How fertility and union stability interact in defining new family patterns in Italy and Spain

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Abstract

In this paper we investigate the interrelationships between fertility decisions and union dissolution in Italy and Spain. We argue that there might exist a spurious relationship between these two life trajectories. Firstly we assume that fertility and union dissolution decisions might be affected by common unobserved determinants. Secondly we expect that the outcome of each process might have a direct impact on the chance of experiencing the other one. Italy and Spain, very similar in terms of welfare states, family ties, as well as demographic behaviors, represent a particularly interesting context for analyzing these processes: fertility has reached lowest-low levels, and union dissolution is still relatively rare in comparison with the other western countries.
We use simultaneous hazard modeling to control for the direct and indirect effects between the life trajectories under study. The analysis is based on the 1996 Fertility and Family Survey data for Italy and Spain.
Results show that there is a spurious relationship between fertility and union dissolution in Italy but not in Spain: only in the former country indeed, individuals more likely to experience childbearing are simultaneously less likely to experience union dissolution. Nevertheless, in both countries, there is an evident direct effect of each process on the other: union dissolution decreases the risk of further childbearing, while childbirths decrease the risk of union dissolution.

1. Introduction

Italy and Spain represent the so called "Mediterranean Model", that in the framework of the Second Demographic Transition differentiates from Central and Northern European countries, for their peculiars demographic trends [Van de Kaa, 1987]. In the Southern European countries, indeed, the transitions to union formation and parenthood have

been dramatically postponed, and marriage and fertility have decreased as well, at level even lower than other countries. In contrast, while in many Western countries cohabitation compensates the decline of marriages, and non-marital fertility as well as late age fertility compensates partly the decline in fertility, this is not true in Italy and Spain [Lesthaeghe and Moors, 2000].

An explanation to the likeness in the demographic behaviors characterizing Italy and Spain has been found in the similarity in the welfare states these two countries count on, and in the roles played by the different institutions, among which the family is essential [Reher, 1998]. The strong family system, indeed, provides individuals with that help that in other countries are provided by other institutions.

In this paper we focus in particular on fertility decision and union instability. It is well known that these two countries are champions in Europe for having achieved nowadays the "lowest-low" levels of fertility [Kohler, Billari, and Ortega, 2002]. In contrast, union instability although increasing, is still at very low levels if compared with other European countries [De Rose and Di Cesare, 2003; Houle, Simo, and Solsona 1999].

We argue that fertility decision and union instability are strongly interrelated trajectories that together shape one's family related life-course. Therefore, when investigating about these two processes it is worth taking into consideration both direct and indirect reciprocal effects. In particular, we argue that there might be a spurious relationship between these processes. Indeed, they might be simultaneously influenced by individual unobserved characteristics [Thornton, 1977; Lillard and Waite, 1993], that here we propose to interpret in terms of value orientation. Indeed, individual decision making process about the different life trajectories, as for instance fertility and union dissolution, has been shown to be influenced by individual values [Jansen and Kalmijn, 2002]. In particular, we suggest that individuals might be oriented towards family vs. individualistic values. We expect that "family oriented" individuals are more likely to have children, and less likely to experience union dissolution. In contrast, individuals oriented towards individualistic values might be more likely to invest less in children and in their relationship, and therefore might have less children and a higher chances of ending their union.

In addition we argue that union dissolution and fertility decision might affect each other directly. In particular, on the one hand, we assume that fertility might induce a lower

risk of union dissolution [Willcox, 1891; White, 1990] since one of the most important costs of union dissolution relates to the presence of children in a union [Burges and Wallin, 1953; Becker, 1991]. Moreover, by providing shared goals and interest, children might increase union satisfaction [Thornton, 1977]. Thus, the economic investment represented by children together with emotional aspects provide a strong bond between the partners. On the other hand, union dissolution might decrease the chance of further childbearing, by determining for a time an end of the natural environment for fertility development. Indeed, a women who is not living in a stable relationship might be less willing to have a child, especially in Italy and Spain, where non-marital fertility is at very low levels [Conseil de l'Europe, 2002]. Moreover, the event itself might be traumatic, inducing a lower confidence in the opportunity of establishing a stable and lasting relation, and in turn the perceived risk of union disruption might reduce the fertility in the following unions [Lillard and Waite, 1993].

In order to study union dissolution and fertility decision as interrelated processes, distinguishing between direct and indirect reciprocal effects, we apply simultaneous hazard models [Lillard, 1993]. In addition, we compare the results we would obtain disregarding the (potential) effect of unobserved common determinants on the trajectories under study. We use the data from the Family and Fertility Survey for the empirical analyses, for providing standardized and detailed information about the processes of interest in the two countries.

2. Theoretical framework

In this section we discuss the theoretical background on which our research hypotheses are based. We argue that union dissolution and fertility are two deeply interrelated life trajectories, likely to affect each other both directly and indirectly (section 2.1). Then, we discuss explicitly the possible determinants of union dissolution (section 2.2) and of fertility (section 2.3), also with respect to the specific characteristics of these processes in Italy and Spain.

2.1 Relationships between union dissolution and fertility decision: indirect and direct influences

Once two individuals enter a formal union, either a marriage or cohabitation, they share a decision-making process relatively to the survival of the relationship itself, and to the procreation during the relationship. Keeping a stable and satisfactory relationship, and having children, might represent two important goals of a union. The importance of each of these goals (or of both them) would be strongly determined according to individual value orientation, attitudes and preferences. These aspects, indeed, have been found to strongly influence individual behavior [Lestaheghe and Moors, 2002; Becker, 1996].

Changes in value orientation, at a macro level, have been found responsible for the main demographic trends characterizing the Second Demographic Transition [Lesthaeghe and Van de Kaa, 1986]. The shift from materialistic to post-materialistic needs [Inglehart, 1997] has contributed to developing an individualization process. An increasing emphasis has been progressively attributed to individual independence, freedom, autonomy, and self-development. Such kind of cultural changes would have played an important part in explaining the spread of new demographic behaviors, such as cohabitation, divorce, non-marital fertility, pre-marital sex, and in postponing transitions implying high levels of commitment, as marriage and parenthood.

At a micro level, similarly, values, attitudes, preferences, influence individual's determination of only one specific life path, over the many possible alternatives [Barber et al., 2002; Jansen and Kalmijn, 2002; Bumpass, 2002]. Several life trajectories represent the different dimensions of a life-course. Thus, individuals, decide about those trajectories coherently with their own values, and aim to achieve own specific goals through that specific chosen life course [Lestaeghe and Moors, 2002]. For instance, individuals oriented towards family values are likely to decide about their employment, union, childbearing, and other careers, coherently to realize their family preferences. They might be likely to experience an early union formation, and an early childbearing [Baizan, Aasve, and Billari, 2003]. They might also be likely to be involved in employment careers that allow for supporting the family by economic means [Reed and Harford, 1988], or by a higher participation to family related activities [Jansen and

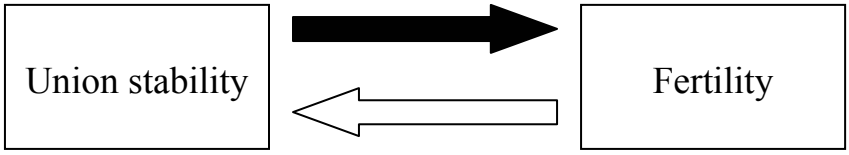
Kalmijn, 2002]. Similarly, we argue that individuals oriented towards family values are likely to invest many resources to achieve a stable and satisfactory relationship, trying to avoid or postponing union breakdown as long as there is a hope for recuperating the relationship [Bumpass, 2002]. Simultaneously, they are likely to invest in childbearing as a primary outcome of a union [Jansen and Kalmijn, 2002]. The vice versa holds as well. Thus, individuals oriented towards individualistic values might be more likely to give up a union as soon as it becomes problematic, or it affects negatively individual satisfaction and well being. They are also less likely to invest in childbearing, being childbearing a time-consuming venture that necessarily reduces the amount of time at disposal.

