Do civil marriage and premarital cohabitation have a negative impact on marital stability? Empirical evidence for the Italian case

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Abstract

Using descriptive statistics, civil marriages and marriages preceded by premarital cohabitation are more unstable, i.e. more frequently followed by divorce. However, the literature has shown that selectivity plays an important role in the relation between premarital cohabitation and union dissolution. We do not have evidence to date regarding the selectivity in the effect of civil marriage. The Italian case appears particularly interesting given the recent diffusion of the premarital cohabitation and civil marriage. Using micro-level data from a national-level representative survey held in 2003, we develop a multi-process model that allows unobserved heterogeneity to be correlated across the three decisions (premarital cohabitation, civil marriage, and divorce). Our results show that selectivity is the main factor that explains the higher divorce rates among those who experience a premarital cohabitation and a civil marriage. Net of selectivity, the causal effect on union dissolution disappears.

Do civil marriage and premarital cohabitation have a negative impact on marital stability? Empirical evidence for the Italian case

Roberto Impicciatore **Francesco C. Billari**

1. Introduction

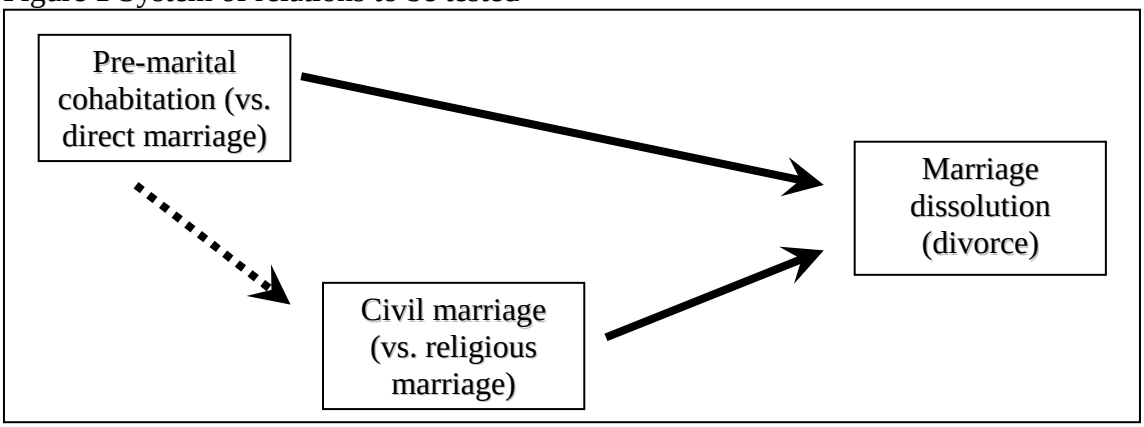
In this paper, we study the relationship between the choices of experiencing a premarital cohabitation (versus a direct marriage) and of a civil marriage (versus a religious marriage) and the stability of the subsequent marriage. We build on the theory-based modeling approach developed by Lillard and colleagues (see, e. g., Lillard 1993, Lillard *et al.* ,1995) and we model premarital choices and the as a set of simultaneous equations allowing for potentially correlated common unobserved factors. The decision to cohabit before marriage and to marry with a civil ceremony enter in the equation of the hazard of divorce as explanatory factors, that can be studied net of the effect of common factors that give rise to selectivity. Besides, we also model the effect of premarital cohabitation on the choice between marriage and religious ceremony. A scheme of the relationships that we investigate is reported in Figure 1.

The impact of premarital cohabitation on subsequent union instability has been investigated by several authors (see, e.g., Lillard et al, 1995; Axinn and Thornton, 1992; Berrington and Diamond, 1999; Hoem and Hoem, 1992; Teachman *et al.*, 1991; Hall and Zhao, 1995; Bennett *et al*., 1988). Recently, this impact has been shown to vary markedly between countries depending on how far cohabitations have diffused within a society (Liefbroer and Dourlrijn, 2006). We know of no study on the impact of civil marriage on subsequent union instability. Our data--a survey held in 2003 by ISTAT, the Italian National Statistical Office--give suitable micro-level longitudinal information to study the relationship depicted in Figure 1 for Italy. In Italy, premarital cohabitations and civil marriages have recently become more widespread, even if their diffusion is still low compared to most other European countries and for what we know about cohabitation, also compared to Canada and the U.S. As in other societies, choosing to cohabit and/or to marry without a religious ceremony can be is related to specific values and attitudes that at the same time lead to higher risk of marital disruption. Therefore, selectivity could play a more important role in the relationship between premarital choices and union instability. If selectivity explains completely this relationship, the increasing diffusion of premarital cohabitation and civil marriage does not necessarily mean that divorce rates will rise in the near future.

