogeneity.

The results also show that the (net) impact of educational enrollment is negative to the entry into motherhood, and somewhat lower in the models that incorporate correlated unobserved heterogeneity. Therefore, the role–expectation hypothesis is also supported empirically in Spain; stating that current school enrollment reflects competing roles and that young women who stay in education demonstrate a lower probability of entering into motherhood. However, as noted previously, the correlation between the heterogeneity components of the processes studied implies an important qualification to this result. This is

---

[2] For men, there is a positive but weak correlation between the heterogeneity components of the process of parenthood and that of leaving the educational system: 0.10 and 0.095** in Model 3 and 4 respectively. Doubtless, the correlation is strongly contingent on sex [detailed results not shown here]. The correlation term has also varied over the decades. Before 1965, for instance, it is 0.17*** while it is 0.48*** after that date, being statistically significant in both cases (these results, not shown in Table 5.4, correspond to Model 4 [see Table 9.1, Appendix]) Longer periods in education and better job opportunities for younger women make the intensity of the trade–off between family and career more strong. As a result, data confirm that the correlation term between first birth and leaving the educational system has increased in the last two decades.

because both processes –motherhood and completion of education– are jointly determined, to a certain extent. Here, I have proposed that the common determinants that might be related to values that favor (reduce) the entry into motherhood, also relate to an early (late) departure from the educational system.

In addition, the results in Table 5.2 show that in Spain, the so–called left school shift–effect does not exist. Being out of the educational system increases the probability of becoming a mother with respect to women who are still enrolled in the system; but the rate of entry into motherhood is not positive until the woman has spent a considerable amount of time out of education. Therefore, I do not find an instant positive effect of leaving education, as it has been found in other contexts, such as in the United States (Brien, Lillard and Waite, 1999). Longer periods enrolled in education means higher career expectations for women; which might be problematic often given the high female unemployment rates in Spain in recent decades. Young women need establish their career before starting a family (see also: Baizán et al., 2001). All this applies, however, unless we control the woman's civil status. In this case, we see that the educational enrollment effect in the model of entry into motherhood becomes less strong and therefore is somewhat mediated by entry into marriage. Previous research shows, for instance, that if "being married" is included in the model of first births in Italy, then the impact on female educational enrollment modifies and diminishes (Pinnelli and De Rose, in: Blossfeld, 1995: 23–24).

Finally, the results concerning the influence of pregnancy/first birth on departure from educational system show that the impact is not spurious (Table 5.3). A strong positive effect exists when the woman is pregnant, while afterwards the impact is the reverse, that is, the probability of leaving the educational system is lower when the woman has already had the first child. This finding suggests that if the woman does not leave education while she is pregnant, she does not necessarily do it afterwards either. The low number of individuals involved in the computation of this covariate,

however, highlights the caution that is required in interpreting this particular result.

5.2.2. The impact of the level and type of education on the entry into motherhood

The most interesting results of my analysis pertain to the relationship between educational attainment and first births. Drawing on empirical work already done on Spain (Castro Martín, 1992; Blossfeld, 1995; Baizán, 2001), I find evidence to suggest that the lower the level of education of the woman, the earlier she enters motherhood, in all models. However, my results deviate somewhat from the expectations of the human capital hypothesis. Firstly, there is not a monotonic negative relationship between fertility and education. Model 1 suggests a U–shaped relationship between them. Once I account for the heterogeneity component, the difference between middle and better–educated women vanishes, but this does not imply a strong monotonic shape of the hazard (relative risks of 1.16, 0.32*** and 0.29***). In addition, in Models 2 and 4 I find that women with primary studies do not demonstrate the highest rates of entry into motherhood.

Secondly, when I add a differentiation between the different types of education to the analyses, I obtain substantial divergences from the existing empirical literature. According to my results, the type of education reflects important differences regarding fertility among women within the same educational level. Furthermore, the effect of the woman's type of education becomes more important once I control heterogeneity, and this means that some selection effects might hide the effects of the field–of–study in Models 1 and 2 without heterogeneity. Therefore, the remaining discussion will refer to the model with heterogeneity and the distinctions in the types of education (Model 4, Table 5.2). Model 4 shows that there is a positive (although not statistically significant) relative risk (1.47) attached to having first births for lower secondary educated women whose studies concern the care of individuals

and/or emphasize relational abilities. For the "others", the relative risk is 0.68***. All upper secondary educated women have a lower risk of becoming mothers in relation to our category group (general low secondary educated women). But among them, there are also slight differences regarding the transition to the first birth: 0.33*** for the care and relational skills group, and 0.32*** and 0.22*** for the general and other studies category.

These results imply an interesting contrast between different types of education, and therefore provide support for my type of education hypothesis that predicts an anticipation of future roles for women. Differences within each level of education are shown to be of the same weight as those between different levels of education, and this introduces an important dimension in the analysis. In addition, women with a tertiary educational diploma in care and relational skills display a negative relative risk (0.27***) of entry into motherhood; somewhat lower than women in the "others" category of studies (0.22***). As such, differences in first birth propensities are smaller for tertiary educated women than for women in the other two levels of education (lower and upper secondary education). On one hand, women who go further than upper secondary education in recent decades in Spain might be a highly career–oriented group, and they correspondingly show homogeneously lower first–birth rates.

On the other hand, I believe that better–educated women in the "care and relational skills" category might later occupy a substantial portion of the posts in the public sector. The most common way to access these types of jobs (for better–educated women), is through various tests and examinations (oposición), and this fact means that it takes longer for them to get established in the labor market. At a later stage of their careers, however, these women probably have a higher income. Thus they can find their way in the labor market, despite the scarcity of subsidized childcare, and are able to more successfully bargain with their partners for a more equal distribution of household and childbearing tasks. In addition, they may occupy teaching and public sector positions, the so–called "women/mother–friendly

jobs", which offer more flexible hours and better opportunities to combine family and work. For these women, the important issue is the postponement, not the renunciation. They enter motherhood later, and they may be more probable of having a second/third child at a later age.[3] Consequently, it could be argued that in Spain, as may happen in other Southern European countries, highly educated women could be grouped in two separate categories. One is that for those who remain childless –not only as voluntary childlessness but also as the result of persistent postponement. The other group postpones motherhood, but might then have two children, and sometimes more (Huinink, personal communication, 2002).[4]

---

[3] Results in Chapter 6 and 7 seem to corroborate these hypotheses. In addition, in order to sustain the afore–mentioned results regarding the woman's educational attainment and her type of education, and to be certain that they do not depend for instance on the estimate of the unobserved heterogeneity, I have also fixed the standard errors of the heterogeneity terms (shown in Table 5.4) at a number of likely values (1.5 and 2 here) to see whether this has any effect on the estimates of the educational parameters in Model 4. Results are reported in Table 9.2 (Appendix) and confirm the findings presented.

[4] In this sense, results in Table 9.1 (Appendix) suggest that more equal educational attainment in Spain in recent decades is still matched with higher educational choice, and that the likely positive impact of these "women–friendly subjects" (and eventually "women–friendly jobs" later in the labor market) on motherhood decreases with the passing of time. One of the reasons might be that incompatibility problems are definitely higher nowadays than in the past: the correlation between the process of leaving education and that of first birth is stronger for the birth–cohorts after 1965. These women, despite their educational choice (aimed mainly at better combining career and childbearing), encounter more obstacles than women with similar educational trajectories in the past. Data also show that intra–women differences persist over time regarding the woman's type of education, and that the negative impact of the other studies on the transition to the first birth also increases and becomes stronger for the younger cohorts. Important changes in the family and work preferences have been taking place in Spain. And, all categories of women, irrespective of their field of study, are further

In Models 1 to 4, I have not included the "duration of the partnership" or the variable "partnership status". Both are standard in current literature (Martín Castro, 1992; Blossfeld, 1995), and show that by far the most important impact on the entry into motherhood is whether the woman has entered marriage (Blossfeld, 1995). In the particular case of Spain, it is argued that "women married in the late 1960s and early 1970s were a relatively homogenous group in terms of their rapid transition to motherhood: half of them became mothers in the first year of marriage, and 75% by the second year of marriage, whereas among later cohorts, the variation is much greater." (Martín Castro, 1992: 223) Woman who delay entry into partnership are likely to have more education and longer experience in the labor market, which also leads to the postponement of their entry into motherhood. Yet, these women are likely to be selected in terms of less traditional attitudes towards childbearing and gender roles. In this sense, recent research has shown a strong interrelationship between union formation and first birth, and therefore the works mentioned here already should be evaluated with caution (Baizán et al., 2003, 2004). I have highlighted before that the purpose of this dissertation is not to investigate the mutual causal relationship between first union formation, first childbirth and education, and therefore I have not modeled the three processes simultaneously. But neither have I incorporated these common variables into my models. However, I include the variable "partner" in Models 5 and 6 (Table 9.3 Appendix) in order to see the sensitivity of my results in Models 2 and 4 to the inclusion of the variable.

Women who are enrolled in education are less likely to have a first birth, but in both models the effect is smaller with or without heterogeneity, than has been previously reported (See also Blossfeld and Huinink, 1991: 162). The variable "partner", therefore, has an important impact on the propensity for the first

---

constrained in their desires to maintain a lifelong attachment to the labor market along with motherhood. This is mainly due to the scarcity of opportunities provided by the labor market and the welfare state. Women accordingly postpone the entry into motherhood and have fewer children.

birth, and influences the effect of women's enrollment in education. Besides, the negative impact of being out of the educational system diminishes and becomes even positive (although not statistically significant) for women who are out of the education from 2 to 5 years. Regarding the woman's type of education, important differences among women within the same educational level also appear, when we include the woman's civil status. Likewise, in one way the positive effect for less educated women becomes even more significant, and the negative effect for the upper secondary and tertiary educated group becomes less influential. In another way, differences within the field–of–study for the same educational level become more marked. Better–educated women, in the "care and relational skills" category, might incorporate those who get married and enter into motherhood most often, in comparison with the high educated women in the category of "others". For highly educated women displaying a positive propensity towards family and children, once the process of family formation is started through partnership, they tend to proceed faster from childlessness to motherhood.

All of the above–mentioned results correspond to piecewise linear models with or without heterogeneity, in which birth cohorts are controlled. In order to test the robustness of my findings, the remaining part of this section outlines whether the same results apply when the female heterogeneity of the last few decades is not a control for birth cohorts, but instead for the different economic periods in which women have lived and matured. Table 9.4 (Appendix) contains an analysis for the process of first birth. Table 9.5 (Appendix) outlines the process of leaving education, and Table 9.6 (Appendix) indicates the correlation between both processes. Both Model 3 and Model 4 include heterogeneity. Model 4 demonstrates the results when the woman's type of education, for each educational level, is included.

The interesting outcome is that the introduction of periods in the analysis does not dramatically change the estimated effect of the covariates. Firstly, as expected, the probability of entering into motherhood decreases with the passing of time, in recent decades.

In fact, we can see an increasing significant negative impact of the period on the transition to the first birth. The influence of the educational enrollment is now slightly stronger, but neither the weight of the effect of the woman's educational level, nor the sign or the significance are strongly affected. Model 1 also shows that women with primary level of education are not those demonstrating a higher probability of becoming mothers, and that there exists a U–shaped relationship between educational attainment and first birth when periods are controlled. This relationship vanishes, however, with heterogeneity in Model 3.

Important differences are also seen when I differentiate the woman's type of education, for each educational level. In other words, once controlled for periods of time, results show a clear sign that the type of education reflects divergences in fertility, among women within the same educational level. In addition, the positive and significant correlation between the heterogeneity components of both processes corroborates that educational goals and trajectories are not exogenous to fertility [Table 9.6 Appendix]). Similar results become evident regarding the impact of the time period (instead of the birth cohort) on the departure from the educational system. There is a non–spurious (smaller) positive effect of leaving the educational system when the woman is pregnant in comparison to standard models with birth cohorts. Afterwards, the impact is also the reverse when controlled for periods.

5.3. Conclusions

In this chapter, I have found some evidence of a link between the type of education a woman undertakes in her early adulthood and her fertility decisions. The type of hypothesis education proposes that women with a strong (or weak) orientation towards having a family adapt their educational choices to suit their future roles in the family domain. Undertaking educational study centered around the care of individuals and/or emphasizing

interpersonal skills, positively influences the timing of first birth; and therefore there is some consistency between the choices in the type of education and the fertility decisions. In addition, socialization effects of education might also play a role in reinforcing such trends. Thus, in contrast to the human capital/independence hypothesis, which predicts a negative (net) effect of educational attainment on first birth, I have shown that higher educational attainment does not necessarily lead to a postponement of family formation. Rather, for the same given educational level, undertaking course studies concerned with the care of individuals and/or emphasizing interpersonal skills positively influences the timing of first birth in comparison with women that have chosen other fields–of–study. This result has turned out to be particularly distinct and significant for the lower and upper secondary educated groups and, less so in the case of university graduates, due in part to the low number of cases in my analysis. Also, this last finding can be related to the relatively low proportion of women who undertook tertiary studies in the older birth–cohorts.

My results also indicate that first births and leaving education are partially determined by joint factors. Women displaying lower propensities of entering into motherhood also have a similarly lower propensity of concluding their educational enrollment early in their life course. Thus, they progress further in the educational system and generally attain higher levels of education. I believe that the inclusion of these common factors adds a complementary perspective to previous findings. Despite the fact that further research is needed to elucidate the exact nature of these factors, my results qualify the common finding that educational enrollment simply delays family formation. I have empirically proved that this trajectory is, to some extent, mutually determined.

Finally, the findings also provide empirical evidence of the existence of a strong effect of female human capital investment in Spain. It has been argued that this occurs when three factors are at play: "first, that child rearing and employment is incompatible; second, that a withdrawal from the labor market harms labor

market upward mobility; and third, that childbearing responsibilities are shared according to traditional gender roles." (Kreyenfeld, 2000: 1). In this sense, policies that decrease the time spent by women out of the workforce (such as subsidized childcare) are shown to be reasons for which the effect of the woman's educational attainment on the rate of entry into motherhood is less strong (Kreyenfeld, 2000; Gustafsson, 2001). In general, "family–friendly" policies aimed at reconciling family and career should be improved in Spain; by providing, for example, incentives for flexible working arrangements and by increasing formal childcare services. But, the main issue here is that no specific policies have been designed to solve the "motherhood postponement" problem. In this sense, there is an urgent need for policies aimed at speeding up the transition to adulthood for the youth. As things stand today, young women postpone the entry into motherhood, due to the scarcity of opportunities provided by the labor market and the welfare state.

CHAPTER 6. FERTILITY AND THE CHOICE OF EDUCATION: THE IMPACT OF THE LEVEL AND TYPE OF EDUCATION ON THE TRANSITION TO SECOND BIRTHS IN SPAIN

6.1. Introduction

Despite the important socio–demographic shifts that have recently been taking place in Spain, people's desires for children seem not to have changed much, in comparison to the past. The same phenomenon occurs in all Western societies,[1] but the difference between the desired number of children and the children born is particularly strong in Spain, since the TFR is half the optimal number of children: 1.2 (Fernández Cordón and Sgritta, 2000: 14). In Chapter 5, we saw that regarding first births, younger women spend more time in education, postpone their transition to adulthood and become mothers at a later age. The important issue, thus, is not postponement (most women have at least one child in Spain), but the catch up issue. This area explains why the three transitions have been analyzed individually in this

---

[1] For instance, when asked what number of children they consider ideal, individuals within the 25–35 age group nowadays show a strong convergence with European trends: the average preference is undoubtedly towards the two–child norm; 2.4 in most countries, 2.8 in Ireland (Hank and Kohler, 2000; Esping Andersen et al., 2002: 63). See also Table 1.5 for Spain.

dissertation. In this way, the analysis of second births, which follows in this chapter, is particularly important in providing an answer to two questions. Firstly, who has second births in the same way as women in previous generations did, but at a later age, and who totally avoids second births and remains with one child. Secondly, could the type of education hypothesis explain this variation to a certain extent, i.e., does the field–of–study capture intra–female differences regarding child preferences which help to explain who seizes the family and who does not? More than for the first birth, the type of education discourse might make a substantial difference here.

Having two–plus children, together with having infant children, represents the core of the incompatibility problem often alleged as the cause of lower birth orders. In fact, previous research demonstrates that having one (non–pre–school) child is not necessarily incompatible with full–time employment. The real obstacles appear when the woman has the second child and certainly, when children are under 3 years old (Cogan 1980: 328; Esping–Andersen et al., 2002: 82, 84; Ortiz, 2003: 18).[2] In fact, women with young children have steeper indifference curves, which indicate their greater difficulty in substituting market goods for non–market time in production (Blau, Ferber and Winkler 1992). Undoubtedly, a mother–friendly policy, and particularly better daycare facilities, is essential in eradicating the incompatibility problem.

In Spain, there is a serious difficulty in harmonizing employment and motherhood. There are few full–time working mothers with young children. The scarcity of subsidized childcare and of quality part–time employment makes the trade–off difficult, and women are strongly discouraged from paid employment. Most women are obliged to interrupt their careers, or must leave their full–time employment entirely in order to fulfill their role as

---

[2] We know from previous research that there are economies of scale, so that "three children of more than 6 years do not require as much work as the multiplication of the need of one of them by three." (Ortiz, 2003: 14–15)

mothers. In fact, in countries like Spain, it is extremely difficult to cancel out the opportunity cost of having children, and women who have a lifelong career in the labor market might end up being "a very bi–modal group: either highly resourceful and very career oriented women or low–educated and driven by necessity." (Esping–Andersen et al., 2002: 88) As things stand today, childcare imposes an implicit tax on the salaries of working mothers. Daycare is not available for all, and it is always insufficient. Private means of care are expensive and consequently, unaffordable for low–income women/families who encounter significant difficulties and fewer economic reasons for working outside the home. Therefore, less–qualified women enter the labor market and frequently remain there due to financial needs. For these women, the opportunity cost of not working is low in social terms, but high from an economic point of view. However, many of these women undertake paid domestic work in the homes of others, and more often than not, they do this on the black market; with all the disadvantages that this implies, in terms of social protection when they become mothers.[3]

Due to this incompatibility problem, therefore, a negative relationship is expected not only in the timing of the woman entering into motherhood (as we saw in Chapter 5); but also in the number of children she has since the New Home Economics theory predicts that child preferences for women diminish to the same extent as they improve their education and their job opportunities (Becker, 1981). However, existing work demonstrates that there exists a narrowing in the gap between the woman's educational attainment and her second birth risks; and this even shows a positive relationship between these factors in some Western societies (Hoem and Hoem, 1989; Kravdal, 1992;

---

[3] On the contrary, "Scandinavia is doubly advantageous to less–qualified women because day care is very available and affordable, and because the wage structure is unusually egalitarian. This, combined with an ample labor market, explains why female participation and fertility rates are high even among low–qualified women." (Esping–Andersen et al., 2002: 80)

Oláh, 1996; Kreyenfeld, 2002; Baizán, 2004). Table 6.1 below summarizes these results.

Table 6.1. Effect of women's educational attainment on the transition to second births, as found in the existing literature

COUNTRY	EFFECT ON 2ND BIRTHS		STUDY
	Without heterogeneity[1]	With heterogeneity[2]	
NORWAY	+		Kravdal, 1992
	+	–	Kravdal, 2001
SPAIN	+		Baizán, 2004*
SWEDEN	+		Hoem & Hoem, 1989
SWEDEN	+		Oláh, 1996
USA	+		Kravdal, 1992
WEST GERMANY	+	–	Kreyenfeld, 2002

Notes:

(1) Model estimated separately for the second birth.

(2) The two parity transitions (first and second birth) are modeled together, with a common unobserved factor included.

* There are no significant differences between upper secondary and university education.

Figure 6.1 outlines Spanish fertility. Figure 6.1.1 shows for all birth cohorts, the survival curves for the transition to second births (conception) by the woman's higher educational attainment at the birth of the first child. Figure 6.1.2 only includes the birth cohort 1960–1964 –one of the youngest cohorts and one which has

Figure 6.1. Survival curves. Transition to second births (conception) by the woman's educational attainment
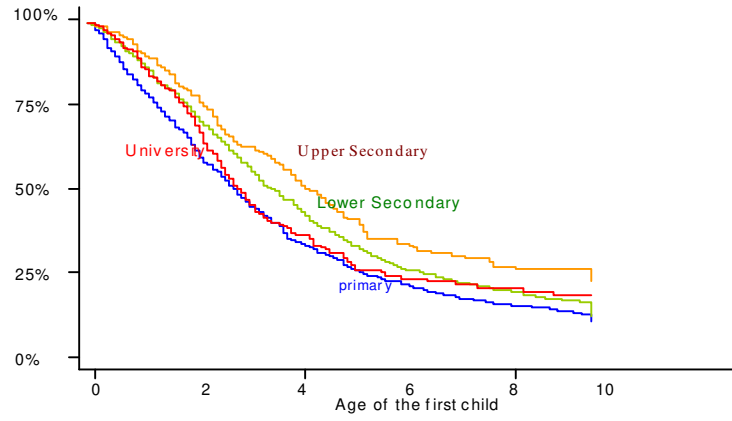
SOURCE: FFS, 1995. All birth cohorts.
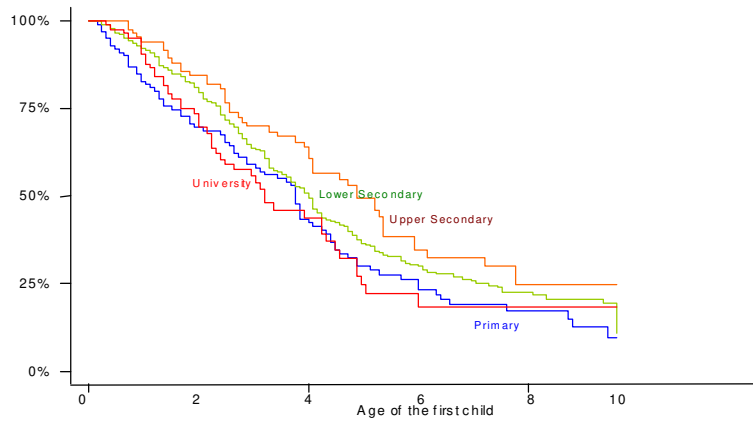
SOURCE: FFS, 1995. Birth cohort 1960–1964.

benefited from the expansion in higher education. Ten years after the birth of the first child, roughly three quarters of women have had a second child. Highly educated women are later in the transition to the second birth up to three years after the first birth is born in comparison to women with primary studies. But later this group catches up and there are fewer differences in the final progression ratio by the woman's educational level (Figure 6.1.1). Better–educated women, of the birth cohort 1960–1964, have the second child slightly more rapidly than women in the other educational categories (Figure 6.1.2). In other words, similar to other countries, younger more educated women do not display the lowest propensity towards the transition to second births in Spain.

So far, there has been no clear explanation as to why education can encourage fertility. One of the possible reasons for the positive effect of female college education on second birth intensities is, that better–educated women are often older than other women when they have their first child. This is because they spend more time in education and, having less time at their disposal before reaching the biological limits of fertility, they accelerate the transition to the second child. However, some of the afore–mentioned studies have taken this into account, and the positive effect of education remains after controlling the variable "woman's age at first birth". A second common explanation refers to the characteristics of partners: due to the high level of educational homogamy within couples, highly educated women with similarly educated partners should show a higher propensity for having second births because they can more easily afford this. In this case, the effect of a woman's university education might be confounded with a partner effect. Taking the assumption that education is a valid indicator of the individuals' earning potential, some of the studies already cited also have included the partner's educational level in their models. After controlling "the partner's educational attainment", the effect of the woman's education becomes insignificant in West Germany (Kreyenfeld, 2002), but by directly controlling the "partner's income", the positive effect of the woman's education persists in Spain (Baizán, 2004). This

provides us with a conclusion that, at least in Spain, the effect of a woman's educational level is real and is probably due to income (better–educated Spanish women can limit their interruptions in labor activity, and decrease their lifetime earnings loss). Or else, in Spain, there are more opportunities for this group of women to combine family and work.

Along with the confounding effect of the characteristics of the partner, Kreyenfeld (2002) also demonstrates that the positive effect of the woman's education is due to a selection problem.[4] Women lightly to have second births are a select group as they already have a child, and therefore, they have revealed some preference for having children. In the Spanish context where there are serious constraints on harmonizing family and a career, better–educated women encounter high opportunity costs if they decide to have a child. College educated women who nevertheless opt for motherhood, might have high preferences towards having children which explain such decision. In this chapter, I firstly demonstrate the results as obtained by using a standard specification with proportional hazard models. Then I see whether the research hypotheses, commonly presented in explaining the (positive) effect of women's education on the transition to second births, also apply in Spain.