We expect then that between union dissolution and fertility there might be a spurious relationship. For instance, it has been found that marital discord produces both lower fertility and union dissolution: couples with marital problems may have fewer children than others. It may be that the discord which produces dissolution also produces childlessness [Thornton, 1977]. Being children a fundamental commitment for a couple, individuals more prone to union dissolution would probably delay or avoid such a commitment in comparison with stable couples [Lillard and Waite, 1993]. Thus, there is already some empirical evidence that there might exist some individual characteristics that are common determinants of both processes. In this paper we propose an interpretation of these characteristics in terms of value orientations. In particular, we expect that individuals might be oriented towards family vs. individualistic values. The formers are likely to invest more in fertility as well as in having a satisfactory relationship. The latter might be less willing to spend resources in family related issues, and in turn they might be more likely to experience union breakdown, and less likely to have children. Our first research hypothesis then follows:

> *H1: Individuals more likely to have children are also less likely to experience union dissolution (and vice versa).*

Decision making processes develop over time, and having already made a decision about one process might determine the level of opportunity-cost of decisions relatively to the other process. Therefore, the outcome of a life trajectory process might directly

affect the chance of experiencing an event pertaining to another trajectory [Lestaeghe and Moors, 2002]. Thus, for instance, been enrolled in education might reduce strongly the chance of entering a union or parenthood [Blossfeld and Huinink, 1991; Coppola, 2003]. Similarly, we argue that not only fertility and union dissolution decisions might have common determinants, but also that the outcomes of these two processes might affect each other directly.



On the one hand, having children might affect union stability (white arrow). Children have been shown to have an impact upon stability in several ways. By increasing marital satisfaction childbearing might promote union stability: children may provide the partners with shared goals and interests which are translated into satisfaction and stability [Thornton, 1977]. The presence of children delays or prevent the break up of couples who are unhappily married [Thornton, 1977]. Moreover, the cost of children represents an obstacle to union dissolution [Becker, 1991]. In contrast, few children in the marriage represent weak attractions within the marriage, low barrier forces, and strong attractions outside the marriage [Wineberg, 1988; White, 1987; Levinger 1965, 1976]. Also the parity of children might affect parental relationship [Levinger 1965, 1976; Thompton, 1977;.Becker, 1991]. Different researches, indeed, show that a first child reduces divorce probability in the year following the birth [Waite and Lillard, 1991; Waite, Haggstrom, and Kanouse, 1985; White and Booth, 1985], while it is not visible for subsequent births. Thus, our second hypothesis follows:

H2: Having children reduces the risk of union dissolution, and a stronger effect is associated with the first childbirth

On the second hand, also union dissolution might affect the chance of having a further childbearing for the original members of the couple (black arrow). Lillard and Waite

[1993] have shown that the risk of union dissolution delays the transition into parenthood, arguing that being children a commitment for the marriage, couple who believe they are likely to separate avoid or postpone the decision of having a further child. Such an effect is expected to be even stronger once the actual union dissolution is taken into account, instead of the risk of experiencing it. We assume that once a union comes to a break, former partners are much less likely to have a further child for two reasons. Firstly, given that children belong to a couple rather than to each of the partner [Lillard and Waite, 1993], union disruption, and the consequent singleness, might strongly reduce individual willingness to have a child. Secondly, having experienced a union disruption might reduce also the chance and/or the desire of forming a new commitment, and the confidence in its stability and lasting, and in turn the chance of further childbearing. Thus, our third hypothesis follows:

H3: Experienced union dissolution strongly decreases the risk of further childbearing

2.2 Union dissolution as a relatively new phenomena in Italy and Spain

In modern society, marriage is a voluntary association between persons. Marriage has different costs of formation and disruption [Weiss and Willis, 1993]. From an economic point of view, the end of a marriage has two different causes. Firstly, the relationship with a partner could be upset when one of the members meets a new potential partner who increases this member's utility. Secondly, many events modify a marriage, which could lead both partners to break the union. The importance of these events depends on linked social problems. Union dissolution brings an end to the family and it may produce economic conditions that in general are insufficient in covering all members' needs. The solidarity and internal redistribution that are typical of the traditional family will no longer function and new economic differences will arise between family members [Sgritta, 1993]. The well-being of a single person rests on the community. The negative consequences of a dissolution often affect women disproportionately, as in general their economic situation is more precarious than that of men [Giddens, 1989].

Rising divorce figures seem to be strongly related to changing gender systems and gender relations in society, such as the gradual elimination of gendered items in legal provisions and the growing tendency of women to take up paid employment [Lee, 1982].

In Italy and Spain, the role of marriage still seems to be very strong. Cohabitation is not as common as in other European countries, also if it is visible an increase in the proportion of cohabitations. This is due to cultural factors and probably also to the economic and political aspects of Italian and Spanish society that favor marriage. However, this does not mean that union instability is absent; the slow but constant increase in the absolute number of union disruption is an indicator of changing family behavior (Figure 1).

Explanatory variables of union dissolution could be categorized as cultural (secular values, population heterogeneity, subjective criteria in mate selection) societal (social and economic independence, female employment, residential mobility), dyadic (short acquaintance before marriage, high fertility) individual (age at marriage, education and family history) [Laner, 1978]. On the base of this four main groups we analyze the effect of different variables on the risk of first union dissolution.

In relation to the **cultural** group of variables we consider the *period*. We distinguish between two main periods in the history: before the seventies and after the seventies. In Europe the 70s and the first part of the 80s have been witness of important reforms in family law like the introduction of the divorce and the abortion. We considered that the process started in Italy in the first years of the 70s (1970 divorce law) and in Spain (1981 divorce law) during the first years of the 80s have been the consequence of important changes in the values. The 1987 have been considered the boundary year between the old set of non secularized values and the new secularized ones. Moreover, in Italy the 1987 corresponds to a new reform of the divorce law, reducing from 5 to 3 the years of separation necessary to obtain the divorce.

An other element related to change in attitudes and values is the *cohabitation.* In fact, particularly in Italy and Spain, it is characteristic of a new specific behavior. Cohabitation is considered strictly correlated to higher probability of divorce [Bennett, Blanc, and Bloom, 1988; Booth and Johnson, 1988; White, 1987]. People who choose

cohabitation do not accept normative marital behaviors, have lower commitment to marriage as an institution, and have more secularized values.

For the description of the **societal** group we look at the role that paid *employment* plays in family dynamics [Bracher, Santov, Morgan and Trussell, 1993]. In particular, we examine whether the presence of women in the labor market is associated with a higher risk of marital instability [Booth, Johnson, White and Edwards, 1984; Rank, 1987; Spitze and South, 1985] with a particular attention to the special dimension of the hours worked weekly, considered positively correlated to union dissolution [Hill, 1988; Spitze and South, 1985].