The paper is structured as follows. In Section 2, we outline the development of civil marriage, cohabitation and divorce in Italy, also taking into account a comparative

perspective. In Section 3, we introduce our research questions and the hypotheses that we focus on. Data and methods are discussed in Section 4, while the results of our empirical analyses are presented in Section 5. Some concluding remarks are included in Section 6.

Figure 1 System of relations to be tested



2. Premarital cohabitation, civil marriage and divorce: the Italian setting

In a comparative perspective concerning the relationship between premarital cohabitation, civil marriage and divorce, the Italian case appears particularly interesting. On the one hand, divorce has been legalized quite recently (in 1970). On the other hand, cohabitation and civil marriage have had a limited diffusion, until quite recently. It is not surprising, then, that Italy has a low, but increasing, incidence of divorce. More specifically, marital dissolution within five years of marriage increased from 3 percent for women born between 1953 and 1957 to 5 percent for the cohorts 1963-1967. Comparative figures for Western European countries are 10 and 15 percent, and for Northern European Countries they are from 15 and 33 percent (Liefbroer and Dourlijen, 2006).

In Italy divorce is the final stage of a usually long process of actual and legally recognized separation. While divorce was introduced in 1970, the minimum length of the period of legal separation was reduced from 5 to 3 years in 1987. In fact, this process may last much longer and usually follows *de facto* separation. The proportion of marriages that break up, for these reasons, is higher than suggested by the divorce rate only.

Direct marriage is still the most common way of starting marriage. Even if the crude marriage rate decline from 5.64 in 1990 to 4.30 in 2004, there is not a real “crisis” in marriage as an institution, The decrease of the marriage rate reflects the postponement of marriage, increasingly preceded by cohabitation, than a refusal of marriage. In a comparative perspective, Italy continues to be characterized by traditional values with a strong propensity towards marriage and a strict division of

gender roles. Cohabitation remains a temporary experience that it is still not considered a real alternative to the marriage.

Civil marriages increased in Italy in the last decades but with a slower pace with respect to other European countries (Dittgen, 1995). A possible explanation is that in Italy religious ceremony (that means, almost exclusively, a catholic ceremony) has legal effects (i.e., the same effects as a civil ceremony with respect to the public). It is not necessary to have a separate civil ceremony, as in France, for instance. However, the changes in the kind of ceremony could be read in two different ways: as a sign of the lowering attraction towards marriage as an institution or as a new capacity of marriage to survive at the secularization process (Barbagli *et al*, 2003). The proportion of civil marriages has remained very low (about 2%) for a long period until the beginning of seventies where in few years the percentage raised to 10%. Afterwards, there was a regular increase up to more than 20% at the end of the century. However, about a relevant part of this growth is due to the diffusion of second marriages (5% of total marriage at 2000), that cannot be celebrated with a catholic ceremony, and the growing immigration (more than 50% of women born abroad choose civil marriage during Nineties). Given that figures, Barbagli *et al.*, 2003, estimate that at the end of the last century, the percentage of civil marriages celebrated by natives in Italy should be reduced to 10%.

3. Research questions and hypothesis

The international literature (especially focusing on the American experience) suggests that divorce rates are higher for who cohabit before marriage than for who married without living together first (Lillard et al, 1995; Axinn and Thornton, 1992; Berrington and Diamond, 1999; Hoem and Hoem, 1992; Teachman *et al.*, 1991; Hall and Zhao, 1995; Bennett *et al*., 1988). This is also true in the Italian case: the percentage of women who experienced divorce is higher for who lived a premarital cohabitation and a civil marriage (Table 1). In the first case, the difference is not due to a longer duration of marriage, as that the mean duration of marriage is very similar among divorced couples independently by premarital cohabitation.

Table 1. Italy: first marriages (celebrated after 1974 and lasted at least 3 years at the interview). Source: own elaborations on ISTAT 2003 survey.

