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The impact of labour market status on second and higher-order births. A comparative study of Denmark, Italy, Spain and United Kingdom

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## Abstract

This paper investigates the effects of women's labour force participation on fertility, as well as the effects of the combined labour force participation of both members of a couple. It specifically focuses on such dimensions as unemployment, earnings, temporary contracts and part-time jobs, and it shows that their effects differ in accordance with national institutions and labour market regulations.

Event-history methods and a longitudinal sample of the European Community Household Panel are used in the analyses, concerning the years 1993-2000.

The results show that labour market insecurity of one or both members of a couple has a particularly strong impact in reducing birth rates in the Southern European countries studied. The more conventional model of men's employment combined with housewifery has a positive impact on second or higher order births in United Kingdom, Spain and Italy, while in Denmark the effect is the opposite. These differences are consistent with different national models of combining parental responsibilities and participation by gender across the life course.

## Keywords

Fertility, women's labour market participation, labour market, welfare state, social policy.

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## 1. Introduction

Low fertility and its interrelationship with labour force participation of women has been identified as one of the major challenges of post industrial societies (Esping-Andersen, 1999; McDonald, 2000). Yet, the relationship between these two variables is complex, since it encompasses central dimensions in the lives of individuals and of societies. Although there generally exists a negative relationship between fertility and women's employment at the individual level, there are important variations across countries. For instance, in several Nordic countries this relationship has been found to be positive, while the Mediterranean countries seem to be at the other end of the spectrum (e.g. Andersson, 2000; Symeonidou, 2000). Furthermore, the impact of labour force participation on fertility is likely to have changed considerably in the last few decades, as several macro level studies suggest<sup>1</sup>.

The approach adopted in this paper to analyse the impact of labour force status on fertility at the micro level highlights the importance of specific national contexts in shaping that relationship, and particularly tries to disentangle the role of labour market institutions. It is argued that the impact of such variables like unemployment, part-time jobs, or temporary employment, crucially depend on specific configuration of institutions existing in each country. This paper offers significant advances over past research because it considers the labour force characteristics of both couples rather than only examining the labour force characteristics of women alone. Such an analysis is important because it is precisely in the way men and women combine their paid and unpaid work and their childcare responsibilities that the role of institutions is likely to manifest itself in a concrete way. In fact, most theoretical analyses emphasise that the fertility and labour force decisions of both members of a couple are closely related, but only a few empirical studies have approached that issue (Corijn et al., 1996; Andersson et al., 2004).

In order to conduct meaningful analyses, it is important to distinguish between different stages of the family building processes. Many variables have been shown to act in a different way or with differing strength on second and higher order births with respect to first births (e.g. Kravdal, 2001). If the intensity, and especially the timing, of first births are closely related to the advancement of the young adult in several life course trajectories, such as education, labour market integration, and partnership formation (Corijn and Klijzing, 2001), the study of higher parity fertility needs to consider the combined labour force status and income associated with each member of the couple. When studying the interaction between the family domain and the labour force, the articulation of paid and unpaid just after first birth, or around the time of first birth, offers a crucial point for analysis. This is so because the constraints associated to parenthood are likely to show-up in a concrete way for the parents when the first child has already been born, often implying a rearrangement of paid and unpaid work between the partners. The key role of couples' behaviour prompted us to restrict the

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<sup>1</sup> Several studies analyse the change in the relationship between labour force participation and fertility at the aggregate level that took place in the late 1980s in the OECD countries (Engelhart and Prskawetz, 2004; Anh and Mira, 2002).

population studied here to women living in a couple (married or unmarried). This focus on couples is also determined by the fact that the effect of most variables strongly differs between women living with a partner and women not living with a partner, and because the probabilities of giving birth outside a union is very low in most European countries, especially after first birth.

When studying the impact of labour force status on fertility, the greater the detail in the analysis of the labour force status, the more it will be possible to link each effect with the existing organization of institutions. Here, several dimensions of labour market status are studied, such as the effects of unemployment, temporary contracts, part-time, and public/private sector employment, which are seldom included in the analyses. For instance, only a few studies distinguish students from those who are unemployed or non-working mothers. Holding a temporary contract, or a part-time job, or employment in the public sector may prove crucial in some particular labour markets. Furthermore, the individual-level and couple-level impact of these variables are likely to be specific to each welfare regime or even to each labour market setting. In this paper an internationally comparative perspective has been adopted that allows for an examination of the link between, in the one hand, labour market institutions and arrangements, and in the other, fertility outcomes. Each of the countries studied, Denmark, Italy, Spain and United Kingdom, is therefore a unit of study, where social institutions and process are assumed to vary systematically, and the explanations are found in the context of the respective society. The choice of the countries to study was guided by the aim to include countries where labour force participation and childcare are organized in different ways, and where the importance of the market, the state and the family differ as much as possible. The countries included have also been classified as belonging to different welfare state regimes (Esping-Andersen, 1990): the social-democratic (Denmark), liberal (United Kingdom) and conservative (Italy and Spain). These last two countries, Italy and Spain, share many institutional and cultural characteristics; however, they differ in the way, and specially in the tempo (1980s in Spain versus 1990s in Italy), of their selective flexibilisation of their labour markets, which makes them interesting cases to compare.

In demographic terms the countries studied also show important differences. Denmark and United Kingdom experienced in the last two decades fertility levels substantially higher than Italy and Spain (Tables 1 and 2). In the one hand, these differences in period fertility, as well as in cohort fertility, mostly reflect the extent to which women have second and higher order births (Lesthaeghe, 2001). And in the other hand, the four countries chosen share with most other West European countries the general increase in the age at first birth, albeit United Kingdom still remains an exception in that a sizeable group of women show an early pattern of entry into parenthood. Here one should note that the age at birth of the first child and completed fertility are related, at individual level as well as at aggregate level. For instance, Kohler et al. (2002) indicate that for Italy and Spain this postponement effect implies a reduction of completed fertility comprised between 2.9 and 5.1 percent for each one-year delay in the onset of motherhood. However, this postponement effect seems to be much smaller for other European countries, that is, women “catch-up” their fertility after the age of 30 to a greater extent in Northern European countries (Lesthaeghe, 2001; Kohler et al., 2002). Furthermore, the proportion of women with only one child at the end of their

reproductive period and the proportion of one-child births in the total number of children born are particularly high in Italy, and are also increasing in Spain. This observation points to the relevance of the transition to second births, and to a lesser extent third births, in the explanation of differentials in the level of fertility in Europe.

Finally, the inclusion of these countries in a common data source -the European Community Household Panel- and some other practical issues, such as the participation of the country during the whole duration of the panel (1994-2001), or the availability of a sufficient number of events to conduct statistical analyses with confidence, were also important in selecting the countries for the analyses.

**Table 1. Total *period* fertility rate and average age at first birth**

	Denmark		Italy		Spain		United Kingdom	
Year	1990	2000	1990	1995	1990	2000	1990	2000
Total fertility rate	<i>1.67</i>	<i>1.76</i>	<i>1.36</i>	<i>1.23</i>	<i>1.36</i>	<i>1.29</i>	<i>1.83</i>	<i>1.71</i>
Average age at first birth	<i>26.4</i>	<i>27.8</i>	<i>26.5</i>	<i>28.7</i>	<i>26.5</i>	<i>29.2</i>	<i>25.5</i>	<i>26.9</i>

Source: Council of Europe, 1998 and 2004.

