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Divorce and Marital Dissolution in the Czech Republic and in Austria – The Role of Premarital Cohabitation

Diploma Thesis

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Prague 2003

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Abstract

The thesis analyses the process of divorce and marital dissolution in the Czech Republic and in Austria using advanced methods of event history analysis. The life course perspective of the unique data set of Fertility and Family Survey allows finding important determinants of the process with the focus on individual and partnership characteristics representing the level of individualisation and autonomy. Central importance of the thesis is given to the phenomenon of premarital cohabitation and its role in subsequent marital stability. Marital disruption is further connected to the previous processes of the life stage – leaving parental home and union formation.

Advanced statistical analysis uncovered the mediating individual and partnership characteristics to be the main mechanism of the association between the experience of premarital partnership and subsequently elevated risk of marital breakdown in Austria. Part of the adverse outcome of premarital cohabitation was also explained by the earlier age at union initiation as compared to the age at marriage. In the Czech Republic, in addition to mediating characteristics and intervening behaviours, the self-selection was found to be an important source of the adverse outcome; after controlling for self-selection, premarital cohabitation were on the contrary assigned a beneficial impact on subsequent marital stability, caused by informational function of premarital mate-searching. The differences between the results of both societies led us to a conclusion that in the Czech Republic direct marriage is still perceived as a normal behaviour and the phenomena of cohabitation as a stage of partnership preceding marriage is spreading just recently, while in Austria the cohabitation as both prelude and an alternative to marriage is already well established.

The role of most of the explanatory covariates was found according to previous findings of cited social researchers. As a new finding, high marital instability was identified among persons living independently before union formation. The mechanism of strong pervasive impact of experiencing parental divorce on subsequent life stages was left uncovered. Period increase in the risk of marital disruption was explained by progress in marital instability across birth cohorts.

In summary, the thesis utilises new methods, processes a unique data set and publishes important and interesting results that among others contribute to the understanding of the new phenomena of premarital cohabitation as a conductive and indivisible part of the modern partnership.

Acknowledgement

I am thankful to Dr. Jitka Rychtaříková for her assistance and help during my study at the Department of Demography and Geodemography, Faculty of Science, Charles University in Prague. I would also like to thank Prof. Jan M. Hoem, Dr. Gerda Neyer, Dr. Francesco Billari and Dr. Gunnar Andersson from the Max Planck Institute for Demographic Research in Rostock, where a part of the thesis was written during my study stay. Finally I thank the Advisory Group of the FFS programme of comparative research for its permission to use the original FFS data on which this study is based.

I hereby declare that this diploma thesis is completely my own work and that I used only the cited sources.

November 2003 Kryštof Zeman

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I INTRODUCTION

Demography is a scientific discipline studying the reproduction of populations. As the human reproduction of modern European civilization is generally located into monogamous partnerships that are socially institutionalised in the act of marriage, the process is closely related to the process of nuptiality and also to the phenomenon of marital divorce and dissolution.[1] While marital divorce is defined as a juridical act that terminates the marriage, marital dissolution is a breakage of a partnership *de facto*. However, both types of the disruption of partnership are understood as pathological phenomena of the contemporary society. From a marginal and rare phenomenon, divorce has gradually become a serious social problem during the twentieth century. The preconditions for the spread of marital disruptions emerged along with the modernisation of the society: transformation of traditional extended family, secularisation of the society, sexual and contraceptive revolution and the first demographic transition encompassing the decline in fertility rates weakened enrooted family values of the European societies. Second half of the twentieth century brought along the increase of personal freedom accompanied by the ideational change towards individualism and self-fulfilment (Lesthaeghe, 1995). The move towards individualism[2] further weakened the family as an institution. The accent has shifted from the family life and child orientedness to the personal development and self-orientation. The procreation and lineage continuation strategy concentrated on a small number of offspring: “In modern culture, larger societal mechanisms have taken most of the earlier family functions providing material need satisfaction; consequently, it is now in the interest of the individual to have a small number of children, – as many as necessary to satisfy emotional parental needs, well-balanced with the material and immaterial burden of having and raising children ... the nuclear family ties, based on emotional bonds almost exclusively, have now become much more vulnerable” (Cliquet, 1991: 27). Behavioural changes labelled as second demographic transition (Van de Kaa, 1987) and characterised by the shifts from the golden age of marriage to the dawn of cohabitation, from an era of the king-child with parents to that of the king-pair with a child, from preventive contraception to self-fulfilling conception and by

[1] The association has recently been undermined by the spread of the phenomena of cohabitation and non-marital childbearing.
[2] The ‘individualism’ should not be perceived as opposed to ‘altruism’. The meaning of the world is rather in the sense of self-development and emancipation than selfishness or egocentricity (Cliquet, 1991: 28).

the decline of fertility below replacement level, flew into unprecedented spread of marital disruptions in a large-scale. Legislation has gradually adapted to the changes, concentrating on the minimisation of the adverse outcomes of disruptions of families that failed to serve its function rather than to the restriction of divorces.

Simultaneously, marital disruption has become an important subject of demographic, sociological, psychological and economic research. Traditional demographic data sources – transversal vital statistics and population censuses – provided the numbers and structures of divorced people. However, such official statistics usually recorded just the more visible side of the problem – legal divorces. The numerous marital dissolutions that for subjective or objective reasons did not obtain legal divorce remained out of the research focus. At the same time, social scientists shifted their orientation towards longitudinal research. The life course perspective offered an opportunity to link demographic events to other aspects of life that affect the demographic behaviour of individuals, to associate changes at macro-level to the events at the micro-level and to uncover causal mechanisms involved in the processes (Willekens, 1999). Event-oriented retrospective surveys provided the data for the analyses that use event history techniques.

We take the advantage of the opportunity of exploiting unique data set of Fertility and Family Survey program utilising advanced statistical techniques of event history methods. Our task is to analyse the marital dissolution process in the Czech Republic; as a benchmark we selected the neighbouring society of Austria, with close historical links and shared tradition of relatively high levels of marital divorce, but with different societal development in the second half of the twentieth century. The level of education, religious affiliation, individual age and duration of marriage are among determinants of marital stability that can be easily extracted from traditional demographic data sources. But the marital dissolution is a complex phenomenon that incorporates also the influence of previous respondent's life stages, the development of an individual in childhood, the conditions of growing up and first steps of independent living after reaching maturity. The process of mate searching and partnership building and fertility history of the union are imprinted into the stability of the marital union as well. In the case of second and further unions, the experience of previous partnership/s has also its influence on marital behaviour. Age at marriage or union formation, birth cohort, duration of marriage, historical period and actual age are among time dimensions that are essential for the understanding of the process.

I.1 Problem definition

The thesis analyses the processes of divorce and marital dissolution using advanced methods of event history analysis. The life course perspective helps to determine important associations and to link the process of marital disruption to the previous processes of the life stage. The parametric modelling allows identifying important time dimension in the age-period-cohort time space for the timing of disruptions in the Czech society. In the era of profound social, economic and demographic changes, like in the Czech Republic of the 1990s, the time dimension of the process acquires special interest: we test, whether the changes in marital disruption behaviour are triggered rather by cohort or by period change. The comparison with Austria puts the process into European context not only concerning the quantity and quality, but also in respect to the role of underlying factors. Non-parametric modelling separates important explanatory variables from the unimportant ones, uncovering spurious dependencies and rejecting short-sighted statements.

The main focus of the thesis is given to the problem of premarital cohabitation, viewed from the position of individuality and partnership development. Usually established finding of the adverse outcome of premarital cohabitation for marital stability is devoted in-depth analysis, distinguishing between direct and indirect effects and controlling for the role of both observed and unobserved heterogeneity, selection and self-selection. Related processes of union formation and leaving parental home are later on incorporated into the model to disentangle the process of marital disruption in a more sophisticated way.

Among other issues of the marital dissolution process we put emphasis on intergenerational transmission of marital instability and the role of personal characteristics covering the impact of individuality and autonomy.

Previous work of European and American social researchers and demographers is followed, utilising the theory and methods and following offered recommendations. Presented results and conclusions were verified in the Czech area and compared with the results for Austria. The comparison with Austria also helps to determine the role of premarital cohabitation and other related phenomena in societies, which differ in the onset of the second demographic transition.[3]

I.2 Scientific relevance

Our results can contribute to the understanding of the problem of marital breakage in the Czech Republic, bringing new insights into problem, explaining the process in the atmosphere of changing society on the threshold of the twenty-first century and disproving some commonly shared misunderstandings and false beliefs.

The thesis helps to comprehend the recent phenomena of premarital cohabitation and its role in both marital formation and marital disruption processes. The premarital cohabitation is first mapped through the societies under study, summarising available data on this difficultly recordable process. Advanced statistical analysis based on individual event-oriented retrospective data then allows disentangling the effect of cohabitation in a more sophisticated way, yielding interesting conclusions and contributing to the understanding of the phenomena as a conductive and indivisible part of modern partnership.

So far, marital disruption was not analysed using the methods of event history analysis in the Czech Republic.[4] Generally, event history theory and methods have been just rarely utilised in Czech demographic research. Their introduction in this thesis may contribute to broader interest in the event history techniques. Also, the introduction of aML and TDA software packages with examples of program scripting may be particularly helpful for reader interested in practical implementation of event history analysis. Analysed data compose only part of the rich Fertility and Family Survey sample, which offers further opportunities for exploiting new knowledge about demographic behaviour of the Czech society.

Moreover, chapter IV utilises the sickle model with starting threshold, developed by Francesco Billari only in 2001. We probe its applicability to the analysis of demographic phenomena, particularly to the study of marital disruption.

In summary, the contribution of this thesis is the utilisation of new methods, processing of unique data set and publication of inspiring results.

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[3] The second demographic transition here denotes the diffusion of recent new behaviours (including non-marital partnerships) and their gaining of social acceptance.

[4] Limited results for the Czech Republic and Austria were published in several international analysis of marital disruption behaviour using FFS survey and EHA techniques (Kiernan, 2001; Diekmann and Schmidheiny, 2002; Dourleijn and Liefbroer, 2002). The only similar country-specific analysis known to us is Doblhammer et al. (1997) for Austria.

I.3 The layout of the study

In chapter II we bring first insight into the problem, introducing the socio-economic and demographic background of the societies under study. Vital statistics are used for the overview of nuptiality, fertility and divorce trends since the 1950s with the connection to the social and economic development. Substantial part of the chapter is dedicated to the phenomena of non-marital cohabitation and childbearing. We have collected data from diverse sources to describe the spread of the phenomena during last decades. Moreover, the family and divorce legislation is mapped and the societal attitudes towards marital disruption and other demographic phenomena are presented. The chapter also includes the overview of a previous research into marital disruption in Austria and in the Czech Republic.

Chapter III poses the theoretical basis and introduces the tools used in the thesis. First section of the chapter describes the methods of event history analysis and develops a statistical methodology posed on the concept of a life course. Non-parametric descriptive methods and transition rate models are described with the focus on Kaplan-Meier estimator, Sickle parametric model and hazard regression model. The method of maximum likelihood estimation is introduced and the problem of unobserved heterogeneity is discussed. Second section introduces the Fertility and Family Survey program and brings the overview and basic statistics of the data. Third section reports theories of marital formation and dissolution, builds the hypothesis and assumptions and introduces the set of explanatory and control variables. The role of time is explicitly discussed in section III.4.

The core of the thesis comprises from analysis in chapters IV and V. Section IV.1 analyses the change in the pace of the process of marital disruption, triggered by the transformation of Czech society after 1989, distinguishing between the cohort and the period interpretation of the change with the use of Kaplan-Meier estimator. Section IV.2 further elaborates the problem: the change in the role of several explanatory variables is examined utilising standard sickle model. Further, the sickle model with starting threshold disentangles the role of covariates in a more sophisticated way, examining not only the impact on the probability of disruption but also their effect on the timing of marital breakage. Chapter V uses hazard regression modelling. First, the role of personal characteristics and premarital cohabitation is examined using simple hazard model. Later we implement the joint probit-hazard

model of marital disruption with related processes to control for self-selection and unobserved heterogeneity.

Chapter VI draws a general conclusion and discusses the relevance of the results of the thesis. The list of references, all figures and part of the tables[5] are located at the back of the volume. Appendix comprises of a brief instruction for using aML and TDA statistical software and presents the program scripts used for our analysis.

[5] Tables in text are numbered by Roman numeral of the chapter followed by the Arabic sequence number. Large tables, denoted by letter T and the sequence number, are located in section Tables. All graphs are located in section Figures.

II BACKGROUND

II.1 CZECH REPUBLIC

The Czech Republic, until 1993 a part of Czechoslovakia, has always ranked among demographically most developed countries in Europe. The demographic transition has proceeded in the late 19th century and finished around 1930. The demographic regime during the period of 'First Republic' (1918 to 1938) was comparable to the most developed Western democracies. The Czech Lands were affected by world economic crisis of the 1930s that reflected in unprecedented low total fertility rates (1.66 in 1936). The annexe by German Third Empire in 1938-39 led to the escape into the family, with the consequent marriage and baby boom.

After the Second World War, a totalitarian regime similar to that in other countries of the Soviet bloc was established in Czechoslovakia. Communist party installed a firm control over the society, promising to radically rebuild it and modernise it and get rid of the old system of social stratification. Forced secularisation was supported by a radical anti-religious ideology. Extensive industrialisation based on heavy industry created the need for a new workforce. As a result, women were strongly encouraged to participate in the labour force. Nevertheless, the traditional gender role in family remained unchanged and was incorporated into the double role of the new 'socialist woman' – the working mother. Strong egalitarianism and paternalistic care eradicated the most extreme social inequalities and led to a limited increase in living standards and health care. Liberal legislation on divorce (1950) and abortion (1957) paved the way to the first changes commonly associated with the second demographic transition: increasing divorce rates, further decrease in higher-order birth rates and availability of abortion on request (Sobotka et al., 2003). In the 1960s the modern contraception (the pill and the IUD) was introduced, however the quality and availability lingered on low level and in fact the only widespread contraception of the socialist era (apart of natural methods) was the condom. Also information concerning sex and reproduction generally remained in short supply, leading to excessive use of abortion and relatively high prevalence of unwanted and mistimed births and 'shotgun marriages'. Abortion was relatively easily accessible and generally accepted, particularly as a means of

fertility limitation (a sort of 'ex-post' contraception) among women who already gave birth to the desired number of children (Zeman, 2001).

The social and political crisis of the 1960s was accompanied by the decline of fertility rates well below the replacement level. Czech society experienced a period of limited democratisation. In some sense, the second half of the 1960s was comparable to Western European societies; it was a time of a profound social change and even higher expectations.

After the political crisis in 1968 and the tightening control over society under the Soviet occupation, Czech society reacted yet another time by embracing family values, and the 'escape into the family' was further supported by pronatalist measures. The double role of women was facilitated by a fairly long maternal leave and by a broad network of public childcare facilities and kindergartens. In 1968, the maternal leave, at almost full pay, was extended from 18 for 26 weeks, and since 1970 the system of maternity grants provided an optional extended maternal leave until first birthday of a child. Since 1972 this leave was available until second birthday, supporting thus the widespread model of fertility, when young women gave birth to a second child soon (until two years) after first childbirth. The higher-order fertility was enforced also by childcare allowances for children of second and higher order, raised in 1973. In the same year the low-interest loans for newly-weds under age 30 with the possibility of amortization after childbirth were introduced (Frejka, 1980; Pavlík et al., 1986).

Official pronatalism was primarily politically and economically motivated; social and demographic factors played only a minor role (Kučera, 1994). Under the bureaucratic distribution of housing, the formation of a family was the easiest option for young people to move out of their parental home. Childless women and unmarried couples had virtually no chance of obtaining a flat.

Over the 1970s and 1980s, the political system was primarily focused on its own conservation (Stloukal, 1996: 4). While these two decades saw a broadening of individual autonomy and value changes in Western Europe, the extension of individual freedom was impossible in the Czech Republic. Czech society retained many characteristics of traditional and patriarchal societies (Možný and Rabušic, 1999: 109).

The population behaviour during the era of real socialism gradually evolved into the regime that could be labelled as 'extensive' (see table T.1). High fertility and universal nuptiality, commonly in very young ages, were soon accompanied by a

large prevalence of pre-marital conceptions as well as a high frequency of abortion and divorce rates. Only 5-10% of women born in the 1940s and 1950s have never married and a similar proportion has remained childless. The ideal of the two-child family was strongly entrenched in the society – more than 55% of women born in the 1950s had two children at the end of their reproductive lives (Sobotka et al., 2003). Highly secularised, but also increasingly pragmatic (Fialová and Kučera, 1997: 100; Rychtaříková, 2000: 101) Czech society had gradually become tolerant towards certain forms of non-traditional family behaviour, accepting abortion, divorce and single motherhood. Paradoxically, the totalitarian period paved the way to rapid demographic changes over the 1990s.

After the fall of communism in 1989 and the dissolution of Czechoslovakia into the Czech and the Slovak Republic in 1993, the central-planned economy was transformed into the market economy. It implied a less family-friendly labour market and national income redistribution, as well as the economic uncertainty and deteriorating social and economic conditions. However, Czech living standards were not affected to such an extent, as in some other Central-Eastern European countries and the rates of inflation and unemployment were quite moderate in the 1990s. Czech economy has recovered relatively fast after the shocks caused by the implementation of market economy, and the levels of real GDP as well as real wages exceeded the pre-transition levels (1989) in 2000 (Sobotka et al., 2003).

The economic and social changes were instantly accompanied by the transition of demographic behaviour and by diminishing regularity and uniformity of demographic schedules. Fertility and marriage rates fell on lowest-low levels, followed by the decline in the number of abortions. In contrast with Eastern-European post-communist countries, the 1990s also saw a considerable decline in mortality, stagnating or improving only slightly over the previous two decades. The only behaviour that did not display substantial change was the marital dissolution. Much less people are entering marriage, but those who still marry, dissolve with the same or even higher risk than previous cohorts.

