

# **The changing meaning of cohabitation. A sequence analysis approach**

*PRELIMINARY DRAFT*

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## **Abstract:**

The diffusion of cohabitation during the last decades is one of the most striking aspects of wider social changes that have taken place throughout the industrialized world. In the course of its development, the meaning of cohabitation has changed from being a deviant behaviour up to an almost fully accepted one. Some typical phases in the development of the phenomenon have been underlined in literature, according to its growing social acceptability, the increasing acceptance of childbearing in cohabiting couples, and the increasing difficulty to tell cohabiting couples apart from married ones. However, previous research started from a pre-defined ideal type of cohabitation. In this paper we apply sequence analysis techniques on GGS data in order to produce grouping that are suggested by data reducing the influence of researcher. Focusing on the chain of events that links the start of a union, the birth of the first child and the (possible) end of a union, we can better understand the different meaning giving to cohabitation in five different countries (France, Italy, Norway, Romania, and U.S.) and changes occurred over cohorts. Our results suggest a generalized decreasing trend for the cohabitation as a trial marriage and an increasing trend for cohabitation as an alternative to singlehood, i.e. with no other commitments like marriage or children. However, differences among selected countries seem to persist suggesting that cohabitation still means something different in the considered countries.

## 1. Introduction

According to Prinz (1995), the spread of consensual unions is the main indicators of the social global social change called “partnership transition”, i.e. a transition from the traditional patriarchal relationship to a modern relationship based on equal rights and a more equalitarian position of the two partners. The percentage of cohabitating people is also one of the main measures used in the framework of the second demographic transition (Lesthaeghe 1995). However, cohabitation has not spread uniformly across European and North-American countries. In most of the Northern and Western European and North America countries cohabitation started to spread since the early 1970s and 1980s. From being a deviant phenomenon it became gradually a widespread and accepted behavior for young people who wanted to start living together.

Unlike in those countries, the Southern European ones were not touched by a massive diffusion of cohabitation, and percentages of cohabiting couples are still among the lowest in Europe. Central and Eastern European countries were largely set apart from the theoretical reasoning for long time, with the justification that family ties have a different structure and meaning in these countries than in the rest of Europe. Most of them experienced the sharpest increase of the proportion of cohabiting couples in Europe after 1990. It is not yet clear if this is due to a change in the social meaning of cohabitation from deviant phenomenon to a socially accepted one or to other factors that have less to do with the level of diffusion of a phenomenon. The great diversity of the characteristic of cohabitations in industrialized countries calls naturally for attempts to reduce the data into suitable schema. Several authors already undertook this task (for a review see Sobotka and Toulemon, 2008, and Heuveline and Timberlake, 2004), mainly fitting predefined categories to the data.

Using comparative survey data from the Fertility and Family surveys program, Heuveline and Timberlake (2004) provide a description of the experience of cohabitation in international perspective. Limiting their results to the countries we are going to analyse, almost all French and United States women interviewed in the second half of the 1990s experience an adulthood premarital cohabitation (83 and 72%, respectively), with similar probabilities to turn it into marriage (46 and 48%) but with a different median duration (shorter for United States, 1.2 years, and longer for France, 4.3 years). In Italy, as expected, the percentage of cohabiting women is much lower, around 9%, but slowly increasing. Finally, in Romania the cohabitation is still limited, and its prevalence is increasing only gradually, despite the high proportion of non-marital births (Muresan et al. 2008).

Differently from the cited analysis, our aim is to look for a pattern in the sequence of events that happen after the start of a cohabitation, without constraining the data to a pre-existing categorization. Therefore, in the first part of the analysis we focus on providing an accurate description of the characteristics of the cohabitating unions with a comparative perspective, applying the sequence analysis approach to comparative data sets like the Gender and Generations Survey data (GGS) and U.S. survey data. This paper has a comparative perspective and analyses five different countries representing contexts with a different diffusion of extramarital cohabitations: France for Western Europe, Norway for Northern Europe, Italy for Southern Europe, Romania for Eastern Europe, and United States for extra-European western country.

We do not limit our analysis to the description of events, instead in the second part of the analysis we investigate if the modalities to enter a union of the cohabiters differ among (selected)

countries, and whether they have changed over time among cohorts. The remainder of this paper is structured as follows. In section 2, we present the theoretical background and the research question the paper focuses on. Section 3 contains the presentation of data and methods used. In section 4 we present some preliminary descriptive analysis while main results are presented in section 5. Some concluding remarks are included in section 6.

## **2. Background and research question**

Cohabitation has been spreading in the population during the last thirty years, and this is one of the most striking aspects of wider social changes that have taken place throughout the industrialized world. The sudden gain in the popularity of cohabitation at the beginning of the 1970s as an informal way of starting a union can be explained by several factors. Cultural elements, such as rising individualism and secularism, as well as economic aspects, such as changes brought by industrialization, changes in gender roles, and rising female labor-market participation, may have contributed to its increase (for a review, see Smock, 2000). At the same time, the sexual revolution helped in removing the stigma surrounding premarital sex (Bumpass, 1990).

The main framework in which that innovative behavior has been integrated is the Second Demographic Transition (Van de Kaa, 1987, Lesthaeghe, 1995). According to several authors the modern type of cohabitation diffused from the people in the middle and upper social class living in the Northern and some of the Western countries (Wiersma 1983, Lesthaeghe, 1995). According to others, a parallel process was active also in the working class (Bernhardt and Hoem, 1985). In the course of the time the meaning of cohabitation modifies, and can change from being a deviant behavior up to an almost fully accepted one (Manting, 1996). Some typical phases in the development of the phenomenon have been underlined, according to its growing social acceptability, the increasing acceptance of childbearing in cohabiting couples, and the increasing difficulty to tell cohabiting couples apart from married ones. Prinz (1995) distinguishes four typical stages of the development of cohabitation. At the beginning, cohabitation emerges as a deviant phenomenon practiced by a small group of the population (well educated, often previously married, nonconformists living in urban areas). In the second stage, cohabitation becomes socially accepted as a prelude to marriage: young couples consider it as a trial period, and transform the cohabitation into marriage as soon as the desire for children arises. In this stage childbearing is still considered acceptable only in the marriage. In the third stage, cohabitation becomes accepted as an alternative to the marriage and becomes a permanent rather than a temporary union. In this stage childbearing is no longer restricted to marriage. In the last stage the distinction between marriage and cohabitation becomes meaningless because they increasingly converge with regards to lifestyle, childbearing and equality between partners.