**Table 2. Total *birth-cohort* fertility rate and average age at childbearing**

	Denmark		Italy		Spain		United Kingdom	
Birth-cohort	1955	1965	1955	1965	1955	1965	1955	1965
Total fertility rate	<i>1,84</i>	<i>1,92</i>	<i>1,80</i>	<i>1,49</i>	<i>1,90</i>	<i>1,59</i>	<i>2,02</i>	<i>1,87</i>
Average age at childbearing	<i>27,3</i>	<i>29,1</i>	<i>27,1</i>	<i>29,1</i>	<i>27,1</i>	<i>29,0</i>	<i>27,2</i>	<i>28,2</i>

Source: Frejka and Sardon, 2004.

The remaining of the paper is structured as follows. It starts with a brief account of some theoretical tools that have been used in building the models (section 2). In section three it provides some information about the database used, the European Community Household Panel, sample selection and the construction of variables. In section four it describes the event-history technique employed and the models used to test for the impact of labour force participation on fertility. In the following section the results

obtained in the analyses are presented and discussed, and the paper ends with some concluding remarks.

## **2. Labour market regulations and fertility: theory and hypotheses**

Life course research focuses on the mutual impact of parallel trajectories of individuals and on how social influences at the macro level shape those interrelationships (Giele and Elder, 1998; Liefbroer, 1999). Therefore, a first aspect to explore is the idea that institutional settings establish a set of opportunities and constraints to which individuals respond in their fertility behaviour (Esping-Andersen, 1990 and 1999; Mayer, 2001). At the heart of the discussion on the impact of labour force status on fertility lies the degree of compatibility between the role of mother (and father) and the role of worker, and its international differences. Critical in that respect are the social organization of work and of childcare, which have been considered to lead to variations in the degree of conflict between the mother and the worker roles across advanced industrial economies (Rindfuss and Brewster, 1996). In different countries (or welfare state regimes) the family, the state and the market have a different degree of responsibility in providing child-care, and the labour market is regulated according to different models of participation during the period around childbirth and when low age children are present in the household. The gender relations prevailing in a society are intimately linked to the organization of these dimensions, which influence such variables as the acceptability of combining paid work for mothers with low age children or the involvement of men in childcare and housework (Leira, 1992; Hakim, 1999). For instance, Pfau-Effinger (1994) has proposed five ideal-typical family models with respect to cultural values on women's employment and involvement in child care work in Western Europe: the family economy model, the housewife model of the (male) breadwinner family, the (female) part-time carer model, the dual breadwinner/state care model, and the dual breadwinner/dual carer model. In the long-run, these cultural dimensions have certainly contributed to shape institutional frameworks at the societal level (Mayer, 2001). However, although these dimensions can be considered interrelated, inconsistencies may arise between the cultural system and the institutions existing in a given period of time, leading to conflict (Archer, 1995). Increasingly prevalent family models with more emphasis on gender equality and more similar roles for men and women, if not supported by the existing institutions, may involve lower labour market participation of women, or lower fertility (or both), than otherwise. Here, I will place the analysis in the medium term, and consider institutional arrangements mainly as exogenous. From that perspective, the prevalence in each country of such indicators as the women's labour force participation rate and dual-earner couples, part-time employment, and even indicators of a precarious or weak involvement in the labour market (since their prevalence differ between men and women), can be considered to reflect different models of the articulation of participation and care during the period around childbirth and when low age children are present in the household. These indicators show ample differences in each of the countries studied (Tables 3 and 4), as will be discussed below. Furthermore, the effect on fertility of each labour market situation is expected to differ

in each of the countries because social institutions organise work and childcare in different ways.

**Table 3a. Employment/population ratios, activity and unemployment. Women. Age: 15-24 (16-24 in Spain and United Kingdom)**

	Denmark *		Italy		Spain		United Kingdom	
Year	1990	2000	1990	2000	1990	2000	1990	2000
Unemployment	<i>11.6</i>	<i>7.0</i>	<i>37.8</i>	<i>35.4</i>	<i>39.7</i>	<i>32.9</i>	<i>9.0</i>	<i>10.1</i>
Labour force participation rates	<i>70.4</i>	<i>68.8</i>	<i>40.8</i>	<i>34.3</i>	<i>47.7</i>	<i>43.3</i>	<i>72.4</i>	<i>65.6</i>
Employment/population ratios	<i>62.2</i>	<i>64.4</i>	<i>25.4</i>	<i>22.1</i>	<i>28.7</i>	<i>29.0</i>	<i>65.9</i>	<i>58.9</i>

\* Break in series.

**Table 3b. Employment/population ratios, activity and unemployment. Women (percentages). Age: 25-54**

	Denmark *		Italy		Spain		United Kingdom	
Year	1990	2000	1990	2000	1990	2000	1990	2000
Unemployment	<i>8.4</i>	<i>4.7</i>	<i>12.8</i>	<i>12.1</i>	<i>21.0</i>	<i>18.9</i>	<i>6.0</i>	<i>4.0</i>
Labour force participation rates	<i>87.8</i>	<i>84.3</i>	<i>53.9</i>	<i>57.9</i>	<i>46.9</i>	<i>62.8</i>	<i>73.0</i>	<i>76.1</i>
Employment/population ratios	<i>80.3</i>	<i>80.4</i>	<i>47.1</i>	<i>50.9</i>	<i>37.1</i>	<i>51.0</i>	<i>68.6</i>	<i>73.1</i>

\* Break in series

Source: OECD Employment Outlook 2004.

**Table 4. Share of temporary employment in total dependent employment, 2000.**

	<i>Sex</i>		<i>Age group</i>		
	<i>Women</i>	<i>Men</i>	<i>15-24</i>	<i>25-54</i>	<i>55+</i>
Denmark	11,7	8,8	30,6	6,5	5,1
Italy	12,2	8,8	14,7	5,4	5,5
Spain	34,6	30,6	67,4	25,2	11,8
United Kingdom	7,7	5,9	12,0	4,9	5,8

Source: OECD, 2002, p. 138

In order to analyse through which mechanisms particular labour market institutions affect fertility it is useful to refer to (micro-)economic theories dealing with the decisions of labour force participation and fertility. In a nutshell, standard textbooks make them dependant of such factors as market prices and wages, the attitudes of individuals concerning fertility and participation, and maternal time costs over the life course. However, many empirical quantitative studies essentially focus on the interplay of two main mechanisms, the "income effect", and the mother's "price-of-time" (reviews of the theoretical literature can be found in Hotz, Klerman and Willis, 1997, and Ermisch, 2003). Men's income and labour market prospects are assumed to have positive effect on the demand for children, since husbands are not usually involved in childcare activities<sup>2</sup>. Moreover, men's income and involvement in paid work may be even intensified with the presence of children in the household. The resulting sign of the effect for mothers is less clear since it depends on which of the mentioned effects dominates. According to Becker's (1981) ideas about optimal division of labour within the household, maternal time costs lead to a retreat of wives from the labour market. Household expected lifetime utility is maximized either by deferring the onset of motherhood or by limiting the period of childrearing out of the labour market.