The double role of Czech mothers remains to a large extent unchanged even after 1989 and there is no aim for a change among older generations. The high female employment have continued in the 1990s; women still make around 45% of workforce and female labour force participation rate lingers on 51-52%; at age 30-44 even on 84-88% (CZSO, 2003b). As opposed to the situation in Western Europe, a

large majority of employed women works full time.[6] The conflict between the work and the family is a gender stereotype deep rooted in social conditions and settings, and is generally considered as a main problem and main characteristic of lives of contemporary Czech women (Křížková, 2002: 149). Generally accepted gender role of husband is professional career and financing of the household, while the required role of wife is cooking, cleaning, shopping and child care. Such setting of gender division of roles was until the 1990s confirmed in the state social policy. In 1996, 59% of men and 49% of women agreed with the statement that "Man should earn the money and woman should look after the house" (Křížková, 1999: 205), however the majority opinion considered managing both the work and the family as very difficult, if not impossible (Křížková, 2002: 149). Average Czech wife spends 25 hours a week house working, while husband just 10 hours (ISSP, 1996). As a consequence of women's responsibility for majority of housework, their paid work is less valued on the labour market – the average wage of women is 30% lower than that of men (Křížková, 2002: 154). Young generations, which are postponing marriage and childbearing to older ages, are putting emphasis on the individuality and they do not intend to spend their life in a double role of mothers and housewives on the one side and full-time employees on the other. Members of young generations are focused on education, travelling or career. Populous baby-boom cohorts of the mid-1970s are likely to gradually change stereotypes, norms of behaviour and prejudices deep-rooted in the society. However, the change is likely to be foremost cohort driven, occurring together with the 'dying out' of older generations. Under present conditions, women easily turn to be housewives during their first maternal leave or even during first pregnancy. House works turn into the wife's duty by snowball-effect and they usually remain so even after her return into the job (ibid: 155-156).

From the religious point of view, Czech society can be defined as atheist: in the 2001 Population Census, only 31.7% of people declared that they belong to a religious denomination (26.3% being Catholics), while 58.3% stated that they are without religious affiliation (CZSO, 2003a). In 1999 wave of the European Values Study (EVS, 1999), 46.4% of Czech respondents stated that religion was not important for them at all, highest figure among 36 countries in which the survey was conducted. The percentage of materialists among Czech society is still higher than

[6] While in the countries of European Union the average share of part-time working women is 30%, the figure for the Czech Republic is just 8% (Křížková, 2003).

the share of postmaterialists, but the proportions are changing towards the latter during the nineties. In 1991, 1993 and 1999 surveys were identified 31%, 31% and 24% of materialists and 6%, 9% and 10% of postmaterialists[7], respectively (Rabušic, 2000). Also, the shares are changing in respect of birth cohorts. Among those born in the 1970s, 13% were identified as postmaterialists compared to 19% of materialists (EVS, 1999).

The process of leaving parental home (LPH) can be described as late and non-generalised in the Czech Republic (Billari et al., 2001). The position of Czech Republic in LPH timing is on the forefront of postcommunist countries. The process underwent transformation in the 1990s. From the cohorts born around 1960, only 14% of Czech women left parental home before starting a first union, while 44% did it during wedding and another 31% only after marriage (ibid). Twenty two percent of Fertility and Family Survey (FFS, 1997) respondents left parental home as students, forming an important group of nest-leavers, who experience their first independent living in a higher-education student housing. During socialism, there was also an institution of youth after-school single living, usually connected to job engagement. However, the independent living possibilities of young adults were sorely limited. In fact, there was no distinct stage between finishing education, leaving parental home and entering first marriage.

II.1.1 Marriage, cohabitation and childbearing

During the socialist era, marriage was supported and insisted on a very young age, but on the other hand it was taken as a product of Roman Catholic legislation and a bourgeois society and therefore legislatively 'sabotaged'. The marriage was taken as a landmark between childhood and adulthood and for many young people it was the first independent step in their private life. The total first marriage rate oscillated between 0.9-1 and the mean age of women at first marriage was as low as 21.5 in 1960s-1980s. Premarital pregnancy, often caused by the lack of reliable and modern contraception, frequently led to early marriage. Fertility rates among young people in the 1970s and 1980s were quite high and a second child soon followed the first one.

[7] According to the definition given by Inglehart (1997: 133).

Mean age at first childbirth lingered at 22.5, right one year after marriage; total fertility rate oscillated around two children per woman.

The demographic change over the 1990s constituted a sudden break with the previous characteristics of family and fertility behaviour. Between 1990 and 1996 the total fertility fell from 1.89 to 1.18 and later stabilised below this level. The decline was mostly driven by the postponement of childbearing, which proceeded at an unprecedented pace (Sobotka, 2002; 2003). Between 1992 and 2000 the mean age of mothers at first birth, which had been very stable for decades, increased by 2.4 years, from 22.5 to 24.9 years. Correspondingly, marriages have also been postponed and marriage rates have fallen rapidly. Fertility rates of adolescent women, excessively high as compared to Western Europe, have plummeted over the 1990s. Unlike in the past, when the trends of abortion rates and fertility rates were mutually inverse, abortion rates in the 1990s sank sharply hand in hand with the decline in the birth rates. Between 1990 and 2000 the total induced abortion rate dropped from 1.50 to 0.47 abortions per woman and the total number of conceptions have been reduced by half (Sobotka et al., 2003).

The proportion of children born out of wedlock has more than doubled since 1990, reaching 21.8% in 2000. The proportion of births out of wedlock that oscillated around 15% in the nineteenth century fell to the minimum of 4.4% in 1973-74. Non-marital child was then usually unwanted. Since the 1980s, the share rises again, not necessarily because of unwanted children but increasingly due to intended births out of wedlock. This is indicated by the fact that the rise is significant among older women (25-29 years old), in the big cities, and even among higher ordered births. The mothers are usually cohabiting women, who either marry soon after childbirth (if they did not do it during pregnancy), or even rear their child out of marriage (Možný, 1987).

The proportion of births conceived outside marriage has not changed much over the 1990s, oscillating around 40% of the total births. What has changed substantially is the share of women marrying in order to ‘legitimise’ their soon-to-be-born child. The stable proportion of 80%, who did so in the 1980s, indicated a strong preference for a traditional family at that time. In 2000, contrariwise, more than half of women who became pregnant outside marriage (and finally gave birth to a child) did not marry before childbirth (Sobotka et al., 2003). This proportion has increased so rapidly that it reflects more than a commitment crisis on the partners’ side; it illustrates the declining pressure to bear children within marriage as well as an

increasing preference of some couples to have children while cohabiting. The system of social subsidies favouring unmarried mothers certainly also plays a role.

Cohabitation was not unknown under previous regime, but it was practiced predominantly as a partnership of widowed and previously divorced partners. Substantial part of non-marital unions was composed by married persons, indicating the existence of "dead marriages" (Bartoňová, 1984). While in the 1970 Census, most of non-marital cohabitations were registered among divorced and widowed persons and only 13% of pairs (7.5 thousands) were single persons, in the 2001 Census couples in which both partners were single formed already one quarter of 'factual marriages' (31 thousands pairs – see table II.1). Cohabitation of young, single people was spreading as a premarital stage of partnership since the 1980s. Already in the survey carried during 1985-86 in the Moravian metropolis Brno among 1602 recently married couples, 44.4% stated that they cohabited before marriage[8] and other 29.3% lived together at least during weekends or holidays. The figure was even higher among repeated marriages (when at least one of spouses were divorced or widowed), which were preceded by the premarital cohabitation in 71.8% of cases. The average duration of cohabitation before first marriages was 12.3 months among two single spouses, while it was 21.2 months before remarriage. The hypothesis of a pregnancy as a main agent of transforming the cohabitation into marriage was not proved, since just 22% of cohabiting brides were pregnant at the time of marriage, compared to 44% of non-cohabiting ones. Also the notion of a cohabitation being behaviour of intellectuals or university graduates was impeached by the fact that the higher was the share of cohabitation, the lower was the educational attainment of bride and even of her father (Možný, 1987; Rychtaříková, 1994). Similar survey carried out in 1997 showed that more than half (52.1%) of spouses in the Czech Republic lived together before marriage and every fourth of such couples already had a child (Kostelecký, 1997). Among the factors that reduced the spread of non-marital cohabitations during the socialist era we shell mention the lack of accommodation for young non-married partners and the unfavourable attitude of the society towards non-

[8] In the control sample of two smaller Moravian cities, the figure was 37.1% of premaritally cohabiting newly-weds in Prostějov (50 thousands inhabitants) and 26.0% in Kroměříž (26 th. inh.). Compared with 44.4% of 370 thousands' Brno, one can conclude that the incidence of cohabitations in the middle of the 1980s correlated with the size of occupational area (Možný, 1987).

marital forms of partnerships. Because of the state subventions for young marriages, cohabitation was also economically unfavourable (Rychtaříková, 1994).

Table II.1: Structure of cohabiting couples by marital status, Census 1970-2001, Czech Republic

Marital status of cohabiting (%)	1970	1980	1991	2001
Both single	13.1	5.9	9.8	24.9
Man single - woman divorced or widowed	19.1	13.4	19.4	15.8
Man divorced or widowed - woman single	7.3	4.7	8.1	9.4
Both divorced or widowed	46.5	38.7	60.1	44.4
One or both married or unknown	14.0	37.3	2.6	5.5
N	58062	89423	84934	125269

Sources: Bartoňová (1984); FSU (1992); CZSO (2003a).

The statistical evidence on consensual unions in Czech society is scarce and even the Population Census data cannot be used without caution. The union was considered as 'factual marriage' only if spouses explicitly declared that they lived in cohabitation and at the same time were officially registered at the same place of residence. Because many of young people officially live at parental home or other place or they simply do not want to state that they cohabit, the data are underestimated to an unknown extent (Rychtaříková, 1994; Pištora, 2003). However, the data still show the clear pattern of progression of non-marital cohabitations, even with children, in the course of both calendar time and birth cohorts.[9]

Table II.2: Share of cohabitants among all unions by age of woman, Czech Republic, 1970-2001

	1930	**1970**	**1980**	**1991**	1993	1994	1997	1999	**2001**
15-19	5.6	6.5	6.2	8.4	28.9	28.6	56.5	-	49.3
20-24	2.8	1.9	2.9	3.6	8.2	33.3	19.5	51.6	20.8
25-29	1.9	1.7	2.7	3.0	2.9	8.2	9.9	21.6	8.7
30-34	1.8	1.9	3.0	3.4	4.0	1.9	9.1	8.2	5.7
35-39	2.0	2.1	3.2	3.7	2.9	7.0	6.1	9.7	4.7
40-44	2.0	2.2	2.9	3.6	2.9	8.2	6.0	9.1	4.6
45-49	1.6	2.3	3.5	3.3	-	12.3	-	15.2	4.6
50-54	1.3	2.4	3.5	3.1	-	4.4	-	10.8	4.2
55-59	1.2	2.4	3.7	2.8	-	0.0	-	4.5	3.6
60-64	1.1	2.8	4.1	2.7	-	0.0	-	5.1	3.2
65-69	1.1	3.3	4.4	3.1	-	0.0	-	6.1	3.0
Total	1.8	2.3	3.4	3.4	4.6	9.7	10.2	12.9	5.4

Sources:
1930, 1970, 1980, 1991, 2001: Census (SUS 1934, FSU 1975, 1982, 1992; CZSO 2003a).
1993: Reproductive Health Survey, 15-44 (CZSO, 1995).
1994: Family, 18+ (ISSP, 1994).
1997: Fertility and Family Survey, 15-44 (FFS, 1997).
1999: European Value Survey, 18+ (EVS, 1999).

[9] The data on factual marriages derived from 1970-2001 censuses, as well as from several surveys of the 1990s, are resumed in table II.2.

In 1991, 46% of cohabiting couples had children (table II.3a). The unmarried union was predominantly held by divorced or widowed (60% of all cohabitations) and just 10% of them were held by two single partners (table II.1). The share of non-marital unions among all unions was 3.4%, while this figure was highest among teenage women (15-19: 8.4%), among other age categories the share was 3-4% (table II.2). In 2001, four of ten of cohabiting couples had children (table II.3b). The unmarried union was still more frequent among divorced or widowed (44% of all cohabitations), but in contrast with the previous pattern a quarter of them were held by two single spouses. The percentage of non-married unions among all unions was 5.4%, but among young women aged 15-19 almost half of their unions was non-married and the share among aged 20-24 was 21%. The fast spread of cohabitation is especially apparent from the characteristics of young women until age 29 that form 37% of cohabitations: almost half of them had children (47%) and full 65% of their partnerships were held by single partners (CZSO, 2003a).

Table II.3a: Families in the Czech Republic according to the type and number of minors, Census 1991

Number of minors	Total	0	1	2	3+	childless	with 1 ch.	with 2+ ch.
Marital unions	2427959	1071576	546295	657278	152810	44.1%	22.5%	33.4%
Non-marital unions	84934	45449	19176	13843	6466	53.5%	22.6%	23.9%
Lone parents	254083	-	165971	73424	14688	-	65.3%	34.7%
Cohabitations / all unions	3.4%	4.1%	3.4%	2.1%	4.1%			

Source: FSU (1992).

Table II.3b: Families in the Czech Republic according to the type and number of minors, Census 2001

Number of minors	Total	0	1	2	3+	childless	with 1 ch.	with 2+ ch.
Marital unions	2208323	1168972	445499	500088	93764	52.9%	20.2%	26.9%
Non-marital unions	125269	73850	28181	16448	6790	59.0%	22.5%	18.6%
Lone parents	343405	-	221974	102369	19062	-	64.6%	35.4%
Cohabitations / all unions	5.4%	5.9%	5.9%	3.2%	6.8%			

Source: CZSO (2003a).

Following the geographical distribution, the share of cohabiting was highest among Western and Northern regions of the Czech Lands, where 10% of all couples were cohabiting and almost half of them had children. In Prague, the share was surprisingly under average. The under-representation of cohabitations is probably more pronounced in Prague than in other regions; due to housing shortage, especially young people often unofficially rent state- or municipality-owned flats and do not change their registration when moving. The low share of cohabiters in Prague could be also related to the educational stratification of population:

However there are no available official data on the educational status of cohabiting women, we may estimate the role of the level of education from the statistics of non-marital fertility. The highest share of births out of marriage is clearly among women with basic education; the proportion is lowest among university graduates. Such association between educational attainment and the proportion of cohabiting could originate in the state system of child allowances, which favour unmarried mothers. As the population of Prague is in average more educated than the population of other Czech regions, the explanation of the low share of cohabiting couples in Prague might be related to this phenomenon.

More accurate and less biased statistics on non-marital unions can be derived from several sociological surveys held in the Czech Republic during the 1990s. In 'Family 1994' survey, one third of married women stated that they cohabited before marriage, the figure increasing to 46% of those born in 1960s and 40% among the 1970s' generations (ISSP, 1994). In 'European Value Survey 1999', only 13% of current stable relationships of women were unmarried, but the figure was 33% among 1970s' birth cohorts (EVS, 1999). According to FFS survey data, by the age 20 cohabitation was more common than direct marriage for women born in the period 1973-1977, as opposed to the previous cohorts (FFS, 1997). This trend illustrates the increasing popularity of cohabitation, which gradually replaces early marriage, particularly among younger birth cohorts.

Premarital cohabitation is already perceived as normal in Czech society: in 'Marriage 2002' survey, 55% of respondents agreed with the notion that "it is all right when man and woman live together without being married" (TNSF, 2002). On the other hand, only 24% of the same sample agreed that it is acceptable, when someone has a child outside wedlock. The public opinion still insists on partnership's transformation into marriage in the case of childbearing. In 1997 survey 'Young generation and matrimony' (Fialová and Pikálek, 1997) only single persons aged 18-29 were surveyed: 71% of them agreed with non-married cohabitations but also 81% believed that spouses should marry if they intend to have children. Cohabitation is still perceived as a step towards legal marriage, not a lifelong alternative to it. In 'European Value Survey 1999', only 10% of Czech respondents agreed with the statement "Marriage is an outdated institution", the figure was 15% among those born in the 1960s and 1970s (EVS, 1999). Tolerance towards alternative forms of partnerships does not mean a desire for own living in such a partnership – preferred form of own partnership of young single women is in 92.1% marriage and just in 7.3%

non-marital cohabitation. Interestingly, the proportion of those who intend to live outside marriage is larger for persons originated in disrupted or divorced families or in bigger cities (Hamplová and Pikálková, 2002).

We may conclude that the non-marital cohabitation became commonly accepted and tolerated form of partnership, and the premarital cohabitation became widely utilised norm of formation of marriage and the family in the Czech Republic. Nevertheless, cohabitation can not be considered to be a serious opposition to legal marriage. Cohabitation represents a transitional stage of partnership before marriage, but not a substitute for it. The main precondition for the transformation of young couple partnership from non-married to married one seems to be the possibility of own accommodation (Hamplová and Pikálková, 2002).

II.1.2 Marital dissolution and divorce legislation

Czech society has a long history of quite high rates of marital dissolution and divorce, both *de facto* – including the annulments of marriage – and *de iure* (Prokopec, 1972). Even at present, the Czech Republic ranks among European countries with the highest incidence of divorce (figure 1). The number of annually divorcing marriages was around 5 thousands in the 1930s, 10 thousands in 1950s and 20 thousands around 1970, with respective crude divorce rates 0.5, 1.3 and 2.5 divorces per 1000 inhabitants and the level of total divorce rate that progressed from 10-15% of marriages in the 1950s to about 30% in the 1970s (see figure 2 and table T.1). Years 1963 and 1973 were breaking points of divorce rates. Implementation of simpler and less restrictive divorce legislation caused not only short term jump in total divorce rate (caused especially by ‘dead marriages’ that existed only formally so far), but also a long-term increase in subsequent period (Finková, 1986), enabling divorce to be a quite frequent means of ‘solving’ marital discord. Since the 1980s roughly 30 thousand of marriages are divorced every year, with corresponding crude divorce rate 3‰; and the figures are since that time persistent despite decreasing numbers of marriages and changing structure of population according to marital status. In 1990 there were 9000 extra marriages than in the previous year because of the abandonment of bargain newly-wed loans. The hypothesis of higher divorce risk of the 1990 marriage cohort was not proven: the increase was primarily composed of accelerated marriages planned for the following year.

The level of total divorce rate that further increased in the 1980s reached 38% in 1990. The decrease in annual indicators of divorce in 1991-92 invoked optimistic predictions about falling level of divorce rates in the Czech Republic, but the opposite was true and 1996, when the rumours about new family law preparations indicated accelerated divorcing of disrupted marriages, saw the historically highest indicators of divorce in Czech Lands so far. At the end of the decade the total divorce rate was objected to fluctuations, dropping to 32% in 1999 after implementation of new legislation but rising again to 41% in 2000 and even 45% in 2001. This means that more than four out of ten marriages eventually end in divorce. Along with the postponement of marriages to higher, more mature ages we could expect that the intensity of their breakdown will be less extensive. However, the experience of Scandinavian countries shows rather the opposite. It is then more probable that the proportion of marriages terminated by divorce will be further increasing.

