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**Cohabiting unions
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Transitions to first birth and
first marriage**

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Cohabiting unions in France and West Germany: Transitions to first birth and first marriage

Jean-Marie Le Goff^{*)}

Abstract:

This paper compares the non-marital birth pattern in France and West Germany. Since the beginning of the eighties, France witnessed a steady increase in non-marital birth rates, while in West Germany non-marital birth rates have remained at a relatively low level. We attribute these differences to the institutional and legal constraints from both sides of the Rhine which hamper or foster childbearing in cohabiting unions. In West Germany, family policies are based on the model of the conjugal family and the male breadwinner model. Until recently, it was not possible for an unmarried father to recognize his child and to obtain parental authority. In France, family policies have responded to the “pluralization” of family lives and it is possible for an unmarried father to recognize his child and obtain parental authority. Using data from the French and German Family and Fertility Survey, we apply event history modeling to the transition to marriage and first birth. Our results indicate a *polarization* of family forms in both countries. In West Germany, we find a polarization in a “family sector” and a “non-family sector” while in France there is a polarization in a “marriage sector” and a “cohabiting sector”.

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1. Introduction

The aims of this paper are to develop some hypotheses and present some initial results on differences in union formation, marriages and first births of women living in West Germany and in France. These two neighboring countries present an interesting comparative case study. There have been substantial economic and cultural exchanges between these two countries since the 1950s. Moreover, general changes in demographic trends like the decrease in marriages and fertility and the increase in divorces have followed a similar pattern (Lesthaeghe, 1995). Both countries also experienced an increase in cohabiting unions (Kiernan, 2001a). Despite these similarities, important “demographic differences” remain. French total fertility rates (TFR) have traditionally been higher, on average by the value 0.3 to 0.7 since 1965 (Council of Europe, 2001). In 1965, the TFR was 2.7 in France and 2.4 in West Germany. In both countries, the TFR decreased drastically until the middle of the seventies and levelled off thereafter. In 1999, the TFR was 1.8 in France and 1.4 in West Germany. Moreover, pronounced differences in non-marital births between France and West Germany have emerged since the beginning of the eighties. France witnessed a big increase in non-marital fertility rates; from roughly 11% in 1980 until they reached 41% in 1999. In West Germany, the increase in non-marital births was less pronounced, from 8% to 18% (Council of Europe, 2001). In most developed countries, an increase in *non-marital births* occurred simultaneously with an increase in *non-marital unions* (Kiernan, 2001a and b). France appears to follow this pattern, but West Germany constitutes an exceptional case. In this paper, we focus on differences in *non-marital fertility* between these two countries, focusing on the role that non-marital cohabitation plays.

In section two of this paper, we present some basic statistics on the increase in non-marital unions in the two countries. We then review changes in institutions and family policies of each country with a particular focus on regulations that encourage or discourage non-marital unions. In section three, we develop some hypotheses concerning interrelations between the institutional contexts and demographic behaviors. We argue that the West German institutional context corresponds to a process of polarization of women between a family sector and a non-family sector,

while the French institutional context corresponds to a process of pluralization of family formation and situation. In the fourth section, we develop an event history model on the transition to first birth and first marriage for couples in a cohabiting union. We consider both transitions as interrelated processes in which marriage affects first birth and vice versa. In section five, we discuss the results of this model for both countries. Section six contains the concluding remarks.

2. Development of non-marital unions and non-marital births

2.1. Demographic settings

In this section, we present some basic indicators on the differences in *non-marital unions* and *non-marital births* in West Germany and France. These analyses are based on the “original” national FFS data of each country. The German survey was carried out in 1992 and contains men and women of German nationality born between 1952 and 1972. We restrict our analysis to respondents who were born in the territories of the former Federal Republic of Germany (“alte Länder”). The French sample contains women and men born between 1944 and 1974 who were living in France in 1994. We restrict our analysis to women of French nationality in order to harmonize the French sample with the German one.

2.1.1. Development of cohabiting unions

Similar to other European countries, France and Germany have witnessed an increase in non-marital unions during the last thirty years. In table 1, we display women who began a first union with either a marriage or a cohabiting union¹. For the cohorts 1944-1948, about 22 percent of French women started their first union as a cohabiting union. For the cohorts 1964-1968, this applies to 81 percent. Starting a first partnership as a non-marital union seems to be a little less frequent in West Germany. However, as in France, this kind of union formation is becoming more and more prevalent for younger cohorts.

Table 1: Proportion of first unions beginning by a cohabitation by cohort (in %)

France (1994)		West-Germany (1992)	
1944-48	22.3		
1949-53	32.7		
1954-58	44.0	52-56	38.3
1959-63	63.6	57-61	56.0
1964-68	81.3	62-66	67.9

Sources : PAU-FFS data (Germany: 1992 ; France: 1994)

The increase in non-marital unions can be illustrated from the cohort as well as from the period perspective. Table 2 addresses this aspect by displaying the same statistics by calendar time. In both countries, the ratio of unions that begin with a cohabiting “spell” increases over time. At the beginning of the seventies, the “norm” was to start a union with a marriage. At the beginning of the nineties, the majority first entered a cohabiting union. However, there are small differences in the general pattern between the two countries.² Until the 1980s, the proportion of non-marital unions was more prevalent in Germany than in France. Germany witnessed a big increase during the second half of the seventies, while during the eighties the increase was only modest. At the beginning of the nineties, three-quarters of all unions start as a non-marital union. France experienced major changes during the eighties. First partnership starting with a cohabiting “spell” became the most frequent pattern during these years. Marriages represented only one union in nine at the beginning of the nineties.

Table 2: Proportion of first unions beginning by a cohabitation across calendar time (in %)

	France	West-Germany
1965-69	16.3	
1970-74	26.2	30.8
1975-79	39.2	50.2
1980-84	65.5	57.1
1985-89	80.4	67.2
1990-1992/94	87.8	74.5

Sources : PAU-FFS data (Germany: 1992 ; France: 1994)

The high prevalence of cohabitation as the first type of union does not necessarily mean that cohabitation has replaced marriage or that it constitutes an alternative to it. In table 3, the role of cohabitation is investigated from a life course perspective. This table displays for each cohort the proportion of women who were single or lived in a

¹ We omit respondents who never entered a partnership.

non-marital or marital union at ages 25, 30 and 35 years old. In all cohorts from the two countries, the proportion of married women increases with age and the proportion of singles decreases. The proportion of cohabiting unions is stable over age and, if it increases across cohorts, it is always lower than the proportion of married women. In the majority of cases, cohabitation appears to be a transitory state during the life course before an eventual marriage either with the same or with another partner. In the case of younger French cohorts, it is worth noting that there is a large increase of women who live in non-marital unions at age 25 amounting to 30 percent. A more recent survey than the French FFS, the “family history survey” which was conducted in 1999, shows similar results (Mazuy and Toulemon, 2001).

Table 3: Marital status at 25, 30 and 35 years old, by cohort (in %)

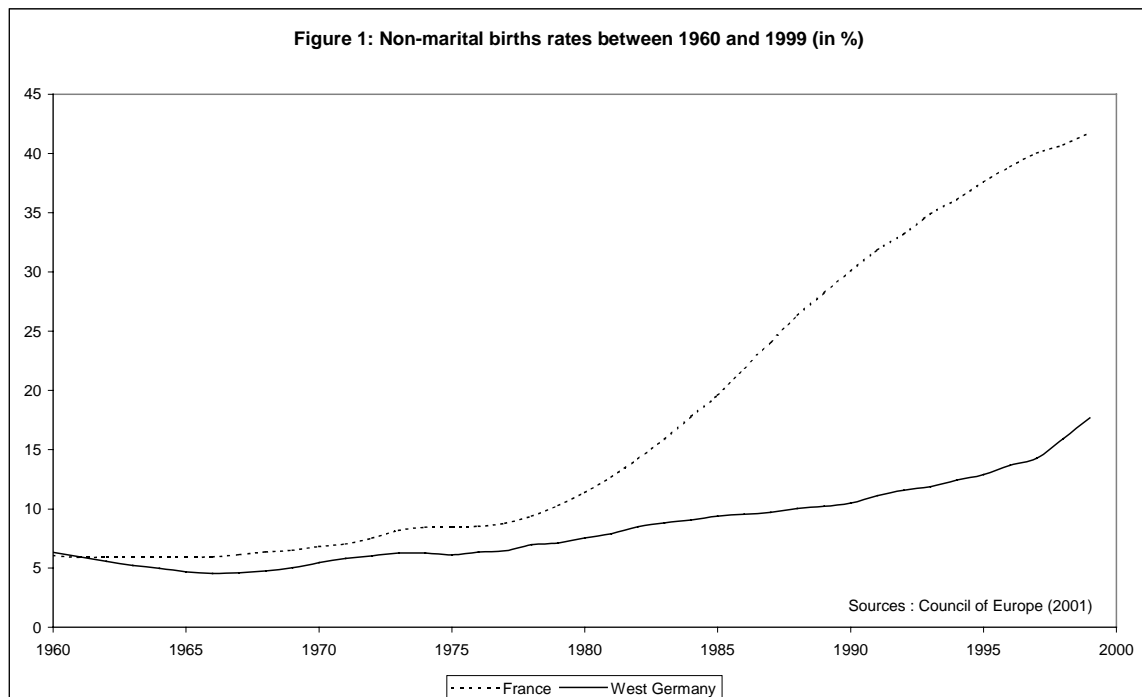
		25 years			30 years			35 years		
		Single	Cohabiting	Married	Single	Cohabiting	Married	Single	Cohabiting	Married
France	1944-48	22.7	4.3	72.9	13.4	5.7	80.9	14.6	3.7	81.6
	1949-53	23.4	6.3	70.3	16.9	4.8	78.2	16.5	5.8	77.6
	1954-58	24.0	10.6	65.4	18.7	11.1	70.1	18.3	10.3	71.3
	1959-63	33.9	17.1	49.0	24.6	20.8	54.6			
	1964-68	34.2	32.8	33.0						
West Germany	1952-56	28.1	12.3	59.6	15.3	9.5	75.2	14.0	11.1	74.9
	1957-61	29.2	15.3	55.5	20.2	14.3	65.5			
	1962-66	42.8	19.9	37.3						