In addition to women's own human capital considerations, several studies have emphasized that the cultural and institutional setting will influence couple's decisions about childbearing and participation (Gustafsson, 2001; Del Boca, 2002). The above mechanisms of maternal time costs and of couple's income are to large extent dependent on the economic incentives for those choices existent in a society<sup>3</sup>. Social policies will influence the feasibility of the crucial issue of the combination of work and family after the first child is born, through arrangements concerning, e.g. maternity and parental leave, and provision of childcare. Policies also fundamentally shape labour market institutions and regulations, as well as the general levels of employment, leading to spatial and temporal variation in the returns to education and the degree of uncertainty. As a general hypothesis it can be stated that where the incompatibility

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<sup>2</sup> This assumption does not take into consideration the increase in father's involvement in childcare that has taken place in several countries in recent decades (Gauthier et al. 2004).

<sup>3</sup> Cultural factors also influence the response to economic incentives, through a different perception and evaluation of options available.



between employment and childrearing is less important, the price of time effects will be smaller<sup>4</sup>; and where the differences between wages of men and women are smaller, the income effect for women should be larger (Vikat, 2004). In the following paragraphs the influence of the labour market context is examined in more detail.

The most important determinants of maternal time costs are time spent outside the labour market and foregone human capital investments. The penalties of interrupting work are accumulative across the life cycle, and they include wage losses during interruptions, skills erosion, less experience, and lost of seniority. Several studies show that these effects can be huge (Joshi, 1998; Datta Gupta and Smith<sup>5</sup>, 2002). Furthermore, these effects may be compounded with active discrimination from employers to mothers and pregnant women (Azmat, 2003). A first aspect to consider is the shape of the earnings pattern across the life cycle, that induces a postponement of the onset of childbearing<sup>6</sup>. A rational woman will estimate when in her career is optimal to have a child, i.e. when the opportunity costs are lower. This will lead to form a family when she gets established in her job, in order to avoid being hampered in the advancement of her career track. Long term standard of living and income security considerations, clearly relevant to take a long term decision as having a child, will be also important, especially in labour markets in which precarity among the young and women, is widespread<sup>7</sup>. Differences according to educational level will arise, since the earnings profile of lower educated women is flatter than the profile of highly educated women, leading to stronger incentives to postpone motherhood for the highly educated<sup>8</sup>. Furthermore, highly educated women will start their activity after a longer period of school enrolment, delaying fertility. However, one can keep in mind that highly educated women and women with a strong attachment to the labour market may have several reasons to speed their transition to the second or higher order birth. These may include the desire to reduce the period outside the labour market and a higher incentive to conform to parental leave time limits, income effects from better jobs (resulting from past earnings or from higher pay during parental leave), and economies of scale on childcare costs.

A second aspect is the length of the period out of work for childrearing and the associated probability to re-enter the labour market. In this respect, the difficulties to re-enter labour market after an interruption due to childbirth differ widely across countries, according to the levels of unemployment and several labour market regulations. In addition, the time costs are by no means limited to periods out of employment or (paid) child leave, but include periods of part time work subsequent to childbirth. Part time often involves less pay per hour of work and limited opportunities for promotion. Furthermore, this type of jobs tend to contribute to segregation of women in the labour market (they are often “female” jobs), and probably also to maintain the sexual division of labour inside households. Again, part time jobs opportunities widely differ among

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<sup>4</sup> However, price of time effects could become larger for men if childcare and housework were shared more equally between men and women (or if role allocation was not based on gender).

<sup>5</sup> These last authors find moderate costs, mainly consistent in loss of human capital, for Denmark.

<sup>6</sup> In the extreme case of a woman that spends all her lifetime after her first childbirth in full-time home making, she will maximize her lifetime earnings by deferring motherhood to the biological limit.

<sup>7</sup> This concerns specially, but not exclusively, Southern European labour markets.

<sup>8</sup> Differences across countries in the earnings profiles according to educational level and the overall degree of wage dispersion are thus likely to influence this effect.

countries. Where they are easily available, this can contribute to ease the decision to temporarily leave the labour market and to facilitate re-entry after childbirth; they also contribute to keep a link with the labour market for women during the child rearing years. In 2000, the proportion of female part-time jobs in the countries studied was highly variable, from a maximum of 40.8 percent in the United Kingdom, 24.0 in Denmark and 23.4 in Italy, to only 16.5 percent in Spain (OECD, 2004). Part time jobs are thus expected to have a positive effect on childbirth, as an intermediate situation between full involvement in labour market and housewifery<sup>9</sup>.

The decision to leave the labour market to rear children is conditioned on the determinants just stated, in addition to other social policies such as parental leave regulations, income support for the families or the unemployed, and especially the provision of childcare. Among the countries analysed, it is expected that the price-of-time effect predominates in Italy, Spain and United Kingdom, given that the institutional framework imposes serious constraints to the simultaneous fulfilment of the roles of care-giver and worker. As a result of those circumstances, in these countries housewives will have higher probabilities of giving birth, with respect to employed women (and may be also compared to the unemployed, as will be discussed below), and certainly with respect to students, who are investing in human capital and usually have little resources. Furthermore, if women act primarily as caregivers the economic situation of the household and its income prospects will crucially depend on employment situation of their male partners. If men's position in the labour market is precarious, due to unemployment or a temporary job, this will create a high degree of economic uncertainty, leading to postponement of family formation (Oppenheimer, 1988). It can also be expected that in Denmark predominates the income effect over the "price-of-time" effect, since the incompatibility between participation and childrearing is the lowest among the countries investigated. Childbearing implies in this context relatively little disruption in the employment trajectory of women, as paid maternity leave is comparatively long<sup>10</sup> and formal child care is widely available at a low cost. In these circumstances, the economic situation of the household is much less dependent on the partner's labour market status and prospects than in countries where "male breadwinner" arrangements predominate. In terms of this empirical research, it is therefore expected that the interaction effects between the labour force status of couple's members will be much less relevant in explaining fertility risks in Denmark than in the other three countries.

Relatively little empirical research has been conducted on the effect of unemployment. In principle, the above "price-of-time" effect should apply, as far as the women wants to be available for work, leading to a reduction of fertility. However, unemployment reduces the opportunity costs of childbearing with respect to employed women, and thus, may be an occasion to have children. This will especially be the case if the woman receives unemployment benefits, and if the duration of entitlement is relatively long. This possibility is also to a large extent dependent on the income and employment security of the husband or partner, especially in countries where the male breadwinner

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<sup>9</sup> The *quality* of part-time jobs also differs between countries, being for instance much higher in Denmark than in Great Britain (OECD, 2004).