Secondly, I examine whether the (positive) effect of women's education might be simply due to self–selection in Spain. On one hand, I apply two simultaneous hazard equations documenting the time to the first and second births respectively and the unobserved woman–specific component ε (which captures the woman's proneness towards family building). On the other hand, I differentiate the subjects in which women are educated. The level and the orientation of education impact on the decision to have more children, but this might vary according to the length of educational enrollment, as well as the type of education undertaken. The possibility that some ideational or cultural factors could to some extent explain the positive effect of a woman's

---

[4] See also Kravdal (2001) for Norway.

educational attainment is completely lacking in all existing literature. However, this aspect can be of particular importance when analyzing the second/third births. I now turn to the description of my results, in order to see how my analysis can be located within the main conclusions described in this section.

6.2. Results

Model 1 and 2 are models estimated separately for second births. Model 1 includes the woman's educational attainment and Model 2 specifies the woman's type of education for each educational level. Models 3 to 6 present the analysis for second births when the two parity transitions (first and second births) are modeled together; with a common woman–specific and unobserved factor included. The differentiation between the woman's educational level and the woman's type of education for each educational level is also included in Models 3 and 4, respectively. Models 5 and 6 include the woman's type of employment, according to the number of hours and the type of work.

Initially, I analyzed the influence of social–background and demographic variables, on the probability of having a second birth (Table 6.2). The sex of the first child and the residence of the woman (up to the age of 15) do not have a significant impact on the potential for a second birth, so they have not been included in the final models. The impact of the birth cohort, the number of siblings and the activity status is predictive of a woman's fertility, in the anticipated direction. The transition to second births is more intensive for women who have themselves one or more siblings, for women who are not in the labor market, and for women in the oldest cohorts. In fact, half of mothers born between 1945–1959 underwent the second birth within forty months of the first birth, whereas only thirty percent of the mothers in the cohorts 1960–1977 did likewise. For the later birth cohorts, the negative impact

decreases once unobserved heterogeneity is controlled, as in Models 3 to 6.

The age at which a woman has her first child has an important effect on second births. Having the first child at a young age increases the probability of having a second birth in Spain. Moreover, when the woman is 30 years or older, at the birth of her first child, the transition rate to the second child declines rapidly. However, after controlling the age at first birth, I still find a positive effect of the woman's educational attainment. If a woman has the first child later, she has less time before reaching the biological limits of fertility. It might happen that highly educated women speed up their subsequent birth/s. In my sample, the average age at first birth for women with primary and lower secondary education is 23.78 and 24.02, whereas for women with upper secondary and tertiary education the ages are 26.41 and 28.11, respectively. In fact, the data demonstrate that the catching up hypothesis is partially applicable. Table 6.2 shows that having a university degree increases the relative risk of having a second birth (1.15*) in comparison with the reference group (lower secondary education). Previous research also highlighted the importance of this factor for second births and the permanence of the positive effect of the woman's education; once it has been included in the analysis (Oláh, 1996; Kreyenfeld, 2002; Baizán, 2004).

Economists emphasize not only the role of female human capital, but also the earning power of the male partner, in fertility decisions and timing; especially in dynamic fertility models (Becker, 1981; Willis, 1973, 1987). In order to avoid biased results in ascertaining the effect of the woman's educational attainment on the probability of having a second child, I have controlled the partner's characteristics in all the model specifications. The well–known income hypothesis states, that due to the high degree of educational homogamy in Spanish society (González–López, 2000, 2001), highly educated couples can avail of care more easily. In fact, 56.82 percent of all women in the sample have a partner with a similar educational level; whereas

Table 6.2. Transition to second births (conception) in Spain. Piecewise linear models, with main effects

			NO HETEROGENEITY			
		MODEL 1			MODEL 2	
Parameters	**R. Risk**	Estimate	S.E.	**R. Risk**	Estimate	S.E.
Baseline constant		-1.94	.10***		-1.94	.11***
0 – 2 years (slope)		.45	.06***		.45	.06***
2 – 4 years (slope)		.03	.04		.03	.04***
4 – 6 years (slope)		-.12	.06***		-.12	.06*
6 – 8 years (slope)		-.53	.10***		-.52	.10***
8 + years (slope)		.87	.13***		.87	.13***
AGE AT FIRST BIRTH						
Less 20 years	**1.15***	.14	.08	**1.15***	.14	.08
20 – 25 years [ref.]						
26 – 30 years	**0.85***	-.15	.06	**0.85***	-.15	.06
More 30 years	**0.43***	-.84	.12	**0.43***	-.84	.12
BIRTH COHORTS						
1945 – 1954 [ref.]						
1955 – 1959	**0.87**	-.13	.06	**0.87**	-.13	.06
1960 – 1964	**0.72***	-.32	.07	**0.71***	-.33	.07
1965 – 1977	**0.47***	-.74	.09	**0.47***	-.74	.09
NUMBER OF SIBLINGS						
No siblings	**0.71***	-.34	.12	**0.71***	-.34	.12
1 – 2 [ref.]						
3 +	**1.02**	.02	.05	**1.02**	.02	.05
ACTIVITY STATUS						
Not employed [ref.]						
Employed	**0.69***	-.36	.05	**0.69***	-.36	.05
PARTNER´S EDUCATIONAL LEVEL						
Primary	**1.13**	.13	.11	**1.14**	.13	.11
Lower Secondary [ref.]						
Upper Secondary	**1.06**	.06	.07	**1.07**	.06	.07
University	**1.15***	.14	.08	**1.15***	.14	.08

	NO HETEROGENEITY					
	MODEL 1			**MODEL 2**		
Parameters	**R. Risk**	Estimate	S.E.	**R. Risk**	Estimate	S.E.
WOMAN´S EDUCATIONAL LEVEL						
Primary	**1.06**	.06	.06			
Lower Secondary [ref.]						
Upper Secondary	**0.79****	-.23	.09			
University	**1.13**	.13	.09			
WOMAN´S TYPE OF EDUCATION FOR EACH EDUCATIONAL LEVEL*						
Primary				**1.07**	.06	.06
Low Sec: General [ref.]						
Low Sec: Care & Social				**1.04**	.04	.17
Low Sec: Others				**0.99**	-.003	.10
Upper Sec: General				**0.72****	-.32	.14
UpperSec: Care&Social				**0.85**	-.15	.17
Upper Sec: Others				**0.87**	-.13	.15
Tertiary: Care & Social				**1.21***	.19	.10
Tertiary: Others				**0.96**	-.03	16
Log–likelihood		-22111.49			-22103.87	

Significance levels: ***=p<.01, **=p<.05, *=p<.10.
Time periods of two years from the first to the eighth year of the first child; then open intervals.
* See TABLE 4.8 [Chapter 4]

Table 6.2. (cont.) Transition to second births (conception) in Spain. Piecewise linear models, with main effects

Parameters	WITH HETEROGENEITY					
	MODEL 3			**MODEL 4**		
	R. Risk	Estimate	S.E.	**R. Risk**	Estimate	S.E.
Baseline constant		-2.04	.11***		-2.04	.11***
0 – 2 years (slope)		.51	.06***		.51	.06***
2 – 4 years (slope)		.10	.05**		.10	.05**
4 – 6 years (slope)		-.07	.07		-.07	.07
6 – 8 years (slope)		-.49	.10***		-.49	.10***
8 + years (slope)		.89	.13***		.89	.13***
AGE AT FIRST BIRTH						
Less 20 years	**1.20****	.18	.09	**1.20***	.18	.09
20 – 25 years [ref.]						
26 – 30 years	**0.84****	-.16	.06	**0.84****	-.16	.06
More 30 years	**0.41*****	-.87	.13	**0.41*****	-.88	.13
BIRTH COHORTS						
1945 – 1954 [ref.]						
1955 – 1959	**0.85****	-.15	.07	**0.85****	-.15	.07
1960 – 1964	**0.65*****	-.42	.08	**0.65*****	-.42	.08
1965 – 1977	**0.43*****	-.83	.10	**0.43*****	-.84	.10
NUMBER OF SIBLINGS						
No siblings	**0.67*****	-.39	.14	**0.66*****	-.40	.14
1 – 2 [ref.]						
3 +	**1.03**	.03	.06	**1.03**	.03	.06
ACTIVITY STATUS						
Not employed [ref.]						
Employed	**0.66*****	-.41	.06	**0.66*****	-.41	.06
PARTNER´S EDUCATIONAL LEVEL						
Primary	**1.17**	.16	.13	**1.17**	.16	.13
Lower Second. [ref.]						
Upper Secondary	**1.05**	.05	.08	**1.06**	.06	.08
University	**1.15**	.14	.09	**1.15**	.14	.09

	WITH HETEROGENEITY					
	MODEL 3			**MODEL 4**		
Parameters	**R. Risk**	Estimate	S.E.	**R. Risk**	Estimate	S.E.
WOMAN´S EDUCATIONAL LEVEL						
Primary	**1.07**	.07	.06			
Lower Second. [ref.]						
Upper Secondary	**0.79****	-.23	.10			
University	**1.18**	.17	.11			
WOMAN´S TYPE OF EDUCATION FOR EACH EDUCATIONAL LEVEL *						
Primary				**1.07**	.07	.07
Low Sec: General [ref.]						
Low Sec: Care & Social				**1.09**	.09	.20
Low Sec: Others				**1**	.002	.11
Upper Sec: General				**0.70****	-.35	.15
UpperSec: Care&Social				**0.89**	-.11	.18
Upper Sec: Others				**0.88**	-.12	.16
Tertiary: Care & Social				**1.26***	.23	.12
Tertiary: Others				**1.02**	.02	.18
σ_ε		.49	.04***		.50	.04***
Log–likelihood		-22087.82			-22079.42	

Significance levels: ***=p<.01, **=p<.05, *=p<.10.
Time periods of two years from the first to the eighth year of the first child; then open intervals.
* See TABLE 4.8 [Chapter 4]

Table 6.2. (cont.) Transition to second births (conception) in Spain. Piecewise linear models, with main effects

Parameters	WITH HETEROGENEITY					
	MODEL 5			MODEL 6		
	R. Risk	Estimate	S.E.	R. Risk	Estimate	S.E.
Baseline constant		-2.03	.11***		-2.03	.11***
0 – 2 years (slope)		.50	.06***		.51	.06***
2 – 4 years (slope)		.10	.05**		.10	.05**
4 – 6 years (slope)		-.07	.07		-.07	.06
6 – 8 years (slope)		-.50	.10***		-.49	.10***
8 + years (slope)		.89	.13***		.89	.13***
AGE AT FIRST BIRTH						
Less 20 years	**1.20****	.18	.09	**1.20****	.19	.09
20 – 25 years [ref.]						
26 – 30 years	**0.84****	-.17	.06	**0.84****	-.16	.06
More 30 years	**0.41*****	-.88	.13	**0.41*****	-.88	.13
BIRTH COHORTS						
1945 – 1954 [ref.]						
1955 – 1959	**0.85****	-.15	.07	**0.85****	-.15	.07
1960 – 1964	**0.65*****	-.42	.08	**0.65*****	-.41	.08
1965 – 1977	**0.43*****	-.83	.10	**0.43*****	-.83	.10
NUMBER OF SIBLINGS						
No siblings	**0.67*****	-.39	.14	**0.68*****	-.38	.14
1 – 2 [ref.]						
3 +	**1.03**	.03	.06	**1.03**	.03	.06
PARTNER´S EDUCATIONAL LEVEL						
Primary	**1.17**	.16	.13	**1.17**	.15	.13
Lower Second. [ref.]						
Upper Secondary	**1.05**	.05	.08	**1.06**	.06	.08
University	**1.15**	.14	.09	**1.14**	.13	.09

	WITH HETEROGENEITY					
	MODEL 5			**MODEL 6**		
Parameters	**R. Risk**	Estimate	S.E.	**R. Risk**	Estimate	S.E.
WOMAN´S EDUCATIONAL LEVEL						
Primary	**1.07**	.07	.06	**1.07**	.07	.06
Low Secondary [ref.]						
Upper Secondary	**0.78****	-.24	.10	**0.78****	-.23	.10
University	**1.16**	.14	.11	**1.07**	.07	.12
WOMAN'S TYPE OF EMPLOYMENT$_1$						
Not employed [ref.]						
Employed <25 h/w	**0.71****	-.33	.16			
Employed 25-34 h/w	**0.79**	-.23	.19			
Employed 35-44 h/w	**0.67*****	-.39	.07			
Employed 45+ h/w	**0.56*****	-.57	.12			
Employed on a variable basis	**0.65****	-.43	.20			
WOMAN'S TYPE OF EMPLOYMENT$_2$						
Not employed [ref.]						
Care & Teaching professionals				**0.91**	-.09	.17
Others				**0.64*****	-.44	.06
σ_ε		.49	.04***		.49	.04***
Log–likelihood		-22086.05			-22085.91	

Significance levels: ***=p<.01, **=p<.05, *=p<.10.

Time periods of two years from the first to the eighth year of the first child; then open intervals.

43.18 percent correspond to heterogeneous couples. In the latter case, the woman's educational level is lower than her partner's in 88.46 percent of the cases. Only 11.53 percent of women have a higher educational level than their partners. Lastly, 57 percent of the better–educated women have highly educated partners.

It seems that the economic status of the male "breadwinner", is important in having a large family. Research shows that the effect of the socio–economic traits of men depends on the general characteristics and prospects in society (Liefbroer and Corijn, 1999: 52). Pervasive labor prospects, particularly for the young and women, and insufficient welfare support can allow us assume the important impact of individual male characteristics in Spain. In fact, there is a positive relationship between the earning potential of the partner (as measured by the educational attainment) and second births in all models. This is statistically significant only in the case of better–educated men, when heterogeneity is not controlled. However, our data also shows a positive effect of men having primary studies (this is not statistically significant). This implies a more complex interaction between partners than that predicted by the New Home Economics theory.[5]

This theory has concentrated almost exclusively on labor, and most of the studies have narrowly focused on the earning potential of partners (Kreyenfeld, 2002; Baizán, 2004). Yet, more attention should be paid to other characteristics/attributes of male partners as women are increasingly more economically independent and are pursuing longer careers (Esping–Andersen, Güell, and Brodman, 2005). Unfortunately, the FFS data does not allow measurement of the male contribution to duties within the home and childcare activities in any sort of dynamic way; yet, this obliges us to be cautious in how we interpret the afore–mentioned results. In the same way as previous studies, the education of the partner is used as an indicator for his earnings, but this might also be reflective of his willingness to help with childcare and domestic

---

[5] See also Baizán, 2004. The author uses the income of the partner [ECHP data].

work. As such, this might be the real impact that we will outline in the figures pertaining to the bargaining power hypothesis in Table 6.2.

Once the partner's education is added to the model, the impact of the woman's educational level remains the same for women with primary studies (1.06), but becomes stronger for the upper secondary educated women (from 0.82** to 0.79**), and less positive and not statistically significant for better–educated women (from 1.22** to 1.13). One possible explanation for the last result might be that even though most highly educated women are coupled with equally well educated partners, the stimulating positive effect of the man's education only persists when the woman belongs to the so–called category of highly educated women with clear child preferences. If not, the woman will prefer only to have one child or no children, irrespective of her partner's economic position.

In the Spanish setting, after controlling the woman's age at first birth, and the characteristics of the male partner, we find patterns that contradict previously–held theoretical expectations regarding fertility and education (human capital hypothesis). Results in Table 6.2 show that there is no monotonic negative relationship between the woman's educational attainment and her second birth risk. All model specifications suggest a U–shaped relationship between them. In addition, women with primary studies education are not the category of women with the greatest intensity of second births.

This finding also applies with heterogeneity in Model 3, which demonstrates that contrary to earlier findings (Kravdal, 2001; Kreyenfeld, 2002), the positive effect of women's education seems not alone to be due to a selection problem. Increased levels of education and autonomy do not necessarily compell women to abandon fertility. This simply makes them more aware of their fertility choices. Better–educated women may not always prefer to have fewer children than the two–child norm. These women can be more ready to have a second child because of "their greater confidence about their ability to control non–familial opportunities

even after the arrival of an additional child." (Hoem and Hoem, 1989: 64) We see that there are two mechanisms at work: on one hand, cultural/ideational components linked to higher education might be associated with a greater acceptability of childlessness or lower fertility. On the other, a more favorable economic position, and the achievement of better employment later in life might encourage motherhood.

Next, I address the issue of whether the subjects in which women are specifically educated demonstrate the endogeneity of the woman's child preferences; and therefore positively influence family formation in Spain. Findings in the analysis of first births (in Chapter 5) suggest that it does not seem appropriate to only take account of the level of education in order to explain differences in women's fertility behavior. In fact, Models 2 and 4 demonstrate that the effect of education varies according to the type of education undertaken by the woman, in the earlier stage of her life. For the group with lower secondary education, there are no differences either in Model 2 without heterogeneity (1.04 and 0.99), or once heterogeneity is controlled as in Model 4 (1.09 and 1). For them, the effect of education is less sensitive to the actual type of education undertaken, in comparison with first births.[6] It seems that motherhood is the normal culmination of the socialization process for these women who start a family with a high probability, but who rarely actually have second births.

Within the group with upper secondary education, there are also few differences. In comparison with the reference group, negative risks exist in all categories. These are only statistically significant for the "upper secondary: general" (0.72** / 0.70** in Models 2 and 4). Among the other two groups, there are no substantive differences (0.85 /0.87 in Model 2, and 0.89 and 0.88 in Model 4). Differences were more important in the analysis of the transition to the first birth (Chapter 5). This group of women seems to encounter a high incompatibility problem in Spain. This

---

[6] In the analysis of the transition to first birth, the main differences regarding fertility among women within the same educational level attained, occurred within this educational category.

is because, not only do upper secondary educated women enter into motherhood later, but they also find it difficult to have second births. For the better–educated, there exists a positive and significant risk of having second births for women whose studies concern the care of individuals and/or emphasize relational abilities (1.21*). With heterogeneity, the effect becomes more strengthened and equally significant (1.26*). When the two parity transitions are modeled together, with a common unobserved factor included, negative effects of educational level disappear for the category of "other studies" [1.02 (Model 4) in comparison to 0.96 in Model 2)].

The fact that differences in the transition to second births are greater than they were in the entry into motherhood (for the group of highly educated women) makes us consider that perhaps it is the woman's position in the labor market (and not her family–oriented values) that is really significant. Models 5 and 6 show the results concerning the connection between fertility and the type of occupation.[7] Firstly, I have included the type of employment,

---

[7] In a prior analysis of second births, I distinguished between being out of the labor market with previous experience and being out of the labor market without experience. This was done in order to further test the hypothesis of whether women decide to have another child when they lack opportunities in the labor market. This is, women might find appropriate to have a child or more children during periods out of the labor market, since they have more time at their disposal or they receive unemployment subsidy for some period of time. In addition, previous studies argue that for women, unemployment might [f]acilitate rather than hamper family formation because unemployed women have lower opportunity costs than employed women." (Liefbroer and Corijn, 1999: 47) Data –not shown in Table 6.2– demonstrated that women in the sample have the opposite strategy in their lives. The real distinction was between housewives and women who were in the workforce, since those out of the labor market, with previous experience, had a higher probability of having second births (0.81***), in comparison to full–time and part–time workers (0.64** and 0.67** respectively). But, this propensity was smaller than that of women out of the labor market without any experience (reference group). It is not true that periods of

according to the number of hours that the woman works. Being employed reduces the probability of having another child, in comparison to women who continue to be defined entirely by their family role and remain out of the labor market. Reflecting previous scholarship, the effect of the woman's activity status is somewhat lower than on first births. It seems, thus, that the decision regarding one's attachment to the labor market is particularly important at an earlier phase when the woman decides to enter into motherhood or not (Baizán, 2004: 18). Among women in the workforce, the negative risk is higher for full–time employed women and women employed on a variable basis. However, differences are not as large as expected between full–time and part–time employment, although the effect is undoubtedly more favorable in the latter case. One explanation might be, on one hand, the small number of cases within the part–time category due to the low availability of part–time employment in Spain. On the other, the issue of the precariousness of this sort of employment is important encompassing occupations requiring less qualifications and the high percentage of temporary employment imposes heavy fertility costs on Spanish women. In fact, the category "employed on a variable basis" might essentially consist of part–time employees.

Secondly, in Model 6, I differentiate as to whether the woman works or not, and if she does work, as to whether the woman has a specific job that deals with caring and/or teaching activities. Unfortunately, the data did not permit me to differentiate between the public and private sectors. Jobs in the public sector "are concerned largely with the application of a recognized body of skills and expertise (…) and give the professional considerable

---

unemployment or job interruptions always "create more social and psychological stress for men than women," as some researchers argue (Hakim, 1996: 209). An increasing proportion of women need to be settled in the labor market in order to form a household and enter into motherhood. Hence, nowadays it is important to obtain a minimum standard of income and labor stability for each partner (Baizán, 2004: 18).

autonomy in the management of their employment –and family– career." (Crompton, 2001: 49) This is an outstanding issue requiring future research.[8] The findings in Table 6.2 show that there are substantive differences between the categories "care and teaching" and "others". Being in the labor market decreases the probability of having second births in comparison to women out of the workforce, but there are differences according to the job the woman pursues. For care and teaching professionals, the relative (not significant) risk is 0.91, while the probability of having another child is significant and more negative for working women that belong to the "others" category of jobs (0.64***). It seems therefore that the first sort of employment imposes a less strongly negative cost on fertility, as it facilitates better the compatibility of family and a career. However, the interesting finding is that when type of employment is controlled, the education itself still has a direct impact for most women. More flexibility in working hours and/or more favorable labor conditions in some jobs do maintain the positive effect of education for women with university education (1.16 and 1.07 in Models 5 and 6 respectively).

Lastly, all the covariates used in the analysis depend, to a great extent, on economic cycles. However, for second births, the introduction of periods instead of birth cohorts in the analysis fails to change significantly the estimated impact of the covariates. This strengthens confidence in the afore–mentioned results [Table 9.7 (Appendix)]. Of late, the probability of having a second child has decreased over time, much more than the probability of entering into motherhood (see Chapter 5). Increasingly there is a significant negative impact coming from the period on the transition to the second birth for women who already had one. The effect of the woman's age at first birth is now less strong for those who were older than 30 years of age. The sign and significance of the other two categories of the covariate are, however, affected.

---

[8] Using Spanish data from the ECHP from 1993–2000, Baizán shows that the public employment has a positive effect on the transition to the first and second births (See: Baizán, 2004: 23–24).

The impact of the number of siblings, the woman's activity status, and the educational level of the partner indicate as to the woman's second birth risks. This occurs in the direction and magnitude shown in models both with and without heterogeneity controlled for birth cohorts. In addition, results also to a certain extent challenge the predictions of the New Home Economics theory: one child–mothers with primary studies are not those who proceed to second births with a higher probability. In fact, we also observe a U–shaped relationship between the woman's educational attainment at first and second births when periods are controlled. Slightly stronger, and more significant differences are also obtained when I differentiate the woman's educational subjects for each educational attainment. Periods fail to alter the positive impact of education when the type of occupation is included.

6.3. Conclusions

Regarding second births, results in this chapter fit well into the main conclusions of existing literature. After controlling the time–squeeze, the partner, and the selection effect, our analysis also shows a positive impact of woman's education on the transition to second births in Spain. This empirical evidence demonstrates that the individual's position matters, to a great extent. In fact, due to the important structural changes in family and employment, and to the inefficiency of Spanish welfare policies, women's life chances considerably depend on their cultural, social and cognitive capital (Esping–Andersen et al., 2002: 3, 26). A more favorable economic position (own position and that of the partner) and the achievement of better jobs in later life, might encourage motherhood for some better–educated women.

In this sense, my results also indicate that the type of education a woman undertakes in her early adulthood is linked to her fertility decisions. The type of education hypothesis predicts that women with a strong (weak) family orientation, adapt their

educational choices to suit their future roles in the family domain. Thus, in contrast to the human capital/independence hypothesis (which proposes a negative (net) effect of educational attainment on the transition rate to second births) results show that a higher educational attainment does not lead to an avoidance. Rather, for the same given educational level, studies concerned with the care of individuals and/or emphasizing interpersonal skills positively influence the transition to second births with respect to women who have chosen other fields–of–study. Only for this latter category, higher education might be associated with a greater acceptability of childlessness or lower fertility. As noted, this result has turned out to be particularly distinct for better–educated women, and less so in the case of lower and upper secondary educated women.[9] As to the former, not only do they postpone family formation (see Chapter 5), but they also show a lower propensity towards having second births, indicating that nowadays an important trade–off between family and career is in effect for these women.