				Mean duration	
	% divorced	% civil marriage	Number of marriages	divorced	censored
Premarital cohabitation					
No	4.7%	10.9%	6522	12.1	16.6
Yes	6.5%	42.6%	535	12.2	12.2
	5.9%	13.3%	7057	12.1	16.3
Marriage ceremony					
Civil	8.2%		936	10.8	14.8
Religious	4.3%		6121	12.4	16.5
	5.9%		7057	12.1	16.3

The main mechanism able to explain higher rates of divorce among who lived premarital cohabitation and civil marriage may be selection[1]. It might happen that these behaviors are easily experienced by a selected group of people who differ in salient ways from the remainder of the population, and who possess characteristics that are likely to influence union stability. It has been pointed out that individuals who cohabit before marriage are generally less oriented to perceive marriage as an "institution", as compared to individuals who marry directly (Axinn and Thornton, 1992; Thomson and Colella, 1992). Several studies show that cohabitors are characterized by a stronger attachment to personal independence, a weaker commitment to marriage in general and fewer traditional attitudes and values that might act to stabilize a union (Bumpass *et al*, 1989; Carlson, 1985, Sweet, 1989). Besides, Teachman and Polonko (1990) argue that cohabiting couples often marry because of pressure of family and peers. All these features make the decision of divorce more acceptable leading towards less stable marriages. Similarly, we can argue that a civil marriage is a sign of lower commitments towards the institution of marriage. In any case, we can easily imagine that premarital cohabitation and civil marriage are strictly linked: table 1 shows that 43 percent of cohabitors marry with a civil ceremony, compared to the 11 percent marrying directly. In other words, it seems reasonable that similar factors, both observed and unobserved, are able to influence both the decisions of pre-marital cohabitation and civil marriage and that these factors are strictly linked to a higher propensity to divorce.

If selectivity explains completely the relationship, the effects suggested by the analysis of descriptive statistics or bivariate associations are spurious, and might become weaker, or even disappear, when we take into account selectivity. Several studies confirm that selectivity play an important role in the relation between premarital cohabitation and union dissolution. For instance, Lillard *et al*. (1995) suggested that the effect of pre-marital cohabitation disappear completely when statistical controls for selectivity are introduced. In other cases the difference in the risk of marriage dissolution reduces substantially after control for observed heterogeneity between who lived cohabitation and who not (Berrington and Diamond, 1999; Bennett *et al.,* 1988). It is more difficult to find analyses that try to evaluate the selection effect on the relation between marital dissolution and civil marriage.

The first effort in our analysis is therefore the assessment of the effect of premarital cohabitation and civil marriage on union instability, net of selectivity. We use statistical methods, in the lines developed by Lillard and colleagues, which will be explained in detail in the next section. Once controlled for selectivity, we shall have more information on the actual effect of premarital cohabitation and civil marriage, i.e. on whether premarital cohabitation and civil marriage *cause* subsequent marital instability. More specifically, causation could arise in two different ways.

[1] Another approach is that the increased risk of marital dissolution among those who live with their spouse before marriage may be explained by the longer time spent together. This interpretation starting from the assumption that marital dissolution increases with partnership duration that is not empirically supported. Moreover, this hypothesis has been repeatedly rejected in literature (Berrington and Diamond, 1999; Teachman *et al*., 1991; De Maris and Rao, 1992).

First, individuals who cohabit before marriage might have developed (during cohabitation) different attitudes and value orientations that make success in marriage more difficult (Axinn and Thornton, 1992). For example, cohabitation causes individuals to become more accepting of divorce because they develop a more individualistic perspective concerning living as a couple and because they have evidence that reasonable alternatives to marriage exist (Thomson and Colella, 1992). In other words, the experience of cohabitation undermines the legitimacy of formal marriage making divorce a suitable alternative when difficulties arise (Hall and Zhao, 1988). Previous analyses show that in Italy the negative effect of premarital cohabitation on union stability is clear and significant even in multivariate models (Liefbroer and Dourlejin, 2006). In the same way, living in a civil marriage, in a country were religious marriage is highly preferred, could lead to a more individualistic and less committed view of marriage and then to a more acceptable view of marital dissolution. Then our first hypothesis is the following.

> *Hp1. Net of selectivity, we expect a positive effect of premarital cohabitation and civil marriage on the hazard of divorce*.

Second, causation could arise with the opposite direction. As far as concern cohabitation we may hypothesize that a period of cohabitation means a first and useful screening mechanism (Teachman *et al,* 1991); it gives the chance to gain in advance information towards the potential spouse and the kind of life the couple would entail, therefore constituting a protection factor towards divorce (Lillard *et al*. 1995). Besides, unmarried cohabitation with a poor chance of success will be terminated relatively soon and then they will not be transformed into marriage (Liefbroer and Dourleijn, 2006). As a consequence, who survive till marriage, will show lower risks of marriage dissolution.