<sup>10</sup> In 2000, paid maternity/parental leave could be taken for up to 42 weeks, while unpaid leave lasted up to 82 weeks (OECD; 2001).

model is widely present. The opportunity costs of childbearing while unemployed may also vary according to the educational level and the associated employment prospects of a women. They can be substantial for more educated women, especially if she is trying to establish herself in the labour market, since childbearing may lead to a longer unemployment period and/or to eventually leave the labour market, while for lower educated women the costs associated to these situations should be lower. In addition, income effects should also be taken into account, as unemployment may restrict the resources available, especially in the longer run. Again, the level of unemployment and the rate of exits and entries to jobs in each particular country and the corresponding uncertainty associated to finding a job will also be relevant, as well as the alternative sources of income available, such as the duration and level of unemployment benefits and the partner's income and employment security. Finally, to complicate things further, the line between being unemployed and being outside the labour market may be very thin. Women who have the intention to have a child in the near future may declare themselves to be housewives, instead of unemployed, if childbearing leads to leave the labour market or if the attachment to the labour market of that women is weak<sup>11</sup>. Thus, for women with less attachment to the labour market, unemployment may be an occasion to leave it with lower opportunity costs. This may be related to the educational level since lower educated women have also lower opportunity costs to leave the labour market. The precise meaning of unemployment, and its expected effects on fertility, are thus related to a fairly complex set of factors, with differing weight in each country. It is therefore not surprising to find differing results concerning the role of unemployment on fertility in the existing literature.

Differences between employed individuals may also be important. As for unemployment, the prevalence and the groups of population targeted by temporary contracts widely differ in Europe (see table 4). In Spain, where the proportion of temporary contracts reached 32 percent in 2000, and to a lesser extent in Italy, where the proportion is much lower (10 percent), temporary contracts hit especially women and young people, while in the United Kingdom and Denmark the respective percentages, 12 and 20, are less concentrated in those categories (OECD, 2004). In Spain and Italy, this type of contracts were introduced in a bid to selectively flexibilise the labour market, focusing in new entrants to the labour market, while essentially leaving unaffected the protection enjoyed by other categories of workers (Saint Paul, 2000; Polavieja, 2003). Here it is expected that individuals with a temporary contract will reduce their fertility, given that, in addition to time constraints (as other employed individuals), they suffer from uncertainty in their future income, and may be also in other aspects such as their future every-day time organization, leading to a low fertility. More crucially, having an additional child may interfere their chances of obtaining a more stable employment, and more generally with getting established in a career track. As a consequence, it is expected that employed individuals with temporary or fixed-term contracts will have a particularly low level of fertility. This can be so specially in Spain, and to a lesser extent Italy, where the segmentation of the labour market is based in the distinction between temporary/stable contracts, and where obtaining a consolidated position in the labour market often involves a "toll" in terms of long periods of temporary contracts in a firm (or public administration) before being eligible

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<sup>11</sup> This may be especially the case when, as in the ECHP, the labour market situation is declared retrospectively.

for a stable contract. In those circumstances, leaving the labour market not simply involves losing income and experience, but losing a hard-won position in a “queue” for employment. Even may be the case that having a child is interpreted by the employer as a weakening of commitment to work and lead to a penalty (e.g. not renewing a temporary contract). As for unemployment, a temporary contract may be associated with lower opportunity costs to leave the labour market, with respect to women with a permanent contract. Furthermore, highly educated women may also have lower incentives to leave the labour market while holding a temporary job, not only because this often implies to lose a higher income, but also because education is more often associated to career jobs, as opposed to disconnected jobs in which experience may be less important, and to higher opportunities to eventually find a stable job. Differences among individuals in several other categories are also relevant, such as between self employed as opposed to employees, and between persons working in the public or in the private sector, since the argument concerning different levels of security in employment should also apply, due partly to very specific regulations concerning those groups in each country.

The labour force decisions taken at the time of first birth, or surrounding first birth, may heavily condition subsequent births decisions. It has been shown that in labour markets where it is difficult to re-enter and to get part-time jobs, a sharp and long lasting dichotomy is established around the time of first birth between women who decide to stay in the labour market in a full-time basis and those who withdraw from it (Adam, 1996). In Italy and Spain this situation is compounded with a short period of paid parental leave<sup>12</sup>, little economic support to families from the state and scarce and expensive child-care. Furthermore, inequality in the gender division of labour at home is among the highest of West European countries (Gauthier et al., 2004). Thus, several institutions seem to act in a “concerted” way to discourage labour force participation of woman and favouring a male breadwinner option at this stage of the life course. This may lead to important differences in child bearing risks between women outside the labour market, those already established in it (especially if they enjoy good employment conditions in terms of pay or time availability), and women still trying to access a stable position in the labour market, which should present especially low fertility.

On the contrary, in less segmented and more flexible labour markets, especially if part time work abound, temporary retreats from the labour market around the time of a birth, followed by a re-entry after a more or less short period of time, will be much less penalised. This type of sequences, often including a part-time employment and/or a temporary “male breadwinner” situation, is particularly prevalent in the United

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<sup>12</sup> In contrast, a very long *unpaid* parental leave is granted, potentially favouring the depreciation of human capital and the difficulties to re-enter the labour market. For instance, in 2000, paid maternity leave was shorter in Spain (16 weeks, paid at 100 per cent) than in Italy (up to 30 weeks, paid at 80 per cent); unpaid parental leave could be taken for up to 64.5 weeks in Italy and 165 weeks in Spain (OECD, 2001). Although potentially men had also rights concerning portions of these leaves, they seldom took them up. Note that in practice maternity/parental leave rights may be difficult to access for the unemployed or temporary job holders (in contrast to employees with a permanent contract, and especially with respect to public sector employees).

Kingdom, where again paid parental leave is very short<sup>13</sup> and formal childcare for children under five is relatively unavailable and expensive, but income support to parenthood from the state (be in the form of child benefits, tax relieves, housing benefits, or social assistance) is considerably higher than in the Mediterranean countries studied. Finally, in Denmark, the decision of having a child involve much lesser trade-offs, favouring continuous full time participation. This is so due to the existence of a flexible labour market and the possibility to take comparatively long paid parental leave, coupled with a strong support to parenthood from the state in the form of income support and especially child care. The effects of different labour market situations on the risk of childbearing should therefore be relatively minimal, or favour those women with better employment situations and income. In addition, the labour force status of men and women should also be more independent from each other with respect to childbirth risks, as hypothesised above.

### 3. Data source and variables

The data used for the analyses are from the European Community Household Panel survey (ECHP). This multi-purpose survey was centrally designed and coordinated by the Statistical Office of the European Communities (Eurostat, 2003). The Danish, Italian and Spanish samples available cover the eight waves (one each year) of duration of the panel, from 1994 to 2001. In the case of the United Kingdom, Eurostat provides a highly comparable transformation of data for the same period of time, derived from the British Household Panel Survey, as the original ECHP was stopped in that country in 1997.

The longitudinal design of ECHP makes it possible to follow up and interview the same set of private households and persons over several consecutive years. It thus supplies data on all household members in a dynamic way, a crucial feature for this study. The ECHP offers detailed data on the fertility and partnership careers, and particularly on the labour market trajectories of each member of the household. For instance, it contains monthly data on labour force status, and yearly income for each member of the household (referred to the year preceding each interview). It additionally contains a wealth of information on a number of individual characteristics, such as *-inter alia-* educational background and health. Although most of the data refers to the wave year or to the previous year, the survey also offers a limited amount of retrospective information, including the date of birth of each individual of the household<sup>14</sup>. This information allows to reconstruct the starting times of the fertility processes for those individuals who started the risk before the date of entering the panel (that is, women who had a birth before entering the panel). It therefore avoids the problem, central in event history analysis, of missing information on the duration at risk of experiencing the event studied. However, the results refer to the period 1993-2000, when information on

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<sup>13</sup> In 2000 maternity leave was extended from 18 weeks to 26 weeks (unpaid parental leave was extended to 26 additional weeks). Benefits cover 90 percent of average weekly earnings for the first six weeks and a fixed amount afterwards. Before 1999 unpaid parental leave did not exist.

