

Do time resources for working parents promote gender equality and work-family life balance? An analysis of the use and duration of parental leave in Spain¹

Irene Lapuerta (irene.lapuerta@upf.edu), Universitat Pompeu Fabra
Pau Baizán (pau.baizan@upf.edu), ICREA y Universitat Pompeu Fabra
María José González (mjose.gonzalez@upf.edu), Universitat Pompeu Fabra

14th May, 2008

Departament de Ciències Polítiques i Socials
Universitat Pompeu Fabra
Ramon Trias Fargas, 25-27
08005 BARCELONA

Abstract:

This paper analyses the extent to which individual and workplace characteristics and regional policies influence the use and duration of parental leave in Spain. The research is based on a sample of 125,165 people (mothers and fathers that were born between 1960 and 1990 and employees at childbirth), and 6,959 parental leaves stemming from the ‘Sample of Working Life Histories’ (SWLH), 2006. The SWLH consists of administrative register data which include information from three different sources: Social Security, Municipality and Income Tax Registers. We adopt a simultaneous equations approach to analyse the use (logistic regression) and duration (event history analysis) of parental leaves, which allows us to control for endogeneity and censored observations. We argue that the design of the Spanish parental leave increases gender and social inequalities insofar as reinforces gender role specialization, and only encourages the reconciling of work and family life among workers with a good position in the labour market (workers with stable, educated and high working status).

Paper presented at the 2008 European Population Conference, 9-12 July 2008, Barcelona.

¹ The authors would like to thank the Ministry of Work and Social Affairs (Subsidy for the Promotion of Social Research -FIPROS 2006/20-) and the Ministry of Science and Technology (National Programme of Research and Development -SEJ2007-62684/SOCI-) for the financing of this project.

1. Introduction.

The object of this paper is to analyse the use and duration of parental leave in Spain. Up until recently there has been no data available that would have allowed us assess the real impact of this policy or the user profile. There only existed data on the total number of parental leaves at one point in time, every December, from which it was then possible to make indirect estimates concerning its impact. This study is based on work histories randomly drawn from the historical files of Social Security affiliates in 2006 (*‘Muestra Continua de Vidas Laborales’*, MCVL-2006) from which a subset of 125,165 individuals, born between 1960 and 1990, and 6,959 parental leaves have been extracted. The empirical analysis consists of two simultaneous equations: a logistic regression model which estimates the individual’s likelihood to make use of this resource, and an event history analysis which evaluates the factors affecting the length of the parental leaves.

The paper has been organised into five principal sections. In the following section we will outline the principal characteristics of the Spanish parental leaves system within a European context. In the third part we will analyse the main explanatory determinants behind the use of this resource as well as proposing working hypotheses. The data and methodology used in the research will be presented in the fourth section. In the fifth part we will outline the results of the empirical analysis. Finally, the paper will conclude with a brief reflection on the efficiency of the Spanish parental leave, based on the outlined results.

2. The principal characteristics of the Spanish parental leaves system within a European context.

Spanish law recognises the right of employees to take periods of leave to look after each child. This represents an individual right that has a maximum duration of three years from the childbirth. Nevertheless, the exercise of this right does not entail compensation for loss of earnings, even though it does guarantee special labour protection in three different aspects.

In the first place, all parental leave is taken into account when calculating seniority, which affects wage increases and determines redundancy payments. In the second place, the Law on Equal Opportunities for Women and Men (2007) has increased from one to two years the consideration of parental leaves as an extension of the individual’s normal working life, which means that the Social Security takes on the payment of the worker’s and employer’s contributions during this period regarding benefits for Old Age Pension, permanent disability, widowhood and orphanhood, maternity and paternity. Unemployment and temporary disability are however excluded. Thirdly and finally, the job is guaranteed for the first year with their employer bound to furnish a position of a similar category on their return for the remaining time.

Given these circumstances, parental leaves only increase the period in which both parents can remain at home to look after their children for one sector of the workforce (the self-employed are excluded). As such parental leave is conceived as an extension of maternity and paternity leaves, and as a consequence it can only be utilised after the

other two have finished. Table 1 shows the main characteristics of these three types of parental leaves.

Table 1. Principal characteristics of maternity, paternity and parental leaves in Spain.

Criteria:	Type of leave		
	Maternity	Paternity	Parental
Eligibility	All workers. 180 days of full contributions to the Social Security System in the 7 years before the beginning of maternity leave or 360 days in all the active life*.		Only employees** Without any contribution requirements
Duration	16 weeks***	13 days (+2 for employees)***	Until the child is three years old.
Payments	100%	100%	None
Return to the same job guarantee	Yes	Yes	1 year
Paid up Social Security contributions	Yes	Yes	2 years

* If the mother is under 21 years old, contributions previous to childbirth are not requested. If she is between 21 and 26 years old, she has to prove 90 days of full contributions during the previous 7 years or 180 days in all her active life.

**Self-employed are excluded.

***The length of both leaves increases in the cases of multiple birth or child's disability.

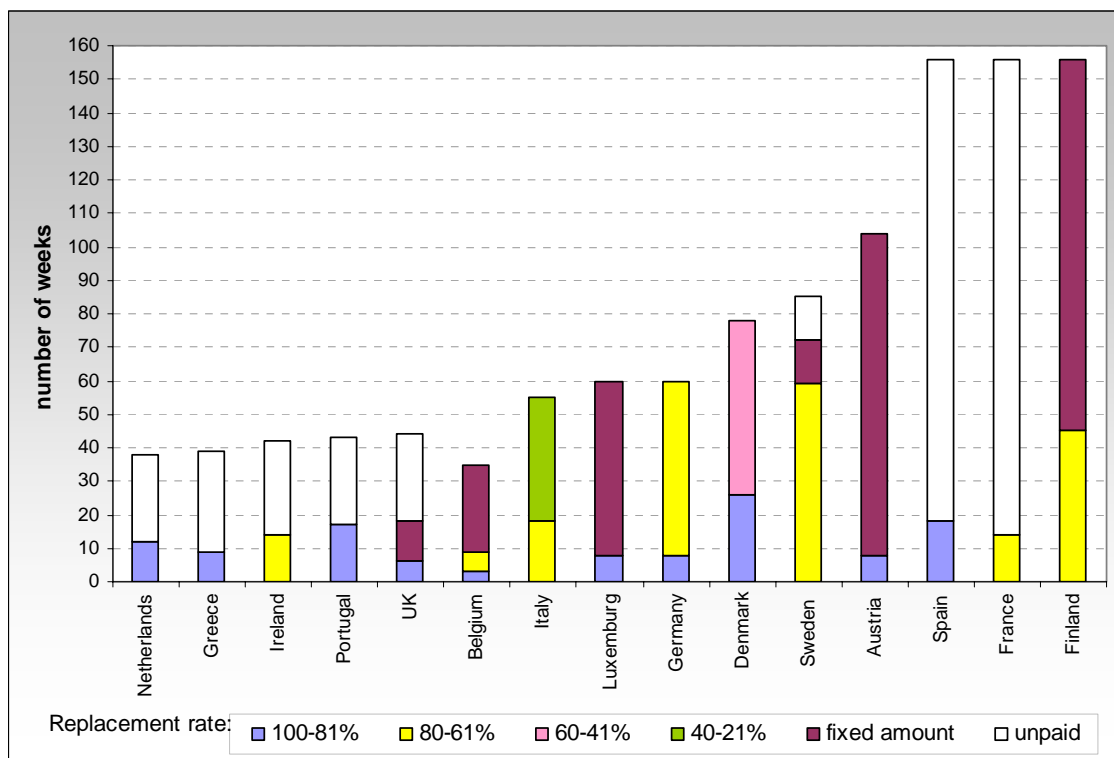
Source: The authors.