The scheme presented above reflects very closely the development in the meaning of cohabitation that has been observed in Northern and Western and Southern European countries. For instance, Italy is a perfect example of a country in the first stage of the partnership transition (although moving steadily to other stages, Gabrielli and Hoem, 2010, Rosina and Fraboni 2004, Di Giulio and Rosina, 2007), Sweden and Norway as a countries in the fourth (Prinz, 1995). The situation of the Eastern European countries, as far as the diffusion and the meaning of cohabitation is concerned, is much more undefined. Until the early 1990s the study of the family systems in Europe excluded almost systematically the Eastern countries, under the assumption

that the fundamentally different marriage regimes, demographic structures and forms of familial organization (Hajnal 1965, 1982) warrant their own specific study (Reher, 1998). Before 1990 cohabitation was practically not an option because of the welfare disincentives applied in all the Eastern states (Koytcheva, 2006). After the abrupt political change in 1990, many obstacles to the diffusion of cohabitation were removed. The statistics recorded then an almost immediate increase of the share of non-marital births among total births. In some countries this has been interpreted as the effect of the sudden diffusion of the post materialist values and as a part of the broader process that we name the Second Demographic Transition (Sobotka et al., 2003, Sobotka 2008). In other countries, like Bulgaria, the diffusion of post materialist values to broad strata of the population is questioned, but still the share of extramarital births over all births has reached in the last years a value that has been experienced only in the Northern countries. However, it must be underlined that the use of the share of extra marital births as an indicator of the diffusion of cohabitation can lead to wrong conclusions. First, it ignores those cohabitations that do not involve a birth, and second, it can be affected by a drop in marital fertility.

Besides, to understand the differences in the process of diffusion of cohabitation one cannot limit the analyses to the official statistics. It is crucial to analyse individual level data about the characteristics of the union(s) and the circumstances around the birth of each child.

Using survey data, Villeneuve-Gokalp (1991) was one of the first authors in the European context to classify cohabitations in different types according to the events that happen in the first three years from the start of the first union. This author distinguishes between five different profiles of cohabitation. The partners may consider that the decision to live together represents a commitment. In this case the cohabitation is a temporary situation that will lead to a wedding. In particular it precedes the marriage but does not replace it. If the marriage is already planned at the beginning of the cohabitation we will speak of a “prelude to marriage”. If the couple uses the cohabitation experience to decide if they are suitable for a formal commitment then we will speak of “trial marriage”. On the other side, cohabitation can be unconnected to any plan to marry, and it can represent a way of living together without committing oneself. For couples who separate after short time we can speak of “temporary union”. When the situation continued, we speak of “stable union without commitment” (neither children nor marriage in the first three years of cohabitation). Finally, if the couple behaves “as though they were married” having children without caring about marrying we speak of “free union”. The latter ideal type suggests that the presence of children is a relevant aspect in order to define the meaning and the commitment of a union. For example, Kiernan (2001) claims that cohabitation and marriage with children may become indistinguishable.

Later on, Heuveline and Timberlake (2004) integrate the previous research on the typology of cohabitation in a broader comparative perspective and identify six ideal types, on the basis of actual behaviors related to living together, having children and union disruption. The authors use the incidence of cohabitation, its median duration, the propensity to end it in a marriage and the length of exposure of children to the parent cohabitation and provide the following classification: A) “marginal”, if the cohabitation is discouraged, B) “prelude to marriage”, if it involves a marriage in a short time but not a birth before marriage, C) “stage in marriage process”, if the children tend to be born in the cohabitation, but this is quite soon transformed into a marriage, D) “alternative to single”, if the cohabitation does not include children and ends in separation, E) “alternative to marriage”, if children are born in the non-marital union but the cohabitation is usually not transformed into a marriage, F) “indistinguishable from marriage”, if there is little social distinction between cohabitation and marriage, because of the general acceptability of

unmarried cohabitations and the institutional supports for parents essentially ignore marital status. In this ideal type the propensity to end it in a marriage is higher than for the group E. These classifications could be very useful in order to interpret the meaning of cohabitation in different context. However, the definition of groups and the rules determining the belonging to a specific group are arbitrary, forcing data in guidelines that are strongly influenced by the researcher. Moreover, the resulting classification is somewhat rigid since intermediate situations cannot be considered. In this paper we also aim to check if these classifications are confirmed using a more flexible data-driven approach.

A recent paper (Hiekel et al 2012) tries to go more in depth in the different meaning of cohabitation across European countries focusing on indicators such as marital intentions, relationship satisfaction and attitude towards the institution of marriage. However, since the authors use attitudes and intentions reported at the interview, they cannot address changes over time or cohorts. As a consequence, they are forced to select only those cohabiting at the interview dropping all previous cohabitators and they cannot consider disrupted unions. Moreover, like previous researches they start from a pre-defined ideal types of cohabitation based on the existing literature.

Our approach consists in the application of sequence analysis techniques in order to classify the observed pattern without forcing them in previously arranged categories and exploiting the retrospective viewpoint followed in the GGP surveys. In fact, the sequence analysis produces grouping that are suggested by the data and in which the influence of researcher is less decisive. Moreover, considering behaviours experienced in the past, we can evaluate differences across cohorts.

Once the typologies have been defined, we can check the differences between different contexts. From one side we can evaluate what is the stage that the diffusion of cohabitation reached in the different (selected) countries. From the other side we can question the applicability of the scheme proposed in previous research. Our research questions are the following: is the meaning of cohabitation changing over time? Are cohabitations becoming alternatives to marriage, as predicted by SDT, or are there some persistent differences between countries?

### **3. Data and methods**

We will focus our analysis on the characteristics of birth and union histories for the following countries: France among the countries of Western Europe, Italy as a representative of Southern Europe, Norway among those of Northern Europe, Romania for Eastern Europe, and United States for extra-European western industrialized countries.

We use mainly the data stemming from the Gender and Generation Survey (GGS), a comparative survey that has been recently carried out in several European countries, in the version that has been harmonized by the participant of the Non marital Fertility Network (Perelli-Harris et al, 2012, see [www.nonmarital.org](http://www.nonmarital.org)).

French data come from the first wave of the Generations and Gender Survey, conducted in 2005. The total sample includes 5708 women and 4371 men aged 18-80 at the time of interview. The Italian data come from the so-called Multiscopo survey (see Acknowledgements section),

conducted in 2009. The sample consists of 43850 respondents aged more than 18 at the time of interview. The Norwegian GGS was conducted in 2007-2008 and it includes 24830 respondents aged 18-79 at the interview, equally distributed between men and women. For Romania, the original data stem from the first wave of the Generations and Gender Survey, carried out in November/December 2005. The sample consists of 11,986 respondents (5,977 men and 6,009 women) aged 18-80 at the time of interview. The U.S. data has been obtained by merging two different waves of the National Survey of Family Growth: the 1995 wave, consisting of 10,847 women (men were not interviewed) born between 1950 and 1980 and the 2007 wave, collected between 2006 and 2008, consisting of 13,495 men and women born between 1961 and 1993.

In the comparative dataset special attention was devoted to the collection of the timing of demographic events (leaving parental home, union formation and dissolution, birth of a child) as well as to the investigation of other important aspects related to values and opinions.

For each country we selected women who experienced at least one extra-marital cohabitation. In order to make our sample more homogeneous, we limit our attention to women born between 1950 and 1984 who started their first cohabitation during the period 1970-2005. Moreover, we exclude second and subsequent unions and women with a child at the beginning of the first union.