Sources : PAU-FFS data (Germany: 1992 ; France: 1994)

2.1.2. Differences in non-marital births between France and West Germany

Until the end of the seventies, the level of non-marital births was very similar in France and in West Germany (figure 1). Less than 10% of the total births were out-of-wedlock until 1978 in both countries. After 1980, non-marital births increased strongly in France during the eighties and the non-marital birth rate reached 30% and 40% respectively at the beginning and the end of the nineties. The non-marital birth rate in Germany does not show such a large increase between 1980 and 1998. It rose from 8% in 1980 to 14.3% in 1997. We should note, however, that at the end of the nineties, the non-marital birth rate appears to increase a little more strongly and reached 17.6% in 1999.

² Results presented here relate to French women (born between 1944 and 1974) and German women (born between 1952 and 1972). A restriction of first partnership to French women born in 1952 or after gives very similar results.



The simultaneous increase in cohabiting unions and non-marital births suggests that a lot of non-marital births are births to women living in a cohabiting union. In order to address this aspect, we proceeded as follows. On the basis of the FFS data, we calculated the percentage of women who (1) had the first birth as single mothers, (2) lived in a cohabiting union at first birth, (3) married between the conception and the first birth and (4) married before the first conception³.

As can be depicted from table 4, in France the increase in non-marital first births for the most recent cohorts corresponds to a decrease in women who marry between the conception and the birth of a child⁴. It corresponds also to a decline in the proportion of women who get married before the conception of the first child. On the other hand, the increase in the proportion of non-marital births outside of a union is only modest.

In Germany, the proportion of first births in non-marital unions is bigger for the cohort of women born between 1957 and 1961 in comparison with the previous cohort, but this increase appears to be lower than in France. It corresponds with a decrease in first births for women without partners. It should be noted that in the most recent cohort, the proportion of non-marital conceptions followed by a marriage

³ We limit our analysis to the first union. Children born after the (eventual) dissolution of the first union are not taken into account.

increases in comparison with the previous cohort (category 3). A decrease of conceptions in marital unions corresponds to this increase (category 4).

Table 4: First birth by the marital status of the woman

Cohorts	France					West Germany		
	44-48	49-53	54-58	59-63	64-69	52-56	57-61	62-66
(1) Lone parenthood at first birth	11.2	5.9	6.6	9.5	9.4	11.0	6.7	9.2
(2) Cohabitation at first birth	2.5	5.9	8.9	17.8	27.7	7.1	12.7	17.5
(3) Marriage between conception and first birth	22.4	23.6	21.9	13.0	10.6	24.2	12.4	30.1
(4) Marriage before conception and first birth	64.0	64.5	62.6	59.7	52.3	57.4	63.2	43.2
N	363	437	397	355	229	308	354	260

Sources : PAU-FFS data (Germany: 1992 ; France: 1994)

The increase in cohabiting unions prompted the policy makers and the legislators in most developed countries to introduce amendments in the domain of family and filiation laws (Prioux, 1994; Bradley, 2001). An overview of changes in family policies and laws on both sides of the Rhine is presented in the next section.

2.2. Changes in laws and family policies

During the beginning of the XXth century, cohabiting unions were, at best, considered outside of the law and ignored by authorities or, at worst, forbidden and prosecuted by justice (Bradley, 2001). Most of the countries had adopted devices of family regulation based on the model of conjugal family and legitimate births. These family regulations remained unchanged until the end of the sixties. In the contemporary context, cohabiting unions and out-of-wedlock births raise important juridical questions (Théry, 1998). Firstly, the relationship between the two partners (horizontal link) has to be clarified. For example, questions about mutual support and inheritance issues have to be resolved. Secondly, the relationship between the unmarried father and the child (vertical link) has to be specified, i.e. the parental authority and the recognition of the child by the unmarried father have to be clarified. As mentioned by several authors, new measures and regulations (and also possibly discussions in the state institution before a rejection of proposed new measures) depend of legal and cultural traditions and family ideologies specific to each country (Gauthier, 1996; Hantrais, 1997; Eriksen and Lindsay, 1999; Bradley 2001).

⁴ See also Toulemon (1995) in the case of France.

In West Germany as well as in France, the family is recognized by the state as an institution which plays a role for social cohesion (Fagnani, 2001). The two countries, however, display different general and cultural political contexts in the regulation of family facts. There are traditional connections between family and pronatalistic policies in the case of France. Regulation of the family in Germany has been, since the constitution of the Federal Republic of Germany, strongly based on the normative model of conjugal family with the male as breadwinner (Heeren, 1982; Schultheis, 1993 and 1999; Gauthier, 1996; Vielle, 2001).

2.2.1 West Germany

Article 6 of the German Constitution (1949) stipulates that *marriage* and the *family* come under the special protection of the state. According to Stinzing (1999), this entails that both institutions have to be protected from state interference but also that the state has to promote family and marriage through, for example, its social security scheme or taxation rules. Taxation and the rule of conjugal splitting (Ehegattensplitting) offers fiscal advantages for married couples with or without children, while cohabiting couples have to file their taxes separately. This normative representation of family life based on conjugal family is accompanied by a privatist conception of child education monopolized by families (Vielle, 2001). A low availability of childcare scarcely allows women to combine family and professional lives, especially when they have children less than three years of age (Kreyenfeld and Hank, 2000; Fagnani, 2001).

According to Ostner (2001, p 99), article 6 of the German Constitution also means, in the context of an increase in cohabiting unions, that “personal relationships which resemble marriage but are not marriage should not be treated better than marriage”. Although cohabiting unions and partnerships outside marriage are not considered equal to marriages, they are still taken into account in social legislation and jurisprudence. In 1957, legislation introduced the notion of “marriage-like

relationship” (Eheähnlich) in the rules of unemployment benefits⁵ (Ostner, 2001). This marriage-like relationship was defined in 1958 by the German Constitutional Court as a community living together wherein all members share resources.

The notion of an illegitimate child as it relates to fatherhood also underwent some changes, but not until the 1998 (Stintzing, 1999). Parental authority was not given to an unmarried father, which meant that he was denied the right to educate and care for the child. This aspect had several implications like, for example, it was not possible for him to consent to an urgent operation on the child or to represent the interests of his child in a council of school (Schultheis, 1996; Stintzing, 1999). However, in 1991⁶, the Constitutional Court indicated that an unmarried father was in the position to fulfil the obligation to educate and care for the child. Considerations taken into account by the Court included not only the situation of the father, but also the situation of the non-marital child, who should have been given the same opportunities to mature as marital children (Stintzing, 1999). In 1998, an amendment to the parental and custody legislation effectively equalized the equality between legitimate and illegitimate children. Differences in inheritance rights have been abolished and an unmarried father’s rights have been improved. However, the father is not automatically given the right to custody; instead, both parents have to file a joint declaration.

2.2.2. France

According to Schultheis (1993 and 1999), French family policies could be characterized by normative neutrality and flexible representations about family lives in contrast with the norm of the conjugal family in German family policies. This conclusion is based on a confrontation of each domain of family policies between both countries at the beginning of the nineties. For example, France is characterized by a great availability of childcare, which allows women to combine a professional

⁵ The context of cohabiting unions was not the same as today. It corresponded to women who lost their husbands during the war and formed new partnerships without a remarriage in order to keep their widow’s pension (Ostner, 2001).

