The Impact of Living Arrangements around First Childbirth on Family Stability in Eastern and Western Germany

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Abstract

This paper studies differences in separation risks among couples with children. The data used in this study come from the newly launched family panel *pairfam* and its supplement *DemoDiff*. Particular attention is given to the question of how union status influences the risk of separation. The study questions whether the prevalence of childbearing within cohabitation determines union stability. In this context, the role of religious norms is emphasized. The results confirm previous studies which showed that cohabiting unions are less stable than marital unions. We reveal that in eastern Germany, where marital childbearing is less common, cohabiting unions are more stable and the timing of marriage within the childbearing process has a different impact on stability. The transition to separation is not found to be influenced by unmeasured selective characteristics of those marrying before the start of family formation. Religiosity acts as a determinant of marital stability, but it is not found to influence the stability of non-marital unions.

Draft version

March, 2011

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1. Introduction

The prevalence of non-marital childbearing varies considerably across countries (e.g., Sobotka and Toulemon 2008, Perelli et al. 2009). In the Nordic countries, more children are born to non-married women than to married women, while in Southern and most Eastern European countries, couples usually get married prior to childbirth. Research has also shown that most non-marital births take place within cohabiting unions (Sobotka and Toulemon 2008). The growing significance of births within cohabitation has raised a number of new research issues, including questions regarding the relationship between union type and childbearing (Baizan, Aassve, Billari 2004, Steele et al. 2006; Musick 2007, Blossfeld et al.1999). Other studies have focused on classifying countries according to the prevalence of cohabiting union forms (Hoem, Hoem 1988; Rindfuss, Vandenheuvel 1990; Sobotka, Toulemon 2008; Heuveline, Timberlake 2004; Perelli-Harris et al. 2009). While these studies have sought to explain differences between societies resulting from the interplay of cultural norms, expectations, attitudes and institutional support; other studies have focused on the diffusion of cohabitation across a society. As has been argued by Nazio and Blossfeld (2003), cohabitation starts as a marginal phenomenon, and then becomes increasingly popular and long-lasting. Finally, pregnancy no longer leads to marriage, and childbearing within cohabitation becomes common (Sobotka, Toulemon 2008; Nazio, Blossfeld 2003).

Another issue that has been the focus of considerable attention is the question of how cohabiting couples with children differ from their married counterparts, especially regarding union stability. Previous studies have shown that cohabitation is associated with greater union instability (e.g. Wu, Musick 2008). Some studies have looked at the impact of the prevalence of cohabitation on union stability (Steele et al. 2006; Jensen, Clausen 2003; Clarke, Jensen 2004; Liefbroer and Dourleijn 2004). The results of these studies have, however, been mixed. Jensen and Clausen (2003) investigated the stability of cohabiting families across time in Norway, and found that, despite the increasing prevalence of births within cohabitation, the dissolution risk of cohabiting couples is consistently higher than that of married couples. By contrast, studies that focused on differences among cohorts (Steele et al. 2006) and countries (Clarke and Jensen 2004) have found that the dissolution risk of cohabiting couples with children is lower if the latter are more prevalent. There have also been several studies that have examined the role of "shotgun" marriages in union dissolution rates. Shotgun marriages are generally assumed to be less stable, as pregnancy leads some

couples to enter a marriage they would otherwise not have chosen (Blossfeld et al.1999, Steele et al. 2006). There is evidence of the instability of such unions for Russia (Jasilioniene 2007), and similar evidence exists for the UK (Kiernan, 2004). Besides premarital conception also premarital births have been found to increase union dissolution risks (e.g., Chan, Halpin 2008). However, other studies have found no differences in the stability of unions depending on whether the couple got married before conception or during pregnancy (Wu, Musick 2008).

The present study seeks to contribute to this discussion by focusing on the impact of union status on the separation risks of couples with children in eastern and western Germany. The paper has two main objectives. First, it addresses the role of the prevalence of childbearing within cohabitation for union stability. Second, it concentrates on the determinant influence of the timing of marriage. Third, it focuses on the influence of religiosity on the stability of unions. The two parts of Germany seem to be ideal for investigating the interplay of religion, union type and union stability. The two different political regimes during the division of Germany strengthened the socio-cultural differences between the two parts of the country, and several of these differences in family life could still be observed 20 years after the Wall came down (Kreyenfeld, Konietzka, Walke, forthcoming; Arranz Becker, Lois 2010; Arranz Becker, Lois, Nauck 2010). The differences between the east and the west in the areas of non-marital childbearing and religious affiliation remain especially pronounced.

The paper is structured as follows. Part 2 discusses the institutional framework of eastern and western Germany, and outlines the marked differences in family behavior and religiosity that have persisted until today. Part 3 presents the theoretical framework that deals with the impact of union type, religiosity and union stability. In Part 4 we formulate our hypotheses regarding the impact of union status, the timing of marriage, the prevalence of childbearing within cohabitation and of religiousness on the stability of unions after family formation. Part 5 describes the data and the methods. Data for this investigation come from the first wave of the German Family Panel *pairfam*, which was conducted in 2008/2009; and the supplement *DemoDiff*, which contains an oversample of East German respondents, and which was drawn in 2009/2010. As the methodological approach we use an event history modeling, which is complemented by a probit model in a simultaneous model setting. Part 6 presents the descriptive and multivariate results. In Part 7, we draw conclusions from our findings.

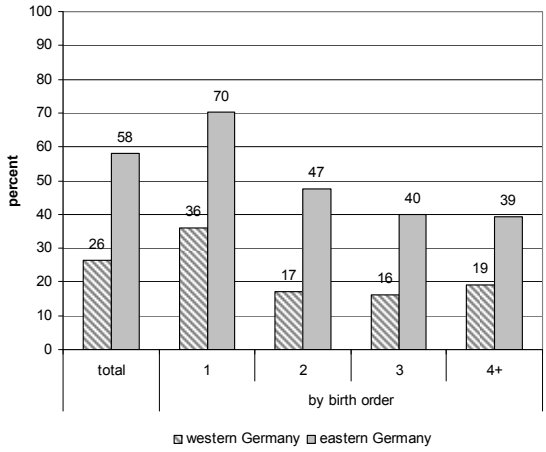
2. Marital and Non-marital Childbearing in Germany

In Germany, marriage is under the special protection of the state. This concepts leads to special rights being reserved for marital unions. These rights include financial benefits, like tax advantages, spouse insurance and alimony rights after divorce; as well as legal advantages in the case of joint custody or the recognition of paternity. Heterosexual cohabiting couples are not permitted to register their relationship. Current German policies provide incentives to specialization within marriage. For example, couples are awarded maximal tax advantages if the partners' incomes differ greatly (Kreyenfeld, Konietzka 2005). The effect of these policies on family formation is to encourage a (at least normative) close relationship between childbearing and marriage, as childbirth is often accompanied by a shift in the role allocation of the partners towards a traditional model. Marriage is thus seen not only as a way to institutionalize the union status, but also as a way to improve the financial situation of the family. The high exit costs of legal divorce, as well as the promotion of the specialization of the couple, are intended to support the marital couple and stabilize the union.

The high numbers of births out of wedlock in eastern Germany seem to contradict the legal norms that strongly favor marital family formation. In 2009, 70% of all first children were born out of wedlock in the eastern region, while the proportion of non-marital first births was only 36% in the western part of the country (German Federal Statistical Office 2011). Figure 1, which displays the share of non-marital births by birth order, shows that the proportion of non-marital births declines with increasing birth order, while the regional gap remains.[2] As differences between eastern and western Germany overshadow other regional variations (Kluesener, Kreyenfeld 2009), eastern Germany appears to adhere to a different family regime, in spite of having the same legal regime. In western Germany, marriage usually precedes childbearing, while the two events are only loosely linked in eastern Germany (Konietzka and Kreyenfeld 2002).