As far as the kind of marriage is concerned, in a situation like the Italian one, in which religious marriages are predominant, living in a civil marriage, i.e. in a minority group that could even be stigmatized, may be an experience that strengthen the union giving a stronger consciousness of the importance of marriage and increasing the efforts in order to give marriage more stability. Our second hypothesis is therefore the following.

> *Hp2. Net of selectivity, the experiences of premarital cohabitation and civil marriage reduce the risk of divorce.*

In any case, the mechanism could depend by the cultural and institutional settings, as the literature has repeatedly shown. As Kiernan (2002) shows, premarital cohabitation has different effects on the divorce risk in different societies and its impact on union stability depends on the diffusion of cohabitations within the specific country: if very few people cohabit they will probably constitute a very selective part of the total population (Liefbroer and Dourleijn, 2006).Therefore, in countries where more rigid marriage norms prevail, cohabitation has a stronger effect on marital stability than in countries where marriage norms are weaker (Wagner and Weiss, 2006). The same could be argued for civil marriages. In this respect, the Italian case appears

particularly interesting given that divorce has been formally introduced quite recently in the Italian regulation, the low diffusion of cohabitations and the relatively recent development of civil marriages. As a consequence, most probably in Italy the selection effect play a very important rule.

Briefly, the main substantive questions we wish to answer are the following: net of selectivity, is there any causal link between premarital cohabitation, civil marriage and divorce? And, in the case, what is the sign of this link? We will try to give an answer in the Italian case using a simultaneous-equation statistical analysis.

4. Data and methods

Data for our analyses come from a multipurpose, nationally-representative survey called "Famiglia e soggetti sociali (FSS from now onwards)". Carried out at the end of 2003 by ISTAT, the Italian National Statistical Institute, this survey contains wide retrospective information on life course trajectories, including data on the history of marital unions, cohabitations (followed by a marriage or not) and marital disruption, for a large sample of the resident population.. More in detail, we use a sub-sample containing 7057 women born between 1940 and 1980 ever married at the interview (first marriage celebrated after 1974 and lasted at least 3 years). Unfortunately, in the FSS data there is quite a lot of missing data concerning legal and *de facto* separation. This lack of information forces us to focus on divorce rather than the real break up of marriage.

In order to study interrelated trajectories, we apply event history techniques, and more specifically hazard regression, with the aim to evaluating the impact of a specific choice on marital duration, net of those common determinants that constitute a potential source of spurious correlations. The point is that modeling risk of divorce simply as a function of cohabitation and civil marriage could lead to biased estimates if we not include selectivity. In order to do so, we developed a multi-process model composed by three simultaneous equations allowing unobserved heterogeneity components to be correlated across the three decisions. These kinds of models, as proposed by Lillard (1993), are particularly useful, since causal effects can be disentangled by selection effects. If the distribution of the unobserved components is hypothesized as being (multivariate) normal, the estimate of the parameters of the model via maximum likelihood can be obtained using aML, a suitable software for the estimation of advanced statistical models (Lillard and Panis, 2003).

In details, we define (we suppress the observation subscript *i*):

A. A hazard equation on the risk of divorce at time t (t=0 being the time of marriage plus three years, i.e. the minimum possible legal distance between marriage and divorce) as a function of exogenous regressor set (X_1) and two potentially endogenous decisions (pre-marital cohabitation Z_1 and civil marriage Z_2 that are function of other variables).

$$\ln \mu(t) = \alpha_0 + \alpha_1 Z_1 + \alpha_2 Z_2 + \beta_1' X_1 + \delta$$

The dependent variable is the hazard of divorce. Each episode starts at the date of marriage (plus three years) and ends at the date of divorce, if divorce is experienced. Otherwise, the episode is right-censored at the date of interview. Widowed respondents are censored at the date of the death of their spouse.