The afore–mentioned findings make us reflect on the polarization of women in Spain. The increasing autonomy of women has not been supported by Spanish public policies in the last two decades, and this now appears to be counter–productive for female labor supply and fertility. Firstly, some women must withdraw from the labor market to have children. And secondly, a high proportion of women reduce the number of children desired, due to the serious incompatibility problem. Thirdly, the career opportunities for some highly educated women are not guaranteed if they become mothers, and this implies a waste of human capital. Woman who leave employment to have children pay a high cost, in terms of career progress and earnings, in the long run. Finally, marital homogamy might be an important issue in explaining welfare and fertility polarization. Secure and strongly resourced households, with two highly educated earners, might better afford the arrival of additional children, despite the lack of universal subsidized childcare and the uncertainties in the labor market (Esping–Andersen et al., 2002: 29, 32, 44, 54).

---

[9] Due in part, to the low number of cases in my analysis.

CHAPTER 7. THE U–SHAPED RELATIONSHIP BETWEEN WOMEN'S EDUCATION AND THIRD BIRTHS IN SPAIN: "A TRUE RESULT, OR A MIS–SPECIFICATION?"[1]

7.1. Introduction

In this chapter, I analyze the transition from two to three children, again using the FFS data on Spanish women's fertility behavior and educational histories, over a period of some 40 years (ending in 1995). Third–order births have dropped dramatically since the beginning of the 1980s: from 17.82 percent of total fertility in 1975 to 8.63 percent in 1999. This means that a nine percentage of total fertility is lost. It seems clear that third birth is the first birth order that many Spanish women choose to avoid nowadays, due to the difficult compatibility of family and work. Low fertility, therefore, is largely due to an increasing trend to finish reproduction after the second child. As occurs in all Western societies, younger women postpone marriage (or first union) and begin childbearing later. But, as noted, there are important national variations in how postponement affects completed fertility, and this is what makes the analysis of third births interesting. In Spain, the postponement effect is high and there is no a catch–up recuperation. Data seems to demonstrate that the younger generations do not end up having the same completed fertility, as older ones. However, Chapters 5 and 6 have shown

---

[1] Hoem and Hoem, 1989: 63

that the conflict between family and a career does not occur with equal intensity across different educational groups in the analyses of the first and second births. This chapter investigates whether there are also educational differentials, and differences by type of education, in the decision to have a third child in Spain.

It is a conventional belief that greater desire for personal independence (among more highly educated women), as well as the more intense conflict between family and a career, have fertility–reducing effects. A negative relationship is, thus, expected between the woman's educational level and her total fertility; since more education for women implies more available options outside the traditional roles as mother and wife (Becker, 1981; Willis, 1987). But, recent studies have shown a decreasing gap. In fact, existing research shows the positive effect of a woman's education on completed fertility for Sweden, Germany, Norway, the US, Great Britain and Belgium (Hoem and Hoem, 1989; Hoem, 1993; Berinde, 1998; Huinink, 1989, Kravdal, 1992; Ní Brholcháin, 1993; Callens, 1997). However, Hoem et al. (2001) show that education has no net effect in Austria. Table 7.1 below summarizes these findings.

Table 7.1. Effect of women's educational attainment on the transition to third births, as found in research literature

COUNTRY	EFFECT ON 3rd BIRTHS		STUDY
	Without heterogeneity [1]	With heterogeneity [2]	
AUSTRIA	+		Hoem, Prskawetz and Neyer, 2001*
BELGIUM [FLANDERS]	+		Callens, 1997
NORWAY	+		Kravdal, 1992
	+	–	Kravdal, 2001

COUNTRY	EFFECT ON 3rd BIRTHS		STUDY
	Without heterogeneity [1]	With heterogeneity [2]	
SWEDEN	+		Hoem and Hoem, 1989
	+		B. Hoem, 1993
	+		Berinde, 1999
UK	+		Ermisch, 1989
USA	+		Kraval, 1992

Notes:
(1) Model estimated separately for the third birth.
(2) All three parity transitions (first, second, and third birth) are modeled together, with a common unobserved factor included.
* The positive effect disappears when the partner's educational attainment is included in the model.

Similar to the analyses in these countries, highly educated women might not show the lowest propensity towards third births in Spain. Figure 7.1 illustrates the U–shaped relationship between the mother's education and third birth rates. It shows the survival curves for the transition to third births (conception) by the woman's educational attainment for all birth cohorts. Recently, a small proportion of women with two children continue childbearing. Only one third of the sample proceeds to the third birth, and there are few differences in the final progression ratio by the woman's educational level. Without controlling other socio–economic or demographic factors (for instance, age at first birth or interval between the first two children), women with primary education have the highest probability of experiencing the third birth, but better–educated women have the third child slightly more rapidly than women in the group of lower and upper secondary education.

In the remaining part of this chapter, I present the results to some of the hypotheses described in Chapter 2. I adopt the utility maximizing model of the New Home Economics theory and extend it, by considering firstly, the time–squeeze effect: "having a first child later in one's life involves having less time at one's disposal before reaching the biological limits of fertility." (Kreyenfeld, 2002: 22); secondly, the income effect: better–educated women/couples have more resources in the purchase of care; thirdly, the family–oriented values which are associated with the woman's level and type of education where the same norms, attitudes and value orientations impact on women's decisions made in both the process of education and that of motherhood at a different stage of their life; and finally, the selection effect: "the fact that women of second parity are a select group may play an important role in shaping the positive relationship between mothers' education and third birth." (Kravdal, 1992: 471)

Figure 7.1. Survival curves. Transition to third births (conception) by the woman's educational attainment
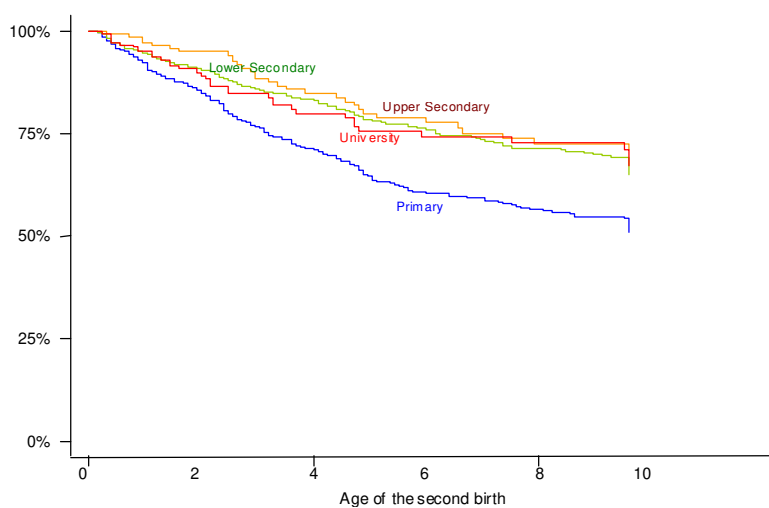
SOURCE: FFS, 1995. All birth cohorts.

Initially, I separately estimate the models for third births. The aim is to follow the practice in existing scholarship and to see whether it is also possible to conclude that a high fertility among the better–educated could perhaps be explained by socio–economic or ideational factors, in Spain. Then, I model all three parity transitions together (first, second, and third births), with a common unobserved factor ε, which captures the woman's propensity towards family formation. The working hypothesis is that heterogeneity varies among women, but it is constant for each woman, i.e., women who have had one/two child/children might be more likely to have another child than women who have never had one. That is that the third birth outcome is partly determined by previous births. Should the positive effect of woman's educational attainment disappear, high fertility will simply be a result of selection in the Spanish context. Kravdal documented this result concerning the high fertility of college educated women in Norway (2001). Estimates from a traditional separate modeling of third births are compared with those obtained from models with the three–parity transitions and the unobserved heterogeneity component in the next section.

7.2. Results

A description of the results follows. Model 1, 2 and 3 are models estimated separately for third births. Both Models 1 and 2 include the age at first birth. Model 1 estimates the woman's educational attainment and Model 2 specifies the woman's type of education for each educational level. Model 3 includes an interaction term between the woman's age at first birth and her educational attainment. Models 4 and 5 present estimates for third birth when all three–parity transitions are modeled together, with a common unobserved factor included. The differentiation between the woman's educational level and the woman's type of education for each educational level is also included in Models 4 and 5 respectively.

The covariates in the separate modeling of third births that I finally established, and the estimated parameter values are shown in Table 7.2. The most important factors at third birth order are demographic variables, such as the age at first birth and the interval between the two first children.[2] The age at which a woman has her first child has an important impact. Having a first child at a young age also increases the probability that the woman has a third birth, in Spain. The age at first child increases in my cohorts, as does its effect on the decision to have a third child (figures not shown here). Furthermore, the shorter the interval between the first and the second child, the higher the probability of a third birth. Models 1, 2 and 3 show that women within the first category (less than 29 months between first and second child) have almost a four times higher probability of having a third child, in comparison with women with an interval of 54 months and longer between births.

However, one has to take account of the fact that, more and more, women spend longer in education and postpone childbearing. Having a first child by the age of 23 is quite common for women with primary education alone (58 percent of the sample), while very few women with university qualifications start childbearing that early. Moreover, by the time just half of better–educated women have had their second child, almost all women with compulsory schooling only have already completed the transition (80 percent) [Table 4.3 and Table 4.4 (Chapter 4)]. It seems clear that the age at first (second) birth is strongly determined by the woman's education. Therefore, on one had, there may be a direct effect of education on childbearing, and on the other, an indirect impact through the age variable.

Model 3 includes the woman's age at first birth relative to her educational attainment, instead of the absolute age at first birth.[3]

---

[2] See also B.Hoem, 1993.

[3] Several analyses were also conducted in order to test the sensitivity of the results to different specifications of the independent variable, in the process of third births: I included the relative age at second birth. Neither the strength of the effects nor their direction and significance

Having a first birth late, relative to other women at the same educational level, reduces the probability of a third birth, ceteris paribus (relative risks of 0.74*, 0.50***, 0.61, 0.52**). For the group of women who have had the first child below the average of their educational attainment, only women with compulsory schooling have a greater third–birth intensity than lower secondary educated women (1.40**). For the others (upper secondary and highly educated women), there is a negative effect of education (0.66, 0.74). Therefore, the direct and indirect effects of education operate in opposite directions and cancel out one another. This it does in such a way that pursuing university studies does not seem to encourage third births, after re–specifying the age at first birth, in the Spanish data. The covariate education picks up the indirect positive effect of the woman's age at first birth, in addition to its own direct effect and this fact might confound the real impact of women's education on fertility. Similar results were previously reported for Sweden, France and Austria (B.Hoem, 1996; Toulemon, 1995; Hoem et al., 2001). Here, when I account for the positive link between education and age at first birth, the probability of having a third child becomes negative for women with tertiary education, in comparison with less educated women who have had the first birth below average. However, the third–birth risk does not decline monotonically with increasing educational attainment because, according to this model, women with upper secondary education are those with the lowest probability of having a third child in Spain.

Intensities of third births, in the four cohorts included in the analysis are below those for second births; so it is mainly third births that women/families forgo across the birth cohorts. In fact, data shows that the older the cohort, the higher the probability of having a third birth (Models 1, 2 and 3). However, it is not

---

were strongly affected, so I decided to keep the relative age at first birth; following the trend of previous studies. Results with the relative age at 2nd birth: Primary below average (b.a): 1.42***; primary above average (a.a): 0.69**; lower secondary a.a.: 0.46***; upper secondary b.a.: 0.74; upper secondary a.a.: 0.54; university b.a.: 0.84; university a.a.: 0.40**.

possible to make any firm conclusions regarding third birth for the youngest cohorts in the sample, because only women who started childbearing early could have experienced the transition, at the time of interview. Most women in the younger cohorts then are right–censored in the analysis, and this allows us only to indicate the general trend. The number of siblings predicts a woman's own fertility behavior, in the anticipated manner. Growing up in a family with at least two siblings makes a woman herself desire a large family. Table 7.2 also displays the results for the covariate sex of the first two children. Mothers of two daughters have a higher probability of having a third birth, than those mothers of two boys or of mixed sex children. The effect slightly increases in Models 4 and 5 (with unobserved heterogeneity). One possible explanation may be that in general a preference for a mixed sex–composition of children exists in Spanish society. More specifically, women who desire more children also prefer that they are not all female.

A U–shaped relationship is evident between the earnings of the male partner (as represented by education) and rates of third births, in all model specifications. The probability of having a third child is higher for women whose partners have primary education only. In addition, women with better–educated partners show a higher (but not significant) probability of having a third child than the women in the reference category. The important finding, nevertheless, is that after including the characteristics of the partner, the FFS data shows that the impact of a woman's educational attainment does not disappear in Models 1 and 2 (absolute age at first birth). Thus, in common with previous studies, in Spain the positive effect of the woman's education seems not to be accounted for by a positive effect of the partner's education. As presupposed by the income hypothesis, these couples can better afford a large family, despite the scarcity of subsidized family services and public policies; although, we have already pointed out in Chapter 6 that there is a more complex interaction between the different characteristics of each partner in the couple. "A family in which there are two breadwinners will

Table 7.2. Transition to third births (conception) in Spain. Piecewise linear models, with main effects

| Parameters | NO HETEROGENEITY | | | | | |
| | MODEL 1 | | | MODEL 2 | | |
	R. Risk	Estimate	S.E.	**R. Risk**	Estimate	S.E.
Baseline constant		-2.86	.20***		-2.84	.20***
0 – 2 years (slope)		.10	.11		.11	.11
2 – 4 years (slope)		-.06	.10		-.05	.10
4 – 6 years (slope)		-.07	.12		-.07	.12
6 – 8 years (slope)		-.66	.15***		-.66	.15***
8 + years (slope)		1.11	.15***		1.11	.15***
AGE AT FIRST BIRTH						
Less 20 years	**1.21**	.19	.14	**1.20**	.18	.14
20 – 25 years [ref.]						
26 – 30 years	**0.50*****	-.68	.12	**0.49*****	-.70	.12
More 30 years	**0.24*****	-1.40	.36	**0.23*****	-1.44	.36
INTERVAL BETWEEN FIRST TWO BIRTHS						
9–29 months	**1.84*****	.61	.10	**1.85*****	.61	.10
30–53 months [ref.]						
At least 54 months	**0.39*****	-.93	.15	**0.39*****	-.91	.15
BIRTH COHORTS						
1945 – 1954 [ref.]						
1955 – 1959	**0.69*****	-.35	.11	**0.69*****	-.36	.11
1960 – 1964	**0.56*****	-.58	.14	**0.56*****	-.58	.14
1965 – 1977	**0.42*****	-.86	.23	**0.42*****	-.84	.23
NUMBER OF SIBLINGS						
No siblings	**0.63***	-.46	.27	**0.64**	-.44	.28
1 – 2 siblings [ref.]						
3 + siblings	**1.28****	.25	.10	**1.27***	.24	.10
SEX OF FIRST TWO KIDS						
2 boys	**1.06**	.06	.10	**1.08**	.08	.10
2 girls	**1.26***	.23	.12	**1.26***	.23	.12
1 / 1 [ref.]						
ACTIVITY STATUS						
Not employed [ref.]						
Employed	**0.78****	-.24	.12	**0.76****	-.26	.12

	NO HETEROGENEITY					
	MODEL 1			**MODEL 2**		
Parameters	**R. Risk**	Estimate	S.E.	**R. Risk**	Estimate	S.E.
PARTNER´S EDUCATIONAL LEVEL						
Primary	**1.33***	.28	.15	**1.33***	.29	.15
Lower Secondary [ref.]						
Upper Secondary	**0.88**	-.12	.14	**0.89**	-.10	.14
University	**1.23**	.21	.17	**1.23**	.20	.17
WOMAN´S EDUCATIONAL LEVEL						
Primary	**1.34*****	.29	.10			
Lower Secondary [ref.]						
Upper Secondary	**0.94**	-.05	.20			
University	**1**	.004	.21			
WOMAN´S TYPE OF EDUCATION FOR EACH EDUCATIONAL LEVEL*						
Primary				**1.30****	.26	.11
Low Sec: General [ref.]						
Low Sec: Care & Social				**1.14**	.13	.32
Low Sec: Others				**0.79**	-.22	.22
Upper Sec: General				**0.77**	-.25	.32
UpperSec: Care&Social				**1.50**	.40	.29
Upper Sec: Others				**0.63**	-.45	.41
Tertiary: Care & Social				**1.23**	.25	.24
Tertiary: Others				**0.41****	-.88	.44
Log–likelihood		-25121.98			-25108.35	

Significance levels: ***=p<.01, **=p<.05, *=p<.10.
Time periods of two years from the first to the eighth year of the second child; then open intervals
* See TABLE 4.8 [Chapter 4]

Table 7.2. (cont.) Transition to third births (conception) in Spain. Piecewise linear models, with main effects

	NO HETEROGENEITY		
	MODEL 3		
Parameters	**Relative Risk**	Estimate	Standard Error
Baseline constant		-2.75	.22***
0 – 2 years (slope)		.10	.11
2 – 4 years (slope)		-.06	.10
4 – 6 years (slope)		-.07	.12
6 – 8 years (slope)		-.65	.15***
8 + years (slope)		1.12	.15***
INTERVAL BETWEEN FIRST TWO BIRTHS			
9 – 29 months	**1.82***	.60	.10
30 – 53 months [ref.]			
At least 54 months	**0.41***	-.87	.15
BIRTH COHORTS			
1945 – 1954 [ref.]			
1955 – 1959	**0.70***	-.35	.11
1960 – 1964	**0.57***	-.55	.14
1965 – 1977	**0.43***	-.84	.22
NUMBER OF SIBLINGS			
No siblings	**0.60***	-.50	.28
1 – 2 siblings [ref.]			
3 + siblings	**1.27***	.24	.10
SEX OF FIRST TWO KIDS			
2 boys	**1.09**	.08	.10
2 girls	**1.26***	.23	.12
1 / 1 [ref.]			
ACTIVITY STATUS			
Not employed [ref.]			
Employed	**0.74***	-.29	.12
PARTNER´S EDUCATIONAL LEVEL			
Primary	**1.31***	.27	.15
Lower Secondary [ref.]			
Upper Secondary	**0.93**	-.06	.15
University	**1.27**	.24	.17

RELATIVE AGE AT 1st BIRTH	Age at first birth					
Woman's education	Below average			Above average		
Primary	**1.40***	.33	.13	**0.74***	-.29	.15
Lower Secondary				**0.50***	-.69	.16
Upper Secondary	**0.66**	-.40	.28	**0.61**	-.48	.29
University	**0.74**	-.29	.25	**0.52***	-.65	.32
Log–likelihood	-25130.26					

Significance levels: ***=p<.01, **=p<.05, *=p<.10.
Time periods of two years from the first to the eighth year of the second child; then open intervals

Table 7.2. (cont.) Transition to third births (conception) in Spain. Piecewise linear models, with main effects

	WITH HETEROGENEITY					
	MODEL 4			**MODEL 5**		
Parameters	**R. Risk**	Estimate	S.E.	**R. Risk**	Estimate	S.E.
Baseline constant		-2.97	.21***		-2.94	.21***
0 – 2 years (slope)		.12	.11		.12	.11
2 – 4 years (slope)		-.05	.10		-.04	.10
4 – 6 years (slope)		-.06	.12		-.06	.12
6 – 8 years (slope)		-.66	.15***		-.65	.15***
8 + years (slope)		1.12	.15***		1.12	.15***
AGE AT FIRST BIRTH						
Less 20 years	**1.26**	.23	.15	**1.25**	.22	.15
20 – 25 years [ref.]						
26 – 30 years	**0.49***	-.70	.12	**0.49***	-.71	.13
More 30 years	**0.24***	-1.40	.36	**0.23***	-1.45	.36
INTERVAL BETWEEN FIRST TWO BIRTHS						
9 – 29 months	**1.89***	.63	.10	**1.90***	.64	.10
30 – 53 months [ref.]						
At least 54 months	**0.38***	-.94	.15	**0.39***	-.93	.15
BIRTH COHORTS						
1945 – 1954 [ref.]						
1955 – 1959	**0.69***	-.36	.11	**0.69***	-.36	.11
1960 – 1964	**0.55***	-.59	.15	**0.55***	-.59	.15
1965 – 1977	**0.39***	-.92	.23	**0.40***	-.90	.23
NUMBER OF SIBLINGS						
No siblings	**0.62***	-.47	.28	**0.63**	-.45	.28
1 – 2 siblings [ref.]						
3 + siblings	**1.31***	.27	.10	**1.30****	.26	.10
SEX OF FIRST TWO KIDS						
2 boys	**1.07**	.07	.10	**1.09**	.09	.10
2 girls	**1.28***	.24	.12	**1.28***	.24	.12
1 / 1 [ref.]						
ACTIVITY STATUS						
Not employed [ref.]						
Employed	**0.76****	-.26	.12	**0.75****	-.28	.12

	WITH HETEROGENEITY					
	MODEL 4			**MODEL 5**		
Parameters	**R. Risk**	Estimate	S.E.	**R. Risk**	Estimate	S.E.
PARTNER´S EDUCATIONAL LEVEL						
Primary	**1.36***	.31	.16	**1.36***	.31	.16
Lower Secondary [ref.]						
Upper Secondary	**0.87**	-.13	.14	**0.88**	-.12	.15
University	**1.25**	.22	.17	**1.24**	.22	.18
WOMAN´S EDUCATIONAL LEVEL						
Primary	**1.35***	.30	.11			
Lower Secondary [ref.]						
Upper Secondary	**0.94**	-.06	.21			
University	**1.03**	.03	.22			
WOMAN´S TYPE OF EDUCATION FOR EACH EDUCATIONAL LEVEL *						
Primary				**1.31***	.27	.11
Low Sec: General [ref.]						
Low Sec: Care & Social				**1.13**	.12	.32
Low Sec: Others				**0.79**	-.23	.23
Upper Sec: General				**0.75**	-.28	.32
Upper Sec: Care & Social				**1.63***	.49	.29
Upper Sec: Others				**0.62**	-.47	.41
Tertiary: Care & Social				**1.33**	.28	.25
Tertiary: Others				**0.41***	-.88	.44
σ_ε		.37	.04***		.38	.04***
Log–likelihood		-25108.13			-25093.65	

Significance levels: ***=p<.01, **=p<.05, *=p<.10.
Time periods of two years from the first to the eighth year of the second child; then open intervals
* See TABLE 4.8 [Chapter 4]

always be better placed economically to have a third child" (Hoem and Hoem, 1989: 61).[4] Yet the divisions of childcare and housework duties between the members of the couple may also benefit highly educated women coupled with highly educated men. In this case, values and behavior may be better matched along with a more equal division of labor within the household. This reflects the ideas behind the bargaining power hypothesis.

Results in Table 7.2 also indicate that the traditional Spanish system does not facilitate women to be in the labor market when they have young children. Many women leave the labor force when they become mothers. Intensities for women who worked full time were slightly less significant than for those who worked part–time. The differences were minimal so I did not include this differentiation in the analysis. Similarly, there was little distinction between patterns of employed and unemployed women. Unemployed women delay further childbearing until they are established in the workforce, as a general strategy. The real distinction arises between housewives and women in the labor market. The effect of the current activity status is slightly less than it was for second births; because it seems clear that two–child working mothers who did not leave the market when having the second child will maintain a high probable attachment to the labor market, despite the fact that they decide to have a third child. The impact of the woman's activity status is slightly stronger in models with heterogeneity.

The human capital hypothesis is also tested in all model specifications. Model 1, in Table 7.2, shows the first estimates for the effect of women's education on completed fertility in Spain. We do not find a negative linear relationship between a woman's education and third births. On one hand, it is commonly accepted that "a few years of primary education tend to push fertility up in highly gendered societies" (Jejeebhoy, 1995, cit. in Kravdal, 2001: 188). And, this is what seems to occur in Spain: a U–shaped

---

[4] This is important since "financial obstacles are believed to be the main deterrent to the birth of a third child." (Gauthier, 1996: 203)

relationship exists between education and third births. In the FFS data, women with compulsory education only are the most fertile in all model specifications. But, the probability of having the third birth is higher for highly educated women than it is for women with intermediate education [relative risks: 1.34***, 0.94 and 1, for primary, upper secondary, and university education respectively (Model 1)].

Nonetheless, this research introduces an extra innovation, in order to achieve a more in–depth exploration of third–parity transition. The study distinguishes not only the woman's level of education, but also the type of education for each educational level. No study has previously dealt with the consequences of educational segregation on the women's probability of having a larger family. At first sight, results in Table 7.2 show that all women might not have the same response function *u(y),* defined over income and class, in the trade–off between family and work; as it is predicted by the New Home Economics approach. The subjects in which women are educated appear to influence family formation for all groups of women. In fact, Model 2 confirms my expectations that intensities of third births are relatively higher for women whose studies relate to the care of individuals and/or crucially involve social skills and relational capacities. Such studies demonstrate the issue of the endogeneity of preferences, as defended in the present dissertation.