The Spanish maternity and paternity leaves guarantee a compensation of 100 percent of the individual's salary, the return to the same job, and the payment of the contributions to the Social Security. The mothers are entitled to maternity leave for a period of 16 weeks of which 6 must be taken after the birth. The remaining 10 can be taken beforehand or transferred to the father as long as there is no risk to the mother's health. Likewise, fathers are entitled to 15 days of paternity leave if they are employees or 13 days if they are self-employed. This leave can be taken simultaneously with that of the mother, or after the end of the mother's leave. Nevertheless, in order to claim both benefits it is necessary to comply with a minimum number of contributions, that is normally set at 180 days for the period immediately before the beginning of both leaves, or in absence of this, 360 days during the parents' entire working life. In the case of maternity leave the Social Security contributions requirement varies according to the mother's age at the childbirth (see table 1) and if she is not being able to fulfil them, she is entitled to non-contributory maternal assistance that was worth 488.68 euros per month in 2007.

The combination of these three time resources means that Spain possesses a different parental leaves system from other Western countries, which is characterised in the first place by being very generous in terms of time allowed, and in second place, by giving little protection in economic terms. Figure 1 represents a comparison of the three kinds of leaves (maternity, paternity, and parental) in fifteen member states of the European

Community in regards to these two criteria. Thus, we can see the maximum number of consecutive weeks of leave that a biparental family are entitled, based on the presumption that both -the father and the mother- make use of these leaves consecutively after the childbirth, together with the earning replacement rate in each period.

Figure 1. Maximum number of consecutive weeks of parental leaves* for the first child and earning replacement rates. European Union-15. 2007.



*Maternity, paternity and parental leave.

**In the case of France the amounts paid varies according to birth order of the child.

Source: Lapuerta (2004). Updated from Spiess y Worchlich (2006).

However, besides the length and the economic compensation, one needs to consider other criteria that can have a direct influence on the protective intensity of the system of parental leaves. The most important among these are the nature of individual or family rights, the coordination of different types of parental leave, the flexibility with which they can be taken, labour guarantees in terms of job security, as well as protection in the event of special circumstances (adoptions, fosterage, multiple or premature births). All of these criteria contribute to a great range of differences that help explain to a large degree the enormous variations on the use of these time resources.

In the case of Spain, the scarcity of data limits the possibility of creating a reliable indicator that would give us a more precise picture of the overall impact of this measure. Nevertheless, the analysis of the Spanish Labour Force Survey for the third trimester of 2006 indicates the existence of a low percentage of mothers with children under three years old, 47.9% to be exact, who are entitled to parental leave. The remaining mothers

are not entitled because they are inactive (37.4%), or unemployed (8.3%), or also because they are working as self-employed (6.4%). Among the fathers with children under three years old, the 74.4% of them are entitled, owing to their greater participation in the labour market.

In reality, only a very small part of those workers who are entitled to take parental leaves in Spain, actually make use of them. According to our own estimates, based on the data provided by the Social Security and the Spanish Labour Force Survey, only 2.8% of employee mothers exercise the right, compared to 0.1% of men in December of 2006. The same data moreover underlines how only 5 of every 100 users were men in the same year.

The limited use made of parental leaves in Spain has led some Autonomous Communities, especially since 2000, to implement flat rate benefits designed to stimulate their use. Such are the cases of the Basque Country, Navarre, Castile and León, Castilla la Mancha, and La Rioja, all of whom, though subject to very varied regulations, provide allowances to offset the implied loss of earnings for those who use a parental leave. The amounts vary in 2007 from the 200 euros per month that the Basque Country offers –250 euros if the father takes up the parental leave– to the means tested 499 euros per month during a year in Castile and Leon.

In the next section, we discuss the factors that may influence fathers' decisions to make use of parental leaves.

3. Working Hypothesis concerning the use and length of parental leaves.

From a review of the current literature on the use and duration of parental leaves one can distinguish four principal theoretical approaches. The first one underlines the individual factors associated with the use of these leaves. An important part of this literature comes from the Scandinavian countries, especially in terms of gender differences in the use of parental leave. Bygren and Duvander (2006), for instance, have underlined how those working in the private sector make less use of parental leaves and when they do these are taken for shorter periods of time. Furthermore, the same study has shown that parental leaves are rarely taken in small businesses, and that the work environment has a gradual 'diffusion effect' on others in such a way that when they come into general use among the men, new fathers tend to be more prone to take up. The greater use made of parental leaves in large businesses is due to the fact that these are better organised through the creation of routine procedures so that it is relatively easy to replace the worker without it having a negative effect on other work companions, or without it being perceived as strange or selfish behaviour.

The use of parental leaves is also closely related to income, especially for men. The same study (Bygren and Duvander, 2006) shows that the probability of taking a leave increases in relation to income level until it reaches a threshold, after which the probability diminishes. The reason being that the greater the income level, the more means parents have to compensate for the loss of earnings associated with parental leaves, even though for workers with greater income levels this comes at too high a price in terms of career opportunity costs. In their study of Swedish parents, Sundström and Duvander (2002) also concluded that income level is a much more determining

factor for fathers than for mothers when it comes to deciding the use and the division of the parental leaves among both parents.

The second approach refers to *household or couple characteristics*. Within this framework, economic theories that have utilised concepts such as the comparative advantage of the members of the couple (Becker, 1991) or the couples' bargaining processes according to their income level, work position, or educational credentials in the organisation of childcare (Lundberg and Pollack, 1993; Blau, Ferber and Winkler, 2001) have had considerable influence. This last current of thought has given birth to a number of studies such as those of Bygren and Duvander (2006), who have shown that a woman's level of education has a positive influence in the fact that her partner, the father, takes part of the parental leave. Likewise, Lappegard (2008) in a study on the use of parental leaves in Norway has shown that the financial contribution of the woman to the domestic economy or the fact that both members of the couple have similar income levels has a positive influence on the fathers' use of parental leaves.