B. A probit equation on the probability of cohabitation before marriage, function of the exogenous regressor set X_2.

$$Z_1 = \beta_2^{'} X_2 + \varepsilon$$

where we observe only the actual choice of premarital cohabitation (vs. direct marriage):

$$Cohab = \begin{cases} 1 \; if \;\; Z_1 > 0 \\ 0 \; if \; Z_1 \leq 0 \end{cases}$$

C. A probit equation concerning the probability of civil marriage, function of the exogenous regressor set X_3.

$$Z_2 = \beta_3^{'} X_3 + \alpha_3 Z_1 + \lambda$$

where we observe only the choice of a civil marriage (vs. religious marriage):

$$Civ = \begin{cases} 1 \; if \;\; Z_2 > 0 \\ 0 \; if \; Z_2 \leq 0 \end{cases}$$

In order to take into account selectivity, we jointly model the 3 equations. We assume that the unobserved factors δ, ε, and λ are normally distributed, but that they are potentially correlated. In this way, we estimate the correlation among the three unobserved factors, The three terms terms reflect respectively the woman's propensity (constant over time) to divorce, to cohabit before marriage and to marry with a civil ceremony net of observed characteristics. To avoid identification problems on the hazard scale, we impose the variance of δ as unitary. As usual in probit equations, the variances of ε and λ are also unitary. Therefore, we hypothesize:

$$\begin{pmatrix} \delta \\ \varepsilon \\ \lambda \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 1 & & \\ \rho_{\delta\varepsilon} & 1 & \\ \rho_{\delta\lambda} & \rho_{\varepsilon\lambda} & 1 \end{pmatrix} \right]$$

Generally speaking, a strong correlation between pairs of residuals means that some common unobserved factors (at individual level) simultaneously influence the two decisions. If all the correlations are significant, Z_1 and Z_2 are endogenous and selectivity plays an important role. Taking into account the three correlations, we can

estimate the effect of premarital cohabitation and civil marriage on the risk of divorce net of selectivity (Lillard *et al,* 1995) and then try to give evidence towards or against the two given hypothesis:

a. we do not reject Hp1 (cohabitation and civil marriage as causes of divorce) if the effect of these two decisions are positive and statistically significant;
b. we do not reject Hp2 (cohabitation and civil marriage as causes of marital stability) if the effect of these two decisions are negative and statistically significant;

In the model we include the following observed variables.

Birth cohort. In Italy, a clear trend towards higher union dissolution and cohabitation rates has been repeatedly observed in the younger cohorts. Concerning civil marriage, it has been shown that the probability to marry without a religious ceremony tends to increase with age, even if we take under control the premarital cohabitation (Barbagli *et al*., 2003). Given the sub-sample selected composed primarily by women born after 1950, this aspect could be caught by birth cohort as well, showing a lower propensity for the younger cohorts. The selected women married after 1974 (with a marriage lasted at least three years), the mean age of the sample is about 42 years, i.e. women born around 1961. We distinguish three birth cohorts, namely 1940-1959, 1960-1964, and 1965-1980. The oldest group represents the reference category.

Educational attainment. The effect of educational attainment on union stability is still not clear: it has been shown that highly educated women (tertiary level in particular) could show higher dissolution risks (Blossfeld *et al*. 1995, Hall and Zhao, 1995), no effect at all (Bracher *et al*., 1993, Lillard *et al*., 1995; Bennett *et al.*, 1988) or even lower risks (Berrington and Diamond, 1999). The same uncertainty remains if we focus on Italy: De Rose (1992) found that women with high level of education encounter much higher divorce rates than others whereas Liefbroer and Dourleijn (2006) show that the effect of education is not significant. Comparing marriage cohorts in the Netherlands, de Graaf and Kalmijn (2006) posit that in times when divorce was uncommon, the higher educated were more likely to divorce than the lower educated. Harkonen and Dronkers (2006) show that in France, Greece, Italy, Poland and Spain women with higher education had a higher risk of divorce but that the educational gradient of divorce becomes increasingly negative in these country among others.
On the other hand, we expect a positive effect of education on the propensity to cohabit and to start a marriage with a civil ceremony because of the strong diffusion of these behaviors among the more educated couples. Given that the 94% of the sample have more than 30 years and that it is very rare in Italy that a women continue her study after a marriage, we consider educational attainment as a time-constant covariate coded in the following categories: compulsory (lower secondary) or lower level (as reference category), upper secondary level (high school) and tertiary level (university degree).

Area of residence. The big gap in socio-cultural and economic terms between the North and the South of the country identifies two models of divorce. It has been shown that women residing in the northern regions face a much higher hazard of

union dissolution than those of the South (De Rose, 1992). Starting from Seventies, the South of Italy becomes the area with the lower incidence of civil marriages (lower than the half of the rest of the country) and cohabitations. A dummy variable is included in the analysis representing the area of residence at the interview and coded as Center-North Italy (as reference category) *vs.* South and Islands.