As the main preconditions of high incidence of divorce during the socialist era we place the unnaturally high marriage rates at a young age accompanied by a psychic and moral immaturity. In the prevailing two-child model of fertility, the family fulfilled its main objective while the partners remained young and the potential crisis often led into divorce. Another important cause of high divorce rates was the chronic housing crisis, often forcing the couples to live with their parents. The relative economic independence of women in relation to the full employment policy also played a role (Zeman, 2002a).

The children's loss of complete family is the most serious social problem of marital disruption. In 1990-2000 decade more than 340 thousands of minors[10] have lost one of parent[11] due to divorce. It was almost one quarter of 1.4 million children born in 1980-2000 period (Zeman, 2003).[12] The new legislation from 1998 made above all the divorces of partners with minors more difficult, resulting in the decrease of number of divorces from 32363 in 1998 to 23657 in 1999, when most of the difference was composed right by families with children. But already in 2000 the

[10] We refer to 'depended' children aged 0-17 years, as the Czech statistic sorts divorces according to number of minors.
[11] In 1976 survey of Prague divorces, only in 3.8% of cases children were consigned to father and in 0.8% to other persons, in the rest of 95.4% of divorces children retained with mother (Schüller et al., 1985).
[12] Included 10 years' gap represents the usual duration of marriage at the time of divorce in the Czech Republic.

share of divorced spouses with children again raised back towards the two-thirds share, which was persistent in the Czech statistic in the 1960s-1970s (see table II.4). Due to the fast decline of fertility level in the 1990s the share of one-child families among divorced parents is in increase.

Table II.4: Divorces by number of minors (0-17) in the Czech Republic, 1960-2000

Year	1960	1965	1970	1975	1980	1985	1990	1995	2000
Number of minors in div. family (%)									
0	36.4	34.7	33.2	34.0	29.1	27.6	27.8	29.0	35.8
1	36.0	38.5	42.9	39.9	38.0	36.6	39.6	41.4	37.3
2	19.3	19.4	18.7	21.4	27.5	29.8	27.9	25.7	23.6
3+	8.3	7.4	5.2	4.6	5.5	6.0	4.6	3.9	3.3
Total number of minors involved	13330	16565	20976	25603	30089	35114	35266	32775	28201
Mean number of minors*	1.03	1.03	0.98	0.98	1.11	1.15	1.10	1.05	0.95
Mean number of minors**	1.62	1.57	1.46	1.49	1.56	1.59	1.53	1.48	1.48
Share of divorces with minors	63.6	65.3	66.8	66.0	70.9	72.4	72.2	71.0	64.2
Share of divorces with all children	69.1	72.7	74.3	74.8	77.8	79.3	78.5	-	-

Source: CZSO (1998, 2001).
Note: *...computed from all marriages; **...from marriages with minors.

As shown in table T.2, the maximum risk of marital dissolution is located in the third year of duration since marriage formation, while this interval is shorter for childless couples. The high share of early divorces in the first three years after marriage, caused by high nuptiality in young ages, often under pressure of pregnancy, is declining in the 1990s. Divorces in the first year of marriage, restricted by 1998 law, have mostly simply transposed into the second year.

The maximum of age specific divorce rates of married women is located in 20-24 year of life, some 3-4 years after the nuptiality maximum. Since the 1960s the age distribution of intensities of divorce did not change substantially, as the divorce rates increased proportionally across the age spectrum (table II.5).

Table II.5: Divorce rates per 1000 married women in given age group

Age group	1960	1965	1970	1975	1980	1985	1990	1995	2000
15-19	6.3	9.0	10.6	13.3	13.6	16.6	15.2	13.3	19.5
20-24	10.9	15.5	20.8	21.4	24.0	26.1	30.7	31.0	30.5
25-29	9.6	11.7	16.9	18.9	18.8	22.0	24.5	26.3	27.2
30-34	8.1	8.7	11.2	14.6	15.1	18.4	19.1	20.7	22.7
35-39	7.0	7.8	9.1	10.8	12.2	15.3	16.0	16.4	18.1
40-44	5.5	6.6	7.3	8.8	8.8	11.4	12.3	13.0	13.8
45-49	3.8	4.8	5.4	6.2	5.7	6.7	7.3	7.8	9.7
Total 15-49	7.4	9.2	11.8	13.9	14.4	16.7	17.5	18.0	18.9

Source: CR POPIN and own calculations.

The statistics of divorce according to educational attainment are scarce in the Czech Republic. According to vital statistics, crude divorce rate is lowest among women with basic education and highest among those with secondary education, university graduates having divorce rates in between (CZSO, 2001). Also Běláček (1991) identified negative effect of education on marital stability of women. Contrariwise, Rychtaříková (1983) found by comparing the educational structure of marrying and divorcing that the divorce risk was highest among the individuals with a basic degree of educational attainment, followed by university graduates and the most stable were marriages of secondary educated. Particularly in danger were, however, also couples, where both spouses have university degree.

From the cohort perspective, among marriages contracted in the 1950s one fifth ultimately divorced, from 1960s marriages one fourth was divorced, and from 1970s marriages already one third ultimately divorced. The least successful marital cohorts are those concluded in the 1980s, but since the 1990s the situation was turning better in this respect (see table T.3).

High divorce rates are reflected in the increase in the share of divorced persons in population. According to the 2001 Population Census, 10.4% of women aged 15+ is divorced (table II.6), and this share is growing fast (in 1961 it was only 3% of women, in 1980 5.7% of women). At the age around forty already every sixth woman is divorced.

Table II.6: Distribution of marital status among females older than 15 in the Czech Republic (in %)

	Single	Married	Widowed	Divorced	Ever married
1921	35.7	48.8	14.8	0.6	64.3
1930	31.6	53.5	13.8	1.1	68.4
1950	20.8	62.1	15.0	2.1	79.2
1961	17.5	63.7	15.8	3.0	82.5
1970	17.5	62.2	16.2	4.1	82.5
1980	14.2	63.2	16.9	5.7	85.8
1991	15.7	60.0	16.4	7.9	84.3
2001	20.8	53.7	15.0	10.4	79.2

Source: Census 1921-2001 (in CZSO, 1998; 2003a).

Full third of marriages are concluded by at least one divorced partner; in 13% of cases both spouses are divorced. Subsequently one fifth of divorces are repeated. Previously divorced partners are also more prone to stay in unwed partnership, especially when they have already raised the children (Zeman, 2003).

Divorce applicants are long-term in two thirds of cases women. However, according to the surveys wives are usually forced to apply by the conduct of their husband, so the application is not an intentional decision (Kalibová and Tutterová, 1992). While in 1980 just three quarters of applications led finally to divorce, the figure was 77% in 1990 and 85% in 2000, indicating the trend towards the simplification of juridical praxis. In 1990, one fifth of applicants were reconciled and the share in 2000 was 12%. The survey of 112 reconciled partnerships out of 1712 divorce applications submitted in Prague in 1976-1980 aimed to determine, how stable were such partnerships subsequently: 15% of them were still impaired after next three years of marital duration, 20% were disrupted, 40% were 'stabilised' and 25% worked better than before (Prokopec et al., 1983).

The regional differences in the Czech Republic have weakened since the 1950s, but still the patterns are clear – the risk of divorce is highest in the big cities (Prague, Brno, Ostrava, Pilsen), and in the North and West Bohemia (Zeman, 2003), known as more prone to pathologic social phenomena (due to specific demographic and social history, high mobility, high urbanisation, prevalence of heavy industry etc.) The lowest values were recorded in South Moravia and Jihlava region, where the traditional demographic behaviour originated in Catholic faith is to some extent preserved. The divorce was the strongest indicator of heterogeneity between Czech and Slovak demographic behaviour in former Czechoslovakia (Vereš and Kocurová, 1987).

The utilization of divorce as the means of 'solving' marital discord is being generally accepted in the Czech society. According to 'European Value Survey 1999' the score of divorce acceptance was 5.9 for the Czech Republic on the scale from 1 meaning never accepted to 10 meaning always accepted (Halman, 2001). In 'Family 1994' survey, the notion that divorce is the best solution when couple is not able to solve marital problems were given score 2.5 in scale from 1 (certainly agree) to 5 (certainly disagree), with 28% stating 'certainly agree' and another 26% 'rather agree' and only 7% of those who strongly disagreed (ISSP, 1994). The increasing occurrence of divorces and tolerance towards them led to a rationalisation of divorce behaviour, supported by 'divorce myths'. For example second marriages were sometimes believed to be better than the first ones, which probably cohered with the usual age at marriage: soon divorced first marriages were concluded at premature ages, while second marriages were started at a mature age when the mates could be matched more appropriately. Typical was also the escapist character of a divorce

connected to the wasteful behaviour of the consumerist society. Another rationalisation was to pretend that a divorce was better for the children than a marriage conflict, while it could be true only for minority of couples; usually where the conflict was manifest and strong, it persisted even after divorce (Gjurić, 1981).

The roots of Czech divorce legislation go deep into the past. As early as in 1783 the Joseph's II patent № 117/1783 allowed divorce for Protestants and the separation *a mensa et thoro* ('bed and board' separation) for Catholics (Znamenáčková, 1997). The family law during the nineteenth century was codified by Austrian Civil Code from 1st June 1811, allowing non-Catholics to divorce. Catholic Church allowed just the annulment of marriages. This possibility was used only by the top rank of society, especially in the end of nineteenth century during the economy crisis, when lots of marriages originally conducted for economy reasons were annulled (Prokopec, 1972).

Civil marriage has been made possible in former Czechoslovakia since 1919 by marriage novel № 320/1919, and until 1949 the dissolution of marriage was possible in two steps – the 'bed and board' separation and the divorce. Separated spouses had a duty to keep the marital fidelity and the separation could be cancelled by the mutual agreement of spouses. Even during the period of the First Republic, divorce was used usually by people from higher classes (Prokopec, 1972).

The new legislation after the Second World War was established by family law № 265/1949 valid from 1st January 1950. The law set the divorce as the only form of marital termination, not allowing for separations ever more. 'Deep and permanent disruption of the relationship' was declared as the only legal reason for marital breakdown. Former 'prevalent fault' was replaced by the principle of 'exclusive fault'. The marriage could not be divorced against the will of the guiltless partner, but this rule was relaxed by law provision № 61/1955, which allowed under some circumstances to divorce so-called 'dead marriages' (Tutterová and Rychtaříková, 1989).

The next family legislation was introduced by family law № 94/1963 and by new code of civil law № 99/1963 that came into force on 1st April 1964. The law replaced the 'fault' principle by the principle of 'marriage breakdown'. 'Qualified disruption of relationship between husband and wife' (i.e. disruption of relationship that does not allow the marriage to serve its social function) was recognised as the only reason for divorce. The court was obliged to investigate the causation of divorce

and in the vital statistics ten categories of divorce causes on the side of woman and on the side of man are stated (see summary in table T.4). There is a clear pattern of reordering from serious causes (like alcoholism or brutal treatment), into neutral and socially better acceptable ones, like 'interest, nature, opinion disharmony' or 'other'. Also adultery, scoring as most important cause of marital discord until the 1980s, received much less importance in more recent periods. In 1988, 90% of marriages were in fact divorced after mutual internal agreement of both spouses (Kalibová and Tutterová, 1992: 112). Besides official statistics, survey carried out in 1967-68 has found the men's complaints against differences in budgeting and women's complaints against sexual disharmony as most important 'non-official' pre-divorce factors (Prokopec and Schüller, 1973). The 1964 law also introduced the obligatory arbitration, which was cancelled for lack of success by civil law code novel № 49/1973 (Tutterová and Rychtaříková, 1989).

The new family law № 91/1998 that went into force on 1st August 1998 substantially modified the conditions, upon which the marriage can be divorced. It made the divorces with small children more difficult and restricted the divorces in the first year of marital duration. The most important change was the establishment of the divorce by mutual agreement (Zeman, 2002a). However, the impact of the new law is not covered by FFS data.

With regard to the decrease in the meaning of marriage and the fast spread of cohabitation as an alternative form of partnership, the statistical evidence of marital divorces is losing its relevance. Taken into account that the intensity of nuptiality decreased by 40% in the 1990s, two fifths of marriages are being divorced, and cohabitations, which are spreading instead of marriages, show even higher dissolution risk[13], we are facing the conclusion of the crisis of family in its contemporary form of lifelong monogamy.

II.1.3 Previous research

In 1969 Kučera analysed the divorce of marital cohorts according to the duration of marriage. He found that the presence of children and the age at marriage are crucial

[13] The dissolution of cohabitations is not covered by official statistics; however, several sources report substantially higher instability of non-marital partnerships in relation to marriages (Hoem and Hoem, 1992; Manting, 1994; Doblhammer et al., 1997; Le Bourdais et al., 2000; Kiernan, 2001; Dourlein and Liefbroer, 2002).

for the level of divorce risk. Childless marriages were characterised by a high divorce rate right from the beginning of their existence, with the maximum at 2 years and average duration of 6.7 years (as for 1966-67 period). Interestingly, couples with just one child displayed high rates of divorce in second to fifth year of marriage, and only marital unions with two children had significantly lesser divorce risk. For women, the minimal risk of divorce was found among those, who married at age 21-22, with a bit higher risk afterwards and much higher when marriage was concluded by the age of 19: “The young age of the couple frequently accompanied by a psychic and moral immaturity and an instability of character and views is greatly responsible for the present high rate of divorces in Czechoslovakia” (Kučera, 1969: 134). The higher divorce rates of those married at age 30 and more probably interferes with the higher intensity of marriages of divorced persons among such couples (ibid: 133; Rychtaříková, 1983: 59).

The process of divorce and marital dissolution in the Czech Republic was not investigated using advanced statistical methods or event history analysis so far. The only exception is an article of Běláček (1991), analysing regional differences in divorce rates using analysis of variance. According to his findings, most important divorce risk-increasing factor is the order of marriage and the number of children. Surprisingly, positive effect of age on marital stability was found statistically significant only among men. Negative effect of education on marital stability was detected among women.

In the 1960s-1970s, Czech sociologists organised several surveys on conditions of divorcing or divorced respondents. According to the survey from 1967-68, 58.5% of divorced spouses knew each other less than one year and 28.4% even less than half a year before marriage. Compared with other survey from 1963, where all newly-weds stated that they knew each other less than one year in 32.8% cases and less than half year in 6.0% of cases Prokopec and Schüller (1973) concluded that the risk of divorce is strongly correlated to the duration of pre-marital contact.

Interesting survey was conducted among 1154 divorced couples from 1976 in Prague. Respondents were followed and surveyed three years after divorce. Eighteen percent of spouses then still lived at the same flat, 20% of men have moved back to the parental home, and in 45% of cases, the flat remained to the woman and the former husband has moved out. Men were usually more economically affected than women – while for 43% of men the divorce was economically unfavourable and only for 10% economically advantageous, the loss was responded by 39% of women

and for 26% of them the divorce was advantageous. Majority of disrupted partners aspired for a new partnership, while this was more complicated for women, usually rearing children, than for men – three years after marriage, 27% of women and 37% of men were married and another 7% of men and women lived in cohabitation. But also 26% of women and 18% of men were still afraid of moving to another marriage. About 4% of couples have remarried the same partner (Prokopec et al., 1984).

Since the mid-1990s, Czech demographers have been engaged in a lively debate concerning the origin and the consequences of recent demographic changes in the Czech Republic (summarised in Sobotka et al., 2003). Some of them proposed that the demographic changes might be interpreted as a pragmatic reaction of the Czech population to changing external conditions (Stloukal, 1998; Rychtaříková, 2000), which nevertheless remained different from Western Europe (Rychtaříková, 1997; Stloukal, 1997). Rychtaříková (1996, 2000) emphasised the influence of unfavourable economic factors, pointing out high unemployment, inflation, economic crisis and uncertainty and stressing that "all symptoms seem to indicate crisis behaviour more than intentional choice" (2000: 101). Stloukal (1998: 8) viewed the demographic changes more generally as "the outcome of post-Communist social and economic policies, with shifts in value orientation and long-term reproductive preferences of the people playing (so far) much less important roles". Lorenz et al. (2001) argued that the stress of the labour market restructuring, economic uncertainty and deteriorating social and economic conditions will lead to higher divorce rates.

Opposing the scholars that emphasised the importance of the economic crisis factors, Sobotka with colleagues promoted the "second demographic transition view": "The spread of cohabitation, non-marital childbearing ... or legitimisation of childlessness indicate that it is not a temporary demographic crisis which would ultimately fade away as soon as the economic conditions improve, but a deep behavioural transformation that has been taking place in the Czech Republic over the 1990s" (Sobotka et al., 2003: 271). Also Rabušic (1997; 2001) perceived demographic shifts as an accelerated second demographic transition, driven by cultural changes crystallising among the young cohorts born at the beginning of the 1970s and enabled by the creation of democratic space for individual choice and lifestyle. Fialová and Kučera (1997) stressed the mutual influence of the rapid adaptation to the present pattern of demographic behaviour in Western Europe combined with the pressure of new economic and social conditions.

II.2 AUSTRIA

Austria is the country “between West and East” (Becker et al., 1999), which was inherent in its history during the twentieth century. The huge Austrian-Hungarian Empire persisted until the beginning of the twentieth century, breaking-up only by the First World War. The newly constituted Republic of Austria, representing only 13% of pre-war population, was a “small state in permanent crisis” (ibid: 2) that suffered from hyperinflation, economic crisis and social and political conflicts. From 1938 to 1945 Austria was merged with Nazi Germany. After the Second World War, the compromise between conservatives and social democrats was conducted to avoid pre-war problems and conflicts, institutionalising a neo-corporatist style of governance. The full sovereignty from post-war Soviet occupation was gained only in 1955, conditioning on the declaration of political and military neutrality in the East-West conflict. However, Austria has been economically integrated with Western Europe and also its demographic behaviour followed the development of Western nations. The 1950s and 1960s saw the “golden age of marriage” (Van de Kaa 1987: 4), with historically highest intensities of marriage and fairly high fertility rates, while the 1970s were the beginning of the second demographic transition with the new phenomena of cohabitation, nuptiality and parenthood postponement, and also further progress in divorce rates. Besides the spread of use of modern contraception, induced abortion in first trimester of pregnancy was legalised in 1974.

According to the typology of Esping-Andersen (1999), Austria ranks among conservative-corporatist type of welfare regime, with strong market regulation, social insurance operating welfare state and high degree of familialism (ibid: 85-86). Social policy has been originally inspired by monarchical etatism and Catholic social teachings (ibid: 81), and lot of the spirit of old ‘Kaiserdom’ outlived into the second half of twentieth century, including privileged treatment of the public civil service or high Catholicism. Austria has been for centuries a ‘one-church’ society, with 94% of the population Catholic in 1910 and about 90% in 1970 (Haller, 1977). In 2001 Census, 73.6% Austrian citizens stated their religion as Catholic (Statistics Austria, 2002b).