Women with primary education show a strong and significant relative risk (1.30***). Compared to the reference group (lower secondary general education), a positive relative risk of having a third birth exists for lower and upper–secondary educated women, whose studies concern the care of individuals and/or emphasize relational abilities (1.14 and 1.50). The other two categories, in each educational level, show a negative risk (0.79 for "Low Sec: Others", and 0.77 and 0.63 for "Upper Sec: General" and "Upper Sec: Others" respectively). The same applies for better–educated women. I obtain a relative risk of 1.23 and 0.41** for each respective group. This is the only conclusion I want to draw out, due to the small size of the groups [See Table 4.7 (Chapter 4)].

Differences were also substantial among women with regard to first– and second–parity transition rates, as shown in Chapters 5 and 6.

Thus, the important finding is that we have to carefully look at the actual choices that the woman makes, and we must not assume that the same results would be obtained simply by looking at her available resources as dictated the educational level attained. This provides us with insights to allow us see that the income effect does not balance the opportunity cost effect, in all cases in Spain. Universal and public childcare is hardly available. Other caring alternatives depend on the income of the parents, and they are not always considered, within Spanish society, as being appropriate substitutes for the mother's own care. At the highest income levels, there might be a positive "wage effect" on family size, but only for a specific category of women, with certain subjects of education. Results in Model 2 show that women's wages do not show a stimulating effect on childbearing for all women.

The next step was to include an unobserved factor with influence on all transitions, in order to correctly estimate the effects of the level (and type) of education (selection hypothesis). Model 4 shows that by doing so, the effect of the educational level does not become linearly negative. When all three parity transitions are modeled together, with a common unobserved factor included, negative effects of educational level in Spain do not appear, according to the data at our disposal. Although, the positive effect of the tertiary education is slightly superior (and not statistically significant) to the reference category (relative risks: 1.35***, 0.94 and 1.03 for primary, upper secondary, and university education, respectively). Women with a university education, who already have two children, are probably a select group with higher preferences for children than other women at the same educational level.

But, the curvilinear relationship between mother's education and fertility (that has been previously reported for Spain, according to models estimated separately for third births, net of age and duration since previous birth) remains, once controlled for

heterogeneity. This result, however, should be viewed with caution. The third birth risk decreases dramatically with the passing of time and, as we have already pointed out, the negative significant effect is more than that for first/second births. But, only a small proportion of women could have experienced, or could be at risk of having third births in the younger cohorts. It might be that the negative effect that we find when controlling the relative age at first birth (Model 3), could also appear in Models 4 and 5 with heterogeneity, if we were able to further explore the post–francoist period.

However, there is a personality dimension which cannot be directly observed, and which determines behavior. I have already hinted at such an aspect as an attitudinal variable, in previous chapters. Operationally, the personality dimension would correspond to the unobserved heterogeneity parameter which captures the different life strategies of women. The possibility remains of extending the present analysis to more recent data in order to see whether the positive effect of tertiary education does not disappear once we analyze the younger birth cohorts and control for heterogeneity. But, there is also the issue of women's choices, regarding the field–of–study. In this sense, important differences still emerge among better–educated women with different subject fields when the unobserved factor is controlled (Model 5). A positive relative risk of having a third birth exists for lower, and upper–secondary educated women, whose studies concern the care of individuals and/or emphasize relational abilities (1.13 and 1.63*).

For highly educated women, there are also large fertility differences concerning the probability of having a third child: 1.33 for the care and relational skills group, and 0.41** for the category "others". Better–educated women, instructed in care and relational skill subjects, tend to be in the labor force even if their family orientations are strong. A high proportion of highly educated women in the sample (90.51 percent) declare that it is important for them to have an occupational career where they achieve something valuable (66, 77.90 and 90.05 percent for primary,

lower secondary, and upper secondary educated women, respectively).[5] This specific group of women might postpone the entry into motherhood, but data suggests that they then "catch up" and end up having the desired number of children (catching up hypothesis).

Finally, the introduction of periods in the analysis does not drastically change the estimated impact of the majority of the covariates, including the woman's educational level when the relative age at first birth is included in the model (Model 3), or when heterogeneity is controlled (Models 4 and 5). In these cases, the statistically positive effect of primary studies decreases, but better–educated women still show a positive risk in comparison to the reference group (not significant). The same observation as that noted above works here. Only the oldest women could have experienced, or could be at risk of having the third birth in the three most recent periods, included in the analysis (1977–1984, 1985–1991, and 1992–1995). In addition, the effect of the covariates (age at first birth and the interval between the first two births) is somewhat smaller in all model specifications, in comparison to the same models in which birth cohorts are controlled [Table 9.8 (Appendix)]. Lastly, differences also appear among women with different field–of–study choices, within the same educational level. With or without heterogeneity, the positive effect of education remains for all groups of women within the care and relational skills subject.

7.3. Conclusions

Contrary to the New Home Economics theory prediction, our results also sustain a U–shaped relationship between a woman's education and third births in Spain. At first sight, it could seem that there is a decreasing impact between education and fertility behavior, as has been recently reported in other Western societies. And, perhaps increased levels of education do not necessarily

---

[5] FFS (1995). Question 707c.

make women forego higher birth orders. This assumption, moreover, can be further sustained, since the positive effect of tertiary education on rates of third birth does not disappear when we control the selection. It seems, therefore, that due to age–related earning curves and due to the incompatibility of motherhood and remunerated work in Spain, better–educated women delay childbearing for as long as possible. This is because this decreases the lifetime earnings loss, but these women might speed up subsequent births and catch up to normal levels of fertility (Baizán, 2001). However, the insignificant incidence of these cases in the sample and the fact that the FFS does not permit an investigation of the whole post–Franco period (for the general postponement in the transition to adulthood for younger cohorts) impose restrictions in affirming the positive effect of a woman's educational attainment on third births.

In addition, profound differences also appear concerning the woman's type of education. Studies concerned with the care of individuals, and/or emphasizing interpersonal skills, positively influence the transition to the third child, with respect to women that have chosen other fields–of–study. This represents a new trend which is worth analyzing in future research. Once the woman's type of education is included in the model, a negative relationship emerges for the categories of "others" (university studies). Educational choices reflect individual preferences concerning motherhood, but it might also indicate different possibilities for resuming and maintaining employment after birth, i.e., for reducing childbearing costs. This fact implies that women are clearly influenced "by a sort of fertility proneness throughout their reproductive careers, and that various factors associated with a high education still contribute to push fertility down." (Kravdal, 2001: 212)

In fact, institutional factors explain whether and to what extent, education reduces fertility. As noted, earlier research showed a clear positive effect of education on third births, in countries such as Sweden and Norway, where many mothers with young children are in the labor force (Hoem and Hoem, 1989;

B.Hoem, 1993: 116; Kravdal, 1992; Gauthier, 1996; Berinde, 1998).[6] Most Scandinavian women maintain a lifetime employment career, and effective "women–friendly" labor and social measures extensively decrease the risks of lengthy absences from the labor market due to childbirth. As a result, female employment continuity is generally guaranteed in these countries to all women –through quality employment conditions, options and rights. Better labor protection on one hand, and universal care for children and the elderly on the other, makes it easier to plan for the future, especially for highly educated women.

However, more recent studies in Norway have shown that high education is not a stimulating factor once it is controlled for selection (Kravdal, 2001). More research needs to be undertaken on this issue in other countries (such as Sweden and Denmark) in order to be able to conclude that Nordic countries indeed represent a positive scenario regarding the stimulating effect of education on third births. Or else, that in contrast, high fertility rates among the better–educated are simply the result of a selection problem, despite public support for working women and the mother–friendly labor market. Should there be a positive outcome from education, after controlling heterogeneity, we could certainly expect increasing fertility, in the future in these countries. This occurs as they would be witnessing a movement towards a preference for having children and higher levels of work–family compatibility, in which the better–educated might represent the group taking the lead (Kravdal, 1992, 2001). Yet, if this positive effect vanishes, increasing fertility would be in doubt even in these countries in the immediate future. In Spain, this seems to be the case because the mild positive effect of tertiary studies in the U–shaped relationship between education and third births (shown in this analysis) makes us doubtful of the future recuperation of fertility; as based exclusively on socioeconomic or ideational factors.

---

[6] Britta Hoem (1993) shows a J–shaped pattern in all model specifications for Sweden. She also finds similarly unexpected results for second births (Hoem and Hoem, 1989).

CHAPTER 8. CONCLUSIONS

8.1. Research question

Over recent decades, both the increasing economic independence of women, and school enrollment have undoubtedly transformed women's economic status and have led to a new socio–economic order. In some countries, such as the United States and Nordic countries, rates of female participation in the labor market have started to resemble those of men. In Spain, the recent female labor revolution is not the result of changes in the behavior of all women, but instead due to the increased entry of younger cohorts into the labor market.[1] But, as Hakim predicts (1996: 60), women's entry into the workforce has not lead to women taking the jobs of men as women (together with youths) are those most exposed to the precariousness of the Spanish labor market. Consequently, gender equality has not been immediately gained, despite women's incorporation into the workforce. Besides, the nature of work itself has not been transformed by women's increasing employment. This is since the proportion of the so–called "soft economy jobs" in Spain remains low in comparison with other countries. The important issue, for the purposes of my research, has been whether the female presence in

---

[1] It was seen in Chapter 3 that the strongest increase in female labor force participation occurred between 1981 and 1991; much later than in the other European countries.

the labor market (modest from a comparative point of view, but important for the younger cohorts) has changed the traditional role of women.

The afore–mentioned Hakim study (1996) stated that the fact that women have entered the labor market in record numbers, does not mean that a career has become their main objective in life. The scenario, she argues, heavily depends on each particular woman and on her own lifestyle. Following this line of thought, this dissertation proposes that we really need gain an understanding of the individual effects which stem from the heterogeneity of female preferences. But, it is also important to consider constraints, in order to understand each woman's interrelation with family and career. To put it another way, "lifestyles express personal motivations, individual personality and cultural capital (Hakim, 1996: 50, 129), but they are also affected by constraints."[2]

Within this framework, the present study has outlined the particular case of Spain in order to explore the specific research question of whether all women, irrespective of their education, have delayed and/or forgone motherhood, as a result of the current changes in their preferences to pursue a lifelong career; or whether there are intra–women differences regarding fertility, according to their educational attainment (level and type). Broadly speaking, results show that social class is still a strong predictor of fertility patterns: low–income women/families have a greater number of children. But, contrary to what has been hypothesized by the economic theory of the family, there is no linear negative relationship between fertility and social class in Spain. The most highly educated women do not consistently avoid the birth of the second/third child.

---

[2] Hakim, however, does not consider constraints at all. She argues that women today have *more choices* than men in the sense that "they now have the best of both worlds –taking jobs when they like, on an equal basis with men, but retreating to the sanctuary of the home to revert to their other role as homemaker and mother *whenever they please*." (Hakim, 1996: 1) [the cursive is mine] Women's choices, at least in Spain, are often constrained, not totally free.

8.2. Major contributions of research

The aim of this study has been both theoretical and empirical. From a theoretical point of view, the two major contributions of the present dissertation could be described in the following way. In the first instance, I have drawn out the idea of **fertility choices as an endogenous part of female welfare maximizing behavior**. An increasing number of studies assume endogeneity when analyzing women's education and fertility; but most of them treat educational enrollment and attainment as exogenous factors that influence fertility timing and choice. Here, I have proposed that educational choices should not be taken as exogenous to fertility decisions. In line with previous work (Bloemen and Kalwij, 2001; Lillard, Panis and Upchuch, 1994), I have also demonstrated that education and fertility are, to some extent, jointly determined by some common (unmeasured) determinants and therefore they must be analyzed as endogenous processes, in order to avoid biased results. In other words, women who do not want (or who do not intend) to become mothers early might spend more time in education; and conversely, women with stronger fertility intentions (including higher total fertility) might accelerate both processes.

The inclusion of these common factors adds a complementary perspective to earlier research. I have interpreted them in terms of attitudes, value orientations and norms that are held by specific groups of the population –and by particular groups of women in this case– and that help in explaining their demographic behavior. Hence, women who continue to higher education make up a select group who possess characteristics that favor delayed fertility (these are particular values, and norms concerning fertility behavior). I am in total agreement that it is important to further elucidate the exact nature of these factors; and this is the task of future research. To this issue I will return.[3] Yet, my study

---

[3] We would require demographic surveys with accurate information on values, attitudes and preferences of individuals over time.

substantially qualifies previous common findings in literature that educational enrollment simply delays family formation (Blossfeld and Huinink, 1991); by empirically testing that they are to some extent jointly determined.

In addition, <u>women to a large extent are self–selective</u> concerning family and career depending on "their prior value orientations and meaning–giving goals in life." (Lesthaeghe and Moors, 1995: 220) In this sense, my dissertation shows that women who already have had one or two children are a specific group, with higher preference towards children and the values that strongly emphasize the process of caring and rearing children, in comparison with other women within the same educational group. This fact plays an important role –not previously considered in scholarship– in shaping the relationship between women's education and their fertility behavior in Spain (Kravdal, 1992: 471). Hence the choice to become a housewife and to have a number of children; or to embark on motherhood along with participation in the labor market; or to forego motherhood altogether does not depend solely on the level of education. All these scenarios are influenced by a selection effect, stemming from a woman's specific cultural environment.[4]

In fact, my findings show that the timing of first birth and leaving the educational system are partially determined by joint factors (Chapter 5). In addition, results demonstrate that the New Home Economics theory needs to be qualified further. Once I control heterogeneity (selection), the initial results in the analyses of first, second and third births need be substantially modified (Table 8.1). The starting point of the analysis was the common belief stemming from economic theory, according to which "the significance of children for women decreases to the extent that they increase their investment in education and job careers." (Becker, 1981; cit. in: Blossfeld and Huinink, 1991: 146)

---

[4] The same attitudes, value orientations and/or norms which make the woman decide in the process of education (level and type) are those that make her choose in the process of motherhood at a later stage of her life.

Table 8.1. *Summary of the results. Piecewise linear models with the effect of education on the transition to first, second and third births in Spain*

	LEAVING EDUCATION			FIRST BIRTH				SECOND BIRTH		THIRD BIRTH	
	NO HETER	**HETEROG.**									
	M1&2[2]	Mod3[2]	Mod 4[2]								
MOTHERHOOD STATUS											
No child [ref.]											
Pregnant	1.86	1.36	1.38								
Have a 1st child	0.34***	0.21***	0.22***								
				NO HETEROG.		**HETEROGEN.**					
ENROLLMENT				Mod 1[2]	Mod 2[2]	Mod 3[2]	Mod 4[2]				
In education				033***	0.33***	0.35***	0.32***				
Out edu. (0–2 y)				0.68***	0.69***	0.71**	0.70**				
Out edu. (2–5 y)				0.99	1.01	1.01	0.97				
Out edu. (5+) [ref.]											
				NO HETEROG.		**HETEROGEN.**		**NO HET.**	**HETER.**	**NO HET.**	**HETER.**
LEVEL				Mod 1[2]		Mod 3[2]		Mod 1[3]	Mod 3[3]	Mod 1[4]	Mod 4[4]
Primary				1.20***		1.16		1.06	1.07	1.34***	1.35***
Lower Secondary [ref.]											
Upper Secondary				0.57***		0.32***		0.79**	0.79**	0.94	0.94
University				0.68***		0.29***		1.13	1.18	1	1.03
TYPE [1]				Mod 2[2]		Mod 4[2]		Mod 2[3]	Mod 4[3]	Mod 2[4]	Mod 5[4]
Primary				1.16***		1.12		1.07	1.07	1.30**	1.31**
Low Sec: Gen.[ref.]											
Low Sec: Care...				1.21		1.47		1.04	1.09	1.14	1.13
Low Sec: Others				0.81***		0.68***		0.99	1	0.79	0.79
Upper Sec: General				0.57***		0.31***		0.72**	0.70**	0.77	0.75
Upper Sec: Care...				0.59***		0.32***		0.85	0.89	1.50	1.63*
Upper Sec: Others				0.47***		0.22***		0.87	0.88	0.63	0.62
Tertiary: Care...				0.66***		0.27***		1.21*	1.26*	1.23	1.33
Tertiary: Others				0.59***		0.22***		0.96	1.02	0.41**	0.41**

Significance levels: ***=p<.01, **=p<.05, *=p<.10.

(1) See TABLE 4.8 [Chapter 4]　　(2) Chapter 5　　(3) Chapter 6　　(4) Chapter 7

However, there is no monotonic negative relationship evident between education and fertility in Spain (Figures 8.1, 8.2 and 8.3).

In Chapter 5 it was demonstrated that a U–shaped relationship exists for the first birth. Once I control the heterogeneity component, the difference between middle and highly educated women vanishes; but the divergence is not substantial. In addition, women with primary education only do not display the highest propensity towards the first birth. The analysis in Chapter 6 shows a U–shaped relationship for second births in Spain, and this is maintained after controlling heterogeneity. In Chapter 7, traditional hazard models for third births also indicate a U–shaped relationship between fertility and education. But, when the woman's relative age is included, the effect of high education disappears. Once heterogeneity is controlled, the U–shaped relationship barely exists. We note these results with caution, due to the high proportion of right–censored cases in the analysis of third births; because the younger cohorts have increasingly postponed the transition to adulthood. Thus, the negative impact of education for upper secondary educated women, and the slightly positive effect of tertiary education on the third birth analysis, is consistent with the idea that "individuals are influenced by a sort of fertility proneness throughout their reproductive careers(...), and that various factors associated with a high education still contribute to push fertility down." (Kravdal, 2001: 212)

On the other hand, the dissertation is a study of **intra–women stratification and lifestyle opportunities**. Male stratification follows standard variables such as family of origin, education, occupation, etc. However, women experience the added element of motherhood which may or may not strengthen intra–women inequalities. Therefore, I think it is important to stress the role of social stratification in shaping the trade–off between fertility behavior and economic independence. Firstly, education has been considered an important mechanism in effectively diminish gender and class differences (Dronkers, 1993; Shavit and Blossfeld, 1993). However, education alone is not a sufficient factor. Shavit and Blossfeld point out that the successful equalization of

Figures 8.1, 8.2, and 8.3. Summary of the results.
Probability of having first, second and third births by the woman's
educational level [ref. lower secondary educated women]
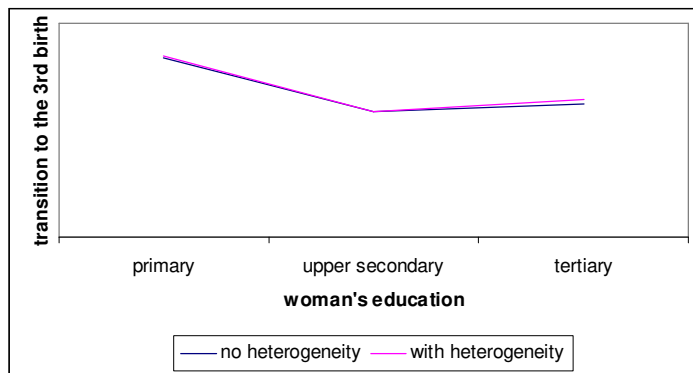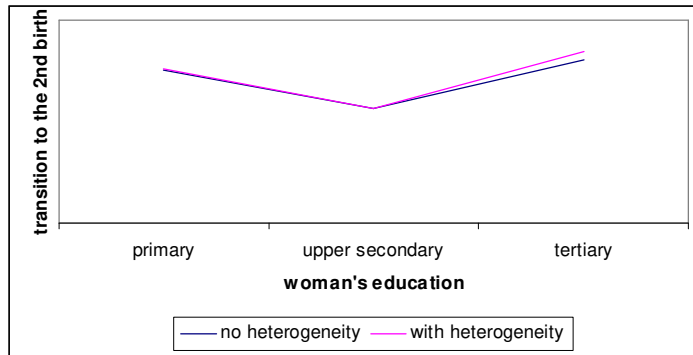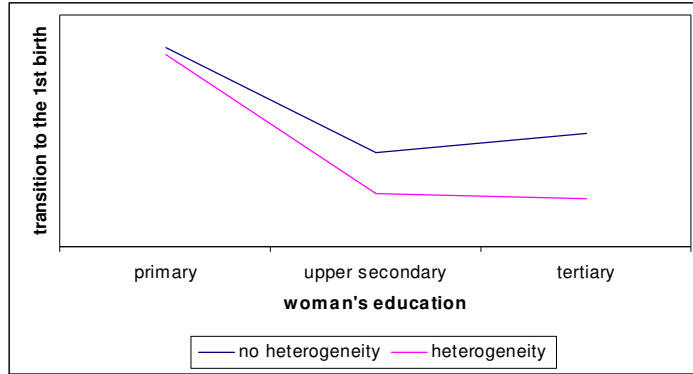
educational opportunities in Sweden, for instance, has been possible due to the effectiveness of the Swedish system in reducing such differences in everyday life chances and lifestyles (Shavit and Blossfeld, 1993: 101–129). The question therefore still remains, as to the sort of policies that might help reduce class differences among women. Secondly, on its own, female labor participation does not have a negative impact on childbearing patterns. We can also see the opposite outcome to that which economy theory has predicted regarding the influence of women's activity status in Nordic countries. Here they have the highest fertility rates in Europe and at the same time female employment levels are at record highs, i.e., the fact that a woman works outside the home does not reduce her preferences for children. Family and labor policies, no doubt, are the most relevant dimensions worth analyzing. This is because they are responsible for the divisions between working women having the number of children desired, and working mothers having the number of children affordable. In this sense, the Spanish institutional context reinforces the incompatibility of a family and a career.

8.3. Inequalities in living conditions in Spain

It has been recognized that the welfare state is, undoubtedly, a system of social stratification (Esping–Andersen, 1990: 55). Numerous studies have argued and already demonstrated that universal social rights based on citizenship, for instance, have fewer stratifying effects (O'Connor, 1993; Orloff, 1993; Sainsbury, 1996). In fact, apart from diminishing differences between the social rights of men and women, "entitlements based on citizenship promote equalization of opportunity for women and eliminate divisions among them." Systematic research on this issue is lacking in Spain, and I have attempted to fill the gap with this dissertation. My research was concentrated on the complex interrelationship between the increasing educational attainment of women over recent decades, and the process of family formation

(and in particular female fertility) specifically in the context of the family in Spain.[5]

In order to do this in detail, I have differentiated between female educational enrollment and educational attainment. This is important for both theoretical and policy related purposes (Blossfeld, 1995: 10). Additionally, I have made it clear that there are two dimensions that distinguish women; or to put it in another way, there are two aspects that explain intra–women divergences. Firstly, women greatly differ in their early expectations, aspirations and aims (domestic and non–domestic) with regard to what they intend to achieve in the future. In fact, "exposed to a diverse, complex set of experiences as children, women, like men, develop a variety of conscious and unconscious aspirations long before they are able to test these wishes as adults (...) Some plan to build their lives around the traditional feminine commitments to home, husband and children (...) Others aspire to the less traditionally feminine pursuits of work advancement." (Gerson, 1985: 20–21)

Secondly, these early goals are subject to real constraints and opportunities that women encounter in adulthood. This is the second dimension that differentiates women from one another. Young adult women can see then their initial aspirations as being supported or denied by the given social context. In this sense, "initial goals can prove viable, leading one down a life path wholly consistent with early expectations, or these early plans can ultimately turn out to be uninviting or even impossible, encouraging or perhaps requiring individual change." (Gerson, 1985: 20–21) Thus, it seems clear that it is vitally important to take account of the opportunities or constraints that individuals face throughout adulthood.

Enrollment in education occurs during the <u>transition to adulthood</u>. Since the 1960s, "life cycle transitions with respect to

---

[5] In line with previous studies (Blossfeld, 1995: 4), in this dissertation women's educational attainment has been taken as an indicator of potential labor force participation and economic status of women.

household and family formation have become considerably more complex in virtually all Western countries." (Lesthaeghe and Moors, 1995: 217) Longer periods spent in education and thus a longer transition to stable employment slows down young people and makes it more difficult for them to *get established* (Oppenheimer, 1988; Esping–Andersen et al., 2002). In this sense, the characteristics of the labor market, that have accompanied the entry of women and the youth into the labor market in recent decades, have played an important and specific role in Spain. In the Spanish context, undoubtedly, high levels of unemployment, the absence of labor market opportunities, the difficulties in acquiring housing, and the lack of subsidized childcare all impose heavy constraints on young adults. These also go a long way in explaining the so–called <u>postponement syndrome</u> (Livi Bacci, 1997). Young women look to their futures with increasing uncertainty, and we have seen in the analysis that young adult women are tending to refrain from forming households and entering into motherhood. Our data seems to confirm that some women do reconsider their priorities, and even forego motherhood; but the majority of women simply reorder their lives and postpone motherhood (Esping–Andersen et al., 2002: 81, footnote 16; Castro Martín, 1992; Fernández Cordón and Sgritta, 2000: 14).[6] This postponement might have important societal consequences, such as very low fertility and the fact that family formation, itself becomes a matter of choice (Blossfeld, 1995).