Divorced parents. Several analysis have found that who experienced parental divorce are more likely to have lower commitment to marriage and a higher vulnerability to disruption in their own marriages (Wallerstein and Blakeslee, 1989; Hall and Zhao, 1995; Amato and Keith, 1991; Glenn and Kramer, 1987). On the other hand, Thornthon (1991) argues that the experience of parental marital dissolution increases children's non marital cohabitations but has little effect on their marriages. We include this feature through a dummy variable (people without divorced parents are the reference category).

Age at marriage (not included in the equation 2). The age at which woman enters into marriage has a notable effect on her risk of divorce: a union started very early in the life-course tends to be more fragile (Berrington and Diamond, 1999; Bennett *et al.,* 1988; Murphy, 1985). Booth and Edwards (1985) give the following explanations: who marry at young ages tends to have poor marital role performance resulting from a lack of adequate adult role models and a greater divergence in marital role expectations. We have already stressed the positive relation between age and diffusion of civil marriage. Therefore, we may expect that a young age at marriage push towards union instability and a lower propensity of civil marriage. In order to control for this effect, we consider the dummy variable age of marriage lower than 25 years old (yes/no) where the reference is "no".

Premarital pregnancy (not included in equation 2). The occurrence of a premarital birth has also been found to have a significant positive effect on the rate of marital disruption (Bennett *et al*., 1988; Morgan and Rindfuss, 1985). A premarital conception provides a strong incentive to marry in order to legitimize the birth. But, if this situation is an indicator of a hurriedly organized marriage, we would expect also a higher propensity of civil instead of religious marriage, given that the former is usually celebrated more informally and with fewer resources (Barbagli *et al.,* 2003).

Parent's level of education. Education of the woman's parent affects the chances of cohabitation before marriage (Bumpass and Sweet, 1989; Thornton *et al*. 1992) but it seems that they have no impact on the disruption of the marriage of the daughter. Then, this variable is allowed to affect marital stability only through their effect on cohabitation (Lillard *et al*., 1995) and, we expect, on the propensity to celebrate marriage with civil ceremony.

Number of brothers and sisters (not included in equation 1). The size of family of origin could influence the amount of resources that parents can give to their children with consequences not only on the possibilities of social mobility but also on the demographic behaviors (Blake, 1989) as the formation of the first union. We include in our analysis a dummy variable that has value 1 if the woman has 2 or more siblings.

The percentage of women who experienced cohabitation before marriage, a civil marriage and a divorce according to the variables considered is shown in Table 2. It is easy to note that the same characteristics increase the incidence of both civil marriage and premarital cohabitation. More in detail, we find the higher percentages of ever married women who experienced these two behaviors among the younger cohorts, with tertiary levels of education, in the Center-North, with high-educated and divorced parents, without a premarital pregnancy. Except for premarital pregnancy and age at marriage, the same aspects appear for divorce, taking into account that differences in percentage are often due to the low number of cases.

Table 2. *Percentage of women who cohabited before marriage, who preferred a civil marriage and who divorced according to various background characteristics.*

		% among ever-married women	% pre-marital cohab.	% civil marriage	% divorce
Birth cohort	1940-1959	41.5	5.8	13.1	6.7
	1960-1964	23.9	6.8	14.0	4.7
	1965+	34.6	10.2	12.9	2.8
Educational attainment	Primary school	57.7	7.5	13.2	4.2
	high school	31.9	7.0	12.5	5.6
	university	10.4	9.6	16.1	5.9
Age at marriage	lower than 25 years	63.3	5.5	11.5	5.5
	25 years or more	36.7	11.1	16.2	3.7
Area	Center and North Italy	58.3	9.1	15.2	6.4
	South Italy	41.7	5.5	10.5	2.7
Divorced parents	No	97.2	7.3	12.8	4.8
	Yes	2.8	17.4	28.4	8.0
Premarital pregnancy	No	81.6	5.4	11.3	4.8
	Yes	18.4	17.4	22.1	5.3
Parents' level of education	Both primary school	67.1	6.2	11.5	3.5
	High school (at least one parent)	32.9	10.3	16.9	7.6
Number of brothers and sisters	<2	41.2	6.7	12.1	5.5
	2+	58.8	8.2	14.1	4.4
Total			7.6	13.3	4.9

5. Results

Table 3 shows the estimates of our model in the case a) that equations are estimated independently (i.e., not taking selectivity into account); b) that equations are estimated simultaneously (i.e., taking selectivity into account). A coefficient above 0 implies a higher risk of divorce and a negative coefficient implies a lower risk of divorce compared to the reference category.