[2] This may be due to subsequent marriages after the first birth within cohabitation. Alternatively, cohabiting women may be having fewer higher order births.

Figure 1 - Share of non-marital living births in eastern and western Germany, 2009.



Source: Federal Statistical Office (2011): Jahresmaterial 2009.

The prevalence of non-marital childbearing in eastern Germany might be partly explained by the higher rates of female labor participation, which are in turn attributable to the better opportunities for combining family and career enjoyed by women in the east. A greater availability of daycare generally leads to less specialization within partnerships, which reduces the financial incentive to marry (Kreyenfeld, Konietzka 2005). Differences in female labor participation rates can be traced back in part to the different policies pursued by the two governments during the German division.[3] With the founding of the FRG (Federal Republic of Germany) and the GDR (German Democratic Republic), the countries diverged ideologically and economically. While experiencing an economic boom, and under the heavy influence of Christian parties, the West German government chose to support the male breadwinner model, which resulted in low levels of female labor participation and a high proportion of marital births. East Germany, by contrast, had to use the labor supply of all of the population to pursue its socialist goals, and therefore supported female labor participation (Böttcher 2006). The eastern German region also differs from the western region in its Protestantism, its stronger tendency towards secularization, and its preference for social democratic family policies, which supported the role of women in the labor force. Western Germany, by contrast, has been more influenced by Catholic culture, and by a preference for non-interference by the state in family affairs (Bertram 1996). Cohabitation, out-of-wedlock births and divorces have been more frequent in eastern Germany since before the division of

[3] Arranz Becker and Lois (2010) argued that the consequences of the transformation could have caused the persistent divide in family life between the two parts of the country. The precarious financial situation may have impeded intra-relational specialization and marriage.

Germany, and can be traced back to long-standing differences based in the religious framework (Kreyenfeld, Konietzka 2004; Böttcher 2006).

Protestants are traditionally less attached to church, which promotes secularization (Pickel 2003). This trend was accelerated by the anti-church policies[4] of East Germany (Pollack 1998, Pickel 2003).[5] As the socialist regime of East Germany discouraged attachment to Christian churches, premarital birth lost its social stigma. The proportion of non-marital births increased during the GDR, in part in response to family policies that privileged non-married mothers.[6] Marriage and family formation became increasingly decoupled. Similarly, the lower proportion of "shotgun" marriages during pregnancy in eastern Germany can be seen as a cultural legacy of the GDR. Accordingly, recent studies show that marriages during pregnancy are less frequent in eastern Germany in than in western Germany (Kreyenfeld, Konietzka, Walke, forthcoming; Arranz Becker, Lois 2010).

3. Determinants of Union Stability

In the past, empirical studies overwhelmingly focused on the stability of marital unions only (e.g. Chan, Halpin 2008; Brüderl et al. 1997; Wagner, Weiß 2006; Wagner, Weiß 2003; Knoester, Booth 2000; Jasilioniene 2007; Cooke 2006; Böttcher 2006; Liu 2002). These studies were often based on economic models of the family (Becker 1974, Becker, Landes, Michael 1977, Becker 1981), or on exchange theory (Levinger 1976; Lewis, Spanier 1979; Rusbult 1980).

According to standard economic theory, union stability is a product of the couple's degree of compatibility and of their joint investments, which represent the wealth of the union. The couple is a good match if the partners share certain characteristics, like age or intelligence. They can invest in marital-specific forms of capital, such as children or knowledge about the

[4] The state replaced Christian customs with secular traditions, and placed pressure on affiliated Christians. This resulted in large numbers of people leaving the church in the first decades of the GDR, and very low levels of baptism in the following decades. This policy led to a high prevalence of dissociation of religious attitudes and beliefs (Storch 2003).

[5] A discussion continues in the literature about the role of socialist policy in the secularization of eastern Germany (for further information see Storch 2003. Different views on the subject were discussed in Pollack (1998), Pickel (2003), Meulemann (2003). A discussion of trends in religiosity was proposed by Pollack, Pickel (2007) and Pickel 2010).

[6] This includes the "baby year," a form of maternity leave that was available to non-married mothers for all children from 1976 to 1986, while married mothers were only permitted to take the leave after having a second child (Kreyenfeld, Konietzka 2004).

partner, which lose at least part of their value outside this union. The higher the degree of compatibility and the greater the marital-specific investments, the lower is the probability that the couple will separate. Consequently, a couple will stay together if their combined wealth by staying together is expected to be higher than their combined wealth when separated. "Shotgun" marriages are, according to Becker and colleagues (1977), associated with an increased risk of separation, because the partners might accept a mismatch due to pregnancy. In general, it is also assumed that the division of labor increases the gain from marriage, so that specialization within the partnership promotes stability. From this it follows that highly educated women, who are more likely to participate in the labor force, are more likely to separate from their partners, because they profit less from specialization within marriage (Becker et al. 1977).

According to exchange theory, individuals gain utility through the exchange of goods. Relationships are the result of rational choices to repeat the exchange of affective and other goods (Lewis, Spanier, 1979; Rusbult 1980; Foa, Foa 1980). The attractiveness of the relationship itself (e.g., the partnership quality), the attractiveness of unions with alternative partners and the existence of barriers of dissolution influence the willingness to exchange, and thereby determine the degree of union stability. Barriers to dissolution can be of a financial, cultural or affective nature: religious constraints, for example, can impede divorce, and the presence of young children act as an affectional barrier to separation (Levinger, 1976).

Exchange theory and family economics are closely related, as both rely on rational choice theory. Neither of them explicitly focuses on different living arrangements. The family economic approach defines marriage as a household unit in which common goods are produced and shared, and does not conceptually distinguish between married and non-married co-residing unions. Exchange theory does not specify the union context at all. As such, they do not provide predictions about how union type relates to separation risks.

Union Type and Union Stability

Despite this shortcoming of the theoretical approaches, there are empirical studies that have addressed the differences in the stability of cohabiting and marital unions (e.g., Manning 2004; Wu 1995). These studies mainly concluded that cohabiting unions are less stable than marital unions (Wu, Musick 2008; Manning, Smock, Majumdar 2004) and that the union status at birth matters: A birth within cohabitation is related to an increased risk of dissolution compared to marital childbearing (Jensen, Clausen 2003; Andersson 2002,

Heuveline et al. 2003; Kiernan 2002, Kennedy, Thomson 2010; Manning et al. 2004; Manning et al. 2003; Clarke, Jensen 2004), even if the couple marries afterwards (Manning et al. 2004).

However, there has been little research into the question of how the prevalence of cohabiting unions in a society affects the stability of cohabiting unions. If cohabitation is replacing marriage, it could be assumed that the stability of this type of union would increase. If only a select group of people choose cohabitation as a type of union in which to have children, they might be negatively selected. Steele et al. (2006) argued that, in a setting in which non-marital childbearing is uncommon and marriage is the norm, only those couples who do not view each other as prospective marital partners will continue to cohabit. Couples who, in spite of this normative pressure, decide not to marry will have particularly high dissolution risks. On the other hand, in a setting with weak norms of marital childbearing, couples may decide not to marry even if the partners match optimally, which should increase the overall stability of cohabiting unions (Steele et al. 2006).

Religiosity, Union Type and Union Stability

In the context of union formation, religious norms play a central role (Lehrer 2004a, 2004b, 2000; Thornton, Axinn, Hill 1992). Cohabitation and marriage are conceptualized differently by the Catholic and the Protestant churches.[7] The Catholic Church sees marriage as the exclusive form of legitimate relationships. In the view of the church, the increasing prevalence of cohabitation calls into question the civilizing achievement of monogamy, and can only be accepted as a pre-stage to marriage, not as a valid form of living arrangement (Schockenhoff 2005). The Catholic Church does not consider cohabitation to be an equally acceptable arrangement for the rearing of children. The Protestant Church favors the marital living arrangement, but also respects cohabitation. It has campaigned strongly for equal legal conditions for children, regardless of the marital status of their parents, and supports family-friendly policies for cohabiting families (Lüke 2005). Accordingly, marital childbearing is promoted by both Christian churches, but the normative pressure to marry before starting a family is higher within the Catholic religion.