In the **dyadic** group, the core of this research is considered according to what discussed in the previous section, i.e. the *fertility behaviour*.

In the **individual** group we consider three main variables. Firstly, the *age at union formation*. The younger the person is at the time of union formation, the higher the union instability [Morgan and Rindfuss 1985, South and Spitz, 1986; Thornton and Rodgers, 1987; Martin and Bumpass, 1989]. Young age at marriage is an indicator of a major facility to get married. Many aspects linked with age also increase the risk of union dissolution. A young age at union formation indicates both lower economic and social resources, and a relatively shorter time spent in the marriage market. This limits the search for a partner and hence reduces the probability that the match is the right one.

Secondly, the *inheritance of divorce* behavior [Mueller and Pope 1976; Greenberg and Nay, 1982; McLanahan and Bumpass, 1988]. We study the effect of parental separation on the divorce risk of their sons/daughters and look at the age of the children at the time of parental separation. Parental separation is likely to lead to the offspring leaving the family home earlier and forming a union more quickly than those whose parents have never separated. In this case, there is a higher percentage of cohabitation compared to marriage. Fast leaving family home and the high percentage of cohabitation taken together reflect increased union instability.

Finally, we consider the role of *education* on the couple's stability [Becker 1991, Blossfeld, De Rose, and Hoem, 1993; Blossfeld and Huinink, 1991]. The higher the educational level, the more likely an individual adopts non-traditional behavior. Education also plays an important role in the participation levels of women in the labor market, which implies a stronger effect of this variable on the risk of union instability.

2.3 Fertility and the lowest-low levels of Italy and Spain

Fertility is the result of a complex decision making process dealing with *when* and *how many* children an individual, or more usually a couple desire and can actually have. Much emphasis has been given to the trend of first childbearing postponement characterizing the western countries during the last decades [Van de Kaa, 1987]. Such a trend, in the framework of the general postponement of the transition to adulthood, finds explanations in the change of values increasingly emphasizing post-materialist needs and individual autonomy, self-realization and well-being, that in turn have produced higher investments in individual self-development [Inglehart, 1997]. In addition, a prolonged educational process [Blossfeld and Huinink, 1991; Coppola, 2003], an increasingly unstable labor market, that makes harder young adults' achievement of stability and economic independence [Oppenheimer, 1988; Oppenheimer and Lew, 1995], women's rising participation to labor force [Becker, 1991], have contributed to delay the transition into parenthood.

Children have been defined in the microeconomic literature as an investment in "marital specific" capital [Becker, Landes, and Michael, 1977]: that is to say, planning a further childbearing is rational as long as the family utility in increased by it. But even if different strategies might be used to achieve a desired family size, postponement as a strategy to cope with difficulties in other life trajectories might imply an eventually reduced family size.

Italy and Spain are two countries characterized simultaneously by an evident postponement of parenthood as well as a progressively reduction of the total fertility, becoming European champions in lowest-low fertility [Kohler et al., 2002].

In these two countries fertility has shown a decline between years (Figure 2) and between generations (Figure 3). Considering the TFR by generation, it is visible how the real TFR for the generation between 1930-1965 for Italy and between 1940-1964 for Spain is decreasing.

Both countries are witness of a decrease in the number of marriages. While many partnerships in the countries of north-western Europe begin with a phase of cohabitation, which in many cases is never formalized with marriage, and which is

characterized by a rate of fertility similar to that among matrimonial unions, in Italy and Spain, the custom is either to marry or not to live as a couple, as shown by the very low rate of births outside marriage [Lesthaeghe and Moors, 2000; Conseil de l'Europe, 2002]. The difficulty of marrying therefore leads to a mechanical fall in fertility in these countries. Moreover, women are starting to try for their first child increasingly late, and this makes the achievement of maternity more uncertain.

In this paper we try to explain the fertility process controlling for the effect of several individual characteristics that are likely to influence the timing of each further childbearing. In particular, we consider the *age at childbirth*, in fact in Italy and Spain the probability of deciding to have a child decreases with age for all birth orders [Pinnelli, Hoffmann-Nowotny and Fux 2001]. In particular, there exists a negative association between the age at first birth and completed fertility [Bumpass and Mburugu, 1977; Marini and Hodsdon, 1981; Morgan and Rindfuss, 1985; Kohler et al., 2002]. This is true also because fertility starts to fall with age from as early as 25, and more rapidly from 35 onwards [Menken and Larsen, 1994; Wood 1994; Beets, 1995], an age at which it has become increasingly common to start forming a family. The second variable is the *cohort*, in fact among young cohorts it is visible an attitude to postpone the first child compared with older generations. But once they have had the first child, they are increasingly having a second or a third, even if these births are postponed longer than before [Pinnelli et al. 2001].

Women's *educational level* is considered as one of the main causes of union formation postponing and consequently childbearing postponing [Blossfeld an Huinink, 1991; Knudsen, 1996; Di Giulio, Lesthaeghe, Moors, and Pinnelli 1999]. Generally the possession of a medium or high level of education affects the decision to have or not a child or postponing having one. A medium level of education is more likely to have negative effects, which especially have an impact on the quantum of fertility, thus leading more often to the decision not to have children. A high level of education is more likely to have negative effects which impacts on timing, but it is less often an impediment to eventual childbearing [Pinnelli et al. 2001].

The third important variable we consider is women's *employment*. Generally there is a negative effect on the quantum as well on the timing of childbearing for employed women [Butz and Ward, 1979; Lesthaeghe and Moors, 1995; Kohler, et al.; 2002]. In

both countries, the labor market is characterized by high levels of rigidity basically due to very similar patterns of employments for women and men [Angeli, De Rose and Di Cesare 2004]. Conform to McDonald's [2000] research, fertility falls to very low levels when gender equity rises in individual oriented institution, like the labor market, but not in family oriented institutions. On the one hand, in Italy and Spain there are not special employments for women who want to reconcile work with family commitments. On the other hand, family roles in these two countries have been slow in adapting to women's new roles in the labor market [Chesrais, 1996], and it is visible a highly asymmetric labor division within households, which becomes even more asymmetric after the birth of the first child [Palomba and Sabbatini, 1993]. In addition the very low level of institutional and social support to family [Reher, 1998] means that more often women have to choose between employment and maternity, as not easily compatible alternatives.

As regards the relation between partners, we consider the *type of union* and the event *separation*. In fact, it has been demonstrate that the transformation of cohabitation into marriage has a positive effect on fertility, while separation always has significant negative effect on childbearing of any order [Pinnelli et al., 2001].

The last variables aspect we take into consideration is the *birth order*, since increasing the number of children born decrease the attitude to have a second one, a third one and so on. It is truer for high order birth than low order [Pinnelli et al., 2001].

3. Data and methods

The analysis is based on the 1996 Fertility and Family Survey (FFS) data for Italy and Spain. This survey was conducted in the 1990s in many member states of the United Nations Economic Commission for Europe and was coordinated by the Population Activities Unit (PAU). The survey provides a (bigger) sample of women, a (smaller) sample of men, and a third sub-sample of the current partners of women' s interviewed. In this paper, we use the independent female sample.

We select a sub-sample of women who have experienced first union formation in order to focus on individuals simultaneously at risk of childbearing and of union dissolutions.