The impact of the level of education is important during the transition period but it also persists during adulthood. The higher the level of the woman's education, the more intense the conflict between her economic independence and her traditional family role (Blossfeld, 1995: 10). Due to the lack of effective reforms of <u>family and labor policies</u> of late, and due to the expense of private

---

[6] These results, at the micro level, are coherent with existing aggregated outcomes at the macro level that indicate that it is postponement, more than the reduction in the completed number of children, that is the determinant factor in the Spanish TFR drop in the last two decades (Ortega and Kohler, 2002; Baizán, 2004: 19).

modes of childcare, it is now not easy to continue in remunerated employment after childbirth in Spain. Opportunity costs of motherhood are higher earlier on in careers, than they are at a later age. Most better–educated women, for instance, not only delay childbearing because they spend longer in education, but because also motherhood is not easily compatible with a career, they aim to decrease lifetime earnings losses as much as is possible. Hence the Spanish context does not alleviate the <u>incompatibility problem</u> faced by working mothers today, and this might be one of the major reasons why lowest–low fertility will persist in the long–term. In addition, as this dissertation highlights, this may continue to provoke serious demographic and employment imbalance among women.

It is known that an increase in the woman's educational attainment has an uncertain impact on fertility, all else being equal. The economic theory of the family predicts that the effect might be negative or positive, depending on which of the two composing elements (the opportunity cost or the <u>income effect</u>) dominates. Results are interesting in the country–specific family context of Spain. Due to the scarcity of subsidized nurseries for 0–3 aged children, the price of childcare is shown to be still wage dependent in Spain.[7] This is the case for the majority of women/families who cannot avail of grandparents as carers. In fact, for <u>second births</u> (both prior and after controlling heterogeneity), we find empirical support for neoclassical economics. Such theories do not predict the avoidance of fertility as a result of a higher accumulation of human capital, but rather they point to higher fertility, when the woman's lifetime earning potential from market activity increases steeply (Cigno and Ermisch, 1989). Therefore, in the Spanish case we could also affirm that "better–educated women earn higher wages, they actively contribute to the household income and should therefore

---

[7] Private childcare is expensive and this reinforces social class differences among women because private servicing creates inequalities at the "top", and fails for the most needy women who cannot afford the childcare market (Esping–Andersen, 1990).

be better able to support a larger family." (Kravdal, 1992: 468) Also, these women are often partnered with highly educated men (Gonzalez–López, 2001). So, they can benefit from their material resources for childcare, and from their human resources, in order to more equally share domestic and care requisites.

Thus it seems that there are "societal norms regarding childbearing and family size" (B.Hoem, 1993: 102), and the two–child norm still prevails even for the better–educated who already have one child. However, earlier scholarship demonstrates that "the income effect implicitly relies on the idea that family and work are easily compatible and that women are able to return to the labor market after the childbirth." (Kreyenfeld, 2002: 17) We have repeatedly asserted that this assumption is not at all true for Spain. In fact, we can infer from our analysis in Chapter 7 that for third births the opportunity cost effect might dominate to a greater extent. There are many constraints for working women in today's Spain. Many of these limitations explain why the opportunity cost impact on higher birth orders in Spain, in comparison with other more "mother–friendly" societies. Such factors include the precariousness of the Spanish labor market; the limited availability of part–time employment; the existence of pronounced gender wage inequalities; the scarcity of "soft–economy" or "mother–friendly" jobs; and the inefficiencies with regard to subsidized childcare. As a consequence, the existing family model still conforms to tradition, with profound role segregation between the sexes (Blossfeld, 1995: preface xii and xiii).

8.4. Intra–female differences according to types of education

Nevertheless, we know that the afore–mentioned empirical results must be qualified, according to the woman's specific field–of–study. In other words, the economic theory of the family simplifies reality too much, and it does not take account of diverse institutional and cultural factors that also impact on family formation processes (Blossfeld, 1995; Baizán, 2004). "The

cultural components, either operating at the macro–level and manifesting themselves in longer–term ideational trends or at the micro–level and instilled in different individual value orientations, have been neglected in the dominant economic theories." (Lesthaeghe and Moors, 1995: 223) Value orientations certainly help to explain changes in social structures at the macro–level, and decision making at the micro–level. This is because younger cohorts reach adulthood with different goals regarding family matters and work life; but each individual responds differently to these socio–demographic and economic shifts. As such, each woman chooses a specific trajectory from a set of alternative possibilities, according to her personal values and preferences.

In fact, the most interesting results emanating from this dissertation pertain to the relationship between fertility and the woman's type of education. Numerous studies have already dealt with differences among women regarding their educational attainment (Sorensen, 1994; Hakim, 1996; Bernardi, 1998). However, none have specifically highlighted that, **important as the level is, the type of education undertaken by women is equally significant.** In addition to considering educational choices as a way of accumulating human capital, in terms of financial autonomy and consumption aspirations, I do not neglect the cultural component. I see the cultural factors as traits expressing orientations concerning the woman's future roles as a worker and mother. As a result, the strength and the direction of the preferences towards family building vary not only according to the woman's educational attainment, but also according to the subjects in which the woman has been instructed. This is, individual attributes, value orientations and subjective norms do not exclusively determine demographic behavior. As defended in Chapter 2, other factors play an important role, but cultural factors contribute to the explanation of the woman's fertility behavior in a significant way. The dissertation succeeds in showing that theories are more complementary rather than mutually exclusive. In fact theories, focusing on a particular mechanism, "might have a different explanatory power in different segments of the

population." (Lesthaeghe and Moors, 1995: 244; Van de Werfhorst, 2004: 8)

Evidence demonstrates that the field–of–study has an impact on many aspects of people's lives; such as political orientations, lifestyles, and labor market outcomes (Nilsson and Ekehammar, 1986; Van de Werfhorst and Kraaykamp, 2001; Kalmijn and Van der Lippe, 1997; Marini and Fan, 1997; cit. in Van de Werfhorst, 2004: 2). But to date, no study has included the type of education in the analysis of the impact of education on fertility. Educational inequalities in fertility should not merely focus on the educational level. The incorporation of the field–of–study, or subject, as shown by the results in Chapters 5 to 7, by using the socialization process and selection control, has proved to be both theoretically and empirically relevant.[8] Hence, this dissertation is pioneering in analyzing the specific <u>consequences of educational segregation in female demographic behavior,</u> and it demonstrates that not only is it important to include the level, but also the type of education, in any future research. Studies that only incorporate educational level are partial. In fact, in contrast to the human capital hypothesis (predicting a negative net effect of the woman's education on the first, second and third births) my findings show that the effects of educational attainment do not necessarily lead to a postponement and/or avoidance of family formation in Spain. On the contrary, they vary according to the type of education undertaken in each parity transition (Table 8.1). More specifically, those studies concerned with the care of individuals and/or emphasizing interpersonal skills positively influence fertility in Spain, irrespective of the level.

In the analysis of the first birth, the differentiation between types of education is particularly noticeable at the lower educational level. It becomes less apparent in the higher secondary level and almost vanishes in the group with tertiary education (Chapter 5). This lack of differentiation between the behaviors of

---

[8] Incidentally, the type of education might also be relevant in terms of income (and opportunity costs), since the diverse types of education are valued differently in the market place.

highly educated women who have undertaken different educational types could be related to the extended duration of study which applies to both groups. Women who go further than upper secondary education in the Spanish context over recent decades, may be a highly career–oriented group, and consequently demonstrate homogeneous low first–birth rates. However, this assumption is not entirely true. This issue is further analyzed in the analysis of the second and third births (Chapters 6 and 7). All groups may tend to postpone entry into motherhood due to longer periods in education, but better–educated women, in the category of care and interpersonal skills, may proceed to second births more rapidly. This occurs since better–educated women, who already have had one child are a specific group, with higher preferences towards children, and their circumstances can be more favorable to having additional children. In fact, differences according to the type of education indeed appear for highly educated women in both second and third birth rates. For this group of women, results confirm the "catching up" hypothesis, as presented in Chapter 2. In summary, the "type of education" discourse seems to apply more to the intensity rather than to the timing of fertility. So, this explains why substantial differences (which are unfortunately constrained and suffer from significant standard errors, due to the small size of the groups in the data set) appear in the analysis of the second and third births and less so for the first birth.

Thus, the type of education influences the transition to second births for women with upper secondary and tertiary education in an anticipated manner (Chapter 6). For the group of women with lower secondary education, the effect of education is not at all sensitive to the education type. It seems that motherhood is the normal culmination of the socialization process for these women, irrespective of their type of education. They rapidly start a family, but rarely proceed to second births. Finally, the type of education influences the transition to third births for all groups of women (Chapter 7). In other words, this dissertation shows evidence of a link between the type of education a woman undertakes in her early adulthood, and her fertility decisions once she has entered a

partnership at a later stage of her life. Taking into consideration the limitations of the data, this is the only conclusion that I can draw out. In other words, strong conclusions regarding the type of education cannot be made and these results should be taken as explorative or as an attempt to re–examine the impact of education on fertility in existing research. However, it seems appropriate to affirm that as a growing proportion of women spend more time in education and increase their educational attainment, the role of qualitative variables (such as the type of education) will become more and more relevant over time.

8.5. Methodological challenge: interrelated life–course trajectories, simultaneous decision making processes and unobserved heterogeneity

The modeling approach used in the empirical part of the dissertation is event history analysis. This approach permitted to a successfully study of the dynamic relationship between the recent changes in the role of women and in family formation processes in Spain. Cross–sectional analysis would not have worked in my research. It would not have permitted me to ascertain as to whether individuals, in a specific situation, will always remain as they were or whether this status was simply a short stage in their life. As such, it would be too difficult to individuate the causal mechanisms at work. In addition, the reconstruction of the biographies of women, across successive birth cohorts of Spanish women since 1945, is a powerful way to analyze the influences on their life chances. Unfortunately, it has not been possible to draw concrete conclusions with regard to high–birth orders for the youngest cohorts in the sample; because only women who have started childbearing early could have experienced the transitions at the date of interview. But, the trends demonstrated in this group of women has been especially revealing in indicating the causes, constraints and outcomes of the changing socio–economic position

of women in the decision–making process about a career and family.[9]

But, from an empirical point of view, undoubtedly, the major contribution of the present dissertation is that for Spain **joint modeling** is also presented beyond a level of "futile methodological snobbery" (Kravdal, 2001: 212). The modeling strategy applied, based on the simultaneous hazard equation approach developed by Lillard (1993), shows that both the process of education and that of motherhood are in part jointly determined. Therefore, reliable estimates can only be obtained if the process of first birth includes the effect of departing from the educational system, and the woman's specific heterogeneity component (which accounts for the mutual correlation) (Chapter 5). Also, the process of second/third births includes two/three simultaneous hazard equations, capturing the time to the first/second and first/second/third births, respectively; and the unobserved woman–specific component ε, which captures the woman's proneness towards family building, i.e., women who have had a child are more likely to have another child than women who have never had one (Chapters 6 and 7).

8.6. Further challenges as drawn out from this research

Obvious differences in female employment and demographic behavior challenge the substantial public policy issues in Spain. In fact, this work helps to outline that if nothing changes in the future, delayed and low fertility will become a hallmark of broadening educational and class differentials in Spain. At the micro–level, the traditional Spanish system does not guarantee equality in living conditions for all women. Hence, they are not equally free to choose how many children they want, and/or how much paid employment they want to pursue in the labor market.

---

[9] These women have benefited from educational system's expansion and they have entered the labor market in record numbers.

Paradoxically, the Spanish "familialist" system is now shown to be pervasive on family formation.

At the macro–level, a high proportion of women withdrawing from the labor market in order to enter motherhood means a waste of human capital; especially when the highly educated have to spend long periods out of the workforce for family reasons. It is a well–established fact that, working women who leave employment for a considerable period of time in order to have children, have a high opportunity cost in terms of earnings and career progress. Therefore, "specialization in home work may not be advantageous to the wife or even to her family in the long run, even if it maximizes family well–being in the short run (Blau, Ferber and Winkler, 1992: 41–42). In other words, the unequal traditional division of labor is not efficient, apart from being totally disadvantageous for women. Unfortunately, politicians seem not to be interested in this fact, and they fail to promote labor and family policies that keep working women in the workforce once they become mothers. In addition, relatively low levels of female labor participation implies a small tax base, and prolonged lowest– low fertility might constitute a threat in the financial viability of the Spanish welfare state in the future (Esping–Andersen, 1999: 70).

The relative advantage of women in homemaking is socially determined; as is the effect of women's employment on the welfare of children. However, there is no empirical evidence to suggest that employment of mothers, in itself, has a negative impact on children. Yet, such effects may appear when women face unemployment, high–stress jobs, and vulnerable, insecure or over–employment (Lynch, 2000). If not, it seems reasonable to suggest that the participation of mothers in the labor market may have an advantageous impact on the well being of children, as it increases family income and thus there are more resources (material and human) available. However, in order to achieve this, the existence of quality care, for all children, as a valid substitute to that of parents' is necessary irrespective of the parents' education and/or occupational status. The *ad hoc* strategy of using

grandparents as carers is shown to be problematic, as the possibility of relying on this inter–generation solidarity will not exist forever; and because it perpetuates the disadvantages and differences among women in the allocation of domestic and paid work. Therefore, effective and subsidized childcare is a *must* for the harmonization of family and a career in Spain. This dissertation has placed more emphasis on the role of childcare provision as a means to the equalization of living conditions for women. But, it is extremely important to keep in mind that universal childcare provision also guarantees the equalization of a reasonable standard of living for all children; as one of the most effective measures against child poverty. Childcare provision, thus, challenges social class differences among women and among children. Otherwise, 0–3 aged children are exposed to varying opportunities and constraints according to the position of their parents in the labor market, the division of labor within the household and the modes of childcare.[10] In this sense, previous research has argued that "it is not women's equality that threatens children's welfare, but rather the social and economic devaluation of children and those who would care for them (...) Until we value our children enough to provide them with the services they need and reward those entrusted with their care, we cannot expect women to shoulder the burden our political and economic systems refuse to accept." (Gerson, 1985: 229)

In addition, the <u>sexual division of housework</u> in Spain has changed little, despite the increasing presence of women in the labor market, in recent decades. That means that the employment of women outside the home has not been necessarily accompanied by an increase in the amount of domestic work undertaken by partners. This also strengthens intra–female differences. The fact

---

[10] Regarding the common "free labor" care component supported by the grandparents, for instance, it should be stressed that "intergenerational family relations are not always a "good" form of social capital," for children (Kohli, 2004: 267). Among other results, "they might increase social inequality, and thus go against universalistic concerns."

that better–educated men carry out more in the home, because they hold more egalitarian attitudes towards sex role, might facilitate better opportunities for highly educated women. It is a sine qua non for gender equality that the increasing <u>masculinization of the female role</u> (due to recent preferences towards lifelong labor participation) will be accompanied by an increasing <u>feminization of male roles</u> (Esping–Andersen et al., 2002: 70, 71, 88). It is true that males are moving closer to the female employment profile, due to involuntary work interruptions caused by general instability, unemployment or precarious positions (especially among the less educated). But, this can be explained by the presence of constraints. The important question should be, thus, the extent to which male behavior is more "feminine", on a voluntary basis (Esping–Andersen et al., 2002: 88). The woman pays an extremely high price if she has a child or more children and the man does nothing at home, leaving the woman with the double burden of paid work and family obligations. Hence, it is more desirable that this issue should not remain in the private sphere. Policies have an important role in guaranteeing, for instance, more equality in absences from the workplace due to childcare. In the most recent electoral campaign in Spain (2004), political parties for the most part converged in the promises of what they would do for working women. But, attention to family issues is still rare, especially regarding specific policy reforms and general aims. In Britta Hoem's words, even knowing that the authorities are concerned with the situation and eager to do something seems not insufficient in providing women/couples with any confidence, that it is possible to have two or more children in contemporary Spain (B.Hoem, 1993: 117).[11]

Employment instability and lengthy employment interruptions imply high risks for motherhood, and it is mainly young people and women who face these constraints in Spain (Baizán, 2004).

---

[11] She argued, however, that this was possible at the beginning of the 1990s in Sweden and explained that "fertility and women's labor force participation could rise simultaneously over a long period." (B.Hoem, 1993: 117)

The problem, therefore, is that women are badly paid or unemployed not only for some period of their lives (for instance, when they first enter the labor market). A high proportion of women are likely to remain in less than ideal employment over time. This affects their life choices in general, and their fertility decisions, more particularly. Consequently, our society should note that a real social problem exists and this will persist if nothing changes, as an important proportion of women persistently encounter social ills and have less opportunities than others (Esping–Andersen et al., 2002: 6). In other words, "women–friendly" policies are alone responses to the needs, claims or concerns of women. These policies are necessary means of guaranteeing gender equality, and of harmonizing motherhood and a career as well. Policies can also act to diminish child poverty (due to the increased contributions of women to household income), to encourage the activity status of women (by availing of female human capital), and to avoid lowest–low fertility in the long run. To sum up, "improving the welfare of women means improving the collective welfare of society at large." (Esping–Andersen et al., 2002: 20)

8.7. Future research

The life course framework works successfully as a methodology to outline the dynamics of the life chances of individuals. It allows us to predict the future, to some extent. An increasing knowing of fertility for contemporary younger cohorts helps us to forecast fertility behavior, at least in the short–term. For instance, it is appropriate to say that lowest–low fertility is likely to persist if young adult women consistently face incompatibilities between motherhood and employment. In addition, the modeling strategy applied in the dissertation (based on the simultaneous hazard equation approach and the inclusion of the unobserved individual component) is shown to be necessary in order to avoid biased results. I have interpreted the female specific

element, in terms of individual attitudes, value orientations, and subjective norms which partly explain the demographic behavior of females. In so doing, I have combined diverse theories and in some ways complemented them. I see this as an important step towards the integration of both types of research; these being, the economic theory of the family, and the cultural conditions of fertility. However, this approach to the research should be further elaborated. Here, I have measured ideational factors, in an indirect way. Direct measurements of the values, beliefs and attitudes of individuals over time would be desirable in future data sets in order to <u>incorporate changes in fertility preferences, and to directly explore the dynamic interrelation between values and behavior</u>.

Another issue for future research, which goes beyond the connection between fertility and the choice of education, is the examination of <u>later occupation selections</u>. In this dissertation, I successfully have shown that educational enrollment and attainment to a great extent explain the timing of women having children (in fact, median age at first childbirth is shown to increase with educational level). But, the type of education is also reflective of the number of children. This finding persists, even after controlling the woman's activity status and/or her type of job. However, the FFS does not allow us to analyze this issue in more detail. To undertake this would require detailed data on the "soft economy jobs" that offer security, good salaries and flexibility for working mothers. Previous studies have shown that Sweden, for instance, is one of the countries where these types of "women–friendly" jobs are more numerous; but the level of occupational sex segregation is also higher. I totally agree with such conclusions, but I still find it interesting to note that certain types of education (field–of–studies and their consequent jobs, often in the public service) tend to be potentially more beneficial for women in terms of their fertility behavior.

We have repeatedly stressed that <u>men today face greater employment instability</u>, especially in the younger ages. This clearly effects the transition to adulthood and the formation of an

independent household. However, often only limited attention is paid to men in the process of family formation. This is so because it is commonly accepted that changes in female educational levels are the main factor in explaining the new trends in labor force participation and fertility behavior (Oppenheimer et al., 1997). Also, it is mainly women "who are the prime movers in seeking or rejecting childbearing within couples." (Campbell, 1985; Marshall, 1993. In: Hakim, 1996: 91) However, according to these and other authors, "neglecting men is becoming increasingly unjustified given their deteriorating socio–economic position." (Liefbroer and Corijn, 1999: 48) In my analyses, I have controlled the educational attainment for the male partner where possible; assuming that education is a valid indicator of earning potential. Unfortunately, more dynamic information is unavailable for the partner in the FFS, and this is the reason why research to "bring men back in", (in Oppenheimer et al.'s words) should be further undertaken. More data and a systematic analysis of the contribution of partners to home production and childcare activities is required; in order to properly establish how couples manage the reconciliation of this problem (Esping–Andersen et al., forthcoming).[12]

In addition, <u>comparison</u> is an important remaining issue. First, it would be interesting to investigate these effects for men on one hand, and in other national contexts, on the other. Unfortunately, almost no data set could facilitate such an analysis, as most surveys continue to focus exclusively on the educational enrollment and attainment of individuals.[13] <u>Comparison across societies</u> is, however, desirable in the future in order to know in what ways Spain is special and in what ways it is comparable to other regimes. Second, <u>regional differences</u> should be included in

---

[12] See, for instance: Esping–Andersen, G., M. Guell, and S. Brodman. 2005. "When Mothers Work and Fathers Care. Joint Household Fertility Decisions in Denmark and Spain." (forthcoming).

[13] In the FFS, data on the type of education only exists for the Czech Republic. The more recent European Community Household Panel Survey does not include information on this covariate for any country.

further research, since pooling together women of all regions may obscure quite different situations, and consequently it might be misleading to draw conclusions based only on national figures. In fact, previous studies show that "the diversity of nuptiality and fertility patterns has been a constant throughout history." (Leasure, 1963; Livi Bacci, 1968; Reher, 1991; cit. in: Castro Martín, 1992: 241) Unfortunately, I could not examine regional variation in this work because the FFS data is not representative at the regional level.[14] But, this is an important issue. It is a given empirical fact that "regional, historical differences in traditional household and family formation still underlie some present differences in cultural norms and expectations, and they have a different impact on the economic dynamics of the transition to adulthood in different regions of the country." (Billari et al., 2002) It would be interesting, thus, to further analyze the regional factor in order to see, for instance, whether education has the same meaning, or whether the role of the family as welfare provider for the young couple is the same everywhere in Spain.

Lastly, in this dissertation it has been shown that the age of the mother at first birth has increased in Spain, as it has in most European countries, in recent decades. Decreased completed fertility is one of the likely results of postponement, as we have demonstrated. But, another consequence of late motherhood could be that women involuntarily reach the biological fecundity limit. In fact, a study by Dorland et al. (1997) shows that about half of women aged between 30 and 40 years may have fecundity problems and may require medical assistance in coping with this (Gustaffson, 2001: 243–244). All economic models assume that in decision–making, the woman/couple is aware of this limit. It is difficult, undoubtedly, to isolate voluntary and involuntary childlessness with the available data. But, it would be of interest to

---

[14] It does not include data on the region where the woman was born or where she has lived at each period of time. Region of residence at the time of interview is the only information available, but the former would be more relevant, since they would best capture the cultural context the woman identifies with.

analyze the question of <u>adoption</u>; and specifically, the question of whether there are also intra–female differences according to female educational attainment. Earlier studies addressed the issue of having a child when the woman is older than 40 years. This work looked at the medical problems of mothers and children, in this scenario, but it does not say anything about any other consequences of being an older mother (Gilbert et al., 1999). One interesting hypothesis for future research would be that better–educated women postpone motherhood, but they sometimes involuntary reach the biological limit of becoming a mother and so adoption becomes relevant to avoid childlessness. In addition, education might be seen to add a cultural component which benefits adoption among better–educated women.

APPENDIX

Table 9.1. Effect of women's type of education on first birth, for female birth cohorts born before and after 1965

TYPE EDUCATION*	NO HETEROGENEITY				WITH HETER			
	MODEL 2				MODEL 4			
	BEFORE 1965[1]		*AFTER 1965[2]*		*BEFORE 1965*		*AFTER 1965*	
	R.R	S.E.	R.R	S.E.	R.R	S.E.	R.R	S.E.
Primary	1.16	.05***	1.41	.11***	1.14	.14	1.52	.30
Low Sec: Gen [ref.]								
Low Sec: Care...	1.24	.15	1.15	.37	1.70	.39	1.26	.64
Low Sec: Others	0.83	.09**	0.78	.15*	0.71	.18*	0.64	.28*
Upper Sec: Gen.	0.66	.10***	0.41	.22***	0.41	.19***	0.26	.40***
Upper Sec: Care...	0.75	.20	0.29	.68**	0.58	.41	0.15	1.21***
Upper Sec: Others	0.54	.16***	0.43	.27***	0.28	.33***	0.26	.47***
Tertiary: Care...	0.73	.11***	0.40	.39***	0.38	.23***	0.19	.77***
Tertiary: Others	0.79	.19	0.22	.63***	0.42	.40**	0.09	1.04***
					Estim.	S.E.	Estim.	S.E.
Standard Deviation of δ					1.71	.13***	1.28	.52**
Standard Deviation of ε					1.88	.15***	2.08	.36***
Correlation δ ε					.17	.05***	.48	.15***

Significance levels: ***=p<.01, **=p<.05, *=p<.10.
Piecewise linear models controlled for number of siblings, activity status, educational enrollment, and birth cohorts (only for women born before 1965).
* See TABLE 4.8 [Chapter 4]
(1) N° women: 2241.
(2) N° women: 1762.