The influence of religious affiliation on marital stability has been addressed in various studies, with most showing that it decreases the risk of dissolution (e.g., Lehrer, Chiswick 1993). No differential risk between Catholics and Protestants was found in the U.S., but a

[7] The Protestant marriage ceremony only blesses the civil married couple, while the Catholic marriage ceremony administers the marital sacrament to the couple.

German study found that Catholic affiliation decreased the risk of a marital break-up (Brüderl et al. 1997). According to Lehrer (2004a), the role of non-affiliation has often been neglected in stability studies. Religious affiliation has an impact on the utility of marriage and the costs of marital dissolution (ibid.). The non-affiliated should be less likely to marry and more likely to leave a marriage, assuming that the religious norms of marriage do not apply to this group (ibid.).

The thesis that contemporary religious institutions instill values in their respective followers has been rejected by Inglehart and Baker (2000), who argue that the church's influence is based in history, as it shaped the current national culture. Thus, they contend, religious traditions continue have an impact on the whole population, including on people who have little or no contact with religious institutions. They therefore posit that value differences between societies with different religious traditions persist, while within-nation differences remain low. The authors consider the influence of political history (including the experience of living under a Communist regime) to be a secondary, but less important determinant of the value system.

The incorporation of religious norms is further assumed to depend on the individual level of religiousness. According to Berghammer (2010), religious people hold traditional values sustained through church service, church-based social networks and pastoral advice, which influence e.g. marital family formation. Religious norms regarding marriage as a life-long institution and the religious support in case of stress decreases the risk of a marital break-up. Nevertheless, also religious affiliated who do not attend church service are expected to be influenced by the religious norms they experienced through their socialization. Growing up in a milieu where marital childbearing is the norm influences marriage behavior, because of the need for conformity and social acceptance (Lois 2009). Religious socialization remains influential even if church attendance is ceased (Berghammer 2009).

Empirical studies have shown that religious affiliation and religiosity indeed have a pervasive impact on union behavior (Lehrer 2004a, 2004b, 2000; Lehrer, Chiswick 1993; Thornton et al. 1992). While the entry into cohabitation and marriage has been examined in various studies, the research into the impact of religion on stability has mainly been restricted to marriage. Very few studies have so far attempted to address the question of the interplay of religion, union type and dissolution rates.

4 Hypotheses

UNION STATUS

In theory, the optimal union form for family formation is marriage, as it imposes the highest exit costs, and therefore ensures the greatest degree of stability among all of the union forms. The prevailing legal norms in Germany share this view by legally and financially privileging marriage over non-marital union forms, although the protection of marriage has weakened in the recent years. Partners who do not live together do not share a household unit, which impedes the joint production of common goods. As a consequence, the combined wealth when separated more easily exceeds the combined wealth of remaining together.

> *Hypothesis (1a): Union stability is lower for non-married living arrangements than for marriages.*

> *Hypothesis (1b): Among non-marital unions, couples who do not share a household tend to have lower union stability than couples in cohabiting unions.*

The different diffusion of cohabiting unions with children in eastern and western Germany is supposed to have an impact on the stability of cohabiting unions, as the regional context of childbearing traditionally differs. In eastern Germany, more couples remain in cohabitation arrangements, including a large number who may be expected to have a high degree of stability. This may increase the stability of these unions.

> *Hypothesis (1c): Eastern German cohabiting unions have a higher degree of stability than western German cohabiting unions.*

TIMING OF MARRIAGE

As pregnancy can act as an incentive to marry, it is important to differentiate between the union status at conception and the union status at birth, a point that was intensively discussed in Steele et al. (2006). While it appears that the timing of marriage may influence union stability, the question of which point in time is optimal remains unresolved. Regarding family formation and union status, it is possible to formulate three different hypotheses. First, women who married before conception may differ from women who did not in their individual characteristics (e.g., attitudes towards marriage or matching), and in the type of union they form. Second, the union status at birth could matter because those who marry before childbirth may differ in their matching from those who remain non-married. Third, as more women in potentially stable unions remain non-married after conception because they

see cohabitation as an alternative to marriage, the union status at childbirth may be losing its significance for stability assumptions. Most previous studies have shown risk differentials according to the timing of marriage within the childbearing process. The highest level of union stability has been found to be associated with preconception marriage (e.g. Chan, Halpin 2008; Jasilioniene 2007). Couples who marry after childbirth appear to have a higher risk of dissolution than couples who marry during pregnancy. By contrast, Wu and Musick (2008) found that the timing of marriage does not matter, but that remaining in cohabitation is associated with union instability. In the German context, it can be assumed that the timing of marriage has a determining influence on stability, as the legal and financial advantages of marriage for families can lead to marriages that would not have taken place in the absence of pregnancy. As marriage and family formation are more decoupled in the eastern region than in the western region (Konietzka, Kreyenfeld, 2005), we expect to find that the timing of marriage has a greater impact on the stability of western German unions.

Hypothesis (2a): Couples who are married at the time of first conception are a select group with certain attitudes both regarding union and family formation and union stability. These attitudes make those couples more likely to marry before pregnancy, but also more likely to stay together. The positive effect of preconception marriage can be attributable to self-selection.

Hypothesis (2b): There is a decrease in union stability for marriages that occur after first conception, especially in the case of post-natal marriages.

Hypothesis (2c): The timing of marriage has a stronger impact in western Germany, where non-marital childbearing is less common than in eastern Germany.

RELIGIOUS NORMS

Religious norms seem to be most relevant in the context of marriage. It is possible to formulate two competing hypotheses regarding the impact of religious norms on marriage stability. On the one hand, it could be that the risk of marital dissolution does not differ by religious affiliation, as the religious traditions have become part of the national culture (Inglehart, Baker 2000). It is, however, also possible that the religious norms of marital childbearing and the view of marriage as a lifelong institution, which is especially prevalent in the Catholic Church, may influence union stability, with the non-affiliated associating fewer moral costs with separation.

Hypothesis (3a): Marital stability does not differ by religious affiliation.

Hypothesis (3b): Marital stability is highest for Catholics and lowest for the non-affiliated.

Besides the role of non-affiliation, the level of personal affiliation may influence stability. We can assume that active Christians follow the religious guidelines in their private lives. However, we also expect the inactive religious-affiliated to be influenced by the religious norms they encountered in their socialization, while the non-affiliated would not be influenced by these norms. Therefore, we expect the religious affiliation and the level of religiosity to influence the union context and the degree of stability.

> *Hypothesis (3c): Marital stability is highest for active Christians, lower for inactive Christians and lowest for the non-affiliated.*

Religious norms can also have an indirect influence on union stability through their normative pressure on marital childbearing. In a context of strong norms of marital family formation, those who remain in a cohabitation arrangement may be at higher risk of union dissolution, as was argued above.