It should be noted however that besides the role played by those purely economic rational elements in the division of the work, there also exist other factors that have an influence in the negotiation of the members of the couple. These factors refer to the *gender system*, which constitutes the third line of research regarding the use of parental leaves. In general the comparative advantages of the members of the couple will depend on the real opportunities of access to the work market in equal conditions as well as guarantees of equal pay. Both elements are closely related to the gender system of values. The division of care work and employment within the family will also depend on the gender values or expectations of the members of the couple (Hakim, 2000) as well as the social norms in regards to the ideal arrangements for the upbringing of children (Duncan and Edwards, 1999; Pfau-Effinger, 1998). To conclude, there exists a mixture of rational economic elements together with ideological elements related to the socialisation of gender in the decision making process regarding the organisation of childcare (Alwin, 1991).

The fourth approach regarding the use of parental leaves refers to the *institutional context*. From an analysis of the experience of different European countries it emerges that those countries, which have an extensive system of parental leave and a high level of social and childcare coverage, are precisely the same countries that have greater rates of employed mothers as well as greater fertility levels (Del Boca and Pascua, 2005; Baizán, 2007). In the context of European countries, fertility levels are a measure of the extent to which social obstacles influence family formation. Pronzato (2007) also concluded that a generous parental leaves system together with adequate childcare services has the effect of shortening duration of the mothers' employment breaks.

Finally, the use and length of parental leaves is related to individual characteristics, bargaining process within the couple, gender values and those factors related to the institutional context. The latter understood in the widest sense as a package of social policies directed towards working parents or in a more narrow sense as the working environment (characteristics of the workplace and labour relations). The nature of the data used in this project (SWLH-2006), however, only allows us to analyse those factors related to individual characteristics and the institutional context.

From what has been said in the above section we propose to examine the following working hypotheses:

Hypothesis 1: Opportunity Costs. Those individuals with a greater level of education and labour experience will be less likely to seek parental leaves, and even if they do, they will be for shorter periods.

The first hypothesis is based on the economic theory, which predicts that individuals always evaluate the costs and the time spent at home before deciding whether to make use of parental leaves. During the leave period the individual suffers loss of earnings and opportunities to gain further work experience, promotion, and training in the workplace, which will affect future income and work opportunities. The longer the absence from work, the greater the costs will be (Ermisch, 2003). Many studies have shown the penalties of careers breaks related to the birth of a child (Joshi, 1998; Gutiérrez-Domènech, 2005).

Educational credentials and labour experience affect opportunity costs that must be weighed up at the moment of deciding whether to leave or remain in the work market at the birth of a child, owing to the fact that these variables are related to their human capital, more concisely, the worker's income and his chances for promotion at work. In the Spanish context, which is characterised by generous parental leaves in terms of time allowed but lacking in economic compensation, those with greater human capital (level of education and longer labour experience) will as a consequence be less likely to seek parental leave and if they take it, it will be for shorter periods of time.

Hypothesis 2: Gender Socialisation. Young men with a greater level of education will be more likely to take parental leave.

The second hypothesis is based on the fact that the highest level of gender inequality in regards to the division of family responsibilities is to be found in Southern Europe (Fuwa, 2004; Fuwa and Cohen, 2006). In such a context of deeply rooted traditional gender values it is predictable that men seeking of parental leave will be frowned upon or socially penalised. Different studies have shown nevertheless that certain individual characteristics such as age or educational achievement are associated with more equality in terms of gender role behaviour that is reflected more particularly in the greater involvement of men in childcare responsibilities (Shelton and John, 1996; Kroska, 2004). As a result, young men with a higher level of education will be more likely to take parental leaves. On the other hand, given that social norms continue to dictate men's role as the principal financial provider of the home, it is predictable that economic considerations (opportunity costs) are a determining factor in their behaviour to a greater extent than women's behaviour.

Hypothesis 3: The Regional Context. The existence of economic incentives in certain regions stimulates the use and greater length of the parental leaves.

The third hypothesis refers to the fact that individual decisions are influenced by conditions in a regional context, especially by the economic incentives that different Autonomous Communities can offer to parents. This is the case, for instance, of Navarre, Castile and León, the Basque Country, and Castile La Mancha; regions that provide different flat rates benefits associated with the parental leave. These benefits may encourage fathers' and mothers' use and duration of parental leave.

Hypothesis 4: The Negotiation Power at workplace. The use and length of parental leaves will increase in the context of employment stability, extended seniority, large companies and public, education and health care sectors.

The fourth hypothesis argues that the negotiation power at workplace affects the use of parental leaves. Work conditions, especially the organisation and management of the worker's position, directly affect the decision concerning the use of a parental leave and its length. Firstly, the possibility of being able to balance work and the care of the children will affect the need to seek a leave from work as well as its duration. In this sense, the specific characteristics of the position (working hours, intensity and physical difficulties of the job, distance from home) and the willingness of the employer to be flexible in terms of working hours are relevant (Crompton, 2006). Secondly, the decision to take a parental leave will be influenced by job status (stability, income level, possibilities for training, gender equality etc), and by the existing relations of power between the employer and the employee. All these elements are influenced to a large extent by labour laws and by the structural characteristics of the workplace. In the larger companies where the workers are generally protected by collective agreements, particular to those companies, and organised trade union representation, greater use is predictably made of parental leaves by the workers. At the same time, in those economic sectors such as health or education favour the use of parental leaves due to the feminisation of the labour force and the institutionalisation of this right. Finally, stability in the workplace is crucial for seeking a parental leave and its extension in time, because an employee on a temporary contract or with short experience may be penalised or dismissed (or not to have their work contract renewed) if they sought leave.

4. Data and methodology.

The analysis of the use and length of parental leaves is based on work histories randomly drawn from the historical files of Social Security affiliates (SWLH-2006). This sample provides an organised group of anonymised microdata extracted from three different administrative sources: Social Security, Municipality and Income Tax Registers. The population on which the dataset is based is made up of all those who were making contributions to or receiving contributory benefits from the Social Security at some in the reference year (2005), irrelevant of whether this was temporarily or on a permanent basis. We have used the registers of 125,165 individuals of the 1,170,522 included in the SWLH-2006. All of them, both men and women share a double characteristic: in the first place, they were all born between 1960 and 1990, and second, they had made paid up contributions to the Social Security as employees up to the childbirth.

