The Intergenerational Transmission of Divorce. Results from a Fifteen-Country Study with the Fertility and Family Survey*

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Abstract

This study investigates the intergenerational transmission of divorce in thirteen European countries, the United States and Canada. We analyzed the cross-national data from the Fertility and Family Survey applying techniques of event history analysis. Our analysis yields three main findings: (1) In all countries in Eastern Europe, Western Europe and North America included in our sample the effect of intergenerational divorce transmission is significant. The divorce risk of children of divorced parents is on average 2.03 times that of children of non-divorced parents, whereby the multiplier ranges from 1.5 in Hungary to 3.2 in Italy. (2) When taking marriage and fertility patterns into account this effect is only marginally reduced. (3) There is a strong negative correlation between the magnitude of the effect and the proportion of children experiencing their parents' divorce. This finding supports the hypothesis that low acceptance and stigmatization of divorce aggravate the long-term consequences for children of divorced parents.

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1 Introduction

In this study we estimate and compare the effects of “divorce transmission" for Eastern and Western European countries, Canada, and the US. It is a well documented fact that in North America and some other countries children with divorced parents experience a higher divorce risk in their own marriages. A large number of studies from the US consistently confirm the social inheritence of divorce although there is some controversy about the explanation of the effect (Amato 1996; Bumpass and Sweet 1972; Glenn and Kramer 1987; Greenberg and Nay 1982; Keith and Finlay 1988; Mc Lanahan and Bumpass 1988; Mott and Moore 1979; Mueller and Pope 1977; Pope and Mueller 1976; Teachman 1982; Wolfinger 1999). Outside the US there are very few studies. Most of them do provide evidence for divorce transmission. For example, Dronkers (), Diekmann and Engelhardt (1999), Traag, Dronkers and Vallet (2000) report significant effects for the Netherlands, West Germany, and France while no effect showed up in East Germany (Diefenbach 1997). A more systematic investigation covering a greater number of countries with different historical, institutional, and cultural contexts is still lacking.

It is by no means natural to assume that transmission effects are a universal phenomenon. Also, the size of the effects may vary between countries. The well-being of children after parents’ divorce depends on many factors, some of them related to the institutional setting (Amato and Keith 1991a,b). Custody regulations, financial support by the non-resident parent, and other aspects of divorce laws may have an impact on how children cope with their parents’ divorce. Of course, these regulations vary in time and by country. In former communist countries in Eastern Europe women and men had similarly high rates of labor force participation. In these countries child care was provided by state institutions to a large extent. Because children spent more time in child-care institutions, day-schools or collective organizations than in the West the detrimental impact of parents’ divorce may have been lessened. By this reasoning we would expect lower transmission effects in East European states. It is also suggested that divorce rates are negatively related to the magnitude of the transmission effect because higher divorce rates increase the

acceptance of divorce (Wolfinger 1999). If divorce is not stigmatized but treated as something “normal", the harm inflicted on children of divorced parents might be smaller. In addition, no-fault divorce laws, a consequence of the growing acceptance of divorce, may have reduced the harm. Hence, Wolfinger assumes that an increase in divorce rates will decrease the stigmatization of divorce, which in turn will improve the conditions for children growing up in divorced families. The improvement of children’s socialization has the long-term impact of diminishing the transmission effect. A part of this causal chain is supported by evidence from a meta-analysis by Amato and Keith (1991a). The authors found that “foreign studies of children of divorce reported more problems with conduct, psychological adjustment, mother-child relations, and father-child relations than did studies conducted in the United States." In explaining the difference they argue “that divorce is more common in the United States than in other western countries [...] and, for this reason, may be less stigmatizing" (p. 34). Using the data from the General Social Survey, Wolfinger (1999) estimated transmission effects in the time span 1973 to 1996. In accordance with his hypothesis he was able to demonstrate that there is a long-term trend towards decreasing divorce transmission in the US. By the same rationale one would expect a negative correlation between divorce rates and the size of the transmission effect in cross-national comparisons.

Using the retrospective data on family histories from the Fertility and Family Survey we will report on the estimates of transmission effects for fifteen countries including Western and Eastern European countries, Canada, and the United States. For estimation we employed the techniques of event-history analysis. First, we investigate the presence or absence of transmission effects in the countries of our study. Second, we examine whether the findings are explainable by other divorce-related covariates known from previous studies. Finally, we explore whether the hypotheses mentioned above may help to explain cross-national variations in transmission effects.

2 Data and Methods

The study is based on data from the Fertility and Family Survey. The FFS comprises surveys from 21 countries, but necessary information on the duration of marriages or parents' divorce is lacking for five of them. Thus, with West and East Germany analyzed separately, our estimates are based on 16 data sets collected from 13 European countries, Canada, and the U.S. in the early nineties.[1] We confine our analysis to female respondents who are married or had previously been married. With these restrictions, net-sample sizes vary from 1279 (Czech Republic) to 6844 (U.S.). Table 1 in Appendix B displays the variables used and their means.

The variable of main concern is *duration of first marriage* in months. We consider a marriage as terminated when it ends in divorce or permanent separation[2] and take the dissolution of a common household as terminal date.[3]

The main explanatory variable is the parents' relationship during the respondent's childhood. The dummy variable *parents' divorce* is set to one if the respondent's (natural or adoptive) parents divorced or separated after her birth.[4] Besides the divorce/separation of the parents, the family structure of the *parental home* is also considered with the information on whether the respondent grew up with both parents, one parent or without parents.[5]

We also control for additional independent variables. The set of control

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[1] Samples were drawn from the population within certain age limits. The Belgian sample covers only Flanders and the region of Brussels. For more information on the FFS and its use in comparative research see Festy and Prioux (2002). For information on samples and descriptive statistics, see the notes in Table 1 in Appendix B.

[2] The FFS Standard Recode File does not distinguish between legal divorce and separation.

[3] This definition seems reasonable as the time between the end of co-residence and the date of the legal divorce varies substantially across the different jurisdictions. Furthermore, the date of legal divorce is not reported in most FFS data sets. See Festy and Prioux (2002, p. 32) for a discussion of the comparability of FFS partnership data. Appendix A reports the exact wording of the questions in the national questionnaires that are used to construct the main variables.