⁶ The context is affected not only by the slight increase in out-of-wedlock births in West Germany but moreover by the reunification with East Germany. There was a high level of non-marital births in the new Länder before unification which has continued to increase in the 1990s.

career with family life. Another example is taxation and the rule of family splitting which offer advantages to couples with children, whether they are married or not⁷. The general idea supported by the author is that, in contrast to Germany, France introduced equal treatment of married and unmarried couples in its legislation. However, a historical perspective about the evolution of legislation and laws on cohabiting unions and filiation provides a more ambiguous picture (Martin and Théry, 2001).

After the Second World War, French family policies were, as in West Germany, based on the norm of conjugal family. The increase in cohabiting unions during the last decades did not prompt authorities until 1998 to extend social legislation from married to unmarried couples. Rules of taxation did not allow unmarried couples to jointly declare their income. There were no rights of inheritance in case of the death of a partner. Nevertheless, cohabiting persons were still treated differently than singles, i.e. they were not entitled to claim special allowances, like allowance for family support to lone mothers or allowance for widowhood. The creation of the “Pacte Civil de Solidarité” (PACS) in 1998 partly changed this situation, but did not give the same advantages to cohabiting and married couples (Bradley, 2001; Martin and Théry, 2001). Despite the increase in cohabiting unions, the French legislation gives its preference to marriage, in a similar manner to the German legislation.

The situation of illegitimate children and unmarried fathers became a greater concern during the seventies and eighties. It should be mentioned, however, that already before this period, the notion of the legitimate child was replaced in 1946 by the notion of the “dependent child⁸” in the legislation of family allowances (Shultheis, 1993). When cohabitation increased at the end of the sixties, a new legislation introduced the obligation for an unmarried father (cohabiting or not) to recognize a child. However, in this first reform, the parental authority was only given to the mother (Martin and Théry, 2001). A new article in the civil code introduced in 1972 the principle of equality between legitimate and illegitimate child. This reform allowed an illegitimate child to inherit (but only half of the inheritance the child

⁷ This was true until 1996, when taxation allowances linked to lone parenthood were removed for cohabiting-couples. The consequence of this removal was a peak in the marriage rate during this year (Martin and Théry, 2001).

would receive if the child were legitimate). It should be noted that these reforms were adopted before the increase in out-of-wedlock births. The principal motivation behind their implementation was to allow illegitimate children to have the same rights as legitimate children. However, in the context of the increase in non-marital births during the eighties and nineties, a second reform introduced the possibility of joint parental authority for unmarried couples (1987 and 1993), but only if parents were living together and when the father recognized his child.

2.3.3. Intermediate summary

In West Germany as well as in France, recent changes in the legislation have granted more rights to couples living in non-marital unions. Cohabiting unions are considered less and less as being “outside the law”, but in neither country do cohabiting couples experience such beneficial treatment as in marriage. In both countries, the “normative family model” is still the marital union.

French legislators improved the status of non-marital children earlier than German legislators and an unmarried father is now urged to recognize his child. Unlike in Germany, new rules on recognition of children by unmarried fathers have preceded the rise in out-of-wedlock births in France. According to Martin and Théry (2001), one illegitimate child in five was recognized during the seventies at the moment of the birth, one in two during the eighties and three in four in 1996. Only six per cent of children were never recognized by their fathers in 1996. Despite that, cohabiting unions and marital unions are not treated alike. Rules on recognition and parental authority allow French couples to have children who have almost the same rights as legitimate children. It was also during this period that women’s participation in the labor market increased rapidly. This increase was accompanied by an expansion in childcare facilities, which means that family policies progressively adopted the “working mother model” (Fagnani, 2001).

In Germany, in the absence of legislation regarding the recognition and parental authority of unmarried fathers until 1998, for unmarried couples, a pregnancy implied

⁸ Translation of “enfant à charge”.

the moral obligation to get married (Dienel, 1996). This moral obligation refers not only to the filiation link but also to the link between partners since, in the absence of childcare, numerous women interrupt their jobs when they become mothers⁹. In contrast to France, Germany has retained the normative social representation of family as a conjugal family with a male breadwinner in its family policies.

3. Polarization and pluralization hypotheses

In France as well as in West Germany, the increase in cohabiting unions has been regarded as a sign of a rise of individualization and equality between men and women (Martin and Théry, 2001; Ostner, 2001). This increase in individualism was associated with the notion of *pluralization* of family formation and situations. In Germany, the term “family” was substituted by “living forms” (Lebensformen), in order to emphasize that “marriage and marriage-based families have become in this context eligible living forms among many others” (Ostner, 2001, p 92). In a similar manner, the term “family” was progressively replaced by French social scientists during the eighties by its plural, “families”, in order to underline the notion of pluralization in family life (Martin and Théry, 2001).

However, the idea of a pluralization of family forms met with criticism in Germany during the nineties and was contrasted with a “*polarization hypothesis*” (Strohmeier 1993, Huinink, 2001; Ostner, 2001). The term is used in various contexts, but in a general manner, it designates a process of differentiation between two groups of couples. The first group is composed of couples who marry and have children. This group of couples forms a “family sector”. The second group is composed of couples who neither marry nor have children. This group then forms a “non-family sector”. This non-family sector consists for example of singles or dual career couples (Ostner, 2001).

⁹ It should be noted that the shift in the increase in non-marital births during the end of nineties (see figure 1) appears to coincide with the new legislation on recognition and parental authorities of 1998 in Germany.

In France, the idea of a pluralization in family situations met with less criticism than in Germany (Martin and Théry, 2001¹⁰). Furthermore, this term is not limited to describe a plurality in family situations or formations. The process of pluralization could also be used to describe the different configurations of couple and family life during the life course (Théry, 1998). In a context of more liberal legislation on filiation than in Germany, marriage is considered less and less as a “founding event” and more and more as a non-necessary step during family life (Kaufmann, 1993).

The hypotheses of a polarization between a family sector and a non-family sector in West Germany and of a pluralization of family formation and situations in France will serve as a theoretical background to analyze the conception of the first child and marriage. However, as our analysis will be restricted to women who have begun a consensual union, these two notions of polarization and pluralization have to be specified. From the life course perspective, the polarization in West Germany means that there is a stage during which cohabiting couples branch off into the “traditional sector” (marriage and parenthood) or remain unmarried and childless. In this case, women who have high risks of marrying also encounter high risks of giving birth. In contrast, women who have low risks of marrying also have low risks of giving birth. In other words, against the background of the German institutional framework, we assume that marriage and first births are strongly interrelated.

Contrary to Germany, the rise in non-marital births in France suggests that there is not a strong interrelation between marriage and parenthood. However, several factors could contradict this hypothesis. First, we have to take into account that several unions began before the increase in non-marital births in the French FFS data. Marriage and first births could therefore be interrelated in the older cohort of French women. Second, couples who did not marry before or during the pregnancy could marry subsequently for reasons related to marriage, in a similar manner as in Germany. Third, some authors have mentioned that for most traditional couples, marriage remains important, especially as concerns its link with children and family planning (Théry, 1998). Eurobarometers data of 1993 show that 46.3% of French

¹⁰ Explanations about this process of pluralization in terms of a rise in individualization met with a great deal of criticism during the nineties (Martin and Théry, 2001). For example, it was considered

respondents stated the opinion that to “get married is the best way to guarantee the rights of children” (Malpas and Lambert, 1993). This is roughly the same as in West-Germany where 52 % responded in a similar manner¹¹.

4. Event history model to estimate first birth and marriage in cohabiting unions

In this methodological section, we present the event history model we will estimate in order to analyze first births and marriages of cohabitant women in France and Germany who did not have children and were not previously married before the beginning of the union¹². We are particularly interested in the following three aspects:

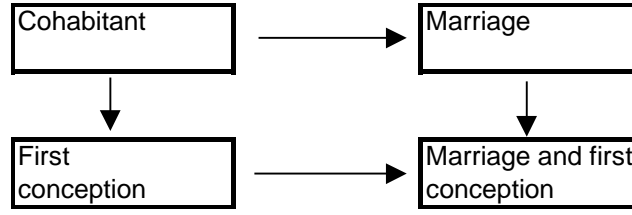
- First, we want to analyze the effect of the first conception on the marriage transition rate and the effect of marriage on the first birth transition. The questions we have are associated with the positive or negative effects of the “disruptive event” on the rate of the analyzed event (for example, if a first conception is accompanied by an increase or a decrease in the marriage rate) in both the short and the long term (Courgeau and Lelièvre, 1989; Blossfeld and Rohwer, 1995; Blossfeld and Mills, 2000);
- Secondly, we seek to understand the development of these two effects over cohorts. We are especially interested to capture the mechanics that have triggered the increase in non-marital births in France;
- Thirdly, we wish to analyze both events as interrelated processes in order to show if observed and unobserved individual characteristics simultaneously influence first birth and first marriage (Brien et al., 1999; Baizan et al., 2001).

The general principle of the model can be symbolized by the following scheme:

that this process of individualization, in the process of emancipation, is not equally accessible between social groups.