> *Hypothesis (3d): Non-marital union stability is lower for the religious-affiliated.*

5 Data and methods

5.1 Selection of the sample

The analysis is based on the data of the *Panel of Intimate Relationships and Family Dynamics* (*pairfam*). The data offer full fertility and partnership histories of both men and women of the birth cohorts 1971-73, 1981-83 and 1991-1993 (Huinink et al. 2010). The analysis uses the first wave of this nationwide German panel (2008/09), which has been supplemented by an oversample of eastern German respondents from the cohorts 1971-73 and 1981-83, called *Demographic Differences in Life-Course Dynamics in eastern and western Germany* (*DemoDiff*). The first wave of *DemoDiff* was conducted with a one-year delay in 2009/2010 (Kreyenfeld et al. 2011). In this data, the actual partner was included beneath the anchor. The retrospective partnership history is restricted to information given by the anchor. The initial anchor sample size is 13,891. The distinctive feature of this data set is that it allows us to distinguish between three types of relationship. First, we have unions that are defined by the respondent's report of having (had) a relationship. Second, information was collected about whether the individual cohabited with this partner, and, if so, for how

long. Third, the respondent was asked about the duration of marriage. This extensive set of information has been cleaned and organized as episode data, which allows us to conduct a specific life-course analysis of fertility and partnership decisions (Schnor, Bastin, Kreyenfeld 2011).

The analysis is restricted to women of the cohorts 1971-1973 and 1981-1983 who were in a heterosexual relationship at the time of their first conception. The cohorts 1981-1983 were still very young at the time of interview, but the event-history approach used in this study takes into account the different time at risk due to age differentials at the time of the interview. The study concentrates on unions in which both partners are the biological parents of the respective child. As missing information on the birth date of even one biological child of the respondent would impede the ordering of the children, these cases are omitted. There is no case in which the woman was previously married. Married women who form a family with a partner other than their spouse are excluded. The analysis concentrates on respondents for whom the birth place and current residence are in the same German region (eastern vs. western Germany).[8] Individuals with inconsistencies in their fertility or partnership histories are excluded. The analytic sample has a final size of 1,174 western German and 723 eastern German women.

5.2 Description of the dependent and independent variables

The process time for the model is union duration since first conception. The date of first childbirth is backdated by nine months to take into account the conception date. The baseline thus refers to the age of the first child, including the pregnancy period. It further distinguishes between the first year of parenthood (first child aged zero to one), the preschool years (first child aged two to five) and the time thereafter (first child aged six and older).

The covariates denoting the union forms are the focus of the following multivariate analysis. We distinguish between married, cohabiting and "living apart together" (LAT) unions. A time-constant covariate displays the kind of union form at the time of the first conception. Additionally, a time-varying covariate controls for the time spent within different living arrangements after conception. If both variables are very high multicollinear, the inclusion of both variables would lead to problems in the significance levels. A test reveals that these variables are not perfect multicollinear; they rather show a moderate collinearity level with a

[8] As West Berlin was affected by West German policies, the proportion of non-marital births was much smaller than in East Berlin (Klüsener, Kreyenfeld 2009). To account for these historical differences, western Berlin is counted as western Germany, although it is situated in the eastern German region.

correlation coefficient of .46. We therefore decided to consider both variables in the same model. The information on union status at the time of conception and the time thereafter is combined to attain information about the union stability of different union trajectories. One interaction variable denotes the union status at the time of first conception and its ongoing union dynamics, allowing for different union trajectories. A second combination variable concentrates on the timing of marriage, differentiating between marriages that occurred before conception, marriages that take place during pregnancy (so-called shotgun marriages) and post-natal marriages. Additional time spent in a cohabiting or LAT union is accounted for.

As family size may affect stability, a control variable denoting the presence of further biological children is included. Union duration until the conception of the first child is introduced to include the partnership history. For the same reason, the age at union start is taken into account; the starting date is here defined as the date when the relationship with the parent of the first child started (most often as a LAT union). In addition, the order of the partnership is controlled for through the consideration of all of the previous partners with whom the mother lived in a cohabiting or married union, had a relationship longer than six months or had a union of personal importance.

Unfortunately, the data set does not provide information about employment histories, but information on education is available. The present analysis includes information on the highest school degree attained. As a time-varying measure of educational level is not included in the data, school education seems to be the most appropriate information for avoiding anticipatory analyses. Preliminary analyses show a high correlation of school education and educational attainment for those born from 1971 to 1973 (not shown).

Information on religion is included in different dimensions. The basic variable used is religious affiliation. It is assumed that religious affiliation is connected to the social context, since most people are baptized during infancy. Moreover, religion is constructed as a combination variable of church attendance and religious affiliation to distinguish between active and inactive Christians. Women who attend church services regularly or at least several times a year are classified as active Christians. Inactive Christians do not or only very seldom participate in these services. The information on religion is only available for the respondent at the time at interview. The influence of religious heterogamy can therefore not be studied here. Church attendance and religious affiliation may change over the life course, and these changes could be related to the union context, according to Thornton, Axinn and

Hill (1992) and Moors (2000). The following analysis is nonetheless based on the assumption that religiosity is time-constant.

5.3 Method and analytical procedure

To study the stability of a union an event history approach is used. For the specification of the basic process time, we apply a piecewise constant model. The starting time is the date of the first conception. The first separation after this date is considered to be the event, even if the couple later reunites. The observation is censored 10 years after the first childbirth, with the time of interview and in case of the partner's death. The model is specified as follows: $H(t|X)$ is the hazard rate of occurrence at time t relative to X, $\beta_1(t)$ is the baseline hazard, X are the time-constant covariates, X(t) are the time-varying covariates, and β_2 and β_3 are vectors of the corresponding parameters. The exponentiated coefficients present the hazard ratios of the respective covariates.

$$h\,(t|X) = \beta_1\,(t) * \exp(\beta_2\,X) * \exp(\beta_3\,X(t))$$

Alternatively, a log-hazard function can be formulated as follows:

$$\ln h\,(t|X) = \beta_1\,(t) + \beta_2\,X + \beta_3\,X(t)$$

The empirical analysis is divided into several parts. In a first step, family stability is analyzed in stepwise piecewise constant models that control for the baseline, information on union status, union background and family size, religiosity and educational level (Models 1-6). Second, the impact of different union trajectories is tested, referring to the compiled hypotheses. The timing of marriage is analyzed in a third step, by distinguishing between couples married at the time of first conception, couples marrying during pregnancy and those marrying after first childbirth with a combination variable. To test religious differences in the risk of union dissolution, an interaction of religiousness and union status is modeled as a fourth step. All model results are shown as relative risks. Fifth, a simultaneous model is estimated that analyzes the probability of being in a married union form at the time of first conception, together with the risk of union disruption and controls for self-selection. The estimation proceeds using the approach suggested in the study on second births risks by Kreyenfeld (2002), and in the study on the impact of premarital cohabitation by Brüderl and colleagues (1997). For this part of the analysis, the hazard model is specified as a piecewise continuous model. This model is estimated twice, once without controlling for unobserved

heterogeneity, and then again with the inclusion of a joint residual term. The decision to marry before conception is determined by

$$y = P(y) = \begin{cases} 1 \text{ if married at conception} \\ 0 \text{ if not married at conception} \end{cases}$$

Within the probit equation, α_1 represents the intercept, Z are the independent variables that influence the decision to marry before family formation, and α_2 are the parameters. In the model of the transition to separation after first conception, h(t) is the hazard of occurrence at time t, $\beta_1(t)$ is the baseline hazard, X are the covariates that influence the risk of separation, and β_2 are the respective parameters. This model is estimated twice, once without controlling for unobserved heterogeneity, and then again with the inclusion of a joint residual term.

Without controlling for unobserved heterogeneity	With controls for unobserved heterogeneity
$y = \alpha_1 + \alpha_2 Z$	$y = \alpha_1 + \alpha_2 Z + \delta + \rho$
$\ln h(t\|X) = \beta_1(t) + \beta_2 X + \beta_3 X(t)$	$\ln h(t\|X) = \beta_1(t) + \beta_2 X + \beta_3 X(t) + \varepsilon + \rho$

In the model without unobserved heterogeneity, the probit model and the hazard model are not related, and therefore give the same results as separate estimations. The model, which considers unobserved heterogeneity, includes one residual term that denotes unobserved heterogeneity for the probit model (δ) and one for the hazard model (ε). An additional residual term controls for the correlation of these unobserved heterogeneity terms (ρ). ρ is supposed to be normally distributed with a mean value of zero and a variance of ρ^2.