Table 9.2. Sensitivity of the results pertaining to education to different values of variances

	MODEL 4					
	FIXED VARIANCE			FREE VARIANCE		
	R.Risk	S.E.	R.Risk	S.E.	R.Risk	S.E.
EDUCATIONAL LEVEL						
Primary	1.22	.11*	1.13	.12	**1.16**	**.12**
Lower Secon. [ref.]						
Upper Secondary	0.36	.11***	0.31	.13***	**0.32**	**.14***
University	0.36	.16***	0.28	.28***	**0.29**	**.19***
	Estim.	S.E.	Estim.	S.E.	Estim.	S.E.
Standard deviation of ε	1.5	-	2	-	**1.91**	**.11***
Standard deviation of δ	1.5	-	2	-	**1.92**	**.14***
Correlation ε δ	.18	.05***	.22	.03***	**.21**	**.04***

	MODEL 5					
	FIXED VARIANCE			FREE VARIANCE		
	R.Risk	S.E.	R.Risk	S.E.	R.Risk	S.E.
TYPE EDUCATION*						
Primary	1.17	.11	1.09	.12	**1.12**	**.12**
Low Sec:Gen [ref.]						
Low Sec: Care...	1.30	.27	1.49	.31	**1.47**	**.31**
Low Sec: Others	0.69	.12***	0.68	.14***	**0.68**	**.14***
Upper Sec: Gen.	0.35	.14***	0.30	.16***	**0.31**	**.17***
Upper Sec: Care...	0.37	.33***	0.31	.39***	**0.32**	**.38***
Upper Sec: Others	0.26	.21***	0.21	.24***	**0.22**	**.25***
Tertiary: Care...	0.34	.19***	0.26	.21***	**0.27**	**.22***
Tertiary: Others	0.28	.30***	0.22	.34***	**0.22**	**.35***
	Estim.	S.E	Estim.	S.E	Estim.	S.E
Standard deviation of ε	1.5	-	2	-	**1.90**	**.11***
Standard deviation of δ	1.5	-	2	-	**1.93**	**.14***
Correlation ε δ	.16	.05***	.20	.03***	**.19**	**.04***

Significance levels: ***=p<.01, **=p<.05, *=p<.10
* See TABLE 4.8 [Chapter 4]

Table 9.3. Transition to first births (conception) in Spain. Piecewise linear models, with main effects [partner included]

Parameters	NO HETEROGENEITY MODEL 5			WITH HETEROGENEITY MODEL 6		
	R. R	Estim.	S.E.	**R. R**	Estim.	S.E.
Baseline constant		-4.33	.17***		-4.86	.22***
Age 15–20 (slope)		.28	.03**		.34	.04***
Age 21–23 (slope)		-.05	.03		.02	.03
Age 24–26 (slope)		-.04	.02*		.02	.03
Age 27–32 (slope)		-.09	.02***		-.01	.02
Age 32+ (slope)		-.24	.03***		-.20	.03***
BIRTH COHORTS						
1945 – 1954 [ref.]						
1955 – 1959	**0.99**	-.01	.04	**1.05**	.05	.08
1960 – 1964	**0.84***	-.17	.04	**0.83**	-.18	.08
1965 – 1977	**0.61***	-.48	.05	**0.56***	-.56	.09
NUMBER OF SIBLINGS						
No siblings	**1.13**	.12	.09	**1.11**	.10	.14
1 – 2 [ref.]						
3 +	**1.09***	.09	.03	**1.17***	.16	.06
ACTIVITY STATUS						
Not employed [ref.]						
Employed	**0.68***	-.38	.03	**0.56***	-.56	.05
EDUCATIONAL ENROLLMENT						
In education	**0.51***	-.66	.09	**0.52***	-.64	.15
Out edu. (0–2y)	**0.94**	-.06	.10	**0.99**	-.01	.12
Out edu. (2–5y)	**1.11**	.10	.06	**1.12**	.12	.07
Out edu. (+5y) [ref.]						
PARTNER						
In union	**15.72***	2.75	.04	**23.07***	3.13	.06
Not in union [ref.]						
TYPE EDUCATION FOR EACH EDUCA-TIONAL LEVEL*						
Primary	**1.18***	.17	.03	**1.18***	.17	.07
LowSec:Gen. [ref.]						
Low Sec: Care...	**1.35**	.30	.13	**1.30**	.26	.20
Low Sec: Others	**0.86**	-.14	.06	**0.76***	-.26	.10
Upper Sec: Gen.	**0.62**	-.46	.07	**0.52***	-.64	.11
Upper Sec: Care...	**0.81**	-.20	.18	**0.62**	-.46	.30
Upper Sec: Others	**0.54***	-.61	.13	**0.38***	-.96	.18
Tertiary: Care...	**0.77***	-.25	.09	**0.54***	-.60	.14
Tertiary: Others	**0.60***	-.49	.16	**0.41***	-.88	.24
Log–likelihood		-31936.22			-31658.05	

Significance levels: ***=p<.01, **=p<.05, *=p<.10.
Time periods of five years, from 15 to age 20; of three years, from 21 to 26; of six years up to 32; and then open intervals.
* See TABLE 4.8 [Chapter 4]

Table 9.4. Transition to first births (conception) in Spain. Piecewise linear models, with main effects [controlled for periods]

	WITHOUT HETEROGENEITY					
	MODEL 1			**MODEL 2**		
Parameters	**R. R**	Estim.	S.E.	**R. R**	Estim.	S.E.
PERIODS						
Up to 1976 [ref.]						
1977 – 1984	**1.17*****	.16	.05	**1.17*****	.15	.05
1985 – 1991	**0.90***	-.09	.05	**0.91**	-.09	.05
1992 – 1995	**0.59*****	-.52	.07	**0.60*****	-.50	.07
NUMBER OF SIBLINGS						
No siblings	**1.17***	.16	.09	**1.18***	.16	.09
1 – 2 [ref.]						
3 +	**1.13*****	.12	.04	**1.12*****	.11	.04
ACTIVITY STATUS						
Not employed [ref.]						
Employed	**0.52*****	-.64	.03	**0.53*****	-.63	.03
EDUCATIONAL ENROLLMENT						
In education	**0.31*****	-1.15	.10	**0.31*****	-1.14	.10
Out education (0–2y)	**0.66*****	-.41	.10	**0.68*****	-.38	.10
Out education (2–5 y	**0.96**	-.04	.06	**0.97**	-.02	.06
Out edu. (+5y) [ref.]						
EDUCATIONAL LEVEL						
Primary	**1.18*****	.17	.04			
Lower Secondary [ref.]						
Upper Secondary	**0.58*****	-.53	.07			
University	**0.73*****	-.31	.09			
TYPE EDUCATION FOR EACH EDUCATIONAL LEVEL *						
Primary				**1.15*****	.14	.04
Low Sec: Gen. [ref.]						
Low Sec: Care...				**1.24***	.22	.13
Low Sec: Others				**0.81*****	-.20	.07
Upper Sec: General				**0.57*****	-.55	.09
Upper Sec: Care...				**0.60*****	-.50	.18
Upper Sec: Others				**0.49*****	-.69	.13
Tertiary: Care...				**0.71*****	-.34	.10
Tertiary: Others				**0.63*****	-.45	.17
Log–likelihood	-33572.64			-33566.38		

Significance levels: ***=p<0.01, **=p<0.05, *=p<0.10.
Time periods of five years, from 15 to age 20; of three years, from 21 to 26; of six years up to 32; and then open intervals.
* See TABLE 4.8 [Chapter 4]

Table 9.4. (cont.) Transition to first birth (conception) in Spain. Piecewise linear models, with main effects [controlled for periods]

	WITH HETEROGENEITY					
	MODEL 3			MODEL 4		
Parameters	R. Risk	Estim.	S.E.	R. Risk	Estim.	S.E.
PERIODS						
Up to 1976 [ref.]						
1977 – 1984	**1.42***	.35	.08	**1.43***	.36	.08
1985 – 1991	**0.95**	-.04	.09	**0.97**	-.02	.09
1992 – 1995	**0.54***	-.60	.11	**0.56***	-.56	.11
NUMBER OF SIBLINGS						
No siblings	**1.45***	.37	.19	**1.55***	.44	.19
1 – 2 [ref.]						
3 +	**1.37***	.32	.08	**1.37***	.32	.08
ACTIVITY STATUS						
Not employed [ref.]						
Employed	**0.32***	-1.13	.06	**0.32***	-1.14	.06
EDUCATIONAL ENROLLMENT						
In education	**0.28***	-1.24	.17	**0.26***	-1.31	.18
Out education (0–2 y)	**0.63***	-.46	.13	**0.62***	-.46	.13
Out education (2–5 y)	**0.92**	-.08	.08	**0.92**	-.07	.08
Out edu. (+5y) [ref.]						
EDUCATIONAL LEVEL						
Primary	**1.28***	.25	.10			
Lower Secondary [ref.]						
Upper Secondary	**0.33***	-1.09	.13			
University	**0.32***	-1.11	.17			
TYPE OF EDUCATION *						
Primary				**1.23***	.21	.11
Low Sec: Gen. [ref.]						
Low Sec: Care...				**1.58**	.46	.29
Low Sec: Others				**0.67***	-.39	.13
Upper Sec: General				**0.31***	-1.14	.16
Upper Sec: Care...				**0.33***	-1.09	.32
Upper Sec: Others				**0.22***	-1.48	.22
Tertiary: Care...				**0.29***	-1.22	.20
Tertiary: Others				**0.23***	-1.42	.30
Log–likelihood	-33403.17			-33396.19		

Significance levels: ***=p<0.01, **=p<0.05, *=p<0.10.
Time periods of five years, from 15 to age 20; of three years, from 21 to 26; of six years up to 32; and then open intervals.
* See TABLE 4.8 [Chapter 4]

Table 9.5. Conclusion of the educational enrollment in Spain. Piecewise linear model, with main effects [controlled for periods]

| Parameters | NO HETEROGENEITY | | | WITH HETEROGENEITY | | | | | |
| | MODELS 1 & 2 | | | MODEL 3 | | | MODEL 4 | | |
	R. R	Estim.	S.E.	**R. R**	Estim.	S.E.	**R. R**	Estim.	S.E.
PERIODS									
Up to 1976 [ref.]									
1977 – 1984	**0.64****	-.43	.04	**0.38****	-.96	.07	**0.38****	-.96	.07
1985 – 1991	**0.54****	-.61	.04	**0.23****	-1.46	.09	**0.62****	-1.47	.09
1992 – 1995	**0.75****	-.27	.06	**0.24****	-1.41	.12	**0.24****	-1.41	.12
RESIDENCE UP TO AGE 15									
Rural (<9,999)	**1.24****	.21	.03	**1.76****	.56	.08	**1.74****	.55	.08
Urban (10,000–1,000,000+) [ref.]									
ACTIVITY STATUS									
Not employed [ref.]									
Employed	**1.19****	.18	.04	**1.71****	.53	.06	**1.70****	.53	.06
PARENTAL UNION DISRUPTION									
No disruption [ref.]									
Divorced / separated	**1.21***	.19	.11	**1.18**	.17	.21	**1.19**	.18	.21
MOTHERHOOD STATUS									
No child [ref.]									
Pregnant	**1.39**	.33	.60	**1.27**	.24	.70	**1.32**	.28	.71
Have a 1st child	**0.39****	-.94	.12	**0.25****	-1.37	.17	**0.25****	-1.35	.17
Log–likelihood	-33572.64/33566.38			-33403.17			-33396.19		

Significance levels: ***=p<.01, **=p<.05, *=p<.10.

Time periods of five years, from 11 to age 15; of two years, from 16 to age 18; of 3 years, from 19 to age 21; of 2 years, from 22 to age 24; and then open intervals.

Table 9.6. Correlation between the conclusion of educational enrollment and first births in Spain. Results of estimation [controlled for periods]

	MODEL 3		MODEL 4	
	Estimate	S.E.	Estimate	S.E.
STANDARD DEVIATION OF δ	2.14	.10***	2.13	.10***
STANDARD DEVIATION OF ε	1.85	.14***	1.89	.14***
CORRELATION $\varepsilon\,\delta$	.14	.03***	.12	.03***

Significance levels: ***=p<.01, **=p<.05, *=p<.10

Table 9.7. Transition to second births (conception) in Spain. Piecewise linear models, with main effects [controlled for periods]

Parameters	NO HETEROGENEITY					
	MODEL 1			MODEL 2		
	R. R	Estim.	S.E.	R. R	Estim.	S.E.
Baseline constant		-1.87	.11***		-1.87	.11***
0 – 2 years (slope)		.49	.06***		.49	.06***
2 – 4 years (slope)		.07	.05		.07	.05
4 – 6 years (slope)		-.07	.06		-.07	.06
6 – 8 years (slope)		-.49	.10***		-.49	.10***
8 + years (slope)		.90	.13***		.91	.13***
AGE AT FIRST BIRTH						
Less 20 years	**0.97**	-.03	.08	**0.96**	-.03	.08
20 – 25 years [ref.]						
26 – 30 years	**1.01**	.01	.06	**1.01**	.01	.06
More 30 years	**0.61***	-.48	.12	**0.61***	-.48	.12
PERIODS						
Up to 1976 [ref.]						
1977 – 1984	**0.73***	-.31	.07	**0.73***	-.31	.07
1985 – 1991	**0.55***	-.59	.08	**0.54***	-.60	.08
1992 – 1995	**0.45***	-.79	.09	**0.45***	-.79	.09
NUMBER OF SIBLINGS						
No siblings	**0.69***	-.36	.12	**0.69***	-.36	.12
1 – 2 [ref.]						
3 +	**1.07**	.01	.05	**1.01**	.01	.05
ACTIVITY STATUS						
Not employed [ref.]						
Employed	**0.70***	-.35	.05	**0.70***	-.35	.05
PARTNER´S EDUCATIONAL LEVEL						
Primary	**1.11**	.10	.11	**1.11**	.11	.11
Lower Second. [ref.]						
Upper Secondary	**1.08**	.07	.07	**1.08**	.08	.07
University	**1.16***	.15	.08	**1.16***	.15	.08

	NO HETEROGENEITY					
	MODEL 1			**MODEL 2**		
Parameters	**R. R**	Estim.	S.E.	**R. R**	Estim.	S.E.
WOMAN´S EDUCATIONAL LEVEL						
Primary	**1.05**	.05	.06			
Lower Second. [ref.]						
Upper Secondary	**0.79****	-.22	.09			
University	**1.18***	.16	.09			
WOMAN´S TYPE OF EDUCATION FOR EACH EDUCATIONAL LEVEL*						
Primary				**1.05**	.05	.06
Low Sec: Gen. [ref.]						
Low Sec: Care...				**1.05**	.05	.17
Low Sec: Others				**1.01**	.003	.10
Upper Sec: General				**0.71****	-.33	.14
Upper Sec: Care...				**0.89**	-.10	.17
Upper Sec: Others				**0.88**	-.12	.15
Tertiary: Care...				**1.26****	.23	.10
Tertiary: Others				**0.99**	-.001	.16
Log–likelihood		-22103.93			-22095.93	

Significance levels: ***=p<.01, **=p<.05, *=p<.10.
Time periods of two years from the first to the eighth year of the first child; then open intervals.
* See TABLE 4.8 [Chapter 4]

Table 9.7. (cont.) Transition to second births (conception) in Spain. Piecewise linear models, with main effects [controlled for periods]

| Parameters | WITH HETEROGENEITY | | | | | |
| | MODEL 3 | | | MODEL 4 | | |
	R. Risk	Estim.	S.E.	**R. Risk**	Estim.	S.E.
Baseline constant		-1.99	.11***		-1.99	.11***
0 – 2 years (slope)		.54	.06***		.54	.06***
2 – 4 years (slope)		.14	.05***		.15	.05***
4 – 6 years (slope)		-.01	.07		-.01	.07
6 – 8 years (slope)		-.46	.10***		-.46	.10***
8 + years (slope)		.93	.13***		.93	.13***
AGE AT FIRST BIRTH						
Less 20 years	**0.98**	-.01	.09	**0.98**	-.01	.09
20 – 25 years [ref.]						
26 – 30 years	**1.01**	.01	.06	**1.02**	.02	.07
More 30 years	**0.62***	-.47	.13	**0.62***	-.47	.13
PERIODS						
Up to 1976 [ref.]						
1977 – 1984	**0.72***	-.32	.07	**0.72***	-.33	.07
1985 – 1991	**0.51***	-.66	.08	**0.50***	-.67	.08
1992 – 1995	**0.41***	-.88	.10	**0.41***	-.89	.10
NUMBER OF SIBLINGS						
No siblings	**0.66***	-.41	.14	**0.65***	-.42	.14
1 – 2 [ref.]						
3 +	**1.01**	.01	.06	**1.01**	.01	.06
ACTIVITY STATUS						
Not employed [ref.]						
Employed	**0.67***	-.39	.06	**0.67***	-.40	.06
PARTNER´S EDUCATIONAL LEVEL						
Primary	**1.15**	.14	.13	**1.16**	.14	.13
Lower Second. [ref.]						
Upper Secondary	**1.07**	.07	.08	**1.07**	.07	.08
University	**1.17***	.16	.09	**1.16**	.15	.09

Parameters	WITH HETEROGENEITY					
	MODEL 3			MODEL 4		
	R. Risk	Estim.	S.E.	**R. Risk**	Estim.	S.E.
WOMAN´S EDUCATIONAL LEVEL						
Primary	**1.06**	.05	.06			
Lower Second. [ref.]						
Upper Secondary	**0.79****	-.23	.10			
University	**1.23***	.21	.11			
WOMAN´S TYPE OF EDUCATION*						
Primary				**1.06**	.06	.07
Low Sec: Gen. [ref.]						
Low Sec: Care...				**1.11**	.10	.20
Low Sec: Others				**1.01**	.004	.12
Upper Sec: General				**0.69****	-.36	.15
Upper Sec: Care...				**0.93**	-.06	.18
Upper Sec: Others				**0.88**	-.12	.16
Tertiary: Care...				**1.32****	.27	.12
Tertiary: Others				**1.06**	.06	.18
σ_ε		.50	.04***		.50	.04***
Log–likelihood		-22078.17			-22069.51	

Significance levels: ***=p<.01, **=p<.05, *=p<.10.

Time periods of two years from the first to the eighth year of the first child; then open intervals.

* See TABLE 4.8 [Chapter 4]

Table 9.7. (cont.) Transition to second births (conception) in Spain. Piecewise linear models, with main effects [controlled for periods]

	WITH HETEROGENEITY					
	MODEL 5			MODEL 6		
Parameters	R. Risk	Estim.	S.E.	R. Risk	Estim.	S.E.
Baseline constant		-1.98	.11***		-1.98	.11***
0 – 2 years (slope)		.54	.06***		.54	.06***
2 – 4 years (slope)		.15	.05***		.14	.05***
4 – 6 years (slope)		-.01	.07		-.01	.07
6 – 8 years (slope)		-.46	.10***		-.46	.10***
8 + years (slope)		.93	.13***		.93	.13***
AGE AT FIRST BIRTH						
Less 20 years	**0.98**	-.01	.09	**0.99**	-.01	.09
20 – 25 years [ref.]						
26 – 30 years	**1.01**	.01	.06	**1.01**	.01	.06
More 30 years	**0.61*****	-.48	.13	**0.61*****	-.47	.13
PERIODS						
Up to 1976 [ref.]						
1977 – 1984	**0.72*****	-.32	.07	**0.72*****	-.32	.07
1985 – 1991	**0.51*****	-.67	.08	**0.51*****	-.66	.08
1992 – 1995	**0.41*****	-.89	.10	**0.41*****	-.88	.10
NUMBER OF SIBLINGS						
No siblings	**0.66*****	-.41	.14	**0.67*****	-.39	.14
1 – 2 [ref.]						
3 +	**1.01**	.02	.06	**1.02**	.02	.06
PARTNER´S EDUCATIONAL LEVEL						
Primary	**1.16**	.15	.13	**1.15**	.14	.13
Lower Second. [ref.]						
Upper Secondary	**1.07**	.07	.08	**1.07**	.07	.08
University	**1.16**	.15	.09	**1.15**	.15	.09

Parameters	WITH HETEROGENEITY					
	MODEL 5			MODEL 6		
	R. Risk	Estim.	S.E.	**R. Risk**	Estim.	S.E.
WOMAN´S EDUCATIONAL LEVEL						
Primary	**1.05**	.05	.06	**1.05**	.05	.06
Low Secondary [ref.]						
Upper Secondary	**0.78****	-.24	.10	**0.79****	-.23	.10
University	**1.20***	.18	.11	**1.10**	.10	.12
WOMAN'S TYPE OF EMPLOYMENT$_I$						
Not employed [ref.]						
Employed <25 h/w	**0.74***	-.30	.16			
Employed 25-34 h/w	**0.80**	-.21	.20			
Employed 35-44 h/w	**0.68*****	-.37	.07			
Employed 45+ h/w	**0.55*****	-.58	.12			
Employed on a variable basis	**0.63****	-.44	.19			
WOMAN'S TYPE OF EMPLOYMENT$_2$						
Not employed [ref.]						
Care & Teaching professionals				**0.95**	-.04	.17
Others				**0.65*****	-.42	.05
σ_ε		.50	.05***		.50	.04***
Log–likelihood		-22075.98			-22075.99	

Significance levels: ***=p<.01, **=p<.05, *=p<.10.
Time periods of two years from the first to the eighth year of the first child; then open intervals.

Table 9.8. Transition to third births (conception) in Spain. Piecewise linear models, with main effects [controlled for periods]

	NO HETEROGENEITY					
	MODEL 1			MODEL 2		
Parameters	R. R.	Estim.	S.E.	R. R.	Estim.	S.E.
Baseline constant		-2.16	.22***		-2.59	.22***
0 – 2 years (slope)		.16	.11		.16	.11
2 – 4 years (slope)		.005	.10		.007	.10
4 – 6 years (slope)		-.01	.12		-.01	.12
6 – 8 years (slope)		-.59	.15***		-.59	.15***
8 + years (slope)		1.17	.15***		1.17	.15***
AGE AT FIRST BIRTH						
Less 20 years	1.01	.001	.13	0.99	-.01	.13
20 – 25 years [ref.]						
26 – 30 years	0.64***	-.43	.12	0.64***	-.44	.12
More 30 years	0.42**	-.85	.36	0.40**	-.90	.36
INTERVAL BETWEEN FIRST TWO BIRTHS						
9 – 29 months	1.63***	.49	.10	1.65***	.50	.10
30 – 53 months [ref.]						
At least 54 months	0.49***	-.70	.15	0.50***	-.69	.15
PERIODS						
Up to 1976 [ref.]						
1977 – 1984	0.64***	-.44	.13	0.64***	-.44	.13
1985– 1991	0.42***	-.85	.15	0.42***	-.85	.15
1992– 1995	0.21***	-1.53	.21	0.21***	-1.53	.21
NUMBER OF SIBLINGS						
No siblings	0.59*	-.52	.28	0.59*	-.51	.28
1 sibling [ref.]						
2 + siblings	1.26**	.23	.10	1.25**	.22	.10
SEX OF FIRST TWO KIDS						
2 boys	1.02	.03	.10	1.04	.04	.10
2 girls	1.28**	.25	.12	1.28**	.24	.12
1 / 1 [ref.]						
ACTIVITY STATUS						
Not employed [ref.]						
Employed	0.80*	-.22	.12	0.78*	-.24	.12

	NO HETEROGENEITY					
	MODEL 1			**MODEL 2**		
Parameters	**R. R.**	Estim.	S.E.	**R. R.**	Estim.	S.E.
PARTNER´S EDUCATIONAL LEVEL						
Primary	**1.31***	.27	.16	**1.32***	.27	.16
Lower Second. [ref.]						
Upper Secondary	**1.08**	.07	.15	**0.94**	-.05	.15
University	**1.26**	.23	.17	**1.27**	.24	.18
WOMAN´S EDUCATIONAL LEVEL						
Primary	**1.27****	.24	.10			
Lower Second. [ref.]						
Upper Secondary	**0.92**	-.07	.21			
University	**1.03**	.03	.21			
WOMAN´S TYPE OF EDUCATION *						
Primary				**1.24***	.21	.11
Low Sec: Gen. [ref.]						
Low Sec: Care...				**1.14**	.13	.32
Low Sec: Others				**0.79**	-.22	.22
Upper Sec: General				**0.74**	-.30	.32
Upper Sec: Care...				**1.45**	.37	.29
Upper Sec: Others				**0.66**	-.40	.41
Tertiary: Care...				**1.31**	.27	.24
Tertiary: Others				**0.42***	-.85	.43
Log–likelihood		-25094.88			-25081.06	

Significance levels: ***=p<.01, **=p<.05, *=p<.10.