As a result, the SWLH allows us to reconstruct retrospectively the working life of these individuals. Although the SWLH is an exceptional source of information for our subject matter, it does have some drawbacks. The data, for instance, excludes those people who did not make contributions to the Social Security in the reference year. This loss implies the disappearance of all those who had taken a previous parental leave but who either then or later had not returned to work.

We have two dependent variables: in the first place we analyse the use of parental leaves, i. e. to take up or not to take up the leave, and in the second place we analyse the

length of the parental leave. For the first analysis we have used a set of 125,165 individuals from which it has been possible to extract 172,434 observations or occasions in which these individuals were entitled to a parental leave, given that they had a child under three years old and were actively contributing to the Social Security as employees. The second analysis relative to the length of the leave includes data on 6,959 parental leaves, which represent 4% of the observations.² The break in the working life is marked by two dates: the date of beginning the parental leave and the return to work. The period under study might consequently be more than the three years that the law envisages as the maximum length for a parental leave. This is the case, for example of workers who after taking a parental leave go from a situation of unemployment or inactivity before returning to work.

It should be noted that we have excluded those multi-employed workers who take a parental leave in just one of their employments. Even though this latter situation has a legal basis, they only represent 1.3% of the total number of parental leaves in the SWLH-2006.

The technique utilised for the analysis of the factors which affect the probability of making use of a parental leave is the logistic regression model. This model can be formulated in the following way:

$$\log[P_{ij} / (1-P_{ij})] = \alpha + \beta' x_{ij} + \varepsilon_i$$

where P is the probability of parental leave taking by observation j, belonging to individual i. α is a constant term, x_{ij} is a vector of explicative variables and β denotes the value of the estimated coefficients of the model for every variable. Lastly, ε_i is a random term particular to every individual, normally distributed, which has been included with the aim of accounting for the existence of heterogeneity between individuals relative to the variables not included in the model and to account for the correlation of multiple observations belonging to the same individual.

The analysis of the length of the parental leaves has been done by utilising a technique of event history analysis (Blossfeld and Rohwer, 2002). This type of technique has the advantage of being able to utilise the periods of leave for individuals who had not returned to work at the time of observation (censored observations), without distorting the results. We use a proportional hazard model that can be represented statistically in the following way:

$$\ln h_{ji}(t) = \gamma' T(t)_{ji} + \beta' X_{ji} + \delta_i$$

² A total of 6,140 individuals made up this number of career breaks. 85% of them took only one parental leave, 12.5% took two and 1.6% had taken three or more. As a result, there are individuals in the sample who have contributed with more than one career break.

where $\ln h_{ji}(t)$ is the log of the rate at which the observation j belonging to individual i returns to work at duration t . $\gamma'T(t)_{ji}$ denotes the effect of duration, measured in days, on the hazard rate. Duration dependence is modelled with piecewise linear splines (also known as Gompertz model or piecewise linear exponential model) Piecewise linear splines are used to approximate continuous functions (such as a baseline hazard or a non-proportional relative risk), by using function that are linear within each (possibly open-ended) interval. Those linear functions are connected at knots given a priori: piecewise linear splines are then also continuous functions. X_{ji} represents a vector of independent variables, and β denotes the value of the estimated coefficients of the model for every variable. Lastly, in the same manner as in the logistic regression equation, we include a random term δ_i specific to every individual, assumed to follow a normal distribution.

As has already been indicated the length of the parental leave can only be determined for the observations in which the individual takes up a parental leave that is for a subgroup of the total number of observations. In this case, if all the selection operated through the observed variables, the second equation could be estimated without biases. Nevertheless, in case there existed a correlation between the heterogeneity terms, would lead to biased estimates. For example, if we suppose that the decision to use a parental leave and its length were determined in part by attitudes that intend to maximise the time for the care of the baby on the part of an individual (or maybe because of a child's bad health, the attitude on the part of the employer, the characteristics of the couple, or any other variable known by the mother / father but not by the analyst). This would lead to the situation that the decisions to take the parental leave and its duration were not independent. In order to statistically control for the effects of this selection we have used a simultaneous equation perspective, where the equations outlined above relative to the decision to take a parental leave and its duration have been estimated jointly.

$$\begin{cases} \log[P_{ij} / (1-P_{ij})] = a + \beta' x_{ij} + \varepsilon_i \\ \ln h_{ji}(t) = \gamma'T(t)_{ji} + \beta' X_{ji} + \delta_i \end{cases}$$

The random variables ε and δ capture unobserved heterogeneity, and are assumed to follow a joint bivariate normal distribution:

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

in which $\rho_{\varepsilon\delta}$ is the correlation between the unobserved heterogeneity terms of the processes. The model estimation was performed using full-information maximum likelihood, as implemented in the package aML (Lillard and Panis, 2000).

As can be seen in the results (table 3) the standard deviations obtained from the heterogeneity terms are significant.³ This means that there exist selection effects that were not picked up by the included variables in the models (for example when several observations are encountered belonging to the same individual with a particular tendency to take a parental leave). Also, the correlations between the elements of heterogeneity components are significant. This indicates that the individuals who take a parental leave are a non random set of the population. A possible interpretation of these results would be that these reflect the preferences of these individuals to dedicate themselves to the care of the children (in relation to staying at work). Thus, a negative correlation as obtained in Models 1 and 2 indicates that the propensity to use the parental leave and the short length of the parental leave are negatively correlated (the unobserved characteristics that make the individual take a parental leave also operate in the direction of taking long leaves). When the correlation is positive, as is the case of the model dealing with men (Model 3), it would indicate that the same characteristics that make the individual take the parental leave then operate in the direction of taking a short parental leave (they return to work quickly).

5. Results of the multivariate analysis: factors that affect the use and length of leaves of absence.

In Table 3 we present the results of the multivariate analysis. We have calculated three models: in Model 1 we have included only those variables relative to certain individual characteristics (sex, age, educational level, and nationality), and of the household (presence of other adults, multiple births, and the presence of minors of less than 5 years of age), as well as the autonomous community of residence. In Model 2 we have added different indicators of the individual's labour status, and their place of work. Finally, in Model 3 we have included the same variables as in Model 2 but we have restricted the population under study only to men. In this way we have been able to analyse the characteristics of a reduced number of men who have made use of leaves (214 observations).

A. Who takes a parental leave?

Beginning with the individual characteristics, we can see in the upper part of table 2 (Panel a) that the coefficient relative to men is both significant and very negative (Model 1): -7.29. The negative value of this coefficient is barely altered when we include the variables concerning the labour status (Model 2). The result, though expected, is indicative of the little use that men make of leaves of absence, and indicates the existence of constraints for them to use this resource, whether it be due to difficulties in the workplace or owing to current regulations (Hypothesis 2: gender socialisation).