6 Results

6.1 Descriptive results

Table 1 shows the composition of the analytical sample. It is subdivided according to the union context at the time of the conception of the first child. The distribution of union forms by region shows that marriage is more prevalent in the west than in the east. About 44% of western German mothers were married at that time in their life course, compared to 23% of eastern Germans. The majority of the latter mothers lived in a cohabiting union. Every fifth western German and every fourth eastern German mother lived at the time of first conception apart from the father of her child.

Regional differences in the educational levels can be traced back on the different educational systems during the German division: low levels of school education were very uncommon in East Germany, but not in West Germany, as school was usually combined with an apprenticeship. In both regions, the educational level seems to be positively correlated with the level of union consolidation at conception, as more highly educated mothers are more likely to live in a married union than in cohabiting or LAT union. Regional differences in the levels of religious affiliation are already discussed in section 2. Religious affiliation does not seem to be correlated with a preference in union form at conception in western Germany. In eastern Germany, women who were married at conception seem to be somewhat more likely to be affiliated with a Christian religion than are women in the other union forms. The division of the Christian-affiliated into active and inactive shows that marriage is the preferred union form for religious women. Non-marital family forms do not differ greatly in their composition.

The subdivision of the sample by birth cohort reveals that, among the younger cohort, motherhood is more prevalent in the eastern region. Among the mothers of the birth cohort 1971-73, more eastern Germans had started their union before the age of 21. Less regional variation is found for those born between 1981 and 1983. The percentage distribution of union duration until conception shows no significant regional difference. The subdivision by union form shows that, the more consolidated the union was, the more time the couple spent together before family formation. More eastern Germans report having formed a family within their first relationship than western Germans (58% vs. 45%).

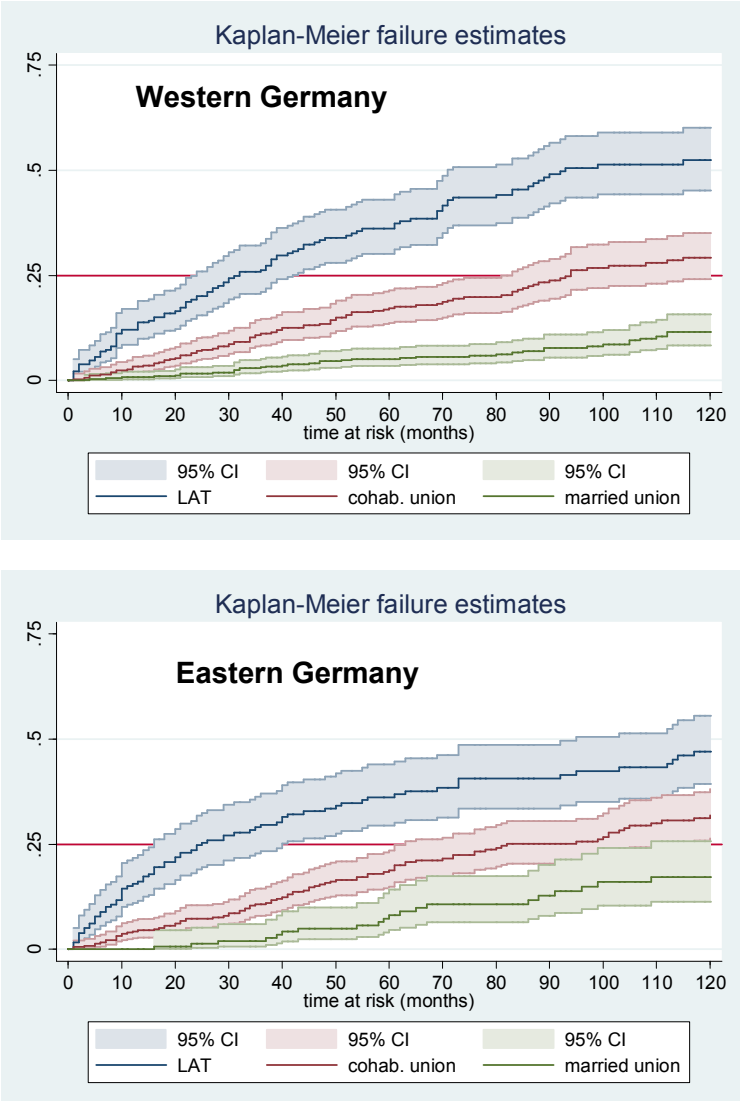
Table 1 – Composition of the sample (time-constant covariates), column percent

		Western Germany				Eastern Germany			
			Union form at time of first conception				Union form at time of first conception		
		overall	LAT union	Cohab. union	Married union	**overall**	LAT union	Cohab. union	Married union
Individual characteristics									
Educational level	Low	**24%**	35%	27%	16%	**4%**	7%	4%	1%
	Middle	**41%**	37%	40%	45%	**68%**	78%	66%	61%
	high	**35%**	29%	33%	39%	**28%**	15%	30%	38%
Religiosity	Act. Cath.	**23%**	17%	16%	31%	**2%**	1%	1%	4%
	Inact. Cath.	**19%**	24%	21%	15%	**1%**	1%	2%	1%
	Act. Prot.	**15%**	11%	13%	18%	**9%**	9%	6%	16%
	Inact. Prot.	**26%**	30%	32%	19%	**10%**	7%	11%	10%
	Non-aff.	**12%**	15%	14%	8%	**77%**	81%	80%	64%
	Other aff.	**6%**	2%	3%	10%	**2%**	2%	1%	4%
Birth cohort	1971-73	**76%**	63%	75%	84%	**65%**	59%	61%	79%
	1981-83	**24%**	37%	25%	16%	**35%**	41%	39%	21%
Union and family formation background									
Age at union start: cohort 1971-73	Under 18	**21%**	20%	16%	25%	**33%**	38%	31%	32%
	18-20	**28%**	18%	26%	32%	**33%**	30%	35%	32%
	21-24	**25%**	22%	26%	25%	**20%**	17%	18%	26%
	25-30	**22%**	29%	27%	16%	**12%**	9%	14%	9%
	Over 30	**4%**	11%	5%	1%	**2%**	6%	1%	2%
Age at union start: cohort 1981-83	Under 18	**36%**	41%	29%	42%	**34%**	38%	31%	38%
	18-20	**36%**	24%	47%	36%	**43%**	33%	45%	53%
	21-24	**24%**	27%	24%	23%	**21%**	26%	21%	9%
	25-30	**3%**	8%	0%	0%	**2%**	3%	3%	0%
Union duration	< 1 year	**17%**	50%	16%	3%	**20%**	49%	14%	3%
	1-2 years	**27%**	36%	37%	15%	**24%**	33%	25%	10%
	3-5 years	**23%**	8%	26%	28%	**26%**	13%	29%	34%
	> 5 years	**33%**	6%	21%	55%	**30%**	6%	32%	52%
Union order	1st	**45%**	42%	39%	52%	**58%**	64%	54%	60%
	2nd	**27%**	24%	31%	25%	**27%**	21%	29%	27%
	3d or higher	**28%**	33%	30%	23%	**15%**	15%	16%	12%
Number of subjects		**1174 (100%)**	233 (20%)	421 (36%)	520 (44%)	**723 (100%)**	180 (25%)	379 (52%)	164 (23%)
Number of events		**236**	103	93	40	**184**	75	89	20

Source: *pairfam* (2008/2009), *DemoDiff* (2009/2010), own estimates.