<sup>14</sup> In the case of Denmark, the month of birth of most individuals is not known. This unavoidably introduces some small bias in the results.

covariates of the main processes is available. Since the analyses focus on second and higher order birth, all women with at least one child is kept in the sample during the period of observation (the dates of entering and leaving the sample are considered to be random with respect to the process studied), thus avoiding the problem of “left censoring” (i.e. the lost of part of the sample due to higher risks of experiencing the event). Furthermore, a control is made for the age of the women and the birth order.

The sample selected comprises women born between 1958 and 1979: 783 Danish, 1963 Italian, 1728 Spanish and 1298 British. They respectively gave birth to 371, 640, 546 and 619 children of birth order two or higher.

The dependent variable is the transition to a second or higher order birth. However, we backdate the date of birth by nine months, to approximate as much as possible the conditions of the women when she took the decision to have a child, and to avoid reverse causation, i.e. the change in the values of the variables (for instance, labour force status) as a consequence of a pregnancy.

A key independent variable in this study is the women’s labour force status. To construct this variable we use the monthly calendar of activities. These answers indicate the main activity performed by the women the previous calendar year, i.e. student, working in the labour market, unemployed, not in the labour market. Other important information concerning the labour market situation is only available once a year, at the time of the survey wave, concerning the number of hours worked per week, and the sector of the economy (public/private). We apply the answers provided to the whole year.

The respondents to the ECHP were also asked to provide their individual earnings during the calendar year preceding the interview. In order to make comparable the answers through time we have deflated the amounts by using the price index information provided by the International Labour Force Organisation (base year: 1992). And in a second step, we have classified the gross incomes into four groups: very low (less than 33.3 of the women’s earnings distribution for each country), low income (from 33.3 to 66.6), medium income (from 66.6 to 90.0), and high income (more than 90.0 of the distribution). The partner’s labour force status and his income were constructed in a similar way than the corresponding variables for women.

The EHPS provides very basic information concerning the level of education, as this is only classified in three levels: low, corresponding to less than second stage of secondary education (ISCED levels 0-2); higher secondary (ISCED level 3); and tertiary education (ISCED levels 5-7). Moreover, this information is only asked the first wave the individual enters the panel, and is not updated until 1997. Finally, information concerning the date of birth of individuals allows to create the variables “age” of the mother and “age of the youngest child”, that are updated every month.

#### 4. Techniques

Event history techniques are naturally connected to life course research, in that they take a longitudinal perspective and they are suited to analyse the interdependencies between different life course domains. Specifically, the most important advantages of these techniques include: first, they take into account the time order of events, allowing to interpret the impact of variables in “causal” terms; second, they focus on duration effects, i. e. the time of exposure until a particular event from a “event of origin” (previous birth, in our case); and third, event history techniques allow to deal with censoring problems in the data in such a way that minimises biases, especially in the case of right censored data (Yamaguchi, 1991; Blossfeld and Röwher, 2001). Thus, event –history models, also known as hazard regression models, are used when the outcome of interest is a duration until the occurrence of some event, in this case a birth of order two or higher. Among the many types of hazard models available, here is applied one of the most common types, the proportional hazard model, where the effect of covariates on the hazard of occurrence is multiplicative. The specification consists of a hazard rate equation capturing time from first birth (or a previous birth, in case of a higher order parity) to a subsequent birth (minus nine months, i.e. conception time). The formulation is as follows:

$$\ln h (t) = y (t) + \sum_j a_j x_j + \sum_i \alpha_i w_i(t) \quad (1)$$

where  $\ln h (t)$  denotes the log-hazard of the process of 2<sup>nd</sup> or higher order birth. The subscript for an individual is suppressed for simplicity. Duration-dependence is modelled by using linear splines on the log-rate (piecewise Gompertz formulation).  $y(t)$  denotes a piecewise linear spline<sup>15</sup> that captures the effect of the duration on the intensity. The effect of age is also modelled as a piecewise linear spline. The vector  $\{x_j\}$  denotes fixed time-invariant covariates; and  $\{w_i(\cdot)\}$  is a set of time-varying covariates whose values change at discrete times in the spell, and is constant over the time span between those changes. Model estimation was performed using full-information maximum likelihood, as implemented in the software package aML (Lillard and Panis, 2000).

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<sup>15</sup> 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.

## 5. Results

The theoretical section of the paper analysed several dimensions of the relationship between labour force participation and fertility that included a number of specific hypotheses. The models presented in the following are intended to empirically investigate these hypotheses. The results are organized as follows. In a first step, the focus is on the labour force status of women, with a control for partner's income as it may reflect different economic capacities for fertility (table 5). The next model shows the results on the effects of women's income. In order to more clearly show these last effects the variables concerning the labour force situation of the women are omitted (table 6). In the following step is investigated whether the effects of the labour force status of women differ according to educational level, through an interaction between these two variables (table 7). And last, the results show the effects of the combined labour force status of each member of a couple (table 8).

All the models presented include a number of demographic control variables, i. e. the age of the youngest child, women's age, and birth order, needed to correctly interpret the variables related to the labour market, which are the main focus of the research. The results concerning these control variables are in the expected direction. The baseline hazard of second or higher order birth show the standard bell shape: In Spain and in Italy, the hazard increases up until the 4<sup>th</sup> year after previous childbirth, while in Denmark and more clearly in United Kingdom this hazard declines already from the second year after previous childbirth. The effect of the women's age is essentially flat up to age 33 to decline afterwards. And the effect of increasingly higher order parities is to decrease the hazard.

### *Women's labour force status*

The results of the variable women's "employment status" are generally significant and show clear differences between countries (table 5). This time varying variable comprises the categories "employed" (reference), "unemployed", "student", and "housewife". The results of the category "housewife" show a pattern in which the strongest positive effect is found in the United Kingdom (0.66), somewhat less important effects in Italy (0.38) and Spain (0.29), and not significant effects in Denmark (0.30). These results are in line with standard theory and findings, in which (permanently) employed mothers have higher obstacles than housewives to increase family size. These results are also consistent with the hypothesized dominance of the "income effect" in Denmark, and the "price of time" effect in the other countries. This seems to be especially so in the United Kingdom, where leaving the labour market to have children has a lower long term implication in terms of attachment to the labour market, since it is relatively easier to re-enter, and more generally it is a more institutionalised way of dealing with time constraints related to the presence of small children. It may also be the case that women who have left the labour market around first birth, or long before first birth, are a selected group of women in each of the countries, with particularly low labour market attachment or with low labour market prospects. Parenthood and being a housewife, obviously implying a "male breadwinner" situation for an extended period of time, may be particularly attractive roles for them.