Since the beginning of the century, Austria has had one of the highest female employment rates in Europe; until the 1960s, around 35-40% of women in working ages were employed (Haller, 1977). Since the end of the 1960s the share went down because of prolonged education of young women, as well as earlier withdrawal of

older women from the employment, benefiting thus from new regulations in the pension system (Neyer, 2003). The decreasing fertility in following decades has reflected into constantly increasing female labour force participation rates, reaching again almost 40% in 2000 (Statistics Austria, 2002a). However, women still spend twice and more as time on household works and bringing up children as men and conventional male breadwinner model is prevailing (Neyer, 2003).

Austria was one of the first European countries that introduced maternity protection. The maternal benefit after delivery 'Wochengeld' was introduced already in 1888. In 1957 maternal leave after protection period was made possible. From 1961 this leave was paid, married women then received half of unemployment benefit while unmarried mothers received full amount. In 1974 special maternity leave payment 'Sondernotstandshilfe' was introduced for unmarried mothers up to child's third birthday if there was lack of public childcare facilities, but since 1984 this privilege has been restricted to non-cohabiting single mothers only. From 1990 the maternity leave is not conditioned on marital but on economic status, and is available for fathers as well (Hoem et al., 2001). There is a principle commitment to maintaining marriage as a distinctive status to cohabitation in Austria, and cohabiting couples enjoy fewer rights than their married counterparts (Barnes, 1997). Childcare supplement was introduced in 1968, in the time of a high demand for labour. 'Kindergartens' for children between age of 3 and 6 are well available and around 70% of children attend them. However, day-care centres for infants under age three as well as after-school activities are rarely available in Austria.[14] Only 5.6% of children under age three attend 'Krippen', and after-school activities are attended by mere 15% of children aged 7-15 (Mikrozensus 1995).

II.2.1 Marriage, cohabitation and childbearing

In the late nineteenth and early twentieth century, marriage was considered a privilege rather than a civil right. A high proportion of population never married – in towns especially particular professions like servants, and among west-Austrian rural societies usually the non-inheriting family members (Neyer, 2003). The average age

[14] Maybe this bears on a fact that Austria has one of the highest rates of home ownership in Europe; almost two thirds of families live in their own flat or house (Neyer, 2003).

of first time marrying women declined from 27 years in the 1930s as low as to 22.7 of the 1974-76 and increased again on 27 by the end of the twentieth century. The intensity of marriage, which reached its peak in 1960, is since that time constantly falling (see table T.5). Exceptions in years 1972, 1983 and 1987 were caused by legislative acts (as depicted later).

On the turn of nineteenth and twentieth century, the total fertility rate was around 4 children in Austria, dropping to 1.5 during the 1930s economic crisis, and increasing to 2.5 during Nazi occupation. The baby boom of the 1960s' era of the king-child catapulted the total fertility rate on the levels above 2.8. TFR fell under the sustainability limit of 2.1 in 1972. Since that time, gradual decrease in fertility ultimately stabilised at levels around 1.3-1.4. However, in 1998 Austrian women had the lowest fertility age compared to the rest of Western Europe (28 years as a mean age at childbirth for all children, 26.1 for first child), just one or two years higher than in the era of early birth-giving of the 1960s-1970s. If Austrian couples decide to have children, they usually have two. The strong two-child preference was found out by both 'Population and Policy Acceptance 1992/3' and FFS 1996 surveys (Neyer, 2003). Jones and Brayfield (1997), using data from 1988, described Austria along with Italy as having favourable attitudes toward the centrality of children, in comparison to the West Germany and other West-European states.

While the share of non-marital childbirths is quite high in Austria (see table II.7), important part of them is still born to single mothers rather than to cohabiting parents. The fertility rates of unmarried women did not change since the 1960s, so the rise in proportion of children born out of wedlock should be attributed to the decline in marriage rates as well as in fertility rates of married women. While around 40% of first children are conceived inside marriage, and this figure is not changing through the second half of the twentieth century, the outcome of the remaining sixty percent has changed substantially. From the maximum of 1960s, when 60% of non-marital conceptions of first child were 'legitimised' before the childbirth, the proportion of 'Muß-Ehen' share is continually decreasing, while the share of first children born outside marriage reached 45% in 2000 (Kytir, 1993; Pfeiffer et al., 1999; Kytir et al., 2002). However, still about a half of the parents of all non-marital children marry during first three years after the child's birth (Neyer, 2003). Majority of children born out of wedlock were traditionally of first order, and only since the 1990s it became more common to bear also a second or third child out of wedlock.

Table II.7: Number of families by type (in thousands) in Austria

Year	1961	1971	1981	1991	1995	2001
Total families	1859.3	1929.0	1986.3	2109.1	2242.2	2284.0
Married	1559.4	1652.3	1647.4	1646.3	1770.7	1762.1
- with children		1064.6	1078.9	1046.4	1093.9	1025.8
Cohabiting	40.7	52.3	81.7	140.1	185.1	224.1
- with children		23.1	32.9	51.8	77.2	94.4
Lone parent	259.2	224.4	257.3	322.8	286.4	297.8
Share of cohabitations among all families	2.5%	3.1%	4.7%	7.8%	9.5%	11.3%
Share of cohabitations with children		44.2%	40.2%	37.0%	41.7%	42.1%

Source: Familienbericht (1979; 1999); Mikrozensus (1995; 2001).

In some alpine regions, cohabitation and procreation within cohabitation had a long history of tolerance (Kytir, 1993; Prinz et al., 1998), displaying anti-clerical resistance. In the second half of the nineteenth century, inner-alpine regions of Styria and Carinthia displayed the share of non-marital births between 70-80%, followed by parts of Salzburg, Tyrol and Upper Austria. The figure in Vienna was around 50%, highest rate of out-of-wedlock births among the European capitals (Mitterauer, 1983). The lowest incidence of non-marital childbearing was in the eastern province of Burgenland and in Vorarlberg, bordering Switzerland. The proportion of married women in 1880 was very low in Carinthia and particularly low in Alpine regions of Salzburg, Tyrol, Styria and Vorarlberg (Coale and Treadway, 1986).[15]

The non-marital partnership was a usual living arrangement of widows (to avoid losing their pension), but it is only a recent phenomenon of last three decades for young couples. The end of 1960s was a start of the period of 'liberation movements from traditional values', when the marriage was delayed and it became popular to leave parental home and to share a flat with other people first. The process of leaving parental home takes place in markedly early age of young adults in Austria (Billari et al., 2001). Austrian young female adults show in average one of the lowest age of LPH (19.1 years) and first union formation (20.7) in Europe (Corijn and Klijzing, 2001). The independent living of young adults is quite frequent, from the cohorts born around 1960 42% of Austrian women left parental home before starting a first union (Billari et al., 2001); 23% of FFS female respondents left parents during studies. For young people the period between leaving parental home and forming a first union became a distinct period of independent living. The proportion of non-

[15] The phenomenon was present also in Alpine regions of Switzerland and France.

marital unions who finally marry is lower, the older the cohabiting woman is – cohabitations of women older than 30 can be already considered to be an alternative to marriage.

In the 1971 merely 2% of population aged 25-39 was cohabiting. During the 1980s, cohabitation was spreading as a new, pre-marital form of partnership, but already in 1974 and 1977 surveys of newly-weds, 32.7% and 45.7% respectively stated that they cohabited before marriage. The proportion then strongly depended on religiosity and the population size of the place of residence. The distribution also denoted traditional regional differences, with highest proportion of premarital cohabitations in Vienna, Carinthia, Styria and Salzburg, and with Burgenland, Lower Austria and Vorarlberg on the bottom (Haslinger, 1981: 27). In 1990, 45% of all marriage applications displayed the same address of the bride and of the groom (Findl, 1991).

More and more young people in Austria prefer cohabitation to legal marriage. However, marriage is still considered a real possibility for the future and only a small proportion of young people generally dismiss marriage (Pfeiffer and Nowak, 2001). While in 1990 European Value Survey wave, 15% of Austrians regarded the marriage as an outdated institution, in 1999 wave it was already 20%, and 66% of respondents did not find children necessary for woman to be fulfilled (Halman, 2001). In ISSP 1994 survey, 75% agreed with the notion that is “good idea for couples, who intend to get married living together first”, but fewer 63% agreed with this behaviour “without intending to get married” (Rupp, 1997). Regional and cultural differences still tend to play a decisive role, as cohabitation gains higher acceptance in big cities and in provinces of Austria with a historical tradition of non-marital partnerships.

Official statistics on cohabitation are underrepresented for several reasons. Cohabiters could reject to report themselves as cohabiting, because of losing certain tax deductions or social benefits (for example for students and single mothers) or reduction of social security benefits and maintenance payments. Therefore, they either form two households, or register one person at another address (Neyer, 2003). The distribution of families by type is shown in the table II.7 while the age distribution of share of female cohabitants among all unions is depicted in table II.8. Although our summaries mix data from different sources based on different statistical concepts, the main pattern of cohabitation spreading not only as a premarital phase of life but also as a distinct new kind of partnership is clear. Even among families with children,

every twelfth was composed by unmarried parents in 2001. According to FFS data, partnerships in Austria form comparably longer non-marital unions in European perspective. Along with Nordic countries, Switzerland and the Netherlands, Austrian women are less oriented for marital life, and they prefer cohabitations to marital unions (Hamplová, 2001: 59).

Table II.8: Share of cohabitants among all unions by age of woman, Austria, 1981-2001

	1981	1985	1989	1996	1998	2001
15-24	23	32	33	59.4	45.3	52.2
25-34	5	5	6	19.8	19.0	22.8
35-39	3	3	3	9.5	9.8	10.9
40-49	3	3	2	6.3	6.4	6.7
50-59	-	2	-	4.2	4.8	5.8
60-69	-	2	-	-	4.1	4.3
70+	-	-	-	-	5.7	5.6
Total		4.2		15.9	10.4	11.3

Sources:
1981, 1989: Kiernan (1993: 22).
1985: Prinz (1995: 75).
1996: Fertility and Family Survey (FFS, 1996).
1998, 2001: Mikrozensus (1998; 2001).

II.2.2 Marital dissolution and divorce legislation

The relatively high divorce rate was always an important characteristic of the Austrian family system. The legislation introduced civil marriage and divorce for the first time in 1938, but this change was not substantial. Even before, Austria showed one of the highest rates of marital breakdown in Europe; the union was then more frequently terminated by dissolution than by legal divorce: “It is ironic that Austria, which before the war had one of the severest forms of marriage law in Europe, had at the same time a higher number of ‘divorces’ than any other country. We should not be deceived by the fact that these divorces were in the strict sense only separations, because these separations were regarded by the public as real divorces” (Haller, 1977: 225). The number of annually divorcing marriages in the 1930s was around 6 thousands, corresponding to 1 divorce per 1000 inhabitants. After the post-war peak (14 thousands divorces in 1948), 8-10 thousands of marriages were divorced annually in 1950s to mid-1970s. Such figure corresponds to crude divorce rate 1.1-1.4‰. Since that time, despite the decline in nuptiality, the absolute and relative indicators of marital divorce have doubled until the end of century. The level of total divorce rate shifted from 1948 post-war peak of 25.3% to 14% in 1960, back to 25% in mid 1970s,

and on about 30% in the 1980s. The 1990s were the decade of fast increase of divorce rates – actually more than four out of ten marriages eventually end in divorce (see table T.5).

In 1990-2000 decade more than 150 thousands of children have been affected by parental discord. “It is evident that marriages without children have high divorce rates, but among those with one child the divorce rate is high also” (Haller, 1977: 236). About 60-65% of divorced partners are parents of children (of any age, not only minors as in the Czech statistics; see table II.9). The proportion of childless wedlocks went down since the 1960s, forming now mere one third of divorcing couples. Notwithstanding the fertility fall, the proportion of one-child families among disrupting decreases in favour of two-children ones – maybe because of the postponement of divorces into longer duration. However, in contrast with the perception that one could get from depicted demographic picture, despite increasing proportions of non-marital unions and out-of-wedlock births and fairly high divorce rates, still more than 80% of Austrian children live together with two parents who are married (Beham et al., 1997).

Table II.9: Divorces by number of all children in Austria, 1960-2000

Year	1960	1965	1970	1975	1980	1985	1990	1995	2000
Number of children in divorced family (%)									
0	40	36	34	34.6	34.6	35.9	37.0	35.5	34.5
1	36	38	37	35.4	34.1	33.6	32.3	30.1	28.7
2	15	17	19	20.1	21.0	22.2	22.8	26.4	27.9
3+	9	9	10	9.9	10.4	8.3	7.8	7.9	8.9
Total number of children involved	7892	8703	11652	12099	15159	16619	17072	19945	22271
Mean number of children*	0.99	1.03	1.13	1.12	1.14	1.07	1.05	1.10	1.14
Mean number of children**	1.65	1.62	1.69	1.72	1.74	1.68	1.66	1.70	1.74
Share of divorces with all children	60.0	64.0	66.0	65.4	65.4	64.1	63.0	64.5	65.5

Sources: Haller (1977); Demographisches Jahrbuch 1993/94/95 (ÖSZ, 1996); Statistische Nachrichten 10/2002 (Kytir et al., 2002).
Note: *...computed from all marriages; **...from marriages with children.

The mean duration of marriage at the time of divorce increased from 9-10 in the 1960s-1970s to 11.5 in 1995. The maximum risk of marital dissolution is, however, still located in third and fourth year of duration of marriage (see table T.6). The maximum of age specific divorce rates is located at age group 20-24.

War marriages from marriage-boom cohorts of 1938-1940 and from 1942-1945 were particularly affected by post-war divorce peak (Haller, 1977). While from marriage cohorts concluded in the 1960s one fifth was ultimately divorced, from 1970s marriages it was already one fourth. The least successful are the wedlocks

enclosed in the 1980-1990. Since that time, the situation is probably slowly improving in this sense (see table T.7).

High divorce rates implicate the increase in the share of divorced persons in population. The share of divorced women in 1961 (3.5%) was the highest from all Western-European countries (Prinz, 1995: 23). According to 2001 Census, 8.6% of women aged 15+ were divorced, while this share is in insistent progress (table II.10). In age around forty, already 14% of women was divorced. During last twenty years, also the share of first-marrying continually decreased. While in the 1970s, 80% of newly-weds were married for the first time and one-fifth of marriages repeated, in the end of the 1990s the share of remarriages was almost one-third. In 10% of cases both spouses were divorced. Subsequently for one fifth of divorcing females the divorce is not a new experience, being already the second one or even of higher order in their lives.

Table II.10: Distribution of marital status among females older than 15 in Austria (in %)

	Single	Married	Widowed	Divorced	Ever married
1880	47.1	42.1	10.7	0.1	52.9
1934	35.6	48.4	13.5	2.5	64.4
1951	27.5	52.5	17.0	3.0	72.5
1961	24.9	53.5	18.1	3.5	75.1
1971	21.9	55.4	18.7	4.0	78.1
1981	24.5	52.8	17.6	5.1	75.5
1991	25.7	51.7	15.9	6.7	74.3
2001	27.1	50.3	14.0	8.6	72.9

Source: Census 1880-2001 (Statistics Austria, 2001; 2002b).

Until 1978, most used paragraph (and cause) of divorce was §49 – 'other serious matrimonial offences', rest of causes were involved in mere 5-10%. Since 1978, when divorce by mutual agreement was introduced, was a new §55A involved in majority of cases, increasing from 70% in 1980s to almost 90% by the end of the century.[16] The proportions of the 'no fault' divorce are almost the same (table T.8). The fault of man has decreased from 18% in the beginning of the eighties to 7% in the end of the 1990s; the fault of woman is recorded in mere 1-2% of cases. The divorce proposal is in around 70% submitted mutually, in 20% by woman and in 10% by man. By the end of the 1970s, nearly two thirds of procedures were settled by

[16] According to Haller (1977: 216), already since 1950s about 90% of all divorces were in fact based on mutual agreement.

divorce, compared with about 55% in the early 1960s; the proportion withdrawn has decreased from around 20% to 12% in 1973 (Haller, 1977: 230).

The divorce rates were extremely low among women working in agriculture (0.8 divorces per 1000 married women in 1970-72), and high in other sectors, particularly among white-collar employees (17.3‰) and manual workers (12.0‰); the figure was 3.7‰ for housewives. According to attained educational level, the incidence of divorce is highest among women with university education and descends accordingly; the lowest incidence is among women with elementary education (Haller, 1977: 238-9).

The regional pattern in Austria is conditioned on the community size. The risk of divorce is extremely high in Vienna, while long-term lowest levels are recorded in Burgenland (with just one city with around 50 thousands of inhabitants).

Tradition of non-marital unions and childbearing, historically high patterns of marital dissolution and development of the family since the Second World War are the causes of recent high divorce rates in Austria. Traditionally high economic independence of women further increased during last 50 years, which can be seen as the major cause for the diminishing inclination towards lifelong partnerships in Austria (Prinz et al., 1998). The Austrian family has changed both in size and in structure, becoming 'nuclear' during last generations. Traditional family values and lifestyles are in a state of rapid transition, as evidenced by the increasing number of people living alone, cohabitations, childless marriages, non-marital births and also divorces. Even though Austria is a predominantly Catholic country, most people have liberal views regarding marriage and divorce. For example in 1966 survey in Salzburg, just 16% of respondents were against divorce in principle (Haller, 1977: 217).

The family law during the nineteenth century was codified by Austrian Civil Code from 1st June 1811, which allowed divorce for Protestants, Jews and people with no religious affiliation, and the separation *a mensa et thoro* ('bed and board' separation, at that time called 'divorce' in Austria) without possibility of remarriage[17] for members of Roman Catholic Church, who constituted a great majority of population. The coexistence of civil and canon law and the struggle of power between the state and Catholic Church in the field of family law were producing marriage law chaos. The differentiating between Catholics and the others was criticised and

contested by liberal and socialist circles. As the law courts were under authority of 'Landes' and 'Kreisgerichts', the juridical practice differed through the country. Burgenland, which became part of Austria in 1921, preserved more liberal Hungarian marriage law. The practice to annul canon impediments was extended. "From 1919, the Governors of some provinces in eastern Austria allowed remarriage of divorced (Catholic) partners simply by administrative edict…situation was considered chaotic" (Haller, 1977: 229).