Figure 2 provides some initial insight into the transition to separation relative to the time of first conception. It is obvious that the union status at the start of family formation had a determining influence on family stability in both regions. Women who conceived in marriages were less likely to see their unions dissolve within the first 10 years after childbirth than were women living in non-marital union forms when they conceived. Women who did not live together with the father of their child at the time of first conception were the most likely to separate.

Figure 2 - Proportion of women who separate within 10 years after their first conception, by living arrangement at the time of conception (including confidence intervals of 95%) and region.



Source: *pairfam* (2008/2009), *DemoDiff* (2009/2010), own estimates.

6.2 Model results

6.2.1 The influence of union status on stability

The Models 1 to 7 in Table 2 present the results of various nested models without any interacted variables. The stepwise inclusion of control covariates allows focusing on the separate influences of these variables on stability, and on their impact on the other variables. This procedure helps to shed light on the explanatory power of the additional information.

Model 1 only accounts for the baseline, the birth cohort, the region and the union form at the time of first conception. The results reveal that pregnancy is associated with a significantly higher risk of separation. Mothers belonging to the younger birth cohort have a higher union dissolution risk, while no differences are found by region. Compared to women who were married at conception, those who lived in a cohabiting union at the start of family formation had a risk of separation that was 2.7 times higher. The risk of separation for couples who did not share a household at the time of first conception was 5.6 times higher than for those who were married.

In a second step, the model is also controlled for the union status after the first conception. This time-varying information shows that cohabiting couples had a risk of dissolution that was 2.5 times higher than that of married couples. The risk was even 11 times higher for couples who lived apart after the start of pregnancy. The inclusion of this time-variant measure in Model 2 changes the model results. The risk of separation during pregnancy did not significantly differ from that of the first year of parenthood. Two years after the first childbirth onwards, the risk of union dissolution increased. Eastern Germans had a lower risk of separation when changes in the union form after first conception were accounted for. Differences in the risk of separation by the union status at conception were reduced.

Model 3 also includes information about how long the union existed before the start of pregnancy. A union duration of more than five years significantly reduced the risk of union dissolution, but a short duration did not significantly increase union instability. The extension of the model affects the results of the other covariates, especially of the baseline and the union form at conception. The baseline now only shows a higher risk of separation for the time when the first child reaches schooling age. The inclusion of union duration accounts completely for the higher risk of dissolution among couples who were living apart together at the time of conception, as was shown in the former model. The results of the time-variant measure of union status are not influenced by the additional information.

In Model 4, further union background information is introduced. The age at which the union started does not seem to influence significantly stability, except at a starting age below 18, which increases the risk of dissolution. The order of the union has no significant influence on dissolution risks, but it nonetheless helps to explain union stability. In this model, the risk of separation decreases with the time spent together before family formation. Those who got pregnant within the first union year had a higher dissolution risk. The inclusion of information on age at union start and union order captures the remaining risk differentials within the baseline, and regarding the two cohorts.

Information on school education is introduced in Model 5. High educated mothers seem to have a reduced risk of dissolution, but this result is not significant.

The influence of further biological children on union stability is controlled for in Model 6. Compared to unions with a single child, having additional children appears to promote union stability. Accounting for this information leads to a decomposition of the baseline, which now shows significantly higher risks of separation after the first family year.

Model 7 also takes into account information on religious affiliation and religiosity. Mothers without religious affiliation showed an increased risk of dissolution compared to actively religious or otherwise affiliated mothers. Inactive Catholics and Protestants had a higher risk of dissolution, but the result was non-significant. The information on religion decomposes the effect of regional differences and the effect of union status at first conception. The risk of separation is now reduced by 36% for eastern German unions compared to that of western Germans. The union status at conception does not show any further significant risk differentials in this model. Religion seems to capture the former increased risk of separation among couples who were cohabiting at that time compared to those who were already married. The effect of short union duration again loses its significance.

The results of these models support the first hypotheses (1a and 1b), which posits that the risk of union dissolution is lowest for married couples, and highest for couples who do not share a household.

Table 2 – Models 1 to 7 (stepwise models without interaction)

		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
LR χ^2		212	401	431	446	446	456	478
Baseline	Pregnant	1.30*	0.80	0.79	0.80	0.81	0.80	0.80
	1st Child 0-1 years	1(ref.)	1	1	1	1	1	1
	1st Child 2-5 years	0.95	1.23*	1.22	1.22	1.19	1.44***	1.44***
	1st Child 6 years and older	0.90	1.37**	1.34*	1.27	1.24	1.76***	1.76***
Birth cohort	1971-73	1(ref.)	1	1	1	1	1	1
	1981-83	1.63***	1.38***	1.25**	1.15	1.10	1.12	1.11
Region	Western Germany	1(ref.)	1	1	1	1	1	1
	Eastern Germany	1.00	0.84*	0.87	0.84*	0.86	0.82*	0.66***
Union form *at* 1st conception	LAT union	5.63***	1.82***	1.19	1.13	1.13	1.15	1.11
	Cohabitation	2.70***	1.73***	1.39*	1.38*	1.40*	1.40*	1.34
	Marriage	1(ref.)	1	1	1	1	1	1
Union form *(time-varying)*	LAT union		11.16***	11.68***	11.39***	11.31***	9.82***	9.59***
	Cohabitation		2.51***	2.53***	2.50***	2.46***	2.23***	2.21***
	Marriage		1	1	1	1	1	1
Union duration	< 1 year			1.16	1.23*	1.24*	1.23*	1.21
	1-2 years			1	1	1	1	1
	3-5 years			0.84	0.82	0.85	0.85	0.86
	> 5 years			0.47***	0.41***	0.43***	0.42***	0.43***
Age at union start:	Under 18				1.32*	1.29**	1.26**	1.25*
	18-20				1	1	1	1
	21-24				0.90	0.93	0.90	0.91
	25-30				0.77	0.80	0.79	0.76
	Over 30				1.19	1.30	1.23	1.24
Union order	1st				1	1	1	1
	2nd				1.13	1.10	1.07	1.07
	3d or higher				0.89	0.90	0.88	0.86
Educational level	Low					1.11	1.12	1.14
	Middle					1	1	1
	High					0.85	0.87	0.88
Further biological children	One child						1	1
	Two children						0.54***	0.55***
	Three or more children						0.43***	0.44***
Religious-ness	Active Catholics							1
	Inactive Catholics							1.28
	Active Protestants							1.08
	Inactive Protestants							1.16
	None-affiliated							1.59**
	Other affiliated							0.94

Notes: *** p<0.01: ** p<0.05; * p<0.10.

Source: *pairfam* (2008/2009), *DemoDiff* (2009/2010), own estimates.

6.2.2 The timing of marriage

So far, the information on union status at conception and on union status after this date has been considered separately. In the following, this information is combined to analyze the impact of different union trajectories on union stability. We also look at regional differences. The interaction produces categories with a limited number of events in some cases, which results in partially non-significant coefficients. Nonetheless we tested the significance of differences within single union forms by changing the reference category. The presentation of the results in Table 3 is restricted to those results in which couples who were married at conception were the benchmark. The results show that, in both German regions, partners living apart at the time of the first conception had a very high risk of dissolution if they remained in different residences after conception. Very few couples reported moving to a LAT union after having lived together at the time of conception, though this union trajectory has been included for the sake of completeness. Those unions show an extremely high risk of separation, especially in eastern Germany.

Table 3 - Interaction of union status (conception), union status (time-variant) and region

			Union form *after* 1st conception (time-variant)		
			LAT union	Cohabitation	Marriage
Western Germany	**Union form *at* 1st conception**	LAT union	11.78***	3.58***	2.15***
		Cohabitation	15.56***	3.24***	1.45
		Marriage			1(ref.)
Eastern Germany	**Union form *at* 1st conception**	LAT union	7.40***	1.31	0.65
		Cohabitation	84.48***	2.29***	0.80
		Marriage			1.09

Notes: Controlled for the baseline (time since first conception), union duration until first conception, age at union start, union order, family size, religiousness, educational level and cohort; LR χ^2=506.
*** p<0.01: ** p<0.05; * p<0.10.