³ In Model 3, which deals with men, we have fixed the value of the standard deviation at the same value as that estimated in the model for both sexes (Model 2), due to the fact that the reduced number of available observations does not allow its estimation.

In Models 1 and 2 the individual's age at the moment of the birth of the child has an important positive effect on the decision to take a parental leave, which diminishes among the older age groups. This effect may be related to the individual's growing belief, which comes with greater work experience that taking a parental leave does not imply negatives consequences for one's job.

Nevertheless, in Model 3 this variable loses its importance, which would indicate that the noted effect is compensated for by young men, who are more open to values conducive to gender equality. (Hypothesis 2: *gender socialisation*).

Table 2. Simultaneous analysis of the use (logistic regression) and duration (event history analysis) of parental leave: birth-cohorts 1960 to 1990, Spain.

Results of Logistic Regression: use of parental leave	Mothers and Fathers		Fathers
	Model 1	Model 2	Model 3
Gender (male)	-7.29 ***	-6.74 ***	
Age	1.20 ***	0.97 ***	0.21
Age ²	-0.01 ***	-0.01 ***	0.00
Primary School ^a	0.81 ***	0.47 ***	0.91
Secondary School	1.06 ***	0.29 **	1.61 **
Tertiary School	1.25 ***	0.41 ***	1.98 ***
Multiple birth	1.07 ***	0.97 ***	1.26 *
Other adults present (third generation)	-1.21 ***	-1.19 ***	-0.54
Other children under 5 years old	-0.47 ***	-0.49 ***	-0.80 ***
Foreigner	-1.32 ***	-0.23	-0.37
Part time contract		0.28 ***	1.35 ***
Temporary contract		-1.44 ***	-0.92 **
Civil servant		0.78 ***	0.75 *
Social Security Contributions' group 4 ^b		0.48 ***	-0.71
Social Security Contributions' group 3		-0.13	-1.07 **
Social Security Contributions' group 2		0.23 *	-0.95 *
Social Security Contributions' group 1 (highest)		-0.15	-0.92 *
Occupational seniority in the firm		0.07 ***	0.02
Service sector's employee ^c		0.76 ***	1.51 ***
Education and Health sector's employee		1.83 ***	2.99 ***
Firm size: 11-49 employees ^d		0.74 ***	0.15
50-499 employees		1.97 ***	1.26 ***
> 500 employees		2.82 ***	1.89 ***
Autonomous Community with parental leave benefits ^e	1.53 ***	1.77 ***	1.32 ***
Constant	-29.68 ***	-26.04 ***	-21.18 ***
Standard deviation of ϵ	3.89 ***	3.67 ***	3.67

* Significant at $p \leq 0,10$; ** $p \leq 0,05$; *** $p \leq 0,001$.

References categories: ^a unfinished compulsory school; ^b Social Security Contributions' group 5 (lowest); ^c other activities sector's employee; ^d Small firm size (less than 10 employees); ^e Autonomous Communities without any parental leave allowance.

Results of Event History Analysis: duration of leave	Mothers and Father		Fathers
	Model 1	Model 2	Model 3
Duration: from 0 to 6 months	0.13 ***	0.14 ***	-0.03
from 6 to 12 months	0.20 ***	0.20 ***	0.19 ***
more than 12 months	0.01 ***	0.01 ***	0.02
Gender (male)	1.06 ***	0.86 ***	
Age >32	-0.25 ***	-0.24 ***	0.17
Primary School ^a	-0.08	-0.07	0.60
Secondary School	0.43 ***	0.23 **	0.44
Tertiary School	0.58 ***	0.22 *	1.02
Multiple birth	-0.24 *	-0.23	
Other adults (third generation)	0.26 **	0.25 **	
Other children under 5 years old	-0.21 ***	-0.20 ***	0.03
Foreigner		-0.10	-0.09
Part time contract		-0.38 ***	
Temporary contract		0.27 ***	0.82
Civil servant		0.00	-0.14
Social Security Contributions' group 4 ^b		0.09	-0.53
Social Security Contributions' group 3		-0.07	-0.58
Social Security Contributions' group 2		0.12	-0.34
Social Security Contributions' group 1 (highest)		0.56 ***	-0.09
Service sector's employee ^c		0.15 **	0.26
Education and Health sector's employee		0.27 ***	0.61
Firm size: 11-49 employees ^d		-0.08	0.31
50-499 employees		-0.04	0.32
> 500 employees		-0.21 **	-0.14
Autonomous Community with parental leave benefits ^e	-0.56 ***	-0.55 ***	-0.29
Constant	-2.50 ***	-2.90 ***	-4.85 ***
Standard deviation of δ	1.34 ***	1.28 ***	1.28
Correlation between ε and δ	-0.41 ***	-0.34 ***	0.50
Ln-L (log likelihood)	-59919.56	-58486.08	-2437.70

* Significant at $p \leq 0,10$; ** $p \leq 0,05$; *** $p \leq 0,001$.

References categories: ^a unfinished compulsory school; ^b Social Security Contributions' group 5 (lowest); ^c other activities sector's employee; ^d Small firm size (less than 10 employees); ^e Autonomous Communities without any parental leave allowance.

Note: missing values of some variables (educational attainment, firm size, Social Security Contribution's group and type of contract) have been included in a separate category in order to avoid potential bias problems. These coefficients are not included in the table for the sake of space. Missing values are not a large significant group.

Source: SWLH, 2006.

The effect of the level of education is clearly both positive and significant in Model 1. As a person's level of education increases so does the odds of parental leave taking. For example, those with a primary education have a relative risk of 2.2 times more than those who did not finish the period of compulsory education, and those with a university education have a relative risk of 3.5 (e.g. $\exp 1.25=3.5$). In principle, this result is not compatible with Hypothesis 1 (*opportunity costs*), which supposes that there exists lower incentives for the better educated to make use of leaves, owing to the fact that the potential opportunity costs are higher for them. Nevertheless, according to different authors (Gustafsson et al, 1996; Gutierrez-Domènech, 2005; Pronzato, 2007), the effect of education tends to be weak in countries that offer generous leaves of absence, and acquires greater importance in countries like Spain, Greece, or Italy where wage

compensation is practically non-existent. This result would appear to indicate that, apart from the opportunity costs, the level of education reflects the individual's economic capacity to pay for a period of parental leave.

It should be stated, nevertheless, that the effects of education are very much diminished in Model 2 when one adds different variables concerning the labour situation and the work place. On the contrary, in Model 3 where we have only included the male population, the effect of the level of education increases (for example men with a higher education have a relative risk 7.2 times greater than those with primary education). Probably, the above indicated effects concerning opportunity costs have been more than compensated by the more positive attitudes towards gender equality prevalent among the better educated. Moreover, the latter would be more able to behave in a manner less in accordance with the prevailing social norms. Additionally, the high degree of educational homogamy in Spanish couples (González, 2002) should mean greater female power of negotiation in the better educated couples, which should result in men deciding to utilise the paternal leaves to a greater degree.