[4] See again Appendix A for differences in the definitions across FFS countries.

variables includes well-known factors of divorce risk such as marriage cohorts, age at start of union, birth of a child, educational level and cohabitation. We use five-year *marriage cohorts* from 1970 to 1990. The *age at start of union* is the age of the wife at the time living together begins. The birth of the *first child* is included as a time-dependent covariate. The *educational level* attained at the date of the interview is measured in accordance with the international standard classification of education (ISCED).[6] This scale covers seven educational levels from pre-primary (0) to the second stage of tertiary (6).[7] We distinguished three levels: 'lower' (valued 0, 1 or 2 by ISCED), 'medium' (ISCED 3 or 4), and 'higher' (ISCED 5 or 6). *Cohabitation* denotes whether the couple already shared a household before the marriage.

We use the techniques of event history analysis to estimate the effects of parents' divorce and control variables on divorce risk. The multivariate estimation is based on the parametric sickle model (see Figure 1). This model was chosen because it is well known that divorce risk increases with the duration of marriage to a maximum value and decreases afterwards. This sickle-shaped time dependency of the hazard rate of divorce can be modeled by the following function (Diekmann and Mitter 1984):

$$r(t) = ate^{-t/\lambda} \tag{1}$$

where $a = \alpha_0 \alpha_1^{x_1} ... \alpha_k^{x_k} ... \alpha_m^{x_m}$ and $\alpha_k > 0$ for all k=1, ..., m.

[Figure 1: The divorce risk function of the sickle model.]

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[5] The information on the parental home varies across countries. See the exact wording of the related question in Appenix A

[6] Unfortunately, the educational level at marriage is not or very poorly reported for most countries. See Festy and Prioux (2002, pp. 32) for a discussion of the limited comparability of education in the FFS.

[7] The other levels of the ISCED scale are: (1) primary education or first stage of basic education, (2) lower secondary or second stage of basic education, (3) (upper) secondary education, (4) post-secondary non-tertiary education, (5) first stage of tertiary education. See UNESCO 1997 for more details.

In this model, x_1 to x_m are covariates and α_0 to α_m as well as λ denote parameters to be estimated. α_k is called the *relative risk* as it is the ratio of the divorce risk after and before a one-unit change of the covariate x_k. $(\alpha_k - 1) \cdot 100$ is the approximate percentage effect of the covariate k on the risk of divorce $r(t)$. If $\alpha_k > 1$ there is a positive effect of a covariate on the risk of divorce; if $\alpha_k < 1$, the effect is negative. The parameter λ is interpreted as the marriage duration with the maximum risk. A further feature of the model is that it allows for immunity. In the present context, this means that the model allows for a certain proportion of marriages to last indefinitely.

We used the maximum likelihood method to estimate the α-parameters of covariate effects and the λ-parameter. Apart from the birth of the first child all independent variables are treated as time constant. We estimate the parameters of the time-dependent covariate in the likelihood function using the method of episode-splitting (Blossfeld and Rohwer 1995).[8]

The complete length of the episode can be observed only in marriages ending in divorce before the interview. Marriages still existing at the time of the interview or those ended by the death of a spouse are treated as censored data. The complete episodes as well as the censored ones were used to estimate the 'α-effects' and the λ-parameter. In the presence of censored data, the maximum likelihood method provides consistent and asymptotically normally distributed estimates of the parameters.

3 Results and Discussion

Estimates of transmission effects from three models are displayed in Figure 2. The estimated parameters of the sickle models are easily interpretable as the relative risks

[8] Roughly speaking, 'episode-splitting' is a method for decomposing an episode like marriage duration into subintervals. Within subintervals covariates remain constant, and the likelihood function can be rewritten as a product of the subinterval-specific likelihoods. For technical details see e.g. Blossfeld and Rohwer 1995.

of divorce. The reference group is the divorce risk of respondents from two-parent families. We estimated three models. Model 1 controls for marriage cohorts, Model 2 controls for cohorts and *parental home*, and Model 3 includes the additional covariates *first child*, *cohabitation*, *age at start of union*, and *educational level* (for detailed information see Tables 3 to 5 in Appendix B). The relative risks range from 1.50 for Hungary and Latvia to 3.20 for Italy with an (unweighted) average relative risk of 2.03. Above all, it is important to note that the relative risks for all sixteen data sets are clearly larger than one and highly significant (the estimate for Spain is significant at $p < 0.05$, Slovenia at $p < 0.01$; all other estimates are significant at $p < 0.001$ level). In contrast to previous analysis, we also find a highly significant transmission effect of 1.80 for East Germany. Thus, our analysis documents that the intergenerational transmission of divorce is a widespread phenomenon to be observed in Eastern and Western European countries as well as in North America.

[Figure 2: The intergenerational transmission effect of divorce.]

The transmission effects persist after controlling for whether the children have lived with both parents, one parent or without parents. The inclusion of the additional covariates *first child*, *cohabitation*, *age at start of union*, and *educational level* only helps to explain a small part of the initial effect. Except for Italy, where the effect increases, transmission effects are slightly reduced after controlling for covariates (Figure 2).[9]

Although the existence of divorce transmission is proven for all countries in the sample, the magnitude of the effect varies largely across nations. We argued in the introduction that the East European (former communist) states may exhibit smaller transmission effects, and we discussed the hypothesis of an inverse relation between the frequency of divorce and the transmission effect. In fact, the average relative risk

[9] Italy has a very small number of divorces in the parents' generation. Hence, estimates for Italy are not so robust. After controlling for covariates in model 3 all transmission effects remain significant at the 5-percent level except the estimate for Spain ($p = 0.08$) and the Czech Republic ($p = 0.18$) .

for former communist states is 1.75 compared to 2.25 for the rest of the sample.[10] However, the former communist states also exhibit higher divorce rates and these may have weakened transmission effects. Hence, the correlation between the type of state (former communist state or not) and the transmission effect might be - at least to some extent - a spurious correlation.

In the following, we will test for this assumption and the relation between divorce and transmission effects. As an indicator for divorce as a more or less common phenomenon, we do not use official statistics but the proportion of women from divorced families in FFS countries (Table 1 in Appendix B). This figure yields a better estimate of the proportion of children in the population experiencing their parents' divorce than crude divorce rates. The values are in the range of 0.03 for Italy and 0.25 for the United States. In accordance with the hypothesis that countries where divorce is more common show smaller transmission effects, we find a large and highly significant, negative correlation between the two variables (Pearson correlation $r = -.81$, $p < .001$, Spearman rank order correlation = -.86). This relation is depicted in Figure 3. Excluding countries with extreme values of transmission effects does not change the correlation very much.[11] Also, using "net transmission effects" estimated after controlling for covariates the correlation reduces somewhat to $r = .67$ (Spearman rank order correlation = -.82).