We aim to analyse the sequence of events happening month by month in the first 5 years (60 months) since the start of the informal union focusing, in particular, on the celebration of marriage (if any), the arrival of the first birth (if any), and the separation from the first partner (if any). The number of total interviews, selected cases and events reported in the first 60 months of cohabitation are shown in Table 1.

We use a sequence analysis approach (originally proposed by Abbott, 1995; for a review see Abbott and Tsay, 2000, Billari, 2001). The sequence analysis, allows us to define groups of people according to the duration of the time that separates two or more events, and to the order in which the events are experienced. In other words, individuals may be compared and clustered according to their life histories. We have developed the sequence analysis through the following four steps.

The first step is to represent a life course trajectory (or part of it) as a string of characters, as well as a DNA code. Each element of the chain is the status in a specific unit of time (month in our case). A sequence can differ in relation to quantum (how many events occur), timing (when different events occur), sequencing (the order in which events occur). In our analysis each sequence starts at the beginning of cohabitation (thus, who never experienced a cohabitation is not included in the analysis) and is 60 characters long, one for each month for the first five years of cohabitation. However, a sequence may be shorter in the case of right censoring, i.e. interview occurs before the 60<sup>th</sup> month after the start of cohabitation. We consider 6 possible states: unmarried cohabiting with no children (*Cohabiting*), unmarried cohabiting parent (*Cohabiting Parent*), separated (after a premarital cohabitation) without children (*Separated*), separated (after a premarital cohabitation) with children (*Separated Parent*), married (after a premarital cohabitation) without children (*Married*), married (after a premarital cohabitation) with children (*Married Parent*).

The second step involves the computation of a matrix of dissimilarities between pairs of sequences. The dissimilarity measure is based on the length of common distinct subsequences between life course trajectories (Billari 2005). We adopt the Longest Common Subsequences metric (LCS) proposed by Elzinga (2010). Differently from the Optimal Matching Algorithm of

Abbott, this metrics does not require a cost definition and can be used with sequences of different length. Matrix of dissimilarities is computed considering pooled data for all countries. For the sequence analysis we use the R package called TraMineR (Gabadinho et al 2011).

The third step considers the identification of a limited number of sequence typologies. This can be achieved by grouping similar sequences through a cluster analysis (Aassve, Billari and Piccarreta 2007). We follow a hierarchical clustering using the Ward linkage.

Finally, the relation between individual characteristics, as birth cohort, country of birth, education, etc., and the probability of being part of a specific sequence typology can be investigated using multinomial regression analysis.

A similar strategy has been developed in a recent article (Potârca et al. 2013) in which the trajectories of family formation and childbearing have been analysed for France, Romania and Russian Federation. The wider perspective used in this study (cohabitation is one of the possible patterns) makes it difficult to differentiate among different kind of cohabitations. Since we are interested in the changing meaning of cohabitation, we strictly focus on extramarital unions. This gives us the opportunity to enlarge our view on this section of life course and then focus on details that cannot be detected using a broader sight.

#### **4. Descriptive findings**

In order to give some first indications on the characteristics of cohabitation in the different countries, we describe sequences in terms of *quantum*, i.e. how many women experienced a specific event. Figure 2 shows the proportion of women who experience marriage, childbirth, or disruption within the first 5 years of cohabitation by cohort and country. The trend of entering into a marriage and giving birth to a child is decreasing suggesting that cohabitation without children is spreading everywhere whereas cohabitation as a temporary experience before marriage is losing its importance. These changes have been more rapid in France and Norway compared to Italy and U.S. Romania is characterized by the highest propensity to marry and to have children in a cohabiting union. However, the general reduction in the relative number of marriages and childbirths is also due to the increasing instability of informal union, in particular in U.S. and Norway (see Figure 2C), although this is not the case for Romania where the proportion of disrupted cohabitations is very low and quite stable over cohorts. These results are confirmed even if we broaden the window of observation (up to 200 months after the entry into union) and considering the timing of the occurrence of each event by looking at the survival curves of the three events considered (results here not shown, available upon request).

When looking at these trends it is important to take into account that cohabitation experience is strongly heterogeneous among the countries of our sample. Table 1 shows that three out of four women born between 1950 and 1984 start their first union as an extra-marital cohabitation in France and Norway; the same proportion for Italy and Romania are respectively 16% and 24.1%. Besides, the proportion of women who preferred to start the first union with a cohabitation and not a direct marriage (Figure 1) strongly increases over time in all countries. However, differences among countries increased from 1970s to 1990s, with Italy and Romania showing persistent low percentages. Only since the mid-1990s these two countries started to show a convergent trend, mainly due to the fact that the level of prevalence reached in France and Norway has almost no more room for a further increase.

Focusing only among women who did experience an extra-marital cohabitation, Figure 3 shows the distribution of states according to union duration (in months) by country. Union duration in months appears on the horizontal axis ( $x$ ) and proportion of women belonging to each state at a given month has been shown on the vertical axis ( $y$ ). Italy, Norway and France have similar patterns with the prevalence of stable cohabitation without children and a reduced number of marriages. On the contrary, in Romania the majority of cohabitations have been transformed in marriage very early, often within a couple of years, and the proportion of women still in union without children tends to zero at the end of the fifth year. Also disruptions are very rare. US show a peculiar pattern with a very high union instability. It is also noteworthy that in the US many first births occurred before the beginning of the union. In our data, 26% of all first births reported among ever cohabiting women have been experienced before starting living together with the current partner. This result is in line with Heuveline et al. (2003) highlighting the substantial percentage of children born to single noncohabiting mothers. This peculiar behaviour may be explained by the fact that nearly two thirds of these non-cohabiting mothers are actually romantically involved with the father, who is not living with the mother but visits more or less regularly (Heuveline and Timberlake, 2004). However, we decide to not include women with a child at the beginning of the first union because the meaning of cohabitation may be radically different for this group. Besides, we do not know if the father of the child is the same partner of the first union.

## 5. Clustering data and multivariate analysis

In this section we present the main results coming from the sequence analysis. First we show the typical patterns, in terms of sequence of states and time experienced in each state, identified by the cluster analysis. Afterwards, we evaluate the propensity to follow a specific family of patterns according to cohort and country and taking into account other control factors (level of education, parent's level of education, age at union formation). The descriptive statistics of all variables used in the regression analysis have been shown in table 3

Figure 4 shows the graphical image of the different kind of cohabitation pattern. Each graph is a different cluster (type) and represents, month by month, the distribution of the respondents into the different stages of their life (the states used in the sequence analysis). The dendrogram coming from the cluster analysis (not shown, available on request) clearly suggests that the best solution is to fix the number of clusters at 5. Moreover, a lower number of clusters increases the complexity of trajectories and then the readability of the results.

The first cluster - (14% of the pooled sample) is strongly characterized by women with a premarital cohabitation leading to an early marriage and childbearing. After two years almost all the women have already transformed cohabitation into a marriage and, eight out of ten already have a child. We can speculate that in this case marriage is already planned at the beginning of the cohabitation. We call this cluster *Prelude to marriage* given the similarities with the namesake group in both the Villeneuve-Gokalp definitions (V-G) and in Heuveline-Timberlake scheme (H-T henceforward). In the second cluster only 20% of cohabitations have been transformed into marriage within 5 years but the vast majority of women become mother within extra-marital cohabitation. Thus, this cluster represents the *Alternative to marriage* in the H-T schema (corresponding to the “free union” in the V-G classification).