Current Austrian divorce law is based on legislation enacted in 1938 after annexation of Austria by Nazi Germany. The legislation, same in Austria and in Germany, introduced mandatory civil marriage and divorce and civil remarriage were made possible also for Catholics. The law from 6th July 1938 recognised several reasons for divorce:

- adultery (§47);
- refusal of procreation (§48), including actions taken against the birth of a child, abortion and sterilisation; the contraception and legal abortion were not taken into account, if performed upon the agreement of partner;
- other serious matrimonial offences (§49), like ill-treatment and abuse, alcoholism, inability for normal economic activities, offensive or unnatural sexual wishes etc.;
- health reasons (§51, §52), like grave mental derangement, irreversible mental illness, serious infections or disgusting diseases (could be rejected by §54 if contradicts the principles of matrimonial solidarity);
- dissolution of household for at least three years (§55); if the plaintiff was the guilty party, the other partner could object to divorce (veto power). This last clause was most strongly criticised, because many persons who have been separated for a long time and sometimes also found a new household could not get a divorce of their prior marriage.

The law did not permit divorce by mutual agreement. Remarriage was prohibited for persons divorced for adultery or offence, but the relief was possible to be obtained.

The pre-war heated debates were hindered after the Second World War in order to avoid an open conflict and to seek for harmony in public life. In 1945, new

[17] Austrian Catholics could gain remarriage by becoming Hungarian citizens, as Hungary introduced civil marriage in 1894, allowing Catholics to divorce and remarry (Neyer, 2003).

Austrian state took over the law with only few changes regarding divorce (abolishing infertility as a reason for divorce etc.)

In 1972 the income tax law reform took place, introducing the subsidy of 7500 shillings for every first-marrying person. This caused a marriage boom, because many persons postponed their marriage in 1971. Other marital boom in 1983 was provoked by the spread of rumours about the abandonment of the subsidy. In 1987, the number of marriages increased by two thirds after the announcement that the marriage allowance will be abolished from 1st January 1988 (Findl, 1991).

The new divorce legislation was introduced in the framework of 'grand family law reform' by two laws № 280 from 15th June 1978 and № 303 from 30th June 1978, both entering into force on 1st July 1978 (Commaille et al., 1983). The new legislation left unchanged the majority of the 1938 law, preserving the principle of 'fault'. The bold novelty was made in §55. As in the previous law, the marriage could get divorce if the household was separated for more than 3 years, but if disrupted for more than 6 years, the guiltless partner have lost his right to object to divorce. The most important reform was the introduction of divorce by mutual agreement (§55A) that allowed the married couple to split without reason only by mutual agreement after minimum of 6 months of marriage duration. The marriage reform transformed substantially the former obsolete patriarchal legislation, introducing the partnership principle of equal rights and duties for both spouses. Children born out of wedlock gained equal rights with marital children. Although the fault principle was preserved in Austrian divorce legislation, it has lost its significance. Since 1978 there was no change of divorce legislation until the reform in 1999 (Familienbericht, 1999).

II.2.3 Previous research

Diekmann and Mitter (1984) used Austrian data in their pioneer work on modelling divorce risks as dependent on marital duration using sickle function. Nevertheless, research on marital disruption in Austria is scarce and event history oriented analyses are available almost exclusively as cross-national comparisons.

Results of Austrian Female and Fertility Survey (FFS, 1996) were used for analysis of covariates of first marriage dissolution by Doblhammer et al. (1997), concluding that "younger women, more recent marriage cohorts, women with age at marriage below 20 years, women who experienced a divorce of their parents, women

living in large cities, and a pre-marital child are factors that increase the divorce risks of first marriages. In addition, those who had not lived in a consensual union before marriage and higher education lower the risk of a divorce on average" (ibid: 23). Using FFS data in cross-country analysis, both Kiernan (2001) and Dourleijn and Liefbroer (2002) identified Austria as one of the countries where the effect of premarital cohabitation on marital dissolution is no more significant.

Another utilisation of FFS data was the microsimulation of life course interactions (Spielauer, 2000). School enrolment was found as risk increasing factor and children as risk decreasing factor. However, the risk gradually progressed when youngest child was growing older. Also age and calendar time were found as risk-increasing factors of divorce while the risk went down with increasing duration since marriage formation.

According to Prioux (1993), neither 1972 nor 1983 marriage cohorts have shown any particular tendency to divorce more than neighbouring cohorts have. "A disturbing coincidence remains, however, between the introduction of the first-marriage allowance in 1972 and the upswing in divorce rates that started with marriage cohort 1972" (ibid: 178). In fact wedlocks concluded in marriage boom years 1983 and 1987 display higher stability than neighbouring cohorts. The frequency of divorce rose especially through marriage cohorts 1971-82 and after cohort 1987 (ibid: 181).

II.3 THE CZECH REPUBLIC AND AUSTRIA: Similarities and differences

Austria and the Czech Republic are the neighbouring countries of the Central European region. The close relationship between them is originated deep in a history. Until 1918, both regions were part of the Austro-Hungarian monarchy. While Hungary obtained limited autonomy in 1867, the Czech Lands – most economically advanced and industrially developed part of the Habsburg Empire – remained under the vassalage of Austria, eliciting anti-Austrian climate in Czech society. The Czech fight for independence and the disintegration of monarchist system after the World War I led into the establishment of the Republic of Czechoslovakia and the Austrian Republic in 1918. The period between the wars was partly affected by economic crisis followed by the drop in total fertility rates on levels around 1.5-1.6 and by social and political conflicts, especially in Austria. The expansive politics of neighbouring fascist Germany resulted in the annexation of both states in 1938-39. The pragmatic reaction of both societies led to the escape into the family, with subsequent marriage and baby boom (TFR around 2.5). After the Second World War, close ties between the states were severed by the isolation of the East from the West during the Cold War era. Austria, first occupied by Soviet forces, finally joined the capitalist world; Czechoslovakia remained the part of Soviet socialist block. While the socio-economic and cultural life in both regions traced diametrically opposite pathways, from the demographic point of view there are interesting parallels between the two countries. The 1950s and 1960s were characterised by historically highest rates of marriage, by fairly high fertility rates, and by the fast decline of mortality. Since the 1970s, the demographic behaviour in both societies turned different ways. While the Soviet occupation of Czechoslovakia in the 1968 were followed by another escape into family and another baby-boom, in Austria the 1970s were the beginning of the second demographic transition with new phenomena of cohabitation, postponement of nuptiality and parenthood and progress in proportion of births out of wedlock. The divorce law was further simplified and increasingly used by dissatisfied marriages in both states, resulting into further progress in divorce rates. Induced abortion that was legalised in 1957 in Czechoslovakia was legalised in 1974 also in Austria, but the results were different – while in Austria women increasingly used modern means of contraception for controlling their fertility, Czech women used primarily induced abortion as ‘contraception ex-post’.

From the beginning of the 1990s, socio-economic, demographic and cultural life show rapprochement again. The change in demographic behaviour related to the notion of second demographic transition (Lesthaeghe, 1995), which was blocked by rigid socialist regime, emerged also in the Czech Republic, accompanied by the spread of premarital cohabitation, fall in nuptiality and fertility rates, but also by further progression of divorce rates: actually more than four out of ten marriages eventually end in divorce in both states. The fertility and nuptiality rates fell to unprecedented low levels in both countries, however, more so in the Czech Republic. In the international context both countries still rank among regions with high level of divorce, independently of the fact that the great majority of Austrian population are members of Roman Catholic Church, while Czech society can be characterised as atheist. Only Nordic countries and Russian Federation show substantially higher total divorce rates. Situation in the Czech Republic and Austria in 1995 was comparable to that in United Kingdom, France or West Germany (see figure 1).

The two-child fertility pattern is deep-rooted in the fertility patterns of both societies, as well as the tolerance towards divorce. According to 1999 European Value Survey, the score of divorce acceptance was the same in both societies – 5.9 on the scale from 1 meaning never accepted to 10 meaning always accepted (Halman, 2001). The social position of women is comparable: high female labour participation rate combined with the conventional male breadwinner model results in unbalanced gender roles. The prevailing double role of women – working mothers – is however more pronounced in the Czech Republic, as the changes in the traditional views and attitudes are more progressed in Austria. In the Czech Republic, women leave parental home 1-1.5 years later than in Austria and they are still more likely to marry directly. Even in case of non-marital cohabitation, marriage is still considered a real possibility for the future in both countries and only small proportion of young people generally dismisses marriage. If non-marital union is still predominantly a precursor to marriage and a transitory stage in life, first pregnancy is no longer a pressure to marry. In the Czech Republic the premarital cohabitation is often likely to change into marital one during the pregnancy, but the main factor seems to be the obtaining of own flat. In Austria, people usually marry within three years after childbirth, but increasing proportion consider the cohabitation as an alternative, not only prologue to marriage.

Speciality of the Czech population is an exceptionally high share of married women caused by forty years of almost universal nuptiality. The share of ever

married among all women aged 15+ was as high as 82-86% in 1961 to 1991 censuses (compared to roughly three quarters of women in Austria) and only the nuptiality decline in the 1990s slightly decreased the share under 80% in 2001. The proportions of single women in Czech Lands were then very low (16% in 1991 and 21% in 2001), compared to one quarter of women in Austria. The share of divorced women in 1961 in Austria was the highest from all Western-European countries and also higher than in the Czech Republic (3.5% compared to 3.0%). Later acceleration of divorces in Czech area led to the increase in the proportion of divorced women to 10.4% in 2001, compared to 8.6% among Austrian women. At the age forty the figure was 17% and 14%, respectively.

The divorce legislation originated in Habsburg legal system. The 1783 patent for the first time allowed limited possibility of divorce. The legislation for the Protestants was less restrictive than for the Catholics, who had majority especially in the Austrian part of the empire. The access to divorce in both countries was simplified after both the First and Second World War and again in the 1960s in the Czech Republic and in the 1970s in Austria. The availability of marital divorce was relatively simple in the past 50 years. The divorce by mutual agreement was introduced in 1978 in Austria and only in 1998 in the Czech Republic, but in fact the majority of divorces is past decades were based on mutual agreement of both spouses. We may conclude that the divorce legislation and the climate are well comparable in both countries.

In this work, we do not focus on comparison between the Austria and the Czech Republic; we rather try do depict the process of marital disruption in societies that match in high rates of marital breakdown but differ in the course of many underlying processes.

III THEORY, METHODS, DATA

The methods of event history analysis emerged in social sciences in the 1960s, but the rapid development on the field was a matter of last twenty years. Since that time, the methods have been increasingly used also on a field of demographic research. Consequently, surveys oriented on event histories provided specific data required for the methods.

In this chapter we pose the theoretical basis of the thesis. In section III.1 the overview of the methods of event history analysis is presented. After introduction of non-parametric descriptive methods, we focus on parametric and non-parametric transition rates models, which are later used for the core analysis of marital dissolution processes in chapters IV and V. The section III.1 also describes the maximal likelihood estimation procedure of the model results and touches the problem of unobserved heterogeneity, broader elaborated in the second section of chapter V.

In section III.2 the data from Fertility and Family Survey for Austria (FFS, 1996) and the Czech Republic (FFS, 1997) are introduced. We explain the uniqueness of the survey project for our purposes and bring the overview and the basic statistics of the data.

In the following sections, we concentrate on the theoretical considerations and hypothesis of marital dissolution and related processes. Proceeding from the plentiful work of European and American social scientists and demographers, we present the link between the marital disruption process and the underlying factors and behaviours as well as the relation with the early adulthood processes of leaving parental home and union formation. We present the set of explanatory and control variables used for the analysis. The role of time is explicitly discussed in section III.4.

III.1 METHODS OF EVENT HISTORY ANALYSIS

Contrary to the classical demographic analysis studying the behaviour of the whole populations as units, the object of study of event history analysis (EHA) is an individual; more specifically his life course – sequence of socially defined events and roles that the individual passes and occupies during his life. We are interested in events that the individual undergo and especially in factors affecting such events. As we take the event as a transition between the states, we may consider the sequence of episodes (states) being a consequence of the sequence of events. The focus is then given to the factors – constant or variable in time – that affect the events (or probabilities of their occurrence). In principle, we may treat the factors from the causal or system approach. We follow the causal approach, which treats as important all factors that occurred up to the time when the event under study arose, but not right at the time of the event – we do not count with parallel processes. Under this approach, one has to be cautious when dealing with the causality in processes that occur in pairs at the same time (like leaving parental home and marriage).

The problem of censoring is produced by the incomplete information: at the moment of surveying, we may elicit the history (left truncated), but not the future (right censoring). As we are dealing only with single-state models[18] (transition from the state married to the state disrupted), we are censoring also the interfering events, in our case for example the death of the husband.

In what follows, we present the basic tools of event history modelling. In the first place, from the idea that the change in factor X at time t is a cause of the change in variable Y at a later point in time t' we proceed to the causation that the change in factor X in time t leads rather to the change in the *probability* that the event (change in Y) in the time t' will take place[19]:

$$\Delta X_t \rightarrow \Delta Y_{t'} \Rightarrow \Delta X_t \rightarrow \Delta \mathrm{P}(\Delta Y_{t'}) \text{ for } t<t'$$

"The causal effect to be explained is a probability...: the propensity of social agents to change their behavior" (Blossfeld and Rohwer, 1995: 25). Mathematically, we model this as a transition rate $r(t) = g(t,x)$ where the transition rate is computed as

[18] The other possibility is to utilise multistate models. In this thesis, we nevertheless use just single-state models.
[19] The problem of causation is explicitly discussed in Blossfeld and Rohwer (1995), whose notation we follow.

$\frac{occurrence\ of\ the\ event}{exposure\ to\ risk}$ and we interpret it as the propensity to change the state, from origin j to destination k, at time t. The change in x leads into the change in the transition rate: $\Delta X_t \rightarrow \Delta r(t')$ for $t<t'$. In practice it means that the transition rate from the state of married to the disrupted state (disruption rate) is conditioned on the factor x, which includes the set of dummy variables $X_1*x_1 + X_2*x_2 + ...$ The factors of distinct variables (along with the statistical significance) indicate the role and the importance of the variables in the process of marital dissolution. The mathematical toolkit is formalised as follows.

Let T be a continuous random variable, defined on a space Ω, with possible values in (0,∞). T represents the duration of an episode (the waiting time until an event takes place during a period of exposure to risk).

- probability density function $f(t) = \lim_{\Delta t \rightarrow 0} \frac{P(t \le T < t')}{\Delta t}$ for $t>0$, $\Delta t = t'-t$
- cumulative distribution function $F(t) = P(T \le t) = \int_0^t f(\tau) d\tau$
- survivor function $G(t) = P(T>t) = 1-F(t)$
- hazard rate or transition rate $r(t) = f(t)/G(t) = P(t \le T < t' \mid T \ge t)dt$

The transition rate expresses then the probability of experiencing the event in the next infinitesimal interval, conditioned on the fact that the event has not been experienced before.

After defining the main quantities important for our analysis, we turn our attention to the problem of their estimating. The assumption on the data is that:

1. We have a random sample of n episodes. For each episode we know a duration to the event or right-censoring t_i, $i = 1,2,...,n$ and we know whether the episode is censored or not: c_i, $i = 1,2,...,n$.
2. Each episode i starts with the state j and ends either with a right-censoring ($c_i = 0$), or with a transition to a state k ($c_i = 1$).
3. It is logically possible to observe an event in correspondence with any time point $t>0$, where 0 marks the entry into the population at risk.

III.1.1 Non-parametric descriptive methods

In principle, three classes of transition rate estimation methods are used. The non-parametric descriptive methods are usually applied for general overview of data, and are important for the selection of appropriate methods of advanced research. The two frequently used non-parametric descriptive methods are the actuarial (interval) method, which we will omit in this text, and the Kaplan-Meier estimator. The so called product-limit approach, originated in the 1910s, has become a standard in the estimation of survivor function after Kaplan and Meier showed that the product-limit method gave maximum likelihood estimates of the underlying survivor functions (Kaplan and Meier, 1958). The product-limit approach is based on an estimation procedure that uses intervals derived from data, rather than externally imposed (like in the actuarial method). This allows exploiting the information contained in the data in an optimal way.

We assume a division of the time axis into n intervals by the points in time where at least one of the episodes ends with an event:

$\tau_1 < \tau_2 < \tau_3 < \ldots < \tau_n$

The definition of the episodes with events E_i, denoting the transition from the state j to the state k, and which in the product-limit all happen at the time point τ_i goes as:

E_i = number of episodes with events at τ_i

The definition of the number of censored episodes cases is:

C_i = number of censored episodes ending in the interval $[\tau_{i-1};\tau_i)$

The underlying idea is that episodes are censored always of some infinitesimal time later than events. That is, if in the same instant some episode ends with events, and other ends censored, the censored events are considered as exposed to the risk of ending in an event. In other words, episodes are censored an infinitesimal time after they are observed to be censored. Episodes exposed to the risk of experiencing an event in the interval I_i are then all those N_i episodes in the sample at the time point τ_i (including the episodes censored at τ_i):

$R_i = N_i$

The survivor function can then be estimated using following formula:

$$\hat{G}_i = \prod_{j=1}^{i} (1 - \frac{Ej}{Rj})$$

Within each interval, the survivor function is constant. The Kaplan-Meier estimate of a survivor function is then a discontinuous function

$$\hat{G}(t) = \hat{G}_i \text{ , } \tau_i \leq t < \tau_{i+1}$$

That is, the value of the estimated survivor function only changes in correspondence of the points where at least one event takes place, and not when an episode is censored. The Kaplan-Meier approach does not yield an estimate of the transition rate and the probability density function directly. They may be numerically differentiated and the results smoothed to obtain transition rates, but usually the survivor function is sufficient for the purposes of analysis. The Kaplan-Meier estimator will be utilised in the first section of the chapter IV.

III.1.2 Parametric transition rates models

The second class of estimation methods is composed by the parametric transition rates models. As parametric transition rate model, in general, we define a statistical model in which the transition rate, the survivor function and the probability density function are completely specified by one or more unknown parameters. According to the role of covariates we recognise proportional and non-proportional hazard models. In proportional hazard models, the transition rate has a form:

$$r(t;a,b,...) = \exp(a).r_0(t;b,...)$$

where $r_0(t;b)$ is a baseline function of the rate conditioned on time and parameter (or a set of parameters) and a is a set of covariates:

$$\log a = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + ... + \alpha_k X_k$$

or

$$a = \exp(\alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + ... + \alpha_k X_k)$$

where $\exp(\alpha_0)$ is the baseline level of the rate - the level of the transition rate when $X_i = 0 \forall\ i$ and the value of α_i gives the change in the log-transition rate when X_i is increased by one unit. If X_i is a dummy variable then α_i expresses the change in the log-transition rate for those who belong to the group (e.g. those who cohabited before marriage) with respect to those who do not belong to the group (e.g. those who married directly). The quantity $\exp(\alpha_i)$ is interpreted as the relative risk of belonging to the group. That is, a model which is linear on the log-transition rate is multiplicative on the transition rate, and $\exp(\alpha_i)$ measures how much do we have to multiply the hazard risk (transition rate) of those who do not belong to the group (which we call

reference category) to obtain the risk for those who belong to the group. The fact that one multiplies by a constant, which is equal at any duration, makes this model a member of the proportional hazard models family. Among the most popularly utilised proportional hazard models we name the Gompertz, Weibull, Hernes and Sickle models and the log-normal and log-logistic models.