Time periods of two years from the first to the eighth year of the second child; then open intervals.

* See TABLE 4.8 [Chapter 4]

Table 9.8. (cont.) Transition to third births (conception) in Spain. Piecewise linear models, with main effects [controlled for periods]

Parameters	NO HETEROGENEITY		
	MODEL 3		
	Relative Risk	Estimate	Standard Error
Baseline constant		-2.53	.23***
0 – 2 years (slope)		.16	.11
2 – 4 years (slope)		.01	.10
4 – 6 years (slope)		-.01	.12
6 – 8 years (slope)		-.58	.15***
8 + years (slope)		1.18	.15***
INTERVAL BETWEEN FIRST TWO BIRTHS			
9 – 29 months	**1.59***	.46	.10
30 – 53 months [ref.]			
At least 54 months	**0.51***	-.65	.15
PERIODS			
Up to 1976 [ref.]			
1977 – 1984	**0.63***	-.45	.13
1985 – 1991	**0.40***	-.91	.15
1992 – 1995	**0.19***	-1.64	.21
NUMBER OF SIBLINGS			
No siblings	**0.57***	-.54	.28
1 sibling [ref.]			
2 + siblings	**1.25**	.22	.10
SEX OF FIRST TWO KIDS			
2 boys	**1.05**	.05	.10
2 girls	**1.30**	.26	.12
1 / 1 [ref.]			
ACTIVITY STATUS			
Not employed [ref.]			
Employed	**0.77**	-.25	.12

	NO HETEROGENEITY		
Parameters	MODEL 3		
	Relative Risk	Estimate	Standard Error
PARTNER´S EDUCATIONAL LEVEL			
Primary	**1.28**	.24	.15
Lower Second.[ref.]			
Upper Secondary	**0.95**	-.04	.15
University	**1.28**	.24	.17

RELATIVE AGE AT 1st BIRTH	Age at first birth					
Woman's education	Below average			Above average		
Primary	**1.30****	.26	.13	**0.89**	-.11	.14
Lower Secondary				**0.68****	-.38	.16
Upper Secondary	**0.69**	-.37	.28	**0.84**	-.17	.29
University	**0.81**	-.20	.25	**0.89**	-.11	.32

Log–likelihood	-25097.30

Significance levels: ***=p<.01, **=p<.05, *=p<.10.
Time periods of two years from the first to the eighth year of the second child; then open intervals.

Table 9.8. (cont.) Transition to third births (conception) in Spain. Piecewise linear models, with main effects [controlled for periods]

Parameters	WITH HETEROGENEITY					
	MODEL 4			MODEL 5		
	R. R.	Estim.	S.E.	R. R.	Estim.	S.E.
Baseline constant		-2.75	.22***		-2.73	.22***
0 – 2 years (slope)		.17	.11		.17	.11
2 – 4 years (slope)		.01	.10		.02	.10
4 – 6 years (slope)		-.007	.12		-.007	.12
6 – 8 years (slope)		-.58	.15***		-.58	.15***
8 + years (slope)		1.18	.15***		1.18	.15***
AGE AT FIRST BIRTH						
Less 20 years	**1.04**	.04	.14	**1.03**	.03	.14
20 – 25 years [ref.]						
26 – 30 years	**0.63*****	-.44	.12	**0.63*****	-.45	.12
More 30 years	**0.42****	-.84	.36	**0.40****	-.89	.36
INTERVAL BETWEEN FIRST TWO BIRTHS						
9 – 29 months	**1.68*****	.52	.10	**1.70*****	.53	.10
30 – 53 months [ref.]						
At least 54 months	**0.48*****	-.71	.15	**0.49*****	-.70	.15
PERIODS						
Up to 1976 [ref.]						
1977 – 1984	**0.66*****	-.40	.13	**0.66*****	-.40	.14
1985 – 1991	**0.43*****	-.82	.16	**0.43*****	-.83	.16
1992 – 1995	**0.21*****	-1.53	.21	**0.21*****	-1.53	.21
NUMBER OF SIBLINGS						
No siblings	**0.58***	-.53	.28	**0.59***	-.52	.28
1 sibling [ref.]						
2 + siblings	**1.29****	.25	.10	**1.28****	.25	.10
SEX OF FIRST TWO KIDS						
2 boys	**1.04**	.04	.10	**1.05**	.05	.10
2 girls	**1.30****	.26	.12	**1.30****	.26	.13
1 / 1 [ref.]						

	WITH HETEROGENEITY					
	MODEL 4			**MODEL 5**		
Parameters	**R. R.**	Estim.	S.E.	**R. R.**	Estim.	S.E.
ACTIVITY STATUS						
Not employed [ref.]						
Employed	**0.78***	-.24	.12	**0.77****	-.25	.12
PARTNER´S EDUCATIONAL LEVEL						
Primary	**1.34***	.29	.16	**1.35***	.30	.16
Lower Second. [ref.]						
Upper Secondary	**0.91**	-.09	.15	**0.92**	-.07	.15
University	**1.27**	.24	.18	**1.28**	.24	.18
WOMAN´S EDUCATIONAL LEVEL						
Primary	**1.29****	.25	.11			
Lower Second. [ref.]						
Upper Secondary	**0.93**	-.07	.21			
University	**1.07**	.07	.22			
WOMAN´S TYPE OF EDUCATION *						
Primary				**1.26***	.23	.11
Low Sec: Gen. [ref.]						
Low Sec: Care...				**1.15**	.14	.32
Low Sec: Others				**0.80**	-.22	.22
Upper Sec: General				**0.71**	-.34	.33
Upper Sec: Care...				**1.60**	.47	.29
Upper Sec: Others				**0.67**	-.39	.41
Tertiary: Care...				**1.37**	.31	.25
Tertiary: Others				**0.43***	-.84	.44
σ_ε		.37	.04***		.38	.04***
Log–likelihood		-25080.54			-25066.11	

Significance levels: ***=p<.01, **=p<.05, *=p<.10.
Time periods of two years from the first to the eighth year of the second child; then open intervals.
* See TABLE 4.8 [Chapter 4]

FFS MODEL QUESTIONNAIRE FOR WOMEN[1]

Description of the variables used in the analysis of first, second, and third births in Spain

Month Month of the interview
Year   Year of the interview

FFS CORE SECTION 0: HOUSEHOLDS CHARACTERISTICS

005 Sex
      Male 1 Female 2

FFS CORE SECTION 1: PARENTAL HOME

101 Including yourself, how many children has your mother had in all who were born alive?
      Number ....
102 In what month and year were you born?
      Month ....
      Year ....
103 In which city, town, or village did you live most of the time up to age 15?
      If < 2,000 inhabitants = rural1
      If 2,000 – 9,999 inhabitants = rural 2

---

[1] Standardized English version. March 1992.

If 10,000 – 99,999 inhabitants = rural3
If 100,000 – 999,999 inhabitants = rural 4
If 1,000,000 + = rural 5

105 Did your parents ever separate or divorce?

Yes 1
No 2
Don't know 7

106 How old were you when that occurred?

Age ....

FFS CORE SECTION 2: PARTNERSHIPS

218 In what month and year did you first start living with your (first, second...) partner in the same household?

Month ....
Year ....
Age ....

229 In what month and year did you stop living with your partner in the same household?

Month ....
Year ....
Age ....

FFS CORE SECTION 3: CHILDREN

302 How many children have you had altogether?

Number ....

314 In what month and year was the (first, second...) child born?

Month ....
Year ....
Age ....

315 Was it a boy or a girl?

Boy 1   Girl 2

FFS CORE SECTION 6: VIEWS ON HAVING CHILDREN

603 How many children of your own do you want at all?

Number ....

609 I am going to read out a number of possible reasons for not wanting a(nother) child. Could you please tell me for each of them whether, for you personally, that reason is important or not important at this time?

a) Children are expensive, especially when they grow up
b) Children make it harder for a woman to have a job
c) Pregnancies, births, and the care of children are hard on a woman
d) There would not be enough time for other important things in life
e) Bringing up children entails many worries and problems
f) My house is not suitable for a larger family

Important 1   Not important 2

614 I am going to read out a number of possible reasons for wanting a(nother) child. Could you please tell me for each of them whether, for you personally, that reason is important or not important at this time?

a) Children make it less likely that one will be lonely in his old age
b) Children give a sense of responsibility and help a person to develop
c) It is a fine thing to see children grow up and develop
d) It gives satisfaction to see the family carried on
e) Having children imparts a special feeling of joy
f) Having children strengthens the relationship with the partner

Important 1   Not important 2

617 How many children do you think is the ideal number for a family to have in this country?

Number ....

FFS MODULE 3: VALUES AND BELIEFS (OPTIONAL)

710 People talk about the changing roles of men and women today. Can you tell me how much you agree or disagree with each of the following statements?

    a) A working mother can establish just as warm and secure a relationship with her children as a mother who does not work

    b) Having a job is the best way for a woman to be an independent person

    c) Being a housewife is just as fulfilling as working for pay

    d) Both the man and the woman should contribute to the household income

    e) A pre-school child is likely to suffer if his/her mother works

    f) A job is all right, but what most women really want is a home and children

FFS CORE SECTION 8: EDUCATION

801 What is the highest level/stage of education that you have successfully completed?

    0) Preceding first level
    1) First level
    2) Second level, first stage
    3) Second level, second stage
    4) Third level, first stage, vocational
    5) Third level, first stage, graduate
    6) Third level, second stage, postgraduate
    7) Not classifiable by level/stage
    Source: ISCED1

802 When you reached 15 years of age, were you still attending school?

    Yes 1   No 2

803 Did you attend school at a later age?

     Yes 1   No 2

804 In what month and year did you start your next studies?

     Month ....

     Year ....

     Age ....

805 At which level/stage of education did you study?

     See v801

806 What was the subject-matter of your study?

     01 General programs

     08 Literacy programs

     14 Teacher training and education science programs

     18 Fine and applied arts programs

     22 Humanities programs

     26 Religion and theology programs

     30 Social and behavioral science programs

     34 Commercial and business administration programs

     38 Law and jurisprudence programs

     42 Natural science programs

     45 Mathematics and computer science programs

     50 Medical and health programs

     52 Trade, craft, and industrial programs

     54 Engineering programs

     58 Architectural and town-planning programs

     62 Agriculture, forestry and fishery programs

     66 Home economics (domestic science) programs

     70 Transport and communication programs

     78 Service trades programs

     84 Programs in mass communication and documentation

     89 Other programs

     Source: ISCED2

808 Did you successfully complete this study?

809 In what month and year did you complete/stop this study?

FFS CORE SECTION 8: OCCUPATION

813 In what month and year did you start your first/next job?

Month ....
Year ....
Age ....

816 What kind of work did/do you do exactly in this job?

01 Armed forces
11 Legislators and senior officials
12 Corporate managers
13 General managers
21 Physical, mathematical and engineering science professionals
22 Life science and health professionals
23 Teaching professionals
24 Other professionals
31 Physical and engineering science associate professionals
32 Life science and health associate professionals
33 Teaching associate professionals
34 Other associate professionals
41 Office clerks
42 Customer service clerks
51 Personal and protective services workers
52 Models, salespersons and demonstrators
61 Market-oriented skilled agricultural and fishery workers
62 Subsistence agricultural and fishery workers
71 Extraction an building trade workers
72 Metal, machinery and related trades workers
73 Precision, handicraft, printing and related trades workers
74 Other craft and related trades workers
81 Stationary-plant and related operators
82 Machine operators and assemblers
83 Drivers and mobile-plan operators

91 Sales and services elementary occupations

92 Agricultural, fishery and related laborers

93 Laborers in mining, construction, manufacturing and transport

Source: ISCO

818 How many hours per week on average did/do you work at this job?

<10 h/w 0

10 – 24 h/w 1

25 – 34 h/w 2

35 – 44 h/w 3

45 + ... 4

Variable 5

820 In what month and year did you quit this job?

Month ....

Year ....

Age ....

FFS CORE SECTION 9: PARTNER CHARACTERISTICS

902 To conclude this interview I would like to ask a few other questions about you and your partner. Could you indicate who usually performs each of the following household activities: mostly yourself, mostly your partner, both of you equally, mostly other members of this household, or mostly other persons not belonging to this household?

a) Preparing the daily meals

b) Vacuum-cleaning

c) Shopping

d) Keeping the household budget

e) Filling out the tax forms

f) Doing the dishes

g) Looking after the elderly

Self 1   Partner 2   Both 3   Members 4   Others 5

904 And what about the care of children? Could you indicate who usually performs each of the following activities: mostly yourself,

mostly your partner, both of you equally, mostly other members of this household, or mostly other persons not belonging to this household?

a) Taking care of infants' meals
b) Getting them dressed
c) Looking after them when ill
d) Playing with them
e) Helping them with their homework

Self 1   Partner 2   Both 3   Members 4   Others 5

909 What is the highest level/stage of education your partner has attended?

See v801

REFERENCES

Ahn, N., and P. Mira. 2001. "Job bust, baby bust?: Evidence from Spain." *Journal of Population Economics,* **14**, 505–521.

Ajzen, I. 1991. "The Theory of Planned Behavior". *Organizational Behavior and Human Decision Process,* **50**, 179–211.

Alberdí, B., and G. Levenfeld. 1996. "Spain." In: P. Balchin (ed). *Housing Policy in Europe.* London: Routledge.

Alwin, D. F. 1996. "From ChildBearing to Child–Rearing: the Link between Declines in Fertility and Changes in the Socialization of Children." *Population and Development Review,* **22**, Issue Supplement: Fertility in the United States: New Patterns, New Theories, 176–196.

Allison, P. D. 1982. "Discrete Time Methods in the Analysis of Event Histories." In: S. Leinhardt (a cura di). *Sociological Methodology 1982.* San Francisco: Jossey–Bass.

Allison, P. D. 1984. *Event History Analysis: Regression for Longitudinal Event Data.* Beverly Hills, CA: Sage Publications.

Anderson, P., and P. B. Levine. 2000. "Child Care and Mothers' Employment Decisions." In: D. E. Card and R. M. Blank (eds). *Finding Jobs: Work and Welfare Reform.* New York: Russell Sage Foundation, pp. 420–462.

Andersson, G. 2000. "The Impact of Labor–Force Participation on Childbearing Behavior: Pro–Cyclical Fertility in Sweden during the 1980s and the 1990s." *European Journal of Population,* **16**, 293–333.

Baizán, P. 2001. "Transition to Adulthood in Spain." In: Corijn, M., and E. Klijzing (eds). *Transitions to Adulthood in Europe.* Dordrecht: Kluwer Academic Publishers, 297–329.

Baizán, P. 2002. *Formation des ménages et migrations. Analyse biographique de trois générations espagnoles.* Institut de Démographie, Université Catholique de Louvain: Academia Bruylant.

Baizán, P. 2003. "La dificil integración de los jóvenes en la edad adulta." Documento de trabajo 33/2003. Madrid: Fundación Alternativas.

Baizán, P., A. Aassve, and F. Billari. 2003. "Cohabitation, Marriage, and First Birth: The Interrelationship of Family Formation Events in Spain." *European Journal of Population,* **19**, 147–169.

Baizán, P. 2004. "El efecto del empleo, el paro y los contratos temporales en la baja fecundidad española de los años 1990." Paper presented at the VIII Spanish Congress of Sociology. Alicante, 23rd-25th Sept. 2004. In: http://www.fes-web.org

Barber, J. S., and W. G. Axinn. 1998. "The Impact of Parental Pressure for Grandchildren on Young People's Entry into Cohabitation and Marriage." *Population Studies,* **52**, 129–144.

Barber, J. S., W. G. Axinn, and A. Thorton. 2002. "The Influence of Attitudes on Family Formation Processes." In: R. Lesthaeghe (ed). *Meaning and Choice: Value Orientations and Life Course Decisions.* The Hague/Brussels: NIDI/GBGS Publications, 45–95.

Beets, G. C. N., A. C. Liefbroer, and J. Gierveld. 1999. "Changes in Fertility Values and Behavior: A Life Course Perspective." In: Leete, R. (ed). *Dynamics of Values in Fertility Change.* Oxford: Oxford University Press, pp. 100–120.

Becker, G. 1981. *Treatise on the Family.* Cambridge: Cambridge University.

Becker, H. S. 1966. "Notes on the Concept of Commitment." *The American Journal of Sociology,* **66** (1), 32–40.

Berinde, D. 1999. "Pathways to a Third Child in Sweden." *European Journal of Population,* **15**, 349–378.

Bernardi, F. 1999. *Donne fra famiglia e carriera. Strategie di coppia e vincoli sociali.* Milano: FrancoAngeli.

Bernardi, F., and T. Poggio. 2002. "Propiedad de la vivienda y desigualdad social en Italia." Paper presented at the I Jornadas del Comité de Investigación sobre Estratificación Social (CIES) de la Federación Española de Sociología.

Bernhardt, E., and B. Hoem. 1985. "Cohabitation and Social Background: Trends Observed for Swedish Women Born 1936-60." *European Journal of Population,* **1**, 375–395.

Bidwell, C. E., and J. D. Kasarda. 1980. "Conceptualizing and Measuring the Effects of School and Schooling." *American Journal of Education,* **88** (4), 401–430.

Billari, F., P. Baizán, and A. Aassve. 2001. "Interrelations between Household Formation, Partnership Formation and Parenthood in a Low Fertility Setting (Spain): Does Postponement Matter?" Paper presented at the EAPS conference, Helsinki.

Billari, F., M. Castiglioni, T. Castro Martín, F. Michielin, and F. Ongaro. 2002. "Household and Union Formation in a Mediterranean Fashion: Italy and Spain." In: Klijzing, E., and M. Corijn (eds). *Fertility and Partnership in Europe: Findings and Lessons from Comparative Research,* volume II. Geneva/New York: United Nations, pp. 17–41.

Billari, F., D. Philipov, and P. Baizán. 2001. "Leaving Home in Europe. The Experience of Cohorts Born Around 1960." *International Journal of Population Geography,* **7**, 337–356.

Billari, F., and G. A. Micheli. 2001. "Social Norms on Agents' Demographic Events. Preliminaries for a (multi–) agent–based approach." In: Conte, R., and C. Dellarocas (Eds) *Social Order in Multiagent Systems.* Boston: Kluwer Academic, pp. 201–221.

Blau, P., and O. D. Duncan. 1967. *The American Occupational Structure.* New York: John Wiley.

Blau, F. D., M. A. Ferber, and A. E. Winkler. 1992. *The Economics of Women, Men, and Work.* Upper Saddle River: Prentice Hall.

Bloemen, H., and A. S. Kalwij. 2001. "Female Labor Market Transitions and the Timing of Births: a Simultaneous Analysis of the Effects of Schooling." *Labor Economics,* **8**, 593–620.

Blossfeld, H. P. 1987. "Labor Market Entry and the Sexual Segregation of Careers in the Federal Republic of Germany." *American Journal of Sociology,* **93**, 89–118.

Blossfeld, H. P. (ed) 1995. *The New Role of Women. Family Formation in Modern Societies.* Boulder: Westview Press.

Blossfeld, H. P., and J. Huinink. 1991. "Human Capital Investments or Norms of Role Transition? How Women's Schooling and Career Affect the Process of Family Formation." *American Journal of Sociology,* **97** (1), 143–168.

Blossfeld, H. P., and A. Hamerle. 1992. "Unobserved Heterogeneity in Event History Models." *Quality and Quantity,* **26**, 157–168.

Blossfeld, H. P., and S. Drobnic. (eds) 2001. *Careers of Couples in Contemporary Societies: from Male Breadwinner to Dual Earner Families.* Oxford: Oxford University Press.

Blossfeld, H. P., and G. Rohwer. 2002. *Techniques of Event History Modeling. New Approaches to Causal Analysis.* London: Lawrence Erlbaum Associates.

Boulier, B. L., and M. R. Rosenzweig. 1984. "Schooling, Search and Spouse Selection: Testing Economic Theories of Marriage and Household Behavior." *The Journal of Political Economy,* **92**, 712–732.

Bourdieu, P. 1977. "Cultural Reproduction and Social Reproduction." In: Karbel, J., and A. H. Halsey (eds), *Power and Ideology in Education.* New York: Oxford University Press, 487–511.

Bourdieu, P. 1983. "The Forms of Capital." In: J. G. Richardson. *Handbook of Theory and Research in the Sociology of Education.* Westport: Greenwood, 241–258.

Boyd–Barret, O., and P. O'Malley (eds). 1995. *Education Reform in Democratic Spain.* London, NY: Routledge.

Brewster, K. L., and R. R. Rindfuss. 2000. "Fertility and Women's Employment in Industrialized Nations." *Annual Review of Sociology,* **26**, 271–296.

Bricall, J. M. 2000. Informe Universidad 2000. Conferencia de Rectores de las Universidades Españolas. In: http://www.crue.upm.es/

Brien, M. J., L. A. Lillard, L. J. Waite. 1999. "Interrelated Family–Building Behaviors: Cohabitation, Marriage, and Nonmarital Conception." *Demography,* **36** (4), 535–551.

Brines, J. 1994. "Economic Dependency, Gender, and the Division of Labor at Home." *American Journal of Sociology,* **100** (3), 652–688.

Buchmann, M. 1989. *The Script of Life in Modern Society: Entry into Adulthood in a Changing World.* Chicago and London: The University of Chicago Press.

Carabaña, J. 1999. *Dos estudios sobre movilidad intergeneracional.* Madrid: Fundación Argentaria.

Castro Martín, T. 1992. "Delayed Childbearing in Contemporary Spain: Trends and Differentials." *European Journal of Population,* **8**, 217–246.

Castro Martín, T. 1993. "Changing Nuptiality Patterns in Contemporary Spain." *Genus,* **49**, 79–95.

Cherlin, A. J., E. Scabini, and G. Rossi (eds). 1997. "Delayed Home Leaving in Europe and the United States. [Special Issue]." *Journal of Family Issues,* **18** (6).

Cigno, A. 1991. *Economics of the Family.* Oxford: Clarendon Press.

Cigno, A., and J. Ermisch. 1989. "A Micro–Economic Analysis of the Timing of Births." *European Economic Review,* **33**, 737–760.

Cogan, J. F. 1980. *Female Labor Supply: Theory and Estimation.* Princeton, N.J.: Princeton University Press.

Collett, D. 1994. *Modeling Survival Data in Medical Research.* London: Chapman and Hall.

Coppola, L. 2004. "Education and Union Formation as Simultaneous Processes in Italy and Spain." *European Journal of Population,* **20**, 219–250.

Corijn, M., and E. Klijzing (eds). 2001. *Transitions to Adulthood in Europe.* Dordrecht: Kluwer Academic Publishers.

Crimmins, E. M., R. A. Easterlin, and Y. Saito. 1991. "Preferences Changes among American Youth: Family, Work and Goods." *Population and Development Review,* **17**, 115–133.

Crompton, R., and K. Sanderson. 1990. "Credentials and Careers." In: Payne, G., and P. Abbott (eds). *The Social Mobility of Women: Beyond Male Mobility Models.* London/New York/Philadelphia: The Farmer Press.

Crompton, R. 2001. "The Gendered Restructuring of the Middle Classes." In: Baxter, J., and M. Weston (eds). *Class and Gender.* Stanford: Stanford University Press, pp. 39–54.

Crouch, C. 1999. *Social Change in Western Europe.* Oxford: Oxford University Press.

De Bruijn, B. J. 1999. *Foundations of Demographic Theory. Choice, Process, Context.* Groningen, NethurdD Publications, Thela Thesis.

Del Boca, D. 2002. "The Effect of Child Care and Part Time Opportunities on Participation and Fertility Decisions in Italy." *Journal of Population Economics,* **15** (3), 549–573.

Delgado, M., and T. Castro Martín. 1999. *Fertility and Family Surveys in Countries of the ECE Region. Standard Country Report: Spain.* New York and Geneva: United Nations.

Dronkers, J. 1993. "Educational Reform in the Netherlands: Did it Change the Impact of Parental Occupation and Education?." *Sociology of Education,* **66**, 262–277.

Dronkers, J. 1993. "Education Expansion and Economic Output in a European Industrial Nation during 1960–1980: the Netherlands." In: Yogev, A., and J. Dronkers. (eds) *International Perspectives on Education and Society. Education and Social Change.* Greenwich (Con) / London: JAI Press.

Easterlin, R. 1976. "The Conflict between Aspirations and Resources." *Population and Development Review,* **2** (3), 417–426.