A correct interpretation of the effects of being employed on childbearing risks needs to consider several dimensions of this situation, related to the quality of the job performed and to the ability to concile employment with childcare. For instance, working in the public sector has positive effects for the advancement to higher parities in all countries, although they are significant only in Italy (0.32) and in Denmark (0.25), that exhibit somewhat larger public sectors and where job conditions probably differ the most with respect to the private sector. The specific role temporary contracts play in Southern labour markets is reflected in the very strong and significant negative effect that holding a temporary contract has in Spain (-0.48). This result suggests a clear divide among Spanish women between those who already have a stable job situation, who proceed to higher parities with relatively high risks, and women who are still trying to establish themselves in the labour market, that show much lower childbearing risks. A little surprisingly, this effect is not significant in Italy, may be because labour market flexibilisation is more recent in this country and is more concentrated among young adults during the period before first births. In Denmark and United Kingdom, as expected, the effects are also not significant, as this dimension is much less relevant in these countries.

Unemployment has a negative not significant effect in Italy, Spain, and Denmark, but positive significant effects in United Kingdom (0.58), suggesting that in this country it may act as an opportunity to childbirth, as discussed above, rather than reflect a precarious situation in the a labour market or a lack of income, as seem to prevail in the other countries studied. Finally, working part time, against expectations, does not have a significant impact in any of the countries studied. However, consistently with the theory put forward above, in Denmark and in United Kingdom the effects are positive, as in these countries part-time jobs are more widely available, while in the Southern countries studied these type of jobs are much less easily available and are often related to precarious situations in the labour market.

In line with other studies, the effects found for the educational level are positive and significant in United Kingdom and in Italy for women with tertiary education, with respect to women with low secondary education or less, while in Denmark and Spain the differences between levels of education are not significant. Most other studies referring to second births have also found positive effects of education, although here higher order births are also included, which could have the effect of reducing this positive affect. As explained in the theoretical section, this finding contradicts standard economic theory, as women with higher education should also have higher opportunity costs. However, these costs could be compensated by factors such as higher incentives to space births closely or higher earnings.

**Table 5. Hazard of transition to a second or higher order birth (month of conception.)**

	Denmark		Italy		Spain		United Kingdom	
	Hazard	s.e.	Hazard	s.e.	Hazard	s.e.	Hazard	s.e.
<i>Age of youngest child (spline)</i>								
0-1.5 years	<b>1.05 ***</b>	0.20	<b>1.04***</b>	0.18	<b>0.78 ***</b>	0.22	<b>1.35 ***</b>	0.16
1.5-4 years	<b>-0.04</b>	0.08	<b>0.14**</b>	0.05	<b>0.20 ***</b>	0.06	<b>-0.16 ***</b>	0.06
4+ years	<b>-0.21 ***</b>	0.05	<b>-0.15***</b>	0.02	<b>-0.13 ***</b>	0.03	<b>-0.20***</b>	0.03
<i>Age (spline)</i>								
15-33	<b>-0.02</b>	0.03	<b>0.01</b>	0.02	<b>0.00</b>	0.02	<b>0.02</b>	0.02
33+	<b>-0.14 ***</b>	0.05	<b>-0.16***</b>	0.04	<b>-0.11***</b>	0.04	<b>-0.12 ***</b>	0.04
<i>Birth order</i>								
Second (ref.)								
Third	<b>-1.27 ***</b>	0.14	<b>-1.56***</b>	0.12	<b>-1.74 ***</b>	0.13	<b>-1.24 ***</b>	0.10
Fourth or higher	<b>-1.77 ***</b>	0.26	<b>-1.92***</b>	0.23	<b>-1.73***</b>	0.23	<b>-1.94 ***</b>	0.16
<i>Educational level</i>								
Low (ref.)								
Middle	<b>-0.10</b>	0.16	<b>0.09</b>	0.10	<b>-0.03</b>	0.14	<b>-0.19</b>	0.13
High	<b>-0.15</b>	0.22	<b>0.41**</b>	0.19	<b>0.13</b>	0.15	<b>0.23 *</b>	0.12
<i>Activity status</i>								
Employed (ref.)								
Unemployed	<b>-0.03</b>	0.19	<b>-0.12</b>	0.21	<b>-0.03</b>	0.18	<b>0.58 *</b>	0.30
Housewife	<b>0.30</b>	0.24	<b>0.38 ***</b>	0.12	<b>0.29**</b>	0.15	<b>0.66 ***</b>	0.11
Student	<b>-1.01***</b>	0.34	<b>-1.25</b>	1.07	<b>-0.91</b>	0.71	<b>-0.22</b>	0.49
<i>Sector</i>								
Private (ref.)								
Public	<b>0.25 *</b>	0.14	<b>0.34**</b>	0.14	<b>0.29</b>	0.20	<b>0.08</b>	0.15
<i>Type of contract</i>								
Stable (ref.)								
Temporary	<b>-0.33</b>	0.23	<b>0.01</b>	0.23	<b>-0.48 **</b>	0.23	<b>-0.42</b>	0.35
Self employed	<b>-0.49</b>	0.42	<b>0.11</b>	0.18	<b>0.21</b>	0.23	<b>0.17</b>	0.27
<i>Working hours</i>								
Full time (ref.)								
Part-time	<b>0.20</b>	0.21	<b>-0.18</b>	0.18	<b>0.03</b>	0.24	<b>0.17</b>	0.18
<i>Partner's income</i>								
Very low	<b>0.44**</b>	0.19	<b>0.11</b>	0.14	<b>0.01</b>	0.15	<b>-0.33 **</b>	0.17
Low (ref.)								
Middle	<b>0.17</b>	0.13	<b>-0.05</b>	0.10	<b>0.10</b>	0.11	<b>-0.02</b>	0.10
High	<b>0.18</b>	0.19	<b>0.11</b>	0.13	<b>0.49 ***</b>	0.15	<b>0.00</b>	0.14
<i>Health</i>								
Good (ref.)								
Bad	<b>-0.02</b>	0.17	<b>0.17</b>	0.27	<b>-0.70 **</b>	0.28	<b>-0.43 ***</b>	0.14
Missing inf.	<b>0.05</b>	0.13	<b>0.07</b>	0.09	<b>0.12</b>	0.10	<b>0.17</b>	0.10
<i>Intercept</i>	<b>-2.07***</b>	0.77	<b>-4.12***</b>	0.59	<b>-3.47***</b>	0.60	<b>-3.92 ***</b>	0.47

Note: \*\*\*=p<0.01, \*\*=p<0.05, \*=p<0.1.

The variable “husband’s income” could be expected to have a positive effect on fertility (at least up to a certain level of income), since a higher income helps couples to cope with the direct costs of rearing a two(or higher)-child family . This prediction of the economic literature is only partially confirmed in Spain and in the United Kingdom. In the first country the effect is clearly not linear, and is concentrated only in individuals pertaining to the highest income category, suggesting that for this group wealth allows to overcome both income and conciliation restrictions to childbearing. By contrast, in the United Kingdom only the category for husbands with very low income have significant negative effects, in line with the idea that a certain minimum level of income favours an increase in the number of children. In Denmark and in Italy the coefficients have a U shaped form, although the only significant results are for the “very low” income category in Denmark. These results suggest that the effects of men’s income may not be straightforward to interpret, as they can interact with other characteristics of the partners. Educational, social, or labour market attachment homogamy between partners may also influence fertility decisions.