The exclusion of women not in a union does not affect the analysis of fertility process, being out of well-dock childbearing extremely low in Italy and Spain. We have not considered unions ended by the death of partner, because these cases are so few that their omission does not influence the analysis in any way. We consider first unions, not distinguishing between cohabitation and marriage, because we are interested in taking under control both types of union, since cohabitation, even if not widespread among the population, is a phenomenon of increasing importance among the youngest generations interviewed in the survey. Union dissolution is defined as when the partners do not longer live together.

We have argued that between union dissolution and fertility decision there might exist a spurious relationship (i.e. there might be some unobserved common determinants of both processes), as well as direct reciprocal causality. In order to verify whether our hypotheses of research hold in the context of Italy and Spain, we use simultaneous hazard modeling (Lillard, 1993). Each process is represented through a continuous hazard equation. The outcome of each process is introduced as a explanatory variable of the other process, to control explicitly for their mutual effect. The effect of unobserved characteristics on each process is represented through a heterogeneity term. Allowing for correlation between the two heterogeneity terms we control for the effect of potentially common unobserved determinants of both processes. Formally the models can be presented as follows:

$$\begin{cases} \ln h^f(t) = \alpha_0 + D_f(t) + A_f(t) + \alpha_1 X(t) + \alpha_2 Diss_f(t) + \varepsilon_f \\ \ln h^d(t) = \beta_0 + D_d(t) + \beta_1 Y(t) + \beta_2 Fer(t) + \varepsilon_d \end{cases} \quad (1)$$

where $h^f(t)$ is the hazard rate of experiencing a further childbearing; $D_f(t)$ is the spline (with knots at 12, 24 and 36 months) representing the duration of the exposure to the risk of having a child since the union formation (for the first parity) or since the previous childbirth (for the following parities); $A_f(t)$ is the spline (with knots at 23 and 28 years) representing the age of the woman at the event; $X(t)$ is the set of time constant or time varying explanatory variables we include in the model: cohort,

educational level, employment, parity and marriage (see Table 1); $Diss_f(t)$ is the time varying variable indicating whether the union dissolution occurs (through this variable we control for the direct effect of the other process); ε_f is the heterogeneity (or error) term representing the effect of the unobserved characteristics on the process. Similarly, $h^d(t)$ is the hazard rate of experiencing union dissolution; $D_d(t)$ is the spline (with knots at 38, 84, and 180 months) representing the duration of the exposure to the risk of union dissolution since the first union formation; $Y(t)$ is the set of explanatory variables we include in the model: age at first union, educational level, employment, marriage, historical period, parents' separation (see Table 1); $Fer(t)$ is the time varying variable indicating whether and how many children the woman has; ε_d is the heterogeneity term.

Allowing for correlation between the heterogeneity terms (ρ) is crucial to control for the (potentially) simultaneous effect of the unobserved characteristics on both processes. Thus, the error terms are assumed to be time constant and distributed according to a bivariate normal distribution as follows:

$$\begin{pmatrix} \varepsilon_f \\ \varepsilon_d \end{pmatrix} \cong N\left(\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \sigma_f^2 & \rho\sigma_f\sigma_d \\ \rho\sigma_f\sigma_d & \sigma_d^2 \end{pmatrix}\right) \qquad (2)$$

The models are estimated at maximum likelihood, using the aML software package (Lillard and Panis, 2000).

4. Results

We show three different of models we have estimated (Table 2 and 3): firstly we have estimated the equations, representing the two processes under study, separately and without including the error terms; secondly we have included the error term in each equation; finally we have estimated the two equations simultaneously, allowing for the correlation between the two processes. We show the three approaches to provide a better description of *if* and *how much* using simultaneous modeling results to be

worthwhile, when investigating the interrelationships between fertility and union dissolution in Italy and Spain.

4.1 Unobserved determinants of fertility and union dissolution

The estimates obtained through the simultaneous approach are shown below Model 3, in Table 2 for Italy and Table 3 for Spain. We have said that whether there exists or not a spurious relationship between union dissolution and fertility is indicated by the estimate of the correlation between the heterogeneity terms (ρ). The results show that there exists a negative and significant correlation between the unobserved affecting union dissolution and those affecting fertility in the case of Italy. In Spain, instead, such a correlation is still negative but no longer significant. Thus, our first hypothesis (*H1*) finds empirical evidence in Italy but not in Spain. In the former country, individuals more likely to experience union dissolution are less likely to have a further child (and vice versa). In the latter country, there is not any indirect effect between the processes once their reciprocal direct effect and the other individual characteristics are controlled for. Thus, in the case of Italy the use of simultaneous modeling provides a better description of the processes under study and of their interrelationship. In the case of Spain, instead, such modeling approach does not provide any further information if compared with the modeling where correlation is not allowed (Model 2). As a consequence, also the estimates of the direct effect of each process on the other are quite different when using simultaneous modeling or not in Italy, while they are very similar when using the different approaches in Spain.

Concerning the effect of fertility on union dissolution (Figure 4), we notice that in Italy having a further child decreases significantly the risk of union dissolution when the spurious relation is disregarded (see Model 1 and 2), while such an effect is much smaller and less significant when simultaneous modeling is used (see Model 3). Indeed, when using the simultaneous approach, only the second or higher parities are associated with a significantly lower risk of union disruption. Thus, it is not the fact of having a child itself to induce a lower risk of union dissolution, but also those individual unobserved characteristics that induce women to have a higher fertility as well as a

higher union stability. In Spain, fertility induces a significantly lower risk of union dissolution only in the case of the second parity, independently on the modeling approach used. Thus our second hypothesis (*H2*) is only partly confirmed, given that fertility actually induces a lower risk of union dissolution, but this effect is lower that expected. Moreover, while such an effect increases with the parity in Italy, it is not true in Spain. Thus the stronger effect is not associated with the first parity as expected.
With regard to the effect of union dissolution on fertility (Figure 5), in both countries a union breakdown induces a much and significantly lower risk of having a further child. Thus, our third hypothesis (*H3*) is confirmed in both Italy and Spain. As argued before, when the simultaneous approach is used the direct effect of union dissolution on fertility is slightly lower in the case of Italy.

4.2 Union dissolution

We control for the *duration* of the union. There is not an a well defined shape of the risk of union dissolution by duration. In Spain it is visible a higher risk in the first years of the union and a significant decrease after 7 years of union, while in Italy the risk increases significantly between the 7th and the 15th years of union and decreases after 15th years. But in both countries the effect is very small.
Age at union formation: in both countries there is a quite strong effect of this variable on the union stability. Women aged less then 20 have a higher risk of their union ending than do women aged 20 or over. The general trend in both countries is that the higher the age at union formation, the lower the risk of union dissolution. However, the decrease in risk is more pronounced during relatively young ages.
Parents separation: the parent's separation affects the risk of instability, confirming the strong relationship between parents' separation and disequilibrium within the children's first union, also in Italy and Spain. It is also likely that an experience of parental separation affects the value and the meaning individuals attribute to partnership. The age at which children experience their parents' separation has also an impact on the future risk of their separation or divorce. Experiencing parental union disruption during childhood increases significantly and strongly one's own risk of union disruption. Such

an effect becomes not significant if parents' separation occurs when the "child" has become an adult (age>18 years).