In the first case, we see a positive and significant effect of civil marriage and premarital cohabitation on the risk of divorce as well as a strong propensity to marry with a civil ceremony when the woman experienced a premarital cohabitation. These findings show that multivariate models that accounts for some socio-demographic observed factors confirm the indications deriving from descriptive analysis that premarital cohabitation and civil marriage weaken the marriage stability.

When we allow the correlation between heterogeneity components across the equations, we notice that such correlations factors are highly positive and statistically significant. The main result is that, net of selectivity, all the underlined effects in our system of hypothesis turn out to be no more significant. These results suggest two main points.

Firstly, the previous finding, showing an increased risk of divorce for who lived a premarital cohabitation and a civil marriage, were due entirely to the selection of the most divorce-prone into cohabitation and civil marriage. We have evidence that some common unobserved factors are able to influence in the same direction the decision to cohabit, to marry with a civil marriage and to divorce. In other words, these two decisions are endogenous in the divorce equation in the sense that may depend on the partners' commitment to marriage with direct effect on the stability of a marriage. Without controlling for the correlation among error terms, the effect of covariates on divorce would have been biased (Lillard *et al,* 1995).

Secondly, among the three decisions considered in the analysis, there are no significant causal relations. Neither *Hp1* (cohabitation and civil marriage increase divorce risk) nor *Hp2* (cohabitation and civil marriage increase marital stability) have found support from the analysis. We do not have evidence that individuals during a pre-marital cohabitation and during a civil marriage develop different attitudes and value orientations that make success in marriage more difficult.

Considering the effects of the other covariates included in the models, we do not notice big changes passing from independent to simultaneous equations. More specifically, looking at Table 3 the other results that emerge from the analysis are the following:

- no cohort effect emerges in the divorce propensity. Young cohorts (born after 1965) are more prone to cohabit before a marriage but they show a lower probability to celebrate first marriage with a civil ceremony in comparison with older cohorts, even if significance reduces in the simultaneous models;

- we see a U-shape effect of education for premarital cohabitation and civil marriage. Concerning divorce, the woman' educational attainment is not relevant but we must remark that this result appears only after the inclusion of parents' level of education in the model.

Table 3. Estimates from independent and simultaneous equations model. Women, Italy.

		Indipendent equations		Simultaneous equations	
A. DIVORCE					
Baseline		0.02	**	0.03	***
Constant		-6.27	***	-6.63	***
Birth cohort *(ref. -1959)*	1960-1964	-0.18		-0.20	
	1965+	0.06		0.08	
Education (*ref. compulsory or lower)*	upper secondary	0.24	*	0.22	
	tertiary	0.29		0.32	
Age at marriage *(ref. 25+ y.o.)*	lower than 25 y. o.	0.17		0.15	
Area *(Ref. Middle and North Italy)*	South	-0.87	***	-0.96	***
Divorced parents *(Ref. No)*	Yes	0.32		0.57	*
Parents' education *(ref. both primary)*	At least one high school	0.86	***	0.99	***
Premarital pregnancy *(ref=no)*	Yes	0.02		0.08	
Pre-marital cohabitation *(Ref. No)*	**Yes**	**0.49**	****	**-0.36**	
Civil marriage *(Ref. No)*	**Yes**	**0.46**	****	**-0.22**	
B. COHABITATION					
Constant		-1.77	***	-2.52	***
Birth cohort *(ref. -1964)*	1965+	0.29	***	0.43	***
Education (*ref. upper secondary)*	compulsory or lower	0.13	**	0.19	**
	tertiary	0.18	**	0.25	**
Area *(Ref. Middle and North Italy)*	South	-0.18	***	-0.24	***
Divorced parents *(Ref. No)*	Yes	0.45	***	0.63	***
Number of brothers/sisters (ref. 0-1)	2 or more	0.23	***	0.33	***
Parents' education *(ref. both primary)*	At least one high school	0.12	**	0.16	**
C. CIVIL MARRIAGE					
Constant		-1.30	***	-1.76	***
Birth cohort *(ref. -1964)*	1965+	-0.15	***	-0.12	*
Education (*ref. upper secondary)*	compulsory or lower	0.11	**	0.19	***
	tertiary	0.11	*	0.20	**
Age at marriage *(ref. 25+ y.o.)*	lower than 25 y. o.	-0.12	***	-0.16	***
Area *(Ref. Middle and North Italy)*	South	-0.14	***	-0.23	***
Divorced parents *(Ref. No)*	Yes	0.52	***	0.83	***
Number of brothers/sisters (ref. 0-1)	2 or more	0.21	***	0.35	***
Parents' education *(ref. both primary)*	At least one high school	0.33	***	0.44	***
Premarital pregnancy *(ref=no)*	Yes	0.07	*	0.12	**
Pre-marital cohabitation *(Ref. No)*	**Yes**	**0.87**	****	**-0.25**	
Residual Correlation	$\rho_{\delta\varepsilon}$ (between A and B)			**0.687**	****
	$\rho_{\delta\lambda}$ (between A and C)			**0.625**	****
	$\rho_{\varepsilon\lambda}$ (between B and C)			**0.988**	***
ln Log-likelihood		-6528.40		-6524.8	
N		7057		7057	