Non-proportional hazard models allow including covariates to various model segments and exploiting different types of effects for given covariates. This is an advantage in comparison to parametric models. On the other hand, the interpretation of results gained using the non-proportional approach is not so straightforward. We utilise both models in chapter IV. First the proportional sickle model that has a form

$r(t;a,b) = at \exp(-tb^{-1})$

second the non-proportional sickle model with starting threshold:

$r(t;a,b,c,d) = c + a(t\text{-}d) \exp[(-(t\text{-}d)b^{-1})]\, I(t,d)$, $I = 0$ if $t \leq d$; $I = 1$ if $t > d$

III.1.3 Non-parametric transition rates models

The chapter V deals with non-parametric transition rates models called also generalised Gompertz functions or piecewise (log-)linear spline models. The non-parametric models of covariate effects (sometimes called semi-parametric models) are useful if we are not sure about the shape of the baseline or if we are not particularly interested in the general shape but rather in the effect of covariates. The baseline function $r_0(t)$ is then not a mathematic function of time and the set of parameters, but the sequence of splines:

$$r_0(t) = \begin{cases} \exp(a_0 + a_1(t - t_1)) & t_1 \leq t < t_2 \\ \exp(a_0 + a_1(t_2 - t_1) + a_2(t - t_2)) & t_2 \leq t < t_3 \\ \cdots & \cdots \\ \exp\left(a_0 + \sum_{i=1}^{m-1} a_i(t_{i+1} - t_i) + a_m(t - t_m)\right) & t \geq t_m \\ 0 & elsewhere \end{cases}$$

The interpretation of the results in respect to covariates is the same as in the case of parametric models.

III.1.4 Maximal likelihood estimate

The model results are computed using the maximal likelihood estimation procedure. The problem we face is to estimate the probability density function of a continuous random variable T that represents the length of an episode. Let us assume that we have a sample of independent and identically distributed n episodes, all of which come from the same population. Let us call the duration of each episode T_i, for $i = 1,\ldots,n$ on a continuous time scale. Let us also indicate whether the duration refers to an event or to the right censoring: E = transition from state j to the state k ($j \rightarrow k$), C = censured event ($j \rightarrow j$) and $N = E+C$. We assume that the density and survivor functions are unknown, but that they are completely specified when we know a set of parameters in a parameter vector a. We may compute the contribution of each episode i to the likelihood as a function of a (that is the probability of observing what we observed for each i). The likelihood function will then be the product with respect to i of each of these probabilities. We have two cases:

1. The episode i ended with an event (that is, it belongs to the E set), we have to compute the probability of having an event at the observed time point t_i as a function of a:

   $f(t_i;a) = \mathrm{P}\{T_i = t_i;a\}$

2. The episode i ended with a right censoring (and it belongs to the C set). What we can say of such episode is that it has survived in the risk set until time t_i. The probability of observing what we observed is then the survivor function: $G(t_i;a) = \mathrm{P}\{T_i > t_i;a\}$.

The likelihood function of the overall set of N individuals is the joint probability:

$$\mathrm{L}(a;t_1,\ldots,t_n) = \prod_{t\in E} f(t_i;a) \cdot \prod_{t\in C} G(t_i;a) = \prod_{t\in N} G(t_i;a) \cdot \prod_{t\in E} r(t_i;a)$$

It is very common to use the log-likelihood function (the logarithm of the likelihood function):

$$\ell(a;t_1,\ldots,t_n) = \sum_{t\in N} \log G(t_i;a) + \sum_{t\in E} \log r(t_i;a)$$

Finding a maximum likelihood estimator corresponds to finding the vector of parameters a that maximises the value of the likelihood function (or of the log-likelihood function as the logarithmic transformation does not change the maximum point), given a sample of n observations. The estimation is usually solved numerically using advanced statistical software (see Appendix).

III.1.5 Unobserved heterogeneity

On the top of the thesis, in section V.2, we incorporate the unobserved heterogeneity into the model specification, to check for the role of unobserved characteristics and self-selection in the process of marital dissolution.

The unobserved heterogeneity term is in fact present in any model through an error term ε. The logarithm of relative risk is then denoted as:

$$\log a = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + ... + \alpha_k X_k + \varepsilon$$

where the residual ε is assumed to be normally distributed across individuals. The error or residual term at the same time picks up the importance of unobserved heterogeneity. We are not able to determine the 'relative risk' of such unobserved characteristics, but we can estimate its standard deviation to determine the importance of 'non-observation' and derive the level of under-determination of the model.

However, the main importance of such device starts with the implementation in multiprocess modelling. Let us have two processes, the marital dissolution process and union formation process, with corresponding hazard of dissolution d and risk of cohabiting before marriage c. Then if

$$\log d = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_k X_k + \varepsilon$$

$$\log c = \delta_0 + \delta_1 X_1 + \delta_2 X_2 + ... + \delta_k X_k + \xi$$

we have "the woman-specific unmeasured stochastic portion of the hazard of dissolution, represented by ε" and the "woman-specific unobserved heterogeneity in the propensity to cohabit with partners before marriage", ξ (Lillard et al., 1995: 441-443). The point is in the possible correlation across the two terms. The heterogeneity components are assumed to be jointly normally distributed:

$$\begin{pmatrix} \varepsilon \\ \zeta \end{pmatrix} \sim N\left(\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \sigma_\varepsilon^2 & \sigma_{\varepsilon\zeta} \\ \sigma_{\varepsilon\zeta} & \sigma_\zeta^2 \end{pmatrix} \right)$$

If the residual terms are correlated, the unobserved propensity to dissolve and to cohabit is congruent, which imply the self-selection, or endogeneity of the two processes. The critical test is whether $\sigma_{\varepsilon\zeta} = 0$: "a positive correlation indicates 'adverse' selection of women with a high average risk of marital dissolution into cohabitation on average, and a negative correlation indicates 'positive' selection of women with a low risk of marital dissolution into cohabitation. A test of zero correlation between the heterogeneity components is a test for the exogeneity of

cohabitation – that is, for self-selection into cohabitation ... When the correlation differs significantly from 0, however, estimates based only on the marriage durations will be biased" (ibid: 443-446). After controlling for the role of endogeneity and unobserved heterogeneity, the remaining effect of the cohabitation variable in marital dissolution equation represents the 'true' effect of having cohabited with current partner on the risk of dissolution of the current marriage.

III.2 DATA

For the analysis of EHA type are required the data of longitudinal nature, capturing the event history of the individual. In principle, we distinct between follow-up and retrospective data sources. The panel surveys are following the respondents through his life span, surveying in certain intervals. Such surveys are the important source of relevant and accurate socio-economic data; household panels can even link husbands or children and yield further precise information.[20] Some panel surveys are designed as cohort follow-up, usually started at respondents' school ages and repeated in regular intervals as they grow older. Special type of prospective data source is the population register, linking data from various administrative sources, which allows also for the EHA analysis of mortality or historical data (parish registers). The main shortage of the panels is that they are usually organisationally very demanding and costly. Another problem is attrition, when some individuals are lost to follow up (death, emigration, refusal to participate); the people who stay in the panel may be subject to selection, which affects the study. The population register is currently working only in some of the Nordic countries.

More widely used is the transversal concept of retrospective surveys, when the sample of people (individuals but also households) are asked about their past life course, and the event history of the individuals is gained using various survey designs (event-oriented questionnaires, life history calendar). Such surveys are generally less demanding, but the information gained is not as accurate as in the case of longitudinal survey. Respondents are objected to failing to recall distinct life events (omitting), or they return incorrect timing of events (telescoping – e.g. age rounding). The selection mechanism is clearer with respect to follow-up studies.

III.2.1 Fertility and Family Survey

For our analysis, we use the retrospective Fertility and Family Survey (FFS) data from the Czech Republic and from Austria. The European Fertility and Family Surveys program, organised by the Population Activities Unit of the United Nations Economic Commission for Europe (PAU UN-ECE), collected during the 1990s individual data on household characteristics, parental home, partnership characteristics and partnership history, children and maternity history, other pregnancies with history, current pregnancy and fertility regulation, views on children and other views, education and educational history, occupational history and values and beliefs of respondents. Data were taken in 21 countries of Europe, in the USA, Canada and New Zealand.[21]

The data were collected in November-December 1997 in the Czech Republic and in December 1995-April 1996 in Austria. The FFS surveyed 1735 Czech women (and 721 men) and 4581 Austrian women (and 1539 men). Male sample was however not included into our analysis – first the Czech sample of men was selected just among partners of surveyed women, second we study the marital dissolution process on the behaviour of women; the study of men would be redundant. The data sets of both countries are well comparable, as the Czech survey design adhered exact to the model FFS questionnaire, and Austrian survey followed the model questionnaire with just few exceptions.[22] For detailed information, see Prinz et al. (1998) for Austria, Rychtaříková and Kraus (2001) for the Czech Republic and Festy and Prioux (2002) for general overview and evaluation of FFS project.

We use just the information about women who experienced at least one marital union. Of the total number of 1732 Czech valid respondents at ages 15-44 (birth cohorts 1952-1980), 1276 have entered at least one marriage and 270 experienced divorce or marital separation. Out of 4554 Austrian female valid respondents aged 20-54 (cohorts 1941-1976), 3272 were left in our sample, 608 experiencing marital disruption. We have dropped respondents who did not experience any partnership up to the date of the interview (364 in the Czech Republic

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[20] As an example, we may mention the British Household Panel Study, German Socio-Economic Panel and the Study of American Families.
[21] The data are possible to obtain through the internet page <http://www.unece.org/ead/pau/ffs/cr2.htm>
[22] Austrian questionnaire surveyed also homosexual partnerships, did not specify “born alive” in questions concerning children and had different question on respondent’s leaving parental home. The latter one was made comparable by recalculation from migration history (Festy and Prioux, 2002).

and 668 in Austria) and those who have only participated in cohabitation but never married (92 and 614, respectively). Twenty-three of Czech respondents and 139 Austrian females experienced cohabitation with another partner before entering first marriage; we do not control for such events. The data covers Czech marriages contracted in the period between 1969 and 1997, and disrupted between 1974 and 1997, and Austrian couples wed between 1958 and 1996 and disrupted in 1963-1996.

The data summary is presented in table III.1.

Table III.1: Characteristics of surveyed women and their marital unions

	Czech Republic					Austria				
Characteristics:	Total	%	Cens.	Disr.	% disr.	Total	%	Cens.	Disr.	% disr.
1st marriage	1276	*100*	1006	270	*21.2*	3272	*100*	2664	608	*18.6*
PERSONAL CHARACTERISTICS										
The only child (no siblings)	97	*7.6*	68	29	*29.9*	329	*10.1*	254	75	*22.8*
Religious person	168	*13.2*	138	30	*17.9*	2341	*71.5*	1954	387	*16.5*
Childhood in Prague/Vienna	78	*6.1*	50	28	*35.9*	364	*11.1*	252	112	*30.8*
Parental family disrupted	160	*12.5*	110	50	*31.3*	253	*7.7*	180	73	*28.9*
Lived alone before starting 1st union	170	*13.3*	117	53	*31.2*	1149	*35.1*	916	233	*20.3*
Birth cohort (CR | Austria)										
1952-67 | 1941-54	862	*67.6*	659	203	*23.5*	1361	*41.6*	1071	290	*21.3*
1968-72 | 1955-64	275	*21.6*	225	50	*18.2*	1196	*36.6*	969	227	*19.0*
1973-80 | 1965-76	139	*10.9*	122	17	*12.2*	715	*21.9*	624	91	*12.7*
PARTNERSHIP CHARACTERISTICS										
Partnership begun during pregnancy	502	*39.3*	399	103	*20.5*	765	*23.4*	617	148	*19.3*
Woman older than partner	76	*6.0*	67	9	*11.8*	300	*9.2*	250	50	*16.7*
Male partner divorced before	43	*3.4*	33	10	*23.3*	98	*3.0*	73	25	*25.5*
Age at marriage										
-18	245	*19.2*	165	80	*32.7*	459	*14.0*	300	159	*34.6*
19-22	769	*60.3*	611	158	*20.5*	1516	*46.3*	1231	285	*18.8*
23-26	207	*16.2*	182	25	*12.1*	844	*25.8*	727	117	*13.9*
27+	55	*4.3*	48	7	*12.7*	450	*13.8*	406	44	*9.8*
Child/ren from previous partnerships	48	*3.8*	33	15	*31.3*	416	*12.7*	348	68	*16.3*
Cohabitation										
Moved together after marriage	117	*9.2*	89	28	*23.9*	256	*7.8*	213	43	*16.8*
Direct marriage	825	*64.7*	669	156	*18.9*	1551	*47.4*	1254	297	*19.1*
Premarital cohabitation 1-5 months	93	*7.3*	63	30	*32.3*	199	*6.1*	154	45	*22.6*
Premarital cohabitation 1/2-2 years	175	*13.7*	137	38	*21.7*	583	*17.8*	461	122	*20.9*
Premarital cohabitation more than 2 y.	66	*5.2*	48	18	*27.3*	681	*20.8*	582	99	*14.5*
2nd marriage	118	*9.2*	102	16	*13.6*	219	*6.7*	176	43	*19.6*
3rd marriage	3	*0.2*	3	0	*0.0*	13	*0.4*	6	7	*53.8*

III.3 THEORETICAL CONSIDERATIONS AND HYPOTHESES

The basic concept of this thesis follows the life course perspective, according to which the timing and conditions of earlier life stages influence the subsequent demographic behaviour. Therefore, we start our theoretical overview with the early processes of the leaving parental home and the union formation, deducing the hypothesis concerning the marital dissolution behaviour.

III.3.1 Leaving parental home, young living arrangements and union formation

Leaving parental home (LPH) is an important process accompanying transition to adulthood, during which the independence from parents and parental household is gained[23] and the period of important life events starts. Events like establishment of household, union formation, marriage and entry into parenthood usually follows (Mulder and Manting, 1994). The timing, sequencing and synchronisation of leaving parental home and union formation show important differences on individual and national level (Billari et al., 2001).

LPH process itself is found to be important determinant of later life-course events of individuals, influencing the process of union formation and entering marriage. Individuals living out of parental home were found much more prone to cohabit than to marry directly (Liefbroer, 1991; Manting, 1996). Also observing the FFS data, this indicator was found strongly correlated with the occurrence of premarital cohabitation. There are several notions that explain the underlying mechanisms of such phenomenon:

a) People living alone have a better opportunity to form a union gradually. Because they have a house unit of their own, they can transform the partnership in sequence beginning by dating through living apart together and cohabitation, while individuals living in their parents' home tend to marry directly (Manting, 1996).
b) Parents have usually less favourable attitude towards unmarried cohabitation than young adults themselves. Individuals living with their parents are more

[23] It is rather the psychological independence from parents, which is gained by LPH in early adolescence. The practical independence is attained about ten years later (Goossens, 2001).

exposed to these attitudes and may incline to conform to the parents' opinion because of their dependence on parents (Liefbroer, 1991).

c) Living alone after LPH allows young people to experience the independence and autonomy of adulthood while postponing the responsibilities of marriage and parenthood (Goldscheider and Waite, 1987). Such individuals may deprecate the marriage because of an apprehension that their currently acquired independence will be infringed, whereas young adults living in parental home may view marriage as a way to independence and autonomy. The experience of non-family living early in the transition to adulthood generally results in a decrease in the probability of subsequent marriage (Goldscheider and Waite, 1986; Manting, 1996).

d) The strategy of nest-leavers can be distinguished between 'settling down' versus flexibility (Mulder and Manting, 1994), where 'settling down' will be chosen more frequently by family-oriented individuals whereas the flexible household arrangement is more likely to be chosen by people with individualistic attitudes. This notion implies a presumption of self-selection.

III.3.2 Premarital cohabitation, direct marriage and subsequent marital stability

Recent demographic and sociological literature deals with the problem of distinction between different meanings of premarital cohabitation, cohabitation as an alternative to marriage, and marriage itself. Brien and colleagues (1999) found that young women who are most likely to marry are also most likely to cohabit, which suggests that cohabitation is a part of the marriage process. According to Manning (1993), cohabitation is just a stage in the transition to marriage. Following the opposite view, some argue that cohabiting and married people differ in their expectations from the relationship (Axinn and Thornton, 1992; Hoem and Hoem, 1992. The principles of cohesion are different: cohabiting individuals seek more for autonomy and individualism, with equal and emancipated relationship between partners, while marrying individuals profess traditional family values with traditional division between male and female roles (Brines and Joyner, 1999). Cohabitation itself can liberalise individual's attitudes towards life-long marriage (Axinn and Thornton, 1992). Yet others see cohabitation rather as an alternative to singlehood instead of an alternative to marriage (Rindfuss and Van den Heuvel, 1990).

Some researchers argue that the meaning of cohabitation changes during the historical and individual time. According to Manting (1996), cohabitation in the Netherlands started in the 1970s as an alternative and deviant way of living, developed into a temporary phase preceding marriage and finally became a strategy for moving gradually into a union, while direct marriage is becoming increasingly exceptional over time, sometimes even perceived as a deviant behaviour. Cohabitation and marriage seem to have different meanings for different birth cohorts in different periods. According to Santow and Bracher (1994), the meaning of cohabitation is changing through the individual age. In their research, young cohabitants displayed higher marital rates than women without partner, indicating the cohabitation being a prelude to marriage. But women after the age of 25 who have cohabited for a longer period displayed lower risk to marry than the single, which suggests the cohabitation being the direct alternative to marriage. Cohabiting partners are more likely to stay unmarried the longer the duration of cohabitation is (Bumpass et al., 1991b). Cohabitation as an alternative to marriage is also more common among widowed and divorced persons (Lillard et al., 1995), who respond with higher frequency than previously unmarried cohabiters that they do not have any plans to marry (Bumpass et al., 1991b).