[Figure 3: The intergenerational transmission effect of divorce and the proportion of children from divorced families.]

A regression analysis with the transmission effect as the dependent variable and the proportion of divorce and the binary variable "former communist states" as independent variables yields a negative and significant coefficient for the variable

[10] Former communist states are the Czech Republic, Estonia, East Germany, Hungary, Latvia, Lithunia, Slovenia. Dropping Slovenia which did not belong to the Soviet-oriented states the average effect size is 1.67.

[11] Excluding (1) Italy, (2) Italy and Belgium, (3) Italy, Belgium, and West Germany the Pearson correlations are: -.77, -.82, -.86 respectively.

"proportion of divorce" (t = -4.09, p < .001). Although, as expected, the sign of the coefficient for "former communist states" is negative, the coefficient fails to reach the level of significance (t = -1.34, p = .205).[12] For this reason, we conclude that the difference in the size of the transmission effects between East European and Western states is largely due to the higher level of divorce in East Europe.

The strong negative correlation between the incidence of divorce and the transmission effect provides evidence for the hypothesis that the low acceptance and stigmatization of divorce aggravate the long-term consequences for the children of divorced parents. Of course, this is not the only reason for the intergenerational transmission. Significant transmission effects exist even in societies where divorce is widespread and common.

The negative correlation between the transmission effect and the incidence of divorce discovered across countries should also be observed over time. The time trend of divorces differs from country to country though there is a general increase in divorce rates. For example, only 11% (unweighted mean across countries) of the respondents born before 1960 experienced the divorce of their parents compared to 16% of the ones born in 1960 and thereafter. This increase of divorce incidence ranged from one percentage point in Italy to 11 percentage points in Estonia. However, estimating the intergenerational transmission effect for the birth cohorts before and after 1960 separately does not strengthen our result: in only 9 out of the 16 samples is the transmission effect of the recent birth cohorts weaker than that of the earlier cohorts.[13] Although there is a clear increase in divorce incidence we are unable to show a corresponding decline in the intergenerational transmission effect.

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[12] The estimated regression equation is: Transmission effect = -5.095 Proportion divorced - 0.210 Former communist state + 2.809. Adjusted R^2 = 0.65. Results remain essentially unchanged if we drop "outlying" Italy, do not count Slovenia as "former communist" or if we use "net" transmission effects after controlling for covariates.

[13] The estimation of the time trend of the transmission effect was not robust. Estimating the model for the two birth cohorts separately resulted in very different results than by including interaction terms in the full samples. The former produced the ambiguous result discussed in the text. The latter showed an increase (significant on the 5% level in two countries) in all but 3 countries.

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Appendix A: Data in the FFS Countries

This appendix describes how the main variables (marriage duration, parents' divorce and parental home) were asked for in the original national questionnaires (the official English translation is used where available).

FFS model questionnaire for women

- *Marriage date*: V226 "In what month/year did you marry him?"
- *Divorce*: V230 "How did your partnership end at that time?" equals "divorce/separation"
- *Divorce date*: V229 "In what month/year did you stop living with your partner in the same household?"
- *Parents' divorce*: V105 "Did your parents ever separate or divorce?"
- *Age at parents' divorce*: V106 "How old where you when that occurred?"
- *Parental home*: V104 "With whom did you live most of that time: with both parents, with one parent only, or with neither parent?"

Austria: "Familien- und Fertilitätsurvey" 1996

- *Marriage date*: 114.425 "In welchem Monat und Jahr haben Sie beide geheiratet?"
- *Divorce*: 117.430 "Auf welche Weise endete Ihr Zusammenwohnen?" equals "wir liessen uns scheiden"
- *Divorce date*: 116.429 "In welchem Monat und Jahr endete damals Ihr Zusammenwohnen?"
- *Parents' divorce*: 41.109 "Haben sich Ihre Eltern (bzw. Adoptiveltern/Pflegeeltern) irgendwann einmal getrennt oder scheiden lassen?"
- *Age at parents' divorce*: 42.110 "Wie alt waren Sie damals?"
- *Parental home*: 36.104 "Bei wem haben Sie bis zum Alter von 15 Jahren gelebt, bzw. die meiste Zeit über gelebt?"

Belgium: 1991/92

- *Marriage date*: 221C "When did you marry?"
- *Divorce*: 222B "Any changes since then... What kind of change?" equals "separation" or "divorce"
- *Divorce date*: 222C "Any changes since then... When?"
- *Parents' divorce*: 108a "Has divorce occurred (including any current divorce proceedings) in the life of your parents?"
- *Age at parents' divorce*: not asked

- *Parental home*: 106 "Did you live with your own parents until age 16?" if no "Specify with whom."

Bulgaria: 1997/98

- No information on whether, when and why marriage ended.

Canada: "General Social Survey - Family" 1995

- *Marriage date*: H28 "In what month and year was your first marriage?"
- *Divorce*: H35 "Did your first marriage end in separation and then divorce or annulment?"
- *Divorce date*: H36 "In what month and year did the (last) separation happen?"
- *Parents' divorce*: A75 "Did your parents (or parental substitutes) ever separate or get a divorce?"
- *Age at parents' divorce*: A76 "In what month and year did the (last) separation happen?"
- *Parental home*: A3 "Until you were 15, did you always live with both of your birth (adopted) parents? [Yes/No]".

Czech Republic: 1997

- Exact or near-exact FFS model questionnaire used.

Estonia: 1994

- *Marriage date*: B04 "In what year and month was your marriage registered?"
- *Divorce*: B14 "How did this partnership end?"
- *Divorce date*: B18 "In what year and month did you stop sharing the dwelling unit?"
- *Parents' divorce*: I25 "Have your mother and father ever separated or divorced?" equals "divorce [before, after partnership ended]" or "partnership ended but not divorced"
- *Age at parents' divorce*: I26 "In what year and month did it happen?" (almost all data missing)
- *Parental home*: not asked.