Hypothesis 3 (*regional context*), which concerns the existence of different policies that provide economic incentives for parental leaves in different Autonomous Communities, has been fully confirmed by the results obtained. In the three models analysed the category that includes residence in a region with its own policies (Navarre, Castile and León, La Rioja, the Basque Country, and Castile La Mancha) is clearly positive and important (e. g. 1.77 in Model 2).

In the three models studied we have used different variables referring to the household of the observed individual. The results obtained are in accordance to that which one might expect in the case of the variables, 'multiple birth' and the 'cohabitation of other adults' in the household besides the members of the couple (grandparents, brothers etc.). In the first case, the positive coefficient can be attributed to the greater need for care; and for the second variable the negative result could be related to the possibility that the other adults present in the household take part in looking after the child so that the need to take a parental leave is reduced. On the contrary, the negative coefficients obtained in the three models for the households in which there existed the 'presence of other children of less than 5 years of age', besides the child that was the cause of the parental leave, goes against the explanation that the greater the number of children to look after, the greater the need for a parental leave. Nevertheless, the negative coefficients obtained could be explained by the fact that the behaviour of those employees with two or more children and still present in the labour market are selected by their greater work attachment for which reason they seek leaves of absence less frequently than in the case of those who take a parental leave at the birth of the first child.

An explanation related to this last argument could also be valid in the case of the important positive coefficients belonging to the category of the 'part-time' working day. Indeed, those persons, who were on a reduced working day just before having a child, were already showing their preference for dedicating themselves to the latter with a consequent reduction in labour involvement and less possibilities of promotion in the company. From this it is perfectly coherent that these persons seek leaves of absence to a greater degree than those in full-time employment.

Compared to persons of Spanish nationality, the consequence of belonging to the 'foreigner' category displays a very significant negative coefficient in Model 1: -1.32

(corresponding to a relative risk of 73% inferior to the non foreigners). On the contrary, this coefficient is not significant once we introduce the variables relative to their labour situation into Model 2. These results would suggest that the negative coefficient obtained in Model 1 is due to the fact that foreigners are overrepresented in the less protected labour categories (temporary contracts, private sector employees), which represent categories that have very clear negative effects on access to parental leave, and are in turn underrepresented among education and health sector workers who show higher odds to take a parental leave.

Hypothesis 4 concerning the power of *negotiation in the workplace* has been evaluated empirically by the variables 'firm size', the statute of 'civil servant' (compared to non-civil servants), and 'temporary' contracts (compared to other kinds of contracts: essentially stable contracts). These indicators show statistically significant results completely in accordance with our hypothesis. In this sense Model 2 shows increasing coefficients when the numbers of employees increase: from 11-49 employees the coefficient is 0.74, from 50-499 employees it is 1.97, and in workplaces of 500 and more employees it is 2.82 (the reference category is 1-10 employees). The coefficient of the category 'civil servant' is 0.78 and the corresponding for the category 'temporary' contracts is -1.44 again according to Model 2.

In Models 2 and 3 we have used a variable that come close to the occupational category and to the salary level of the individual: the Social Security contribution classes. The coefficients obtained in Model 2 do not show a defined pattern.⁴ Nevertheless, in Model 3, which only include men, the results are what we would expect (Hypothesis 1 and 2): the higher the occupational category the more drastically the coefficients are reduced. These results would suggest that the opportunity costs associated with taking a parental leave are only relevant in the case of men. This result is confirmed by other studies such as in the Swedish case (Sundström and Duvander, 2002) where a woman's income had less of an impact than that of the man. On the other hand, the variable 'work seniority in the company', which is presumably related to the worker's accumulated human capital, produces a coefficient whose positive value (0.07 per contribution year) appears to contradict Hypothesis 1 (*opportunity costs*). This coefficient is, nevertheless, in accordance with that foreseen in Hypothesis 4 (*power of negotiation in the workplace*), whereby greater work seniority is often associated with greater stability, greater human capital, and greater guarantee of the work position, thereby giving greater power of negotiation to the worker to take a parental leave.

As above mentioned, the coefficients of the economic sectors 'health and education' and 'other services' show a positive sign and are very significant indeed. In the first case the coefficient is 1.83 (equivalent to relative risk 6.2 times that of the economic reference sectors: primary sector and industry). As was said in the outline of Hypothesis 4, work conditions favourable to the granting of parental leaves are often to be found in these sectors. Moreover, owing to the fact that these sectors have a high proportion of female employees, many firms have probably institutionalised to a greater degree policies concerning the work-family life balance.

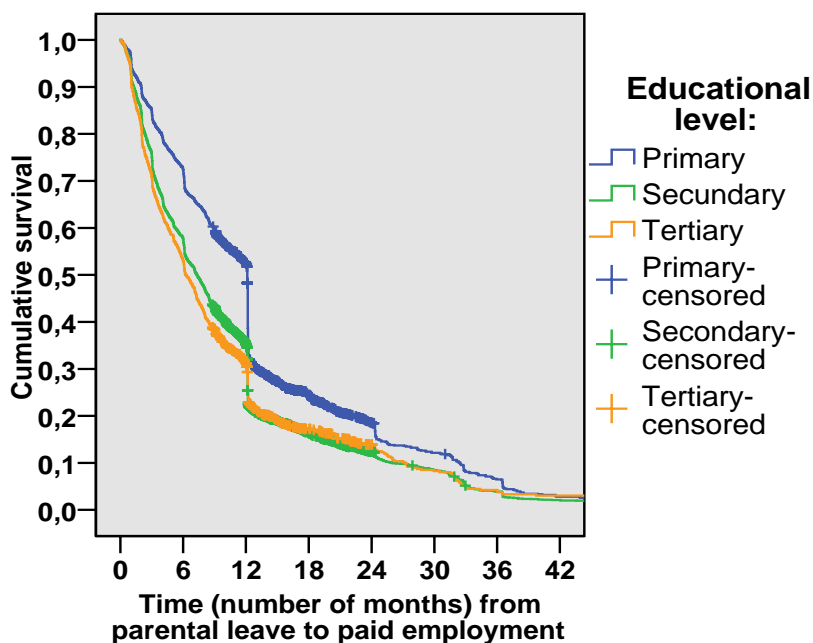
⁴ Similar results are shown if we take the variable 'level of education' away from the model, which presumably is very much related to income level (these results are not shown).