The third cluster considers early-disrupted unions with no children. This cluster, which includes 22% of the sample, resembles the *Alternative to single* in the H-T schema whereas in the fourth cluster we see a prevalence of stable unions with no events at least until the first 40 months. Moreover almost sixty percent of the women in this cluster remain in this state at least until the end of the 5<sup>th</sup> years of cohabitation. This cluster, the most frequent one in our pooled sample (24% of women), is called *Stable Union without commitments* since it fits quite well the namesake pattern in the V-G scheme. Finally, the fifth cluster (20% of the sample) also considers cohabitation as a prelude to marriage, and children within marriage for at least half of the women in this cluster. Thus, it can be seen as a variant of cluster 1 with the same sequence union-marriage-child but with a delayed marriage. The birth of the first child is also usually been postponed or avoided within the first 5 years of union. Women in this cluster show a behaviour that is compatible with the fact that the cohabitating experience has been used as a trial in order to decide if the couple is suitable for a formal commitment. Thus, we can call this cluster as *Trial Marriage*.

Table 3 shows the distribution of women belonging to each cluster by country and year of union. Generally speaking, the resulting clusters are something in the middle between the two schemes, taking features from both of them. This also means that both V-G and H-T classifications reveal some critical aspects when empirically tested. As far as the Heuveline and Timberlake typology is concerned, excluding the groups “marginal” and “indistinguishable from marriage”, that focuses on contextual settings more than individual pattern, we notice that the pattern “stage in the marriage process”, i.e. childbirth in the consensual union and then marriage, does not emerge as one of the relevant trajectories in the selected countries. On the other hand, the pattern with a stable cohabitation with no marriage and childbirth, the most common in our data, is not explicitly considered. About the Villeneuve-Gokalp scheme, the cluster analysis does not distinguish between trajectories with an early marriage (i.e. within the first year of cohabitation, called “prelude to marriage”) and those with a marriage occurred after the first year (called “trial marriage”). Moreover, our results suggest to place a greater emphasis on the role of children in the different patterns as proposed by Heuveline and Timberlake in their schema.

After the description of the clusters, we have all the elements in order to develop and interpret a multinomial logistic regression in which the propensity to belong to a specific cluster is a function of a set of covariates. In particular, here we can test differences by countries controlling for other relevant factors such as cohort, age at union, level of education and parental status. Our group of reference is cluster 1, *Prelude to marriage*.

Table A1 in the appendix shows in details the estimates obtained applying the multinomial logistic regression. Key results of the models are shown in Figure 5

where the predicted probabilities of being in each cluster are plotted by country and year of union together with the confidence interval (at 95% level).

The probability of belonging to the cluster 1 (*Prelude to marriage*) steadily decreases over the 1970s and the 1980s and stabilizes in the following years. A different pattern emerges for Romania, where the probability remains higher till the 1990s but decreases steadily thereafter showing a converging trend towards the other countries. An opposite pattern emerges for cluster 2. Cohabitation as an *alternative to marriage* increases over time for US, France and Norway whereas it is constant for Italy and Romania. However, in France and Norway we see a reversal

in trend among unions started in the 2000-2005. In France it is linked to the strong increase in the probability to belong to cluster 3 (*Alternative to single*) suggesting an higher instability of cohabitation in the recent past<sup>1</sup>; in Norway, instead, it is more related to the increase of stable union with no commitments, i.e. cohabitation with no other events within 5 years. Generally speaking, cohabitation as an alternative to single tends to increase over time in Norway, and in the last years of the observation window in France and Romania. The increasing trend is not so evident for US and Italy, even though US shows higher levels than the rest of the countries for unions started up to 1999.

The propensity to be part of cluster 4 (*Stable Union No commitment*) has increased during the 1970s in Norway and in France (also in Italy but differences are not statistically significant) and tends to be stable in the following years. The probability is lower in US and Romania for the whole range even though the latter country shows an increasing trend after 1990. Finally, the probability of belonging to cluster 5 tends to decrease for all the countries.

Summarizing, we can see how the probability of experiencing cohabitation as a prelude to or a trial marriage is decreasing over time in all countries. This behaviour is initially and progressively replaced by the entry into a stable cohabitation with no children, and not followed by a marriage (at least in the first five years). Also another behaviour emerges over time, i.e. cohabitation as an alternative to marriage. These increasing trends show how there is a growing acceptance of cohabitation as a stable union, and of childbearing inside cohabitation (and outside marriage).

Even though these changes over time are quite homogeneous across countries in our sample, some cross-national differences still persist. In particular, in the United States there is a very high level of instability among cohabiting individuals and a quite high probability of experiencing cohabitation as an alternative to being single. At the same time, people who enter a stable cohabitation and do not split up tend to consider this union as an alternative to marriage, and therefore have kids even without being married. As a matter of fact, among Americans there is a very low probability of entering a stable cohabitation without experiencing parenthood within the first five years. Romania is the country showing the most atypical behaviors, with still high proportion of individuals starting a cohabitation as a trial or a prelude to marriage. We have to notice, however, that there is a fast convergence towards other countries' behaviors after 1990, meaning that probably acceptance of cohabitation is growing also in Eastern Europe. Also in Italy there is a low incidence of cohabitation as an alternative to marriage. Here however, this behavior is not substituted by cohabitation as a trial to or a prelude to marriage. In Italy the most common patterns are those of delayed unions and no commitments, in line with the more general delay in the transition to adulthood in Southern Europe.

## 5. Discussion

Cross-national differences in the meaning of cohabitation have been explained by societies being situated at different stages of the SDT (Kiernan 2001) through the application of sequence analysis. This approach allows to define typologies of patterns in a more flexible way and without strong prior assumptions. The resulting classification, mostly based on empirical

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<sup>1</sup> We must underline that for France and Romania the survey has been conducted in 2005, so that union started after 2000 have a higher risk of being right-censored. This may over-estimate the probability of being in cluster 4.

observations, can add some relevant features to the theoretical classifications in the literature. Moreover, the application of multivariate logistic regression models gives the opportunity to evaluate the propensity to belong to a specific cluster of patterns for each country and by year of union.

Our results suggest that the changing meaning of cohabitation is evolving in a similar way in different countries in Europe and North America. We found a generalized decreasing trend for cohabitation as a pre-marital experience, in which marriage may be already planned at the beginning of the union, and an increasing trend for cohabitation as an alternative to marriage or as a stable union but with no other commitments like marriage or children. However, some differences across countries continue to be evident suggesting a persistent diversity of the meaning usually given to cohabitation. Similar findings have been found in Hiekel et al (2012).