Finland: 1989/90

- Only family situation at 14 is asked for. If one or both parents died, divorce may not be reported. Parents' divorce is "certainly incomparable" according to Festy and Prioux (2002, Annex 3).

France: 1994

- Parents' divorce is "certainly incomparable" according to Festy and Prioux (2002, Annex 3).

Germany (East and West): "Familienbildung und Kinderwunsch in Deutschland" 1992

- *Marriage date*: 225 "In what month and year did you marry him?"
- *Divorce*: 228 "How did your partnership end" equals "separation" or "divorce"
- *Divorce date*: 227 "In what month and year did you stop living with your partner in the same household?"
- *Parents' divorce*: 121 as in FFS model questionnaire
- *Age at parents' divorce*: 122 as in FFS model questionnaire
- *Parental home*: 120 as in FFS model questionnaire.

Greece: 1999

- Data not available.

Italy: "National Sample Survey on Fertility Control and Expectation" 1995/96

- *Marriage date*: 3.29 as in FFS model questionnaire
- *Divorce*: 3.36 "How did your partnership end at that time" equals "voluntary separation"
- *Divorce date*: 3.35 as in FFS model questionnaire
- *Parents' divorce*: 2.4 as in FFS model questionnaire
- *Age at parents' divorce*: 2.5 as in FFS model questionnaire
- *Parental home*: 2.7 "With whom did you live most of that time [up to age 15]?"

Latvia: 1995

- *Divorce*: 230 "How did your partnership end at that time" equals "divorce"
- Other variables as in FFS model questionnaire.

Lithuania: 1994/95

- Exact or near-exact FFS model questionnaire used.

Netherlands: 1993

- Data not available.

Norway: "Familie- og Yrkesundersøkelsen" 1988/89

- No information on parents' divorce.

New Zealand: 1995

- No information on why marriage ended.

Poland: "Polish Family and Fertility Survey" 1991

- Only present living situation of parents is asked. If one or both parents died, divorce may not be reported. Age not asked. Parents' divorce is "certainly incomparable" according to Festy and Prioux (2002, Annex 3).

Portugal: 1997

- No information on when marriage started and ended.

Slovenia: 1994/95

- Exact or near-exact FFS model questionnaire used.

Spain: 1994/95

- Exact or near-exact FFS model questionnaire used.

Sweden: "The Familiy Study" 1992

- *Marriage date*: 99b "When did you get married?"
- *Divorce*: 93d "Why did you stop living together?" equals "did you move apart"
- *Divorce date*: 93e "When did you definitely stop living together?"
- *Parents' divorce*: 32/33 "Looking back at the period before your 16th birthday, did you and your biological (or adoptive) parents live together the whole time? ... Why didn't you live together the whole time?" equals "parents got divorced"
- *Age at parents' divorce*: 34 "When [year] did this happen?"
- *Parental home*: 37 "What was the composition of your family during the greater part of your childhood [...]?"

Switzerland: "Mikrozensus Familie in der Schweiz" 1994/95

- *Marriage date*: F226 "In welchem Jahr haben Sie ihn geheiratet? [...]"
- *Divorce*: F230 "Haben Sie sich getrennt, scheiden lassen, ist Ihr Partner gestorben oder besteht Ihre Beziehung weiter und Sie haben aus beruflichen, familiaeren oder anderen Gruenden 2 Wohnsitze?" equals "Trennung" or "Scheidung"
- *Divorce date*: F229 "In welchem Jahr [Monat] haben Sie den gemeinsamen Haushalt aufgeloest?"

- *Parents' divorce*: F018 "Haben sich Ihre Eltern seit Ihrer Geburt einmal getrennt oder scheiden lassen?"
- *Age at parents' divorce*: F019 "Wie alt sind Sie damals gewesen?"
- *Parental home*: F016 "Bei wem haben Sie bis zum Alter von 15 Jahren die meiste Zeit (=zur Hauptsache) gelebt?"

USA: "National Survey of Family Growth" 1995

- *Marriage date*: CB-11 "In what month and year were you and your first husband married?"
- *Divorce*: CB-20 "How did your first marriage end?" equals "divorce" or "annulment"
- *Divorce date*: CB-23 "In what month and year did you and your first husband stop living together for the last time?"
- *Parents' divorce*: AO-1 "Did your parents ever separate for 4 months or more months because they were not getting along?"
- *Age at parents' divorce*: AO-2 "How old were you when they first separated for 4 or more months?"
- *Parental home*: AK Several questions about living situation during childhood.

