Emergent union types and fertility behavior
The case of Europe

by (alphabetically)
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Abstract

Declining fertility appears to go hand-in-hand with increasingly fragile unions and the emergence of alternatives to marriage, such as cohabitation. In this paper we examine more closely whether -and how- rising divorce risk and novel partnership forms influence the likelihood of having children. We begin by estimating Kaplan Meier survival curves comparing cohabiting and married couples for Austria, Germany, Italy, Norway, and Spain. We discover that cohabitation in Spain is unexpectedly stable, appearing far closer to Scandinavia than to any Mediterranean *model*. Thus, we estimate using a multi-process approach, the relationship between stability and fertility taking into account selection and endogeneity. We estimate three simultaneous processes: transition to partnership, transition to partnership dissolution and transition to childbirth. Further, thanks to the analysis of the covariance we are able to measure how the correlation between independent variables is affected by the changes in sample composition overtime.

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Background

Theories of the link between fertility and relationship stability broadly divide themselves into two perspectives. One perspective considers relationship (in)stability to be a determining factor in fertility behavior. In other words, stable relationships influence the decision to have a child. Note, however, that the effect may be positive or negative, all depending on whether the intention is to stabilize or end the relationship. The second perspective argues a reverse kind of causality: deciding to have children affects subsequent relationship stability. This implies that greater stability emerges from the birth of a child, whether or not the decision to reproduce is independent of the partners' view of their relationship.

Research Goals

In order to trace the connection between union stability and fertility, our first step is to explore recent trends in relationship stability in Spain, Germany, Norway, Austria and Italy. Here we distinguish between married and cohabiting couples. We ask the following specific questions: are cohabiting couples at a greater risk of separation than married couples? How do patterns differ among Scandinavia (Norway), Continental Europe (Germany and Austria), and Southern Europe (Italy/Spain)?

The second step is to assess fertility variations among married and cohabiting partners, based on the same nation comparison. The analysis separately considers the birth of a first and second child to address the following questions: are cohabiting couples less likely to experience a first or second birth than are married couples?

The third and final step is to analyze the links between selection into partnership, divorce experience and transition to childbirth. Instead of considering the three as mutually independent, our aim is to consider them jointly.

Data and Method

For these analyses we use two different datasets: for Germany, Italy, Austria, and Norway we use the Generations and Gender Survey (GGS) 2007/8; for Spain, we analyze the Fertility and Family Survey (FFS) from 2006. The GGS surveys focus on fertility, partnership, the transition to adulthood, and economic activity. It contains retrospective information that allows intergenerational and longitudinal analysis. Although nineteen countries are included in the GGS, we have decided to limit our comparisons to Western European countries only. Some additional countries had to be excluded due to insufficient information on fertility and partnership histories. The FFS is a survey with retrospective information concentrating on fertility and family data. It is the best source of data on recent trends in fertility for Spain.

For reasons of comparability and parsimony, in the first part of the analysis we selected only women who formed a union after age 21 and before age 46 (the end of women's reproductive years). We do not select unions formed at young ages because these may be very unstable, thereby biasing our results. We limit the analyses to the first relationship and exclude re-partnered couples (which also have shown to be less stable). All couples who transit from cohabitation to marriage (with the same partner) are considered as married[1]. We restrict the period of analysis from 1980 up to 2007/08 (2006 for Spain). The reasons behind this relatively short time-span are, firstly, that it captures the recent fertility-cum-recovery and the period during which cohabitation has become prevalent.

In the second part we relax the constraints on sample selection since the multi-process model (Steel, Kallis, Goldstein & Joshi. 2005) takes already into account the changes in sample composition over time. We conduct two types of analyses to investigate the link between relationship stability and fertility. Firstly, using Kaplan-Meier survival curves we explore cross-national differences in partnership stability, comparing cohabiting and marital unions, and subsequently we examine differences in their fertility behavior (transitions to first and second parity).