Education: in both countries, there is a significant effect of education on the risk of union dissolution. This variable is used as an indicator of the changed status of women in society. In Italy, the higher is the educational level of women, the higher is the risk of union dissolution. In Spain the higher risk of union dissolution is associated with a medium level of education.

Type of union: we have considered marriage as a reference category so as to pick up the effect of cohabitation. Marriage represents one of the elements of union stability (in both cases: with or without previously cohabitation). This strong difference in the risk between the two kinds of union is linked to the meaning of cohabitation. Cohabitation does not have a legally recognized status in Italy and Spain. Cohabiters do not have mutual rights and duties and either party may consider ending the relationship at any time. The absence of any legal or recognized protection automatically gives instability to this kind of union. Hence, cohabitations have a much higher risk of breakdown than marriages in both countries.

Employment: being employed induces a higher risk of union disruption for women when compared with the unemployed and housewife category. This conclusion is valid when looking at the whole category of employed people. Considering subgroups by hours of work, we notice that the group of women that work more than 45 hours a week, experience a much higher risk of union dissolution. This in true in both countries, and in Italy the difference with the other categories is wider. This result confirms our assumption that the absence of union stability is strictly linked to the new behavior and habits accessible to women. The changing behavior of women has not been matched by the necessary changes needed in a relationship. If the woman is out of the home for many hours, it represents a shock to the equilibrium of the couple.

Period: the process of secularization is associated with an increase in union instability, but such an effect appears to be stronger in Italy. This is probably due to the fact that in Italy divorce has been allowed earlier than in Spain.

4.3 Fertility

The risk of having a child by the *duration* since the beginning of the union (for the first parity), or the previous birth (for the following parities) shows a similar pattern in both countries. It rises during the first year, then it decreases during the second year, it rises again during the third year, and decreases later on. In both countries, when considering simultaneous modeling (Model 3), the decrease during the second year loses significance, suggesting a reverse V shape with a knot at the end of the third year.

Age at childbirth: the higher is the age at childbirth, the lower is the risk of having a further childbirth. Such a trend is significant and strong in both countries..

Cohort: the general trend by cohort can be summarized as follows. The more recent is the cohort, the lower is the risk of a further childbearing in both countries. The youngest Spanish cohort represents an exception to this trend role, in fact the negative effect of the cohort is weaker than that of the previous cohorts and it is quite similar to that of the Cohort 56-60. It is probably due to a change in attitudes of the youngest generations. The cohort effect is stronger when including the heterogeneity (Model 2) and the correlation (Model 3). When controlling for the effect of unobserved determining a higher predisposition towards high fertility, the decrease in the risk of having a further childbirth by cohort is more evident. Possibly the effect of reducing fertility, due to changes in terms of culture, values, and socio-economic context faced by the different generation appears more clearly.

Education: education affects the risk of a further childbirth as we expected. In Italy, having a medium level of education is associated with a lower fertility much more than a high level of education. Higher educational levels might be associated with other individual characteristics and resources that ease women's reconciliation of family related and non family related roles (i.e. higher economic resources, more flexible position in the labor market). This is not true in Spain, where the higher is the educational level, the lower is the chance of a having a further child.

Employment: When increasing the number of working hours per week, the probability to have a further child decreases. Only in Italy, a slight recover for women who work for many hours (more than 45) is visible; the explanation could be find in the major financial resources of these women, that allow them to afford all the services they need

to conceal employment and fertility. The main difference between the two countries is represented by the category of the self-employed workers: while in Italy they have the lowest probability to have a next child, in Spain self-employed women have the second highest probability, after the category of housewife. It could be due to country differences in the composition of the category of self-employment. Self-employment in Spain might allow for a higher flexibility and in turn to an easier conciliation of employment and fertility.

Parity: in both countries, the higher is the parity, the lower is the risk to have a further child. Thus, women in a union actually aim to have at least one child, but not necessarily more than one.

Type of union: married women have a much higher risk of having a further child than cohabiting women do, and this is true in both countries. Such a result confirms that in Italy and Spain fertility is phenomena mainly associated with a traditional family structure, and with high levels of formalized commitment.

5. Discussion

We have argued that fertility decision and union dissolution are two individual trajectories deeply interrelated [Lillard and Waite, 1993], because both them contribute to define one's family related life course. Having one or more children and a stable relation and satisfactory relationship are indeed two of the main goals of an individual once he or she enters a union, either a cohabitation or a marriage. Thus, there might be some unobserved characteristics that might affect simultaneously individual decision about having a further child or not, as well as about give up a relationship or not [Lillard and Waite, 1993; Thornton, 1977]. We have proposed an interpretation of these unobserved characteristics potentially affecting decision making process about both trajectories in terms of individual value orientation. This interpretation belongs to the reasoning that actually values orientation contributes to determine the spreading of new demographic behaviors at macro level [Lesthaeghe and Moors, 2002], and influence individual decisions about different life trajectories at micro level [Jansen and Kalmijn, 2002]. We have argued that possibly individuals are oriented towards family values or,

in alternative, individualistic values. The formers are more likely to invest more resources in the family [Jansen and Kalmijn, 2002]. Thus, they might behave in order to realize a higher fertility, and achieve a satisfactory and stable relationship. In contrast, individualistic persons are less likely to invest in time and resources consuming activities, as children and a relationship are, and therefore they might behave in order to have less children, and give up a relationship as soon as it is not enough satisfactory.

Our arguments find empirical evidence in Italy where women who for unobserved individual characteristics are more likely to have a further child, are also less likely to experience union dissolution. Thus, we interpret that the Italian women oriented towards family are prone to have more children, and a stable relationship, while those oriented towards individualistic values have a lower fertility and a higher chance to breakdown their relationship. This result holds also if the direct effect of the outcome of each process on the other, as well as the other individual characteristics affecting the processes under study, is taken into consideration.

In the case of Spain, instead, the effect of unobserved characteristics or, according to our interpretation, of value orientation is not worth of consideration once the direct effect between union dissolution and fertility, and the other individual characteristics influencing these trajectories, are controlled for. We suggest that this result does not imply that value orientation does not influence individual behavior in Spain, but only that once the effect of other individual characteristics and life trajectories (i.e. education, employment, union formation) are explicitly considered, then the explanatory power left to values is much smaller than in Italy.

Nevertheless, as we assumed, in both countries there exists a direct effect between fertility decisions and union dissolution. On the one hand, having a child decreases the risk of union disruption, even if such an effect is lower that what expected. Thus, children represent a strong tie for the couple, providing shared goals and interests to the partners [Thornton, 1977], as well as an economic obstacle to union dissolution [Becker, 1991]. On the other hand, union dissolution strongly decreases the risk of further childbearing. A union breakdown represents an obstacle to further fertility, by removing for a time the natural environment for having children, and by potentially reducing individual confidence in the stability of the next relationship, that in turn decreases the chance of having further children [Lillard and Waite, 1993].