Appendix B: Estimation Results

Table 1: Mean of Covariates and Information on Samples

	Austria	Belgium	Canada	Czech	Estonia	E-Germ	W-Germ	Hungary	Italy	Latvia	Lithu.	Slovenia	Spain	Sweden	Switz.	USA
Divorce of parents																
Parents not divorced	0.90	0.92	0.85	0.84	0.77	0.83	0.89	0.84	0.97	0.78	0.84	0.93	0.96	0.89	0.89	0.75
Child younger than 6	0.04		0.03	0.05		0.06	0.03	0.06	0.01	0.08	0.06	0.02	0.01	0.06	0.03	0.09
Child between 6 and 12	0.02		0.03	0.04		0.05	0.02	0.03	0.00	0.06	0.05	0.02	0.01	0.04	0.03	0.07
Child between 13 and 18	0.02		0.04	0.05		0.04	0.03	0.03	0.01	0.05	0.04	0.02	0.01	0.01	0.03	0.05
Child older than 18	0.02		0.04	0.02		0.02	0.02	0.03	0.01	0.03	0.02	0.01	0.01		0.02	0.04
Parental home																
With Both Parents	0.90	0.95	0.96	0.88	0.86	0.89	0.93	0.87	0.94	0.84	0.85	0.90	0.94	0.87	0.94	0.89
With One Parent Only	0.07	0.04	0.03	0.11	0.13	0.10	0.06	0.12	0.04	0.15	0.13	0.08	0.04	0.11	0.04	0.08
With Neither Parent	0.03	0.01	0.01	0.01	0.00	0.02	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03
Marriage cohorts																
Cohort -1969	0.19		0.21		0.13				0.08	0.08	0.07		0.05		0.08	
Cohort 1970-1974	0.16	0.15	0.14	0.07	0.17	0.12	0.13	0.18	0.18	0.16	0.14	0.17	0.13	0.23	0.15	0.17
Cohort 1975-1979	0.15	0.28	0.15	0.20	0.20	0.26	0.22	0.27	0.19	0.21	0.17	0.24	0.22	0.19	0.17	0.19
Cohort 1980-1984	0.15	0.27	0.18	0.22	0.19	0.30	0.29	0.23	0.18	0.21	0.19	0.21	0.20	0.17	0.18	0.22
Cohort 1985-1989	0.18	0.30	0.16	0.24	0.19	0.32	0.36	0.23	0.18	0.18	0.21	0.22	0.22	0.29	0.23	0.21
Cohort 1990-	0.18		0.15	0.28	0.11			0.10	0.19	0.15	0.22	0.16	0.18	0.12	0.19	0.20
Children																
No children	0.07	0.21	0.16	0.07	0.06	0.07	0.19	0.08	0.12	0.06	0.09	0.04	0.11	0.10	0.16	0.17
First child	0.93	0.79	0.84	0.93	0.94	0.93	0.81	0.92	0.88	0.94	0.91	0.96	0.89	0.90	0.84	0.83
Living together before marriage																
No cohabitation	0.57	0.88	0.81	0.74	0.36	0.66	0.52	0.87	0.94	0.70	0.90	0.70	0.94	0.17	0.45	0.66
Cohabitation	0.43	0.12	0.19	0.26	0.64	0.34	0.48	0.13	0.06	0.30	0.10	0.30	0.06	0.83	0.56	0.34
Age at start living together																
Age women	21.3	21.3	21.9	20.4	21.0	21.3	21.7	20.2	22.7	21.2	21.7	20.9	22.6	21.5	23.0	21.4
Highest level of education																
ISCED 0, 1, or 2	0.27	0.31	0.17	0.49	0.11	0.15	0.51	0.49	0.55	0.07	0.05	0.27	0.75	0.15	0.15	0.18
ISCED 3, or 4	0.55	0.64	0.65	0.42	0.68	0.64	0.43	0.51	0.36	0.71	0.67	0.59	0.19	0.47	0.79	0.61
ISCED 5 or 6	0.18	0.05	0.19	0.09	0.21	0.22	0.07		0.09	0.23	0.27	0.14	0.06	0.38	0.06	0.22
Year of survey	95/96	91/92	95	97	94	92	92	92/93	95/96	95	94/95	94/95	94/95	92/93	94/95	95
Age range	20-54	21-40	15-54	15-44	20-69	20-39	20-39	18-41	20-49	18-49	18-49	15-45	18-49	23-43	20-49	15-44
Female respondents	4581	3235	4166	1735	1918	2984	3012	3554	4824	2699	3000	2798	4021		3881	10847
Married	3377	2437	2668	1279	1424	1996	1626	2829	3260	2146	2311	2005	2693	1880	3087	6844
cases	195	64	277	23	187	272	345	85	99	116	189	54	26	48	35	326
Marriages in sample	3182	2373	2391	1256	1237	1724	1281	2744	3161	2030	2122	1951	2667	1832	3052	6518
Divorced	582	252	701	265	331	346	226	455	168	590	321	145	146	349	471	2310

Table 2: Mean of Covariates when Parents are Divorced

	Austria	Belgium	Canada	Czech	Estonia	E-Germ	W-Germ	Hungary	Italy	Latvia	Lithu.	Slovenia	Spain	Sweden	Switz.	USA
Divorce of parents																
Parents not divorced	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Child younger than 6	0.38		0.22	0.32		0.34	0.30	0.39	0.32	0.36	0.38	0.28	0.21	0.52	0.29	0.36
Child between 6 and 12	0.23		0.23	0.24		0.30	0.21	0.22	0.15	0.29	0.29	0.28	0.17	0.37	0.25	0.29
Child between 13 and 18	0.22		0.24	0.29		0.24	0.28	0.21	0.31	0.22	0.24	0.29	0.25	0.11	0.27	0.21
Child older than 18	0.17		0.30	0.15		0.13	0.21	0.18	0.22	0.13	0.10	0.15	0.36		0.20	0.15
Parental home																
With Both Parents	0.60	0.55	0.82	0.52	0.61	0.55	0.57	0.45	0.46	0.50	0.43	0.52	0.68	0.26	0.70	0.83
With One Parent Only	0.33	0.38	0.17	0.44	0.38	0.41	0.38	0.49	0.43	0.47	0.52	0.43	0.26	0.67	0.22	0.14
With Neither Parent	0.07	0.07	0.01	0.05	0.01	0.04	0.05	0.06	0.11	0.03	0.05	0.05	0.06	0.06	0.09	0.02
Marriage cohorts																
Cohort -1969	0.15		0.16		0.12				0.09	0.06	0.05		0.05		0.08	
Cohort 1970-1974	0.12	0.11	0.11	0.05	0.14	0.08	0.11	0.13	0.18	0.14	0.09	0.14	0.08	0.18	0.10	0.16
Cohort 1975-1979	0.11	0.28	0.13	0.21	0.17	0.21	0.14	0.28	0.16	0.18	0.14	0.24	0.15	0.20	0.11	0.15
Cohort 1980-1984	0.16	0.27	0.22	0.22	0.22	0.33	0.34	0.23	0.20	0.20	0.19	0.19	0.19	0.18	0.16	0.22
Cohort 1985-1989	0.20	0.35	0.20	0.28	0.22	0.37	0.41	0.24	0.15	0.22	0.27	0.30	0.29	0.27	0.29	0.22
Cohort 1990-	0.27		0.19	0.24	0.12			0.11	0.22	0.20	0.27	0.13	0.24	0.18	0.26	0.26
Children																
No children	0.11	0.26	0.13	0.06	0.06	0.07	0.19	0.10	0.12	0.09	0.09	0.04	0.13	0.12	0.19	0.17
First child	0.89	0.74	0.87	0.94	0.94	0.93	0.81	0.90	0.88	0.91	0.91	0.96	0.87	0.88	0.81	0.83
Living together before marriage																
No cohabitation	0.36	0.76	0.67	0.62	0.31	0.55	0.37	0.78	0.87	0.61	0.85	0.55	0.83	0.09	0.35	0.54
Cohabitation	0.64	0.24	0.33	0.38	0.69	0.45	0.63	0.22	0.13	0.39	0.15	0.45	0.17	0.91	0.65	0.46
Age at start living together																
Age women	21.2	20.7	21.3	20.0	20.3	20.9	21.3	20.0	21.4	20.4	21.0	20.9	21.5	20.6	22.7	20.8
Highest level of education																
ISCED 0, 1, or 2	0.26	0.44	0.19	0.56	0.12	0.17	0.54	0.50	0.63	0.08	0.07	0.25	0.79	0.22	0.18	0.22
ISCED 3, or 4	0.57	0.51	0.65	0.38	0.73	0.66	0.40	0.50	0.32	0.77	0.72	0.61	0.17	0.48	0.77	0.63
ISCED 5 or 6	0.17	0.04	0.16	0.06	0.15	0.17	0.06		0.05	0.15	0.21	0.14	0.04	0.30	0.05	0.16
Marriages in sample																
Number	3182	2373	2391	1256	1237	1724	1281	2744	3161	2030	2122	1951	2667	1832	3052	6518
Of which divorced	18%	11%	29%	21%	27%	20%	18%	17%	5%	29%	15%	7%	5%	19%	15%	35%
Marriages with divorced parents																
Number	314	181	348	198	282	288	140	427	91	451	343	129	103	204	347	1603
In % of all marriages	10%	8%	15%	16%	23%	17%	11%	16%	3%	22%	16%	7%	4%	11%	11%	25%
Of which divorced	28%	22%	42%	30%	34%	28%	31%	22%	14%	34%	21%	14%	10%	29%	22%	42%