Firstly, there are still considerable difference in the occurrence of extra-marital unions among countries. Very low levels are observed in Italy and Romania compared to the other countries, even though they are rapidly increasing. Secondly, signs of convergence are not always evident. In Norway and France cohabitation has become a real alternative to marriage. This is not the case for Italy where cohabitation is rather one of the possible ways to delay events, marriage and children in particular. United States are in line with France and Norway but they are characterized by cohabitation as a temporary union with high levels of instability. Many children were born out of a union, there is a higher propensity to cohabit with children and, in particular, we found a high probability to break a union with children. This “unstable transition” is completely different from the results obtained for the other countries. Finally, in Romania the few cohabiting women tend to marry and have a child early, a “fast transitions” that is still evident also among unions started more recently. However, this country shows the biggest change over time with a clear sign of convergence with other countries since 1990s. Cohabitation in Eastern countries increased as a result of changes in the political regime, and to a great extent this spread is due to the influence of the Western lifestyle (Koytcheva, 2006).

In conclusion, we can suggest some last remarks on the changing meaning of cohabitation by recalling the scheme proposed by Prinz (1995). Considering that Italy and Romania are characterized by a reduced incidence of extramarital cohabitation, we can assess that both countries are moving from the second stage, where cohabitation becomes socially accepted as a prelude to marriage, to the third stage, where cohabitation becomes accepted as a real alternative. Despite the fact that Italy started from a more advanced position, changes in Romania are running faster. Norway and France have already entered the fourth phase since cohabitation is less and less connected to marriage. U.S. is probably at the same stage even though it is more difficult to include the peculiar “unstable transition” experienced by this country into the Prinz scheme.

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## References

- Aassve, A., F. C. Billari, and R. Piccarreta. 2007. "Strings of Adulthood: A Sequence Analysis of Young British Women's Work-Family Trajectories." *European Journal of Population/Revue européenne de Démographie* 23(3/4):369-88.
- Abbott, Andrew. 1995. "Sequence Analysis: New Methods for Old Ideas." *Annual Review of Sociology* 21(1):93-113.
- Abbott, Andrew, and Angela Tsay. 2000. "Sequence Analysis and Optimal Matching Methods in Sociology." *Sociological Methods & Research* 29(1):3-33.
- Billari, Francesco C. 2001. "Sequence Analysis in Demographic Research." *Canadian Studies in Population, Special Issue on Longitudinal Methodology* 28(2):439-58.
- Billari, F. C. 2005. "Life Course Analysis: Two (Complementary) Cultures? Some Reflections with Examples from the Analysis of the Transition to Adulthood." *Towards an Interdisciplinary Perspective on the Life Course. Advances in Life Course Research* 10:261-81.
- Bernhardt, E., Hoem, B. (1985) Cohabitation and Social Background: Trends observed for Swedish Women born between 1936 and 1960, *European Journal of Population*, vol. 1 pp. 375-395.
- Bumpass, LL. (1990), What's happening to the family? Interaction between demographic and institutional change, *Demography* 27: 483-98.
- Council of Europe (2004), Recent demographic development in Europe, Strasbourg.
- Di Giulio P. & Rosina A. (2007) Intergenerational family ties and the diffusion of cohabitation in Italy, *Demographic Research*, 16(14), 441-468.
- Elzinga, Cees H. 2010. "Complexity of Categorical Time Series." *Sociological Methods & Research* 38(3):463-81.
- Gabadinho, A., Ritschard, G., Müller, N.S. & Studer, M. (2011), Analyzing and visualizing state sequences in R with TraMineR, *Journal of Statistical Software*. Vol. 40(4), pp. 1-37.
- Gabrielli, G. & Hoem, J. (2010), Italy's Non-Negligible Cohabital Unions, *European Journal of Population*, 26:33-46.
- Hajnal, J. (1965) European marriage patterns in perspective, in Glass D. V. and Eversley D. E. C. (eds), *Population in History*. London: Edward Arnold, pp 101-146.
- Hajnal, J. (1982) Two kinds of preindustrial household formation system, *Population and Development Review*, Vol. 8 (3): 449-494.
- Heuveline, P., Timberlake, J. M., & Furstenberg, F. F., Jr. (2003). Shifting childrearing to single mothers: Results from 17 Western countries. *Population and Development Review*, 29, 47-71.

- Heuveline, P. and Timberlake J. M. (2004) The Role of Cohabitation in Family Formation: the United States in Comparative Perspective, *Journal of Marriage and the Family*, Vol. 66, No. 5, pp. 1214-1230.
- Hiekel N., Liefbroer A.C., Poortman A.-R., 2012, The meaning of cohabitation across Europe. Paper presented at the EPC 2012, Stockholm, 13-16 June 2012.
- Hoem, J. M., Mureşan, C. & Hărăguş, M. (2013), Recent features of cohabitational and marital fertility in Romania, MPIDR Working Paper WP-2013-007, 28 pages (May 2013). Rostock, Max Planck Institute for Demographic Research
- Kiernan, K. 2001. "The rise of cohabitation and childbearing outside marriage in western Europe " *International Journal of Law, Policy and the Family* 15:1-21.
- Koytcheva, E. (2006) Social-demographic differences of fertility and union formation in Bulgaria before and after the start of the societal transition, Doctoral Thesis, University of Rostock.
- Lesthaeghe R. (1995). "The second demographic transition in Western countries: an interpretation", in Oppenheim Mason K., Jensen A-M. (eds.) *Gender and Family Changes in Industrialized Countries*, Oxford: Clarendon Press.
- Manting D. (1996) The changing meaning of cohabitation and marriage, *European Sociological Review*, vol. 12 n. 1, pp. 53-65.
- Muresan C., Haragus, P.T., Haragus M. & Schroeder C. (2008) Romanis: Childbearing metamorphosis within a changing context, *Demographic Research*, Vol. 19, Art. 23, pages 855-906.
- Perelli-Harris, B., Kreyenfeld, M., Sigle-Rushton, W., Keizer, R., Lappegård, T., Jasilioniene, A., . . . Giulio, P. D. (2012). Changes in union status during the transition to parenthood: An examination of 11 European countries. *Population Studies*, 66(2), 167-182.
- Potarca G., Mills M. & Lesnard L. (2013), Family Formation Trajectories in Romania, the Russian Federation and France: Towards the Second Demographic Transition?, *European Journal of population* 29:69-101.
- Prinz C. (1995), *Cohabiting, Married or Single*, Avebury, England.
- Reher D. S. (1998) Family ties in Western Europe: persistent contrasts. *Population and Development Review*, Vol. 24, No. 2.
- Rosina A. & Fraboni R. (2004), Is marriage losing its centrality in Italy?, *Demographic Research*, 11(6), 149-172.
- Smock P.J. (2000), Cohabitation in the United States: An appraisal of Research Themes, Findings, and Implications, *Annual Review of Sociology*. 26:1–20.
- Sobotka, T.; Zeman, K.; Kantorová, V.: Demographic shifts in the Czech Republic after 1989: a second demographic transition view (2003) *European Journal of Population*, 19:3, 249-277.
- Sobotka, T. & Toulemon L. (2008), Overview Chapter 4: Changing family and partnership behaviour: Common trends and persistent diversity across Europe, *Demographic Research*, vol. 19, art. 6, pages 85-138.
- Sobotka, T. (2008), Overview Chapter 6: The diverse faces of the Second Demographic Transition in Europe, *Demographic Research*, vol. 19, art. 8, pages 171-224.
- Van de Kaa D. J. (1987), Europe's Second Demographic Transition, *Population Bulletin*, n. 42.
- Villeneuve-Gokalp C. (1991), From marriage to informal union: recent changes in the behaviour of French couples, *Population, An English Selection*, Vol. 3, 81-111.