Italy and Spain are usually considered very similar countries not only because of the demographic patterns they are witness [van de Kaa, 1987], but also for the welfare states they rely on, and the roles played by the different institutions [Esping-Andersen, 1999]. Among these, for instance, the family is fundamental in both countries, because through solid ties, it provides strong support to individuals when facing transitions and important life experiences [Reher, 1998]. For these reason when investigating demographic processes in these countries usually same results are expected. In our case, this is partially confirmed, because union dissolution and fertility appear to be affected by individual characteristics and by each other in a similar manner. However, the existence of a spurious relationship between union dissolution and fertility, that we were expecting in both countries, finds confirmation only in Italy. Such a difference might belongs to those country differences that, even if much smaller if compared with other western countries, still hold. It would be interesting to dedicate future research focusing on the differences between these countries instead of their similarities. The comprehension of *what* makes the difference in similar contexts might provide a better inside in the phenomena under study.

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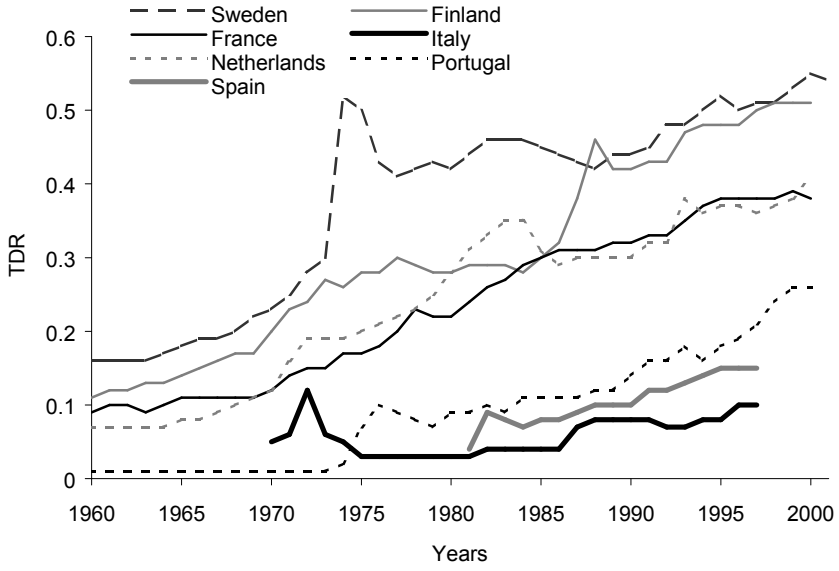
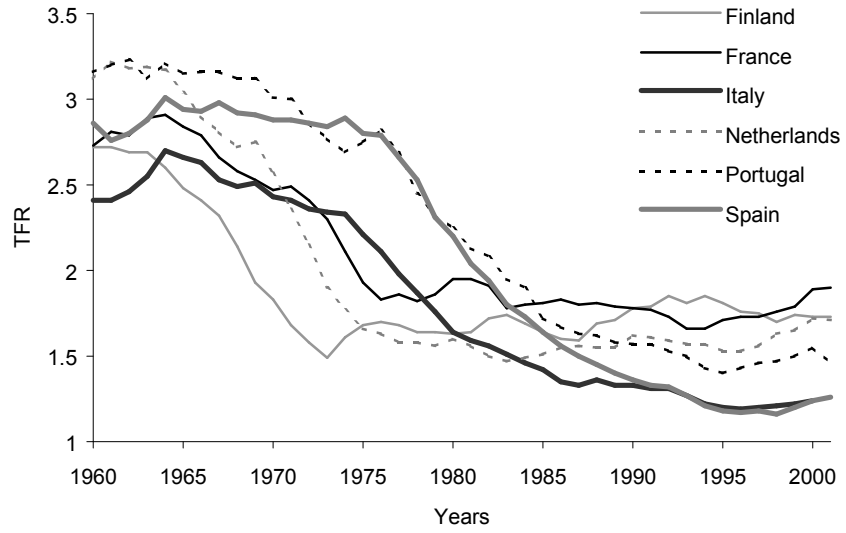
Figure 1 – Total divorce rate in some European countries – Years 1960-2001



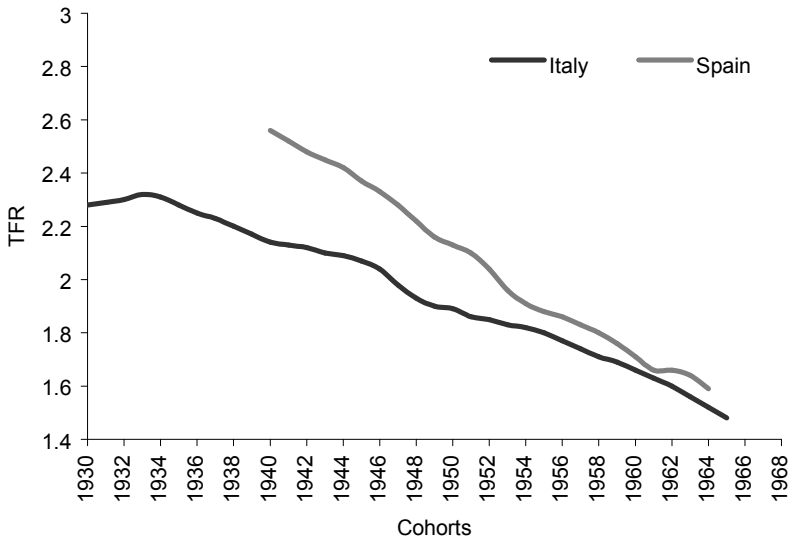
Source – Council of Europe – Demographic Yearbook 2002

Figure 2 – Total fertility rate in some European countries – Years 1960-2001



Source – Council of Europe – Demographic Yearbook 2002

Figure 3 – Total fertility rate by generation in Italy and Spain



Source – Council of Europe – Demographic Yearbook 2002

Table 1 – Explanatory variables included in the model estimates

Model – Fertility		Model – Union instability	
Covariates	Values	Covariates	Values
Age at childbirth	1 - <23 years	Age at union	1 - <20
	2 - 23-28 years		2 - 20-23
	3 - >28 years		3 - 23-25
Cohort	1 - 46-50 (45-50		4 - >= 26
	2 – 51-55	Parents	1 - No
	3 – 56-60		2 - Yes, <18 years
	4 – 61-65		3 - Yes, >18 years
	5 – 66-70	Education	1 - low level
	6 – 71-75 (71-77		2 - medium
Education	1 - low level		3 - high
	2 - medium	Type of union	1 - Cohabitation
	3 - high		2 - Marriage
Employment	1 - No job + housewife + student + others	Employment	1 - No job + housewife + student + others
	2 - < 35 hours		2 - < 35 hours
	3 - 35-44 hours		3 - 35-44 hours
	4 - 45+ hours		4 - 45+ hours
	5 – self employed		5 - self employed
Parity	1 - Parity 0	Parity	1 - Parity 0
	2 - Parity 1		2 - Parity 1
	3 - Parity 2		3 - Parity 2
	4 - Parity 3		4 - Parity 3
Union	1 - Yes	Period	1 – before 1987
	2 - No		2 – after 1987
Type of union	1 - Cohabitation		
	2 - Marriage		