¹¹ Proportions of answers to this question were the highest in Denmark (68.5%) and Greece (62.4%) and the lowest in Luxembourg (42.1%) and Portugal (43.5%).

¹² Note that a model on the formation of the consensual union will not be estimated here.



We distinguish women according to the occurrence of the first event between conception and marriage (and also women who do not experience any event). This first event is considered to have an eventual impact on the occurrence of the second event. The statistical model is based on simultaneous equations of hazard rates for each event:

$$\ln h_i^m(t) = y^m(t) + \sum \alpha_j^m x_{ij} + \sum \beta_j^m w_{ij}(t) + z_i^m(t) + \sum c_k^m(u_{ik} + t) + U_i \quad (1)$$

$$\ln h_i^c(t) = y^c(t) + \sum \alpha_j^c x_{ij} + \sum \beta_j^c w_{ij}(t) + z_i^c(t) + \sum c_k^c(u_{ik} + t) + V_i$$

The superscripts m and c respectively denote entering marriage and the conception of the first child. The subscript i represents an individual i . $\ln h_i^m(t)$ and $\ln h_i^c(t)$ are respectively the hazard rate logarithm of marriage and first conception associated with this individual at the instant t .

Each $y(t)$ denotes a piecewise linear spline that captures the effect of the duration since the beginning of the union on the intensity of one process. x_{ij} represents a fixed covariate associated with the individual i . It is here important to note that one of these fixed covariates is the birth cohort of the woman (differentiation between women born between 1952 and 1961 and women born between 1962 and 1972¹³). w_{ij} denotes time varying covariates. Each $z_i(t)$ captures the effect of women at their current age on intensity. The c_k are spline effects of covariates that are continuous functions of t from an origin u_k . In the case of the marriage process, this spline represents the effect of duration since conception, provided that conception occurred before marriage. For the “conception equation”, the spline represents the effect of duration since the marriage. In the present case, we will distinguish one c_k for each cohort. Doing so, we assume that the effect of a conception on the process of marriage is different across cohorts

¹³ 1974 in the case of France.

independent of the fact that there could be differences between cohorts in the direct occurrence of marriage. The same assumption is made in the case of the effect of marriage on the process of first conception.

U_i and V_i denote unobserved heterogeneity components respectively for the processes of marriage and of conception. They are assumed to have a joint bivariate normal distribution with a factor of correlation between the two unobserved heterogeneity terms:

$$\begin{pmatrix} U \\ V \end{pmatrix} \sim N \left(\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \sigma_u^2 & \rho_{uv} \\ \rho_{uv} & \sigma_v^2 \end{pmatrix} \right) \quad (2)$$

in which σ_u^2 and σ_v^2 are variances of each unobserved heterogeneity term and ρ_{uv} is the correlation between the two terms. In the present case, according to our hypotheses on interrelations between marriage and first birth (see section 3), it is expected that this correlation will be positive and strong in the case of West Germany, and less strong, or indeed even non significant in the case of France.

Data used are, as mentioned in the first part of this report, original FFS data from West Germany and France (cf. supra). In the case of France, we restrict the sample to women born in 1952 or later in order to have harmonized data with West Germany. We select all unions that begin as non-marital unions. However, we omit cohabiting unions that started after a first conception or that began after a dissolved marriage. For some respondents, we might observe several unions, provided that the union started before the first pregnancy or the first marriage. The date of conception corresponds to the date of the first childbirth minus nine months. Cases are censored at the last date of the interview or at the dissolution of the union if that occurred before the interview. For the marriage process, we also censor cases at the date of the interview or at the date of union dissolution if there was no marriage, but also at the date of the second child conception if it occurs before the marriage.

Three fixed covariates will be taken into account. The first is the cohort, which we assume plays a crucial role for our analysis (cf. supra). A second covariate is the

distinction between first and higher union. The third fixed covariate is a binary variable for whether the parent's respondents were divorced when the respondent reached age 15.

The first time varying covariate is an indicator variable for whether a woman is enrolled in education (school or vocation) or not enrolled in education. It is assumed that enrollment in education corresponds to a period of uncertainty about planning marriage and/or a birth. As a result, women who are enrolled in education will have a low intensity of marriage and conception. The second time varying covariate is the level of education. Since the system of education and vocation differ greatly between France and Germany, we distinguish for each country three levels of education with a scale of comparison inspired and simplified from the scale proposed by Mary et al. (1998). The lower level corresponds to compulsory school. The second level is secondary school; in the case of Germany, this includes an apprenticeship and "Abitur" and in the case of France, this includes a professional certificate, diploma and "baccalaureat". The third level corresponds to university, in the case of France including the "Grandes Ecoles".

According to the fact that German data contains a lot of missing values, especially regarding the dates of union formation, the number of unions taken into account for our analysis are 941 for West Germany and 1147 for France¹⁴.

5. Results

The model was estimated using the software aML version 4.01 (Lillard and Panis, 2000). Complete results for each event are presented in the table in the appendix. Two models are reported in this table. The first one does not include the unobserved heterogeneity components and the second one does. Comments will generally refer to the results of the second model. In the second model, variance of both processes was not fixed.

¹⁴ Numbers of women taken into account are respectively 824 and 1037.

5.1. Interrelations between events

We expected that the first birth and marriage were strongly interrelated in Germany and less interrelated or not linked in the case of France. These hypotheses seem to be verified. The coefficient of correlation has a value of 0.55 and is significant in the case of West Germany (table 5). Women who are most likely to have a first birth for unobserved reasons or characteristics are also those who most likely get married. This result also means, however, that women who are less likely to have a first birth are also less likely to get married. This result seems to confirm the general hypothesis of a polarization between a non-family sector (where women do not get married and do not have children) and a family sector in which cohabiting unions become conjugal unions with children. For France, the coefficient of correlation is only 0.36 and is not significant. Marriage and first birth appear not to be interrelated¹⁵. Women who are most likely to bear a first child are not necessarily women who get married. In the context of a strong increase in non-marital births, marriage appears to be disconnected with conception¹⁶. If there is a process of polarization in France between a cohabiting sector and a marriage sector, this polarization appears to be unrelated with children and parenthood.

Table 5: Unobserved heterogeneity
and correlation

	Germany	France
Marriage (U_i)	2.03 ***	0.55 *
Conception (V_i)	0.97 **	1.45 ***
Correlation	0.55 **	0.36

Significance: *=10%; **=5%; ***=1%

5.2. Processes of marriage and conception according to the duration of union and age

In the case of West Germany, marriage rates are greater in the model that does not take into account unobserved heterogeneity at the beginning of union than in the model that does. The situation is reversed two years after the beginning of the union. A similar result is observed in the case of the conception process. These results show