### *Income*

The analyses presented above concerning the effects of being employed can be complemented and clarified with the inspection of the results for the variable “women’s income” (Table 6). This variable mainly includes earned income (from employment or unemployment benefits), and the category “very low or none” mostly refers to housewives. Thus, the positive effects found for women with low or no income, with respect to women with low income, are consistent with the above results that showed that the “price-of-time” effects predominated over “income effects” in Italy, Spain and United Kingdom. However, the coefficients show a clear U shape, indicating that “income effects” are present for employed women. In the case of United Kingdom the positive effects are very strong for women with high incomes, suggesting that these women can solve time constraints created by employment and child care, presumably by buying childcare in the market. In Italy and Spain the significant positive effects refer to women with “medium” incomes, but not to women with very high incomes, which show not significant positive effects (Spain) or even a not significant negative coefficient (Italy). On the whole, the results for these three countries show that women’s earnings matter for fertility decisions. Women with low earned income may face particularly difficult trade-offs, because their fertility decisions are constrained simultaneously by the difficulties to meet the direct costs of rearing children and by the difficulties to access the expensive childcare facilities existing in their countries. In contrast, women with middle or high incomes are in a better position to afford such costs. Women earning very low or no income, i.e. mostly housewives, seem also to be in a favourable situation for childbearing, in spite of their limited contribution to the household budget. This result should be put in the context of societies where the standard household is (increasingly) composed by two-earner couples, and thus where one-income couples may be in a relatively disadvantaged situation in terms of economic well being.

Finally, the results for Denmark are in line with previous analyses for the Nordic countries (Andersson, 2000; Vikat, 2004). A clear positive income gradient is found in the risks of second and higher order births, consistently with the predominance of “income effects” over “price-of-time” effects in this society.

**Table 6 . Hazard of second or higher order birth. Effect of woman’s income**

<i>Income</i>	Denmark	Italy	Spain	United Kingdom
Very low or none	-0.32*	0.20**	0.28**	0.41***
Low	Ref	Ref	Ref	Ref
Medium	0.21*	0.29**	0.40**	0.18
High	0.38	-0.46	0.46	0.48*

Note: \*\*\*=p<0.01, \*\*=p<0.05, \*=p<0.1. Control variables: age of youngest child, age of mother, birth order, educational level, income of spouse.

#### *Education and labour market*

In the analyses presented so far we have seen that a high level of education is associated with a higher risk of advancing to second or higher parities in Italy and in United Kingdom, while in Spain and Denmark there were not significant differences among women according to their educational level. But these results could hide important differences between educational groups in the effects of labour market status. The level of education is closely related to differences in income prospects, job characteristics and opportunity costs of childbearing, as well as in values concerning labour market attachment. An exploration of whether the effects of labour force status differ according to the level of education could therefore complement the picture sketched so far, since it may reflect relatively stable characteristics of women and specific behaviours for each educational group.

This perspective is consistent with the results obtained, in that the introduction in the model of an interaction between educational level and labour force status significantly improves the model for Italy, Spain and United Kingdom. The interaction is not significant for Danish women, suggesting that women with different educational level in each labour market status face similar conditions and display similar strategies associated to having an additional child<sup>16</sup>.

Turning the attention to the results of women with stable contracts, it can be seen that in Italy and in the United Kingdom a high level of education is associated to higher risks of childbearing. These results would be consistent with the idea that the highly educated attach more value to employment stability, and once they have attained it, proceed faster to higher parities. However, the results for Spain show no significant differences between educational levels, suggesting an overriding importance of job stability for those women present in the labour market, irrespective of their educational level.

<sup>16</sup> As for other results presented here, the smaller size of the Danish sample may also play a role.

A similar pattern seems to prevail for women outside the labour market: increasing risks of childbearing according to education in United Kingdom and Italy, while education makes no difference for Spanish housewives. In interpreting these results one may take into account that in principle opportunity cost are less relevant for women outside the labour force, but highly educated women may try to space children closer in time to avoid long periods out of the labour market.

The results for the category “unemployed” and “temporary” are also somewhat puzzling. Thus, unemployment is associated to higher risks of childbearing for the tertiary educated, with respect to lower educated women, in Italy Spain and United Kingdom. Moreover, holding a temporary contract also implies higher risks of childbearing for the highly educated in Italy and Spain, but not in United Kingdom, where this dimension of the labour market is less crucial. If it is correct the above interpretation that for the highly educated employment stability is key to advance to a higher parity, the results of these categories associated to instability in the labour market should yield a negative gradient according to educational level, not a positive gradient, as they do. Having an additional child may increase the chances to eventually leave the labour market, because it increases time constraints, and thus more educated women should try to avoid to have a child while being in an unstable situation. Yet, it is also possible to interpret these results taking into account that the highly educated should also be entitled, on average, to higher earnings from unemployment benefits or from temporary jobs, providing more income to meet increased family needs, and leading again to higher opportunity costs to leave the labour market. In the case of holding a temporary job the highly educated should also be more able to combine childrearing with employment if the jobs are of better quality. Moreover, selection effects may also play a role. The categories “unemployed” and “temporary” may select lower educated individuals with little propensity to childbearing, as those who plan to have a child select themselves into the category “not in the labour market”. This could take place if women with low education face more difficulties and/or exhibit less attachment to the labour market, while the more educated women have higher opportunity cost to leave the labour market.

**Table 7. Hazard of second or higher order birth. Interaction of labour force status and educational level of women. United Kingdom**

<i>Level of education</i>	Low	Higher	Tertiary
<i>Labour force status</i>		secondary	
Stable	Ref.	-0.32*	0.28**
Temporary	-0.52	0.22	-0.24
Unemployed	0.32	0.51	1.01**
Not in L. F.	0.52***	0.50***	0.73***

Note: \*\*\*=p<0.01, \*\*=p<0.05, \*=p<0.1. Control variables: age of youngest child, age of mother, birth order, partner’s income.

**Table 8. Hazard of second or higher order birth. Interaction of labour force status and educational level of women. Italy**

<i>Level of education</i>	Low	Higher secondary	Tertiary
<i>Labour force status</i>			
Stable	Ref.	0.39**	0.78***
Temporary	0.06	0.25	1.12***
Unemployed	0.07	-0.13	0.73
Not in L. F.	0.43***	0.50***	0.69***

Note: \*\*\*= $p < 0.01$ , \*\*= $p < 0.05$ , \*= $p < 0.1$ . Control variables: age of youngest child, age of mother, birth order, partner's income.

**Table 9. Hazard of second or higher order birth. Interaction of labour force status and educational level of women. Spain**

<i>Level of education</i>	Low	Higher secondary	Tertiary
<i>Labour force status</i>			
Stable	Ref.	-0.28	-0.10
Temporary	-1.23***	-0.74	0.19
Unemployed	-0.36*	-0.78**	0.31
Not in L. F.	-0.08	0.09	0.18

Note: \*\*\*= $p < 0.01$ , \*\*= $p < 0.05$ , \*= $p < 0.1$ . Control variables: age of youngest child, age of mother, birth order, partner's income.