Table 3: Relative Risk of Divorce (Model 1)

	Austria	Belgium	Canada	Czech	Estonia	E-Germ	W-Germ	Hungary	Italy	Latvia	Lithu.	Slovenia	Spain	Sweden	Switz.	USA
Divorce of parents																
Parents not divorced	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Parents divorced	1.95 ***	2.82 ***	2.09 ***	1.75 ***	1.60 ***	1.80 ***	2.39 ***	1.50 ***	3.20 ***	1.50 ***	1.86 ***	2.22 **	2.18 *	2.06 ***	2.03 ***	1.57 ***
Marriage cohorts																
Cohort -1969	0.65 **	na	0.87	na	1.26	na	na	na	0.42 **	0.99	0.82	na	0.88	na	1.04	na
Cohort 1970-1974	0.79	1.09	1.03	1.61 *	0.88	0.79	1.15	1.30 *	0.55 **	1.06	0.70 *	1.30	0.84	0.96	0.81	1.13 *
Cohort 1975-1979	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cohort 1980-1984	0.98	1.08	1.52 ***	1.18	0.91	1.12	1.16	1.05	0.95	0.66 **	0.91	0.98	1.02	0.92	1.01	0.89 *
Cohort 1985-1989	1.41 *	1.12	1.54 **	1.15	0.71	1.11	2.06 ***	1.12	1.42	0.97	1.06	0.64	1.60	0.98	0.97	0.93
Cohort 1990-	1.91 **	na	2.33 ***	1.95 **	0.28	na	na	2.30 *	1.50	2.23 ***	1.77 *	0.48	3.01 **	1.17	1.20	1.25 *
Constants																
α0 ×1000	0.04 ***	0.03 ***	0.04 ***	0.07 ***	0.16 ***	0.10 ***	0.07 ***	0.07 ***	0.01 ***	0.13 ***	0.05 ***	0.05 ***	0.01 ***	0.08 ***	0.05 ***	0.24 ***
λ	96.7 ***	84.9 ***	124.6 ***	66.5 ***	51.2 ***	60.0 ***	66.5 ***	60.8 ***	123.4 ***	61.4 ***	76.6 ***	48.2 ***	98.1 ***	75.1 ***	83.5 ***	50.9 ***
-log Likelihood	4528	1997	5100	1966	2353	2503	1665	3482	1516	4184	2470	1244	1297	2582	3645	15675
N	3182	2373	2391	1256	1237	1724	1281	2744	3161	2030	2122	1951	2667	1832	3052	6518

Note: Reported are the alpha-parameters of the maximum likelihood-estimation of the sickle model, alpha is the risk of divorce relative to the reference group indicated by a 1. Parameters with (***,**,*) are significantly different from 1 on the 1‰ resp. 1%, 5% - level. *N* is the number of marriages that can be included in all estimated models.

Table 4: Relative Risk of Divorce (Model 2)

	Austria	Belgium	Canada	Czech	Estonia	E-Germ	W-Germ	Hungary	Italy	Latvia	Lithu.	Slovenia	Spain	Sweden	Switz.	USA
Divorce of parents																
Parents not divorced	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Parents divorced	1.80 ***	2.30 ***	2.09 ***	1.45 *	1.50 **	1.57 **	2.50 ***	1.51 **	4.82 ***	1.48 ***	1.79 ***	2.36 **	2.31 *	1.65 *	1.99 ***	1.53 ***
Parental home																
With Both Parents	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
With One Parent Only	1.19	1.70 *	1.02	1.35	1.22	1.48 *	0.86	0.98	0.44	1.01	1.10	0.85	0.57	1.41	1.12	1.29 ***
With Neither Parent	1.63 **	0.99	1.21	2.53 *	1.86	0.71	1.14	1.15	0.19	1.59	0.93	1.13	1.59	0.92	0.99	1.70 ***
Marriage cohorts																
Cohort -1969	0.65 **	na	0.88	na	1.24	na	na	na	0.42 **	1.00	0.81	na	0.88	na	1.04	na
Cohort 1970-1974	0.77	1.07	1.03	1.58 *	0.88	0.79	1.14	1.30 *	0.55 **	1.07	0.69 *	1.30	0.84	0.94	0.81	1.13 *
Cohort 1975-1979	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cohort 1980-1984	0.99	1.07	1.52 ***	1.16	0.92	1.12	1.15	1.05	0.93	0.66 **	0.91	0.98	1.02	0.91	1.02	0.89 *
Cohort 1985-1989	1.42 *	1.11	1.55 **	1.14	0.71	1.11	2.07 ***	1.12	1.40	0.98	1.05	0.64	1.61	0.96	0.97	0.93
Cohort 1990-	1.93 ***	na	2.33 ***	1.94 **	0.28	na	na	2.31 *	1.46	2.25 ***	1.76 *	0.48	3.04 **	1.16	1.20	1.25 *
Constants																
α0 ×1000	0.04 ***	0.03 ***	0.04 ***	0.07 ***	0.16 ***	0.10 ***	0.07 ***	0.07 ***	0.01 ***	0.13 ***	0.05 ***	0.05 ***	0.01 ***	0.08 ***	0.05 ***	0.23 ***
λ	96.7 ***	85.2 ***	124.5 ***	66.8 ***	51.2 ***	60.1 ***	66.5 ***	60.8 ***	123.6 ***	61.4 ***	76.6 ***	48.2 ***	98.1 ***	75.3 ***	83.5 ***	51.1 ***
-log Likelihood	4524	1995	5099	1963	2351	2501	1665	3482	1512	4183	2470	1244	1295	2580	3645	15660
N	3182	2373	2391	1256	1237	1724	1281	2744	3161	2030	2122	1951	2667	1832	3052	6518