B. What factors affect the length of the leaves of absence?

Prior to the multivariate analysis we will present a brief description of the length of the leaves of absence. For this we have used the Kaplan-Meier method (survival analysis) which allows us to calculate the elapsed time from the beginning of the parental leave until the return to work. This method allows taking into account cases that at the moment of observation the users are still on parental leave (right censored cases). In our case 1,032 (14.8%) of the 6,959 parental leaves had not finished.

In Figure 2 we can see the differences in the duration of the leaves, measured in months, according to the individual's level of education. The result of the "long-rank" test shows how the survival lines differ significantly according to this variable. One of the most notable elements in the figure is the pronounced slope in the three survival lines in the pre-12 month period, which would indicate that a good part of those who returned to work, especially in the case of those with second level or higher education, did so within the space of a year. The lines indicate that the greater the level of education, the shorter the duration of the parental leaves. This remains a stable relationship for the first 12 months, but which from this moment on undergoes a slight distortion as there no longer exist differences between the lengths of those with a secondary level of education or those with a higher level. Nevertheless, there continues to exist an appreciable difference in regard to those with a primary level of education, which reflects the fact that the workers belonging to this class take the longest career breaks.

Figure 2. Survival functions that estimate the time elapsed (in months) from the beginning of the parental leave until the point of return to employment according to their level of education. Spain: 1989-2007.



Source: SWLH, 2006.

One should also note that the three survival lines show a very pronounced drop at the 12 month mark, a characteristic that is even more noticeable in the case of workers with a primary level of education. The reason behind this is related to the legal guarantee of the job position in the first year for those who take a parental leave in Spain. The figure also shows that approximately 97% of the lengths of the leaves of absence conform to the maximum allowed period stipulated by law, regulated at 3 years from the child's date of birth, as we have already stated above.

The results of the multivariate analysis corresponding to the duration from the beginning of the parental leave to the return to work can be seen in the second part of Table 3 (Panel b). In this analysis a negative coefficient for a given variable indicates that this had the effect of extending the length of the parental leave whereas a positive coefficient indicates that the effect of this variable implied an earlier return to work. As will be seen later, those variables that implied a greater tendency to take a parental leave did not always have the effect of extending its length (or viceversa). This circumstance therefore makes it advisable to carry out differentiated analysis of the use and length dimensions.

In Model 1 it can be seen that men took shorter leaves of absence (coefficients equivalent to 1.06)⁵. This corroborates our Hypothesis 2 (based in the *socialisation of gender*) whereby given on the one hand that the utilisation by men of parental leaves of absence runs counter to the prevailing social norms, these should minimise the time devoted to them, and on the other hand, opportunity costs are particularly important for them, which should result in the reduction of the duration of leave. Furthermore, once we include several variables concerning the workplace, and particularly the level of social security contribution (a proxy for level of wage), the coefficient for men reverses its sign, showing that these variables are responsible for the shorter durations of leave. In these models we can also see that the effect of age ("over 32" compared to those "under 32") acts in the sense of increasing the duration of the parental leaves, maybe owing to their more stable working careers and the greater work experience of older people.

The results dealing with the effect of the individual's level of education are exactly as one would expect in Hypothesis 1 (*opportunity costs*), given that the greater the level of education that the person has, the more likely they are to return quickly to work. Thus, in Model 1 those persons with a university education have a relative risk of 1.8 times greater than someone who did not finish their compulsory education ($\exp 0.58 = 1.8$), even though this effect is diminished considerably once we introduce variables relative to the workplace in Model 2. Consequently, as the level of education increases, greater use is made of parental leaves, as has been seen above, but the amount of time devoted to these shortens. In Model 3 it is seen that the shortening of the length of the parental leaves for men is even more pronounced (even though the results are not significant, although it should be taken into account that this was a sample of only 214 men, so that these coefficients should be treated with caution), in accordance with Hypothesis 2 (*socialisation of gender*) whereby opportunity costs for men play an even greater role.

The hypothesis concerning the impact of the regional context on the length of the leaves of absence has been confirmed by the results obtained, even more clearly than in terms of their use. The place of residence (the Autonomous Communities) has the effect of

⁵ Univariate results also show that men take shorter parental leaves.

extending the length of parental leaves to an important degree in accordance with the financial support that the claimants receive in these regions.

The variables relative to the household of the observed individual offer the expected results. Thus, the presence of other 'children under 5 years of age' in the home or the circumstances of a 'multiple birth' imply the need to extend the parental leave, given the extra childcare responsibilities in such a situation. On the other hand, the presence of other adults in the home besides the child's parents has the effect of reducing the period of the parental leave.

The variables that indicate the worker's power of negotiation in the workplace provide results in accordance with Hypothesis 4 in the case of the type of contract (a "temporary" contract means that the length of a parental leave is reduced by 31%), and the number of workers in the workplace (in workplaces of more than 500 workers, leaves of absence are 19% longer than in workplaces with less than 10 workers). Nevertheless, when dealing with "civil servants" the results are not significant, contrary to our hypothesis. This might be due to the fact that civil servants avoid excessively long periods of leaves with the aim of assuring their return to the same work position which they had before the birth of the child (in particular, they avoid parental leaves of more than one year, given that this would involve their return to a different work position of an equivalent category). In the same way, workers in the service sector, especially health and education, return to employment quicker than those who work in other sectors (agriculture and industry), possibly due to the better conditions that permit the harmonisation of work and family life in this sector.

In the same way as for the level of education, the variable closest to the occupational category (social security contributions' group) demonstrates results basically in accordance with Hypothesis 1 whereby the higher the occupational category, the greater the opportunity costs will be if the individual remains on parental leave (given that they are unpaid), and consequently the lengths of the parental leaves become shorter. It needs to be underlined that the results are only significant for the highest contributory class (Model 2) and that the results are not significant for Model 3. Lastly, the effect of working "part-time" clearly means extending the length of the parental leave in accordance with the idea that one is dealing with individuals who are trying to maximise the time spent directly on childcare.

6. Conclusions: who stays at home to look after the children and who works

The empirical question that we answer in this paper is the impact of parental leaves of absence on Spanish society, given that up until now little has been known due to the absence of micro-data. In the first place, this study shows that a still significant part of the female population does not form part of the labour market during the first few years of maternity as a result of which they are totally excluded from the use of parental leaves, in accordance with Spanish law. Put another way, a proportion of the potential users, which probably coincides with the most vulnerable employees, leave the labour market either during pregnancy or just before giving birth. In reality, only 48% of Spanish women with children of less than 3 years of age have a right to a parental leave in 2006. This fact in itself is an indicator of the inadequacy of the current parental leaves system, generous in terms of time but scarce in financial assistance, to maintain

women in the work market. With the exception of some Autonomous Communities who offer some financial assistance, the use of parental leaves is only effectively accessible to very few workers.