Even if we are interested only in premarital cohabitation, there seems to be a substantial difference between the direct marriage and the marital union preceded by premarital cohabitation. Theories of marital search and marital stability focus on the role of incomplete information in later disruption and therefore indicate the advantage of premarital cohabitation for marital stability as a source of precious and relevant information on mates (Becker, 1981; Oppenheimer, 1988). But most empirical studies have found that marital unions preceded by cohabitation are generally less stable than direct marriages (Bennett et al., 1988; Hoem and Hoem, 1992; Thomson and Colella, 1992; Bracher et al., 1993; Amato, 1996; Hoem, 1997; Diekmann and Engelhardt, 1999) and *vice versa*: "…direct entry into marriage has become progressively selective in favour of those with high marriage cohesion" (Hoem and Hoem, 1992: 76). We resume four explanations suggested for the nature of this phenomenon:

a) The experience of cohabitation changes significantly the way, in which people view marriage and divorce (Axinn and Thornton, 1992). Couples who cohabited for long periods before marriage differ more strongly from the directly married (Thomson and Colella, 1992), developing individualistic modes of behaviour,

which are incompatible with roles in marriage (Bennett et al., 1988). The previous experience of non-marital union dissolution, which are in general much more frequent than marital ones (Hoem and Hoem, 1992; Manting, 1994; Doblhammer et al., 1997; Le Bourdais et al., 2000; Kiernan, 2001; Dourleijn and Liefbroer, 2002) can reinforce the view that intimate relationships are fragile and temporal (Axinn and Thornton, 1992). This explanation implies the direct causal relationship between the experience of premarital cohabitation and subsequently elevated marital instability.

b) The effect is mediated by intervening behaviours, like having a premarital birth or marrying at a young age. Controlling the age at the start of partnership rather than marital age significantly reduces the estimated impact of premarital cohabitation on subsequent marital stability (Brüderl et al., 1999, following Cohen, 1991). This notion implies the indirect effect mediated by intervening high-risk behaviours.

c) Cohabitation is selective of individuals who are in general less committed to marriage and have less social and moral barriers to dissolve the unsuccessful partnership. Axinn and Thornton (1992) have found the link between individual values and attitudes concerning marriage and divorce (prior to union), their selection between premarital union and direct marriage, and subsequent marital stability. They found even an influence of parental behaviour and attitudes on own union formation. Hall (1996: 10) found that the fact "whether a person cohabits prior to marrying may not be especially relevant to subsequent marital stability. What do appear germane to marital and familial stability are the attitudes regarding intimacy that a person brings to their intimate relationships". The observed selectivity can be depicted directly by analysing the values of respondents[24] (Moors, 2000) or indirectly by family background and individuality and personality characteristics (Kahn and London, 1991). This perspective deals with the phenomena of self-selection.

d) Lillard and colleagues (1995) also discovered an evidence of self-selection into cohabitation, modelling the premarital cohabitation as endogenous in the hazard of marital disruption. They found that unobserved heterogeneity components are correlated across the decisions to cohabit and to end a marital union. Kahn and London (1991) used the technique for disentangling the link between premarital

[24] Such approach however requires rather demanding survey design using panel data to distinguish recursive relationship between values and studied behaviour. Values and attitudes gained from retrospective surveys are influenced by already passed events and they are useless for this purpose.

sex and the risk of divorce. Following these and other studies (Bennett et al., 1988; Hoem and Hoem, 1992; Brüderl et al., 1999) we are testing the hypothesis that the substantially lesser stability of transformed marriages results from selectivity: "It seems far more likely that cohabitation signals pre-existing differences in values and relational styles than that the experience of cohabitation itself reduces the likelihood of marital stability" (Bumpass et al., 1991a: 33).

We resume three possible explanations for the relationship between the premarital cohabitation and elevated risk of disruption of the subsequent marital union: (a) a direct causal effect reflecting the impact of premarital cohabitation itself; (b) an indirect effect mediated by intervening high-risk behaviours, like premature age at union formation or premarital conception, and (c+d) a selectivity effect representing prior differences between cohabiting and directly marrying (Kahn and London, 1991). The selectivity might be observed (c) or unobserved (d), the observed being represented usually by family background and personal characteristics and values. Part of the characteristics causing selectivity is unobserved, either for methodological reasons – for example the willingness to break traditional norms is usually hard to trace in the surveys – or by definition – complex socio-demographic processes like marital union dissolution can never be completely explained by a set of standard socio-economic and demographic factors (Aaberge et al., 1989). The role of unobserved selectivity or heterogeneity can be traced by advanced statistical methods (e.g. Kahn and London, 1991 or Lillard et al., 1995) or substituted by some time representation, like birth cohort.

However, the most recent research on marital dissolution in Europe based on FFS data reports weakening or even disappearing of the adverse effect of premarital cohabitation on subsequent marital stability. Dourleijn and Liefbroer (2002), who controlled for the 'age at start union', found no such link in ten of sixteen states (including Austria with relative risk 1.04[25]) and in only six of them the risk of dissolution was significantly higher among former cohabiters (Czech Republic having relative risk 1.67). According to Kiernan (2001), transformed marriages in Austria displayed 24% higher disruption-proneness than direct marriages when controlled for age at first marriage, but no significant effect when controlled for age at first

[25] Relative risk of marital disruption for those who cohabited premaritally related to direct marriages.

partnership. Doblhammer at al. (1997) found no impact of premarital cohabitation among youngest Austrian marriage cohorts concluded since 1987. Brüderl et al. (1999), using the 'West German Family Survey 1988', found no link among young marital cohorts 1971-88 (unlike the marital cohorts 1949-70). Such results indicate that the direct link between cohabitation and marital dissolution might be no longer present in countries like Austria, where the premarital cohabitation and even cohabitation as an alternative to marriage became widespread in recent years. Similar was the finding of Le Bourdais et al. (2000), who found that in Canada minus Quebec, the premaritally cohabiting displayed 63% higher risk of dissolution than the directly married, while in Quebec, where cohabitation is much more spread than in the rest of Canada, the difference was not significant. Dourleijn and Liefbroer (2002) even formulated a 'diffusion hypothesis', according to which the association between premarital cohabitation and elevated risk of marital disruption is present just in societies, where only the small proportion of population enters into cohabitation, or where on the contrary cohabitation is a large majority phenomenon. "If cohabitation is practiced by approximately half the population, former cohabiters are found to have about the same likelihood of union dissolution" as people who married directly (ibid:2).

III.3.3 Living alone, individuality establishment and marital stability

As found in previous study (Zeman, 2002b), leaving parental home followed by living alone (out of cohabitation or marriage) before union formation have strong impact on subsequent marital instability. Female respondents who experienced a period of independent living displayed much higher propensity to split their union than persons who left parental home in order to begin directly partnership. The risk was 35% higher in Austria and even more than twice as high in the Czech Republic. There are several possible explanations for such phenomenon:

a) Living independently promotes the start of a union, so the age at start of union should be lower for those living alone. According to Liefbroer (1991), young adults living on their own are independent sooner than those living at parental home, and thus make a decision to start a partnership at a younger age.
b) Leaving parental home at young age (before eighteenth birthday) is associated with poor family relationship (Goossens, 2001). Experiencing parental family

discord raises the relative risk of LPH (Pfeiffer and Nowak, 2001) and the probability of independent living in relation to direct start of partnership (Buck and Scott, 1993). In turn, young age at LPH leads to early union formation and both young age at union formation and parental divorce elevates the risk of marital instability. However, after controlling for age at union formation and for parental divorce this effect and that discussed in previous point should disappear.

c) The transition to adulthood is a pivotal phase in the life-course that significantly affects later transitions. Independent living enforces one's individuality and autonomy, and can lead to modes of behaviour, which are not favourable for dyadic relationship (Hogan and Astone, 1986).
d) And finally, independent living could also be a matter of self-selection, with the similar mechanisms and consequences as the self-selection of divorce-prone persons into cohabiting (Lillard et al., 1995) or practising premarital sex (Kahn and London, 1991).

We are facing the fact that individuals who show individualistic and flexible behaviour during the nest-leaving process behave flexibly and more individualistic also during later life course stages – they are likely to precede marriage by premarital cohabitation and their marital unions are less stable. Our goal is to disentangle the mechanism of this phenomenon using advanced methods of statistical analysis.

III.3.4 Intergenerational transmission of union instability

The intergenerational transmission of marital instability is generally detected in related research (Amato, 1996; Diekmann and Engelhardt, 1999; Feng et al., 1999; Wolfinger, 1999; Ní Bhrolcháin, 2001; Dourleijn and Liefbroer, 2002), being much more important among women than among men (Amato, 1996; Feng et al., 1999). The transmission can be caused by an unfavourable socio-economic and demographic status among broken families, like lower income and educational attainment (Feng et al., 1999), which themselves are more likely to cause marital instability. Children of divorced partners also gain fewer barriers to divorce and learn more alternatives to marriage (ibid). They display a higher propensity to cohabit before marriage than children from intact families do (Thornton, 1991; Kiernan and Chase-Lansdale, 1993; Manting, 1994; Kiernan, 2001; Diekmann and Schmidheiny,

2002). Parental family discord raises the relative risk of leaving parental home (Pfeiffer and Nowak, 2001); children from disrupted families also leave parental home at younger ages and they are more likely to leave home for negative reasons, such as conflict and friction (Mitchell et al., 1989). Such circumstances indicate rather transition to independent living than starting a union, as found also in other studies (Buck and Scott, 1993).

Empirical findings about the mechanism of the effect of parental family disruption diverge: In Bumpass et al. (1991a) most of the effect was mediated through other variables (particularly the age at marriage, education and cohabitation experience). On the other hand, in Diekmann and Schmidheiny (2002) inclusion of the same factors explained only a small part of the initial effect, leaving the direct effect significant and only marginally lowered. Kahn and London (1991) argue that women from intact households are more likely to postpone having sex until a later age, reducing thus the intervening behaviour associated with the elevated risk of marital disruption. According to Amato (1996), women from disrupted families are exposed to poor model of dyadic behaviour, which directly imprints into own interpersonal behaviour.

However, the source of divorce-outcome associations could be rather family conflict than divorce itself, while the parental divorce may actually be advantageous to some, perhaps many, of the children concerned (Jekielek, 1998). There is also a possibility that there are shared genetic factors between parents and children that are conductive to adverse outcomes (McGue and Lykken, 1992). Finally, the possibility still remains that parental divorce is no more than a proxy for unmeasured, or poorly measured, prior factors (Ní Bhrolcháin, 2001).

We expect strong impact of parental divorce in all three studied processes.

III.3.5 Other determinants of marital stability and related processes

Number of other individual and partnership characteristics was found important for the description of marital dissolution process in relevant literature. Here, we summarise the most important determinants of marital instability, and when available, also its relevance for the related processes of leaving parental home and union formation. The role of variables representing the time scale is discussed in the following section.

Individual characteristics

Individuals with no siblings were found more divorce-prone in some studies (e.g. Brüderl et al., 1999; Diekmann and Engelhardt, 1999). Manting (1996) argues that children in a small family may be more stimulated to invest in life domains like education and work at the expense of early marriage. According to Blake (1981), lone children are usually found to be intellectually advantaged, more mature, but somewhat less sociable than children with siblings. They come from more educated and advantaged families, but they are also more likely to come from broken families (an only child is frequently a result of marital disruption). When married, they tend to have fewer children. According to Pfeiffer and Nowak (2001), persons with siblings seem to be more family-oriented than persons without siblings, who show lower risk of leaving parental home, marriage and first childbirth. Respondents with fewer siblings incline to leave the parental home later (Mitchell et al., 1989) and directly to the union rather than into independent living (Buck and Scott, 1993).

From the perspective of life course approach, we are interested rather in respondent's childhood place of residence than in the actual one (as for example Bracher et al., 1993). Some researchers identified that individuals who grew up in a large city differ significantly in early life stages behaviour. Metropolitan children could have more possibilities to live independently, but on the other hand young people from smaller cities and from countryside are moving more often to reach higher education or job resources. Pfeiffer and Nowak (2001) have found the difference between Vienna and other regions considerable, as people that spent their childhood in Vienna showed the highest risk of LPH, union formation and marriage. City women had more opportunities than women from smaller places; they could acquire more 'post-modern' values. Compared to children from rural areas, they could learn to be more unattached to the social control over their behaviour. This results into more frequent and earlier independent living (Buck and Scott, 1993), into the preference of cohabitation (Santow and Bracher, 1994) and also to higher risks of marital disruption (Dourleijn and Liefbroer, 2002).

While the religions are generally family-oriented, affiliation with faith should tend to increase the costs of marital dissolution. Higher marital stability among religious people is generally recognised (Hoem and Hoem, 1992; Manting, 1994; Hall, 1996; Brines and Joyner, 1999; Diekmann and Engelhardt, 1999). This is especially pronounced for Catholics, as the Catholic Church specifically prohibits

divorce (Lehrer, 2000). More pronounced role of Catholic Church in Austria could be the reason for inter-region difference in the effect of religiousness. Religious people also tend to start their marriage directly rather than to cohabit premaritally (Bennett, 1988; Liefbroer, 1991; Lehrer, 2000[26]; Kiernan, 2001).

Positive impact of educational attainment on marital stability was reported by Martin and Bumbass (1989), Feng et al. (1999), Wolfinger (1999) and Le Bourdais et al. (2000). On the other hand, higher disruption risk of university graduates was found by Bennett et al. (1988) and Hoem and Hoem (1992). The level of schooling was found to be positively correlated with the occurrence of premarital cohabitation (Manting, 1996; Brüderl et al., 1999). Individuals with unfinished education tend to choose cohabitation with much higher probability than to marry directly (Liefbroer, 1991) and to leave parental home earlier, as higher education is usually associated with higher individualism (Manting, 1996).

Partnership characteristics

The risk of divorce or disruption in second and subsequent marriages is found higher than in first marriages in several studies (Martin and Bumpass, 1989; Lutz et al., 1991; Hoem, 1997; Brines and Joyner, 1999). However, this effect should disappear after controlling for selection using the unobserved heterogeneity term (Lillard et al., 1995). The second and subsequent marriages are also much more likely to begin as a non-marital cohabitation than to marry directly (ibid).

Childless unions are generally found to be less stable than couples with children (Becker et al., 1977; Bennett et al., 1988; Bracher et al., 1993; Andersson, 1997; Hoem, 1997; Brüderl et al., 1999). The lowest relative risk of disruption is usually observed during the first pregnancy (pregnancy with the first child – Hoem, 1997) or during pregnancy in general (Lillard et al., 1995; Dourleijn and Liefbroer, 2002). The risk also remains low after the birth of the child, especially when the children are very young (Andersson, 1997). Cherlin (1977) found that children are deterrent to marital dissolution only when they are in the pre-school ages. According to Hoem (1997) the risk caused by the first birth remains low only for one to two years, increasing back to values of childless women if no other pregnancy occurs. As found of Sweden: “The Swedish two-child norm and its typical pattern of family formation may explain part of the very high divorce risk observed for one-child

[26] With the exception of Jews.

mothers with a child at age 3-5 years or more. At, or rather before, this age of the first child, a Swedish woman is normally expected to deliver her second child. If she instead remains at parity 1 and does not proceed with her child-bearing … this may be an indication of some kind of marital problem or of a lower commitment to family life" (Andersson, 1997: 117). We expect similar patterns in both the Czech Republic and Austria, which both also keep a very pronounced two-child norm. The presence of children of prior unions is associated with elevated rates of divorce (Becker et al., 1977). Morgan et al. (1988) found that parents of sons are less likely to divorce than parents with daughters. On the other hand, no such association was identified by (Bracher et al., 1993), and we do not include the information about sex of children into our analysis.

We address also the problem of pregnancy during important life stages: "It is a standard finding that women who … become pregnant before marriage … have an elevated disruption risk in marriage" (Hoem, 1997: 7). On the other hand, no effect of premarital conception was found by Bracher et al. (1993) in Australia, where the effect disappeared after controlling for the age of marriage. The important factor thereby was not the bride's pregnancy status itself, but whether she married young or not. We are interested rather in partnerships (direct marriages or premarital cohabitations) that began during pregnancy than in premarital conceptions that took place during cohabitation. The situation when cohabitation is transformed into marriage under the influence of pregnancy is quite common in modern societies, with the underlying mechanism being far different from the situation of an unwanted pregnancy. In the Czech Republic, 50% of FFS respondents concluded first marriage being pregnant; in Austria the share was 39%. We argue that the proportion of unwanted pregnancies is probably higher outside union than in cohabitation or marriage, hence we expect that some share of conceptions out of union could be unwanted but realised and 'legalised' by a forced ('shotgun') marriage. Such unions should tend to have a higher propensity to end in separation than unions concluded under normal circumstances (Le Bourdais et al., 2000).

Forty percent of Czech and 23% of Austrian first unions are concluded during pregnancy, most of them by direct marriage.[27] When pregnant, women prefer to marry rather than to start cohabitation (Santow and Bracher, 1994; Lillard et al., 1995;

[27] Risk of marriage according to age, pregnancy and cohabitation status and cohabitation duration is complexly modelled in Santow and Bracher (1994).

Brien et al., 1999). Around 15% of Austrian women and 30% of Czech women are leaving parental home during pregnancy, almost exclusively in order to start a union.

Apart from described characteristics of the respondent and a couple that are included as explanatory or control variables into our analysis, an array of other possible determinants were left out of our research focus. We give a brief overview and the explanation of our lack of interest towards them.

Increasing women's labour force participation and consequent greater economic independence of women has generally been regarded as the major force behind rising divorce rates. According to Becker (1981: 248): "the gain from marriage is reduced by a rise in the earnings and labor force participation of women and by a fall in fertility because a sexual division of labor becomes less advantageous"; or according to Oppenheimer (1988: 587): "greater independence allows women to set a higher standard for the minimally acceptable match – that is, they need not be forced to settle for a poor-quality match or to remain in it despite considerable unhappiness". The higher rate of disruption of economically active women is supported by several empirical findings (Becker et al., 1977; Bracher et al., 1993; Hoem and Hoem, 1992; Le Bourdais et al., 2000; Dourleijn and Liefbroer, 2002) but no impact was found by Cherlin (1977) or Manting (1994) and even Bracher with colleagues report that associated relative risk of being employed declines across the birth cohort, becoming unimportant among Australian women born after 1950 (Bracher et al., 1993: 418). In the former Czechoslovakia, the policy of full employment of both women and men was in force since the 1950s. Therefore, the meaning of the covariate was different from that studied among societies of capitalist countries. High women's labour force participation led to general increase in divorce rates through the period of the second half of the twentieth century, but without the freedom of choice, the employment status was not important for the analysis on micro level. It may be that after 1989, along with the introduction of market economy, the characteristics regained its importance; the topic was nevertheless left out of our research focus and we do not include any variable on employment status into our analysis. Articles interested in socioeconomic status of couples also utilise determinants like employment status of man, income or earnings (Becker et al., 1977; Bumpass et al., 1991b), couple's ownership of their house (Bracher et al., 1993), or even health status (Becker et al., 1977).