Wiersma G. (1983), *Cohabitation: an Alternative to Marriage? A Cross-national Study*, Martinus Nijhoff Publishers, Boston, MA, USA.

**Table 1. Description of the selected GGS surveys.**

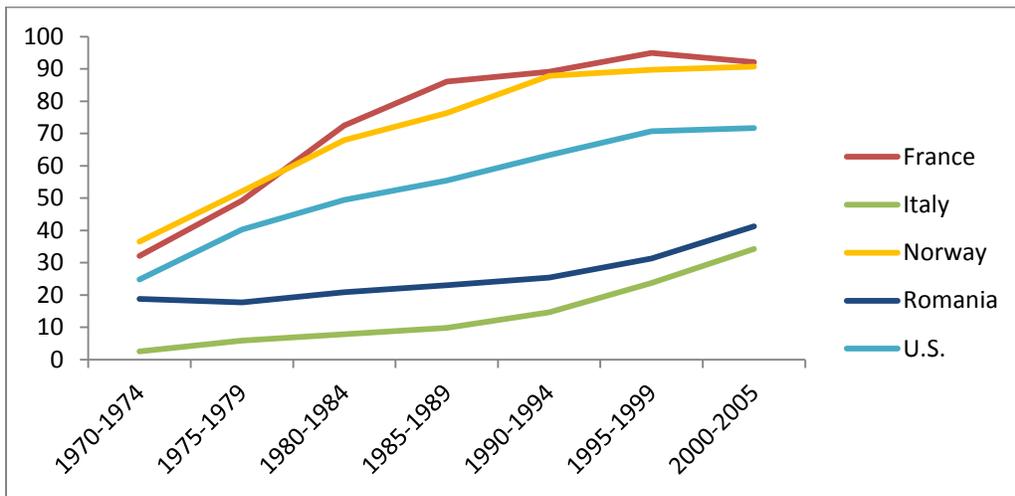
Country	Year of interview	Number of interviews	% of extra-marital unions among first union	Number of cases in the subsample	Number of events within the first 5 years of cohabitation		
					marriages	disruption	First births
France	2005	10079	73.5	2096	881	450	1028
Italy	2009	43850	16.2	1186	596	262	580
Norway	2007-08	24830	75.6	2792	988	797	1397
Romania	2005	11986	24.1	701	500	76	540
USA	1995; 2006-08	24342	54.0	5331	2651	2274	2777
				12106	5616	3859	6322

*Source: own elaboration*

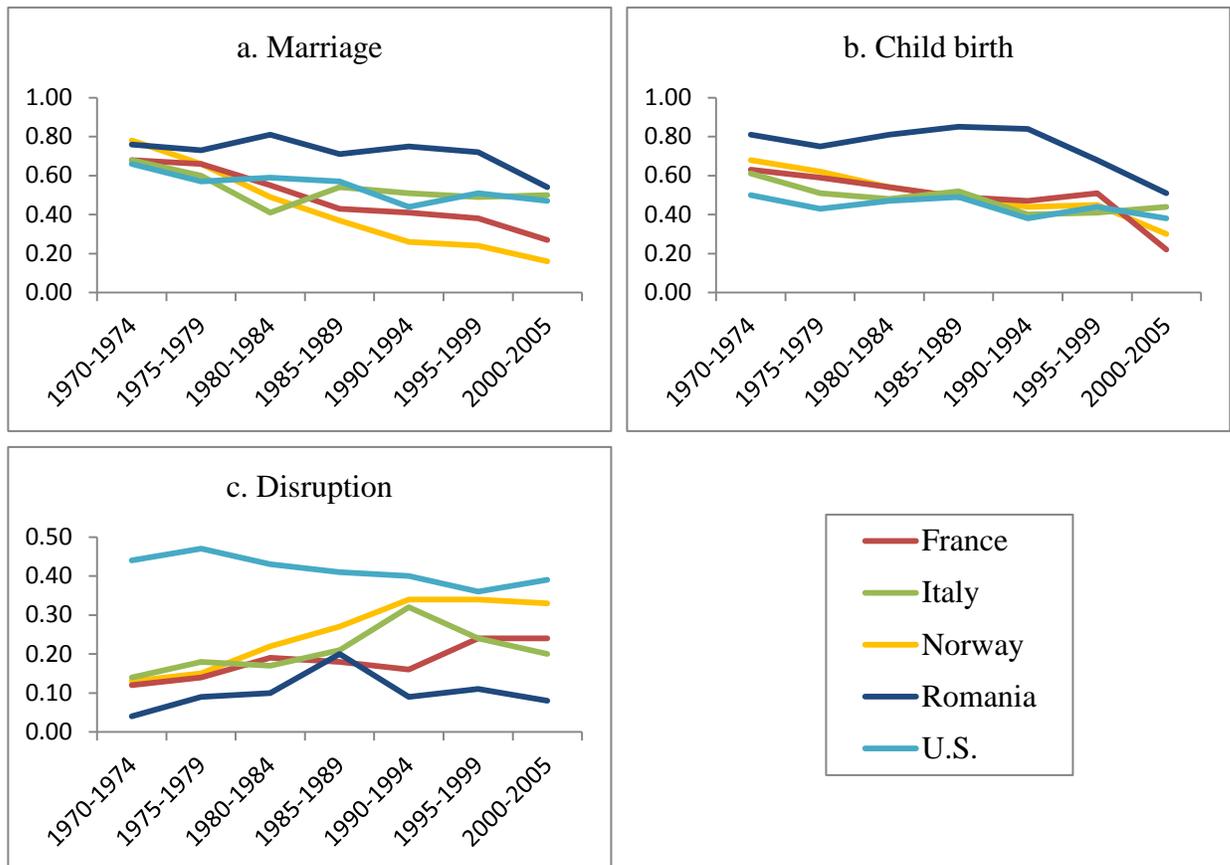
**Table 3. Descriptive statistics of pooled sample used in the regression analysis**