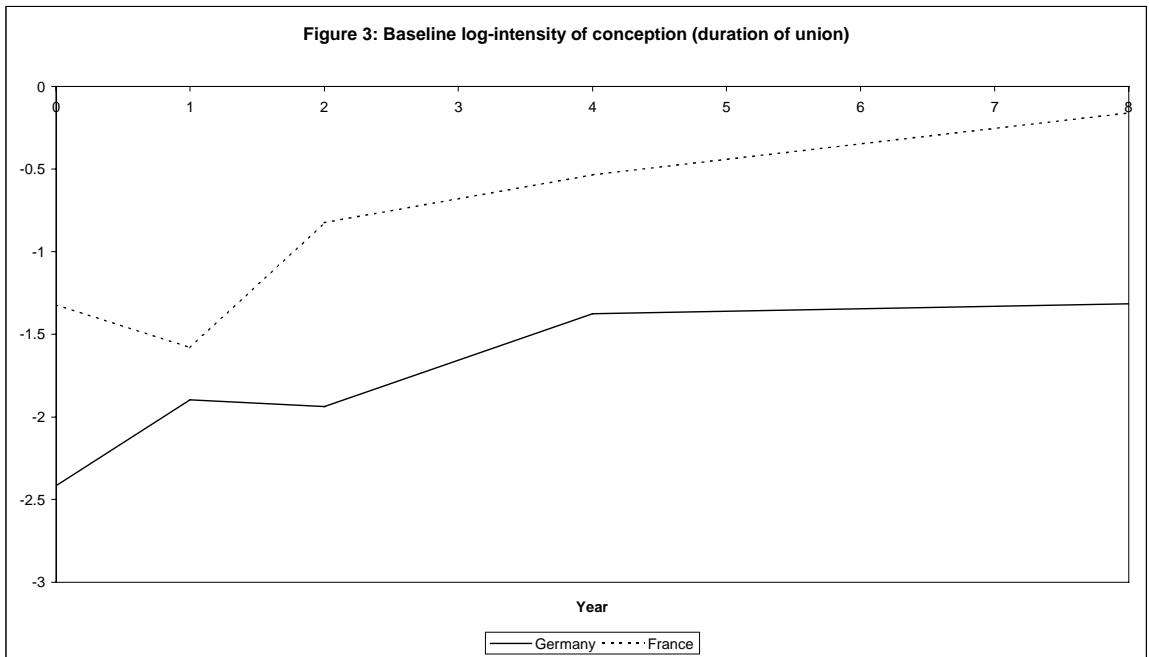
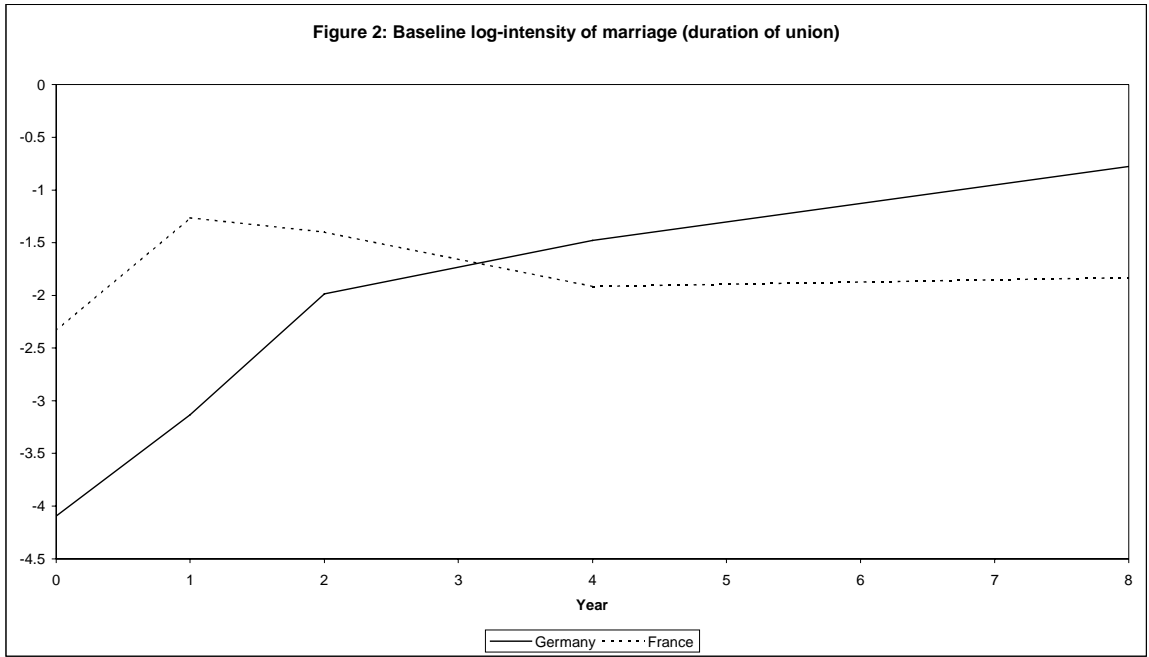
¹⁵ It should be noted that the variance of heterogeneity in marriage is low and only significant at the level of 10%.

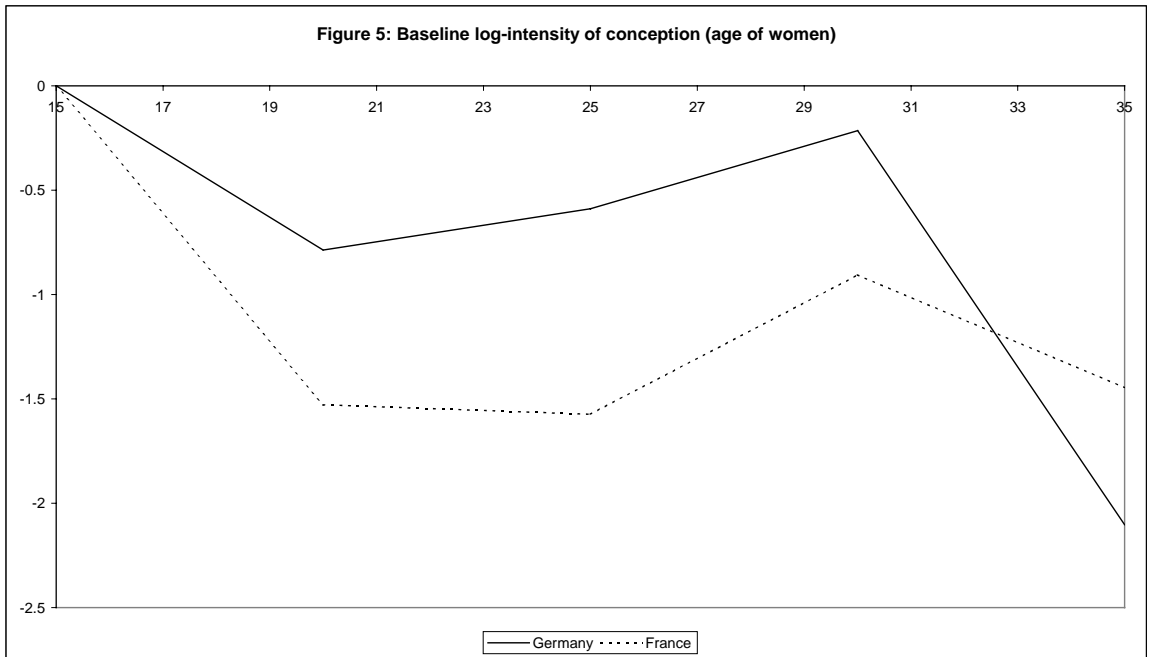
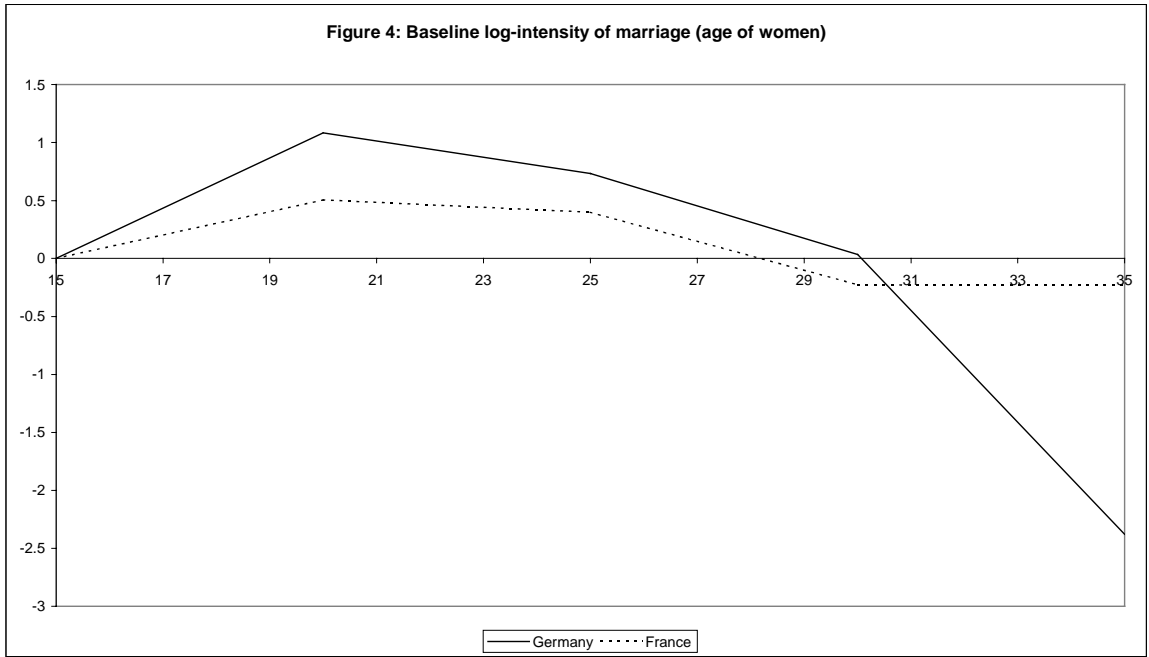
a selection effect in the case of models without unobserved heterogeneity where individuals with high probabilities of getting married or pregnant leave the population in a shorter duration of union than those with low probabilities do. This situation is less true in France, especially in the case of marriage, since the heterogeneity component is not very high.

France and West Germany display different marriage and conception intensity patterns in the duration of the union (figure 2 and 3). Marriages at the beginning of a union are more frequent in France than in West Germany. It is reversed after three years of union. Conception intensity always appears higher in France than in Germany, despite a small decrease in the rate during the first year of union in France. These different patterns seem to correspond to different behaviors in marriage and conception on the two sides of the Rhine. In West Germany, marriage and conception occur after a waiting time of one to two years or more. This waiting time is shorter and less pronounced in France.

However, these patterns of marriage and conception through the duration of the union have to be corrected by the effect of age (figure 4 and 5). In West Germany and to a lower extent in France, marriage intensities increase between ages 15 and 20 and decrease thereafter. After age 30, marriage hazard rates decrease strongly in West Germany and become stable in France. Age also plays a role in the intensity of conception. In comparison with West Germany, conception of a first child appears to be postponed in France. Like in the case of marriage, conception decreases strongly after age 30 in Germany while this is less the case in France. The result for West Germany suggests that age thirty is a normative threshold in West Germany after which marriages and births become rare. It also confirms that marriage and conception are strongly correlated. This is less the case in France.