In the second place, the use made of parental leaves is very limited, given that only 1.2% of the workers with children under three years old exercises this right. This fact reinforces the previously outlined argument regarding the limited capacity of parents to gain access to the use of parental leaves in spite of the great difficulties that exist to balance employment and childcare in Spain. From this we can conclude that the Spanish parental leave system is not efficient in terms of keeping women in the job market nor in terms of allowing for the harmonisation of work and family responsibilities, and even less still in terms of reducing the existing gender gap in childcare.

The next question dealt with in this paper refers to the factors that affect the use of parental leaves of absence. The statistical analysis shows that those most likely to use parental leaves are mainly women (only 5 of every 100 users are men), and particularly, those with a more secure position in the labour market (female full-time workers with stable contracts), and higher human capital (those having higher levels of education and higher levels of income). Those women most deeply committed to the labour market are also those who take the shortest parental leaves, whereas women with lower levels of education or lower work categories tend to spend more time on parental leave.

Overall, the present design of Spanish parental leaves does not succeed in promoting the objectives that justifies the need for this resource: gender equality, social equality, and the child's welfare in the first few years of life. Rather on the contrary, it aggravates gender inequalities by reaffirming the role of women in the field of childcare and perpetuates social inequalities by promoting family-working life balance only for those who already had an advantageous position in the job market. As a consequence, the current parental leave rights does not make it easier for the majority of Spanish families to devote attention to the under three years old. A situation that is, moreover, made worse by the lack of childcare services. In 2006-07, only 18% of children under three years old were in day-care centres and preschool education (MEC, 2007).

7. References.

Alwin, D. F. (1991) 'Changes in family roles and gender differences in parental socialization values', in N. Cahill (ed) *Sociological Studies of Childhood*, Vol. 4. Greenwich: JAI Press.

Baizán, P. and González, M. J. (2007) '¿Las escuelas infantiles son la solución? El efecto de la disponibilidad de escuelas infantiles (0-3 años) en el comportamiento laboral femenino', in V. Navarro (ed) *La Situación Social en España*, Vol. 2. Madrid: Biblioteca Nueva.

Baizán, P. (2007) 'The impact of labour market status on second and higher-order births. A comparative analysis based on the European Community Household Panel', in G. Esping-Andersen (ed) *Family Formation and Family Dilemmas in Contemporary Europe*. Madrid: Fundación BBVA.

- Becker, G. S. (1991) *A Treatise on the Family*. Cambridge, MA: Harvard University Press.
- Blau, F.D., Ferber, M. A. and Winker, A. E. (2001) *The Economics of Women, Men and Work*. Upper Saddle River, NJ: Prentice Hall.
- Blossfeldt, H.P. and Rohwer, G. (2002), *Techniques of Event History Modeling: New Approaches to Causal Analysis*. 2nd Edition, London and Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Bygren, M. and Duvander, A. (2006) 'Parents' Workplace Situation and Fathers' Parental Leave Use', *Journal of Marriage and Family* 68 (2): 363-372.
- Crompton, R (2006) *Employment and the family. The reconfiguration of work and family life in contemporary societies*. Cambridge: Cambridge University Press.
- Del Boca, D. and Pascua, S. (2005) 'Social policies and employment of married women in Europe', *CHILD's Working Paper* 19, Torino: Centre for Household, Income, Labour and Demographic Economics.
- Duncan, S. and Edwards, R. (1999) *Lone Mothers, Paid Work and Gendered Moral Rationalities*. London: Macmillan.
- Ermisch, J. F. (2003) *An economic analysis of the family*. Princeton: Princeton University Press.
- Fuwa, M. (2004) 'Macro-level gender inequality and the division of household in 22 countries', *American Sociological Review* 69 (6): 751-767.
- Fuwa, M. and Cohen, P. N. (2007) 'Housework and Social Policies', *Social Science Research* 36 (2): 512-530.
- González, M. J. (2002) 'Partnership formation in the context of women's growing educational attainment', in H. P. Blossfeld (ed) *The educational system as a marriage market. A longitudinal analysis of marriage decisions in the life course*. Oxford: Oxford University Press.
- Gustafson, S. S., Dex, S., Wetzels, C. and Vlasblom, J. D. (1996) 'Women's labor force transitions in connection with childbirth: A panel data comparison between Germany, Sweden and Great Britain', *Journal of Population Economics* 9(3): 223-246.
- Gutiérrez-Domènech, M. (2005) 'Employment after motherhood: a European comparison', *Labour Economics* 12 (1): 99-123.
- Hakim, C. (2000) *Work-Lifestyle Choices in the 21st Century*, Oxford: Oxford University Press.
- Joshi, H. (1998) 'The opportunity costs of childbearing: More than mothers' business', *Journal of Population Economics* 11 (2): 161-183.

Kroska, A. (2004) 'Division of domestic works: revising and expanding the theoretical explanations', *Journal of Family Issues* 25 (7): 900-932.

Lappegard, T. (2008), 'Changing the Gender Balance in Caring: Fatherhood and the Division of Parental Leave in Norway', *Population Research and Policy Review* 27 (2): 139-159.

Lillard, L.A. and Panis, C. W. A. (2000) *aML Multilevel Multiprocess Statistical Software, Release 1.0*. Los Angeles: EconWare.

Lundberg, S. and Pollack, R. A. (1993) 'Separate Spheres Bargaining and the Marriage Market', *Journal of Political Economy* 101 (6): 988-1010.

MEC (2007) *Datos Avance del curso 2006-2007: Estadística de las Enseñanzas no universitarias*. Madrid: Ministry of Education and Culture. Accessed May 2008 at: [<http://www.mepsyd.es/mecd/estadisticas/index.html>].

Moss, P. y O'Brian, M. (2006) (eds.) International Review of Leave Policies and Related Research, *Employment Relations Research Series* n° 57, London: Department of Trade and Industry. Accessed February 2008 at: [<http://www.berr.gov.uk/files/file31948.pdf>].

Pfau-Effinger, B. (1998) 'Gender Cultures and the Gender Arrangements – A Theoretical Framework for Cross National Gender Research', *Innovation* 11(2): 147-166.

Pronzato, C. D. (2007) 'Return to work after Childbirth: Does parental leave matters in Europe?', *Institute for Social & Economic Research Working Paper Series* n° 30, Colchester: Economic & Social Research Council. Accessed January 2008 at: [<http://www.iser.essex.ac.uk/pubs/workpaps/pdf/2007-30.pdf>].

Shelton, B. A. and John, D. (1996) 'The Division of Household Labor', *Annual Review of Sociology* 22: 299-322.

Sundström, M. and Duvander, A. (2002) 'Gender Division of Childcare and the Sharing of Parental Leave among New Parents in Sweden', *European Sociological Review* 18 (4): 433-447.