Secondly, we analyze the relationship between selection into partnership, partnership instability and fertility using multi-process, discrete-time event history models (Steel, Kallis, Goldstein & Joshi. 2005). In both the analysis,

[1] Additional analyses, considering the premarital cohabiters a different group, have been done. Nevertheless, their survival curves as well as the log-rank test did not show any significant differences compared to married couples, so we joined them with married couples.

we focus on the time of conception rather than on the actual birth of a child. Our focus is on the decision to bear a child rather than the actual birth.

Preliminary Results

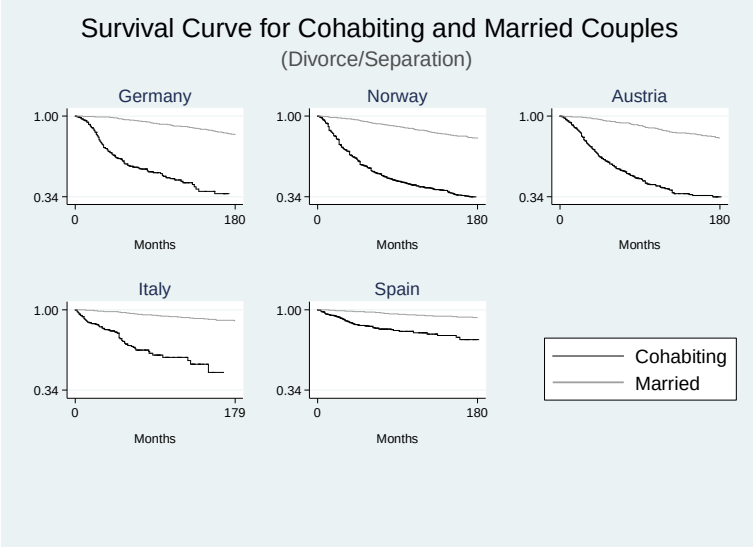
I include a briefly presentation of the preliminary results for the first piece of analysis, since the multi-process estimation is not yet completely finished.

- *Differences in stability among cohabiting and married couples*

We turn first to differences in union instability for married and cohabiting couples, based on Kaplan-Meier (KM) survival curve estimations[2]. We follow couples for a maximum of 15 years (measured in months). We stop observing women at age 45 since first or second births are almost non-existent after this age.

The graphs in Figure 4.4 show that marriage is clearly more stable than cohabitation in all countries, although in Italy and Spain the differences between marriage and cohabitation are less accentuated. For cohabiting couples there is some convergence in Germany, Austria and Norway: after 15 years (180months), almost 65% of unions have ended. In Norway, cohabitation is very widespread but also quite unstable.

Figure 4.4 Kaplan Mayer Survival Curves for couples



For this first group of countries there is a constant and continuous decline that starts immediately before the third year of the relationship. In Italy and Spain the path is more stable; after fifteen years "only" about 24% (Spain) and 50% (Italy) of cohabiting couples separated. Further, taking into account the attrition in the last part of the curve, we observe even lower separation rates (after 100 months, 40% of Italian and 18% of Spanish were separated). For Italian couples the risk is higher between the 2nd and 3rd year and, once again, around the 5th year. The survival curve for Spain is gradual up to the 10th year. Surprisingly, Spain stands out in terms of much greater stability among cohabiting couples. A Log rank test confirms this: Italy and Spain are significantly different (21.6***).