¹⁶ At least, before the conception of the second child.





5.3. Cohort and conception effects on marriage

In order to investigate the effect of a conception between old and young cohorts in both countries, we develop the hypothetical example in which a woman forms a consensual union at age 25 and becomes pregnant two years later. Figures 6 and 7 show, respectively for West Germany and France, the effect of a pregnancy in each cohort on the intensity of marriage in comparison with women who do not get pregnant (time scale is the union duration). In both countries, the marriage intensity in the youngest cohort is lower than in the oldest cohort as long as no pregnancies occur (cf. also table 6). Each cohort of both countries displays a spike in marriage intensities at the beginning of a pregnancy. The spikes are very similar in both German cohorts during the beginning of the pregnancy. In the case of the oldest cohort, the intensity of marriage decreases during the second half of pregnancy and during the child's first year. After three years of union, marriage rates of mothers become lower than the intensity of marriage of women who did not get pregnant. Women who did not get married during their pregnancy or just after remain unmarried. The decrease in the intensity of marriage at the end of the pregnancy and during the child's first years is lower in the case of the youngest cohort. This youngest cohort then displays the following pattern: As long as women are not pregnant, they get married less often than the oldest cohort does. However, in case of a pregnancy, marriages become more frequent. This suggests that the interrelation between first birth and first marriage has increased over the cohorts.

The development in marriage intensities between the oldest and the youngest cohort played out differently on the other side of the Rhine. Differences in the marriage intensities between both cohorts remain after the birth of the first child. It is only during the second half of the pregnancy that the marriage intensity is lower in the youngest cohort. Moreover, marriage becomes less frequent during the child's first years in both cohorts in comparison with women who did not conceive their first child. This means that women who have a child outside marriage remain unmarried in a similar way as was observed in the oldest cohort of Germany. This last result raises a question about the meaning of marriage for women who did not first get pregnant.

5.4. Cohort and marriage effects on conception

In a similar way as in the preceding section (part 5.3), we develop here a hypothetical example in which a non-pregnant and childless woman gets married after two years of living together with her partner (figures 8 and 9). There is no difference in the conception intensities between cohorts from both sides of the Rhine as long as women do not get married. Such a result in the case of France is surprising at first glance. It indicates, however, that the increase in non-marital births in this country depends only on the decrease of marriage before or during a pregnancy.

The effect of marriage on conception is low in Germany in both cohorts¹⁷. In the case of the oldest cohort, the difference in conception intensities between non-married and married women seems to slightly increase over time. However, in the youngest cohort, conception intensities decrease after the first marriage anniversary. After two years of being married, they even drop below the conception intensities of cohabiting couples. A difference between the cohorts then shows a process of differentiation between two groups of married women: those who will get pregnant, usually some time after marriage, and those who remain childless. This last kind of marriage could be motivated by the economic benefits that married couples can take advantage of. In this case, marriage does not mean a bifurcation towards the family sector.

In France, marriage has a bigger effect on conception. The intercept coefficients are significant here. Just after marriage, conception risks are higher in the older than in the younger cohort. But the increase in conception intensities during the first year of marriage is higher in the younger than in the older cohort. After one year of marriage, conception intensities seem similar in both cohorts and the disparity between married and unmarried women appears to be stable.

¹⁷ The intercept terms, which take into account unobserved heterogeneity, are not significant in the model. They are higher and significant in the model without heterogeneity (table in appendix). Certainly this can be linked with the fact that the introduction of unobserved heterogeneity, as we mentioned above, has consequences which tend to increase conception rates for a longer union duration, often for those women who get married.

Figure 6: Effect of pregnancy on marriage intensity (Germany)

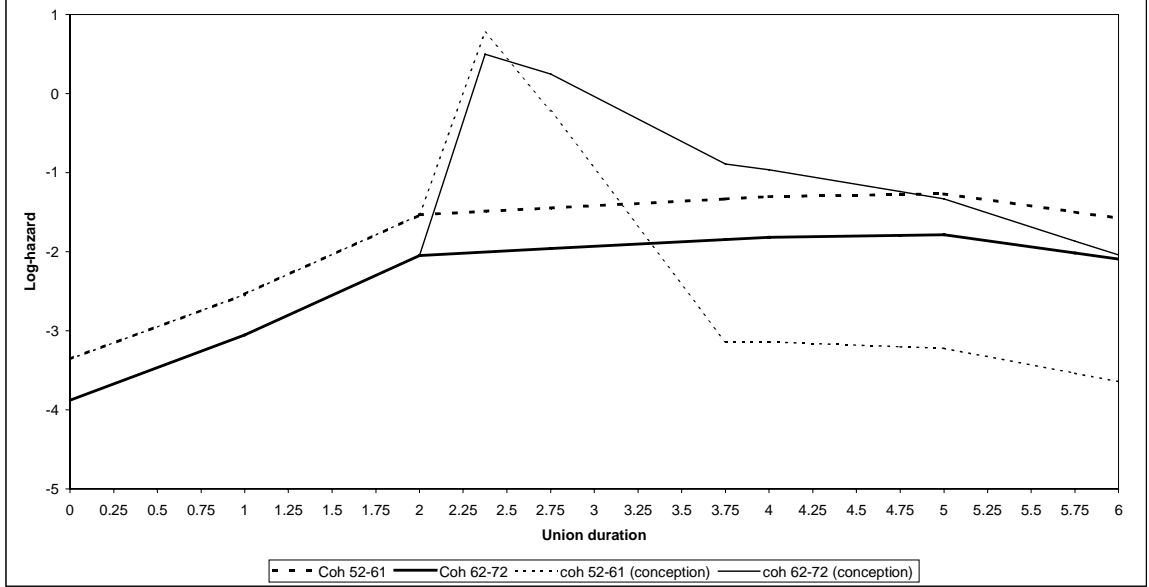


Figure 7: Effect of pregnancy on marriage intensity (France)

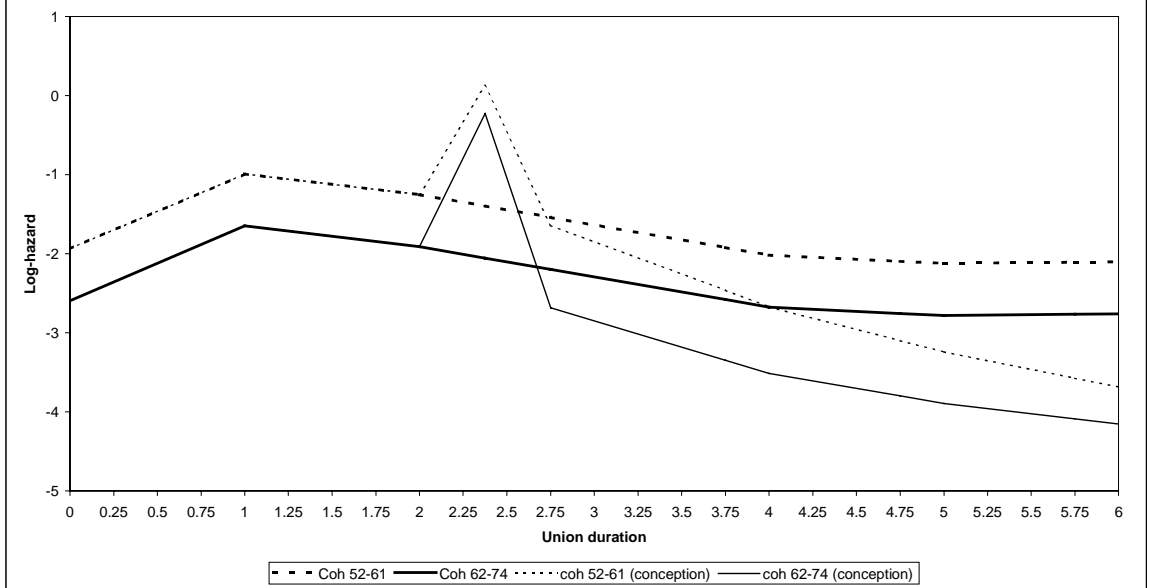


Figure 8: Effect of marriage on conception intensity (Germany)