Note: Reported are the alpha-parameters of the maximum likelihood-estimation of the sickle model, alpha is the risk of divorce relative to the reference group indicated by a 1. Parameters with (***,**,*) are significantly different from 1 on the 1‰ resp. 1%, 5% - level. *N* is the number of marriages that can be included in all estimated models.

Table 5: Relative Risk of Divorce (Model 3)

	Austria	Belgium	Canada	Czech	Estonia	E-Germ	W-Germ	Hungary	Italy	Latvia	Lithu.	Slovenia	Spain	Sweden	Switz.	USA
Divorce of parents																
Parents not divorced	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Parents divorced	1.69 ***	2.06 ***	1.92 ***	1.27	1.37 *	1.49 **	2.38 ***	1.41 *	4.33 ***	1.38 **	1.68 **	2.18 **	1.83	1.58 *	1.89 ***	1.36 ***
Parental home																
With Both Parents	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
With One Parent Only	1.15	1.38	1.04	1.36	1.25	1.43 *	0.82	0.93	0.39 *	0.98	1.10	0.88	0.62	1.41	1.04	1.21 **
With Neither Parent	1.65 **	0.48	1.16	2.72 *	1.81	0.57	1.14	1.05	0.16	1.43	0.85	1.03	1.52	0.81	0.89	1.53 ***
Marriage cohorts																
Cohort -1969	0.64 ***	na	0.81	na	1.14	na	na	na	0.38 **	0.81	0.62 *	na	0.75	na	1.11	na
Cohort 1970-1974	0.79	0.89	1.02	1.27	0.89	0.77	1.06	1.20	0.59 *	1.03	0.65 *	1.17	0.87	0.91	0.85	1.01
Cohort 1975-1979	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cohort 1980-1984	1.03	1.15	1.58 ***	1.28	0.88	1.10	1.26	1.11	0.92	0.69 **	0.96	0.99	0.96	0.95	1.03	0.98
Cohort 1985-1989	1.54 **	1.05	1.71 ***	1.34	0.68	1.06	2.26 ***	1.06	1.32	1.00	1.10	0.70	1.44	1.05	0.95	1.09
Cohort 1990-	2.18 ***	na	2.44 ***	1.94 **	0.22 *	na	na	1.68	1.10	1.99 ***	1.45	0.54	2.55 *	1.12	1.11	1.57 ***
Children																
No children	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
First child	0.56 ***	0.44 ***	0.62 ***	0.53 **	0.45 ***	0.91	0.71 *	0.34 ***	0.27 ***	0.45 ***	0.39 ***	0.36 ***	0.51 **	0.40 ***	0.48 ***	0.75 ***
Living together before marriage																
No cohabitation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cohabitation	1.06	2.50 ***	1.32 *	1.57 ***	1.26	1.54 ***	1.21	1.64 ***	2.57 ***	0.99	1.73 **	1.17	2.53 ***	1.08	1.40 **	1.27 ***
Age at start of union																
Age women	0.90 ***	0.83 ***	0.95 ***	0.89 ***	0.92 ***	0.96	0.94 *	0.93 ***	0.89 ***	0.89 ***	0.93 ***	0.84 ***	0.86 ***	0.96 *	0.95 **	0.92 ***
Highest level of education																
ISCED 0, 1, or 2	1.25 *	1.00	1.14	1.32 *	1.01	1.42 *	1.05	1.04	0.60 **	1.05	1.68 **	0.89	0.51 ***	0.98	1.15	1.15
ISCED 3, or 4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ISCED 5 or 6	0.92	0.71	1.02	0.67	0.96	0.96	1.00	na	1.82 *	1.10	1.15	1.87 **	1.14	1.00	1.36	0.80
Constants																
α0 ×1000	0.52 ***	2.08 ***	0.17 ***	0.90 ***	1.63 ***	0.19 ***	0.27 ***	0.58 ***	0.43 ***	2.49 ***	0.46 ***	3.17 ***	0.80 ***	0.31 ***	0.17 ***	1.51 ***
λ	104.8 ***	113.6 ***	144.0 ***	71.8 ***	55.5 ***	61.5 ***	71.2 ***	74.2 ***	170.0 ***	68.1 ***	89.2 ***	52.6 ***	110.6 ***	86.0 ***	95.7 ***	54.1 ***
-log Likelihood	4479	1955	5071	1937	2330	2488	1658	3432	1469	4141	2440	1224	1266	2559	3610	15526
N	3182	2373	2391	1256	1237	1724	1281	2744	3161	2030	2122	1951	2667	1832	3052	6518

Note: Reported are the alpha-parameters of the maximum likelihood-estimation of the sickle model, alpha is the risk of divorce relative to the reference group indicated by a 1. Parameters with (***,**,*) are significantly different from 1 on the 1‰ resp. 1%, 5% - level. *N* is the number of marriages that can be included in all estimated models.