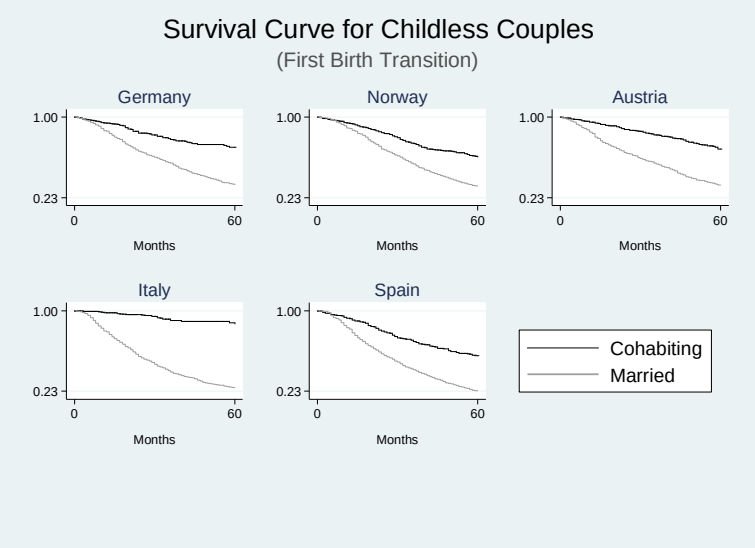
In comparison, marriages are clearly far more stable. Here we find two distinct nation-clusters. The first includes Germany, Norway, and Austria, where the divorce rate hovers around 15-18%. In contrast, we observe much lower rates in Spain and Italy (8-9%). See Figure 4.4[3].

[2] Since for some countries, the analyzed period is characterized by economic and social changes, we preliminarily split the period into two spells: from 1980 to 1990 and after 1990. We ran a model for each period and a log rank test to assess whether there are significant differences in the hazard within each country and for each relationship status (cohabiting versus married). For married couples, we found that for all countries there are no significant differences between the two periods. The only exception is Italy that shows a faster decline of the survival curve after 1990. One possible explanation for the value of the log rank of Italy, is the reform of the divorce law in 1987. For cohabitating couples, the trend in divorce does not differ between the two periods in Austria, Norway and Spain, whereas it does in Germany, and Italy (the log rank test values are significant). If we ignore Italy where the rate of cohabitation is very low to begin with, we find a big difference between 1980 and 1990 for German cohabitating couples (log rank value 24.16***). It is reasonable to think that this is a consequence of German reunification. Despite this discontinuity in Germany, we decided to restrict the analysis and examine the two periods together for all the countries.

- *First births*

We follow couples from one month up until 5 years of partnership. We also include people who started living together after they learned about the pregnancy. In Figure 4.5 we focus on the probability of a first birth.

Figure 4.5 Transitions to the first child. Kaplan Mayer Survival Curves



For cohabiting couples, Spain and Norway follow a very similar path in terms of first birth. At the end of the fifth year almost 40% of women have made the transition to motherhood in both countries. Also Germany and Austria appear rather similar: by the end of the 60-month period about 30% of women have become mothers in both countries. In Italy, clearly, cohabiting women have exceptionally low birth rates: 87% of women remain childless after five years of partnering. A common characteristic in all countries is the evident drop after 20 months of partnering. Because our 'clock' starts 8 months before any birth, this means that a large number of couples conceive about one year after cohabitation began. Here again we observe that Spain deviates sharply from its Mediterranean neighbor, converging instead with Norway.

Turning to married couples, we immediately note substantially higher birth probabilities across all countries. Italy and Spain display comparatively higher birth rates among married couples: at the end of the fifth year almost 77% of women have become mothers. The big spurt in fertility occurs around the second partnership year. Germany, Norway, and Austria exhibit similar dynamics. Here about 65% have given birth within the 5-year period. Here, the highest level of fertility occurs around the first year[4].