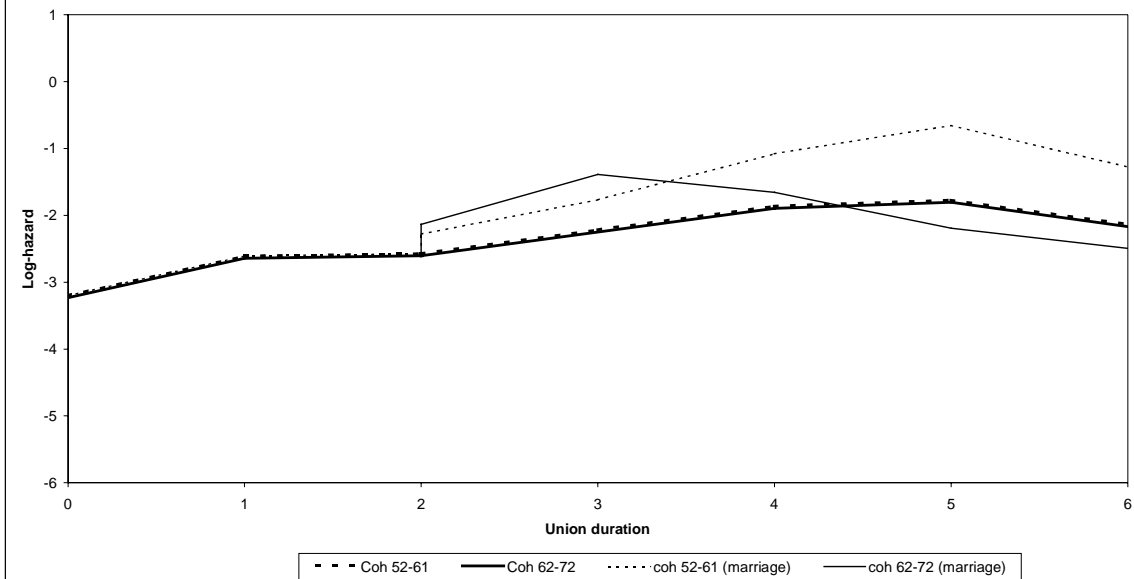
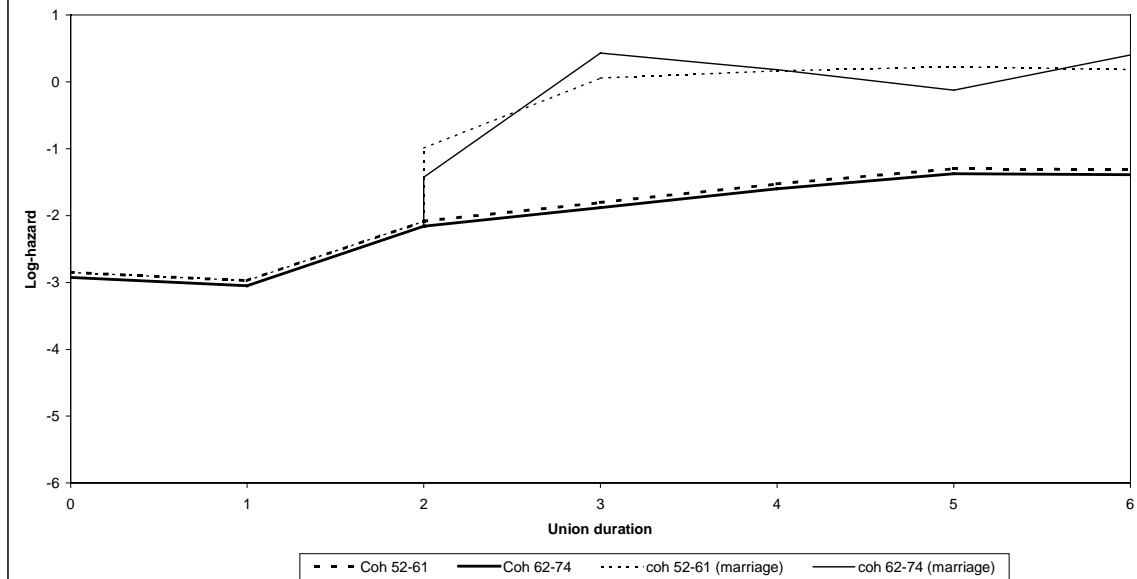


Figure 9: Effect of pregnancy on marriage intensity (France)



The results on the effect of a conception on marriage, of a marriage on conception and the development of these effects over cohort indicate that our hypothesis of pluralization in the case of France was not very well specified. The results in fact show a process of differentiation between two groups of women. The first group contains women who get married before they bear their first child. We can suppose that these women belong to a more or less traditional milieu and that the union they form with their partner is a classical conjugal union, possibly with a male breadwinner. The second group is composed of women who become pregnant while they are unmarried. This process of differentiation between the two groups could be seen as a process of polarization but with a different meaning as in West Germany. Instead of a polarization between a family sector and a non-family sector, this one consists in a process of polarization between a “marriage sector” and a “cohabiting sector”.

In addition to these two sectors, a third group of women should also be mentioned, that is, women who get married during a pregnancy. Except the order between conception and marriage, this last group appears to have more similarities with women from the “marriage sector” than women from the “cohabiting sector”. The comparison between cohorts shows that more and more often, these women remain unmarried during and after the pregnancy of their first birth¹⁸. Furthermore, marriage before an eventual pregnancy is less and less frequent, which means that the number of women in the second group of women rose during the observation period.

5.5. Covariate effects

The order of the union plays a role in marriage and conception in Germany (table 6). In Germany, marriage and births are less frequent in case of a first union than in the case of a higher order. It should be noted that coefficients are not significant for both events in the case of the model without unobserved heterogeneity¹⁹. Some of the first consensual unions appear to be “provisional cohabitations” (Théry, 1998), which are unions without planning to have children or getting married. This does not mean,

¹⁸ At least, they remain unmarried between the birth of the first child and the conception of the second.

¹⁹ See table in appendix.

however, that a second union follows the same pattern, i.e. that it is also a “provisional cohabitation”. France displays a different pattern since there are no differences in the marriage intensities by the order of the union. It should be noted that the model without unobserved heterogeneity displays a negative coefficient. Women who do not get married at the time of a first union do not get married in a higher order union. But this depends only on their own (unobserved) characteristics. Conceptions are more frequent in a second or higher order union than in a first union, like in Germany, which could indicate that some of the first unions are “provisional unions” without plans to have children.

A parental divorce does not have an effect on the marriage intensity. It seems to have a positive effect on the conception intensities in France. The effect of the level of education differs on the two sides of the Rhine. There are not many differences between women with a medium level and a high level of education, except that in France first births risks are lower for women who have a high degree of education. On the other hand, women with a low level of education get married and give birth more frequently in Germany. For them, marriage and births are interrelated. In France, if women with a low level of education have a first birth more often than women with a higher level, they get married less often. It should be remarked here that before the increase in non-marital unions during the seventies, cohabiting unions were frequent in French lower classes during the sixties (Villeneuve-Gokalp, 1991). The specific behavior of women with a low level of education could partially be linked to this longer “tradition” of lower classes getting into non-marital unions. In both countries, women who are enrolled in school or in vocational training and who live in a partnership already have very low intensities of marriage and conception in comparison with women who have already left school.

Table 6: Effect of fixed and time varying covariates on marriage and conception intensity

	Relative risks of marriage		Relative risks of conception	
	Germany	France	Germany	France
Cohort 52-61	1.00	1.00	1.00	1.00
Cohort 62-72 #	0.60 **	0.52 ***	0.97	0.86
First union	1.00	1.00	1.00	1.00
Second or more	2.58 **	0.78	2.46 **	1.71 *
Parental divorce				
No	1.00	1.00	1.00	1.00
Yes	1.16	0.72	1.36	1.64 **
Education level				
Lower	1.91 ***	0.76 *	2.37 ***	1.81 ***
Medium	1.00	1.00	1.00	1.00
High	0.98	1.07	1.51	0.58 **
Enrolled in school or vocation	0.28 ***	0.39 ***	0.30 ***	0.28 ***
Not enrolled	1.00	1.00	1.00	1.00

cohort 62-74 for France

Significance: *=10%; **=5%; ***=1%

6. Conclusions

Both West Germany and France display a rise in non-marital unions since the beginning of the seventies. During the eighties, France experienced a large increase in non-marital births while this increase was much smaller in West Germany. In both countries, consensual unions were partly recognized by the state, but not in the same way as marriages. The possibility of child recognition and the parental authority for an unmarried father was introduced in France during the seventies and the eighties. In Germany, this did not happen until 1998. In a broad manner, French policy makers and legislators appear to take into account and respond to new ways of family life. In Germany, these “agents” more often appear to be defenders of the conjugal family with a male breadwinner. This dissimilarity in family policies and in the social representation of family life until the end of the nineties had several consequences on demographic behaviors, especially on the links between births and marriages.

We assumed that marriage and birth in a union starting as a consensual union were strongly interrelated in Germany and less in France. Results of event history analyses confirm this hypothesis. The behavior in West Germany appears to be polarized into two sectors. The first sector contains women who get married and have children. Most of the marriages occur during the pregnancy. The second sector consists of unmarried women without a family. Rather than a process of pluralization in family situations, a process of polarization can also be described in the case of France, but it is different from the one in Germany. The first sector consists of women who remain unmarried when they have children. The second sector contains women who get married before they have children.