Source: *pairfam* (2008/2009), *DemoDiff* (2009/2010), own estimates.

The pattern of trajectories into cohabiting and married union forms reveals regional differences. In the case of western Germany, couples who moved in together after conception show no significant differences compared to couples who were already cohabiting before pregnancy. Their stability is still lower than for married unions. Couples who did not live together at conception but decided to marry afterwards have an increased risk of separation. Married unions that cohabited at conception show a higher risk of union dissolution than preconception marriages, but this result is not significant. Overall, the results for western Germany suggest that couples married at conception have the lowest separation risks.

In eastern Germany in contrast, those who were already cohabiting at conception actually have a significantly higher risk of separation than couples who decided to cohabit after pregnancy. Couples who married after conception in eastern Germany do not differ significantly by their union status at conception. A comparison of the non-significant results of married unions reveals that preconception marriage is not related with higher stability compared to later marriages.

In Table 3, the effect of the concrete timing of marriage remains unclear, as no distinction is made between unions converted into marriage during pregnancy and after childbirth. In the following, we distinguish between marriages contracted before conception, during pregnancy and after childbirth. Additionally, the time spent in an LAT union and in cohabitation is accounted for. As the interaction with process time results in few events in some categories, the direction of non-significant effects is considered for the description of the results, as well.

Table 4 – Marriage timing

		Marriage timing (time-variant)				
		Married at conception	"shotgun" marriage	Post-natal marriage	LAT union	Cohabitation
Region	Western Germany	1(ref.)	1.77**	1.44	12.62***	3.41***
	Eastern Germany	1.09	1.34	0.43**	8.74***	2.12***

Notes: Controlled for the baseline (time since first conception), union duration until first conception, age at union start, union order, family size, religiousness, educational level and cohort; LR χ^2=491.
*** p<0.01: ** p<0.05; * p<0.10.

Source: *pairfam* (2008/2009), *DemoDiff* (2009/2010), own estimates.

The results in Table 4 reveal that the risk of separation is lower for marital than for non-marital unions. Marriages contracted before conception have the same stability in eastern and western Germany. The timing of marriage after conception has a different impact in the two regions. Western German couples married at conception have the lowest risk of separation, while the risk is higher for shotgun marriages. Post-natal marriages show a somewhat higher risk. Eastern German couples who married during pregnancy have a higher risk of dissolution compared to the reference group of western German marriages, but the results are non-significant. Eastern German couples who decided to marry after the first childbirth have a 59 percent lower risk of dissolution than couples who were married at conception.

We hypothesized that marriages occurring after first conception are associated with a decrease in stability, especially in the case of post-natal marriages (2b). This hypothesis cannot be confirmed. "Shotgun" marriages decrease union stability, but post-natal marriages

are not significantly less stable in western Germany, and are even at lower risk of dissolution in eastern Germany. We further expected that the timing of marriage has a stronger impact on western German unions (2c). The multivariate results suggest that marriage behavior is different in eastern and western Germany. The timing of marriage has not a stronger, but a different impact on union stability.

6.2.3 Religious norms

Table 5 shows the relative risks of union dissolution by union form and religiousness. The results show that marital stability differs by church attendance. The risk of separation of marital unions in which the woman is not affiliated or not actively religious is higher than for couples in which the woman is an active Catholic, Protestant or member of another faith. Inactive Catholics show a higher risk of dissolution, but the result is not significant, due to the number of events occurring in this category. The change of the benchmark to non-affiliated reveals that inactive Catholics do not significantly differ from the referred group. This suggests that we cannot draw a reliable conclusion from the results of this category. To test risk differentials within non-marital unions, the reference category was changed (results not shown). The results show that inactive Protestants have lower dissolution risks within non-marital unions than non-affiliated. The other categories provide too few events to show significant differences.

Table 5 – Interaction of religiousness and union form (time-varying)

		Union form (time-varying)		
		LAT union	Cohabiting union	Married union
Religious-ness	Active Catholics	17.19***	3.56***	1
	Inactive Catholics	18.06***	3.57***	1.72
	Active Protestants	17.40***	3.93***	1.00
	Inactive Protestants	12.36***	2.73***	2.07**
	Non-affiliated	20.11***	5.02***	1.95**
	Other affiliated	25.00***	3.04***	0.97

Notes: Controlled for the baseline (time since first conception), union form at first conception, union duration until first conception, age at union start, union order, family size, educational level, region and cohort; LR χ^2=490.
*** p<0.01: ** p<0.05; * p<0.10.

Source: *pairfam* (2008/2009), *DemoDiff* (2009/2010), own estimates.

As religious norms favor marital childbearing—especially in the Catholic Church—we expected to find that the risk of dissolution of marital and non-marital unions would differ by religiosity. Marital stability should be highest for Catholics (3b) and active Christians (3c),

and high for Protestants, while it should be lowest for the non-affiliated. A competing hypothesis posits that marital stability is not related to religious affiliation (3a).
The results show that affiliation to the Protestant religion has no determining influence on marital stability in the case of non-religious, which seems to support hypothesis (3a). Hypothesis (3b) can therefore not be confirmed, but the results for Catholics impede a rejection of this hypothesis. Church attendance has an impact on the risk of dissolution of marital unions, which supports hypothesis (3c).
Non-marital unions of religious affiliated are expected to be less stable (3d), which is not confirmed by the multivariate results. In fact, Protestant affiliated women show lower risks of dissolution.

6.2.4 Selection effects of preconception marriage

Up to this point, the analysis has concentrated on the transition to separation and the influence of union status at first conception as a control covariate. Nonetheless, it is possible that it is not the union status alone that affects union stability. Instead, it could be that the subset of couples who are married at conception is selective in their attitudes regarding union formation, childbearing and the risk of dissolution. In the following, the probability of being married at first conception is included in the analysis.
The hazard model includes time-varying information on union status interacted with region. The influence of selectivity is tested by comparing the results of a simultaneous model with and without the inclusion of a term controlling for joint unobserved heterogeneity. In the following, the models without accounting for selectivity are described (Table 5).
The probit model controls for individual and union characteristics. Education, age at union start and union order do not show significant differentials in their impact on the probability of being married at the time of first conception. Religion has a strong impact on marriage behavior. Active Christians have a higher probability of being married than inactive Christians and the non-affiliated. Members of other faiths have the highest probability of being married before family formation. Union duration is strongly associated with the probability of preconception marriage. Eastern German couples, as well as couples in which the woman belongs to the younger birth cohort, have a lower probability of being married.
The hazard model produced results similar to those of the former models, but the significance levels deviated in some cases. A short union duration before pregnancy is associated with a

significantly higher dissolution risk. The results further show that the risk of dissolution is significantly negatively related with the age at union start until age 30.

The variables of union order, religiousness and family size show the same results as in Model 7. Regarding the impact on union context, we find significant regional differences. In both countries, the LAT union is related with the highest risk of union dissolution, while marriage provides the highest stability. The comparison of the results reveal that compared to western German marriages, eastern German marriages have a significant lower risk of dissolution. Cohabiting unions do not differ in their stability from western German married unions in case of eastern Germany, but show an increased risk level in case of western Germany. Similar, also the LAT union is related with higher instability in western compared to eastern Germany.