#### *Couple's labour force status*

In the following are presented results concerning the impact of interactions between the labour force status of each of the partners of a couple on second or higher order births (Tables 10 to 13). The reference category adopted is a combination of a stable job for the women and the men, and the other categories are: temporary job, unemployed and inactive, and all the resulting combinations. Results are not presented where cell sizes are too small.

The results of United Kingdom, Italy, and to a lesser extent Spain, show a clear opposition between men and women's labour market situations. When the woman is inactive, whatever the labour force situation of her partner, the coefficients are positive, thought not always significant. The most significant results for the former two countries

are obtained for the cell combining an stable job for the men and an inactivity situation for the women, just as one might expect for a traditional division of labour between the partners that maximizes in the one hand, men's income security and in the other hand, women's availability of time at home. In the United Kingdom this positive effect also holds when the women is unemployed in combination with men's inactivity or unemployment, which seem a little surprising since in this case men's income will tend to be low. At the opposite corner of the classical men's breadwinner situation, it is found the combination of an inactive men with a women holding an stable job, that leads to negative coefficients in all countries (significant in the United Kingdom, but also in Denmark). More generally, all cells that involve inactivity, or to a lesser extent unemployment, for men show negative coefficients in most instances. This result suggest that the labour force situation of men and women are not interchangeable, even in societies with relatively high gender equality, as in Denmark.

**Table 10. Second or higher order birth. Interaction of labour force status of spouses. United Kingdom.**

<i>Men</i>	Stable	Temporary	Unemployed	Not in L. F.
<i>Women</i>				
Stable	Ref.	-0.07	-0.06	-0.31*
Temporary	-0.39	-	-	-
Unemployed	-0.26	-	0.78	0.81**
Not in L. F.	0.49***	0.04	0.56***	0.09

Note: \*\*\*=p<0.01, \*\*=p<0.05, \*=p<0.1. Control variables: age of youngest child, age of mother, birth order, educational level, health status.

**Table 11. Second or higher order birth. Interaction of labour force status of spouses. Italy.**

<i>Men</i>	Stable	Temporary	Unemployed	Not in L. F.
<i>Women</i>				
Stable	Ref.	-0.18	0.01	-0.42
Temporary	-0.01	0.22	0.68	-
Unemployed	-0.16	0.12	-0.28	-1.54
Not in L. F.	0.23**	0.43*	0.22	0.09

Note: \*\*\*=p<0.01, \*\*=p<0.05, \*=p<0.1. Control variables: age of youngest child, age of mother, birth order, educational level, health status.

The Spanish results merit a separate discussion since in that country, what seems to matter for fertility, is employment security for both members of the couple, more than a traditional division of labour between the partners. In fact, the cell combining a stable job situation for men with inactivity for women is not significant. By contrast, negative impacts are found for the combinations that involve temporary jobs or unemployment for men and women. They turn to be significant for the cells: men with a temporary job and women unemployed or with a temporary job, and remarkably for women with a temporary job and men with a stable job.

In Denmark, the results are consistent with a dominance of income effects and a positive impact of labour force attachment of both members of the couple for fertility. Inactivity of women has a significant negative effect, as the men's inactivity (though this last effect is strongest), and the combination of both partners inactivity, not surprisingly, leads to a very negative significant effect. In the case of Denmark, many inactivity situations involve students or individuals engaged in professional training.

**Table 12. Second or higher order birth. Interaction of labour force status of spouses. Spain.**

<i>Men</i>	Stable	Temporary	Unemployed	Not in L. F.
<i>Women</i>				
Stable	Ref.	0.03	-0.21	-1.29
Temporary	-0.56**	-1.00**	-0.75	0.25
Unemployed	-0.13	-0.94**	-0.06	-0.63
Not in L. F.	0.16	-0.14	0.17	-0.65

Note: \*\*\*=p<0.01, \*\*=p<0.05, \*=p<0.1.

Control variables: age of youngest child, age of mother, birth order, educational level, health status.



**Table 13. Second or higher order birth. Interaction of labour force status of spouses. Denmark.**

	<i>Men</i>	Stable	Temporary	Unemployed	Not in L. F.
<i>Women</i>					
Stable		Ref.	0.48*	0.01	-0.91***
Temporary		-0.17	-0.98	1.05	-0.82
Unemployed		-0.24	1.17	-0.41	-0.28
Not in L. F.		-0.40*	0.30	-1.53	-0.90**

Note: \*\*\*=p<0.01, \*\*=p<0.05, \*=p<0.1. Control variables: age of youngest child, age of mother, birth order, educational level, health status.

## 6. Conclusions

In this article it has been argued that the relationship between labour market participation and fertility is highly dependant on the labour market context and the institutional arrangements within which it occurs. The results show on the whole a nice match between the relationships found at the individual level and the type of welfare state regime, or even to institutions specific to a particular country's labour market. Of course, the empirical patterns can be related not only to labour market characteristics, but also to the functioning of other institutions that could not be analysed here in detail. Relevant in that respect are parental leave regulations, the social service system (child care), and more generally, the gender system (e.g. involvement of fathers in childcare). Therefore, empirical analyses comparing countries with different systems of welfare should give attention to those differences.

The theoretical framework sketched in the paper highlights the existence in each country of different models of combining labour force participation and childcare. The configuration of institutions, including labour market institutions, particular to each country create different sets of incentives for childbearing for individuals and couples in each labour market situation (and different incentives to remain in them). In that respect, the results show a clear contrast between the negative effects of women's paid work on childbearing risks in the United Kingdom, Italy and Spain, and the positive effect of being employed in Denmark. Moreover, the impact of women's income was clearly positive in Denmark, a country where the economic penalty of motherhood is relatively lower. In the United Kingdom, Italy and Spain the results showed a U shaped effect, implying that women with very low or no income (i.e. housewives), have higher risks of childbearing. The results concerning the combined labour force status of a couple complement this picture, showing that housewives obviously rely on their male partner for economic security and the corresponding labour force status. Indeed, when men's situation in the labour market is insecure, as indicated by unemployment or by

temporary employment (in the case of Southern labour markets), childbearing is severely reduced.

The difficulties in combining motherhood and childrearing may lead to a retreat from the labour market (or to never accessing it) for many women in United Kingdom and in Italy and Spain. This possibility may be especially appealing to women holding traditional values. These situations have been represented in the models by the category “housewife” (and may be also by the category “unemployed”, especially in United Kingdom). This can also result from poor long term perspectives in the labour market or long lasting situations of precarity. If that is the case, it may happen that some of these women enter motherhood as a kind of substitute, as the only meaningful social role accessible to them and allowing them to enhance their social status (Lindenberg, 1991).

The still strong positive impact on higher order fertility of “male breadwinner” solutions and their considerable weight in the population of most of the countries studied, should not make forget about the important differences among women that participate in the labour market. In this paper we have been able to explore some of these differences, though the availability of data and its quality has prevented more extended analyses. For instance, the role of unemployment in different contexts has been documented as well as the crucial positive role of labour market stability and income, in particular in Southern labour markets.

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