*Note: Significance: '0' lower than 90% *'>90%; '**'>95%; '***'>99%.*

- we find strong evidence that big differences occurs in the two specified geographical areas: living in the South of Italy means a lower propensity to divorce, to cohabit and to celebrate a civil marriage;

- there is no evidence that marital stability tends to reduce when women married at a very young age (lower then 25 years old). Nevertheless, it is confirmed that the probability to marry with a civil ceremony increases with age.

- the effect of divorced parents is positive even though not highly significant in the marital stability. On the contrary, it increases the probability to start the fist union as a cohabitation, confirming the results obtained by Thornton *et al* (1992) in the Detroit metropolitan areas, and to marry with a civil instead of religious ceremony.

- We find strong evidence that characteristics of parents are very important in the decisions of their children. In particular, having at least one parent with a high school degree means a higher propensity to live the three behaviors considered.

- to be pregnant before or at marriage has no effects on marriage stability whereas it seems that increase the probability to prefer a civil marriage.

- women with 2 or more siblings have higher probabilities to cohabit before marriage and to marry with a civil marriage. Most probably, this is linked to the reduced amount of resources available for the children within a large family: the entrance in cohabitation and in a civil marriage usually requires lower resources than catholic marriage ceremony (Barbagli *et al*., 2003).

6. **Conclusions**

In Italy, cohabitations and civil marriages are growing but, compared to the most of European countries, their diffusion is still low. Therefore, we can imagine that these choices are strongly related to specific values and attitudes that easily lead to higher risk of marital disruption. In this paper we examined the effect on marital stability given by these two previous experiences. We tried to evaluate these effects taking into account the selectivity that could bias the results through spurious effects. As a result, when we do not correct for selectivity, we find that cohabitation and civil marriage significantly increase the risk of divorce. Nevertheless, allowing correlation among unobserved factors able to influence the three decisions (divorce, civil marriage and premarital cohabitation), i.e. taking into account selectivity, the effect of prior decisions on divorce are completely eliminated, showing that the apparent relations that emerge in descriptive analysis and in independent models are spurious. In other words, selectivity appears as the main factor able to explain the higher divorce rates among who lived a pre-marital cohabitation and a civil marriage, two choices that are selective of those who are least committed to marriage and most accepting of divorce. One explanation of this result is that those with the least commitment to the institution of marriage are, at the same time, most likely to

divorce, to start the relationship with cohabitation (Lillard *et al*, 1995) and to start a marriage with a civil ceremony.

As selectivity plays a key role in the underlined relations, our results fail to support any causal relation neither in the negative nor in the positive sense. Net of selectivity, having experienced cohabitation does not mean a useful screening period and no other positive effects emerge for who experienced a civil marriage. At the same time, the experience itself of cohabitation and/or civil marriage is not some kind of box where more individualistic and different attitudes emerges making success in marriage more difficult.

Despite the growth of cohabitations and civil marriage in Italy, we do not have to be afraid about marital stability in the future because these experiences do not emerge as determinants for a higher risk of divorce. However, in conclusion, we must remark that the present analysis has been devoted to the study of divorce that is only the final stage of the process of separation that could be started several years before. Therefore, waiting for more reliable data, our findings about divorce have to be compared with analyses on the separation (legal or, even better, *de facto*), the event that is the best choice in order to define the real disruption of the marriage.

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