In France, the cohort comparison shows a decrease in the marriage risks before and during the pregnancy: The increase in non-marital births corresponds to an increase in women who belong to the cohabiting sector. In Germany, marriages during the pregnancy or after became more frequent in the youngest cohort. Marriages appear then to be more and more “child-centered marriages” (Have-Hertz, 1989, quoted by Ostner, 2001, p 95). The German kind of polarization seems to be directly linked with the normative representation of the conjugal family in the family policies, in a sense that this norm forces couples to get married when they wish or plan to have children. The case of polarization developed in France between a marital sector and a non-marital sector in a context of a more or less pragmatic social representation in family policies seems to correspond to a cleavage in the French society, between “traditional” and “less traditional” couples.

This paper shows that unobserved heterogeneity plays some role in the polarization of couples in a “cohabiting sector” and a “marital sector” in France and an important role in the polarization in a “family sector” and a “non-family sector” in Germany. Further analyses are required in order to reveal which factors contribute to these processes. The question of research becomes who amongst women or couples are more often in a sector and who is more often in another sector according to personal characteristics. However, in the absence of such characteristics apart from the level of education, especially in the French FFS survey, it was not possible to thoroughly address this aspect.

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**Appendix : Results of estimation
Marriage process**

	Germany				France			
	Modele 1		Modele2		Modele 1		Modele 2	
	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.
Baseline								
constant	-1.8395 ***	-0.5303	-4.0946 ***	-1.0467	-2.2117 ***	-0.6275	-2.3364 ***	-0.6745
0-1 years	-0.1172	-0.2412	0.9619 **	-0.3828	0.9545 ***	-0.2325	1.0722 ***	-0.2578
1-2 years	0.4928 ***	-0.1832	1.1417 ***	-0.2586	-0.2459	-0.1703	-0.1358	-0.1907
2-4 years	-0.2305 **	-0.1042	0.2543	-0.1577	-0.3198 ***	-0.1003	-0.2577 **	-0.1128
4 years and more	-0.0545	-0.074	0.1748 *	-0.1012	-0.0123	-0.0547	0.0209	-0.0606
Age								
Age 15-19	0.0957	-0.1098	0.2167	-0.1916	0.0999	-0.1346	0.1011	-0.1399
Age 20-24	-0.0524	-0.0365	-0.0701	-0.0602	-0.0205	-0.0363	-0.0212	-0.0394
Age 25-29	-0.0942 *	-0.0502	-0.1398 *	-0.0733	-0.1231 **	-0.049	-0.1254 **	-0.0537
Age 30 and more	-0.3492 *	-0.1822	-0.4823 **	-0.2155	-0.0065	-0.0731	-0.0007	-0.0748
cohorte 62-72/74	-0.3122 ***	-0.1151	-0.516 **	-0.2156	-0.1084	-0.1137	-0.1457	-0.1794
Conception (coh52-61)								
0 to half pregnancy	5.7564 ***	-0.7039	6.0371 ***	-1.0692	4.5263 ***	-0.7099	4.0582 ***	-0.9275
half pregnancy to birth	-3.9403 ***	-1.4428	-2.7564 *	-1.5629	-4.6067 ***	-1.1755	-4.335 ***	-1.2013
birth to one year (1)	-2.4651 *	-1.343	-3.0403 **	-1.3867	-0.3944 **	-0.197	-0.4347 **	-0.2
One year and more	0.0395	-0.4804	-0.1151	-0.4847				
Conception (coh62-72/74)								
0 to half pregnancy	6.4266 ***	-0.675	6.6745 ***	-1.1347	5.3353 ***	-0.6485	4.8728 ***	-0.8796
half pregnancy to birth	-2.6303 **	-1.1574	-0.7813	-1.2696	-6.2794 ***	-1.8662	-6.1757 ***	-1.9038
birth to one year (1)	-1.0988 *	-0.6589	-1.2545 *	-0.7049	-0.2375	-0.6519	-0.2783	-0.66
One year and more	-0.234	-0.6294	-0.4031	-0.6779				
Background								
Parent divorced	0.1548	-0.1546	0.145	-0.3103	-0.2901	-0.2409	-0.3284	-0.2729
Second union or more	-0.0617	-0.2055	0.9459 **	-0.3945	-0.37 *	-0.1923	-0.2515	-0.23
Level 1 education	0.1764	-0.124	0.6455 ***	-0.2499	-0.2338	-0.1426	-0.2706 *	-0.1596
Level 3 education	0.1649	-0.2778	-0.0165	-0.5359	0.117	-0.1176	0.0702	-0.1362
enrolled in education	-0.7516 ***	-0.1767	-1.2859 ***	-0.3262	-0.898 ***	-0.228	-0.9387 ***	-0.2387

(1) Only after birth in case of France
Significance: *=10%; **=5%; ***=1%

Results of estimation (continued)
First conception process

	Germany				France			
	Modele 1		Modele2		Modele 1		Modele 2	
	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.
Baseline								
constant	-1.5593 **	-0.61	-2.4158 ***	-0.8306	-0.7914	-0.4993	-1.3213 *	-0.7864
0-1 years	0.2348	-0.298	0.5192	-0.3369	-0.7293 ***	-0.2649	-0.2594	-0.3752
1-2 years	-0.2445	-0.2215	-0.0408	-0.2456	0.5103 **	-0.1993	0.7573 ***	-0.2429
2-4 years	0.0729	-0.105	0.2809 **	-0.1365	-0.1116	-0.0912	0.1446	-0.1417
4 years and more	-0.0897	-0.0614	0.0152	-0.0807	-0.0212	-0.0453	0.0936	-0.0689
Age								
Age 15-19	-0.2104 *	-0.1249	-0.1573	-0.1435	-0.1971 *	-0.1103	-0.3055 **	-0.1445
Age 20-24	0.0379	-0.0416	0.0395	-0.0474	-0.0146	-0.0345	-0.0093	-0.0482
Age 25-29	0.0609	-0.0417	0.0751	-0.0529	0.0871 **	-0.0376	0.1338 **	-0.0577
Age 30 and more	-0.3304 ***	-0.1057	-0.3778 ***	-0.1131	-0.0988	-0.0708	-0.1083	-0.0875
cohorte 62-72/74	-0.0015	-0.1252	-0.0319	-0.1564	-0.5824 ***	-0.1021	-0.6577 ***	-0.1319
Marriage (cohorte 52-62)								
Intercept	0.7268 **	-0.3293	0.2935	-0.3811	1.2031 ***	-0.2518	1.0935 ***	-0.3116
Marriage to on year	0.194	-0.4498	0.157	-0.4698	0.2489	-0.3291	0.7688 *	-0.4443
One to three years	0.2429	-0.1562	0.3336	-0.2051	-0.3128 **	-0.1486	-0.1687	-0.1973
Three years and more	-0.2289 **	-0.0901	-0.2613 **	-0.1069	-0.0459	-0.101	-0.0265	-0.1191
Marriage (cohorte 62-72/74)								
Intercept	0.9726 ***	-0.3541	0.4696	-0.4019	0.9155 ***	-0.2658	0.7319 **	-0.3248
Marriage to on year	0.2507	-0.4932	0.3924	-0.5327	1.0231 ***	-0.353	1.5807 ***	-0.4795
One to three years	-0.5192 *	-0.2662	-0.6241 **	-0.2861	-0.6701 ***	-0.2146	-0.5309 **	-0.2631
Three years and more	0.0939	-0.2326	0.0588	-0.2445	0.4024 **	-0.1652	0.5423 **	-0.2256
Background								
Parent divorced	0.2429	-0.1538	0.3083	-0.2144	0.5425 ***	-0.1951	0.7381 **	-0.3489
Second union or more	0.3631 **	-0.1715	0.9013 ***	-0.3145	-0.0519	-0.1602	0.537 *	-0.3237
Level 1 education	0.5238 ***	-0.1213	0.8618 ***	-0.2273	0.2609 **	-0.1046	0.6074 ***	-0.2102
Level 3 education	0.4068 **	-0.2021	0.4124	-0.2661	-0.189	-0.1364	-0.5486 **	-0.2547
enrolled in education	-0.977 ***	-0.2187	-1.1941 ***	-0.2924	-0.9999 ***	-0.2822	-1.2708 ***	-0.3887

Significance: *=10%; **=5%; ***=1%

Results of estimation (continued)
Standard deviations and correlation

	Germany				France			
	Modele 1		Modele2		Modele 1		Modele 2	
	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.
Standard deviation marriage			2.0322 ***	-0.3266			0.5546 *	-0.3343
Standard deviation conception			0.9678 **	-0.406			1.4466 ***	-0.4446
correlation			0.5455 **	-0.2636			0.3614	-0.3878
			-0.2636			-0.5824	-0.3878	-0.6577
In-L	-3916.78		-3906.08		-4974.86		-4965.43	

Significance: *=10%; **=5%; ***=1%