	Freq.	%	France	Italy	Norway	Romania	USA
<b>Cluster</b>							
1. Prelude to marriage	1,699	14.03	11.4	12.6	11.7	38.2	13.43
2. Alternative to marriage	2380	19.66	17.6	18.6	19.9	22.54	20.2
3. Alternative to single	2666	22.02	16.2	14.6	18.9	5.99	29.71
4. Stable union no commitment	2,871	23.72	34.8	31.0	34.1	10.56	14.03
5. Trial marriage	2,490	20.57	19.9	23.2	15.5	22.68	22.62
Tot	12,106	100.0	100.0	100.0	100.0	100.0	100.0
<b>Year of first union</b>							
-1974	560	4.6	4.4	1.4	4.8	9.8	4.7
1975-79	1,144	9.5	8.8	5.5	8.7	11.7	10.7
1980-84	1,707	14.1	13.5	7.9	13.8	12.7	16.1
1985-89	2,178	18.0	18.4	9.9	18.5	17.4	19.5
1990-94	2,517	20.8	19.1	14.5	19.7	18.0	23.8
1995-99	1,949	16.1	18.4	22.5	18.3	16.3	12.6
2000-	2,051	16.9	17.5	38.4	16.2	14.1	12.7
Tot	12,106	100.0	100.0	100.0	100.0	100.0	100.0
<b>Level of education</b>							
High	5,297	43.8	41.4	24.4	49.2	9.3	50.67
Medium	4,619	38.2	42.9	44.1	37.57	50.07	33.71
Low	2,190	18.1	15.7	31.5	13.22	40.66	15.63
Tot	12,106	100.0	100.0	100.0	100.0	100.0	100.0
<b>Parent's level of education</b>							
low	3,611	29.83	45.2	66.8	19.7	76.9	14.71
medium	4,604	38.03	30.7	25.0	52.5	16.3	39.11
high	3,523	29.1	14.7	8.3	26.6	2.9	44.18
missing	368	3.04	9.4	0.0	1.3	4.0	2.01
Tot	12,106	100.0	100.0	100.0	100.0	100.0	100.0
<b>Age at union formation</b>							
-19	4,448	36.74	29.0	18.5	31.1	49.4	45.19
20-24	5,252	43.38	52.5	33.6	50.0	36.4	39.41
25-29	1,757	14.51	14.4	28.4	14.7	10.1	11.93
30-34	507	4.19	3.1	14.8	3.2	3.4	2.89
35+	142	1.17	1.0	4.6	1.1	0.7	0.58
Tot	12,106	100.0	100.0	100.0	100.0	100.0	100.0

**Figure 1. Proportion of women who experienced an extra-marital cohabitation as a first union.**

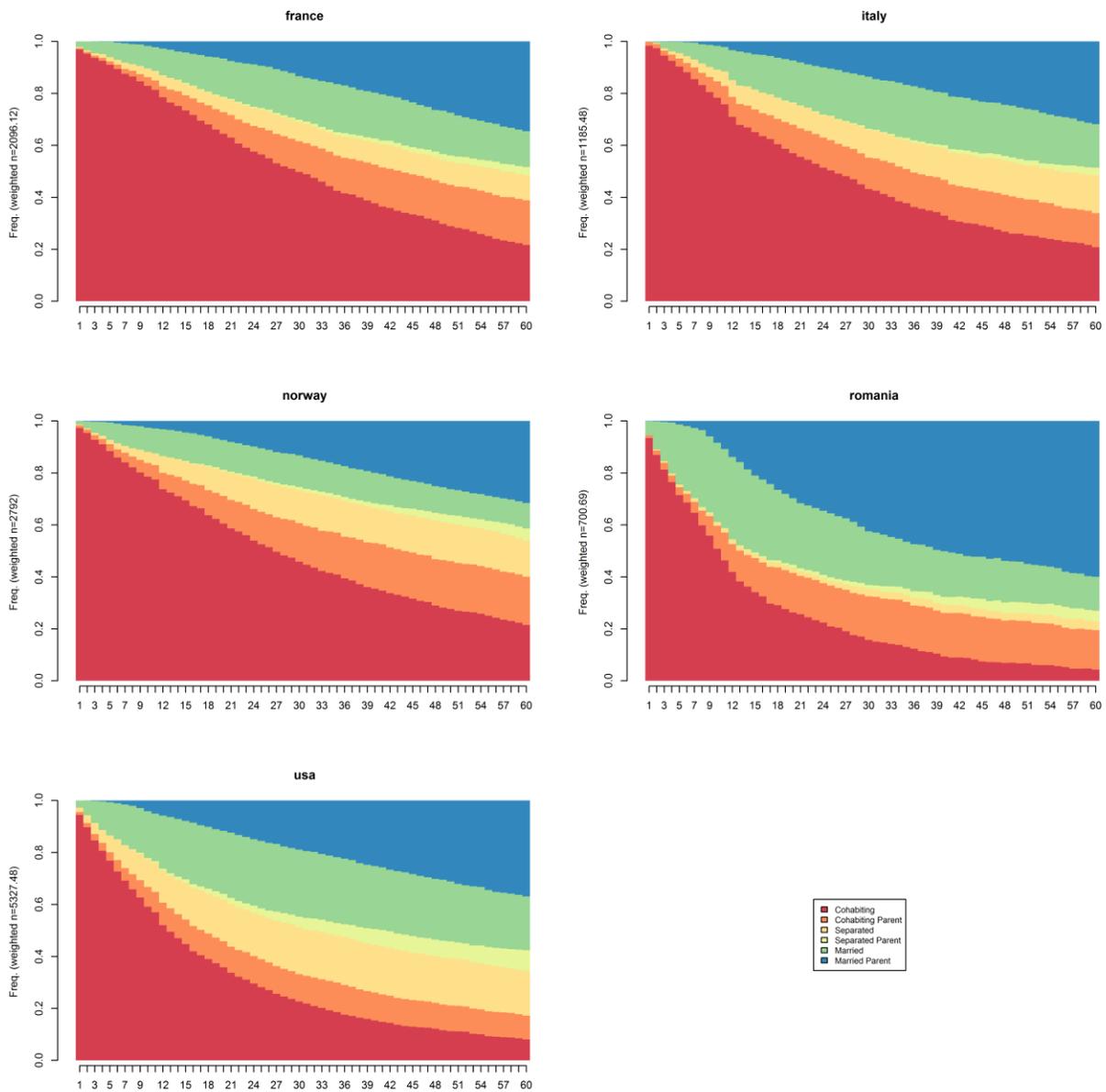


**Figure 2. Percentage of women who experienced a marriage, a child birth and a disruption within the first 5 years of cohabitation by country and year of union.**