The inclusion of the unobserved heterogeneity factors does not lead to major changes in the model results. The residual terms that control for unobserved heterogeneity in each process—i.e., "delta" and "epsilon"—show positive and significant results. Both the decision to marry before conception and family stability are found to be influenced by unmeasured respondent-specific characteristics. However, these processes do not appear to be influenced by joint unobserved heterogeneity, as the residual term "rho" is not found to be significant. The transition to separation is, according to these results, not influenced by the unmeasured selective characteristics of those marrying before the start of family formation. The selection hypothesis therefore has to be rejected.

Table 5 – Simultaneous model with and without unobserved heterogeneity

		Model (*without unobserved heterogeneity*)	Model (*controlling for unobserved heterogeneity*)
		exp(β)	exp(β)
Probit model (married at first conception)			
intercept		0.71*** (-0.34)[a]	0.71*** (-0.35)[a]
Educational level	Low educated	0.99	0.99
	Middle educated	1	1
	High educated	0.64	0.65
	Missing	0.80	0.79
Religious-ness	Active Catholics	1	1
	Inactive Catholics	0.68***	0.67***
	Active Protestants	0.91	0.91
	Inactive Protestants	0.64***	0.62***
	Non-affiliated	0.63***	0.62***
	Other affiliation	2.69***	2.79***
Age at union start	Under 18	0.83	0.83
	18-20	1	1
	21-24	1.16	1.18
	25-30	1.02	1.02
	Over 30	0.78	0.79
Union duration	< 1 year	0.48***	0.46***
	1-2 years	1	1
	3-5 years	2.15***	2.20***
	> 5 years	3.23***	3.36***
Union order	1st	1	1
	2nd	0.88	0.88
	3d or higher	0.86	0.86
Cohort	1971-73	1	1
	1981-83	0.76***	0.75***
Region	Western Germany	1	1
	Eastern Germany	0.57***	0.56***
Hazard model (family stability)			
Baseline[a] (ls)	Intercept	-7.2174	-7.4180
	Pregnancy	0.0490	0.0559
	0-1 years	0.0212	0.0246
	2-5 years	0.0022	0.0037
	6 years and older	-0.0003	0.0003
Union form (time-varying) (western Germany)	LAT union	10.40***	11.83***
	Cohabiting union	2.48***	2.62***
	Married union	1	1
Union form (time-varying) (eastern Germany)	LAT union	6.79***	7.93***
	Cohabiting union	1.45	1.44
	Married union	0.65***	0.62***
Union duration	< 1 year	1.26***	1.27***
	1-2 years	1	1
	3-5 years	0.86	0.83
	> 5 years	0.43***	0.40***
Union order	1st	1	1
	2nd	1.11	1.11
	3d or higher	0.86	0.85

Religious-ness	Active Cath. Inactive Cath. Active Prot. Inactive Prot. None-affiliated Other affiliation	1 1.37 1.13 1.24 1.77*** 1.00	1 1.41 1.17 1.28 1.84*** 1.97
Age at union start	Under 18 18-20 21-24 25-30 Over 30	1.30*** 1 0.94 0.77 1.16	1.33*** 1 0.96 0.74 1.18
Further biological children	No further child One further children Two or more further children	1 0.54*** 0.51***	1 0.52*** 0.48***
Cohort	1971-73 1981-83	1 1.13	1 1.14
Educational level	Low educated Middle educated High educated Missing	1.13 1 0.91 1.94	1.10 1 0.89 1.86
Delta[a] δ (probit)			0.26***
Epsilon[a] ε (hazard)			0.48***
Rho[a] ρ			-0.21

Notes: *** t>2.00
ls = linear spline
[a] = β-values
Source: *Pairam* (2008/2009), *DemoDiff* (2009/2010), own estimates.

7 Conclusion

The empirical analysis has demonstrated that the risk of dissolution among couples with children is higher for cohabiting couples than for married couples. It seems that marriage works as a commitment device that raises the gains associated with a union, and the costs of its dissolution, as Becker et al. (1977) have argued. This "marriage-effect" is confirmed by the simultaneous model, which did not found a selection effect: Union stability is not determined by unmeasured selective attributes of those couples who got married before conception. Couples who become parents while living apart have the highest risk of union dissolution. The higher risk of separation found among couples who did not share a household at the time of conception is likely attributable to their low level of union consolidation at that time.

The research focus of this study has been to investigate whether the prevalence of childbearing within cohabitation has a positive impact on the stability of these union forms with children. The case of Germany allows us to compare two regions with strong differences in non-marital childbearing. The persistence of regional differences in the stability of unions with children suggests that these regions differ beyond the level of demographic differences expressed i.e. in the share of religious affiliated. After controlling for union background and individual characteristics, the results of the last model showed that cohabiting unions with children are related to higher union stability in eastern Germany, where childbearing within cohabitation is more common. Furthermore, also LAT unions and marriages seem to have lower dissolution risks compared to western German unions. The interaction variables showed that several union trajectories occurring after the first conception are associated with lower risks of separation for eastern German unions. Regarding the timing of marriage, those who married after childbirth were shown to have an even lower risk of dissolution than western German couples who were already married at conception. This may be due to a "weeding" effect (Oppenheimer 1988), which has often been cited in research on premarital cohabitation (e.g., Liefbroer, Dourleijn 2006). According to this thesis, unions with a lower degree of stability will be terminated before they transform into marriage, and are therefore "weeded out" of the sample. The remaining unions have a higher degree of stability. The results of the present analysis showed higher risks of dissolution as long as couples were cohabiting, which seems to support the weeding thesis.

Western and eastern Germany not only showed strong differences in the share of non-marital childbearing, but also in the proportion of the religious-affiliated. The stepwise modeling showed that religiousness captures the higher separation risk of couples cohabiting at the time of first conception. The interaction of religiosity with union status revealed differences in marital stability by women's church attendance, while the risk was not found to differ between non-affiliated and inactive Protestants, and remained unclear for inactive Catholics. These results should not necessarily lead us to conclude that religion has no effect on marital stability, apart from the individual level of religiosity. As Inglehart and Baker (2000) have argued, religious traditions have an impact on the population at whole, because they are transmitted through nationwide institutions. The prevailing German legal norms show that marriage is still privileged in many areas, and that marriage is still encouraged. Additionally, divorce laws regulate separation, making it more difficult to leave a marriage. According to a theoretical concept emphasized by Pfau-Effinger (2005), welfare state policies and culture are interrelated. The legal framing of marriage is therefore not exogenous, but refers to a

predominant cultural idea. Our discussion of the historical context of Germany in Section 2 noted that current marriage legislation remains rooted in policies established in West Germany, where, under the influence of Christian parties, marital childbearing and specialization within marriage were incentivized. Future research should therefore address the institutional background in cross-national studies on union stability in order to further disentangle the role of religion.

The procedure of detailed interaction sometimes leaded to non-significant results. To our mind it is important to underline the restriction of the sample size on the one hand, but to show also non-significant tendencies on the other hand. The oversample of eastern Germany with *DemoDiff* is very useful as it enables to investigate this population, but it does not resolve the sample size issue of the panel data.

Finally, it is important to look at what is captured by the east-west variable. This paper has examined differences in the historical political contexts and in religious affiliations in the two parts of Germany. The issues of differing levels of child care provision and of labor force participation of mothers were raised. The east-west difference also includes an economic dimension, as the position of eastern Germany has been consistently weaker since reunification. Also of importance for the present investigation is the differing selection of eastern and western Germans into the sample used. Eastern German women are more likely to become mothers and to have their first child at a younger age than western Germans. The present analysis does not completely capture these different characteristics. The results of the simultaneous modeling showed that union stability is influenced by determinants that are not measured in this analysis. Nonetheless, the study provides some initial insights into the union dynamics of young adults entering parenthood that shape family life now and in the future. The following waves of *pairfam* and *DemoDiff* will survey the residential, educational and employment biographies. It is likely that this additional information will provide new insights into the issues surrounding union stability.

8 References

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