Table 2 – Parameter estimates for Italy

	Model 1 (Without Heterogeneity)		Model 2 (With Heterogeneity)		Model 3 (With Correlation)	
	B	*SE*	*B*	*SE*	*B*	*SE*
			Union stability			
Marital duration: spline (months)						
0-36 months	0.0139	*-0.0108*	0.0175	*-0.012*	0.0118	*-0.0113*
36-84 months	0.0002	*-0.0067*	0.0016	*-0.0069*	-0.0021	*-0.0071*
84-180 months	0.0078	*-0.0033***	0.0082	*-0.0035***	0.0069	*-0.0034***
d180+ months	-0.0098	*-0.0043***	-0.0096	*-0.0044***	-0.0099	*-0.0044***
Constant	-8.1406	*-0.3403****	-8.5621	*-0.6605****	-8.6902	*-0.3555****
Age at first union (<20)						
20-22 years	-0.4667	*-0.1852***	-0.4784	*-0.2012***	-0.4896	*-0.1966***
23-25 years	-0.7269	*-0.2066****	-0.7643	*-0.2262****	-0.742	*-0.2218****
>=26 years	-1.0668	*-0.2642****	-1.1275	*-0.2971****	-1.1051	*-0.285****
Parents separation (No)						
Yes, <18 years	1.3072	*-0.2712****	1.4101	*-0.3336****	1.3876	*-0.2998****
Yes, >=18 years	0.0549	*-0.7343*	0.068	*-0.7482*	0.0387	*-0.7492*
Education (Low level)						
Medium level	0.3564	*-0.1686***	0.383	*-0.181***	0.4255	*-0.1817***
High level	0.936	*-0.2606****	0.9639	*-0.2976****	0.9942	*-0.2863****
Type of Union (Marriage)						
Cohabitation	1.9149	*-0.2233****	2.046	*-0.2879****	2.15	*-0.2553****
Childbearing (Parity 0)						
Parity 1	-0.6753	*-0.2018****	-0.7199	*-0.214****	-0.3845	*-0.2663*
Parity 2	-1.2925	*-0.26****	-1.3954	*-0.2941****	-0.7863	*-0.4368**
Parity 3	-1.9798	*-0.4381****	-2.0905	*-0.4638****	-1.2557	*-0.622***
Employment (Housewife + Others)						
Employed <35 hours	0.4211	*-0.2843*	0.4135	*-0.2957*	0.4629	*-0.2952*
Employed 35-44 hours	0.4662	*-0.1893***	0.4777	*-0.1963***	0.5401	*-0.1962****
Employed 45+ hours	0.8116	*-0.2168****	0.8198	*-0.2286****	0.8712	*-0.2298****
Self-Employed	-0.0399	*-0.3375*	0.0098	*-0.3536*	0.0757	*-0.3532*
Period (before 1988)						
After 1988	0.4366	*-0.164****	0.4567	*-0.1714****	0.4814	*-0.1705****
			Fertility			
Time since last birth: spline (months)						
<12 months	0.1878	*-0.0091****	0.2184	*-0.0091****	0.2184	*-0.0092****
12-24 months	-0.0324	*-0.0052****	-0.0073	*-0.0055*	-0.0071	*-0.0055*
24-36 months	0.0199	*-0.0045****	0.0384	*-0.0048****	0.0383	*-0.0048****
>36 months	-0.0172	*-0.0007****	-0.0138	*-0.0008****	-0.0139	*-0.0008****
Age: spline (years)						
<23 years	-0.0477	*-0.0071****	-0.0483	*-0.0108****	-0.0464	*-0.0107****
23-28 years	-0.0596	*-0.0097****	-0.0447	*-0.0125****	-0.0458	*-0.0124****
>28 years	-0.0738	*-0.0128****	-0.0672	*-0.0146****	-0.067	*-0.0146****
Constant	-4.5334	*-0.1887****	-5.1002	*-0.2601****	-5.1628	*-0.2593****
Cohort (45-50)						
1951-1955	-0.0424	*-0.0325*	-0.0659	*-0.06*	-0.056	*-0.0599*
1956-1960	-0.1313	*-0.0351****	-0.2101	*-0.0631****	-0.2051	*-0.063****
1961-1965	-0.1891	*-0.0379****	-0.2925	*-0.0652****	-0.2882	*-0.065****
1966-1970	-0.3393	*-0.0535****	-0.4826	*-0.0807****	-0.4804	*-0.0804****
1971-1977	-0.397	*-0.1177****	-0.5064	*-0.1597****	-0.4954	*-0.1596****
Education (Low level)						
Medium level	-0.16	*-0.0299****	-0.2927	*-0.05****	-0.2949	*-0.05****
High level	-0.0432	*-0.0519*	-0.1974	*-0.0847***	-0.199	*-0.0847***
Employment (Housewife + Others)						
Employed <35 hours	-0.3686	*-0.0639****	-0.5254	*-0.0866****	-0.5206	*-0.0865****
Employed 35-44 hours	-0.5252	*-0.034****	-0.6777	*-0.0479****	-0.6784	*-0.0478****
Employed 45+ hours	-0.3648	*-0.0466****	-0.5078	*-0.0673****	-0.5063	*-0.0671****

Table 2 (continued)

	Model 1 (Without Heterogeneity)		Model 2 (With Heterogeneity)		Model 3 (With Correlation)	
	B	*SE*	*B*	*SE*	*B*	*SE*
Self-Employed	-0.4562	*-0.0673****	-0.617	*-0.0921****	-0.6199	*-0.0923****
Childbearing (Parity 0)						
arity 1	-1.0868	*-0.0344****	-1.706	*-0.0506****	-1.7088	*-0.0507****
Parity 2	-2.1586	*-0.052****	-3.2065	*-0.0753****	-3.2084	*-0.0753****
Parity 3	-2.2183	*-0.072****	-3.7979	*-0.1048****	-3.7997	*-0.1046****
Union dissolution (No)						
Yes	-0.7598	*-0.1359****	-0.8495	*-0.1581****	-0.6375	*-0.1845****
Type of Union (Cohabitation)						
Marriage	0.9085	*-0.1009****	1.3101	*-0.1192****	1.3252	*-0.1193****
Unobserved heterogeneity Fertility ε_f			0.8281	*-0.0312****	0.8296	*-0.0312****
Unobserved heterogeneity Stability ε_d			0.8077	*-0.5573*	0.8077	
Correlation σ					-0.4564	*-0.2416**