Edin, P. A., and M. Gustavsson. 2001. "Time Out of Work and Skill Depretiation." Mimeo. Upssala University.

Einarsdóttir, P., and G. M. Pétursdóttir. 2004. Report *Culture, Custom and Caring: Men's and Women's Possibilities to Parental Leave.* Managed by the Center for Gender Equality in Iceland and funded by the European Commission's Community Framework Strategy on Gender Equality (2001–2005).

El País. In: http://www.elpais.es

Elder, G. H. Jr. 1995. "The Life Course Paradigm: Social Change and Individual Development." In: P. Moen, G. H. Elder Jr., and K. Luscher (eds). *Decision Making: Descriptive, Normative, and Prescriptive Interactions.* Cambridge: Cambridge University Press.

Engelhardt, H., and A. Prskawetz. 2004. "On the Changing Correlation between Fertility and Female Employment over Space and Time." *European Journal of Population,* **20** (1), 35–62.

England, P. *Comparable Worth: Theories and Evidence.* New York: Aldine de Gruyter.

Erikson, R., and J. H. Goldthorpe. 1992. *The Constant Flux. A Study of Class Mobility in Industrial Societies.* Oxford: Oxford University Press.

Ermisch, J. 1990. "European Women's Employment and Fertility Again." *Journal of Population Economics,* **3**, 3–18.

Ermisch, J., and M. Francesconi. 1999. "Educational Choices, Families and Young People's Earnings." *The Journal of Human Resources,* **35**, 143–176.

Esping–Andersen, G. 1990. *The Three Worlds of Welfare Capitalism.* Princeton: Princeton University.

Esping–Andersen, G. 1999. "The Household Economy." In: *Social Foundations of Postindustrial Economies.* Oxford: Oxford University Press.

Esping–Andersen, G., D. Gallie, A. Hemerijck, and J. Myles. 2002. *Why we need a New Welfare State.* Oxford: Oxford University Press.

Estevez–Abe, M., T. Iversen, and D. Soskice. 2001. "Social Protection and the Formation of Skills: A Reinterpretation of the Welfare State." In: Hall, P., and D. Soskice (eds). *Varieties of Capitalism: The Institutional Foundations of Comparative Advantages.* London: Oxford University Press.

Eurostat. 2000 Demographic Data. New Cronos Database.

Eurostat. 2002. *ECHP UDB Manual. European Community Household Panel Longitudinal Users' Database.* Luxembourg: Eurostat.

Feijten, P., C. H. Mulder, and P. Baizán. 2003. "Age Differentiation in the Effect of Household Situation on First-Time Homeownership." *Journal of Housing and the Built Environment,* **18**, 233–255.

Fernández Cordón, J. A., and G. B. Sgritta. 2000. "The Southern Countries of the European Union: a Paradox?." Paper presented at the Seminar "Low Fertility, Families and Public Policies", organized by the European Observatory on Family Matters in Sevilla. Sept. 15–16.

Frejka, T., and G. Calot. 2001. "Cohort Reproductive Patterns in Low–Fertility Countries." *Population and Development Review,* **27** (1), 103–132.

Garrido, L. J. 1992. *Las dos biografías de la mujer en España.* Madrid: Ministerio de Asuntos Sociales.

Garrido, L. J. y G. Calvo. (eds) 1993. *Estrategias familiares.* Madrid: Alianza.

Gaughier, A. H. 1996. "Conclusion." In: Gauthier, A. H. *The State and the Family.* Oxford: Clarendon Press, pp. 192–207.

Gerson, K. 1985. *Hard Choices: How Women Decide about Work, Career, and Motherhood.* Berkeley: University of California Press.

Giele, J. Z., and G. H. Elder Jr. (eds). 1998. *Methods of Life Course Research: Qualitative and Quantitative Approaches.* Thousands Oaks, CA: Sage Publications.

Gilbert, W. M., T. S. Nesbitt, and B. Danielsen. 1999. "Childbearing Beyond Age 40: Pregnancy Outcome in 24,032 Cases." *Obstetrics and Gynecology,* **93**, 9–14.

Girouard, N., and S. Blondal. 2001. "House Prices and Economic Activity." OECD Working Paper No. 279.

Goldscheider, F., and L. Waite. 1986. "Nest–Leaving Patterns and the Transition to Marriage for Young Men and Women." *Journal of Marriage and the Family,* **49**, 507–516.

González López, M.J. 2000. "Partnership Formation in the Context of Women's Growing Educational Attainment." Working Paper 180. Barcelona: Centre d'Estudis Demogràfics.

González López, M.J. 2001. "The Interplay between Occupational Career and Family Formation in Spain." Thesis submitted at the European University Institute. Florence.

González López, M.J. 2003. "Servicios de atención a la infancia en España." Documento de trabajo 1/2003. Madrid: Fundación Alternativas.

González López, M.J., and M. Solsona Pairó. 2000. "Households and Families: Changing Living Arrangements and Gender Relations." In: Duncan, S., and B. Pfau–Effinger (eds). *Gender, Economy and Culture in the European Union.* London; NY: Routledge.

Gustafsson, S. 2001. "Optimal Age at Motherhood. Theoretical and Empirical Considerations on Postponement of Maternity in Europe." *Journal of Population Economics,* **14**, 225–247.

Gustafsson, S., and F. Stafford. 1994. "Three Regimes of Childcare: The United States, the Netherlands, and Sweden." In: Bland, R. (ed). *Social Protection vs. Economic Flexibility: Is There a Trade-off?* Chicago: Chicago University.

Gustafsson, S., and C.M.M.P. Wetzels. 2000. "Optimal Age at Giving Birth: Germany, Great Britain, the Netherlands and Sweden." In: Gustafsson, S., and D.E. Meulders. *Gender and the Labor Market. Econometric Evidence on Obstacles in Achieving Gender Equality.* London: MacMillan.

Hakim, C. 1997. *Key Issues in Women's Work. Female Heterogeneity and the Polarization of Women's Employment.* London: Athlone.

Happel, S. K., J. K. Hill, and S. A. Low. 1984. "An Econometric Analysis of the Timing of Childbirth." *Population Studies,* **38**, 299–311.

Heckman, J., and J. Walker. 1990. "The Relationship Between Wages and Income and the Timing and Spacing of Births: Evidence from Swedish Longitudinal Data." *Econometrica,* **58**, 1411–1441.

Henretta, J. C. 1987. "Family Transitions, Housing Market Context, and First Home Purchase by Young Married Households." *Social Forces,* **66** (2), 520–536.

Hoem, J. 1986. "The Impact of Education on Modern Family–Union Initiation." *European Journal of Population,* **2**, 113–133.

Hoem, B. 1993. "The Compatibility of Employment and Childbearing in Contemporary Sweden." *Acta Sociológica,* **36**, 101–120.

Hoem, B. 1996. "The Social Meaning of the Age at Second Birth for Third–Birth Fertility: A Methodological Note on the Need to Sometimes Respecify an Intermediate Variable." *Yearbook of Population Research in Finland,* **33**, 333–339.

Hoem, B. 2000. "Entry into Motherhood in Sweden. The Influence of Economic Factors on the Rise and Fall of Fertility 1986–1997." *Demographic Research,* **2** (4).

Hoem, B., and J. Hoem. 1989. "The Impact of Women's Employment on Second and Third Births in Modern Sweden." *Population Studies,* **43** (1), 47–67.

Hoem, J., A. Prskawetz, and G. Neyer. 1999. "Third Births in Austria: the Effect of Public Policies, Educational Attainment and Labor-Force Attachment." Working Paper WP1999–002. Rostock: Max Planck Institute for Demographic Research.

Hoem, J., A. Prskawetz, and G. Neyer. 2001. "Autonomy or Conservative Adjustment? The Effect of Public Policies and

Educational Attainment on Third Births in Austria, 1975-96." *Population Studies,* **55**: 249–261.

Hoffman, L. W., and M. L. Hoffman. 1973. "The Value of Children to Parents." In: Fawcett, J.T. (ed) *Psychological Perspectives on Population.* New York: New York Press, pp. 19–76.

Hotz, V. J., J. A. Klerman, and R. J. Willis. 1997. "The Economics of Fertility in Developed Countries." In: Rosenzweig, M. R., and O. Stark (eds). *Handbook of Population and Family Economics.* Amsterdam: Elsevier, 275–347.

Huinink, J. 2001. "Union Formation and Independent Life Courses." Paper presented at the Workshop on Union Formation at the Max Planck Institute for Demographic Research. Rostock, Aug. 30–31.

Jaumotte, F. 2003. "Female Labor Force Participation: Past Trends and Main Determinants in OECD Countries." Economics Department Working Papers No. 376. OECD.

Jensen, P. 2002. "The Postponement of Child Birth: Does it Lead to a Decline in Completed Fertility or is there a Catch–up Effect?." Paper presented at a conference organized by the Department of Economics of the Aarhus School of Business. Aarhus C., Denmark.

Jonsson, J. 1999. "Explaining Sex Differences in Educational Choice: An Empirical Assessment of a Rational Choice Model." *European Sociological Review,* **15**, 391–404.

Joshi, J. 1998. "The Opportunity Costs of Childbearing: More than Mother's Business." *Journal of Population Economics,* **11**, 161–183.

Kalmijn, Matthijs. 1998. "Intermarriage and Homogamy: Causes, Patterns, Trends." *Annual Review of Sociology,* **24**, 395–421.

Kamarás, F. 2003. "Family Formation and Childbearing in the 1990s and at the Turn of the Millenium." *Demográfia,* **46**, 5–33.

Karsten, H., and M. Kreyenfeld. 2000. "Does the Availability of Childcare Influence the Employment of Mothers? Findings

from Western Germany." Working Paper WP2000–003. Rostock: Max Planck Institute for Demographic Research.

Kohler, H. P., F. Billari and J. A. Ortega. 2001. "Towards a Theory of Lowest–Low Fertility". Working Paper WP2001–032. Rostock: Max Planck Institute for Demographic Research.

Kohler, H. P., F. Billari, and J. A. Ortega. 2002. "The Emergence of Lowest–Low Fertility in Europe during the 1990s." *Population and Development Review,* **28** (4), 641–680.

Kohli, M. 2004. "Intergenerational Transfers and Inheritance: A Comparative View." In: M. Silverstein (ed.) *Intergenerational Relations across Time and Place (Annual Review of Gerontology and Geriatrics, Vol. 24).* New York: Springer, pp. 266–289.

Kohli, M., H. Künemund, and J. Lüdicke. 2005. "Family Structure, Proximity and Contact." Chapter 4.1 of the SHARE First Results Book.

Kravdal, Ø. 1992. "The Emergence of a Positive Relation between Education and Third Birth Rates in Norway with Supportive Evidence from the United States." *Population Studies,* **46** (3), 459–475.

Kravdal, Ø. 1994. "The Importance of Economic Activity, Economic Potential and Economic Resources for the Timing of First Birth in Norway." *Population Studies,* **48**, 249–267.

Kravdal, Ø. 2001. "The High Fertility of College Educated Women in Norway: An Artefact of the Separate Modeling of Each Parity Transition." *Demographic Research,* **5** (6), 187–215.

Kravdal, Ø. 2004. "An Illustration of the Problems Caused by Incomplete Education Histories in Fertility Analyses." *Demographic Research. Special Collection 3,* 6, 135–154.

Kreyenfeld, M. 2000. "Educational Attainment and First Births: East Germany before and after Unification." Working Paper WP2000–011. Rostock: Max Planck Institute for Demographic Research.

Kreyenfeld, M. 2002. "Time–Squeeze, Partner Effect or Self-Selection? An Investigation into the Positive Effect of

Women's Education on Second Birth Risks in West Germany." *Demographic Research,* **7** (2).

Kreyenfeld, M. 2004. "Fertility Decisions in the FRG and GDR: An Analysis with Data from the German Fertility and Family Survey." *Demographic Research. Special Collection 3,* 11, 275–318.

Lappegard, T. 2000. "New Fertility Trends in Norway. Descriptive Findings." *Demographic Research,* **2** (3).

Lesthaeghe, R. 1983. "A Century of demographic and Cultural Change in Western Europe: An Exploration of Underlying Dimensions." *Population and Development Review,* **9**, 411–435.

Lesthaeghe, R. 1998. "On Theory Development: Application to the Study of Family Formation." *Population and Development Review,* **24** (1), 1–14.

Lesthaeghe, R., and J. Surkyn. 1988. "Cultural Dynamics and Economic Theories on Fertility Change." *Population and Development Review,* **14**, 1–45.

Lesthaeghe, R., and G. Moors. 1995. "Living Arrangements and Parenthood: Do Values Matter?" In: De Moor, R. (Ed). *Values in Western Societies.* Tilburg: Tilburg University Press.

Liefbroer, A. C. 1999. "From Youth to Adulthood: Understanding Changing Patterns of Family Formation from a Life Course Perspective." In: Van Wissen, Leo J. G. and P. A. Dykstra (eds), *Population Issues. An Interdisciplinary Focus.* New York: Kluwer Academic/Plenum Publishers.

Liefbroer, A. C., and M. Corijn. 1999. "Who, What, Where and When? Specifying the Impact of Educational Attainment and Labor Force Participation on Family Formation." *European Journal of Population,* **15**, 45–75.

Lillard, L. A. 1993. "Simultaneous Equation for Hazards. Marriage Duration and Fertility Timing." *Journal of Econometrics,* **56**, 189–217.

Lillard, L. A., C. W. A. Panis, and D. M. Upchurch. 1994. "Interdependencies over the Life Course: Women's Fertility,

Marital, and Educational Experiences." RAND Working Paper 94–17. Santa Monica, CA.

Lillard, L. A., M. J. Brien, and L. J. Waite. 1995. "Premarital Cohabitation and Subsequent Marital Dissolution: A Matter of Self–Selection?." *Demography,* **32** (3), 437–457.

Lillard, L. A. and C. W. A. Panis. 2000. *aML Multilevel Multiprocess Statistical Software, Release 1.0.* Los Angeles, California: EconWare.

Livi Bacci, M. 1981. *Introduzione alla demografia.* Torino: Loescher.

Livi Bacci, M. 1997. "Scarsita e abbondanza. Le populazioni d'Italia e d'Europa al passaggio di millennio." *Il Mulino,* **6**, 993–1009.

Lynch, L. 2000. "Trends in and Consequences of Investments in Children." In: Danziguer, S., and J. Waldvogel (eds). *Securing the Future. Investing in Children from Birth to College.* New York: Russell Sage, 19–46.

Macunovich, D. J. 2002. *Birth Quake. The Baby Boom and its Afterschocks.* Chicago: The University of Chicago Press.

Maller, R., and X. Zhou. 1996. *Survival Analysis with Long-Term Survivors.* Chichester: Wiley.

Manning, W. D. 1995. "Cohabitation, Marriage, and Entry into Motherhood." *Journal of Marriage and the Family,* **57** (1), 191–200.

Marini, M. M. 1978. "The Transition to Adulthood: Sex Differences in Educational Attainment and Age at Marriage." *American Sociological Review,* **43**, 483–507.

Marini, M. M., 1984. "Women's Educational Attainment and the Timing of Entry into Parenthood." *American Sociological Review,* **49** (4), 491–511.

Marini, M. M. 1985. "Determinants of the Timing of Adult Role Entry." *Social Science Research,* **14**, 309–350.

Marini, M. M., 1995. "Family Norms in Advanced Industrial Societies." *Population Association of America,* 1–29.

Marini, M. M., and B. A. Shelton. 1993. "Measuring Household Work: Recent Experience in the United States." *Social Science Research,* **22**, 361–382.

McLanahan, S., and J. Adams. 1987. "Parenthood and Psychological Well–Being." *Annual Review of Sociology,* **5**, 237–257.

Merrigan, P., and Y. St-Pierre. 1998. "An Econometric and Neoclassical Analysis of the Timing and Spacing of Births in Canada from 1950 to 1990." *Journal of Population Economics,* **11**, 29–51.

Mincer, J. 1963. "Market Prices, Opportunity Costs, and Income Effects." In: Christ, C.F. et al. (ed) *Measurement in Economics.* Stanford: Stanford University Press.

Mincer, J. 1974. *Schooling, Experience, and Earnings.* New York: Columbia University Press.

Nì Bhrolcháin, M. 1986. "The Interpretation and Role of Work-Associated Accelerated Childbearing in Post–War Britain." *European Journal of Population,* **2**, 135–154.

Nicoletti, C., and M. L. Tanturri. "Differences in Delaying Motherhood across European Countries: Empirical Evidence from the ECHP." Paper presented at the Demography Workshop of the University of Essex. UK. 27th Jan. 2005.

O'Connor, J. 1993. "Gender, Class and Citizenship in the Comparative Analysis of Gender Relations and Welfare States Regimes: Theoretical and Methodological Issues." *British Journal of Sociology,* **44**, 501–518.

OECD. 2000. PISA 2000 *Technical Report.* Parijs: OECD. Available at: http://www.pisa.oecd.org/

OECD. 2000. *Education at a Glance.* Parijs: OECD. Available at: http://www.oecd.org/

OECD. 2002. *Society at a Glance.* Parijs: OECD. Available at: http://www.oecd.org/

OECD. 2003. *Economic Survey of Spain, 2003. Assessment and Recommendations.* Available at: http://www.oecd.org/

OEI. 2002. "Historia del sistema educativo español." OEI: Sistemas Educativos Nacionales: httm://www.campus-oei.org/quipu/espana/index.html

Oláh, L. 1996. "The Impact of Public Policies on the Second Birth Rates in Sweden: a Gender Perspective." Stockholm University. mimeo.

Oppenheimer, V. K. 1988. "A Theory of Marriage Timing." *American Journal of Sociology,* **94**, 563–591.

Oppenheimer, V. K. 1994. "Women's Rising Employment and the Future of the Family." *Population and Development Review,* **20** (2), 293–342.

Oppenheimer, V. K., and W. Lew. 1995. "American Marriage in the 1980s: How Important was Women's Economic Independence? In: Oppenheim Mason, K., and A. M. Jensen (eds). *Gender and Family Change in Industrialized Countries.* Oxford: Clarendon Press, pp. 105–138.

Oppenheimer, V. K., M. Kalmijn, and N. Lim. 1997. "Men's Career Development and Marriage Timing during a Period of Rising Inequality."*Demography,* **34** (3), 311–330.

Orloff, A. S. 1993. "Gender and the Social Rights of Citizenship: the Comparative Analysis of Gender Relations and Welfare States." *American Sociological Review,* **58**, 303–328.

Ortega Osona, J. A., and H. P. Kohler. 2001. "¿Está cayendo realmente la fecundidad española?." *Revista Española de Investigaciones Sociológicas,* **96**, 95–122.

Petersen, T. 1991. "Analysis of Event Histories." In: G. Arminger, C. C. Clogg, and M. E. Sobel (a cura di) *Sociological Methodology 1991.* Cambridge, MA: Blackwell.

Polachek, S. W. 1981. "Occupational Self–Selection: a Human Capital Approach to Sex Differences in Occupational Structures." *Review of Economics and Statistics,* **63**, 60–69.

Puelles Benítez, M. 1986. *Educación e ideología en la España contemporánea.* Barcelona: Labor.

Reher, D. S. 1998. "Family Ties in Western Europe: Persistent Contrasts." *Population and Development Review,* **24**, 203–234.

Rindfuss, R. R., L. Bumpass, and C. St.John. 1980. "Education and Fertility: Implications for the Roles Women Occupy." *American Sociological Review,* **45** (3), 431–447.

Rindfuss, R. R., S. P. Morgan, and G. Swicegood. 1988. *First Births in America: Changes in the Timing of Parenthood.* Berkeley: University California Press.

Ruhm, C. J. 1998. "The Economic Consequences of Parental Leave Mandates: Lessons from Europe." *The Quarterly Journal of Economics,* **113** (1), 285–317.

Sainsbury, D. 1996. *Gender, Equality and Welfare States.* Cambridge: Cambridge University.

Saraceno, C. 1994. "The Ambivalent Familism of the Italian Welfare State." *Social Politics,* I.

Sarasa, S. 2001. "Los hogares sin empleo. Una perspectiva comparada." *Revista Internacional de Sociología,* **29**, mayo–junio.

Schultz, T. P. 1985. "Changing World Prices, Women's Wages and the Fertility Transition: Sweden 1860–1910." *Journal of Political Economy,* **93**, 1126–1154.

Scott, J., and D. Alwin. 1998. "Retrospective Versus Prospective Measurement of Life Histories in Longitudinal Research." In: J. Z. Giele, and G. H. Elder Jr. (eds). *Methods of Life Course Research: Qualitative and Quantitative Approaches.* Thousands Oaks, CA: Sage Publications.

Sen, A. 1992. *Inequality Reexamined.* New York: Russell Sage Foundation.

Shavit, Y., and H. P. Blossfeld (eds). 1993. *Persistent Inequality. Changing Educational Attainment in Thirteen Countries.* Oxford: Westview Press.

Simó Noguera, C., K. Golsch, and N. Steinhage. 2002. "Increasing Uncertainty in the Spanish Labor Market and Entry into Parenthood." *Genus,* **58**, 77–119.

Smith, N., S. Dex, J. D. Vlasborn, and T. Callan. 2003. "The Effects of Taxation on Married Women's Labor Supply across Four Countries." *Oxford Economic Papers,* **55** (3), 417–439.

Sobotka, T. 2004. "Is Lowest–Low Fertility in Europe Explained by the Postponement of Childbearing?." *Population and Development Review,* **30** (2), 195–220.

Sorensen, A. 1994. "Women, Family and Class." *Annual Review of Sociology,* **20**, 27–47.

Sundstrom, M., and A. Z. E. Duvander. 1999. "Family Division of Child Care: Why Do –or Don't– Swedish Fathers Take Parental Leave?" Working Paper 139. Stockholm: Stockholm Research Reports in Demography.

Spitze, G. D., 1978. "Role Experiences of Young Women: a Longitudinal Test of the Role Hiatus Hypothesis." *Journal of Marriage and the Family,* **40**, 541–554.

Tasiran, A. C. 1995. *Fertility Dynamics. Spacing and Timing of Births in Sweden and the United States.* Amsterdam: Elsevier.

Teachman, J. D., and K. A. Polonko. 1988. "Marriage, Parenthood, and the College Enrolment of Men and Women." *Social Forces,* **67** (2), 512–523.

Turner, R. H. 1990. "Role Change." *Annual Review of Sociology,* **16**, 87–110.

Ugidos, A., and M. Ullibarri. 2002. "La educación de la mujer: ¿es importante la estructura familiar?" Working Paper 9. Madrid: Fedea.

Upchurch, D. M., L. A. Lillard, and C. W. A. Panis. 1995. "Updating Women's Life Course: Theoretical and Methodological Considerations." RAND Working Paper 95–18.

Valiente, C. 2002. "The Value of an Educational Emphasis: Childcare and Restructuring in Spain since 1975." In: Michel, S., and R. Mahon. (eds) *Childcare Policy at the Crossroads. Gender and Welfare State Restructuring.* London: Routledge.

Van de Kaa, D. J. 1987. "Europe's Second Demographic Transition." *Population Bulletin,* **42**, 3–57.

Van de Werfhorst, H. G. 2004. "Systems of Educational Specialization and Labor Market Outcomes in Norway, Australia, and the Netherlands." *International Journal of Comparative Sociology,* forthcoming.

Van de Werfhorst, H. G., A. Sullivan, and S. Y. Cheung. 2003. "Social Class, Ability and Choice of Subject in Secondary and Tertiary Education in Britain." *British Journal of Sociology,* **55**, 211–235.

Waite, L. J., F. K. Goldsheider, and C. Witsberger. 1986. "Non–Family Living and the Erosion of Traditional Family Orientation among Young Adults." *American Sociological Review,* **51**, 541–54.

Waite, L. J., and G. D. Spitze. 1981. "Young Women's Transition to Marriage." *Demography,* **18** (4), 681–694.

Willikens, F. J. 1999. "The Life Course: Models and Analysis." In: L. J. G. van Wissen, and P. A. Dykstra (eds). *Population Issues. An Interdisciplinary Focus.* New York, Dordrecht: Kluwer Academic/Plenum Publishers.

Willis, R. J. 1973. "A New Approach to the Economic Theory of Fertility Behavior." *Journal of Political Economy,* **81** (2), 14–64.

Willis, R. J. 1987. "What Have We Learned from the Economics of the Family?" *American Economic Review,* **77** (2), 68–81.

Wright, E. O., J. Baxter, and G. E. Birkelund. 1995. "The Gender Gap in Workplace Authority: a Cross–National Study." *American Sociological Review,* **60**, 407–435.

Yamaguchi, K. 1991. *Event History Analysis.* Newbury Park, CA: Sage Publications.