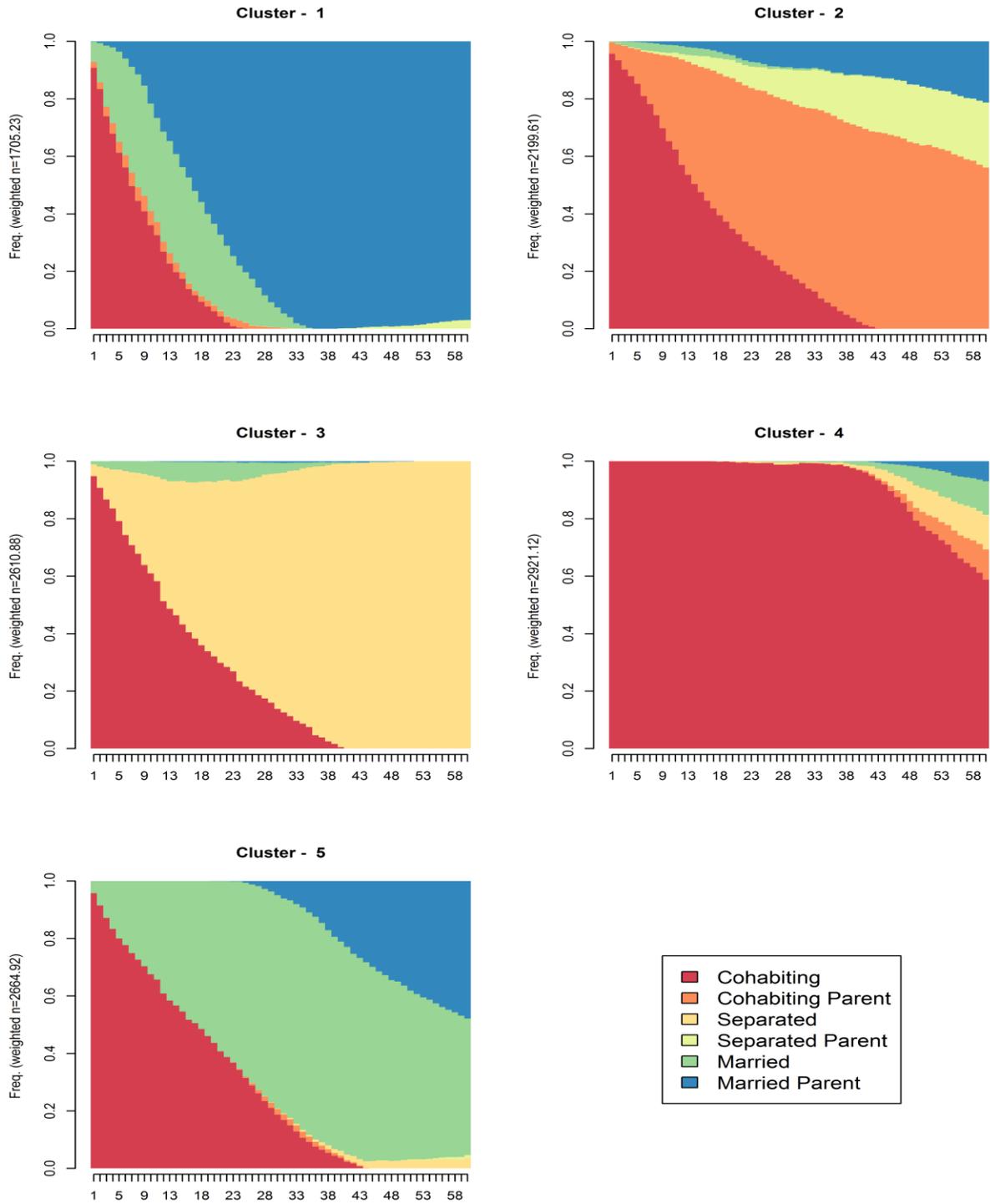
Source: own elaboration

**Figure 3. Distribution of states by duration and country among cohabiting women in the first five years of union.**



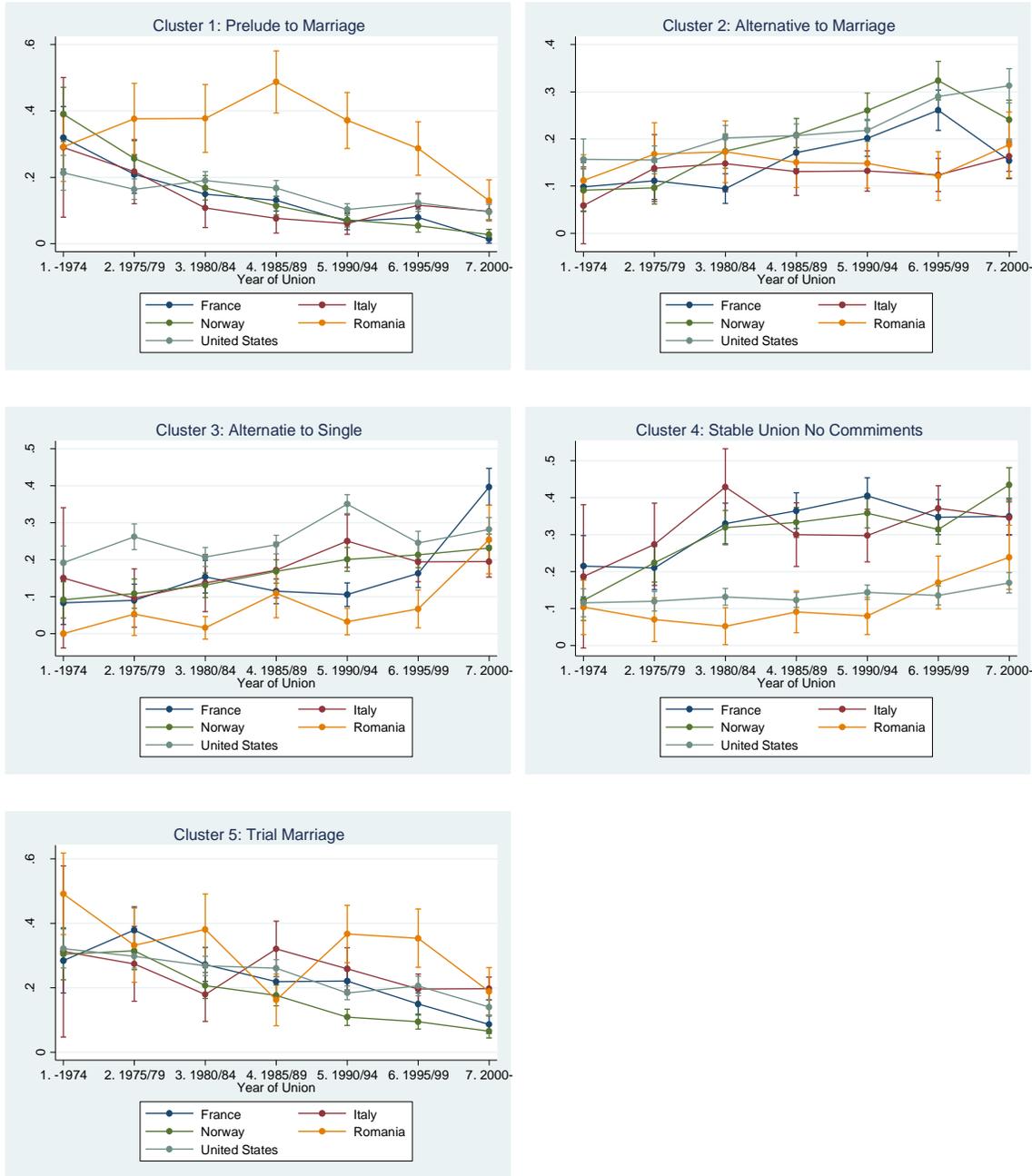
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**Figure 4. Clusters graphical description, by month of observation.**



Source: own elaboration

**Figure 5. Multinomial logistic regression models. Predicted Probabilities of being part of a specific cluster by country and year of union.**



Source: own elaboration