Table 3 – Model estimates for Spain

	Model 1 (Without Heterogeneity)		Model 2 (With Heterogeneity)		Model 3 (With Correlation)	
	B	*SE*	*B*	*SE*	*B*	*SE*
		Union stability				
Marital duration: spline (months)						
0-36 months	0.0287	*-0.0095***	0.0382	*-0.0128***	0.037	*-0.0102***
36-84 months	0.0043	*-0.0057*	0.009	*-0.0067*	0.008	*-0.0062*
84-180 months	-0.0075	*-0.0038***	-0.0069	*-0.0039**	-0.0073	*-0.0039**
d180+ months	0.006	*-0.0039*	0.0063	*-0.004*	0.0062	*-0.004*
Constant	-8.3753	*-0.3279****	-9.1425	*-0.717****	-9.1809	*-0.3611****
Age at first union (<20)						
20-22 years	-0.6321	*-0.1749****	-0.8013	*-0.2214****	-0.8071	*-0.2051****
23-25 years	-0.7576	*-0.1982****	-0.9499	*-0.249****	-0.9503	*-0.2287****
>=26 years	-0.6159	*-0.2374****	-0.7983	*-0.2833****	-0.7973	*-0.2786****
Parents separation (No)						
Yes, <18 years	0.5216	*-0.2849**	0.6025	*-0.347**	0.6035	*-0.3408**
Yes, >=18 years	0.7826	*-0.4425**	0.7639	*-0.5275*	0.7643	*-0.5332*
Education (Low level)						
Medium level	0.4709	*-0.1657****	0.5754	*-0.2089****	0.5794	*-0.198****
High level	0.3951	*-0.2609*	0.4926	*-0.3159*	0.5058	*-0.3135*
Type of Union (Marriage)						
Cohabitation	2.3451	*-0.1881****	2.6905	*-0.3117****	2.7249	*-0.2321****
Childbearing (Parity 0)						
Parity 1	-0.2312	*-0.2019*	-0.3335	*-0.2252*	-0.2541	*-0.2606*
Parity 2	-0.9454	*-0.2676****	-1.138	*-0.307****	-0.9976	*-0.3574***
Parity 3	-0.3929	*-0.3206*	-0.6201	*-0.367**	-0.4245	*-0.4993*
Employment (Housewife + Others)						
Employed <35 hours	0.5198	*-0.2368***	0.5665	*-0.2675***	0.584	*-0.2667***
Employed 35-44 hours	0.4143	*-0.1731***	0.4173	*-0.1867***	0.4383	*-0.1884***
Employed 45+ hours	0.6809	*-0.225****	0.6318	*-0.2454***	0.6488	*-0.2471****
Self-Employed	0.5824	*-0.4304*	0.4745	*-0.4655*	0.4783	*-0.4664*
Period (before 1988)						
After 1988	0.257	*-0.1561**	0.2691	*-0.1717*	0.2805	*-0.1707*
		Fertility				
Time since last birth: spline (months)						
<12 months	0.1948	*-0.0099****	0.2174	*-0.01****	0.2174	*-0.01****
12-24 months	-0.0272	*-0.0054****	-0.0074	*-0.0056*	-0.0074	*-0.0056*
24-36 months	0.0255	*-0.0047****	0.0397	*-0.0049****	0.0397	*-0.0049****
>36 months	-0.0163	*-0.0008****	-0.0124	*-0.0008****	-0.0124	*-0.0008****
Age at childbirth: spline (years)						
<23 years	-0.0372	*-0.0081****	-0.0329	*-0.0109****	-0.0331	*-0.0109****
23-28 years	-0.0566	*-0.0098****	-0.0472	*-0.0122****	-0.0472	*-0.0122****
>28 years	-0.1471	*-0.0144****	-0.1403	*-0.0158****	-0.1405	*-0.0158****
Constant	-4.9943	*-0.2117****	-5.4947	*-0.2779****	-5.4965	*-0.2776****
Cohort (45-50)						
1951-1955	-0.1941	*-0.0351****	-0.2355	*-0.0665****	-0.2337	*-0.0665****
1956-1960	-0.2593	*-0.0366****	-0.3129	*-0.0659****	-0.3113	*-0.0658****
1961-1965	-0.4435	*-0.041****	-0.5864	*-0.0687****	-0.5858	*-0.0687****
1966-1970	-0.7103	*-0.0558****	-0.89	*-0.0837****	-0.8895	*-0.0838****
1971-1977	-0.2925	*-0.1025****	-0.3477	*-0.1386***	-0.3465	*-0.1385***
Education (Low level)						
Medium level	-0.0952	*-0.0373***	-0.1798	*-0.058****	-0.1813	*-0.0581****
High level	-0.1258	*-0.0673**	-0.2742	*-0.1017****	-0.2749	*-0.1017****
Employment (Housewife + Others)						
Employed <35 hours	-0.5913	*-0.069****	-0.7846	*-0.085****	-0.7851	*-0.085****

Table 3 (continued)

	Model 1 (Without Heterogeneity)		Model 2 (With Heterogeneity)		Model 3 (With Correlation)	
	B	*SE*	*B*	*SE*	*B*	*SE*
Employed 35-44 hours	-0.5405	*-0.0373****	-0.7259	*-0.0488****	-0.7255	*-0.0488****
Employed 45+ hours	-0.6699	*-0.0583****	-0.8346	*-0.0732****	-0.8346	*-0.0731****
Self-Employed	-0.4449	*-0.099****	-0.5501	*-0.1243****	-0.549	*-0.1243****
Childbearing (Parity 0)						
Parity 1	-1.028	*-0.0364****	-1.5191	*-0.0472****	-1.5188	*-0.0472****
Parity 2	-2.056	*-0.0524****	-2.8839	*-0.0699****	-2.8836	*-0.0699****
Parity 3	-1.8782	*-0.0632****	-3.1111	*-0.0847****	-3.1105	*-0.0849****
Union dissolution (No)						
Yes	-0.4001	*-0.1122****	-0.4204	*-0.128****	-0.3706	*-0.1477***
Type of Union (Cohabitation)						
Marriage	1.2469	*-0.0912****	1.5793	*-0.1099****	1.5853	*-0.1104****
Unobserved heterogeneity Fertility ε_f			0.7143	*-0.0281****	0.7143	*-0.0282****
Unobserved heterogeneity Stability ε_d			1.0927	*-0.3921****	1.0927	
Correlation σ					-0.0989	*-0.1629*

Figure 4 - The effect of Childbearing on the risk of Union Dissolution (Relative Risks)

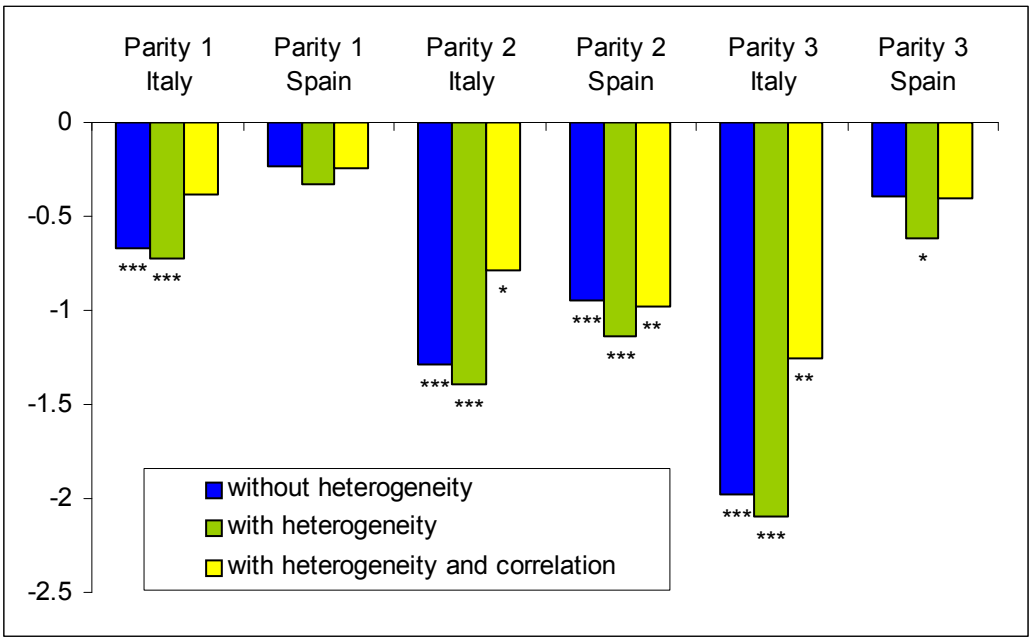


Figure 5 - The effect of Union Dissolution on the risk of having further childbearing (Relative Risks)