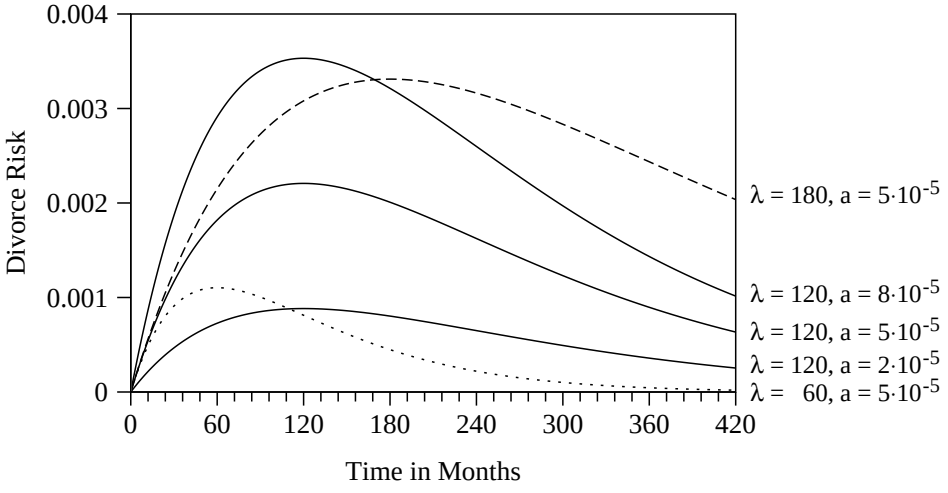
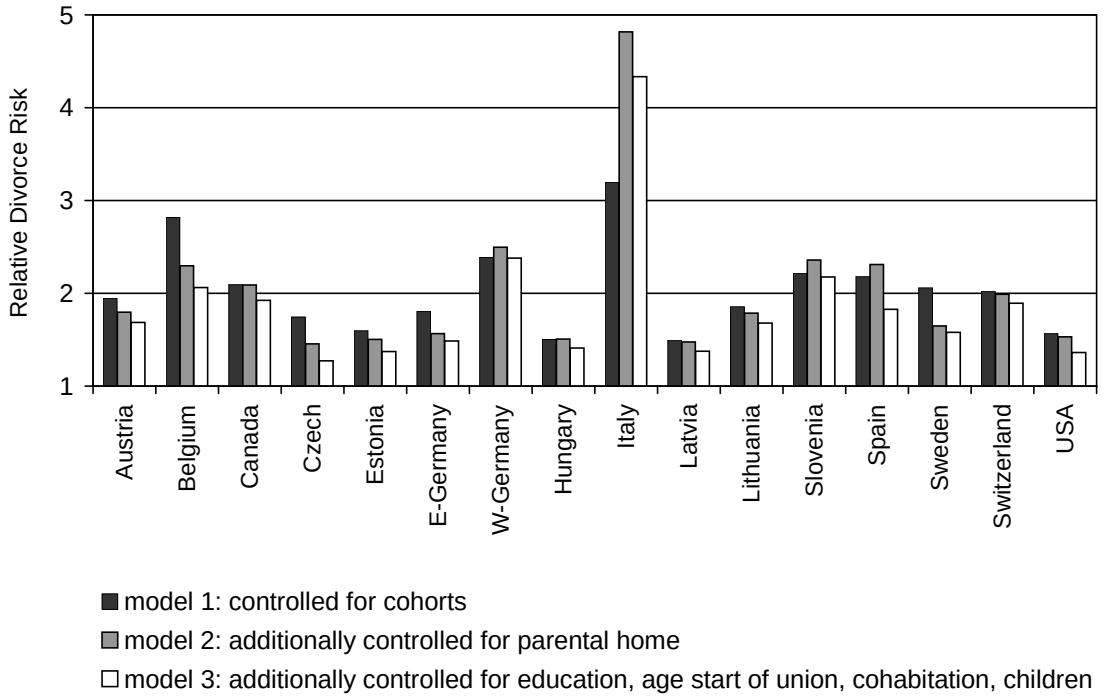


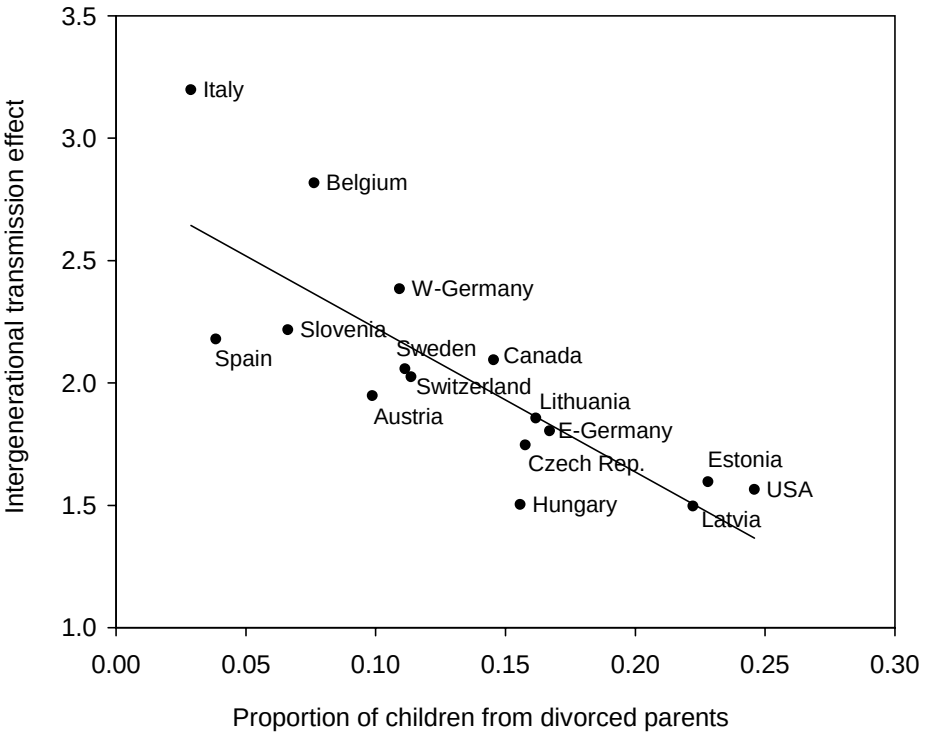
Figure 1: The Divorce Risk Function of the Sickle Model



■ model 1: controlled for cohorts

■ model 2: additionally controlled for parental home

□ model 3: additionally controlled for education, age start of union, cohabitation, children


Intergenerational transmission effect
3.5
3.0
2.5
2.0
1.5
1.0
0.00
0.05
0.10
0.15
0.20
0.25
0.30
Proportion of children from divorced parents
Italy
Belgium
W-Germany
Slovenia
Spain
Sweden
Canada
Switzerland
Austria
Lithuania
E-Germany
Czech Rep.
Estonia
USA
Hungary
Latvia