- *Second births*

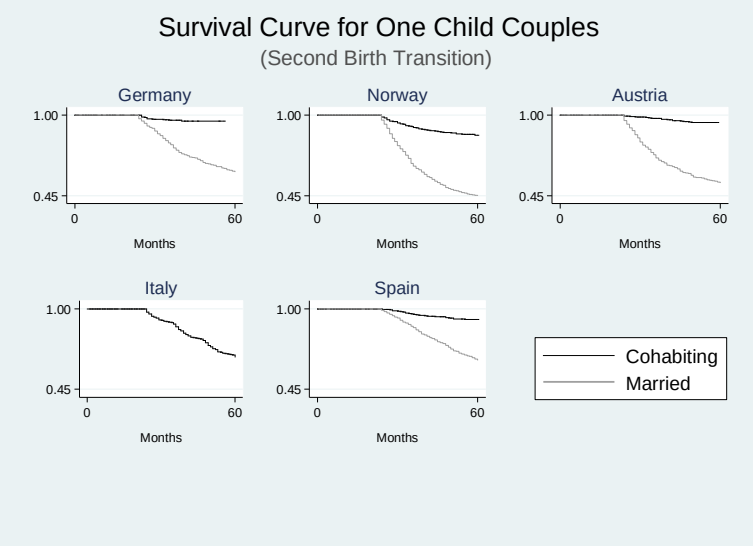
Our analysis of second births implies a change in our calendar. We now examine couples from 24 months after the first conception and follow them over 5 years. As is standard practice, we impose an unfertile period of 24 months. The event of interest is whether a second child is born. See Figure 4.6.

A very different pattern emerges when we examine second births. Let us once again begin with cohabiting couples. The first thing we notice is that Norwegians are far more likely (16%) to have a second child than in any of the other countries. The graphs suggest that the transition to a second child occurs at a fairly constant rate. For the remaining countries (except Italy) the pattern is pretty much the same. In this group, very few (about 4 %) cohabiting women arrive at the second child.

[3] Log rank tests show that for cohabitation Spain and Italy differ systematically from the other countries. Austria is different from Italy and Spain, but converges with Germany and Norway. Finally, Austria and Norway do not show a significant difference in their divorce risks. For married couples, we do not find any substantial country differences. To conclude, marriage is clearly more stable than cohabitation except in Spain where both types of partnership appear quite stable.

[4] Once again, to ascertain whether the differences we find are significant we conduct log rank tests.

Figure 4.6 Transitions to a Second Child. Kaplan Mayer Survival Curves



The probability of a second birth is evidently much greater among married couples. Here, again, Norway stands out with far higher fertility rates: about 55% of women have a second child within the fifth year of their marriage. Austria and Germany occupy a middle position: 46%, respectively 49%, of women have a second child within five years of marriage. Spain and Italy are now very similar, both representing very low fertility. Here, only about one-third of married women progress to the second child. [5]

Preliminary Conclusions

Apart from the Netherlands, marriage appears to be more stable than cohabitation in all countries, but the differences between the two relationship types are much smaller in the two Mediterranean Countries (Spain and Italy).

With regard to fertility behavior, the most surprising result concerns Spain. In contrast to common expectations, Spanish cohabiting couples follow, in transition to first birth, the same path of Norway, experiencing a fairly strong transition to parenthood (almost 40% of the cohabiting couples give birth). This evidence, jointly with the relatively high stability of cohabitation, suggests that the underlying fertility decision process in Spain, at least for the first child, is different from another traditional Mediterranean country, Italy. The latter, indeed, depicts a more traditional picture: the transition to parenthood is the norm within marriage and almost non-existent within cohabitation.

But when examining transitions to the second birth, we now find that Spain diverges from the Scandinavian model and exhibits a more Mediterranean profile. However, the second-birth transition in Spain remains low across both types of partnerships.

At the same time, we are conscious that our preliminary results may be driven by some selection. Therefore, in the second part of the paper our aim will be to analyze selection into partnership and dissolution simultaneously with transition to childbirth.

[5] For cohabiting couples there are significant country differences. Spain, which was similar to Norway for first births, is now strongly deviant (the log rank = 19.66***). And, yet, this does not mean that Spain conforms to a 'Mediterranean logic'. Surprisingly, Spain is now quiete similar to Germany and Austria. For married couples we also find that the countries differ significantly one from the other.

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