As our analysis of determinants of marital instability is targeted to the characteristics of women, the traits of male partner were not included (with the exception of husband's previous marital status). Sometimes, not the characteristics themselves, but the discrepancies in the traits of mates, like in age (Cherlin, 1977), in employment and educational status, in wages (Cherlin, 1977; Brines and Joyner, 1999), in religion (Becker et al., 1977) or in nationality (Brüderl at al., 1999; Diekmann and Engelhardt, 1999) are found as increasing the probability of dissolution. We control just for the age difference.

The values and beliefs surveyed by FFS questionnaire were not utilised because of the retrospective character of the survey: "Given the substantial evidence that changes in attitudes follow rather than precede changes in behavior, however, it seems appropriate to consider ... normative and attitudinal changes as dependent or intervening variables rather than explanatory factors" (White, 1990: 906).

Our interest was limited by the offer of variables available from the FFS survey. The survey design was especially helpful for capturing characteristics of individual and autonomy development during the past life stages, on the other side the psychological characteristics like marital happiness, infidelity, incompatibility, alcoholism, physical and emotional abuse, disagreements about gender roles or financial problems (White, 1990) remained out of the scope of both the survey and our research design.

III.4 ROLE OF TIME

The representation of time is a crucial problem in many fields of the sociological research. We may summarise the possible interpretations of the time using the 'APC' concept to separate four key elements of the life course paradigm (Giele and Elder, 1998):

a) *Human agency:* The age (A) dimension, representing the development of the individual, is indicated by the age or duration. In our case of marital dissolution the age can be captured by variety of indicators, from which the most important is current age of individual, marital or union duration and individual age at partnership or marriage formation.
b) *Location in time:* The period (P) dimension is represented usually by current historical (and cultural) period.
c) *Linked lives:* The cohort (C) dimension, represented usually by the year at birth (birth cohort) or year at marriage (marital cohort), denotes the social relations.
d) *Timing:* The resulting timing of the event is always an intersection of all three dimensions of age, period and cohort. The importance of distinct dimensions and the problem of the representation of time for studying marital dissolution were explicitly discussed in Thornton and Rodgers (1987) and Lutz et al. (1991). However, as pointed out by Bracher et al. (1993: 422), any time representation "is still essentially a proxy for a host of other external and unmeasured factors".

III.4.1 Age

One of the strongest and most consistently documented effects is the inverse relationship between age at marriage and subsequent likelihood of marital breakdown (Becker et al., 1977; Cherlin 1977; Bennett et al., 1988; Martin and Bumpass, 1989; Bumpass et al., 1991a; Bracher et al., 1993; Hall, 1996; Andersson, 1997; Feng et al., 1999) that cohere with the degree of maturity and competence for marital roles, search time for a marriage partner (Becker et al., 1977; Oppenheimer, 1988), and emotional, educational and economic resources available (Martin and Bumpass, 1989). The importance of age at marriage for subsequent marital stability "is consistent with the basic premise of the life course perspective: the timing of crucial life course transitions is important in the lives of individuals and has relevance for

their later lives" (Thornton and Rodgers, 1987: 20). Some researchers use the age at the start of partnership rather than marriage age when studying the effect of premarital cohabitation on subsequent marital stability (Hoem and Hoem, 1992; Hoem, 1997). Brüderl and colleagues (1999), following Cohen (1991), argue that the effect of cohabitation on divorce is biased otherwise, and they advice to use the age at start of partnership in studies on cohabitation and divorce.[28]

Current age is used less frequently in related research, and its effect usually has no statistical significance (Becker et al., 1977; Bracher et al., 1993). Actual age was found important in the study of single 1972 USA cohort (Lillard et al., 1995), because such variable then represented also the effect of period. It is not clear whether the crucial dimension of declining dissolution rates over the life course is age or rather marital duration.

The evidence of the effect of marital duration on the union instability is somewhat ambiguous. The common assumption that disruption rates decline with duration of marriage is supported by some studies (Cherlin, 1977 for the USA), but there was not found any duration effect after controlling for period (Bracher et al., 1993 for Australia) or for age (Thornton and Rodgers, 1987 for the USA). According to Vaupel and Yashin (1999), the effect of marital duration is caused mostly by the unobserved heterogeneity ('frailty'[29]). They argue that persons who drop out from marriage earlier are more prone to disrupt their union, leaving those with higher marital cohesion in the population of married. Bennett et al. (1988: 131) use rather the duration since the initiation of the union than the duration since marriage formation, testing whether the effect of premarital cohabitation will be irrelevant under such time representation.

We may be also interested in the length of premarital cohabitation, which is in principle composed of the difference between the duration since marriage formation and the duration since the union initiation. According to Thomson and Colella (1992), couples that cohabited for longer periods differ more strongly from the directly married concerning lower marital quality, lower commitment to the institute of marriage, and more individualist views of marriage. Contrariwise "those who cohabit for a short time may be either formally or informally engaged and do so merely for

[28] On the other hand, the start of partnership or cohabitation could be very subjective variable. Unlike marriage, as pointed in Smock and Manning (2001), there is no official marker to indicate the initiation of cohabiting union.

[29] "Frailty in this context simply refers to the susceptibility or liability of the sub-population to the hazard" (Vaupel and Yashin, 1999: 4).

logistical reasons, having at the outset already committed themselves to marrying" (Bennett, 1988: 132).

III.4.2 Period

Despite historical rise in the divorce rates all over the world, the period effects are not so apparent when controlling for other covariates and/or temporal dimensions. Usually examined effect of period is less pronounced than the effect of generation. For example Diekmann and Mitter (1984: 152) found very low period effects in Austria, concluding that "the regularities of divorce patterns are so convincing, that there is hardly space left for periodic fluctuations". Also Bracher et al. (1993) found low importance of period on marriage dissolution in Australia, considering the year at birth to be the most powerful explanatory temporal variable, not only for capturing the effect of historical time. On the other hand, Lutz et al. (1991) found the period effects dominating the increase in divorce in Finland (this study was nevertheless based on vital statistics, not on EHA data) and the examination of USA data of Thornton and Rodgers (1987: 19) "convinces us that the historical patterns can best be explained as effects of period than of birth or marriage cohort". Also Hoem (1997) found important period effects in Sweden, especially the effect of introducing new divorce legislation in 1974; period effects may occur especially in the periods of profound changes of social and economic conditions.

However, combining for example birth cohort, age at marriage and the duration of marriage, the representation of period is also latent in the model and its explicit representation would be then redundant.

III.4.3 Cohort

Manting (1996) found strong influence of birth cohort on diminishing risk of direct marriage and increasing risk of cohabitation. This can be explained by increasing individualism, the spread of previously uncommon types of partnerships, the weakening of family-oriented values and generally social and demographic behaviour connected to the notion of second demographic transition (e.g. Lesthaeghe, 1995). Mulder and Manting (1994) identified the cohort change of most common initial living

arrangement after leaving the parental home from marriage to singlehood, accompanied with increase of proportion of those who cohabit. Substantial progress towards higher divorce intensities among younger generations is reported for example by Diekmann and Mitter (1984), Bracher et al. (1993), Doblhammer at al. (1997) and Dourleijn and Liefbroer (2002).

In the Czech society, Sobotka et al. (2003) identified the distinct demographic behaviour among cohorts of women born in 1952-1967, representing the old socialist type of reproductive and nuptiality behaviour, generations 1968-1972 (a transitional type) and birth cohorts 1973-1982. The latter group was entering the adult age already in the beginning of the 1990s, displaying nuptiality and reproductive behaviour that can be linked to the phenomenon of second demographic transition. In our study, we use this cohort groups for identifying the cohort-specific singularities concerning the processes under study. The Austrian sample is subdivided also into three cohort groups of women born in 1941-54, 1955-64 and 1965-76 with the similar expectations as in the Czech sample.

General finding concerning marital cohorts is that the risk of dissolution increases along with the more recent ones (Martin and Bumpass, 1989; Manting, 1994; Hall, 1996; Brüderl at al., 1999; Diekmann and Engelhardt, 1999).

IV TIME DIMENSION OF MARITAL DISRUPTION

Compared to recently declining intensities of nuptiality, fertility and other demographic processes, the risk of marital disruption in the Czech Republic persists on high levels in the 1990s. In this chapter we analyse the possible factors of marital dissolution behaviour before and after 1989, examining whether the effect of historical change is better captured by cohort (birth, marital) or period representation. In the comparison to the behaviour in Austria, we examine the role of personal characteristics and several factors of marriage formation on the timing and intensity of marital disruption, with the focus on the transformation of the meaning of underlying factors in respect to the historical period and the cohort change. Especially the postponement of marriages towards more mature ages and the phenomena of premarital cohabitation are of our interest.

First we use product-limit descriptive method (Kaplan and Meier, 1958) for the presentation of the data and for the simple overview of the marital dissolution process in Austria and in the Czech Republic, the latter one divided according to distinct periods and cohorts. In the next section we use the standard sickle transition-rate model proposed by Diekmann and Mitter (1983, 1984). Later, we implement the four-parameter sickle model with starting threshold proposed by Billari (2001b), which allows distinguishing different types of effects of explanatory variables in more detailed manner. We want to examine, whether the recent development in divorce and dissolution rates in the Czech Republic is influenced mainly by the period socio-economic change, or if the increase is rather triggered by higher disruption-proneness of younger generations born in the 1970s, or newly-wed marital cohorts of the 1990s.

We analyse the marital disruption in the Czech Republic according to different time dimensions in the comparison with the Austria. We are interested, whether the situation in Austria, taken as a benchmark and the model example of the Western society with higher level of disruption rates, is comparable to the behaviour of older Czech groups, or if rather the recent behaviour characterised by even higher disruption rates in the Czech Republic can be compared to the process in Austria. Computations of this chapter were made using TDA software (see Appendix for details); data preparation was made in Stata statistical software.

IV.1 MARITAL SURVIVORS

Using the product-limit estimator described in section III.1.1, we analysed the Fertility and Family Survey data on marital disruption in Austria and in the Czech Republic. We estimated the number of survivors according to the duration since marriage formation. The Austrian sample of women was analysed in the aggregate, while the Czech sample was divided according to distinct time dimensions to analyse the recent development in disruption rates in a detail. First we analysed Czech marital survivors according to the birth cohort, proceeding from the distinction of Sobotka et al. (2003), who identified the distinct demographic behaviour among Czech cohorts of women born in 1952-1967 (representing the old socialist type of reproductive and nuptiality behaviour), generations 1968-1972 (a transitional type) and birth cohorts 1973-1982 (fully affected by second demographic transition, see section III.4.3). For the purposes of actual analysis we have put together two latter groups, so we examine the difference between traditional demographic behaviour of group born in 1952-1967 and transitional cohorts born in 1968-1980 (among generations 1981-82 no marriages were stated). Second we included the analysis according to the historical period, comparing the marital behaviour during the socialist era with that in the decade of profound socio-economic changes following the fall of the communist regime in 1989.

Figures 4 and 5 illustrate the simple graphical representation of the differences between presented groups regarding the duration-dependent risk of marital dissolution. The Kaplan-Meier estimator of marital survivors show that birth cohort group 1952-67 and divorce behaviour until November 1989 is more liken to the Austrian counterparts, while the behaviour after 1989, and especially that of young birth cohorts 1968-80, show much higher proportion of disrupted marriages. However, the behaviour after November 1989 differs more strongly from that in previous period primarily in shorter duration, i.e. among younger marriage cohorts; in longer durations it seems to preserve the slower marriage-exhaustion of the previous period. To support the suggesting hypothesis about the particular importance of the birth cohort for the time-triggered variations in the marital dissolution behaviour, we extended the analysis also for the marital cohorts, examining the impact of social and economic change on marital initiation and subsequent marital stability. The results displayed in figure 6 indicate particular difference between the breakdown of marriages concluded during the socialism and those enclosed after 1989, but the

contrast is not so broad as in the case of birth cohorts.[30] On the basis of Kaplan-Meier descriptive tools we raise the hypothesis that the persisting high incidence of marital breakdown in the Czech Republic of the 1990s is rather cohort-driven than period-driven phenomenon, and that the birth cohort is pertaining much more importance than the marital cohort. We will test this hypothesis in next sections, using the standard sickle model.

IV.2 THE PERIOD AND COHORT CHANGES IN MARITAL BEHAVIOUR

First let us explain why right the Sickle model was chosen for the parametric analysis of marital dissolution behaviour. The standard sickle model was first proposed by Diekmann and Mitter in 1983 as a tool suitable for modelling deviant behaviour. Sickle model is a parametric non-monotonous transition-rate model with proportional intensity rates. Its two parameters represent the intensity and the timing of the event. The additional two parameters of the model with starting threshold proposed by Billari (2001b) can also identify the constant intensity of the event prior to a certain time threshold, and the starting time (onset) of the threshold. Such mathematical properties are helpful when there is no clear theoretical reason for choosing the time threshold when the (social) risk effectively begins to be significant, when we wish to estimate how entering a 'social' risk population differentiate by distinct characteristics or when we want to derive different types of effects of covariates on 'horizontal' and 'vertical' shift in the baseline rate (Billari, 2001a: 22-23).

The Sickle model was named after the bell-shaped course of its intensity rate as a function of time. The shape results from the determination of the intensity by two competing factors. First a progressive factor, which raises the risk with increasing duration t ($a.t$ term) that could correspond to either imitation or increasing dissatisfaction with the marriage. Second a conservative factor, which diminishes the risk along with increasing duration ($e^{-t/b}$ term) that could correspond to increasing immunity.[31] The latter factor is ultimately dominating, leaving certain proportion of

[30] According to the T-statistics, generation-based survivors differ from each other on 1% probability level, period-based survivors differ on 5% probability significance level and the marital cohorts survivors are mutually different also on 5% level.

[31] We however cannot interpret the percentage of those who did not change the state as immune individuals, because all individuals are exposed to the risk of divorce. The model interpreted in terms of social diffusion is contact-independent spreading model, so the "spreading process does not rely on

long-term survivors. This property makes the model especially suitable for marital dissolution modelling, as shown in studies that compare Sickle model with other models (Diekmann and Mitter, 1984; Braun and Engelhardt, 2002).[32]

The shape can be also ascribed to the selectivity phenomenon: women with higher disruption-proneness tend to quit the union earlier, causing the selectivity in favour of more stable partnerships in later stages of marital duration.

Using the standard sickle parametric model we try to identify the time determinants of the marital disruption behaviour in the Czech Republic. We use different techniques based on cohort or period (calendar time) approach to distinguish between different groups and to compare them with the behaviour in Austria. We proceed from the conclusions of the previous section, trying to validate the hypothesis about particular importance of birth cohort as a main time determinant of the marital behaviour distinctness among the Czech society. In the analysis we first use models with no covariates and in a later stage we introduce four explanatory variables that are generally reported to be relevant and important in marital disruption studies, as described in chapter III:

- The divorce of parents during respondent's childhood, defined as follows: 'Parents divorced' dummy variable was put 1, if the respondent stated that her parents divorced until own age of 18.
- Religiousness: Respondent was taken as religious[33], if she responded "Yes" to the question "Are you religious?".

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contagion by interactions between prior and potential adopters" (Braun and Engelhardt, 2002: 12), and only the adoption rate plays a role in the spreading of the examined behaviour. Diekmann and Mitter (1984: 131) call them "ultimately immune".

[32] In their inter-model comparison, Diekmann and Mitter (1984: 140) have found the Sickle model the best for fitting divorce data (from Austria and the USA) among six models. Besides models that fitted observations extremely badly, because do not allow for immunity (Poisson, Weibull and log-logistic model), sickle function fitted better than the cumulative inertia (exponential decline) model and also than mover-stayer model. Braun and Engelhardt (2002), using the data on marital disruption in West Germany, confronted the Sickle model with the log-logistic model that describe the phenomena spreading through infection or contact-dependent spreading, finding the Sickle one as fitting better. Among other works using Sickle function for modelling marital disruption we shell mention Brüderl at al., 1999; Diekmann and Engelhardt, 1999 and Diekmann and Schmidheiny (2002).

[33] Because of lack of indicators on confession in the Czech data, we use only data on religiousness and not on Catholics in particular. However, huge majority of religious respondents are Catholics: In Austria, 84% of those who stated that they are religious persons also stated Catholic as a religion they adhere to (FFS, 1996), the proportion of Roman Catholics among affiliated in Census was 86% (Statistics Austria, 2002b); in Czech 2001 Census, 83% of respondents with religious affiliation were Roman Catholics (CZSO, 2003a).

- The role of premarital cohabitation, examined by the comparison of the date of starting living with partner in the same household and the date of marriage. When the start was earlier than marriage, the relationship was taken as preceded by premarital cohabitation, the reverse was understood as direct marriage (even if the marriage preceded the start of living together, which was quite common situation in the housing crisis suffering socialist Czechoslovakia).
- The age at marriage, for the sake of simplicity separated to just two groups: those married until the age of 18 and those married at age 19 or later. Marriages contracted in age 23 or later are even more stable than marriages entered in age 19-22, but the most important effect of age at marriage is the much higher risk of dissolution of premature marriages (Zeman, 2002b).

We expect that the role of covariates in both countries under study will be comparable to the results usually documented among Western societies. We expect the stronger effect of religiousness among Austrian society, and more pronounced influence of premarital cohabitation in the Czech Republic, given that the phenomena of 'trial marriage' is still more rare in the Czech region while in Austria is already well established. The focus is devoted to the change in the role of explanatory variables in respect to the change of time in its various dimensions.

We use the sickle transition rate model proposed by Diekmann and Mitter (1983) with hazard function:

$$r(t;a,b) = at \exp(-tb^{-1})$$

and the density function:

$$F(t;a,b) = 1 - \exp[-ab(b-(t+b)\exp(-tb^{-1}))]$$

where t stands for time and a and b are two parameters, a meaning the intensity of the transition and b denoting the time of maximum intensity, thus representing the timing effect. The model is proportional, the change in parameter a provokes the vertical proportional shift. Thus, the implementation of covariates into the a term:

$$a = \exp(\alpha_0 + \alpha_1 x_1 + \ldots + \alpha_k x_k)$$

yields the relative hazards of distinct covariates.[34]

[34] The long-term survivors are computed as $S(t\rightarrow\infty) = \exp(-ab^2)$, maximum intensity located at b has functional value abe^{-1} and the point of inflection is located at $t=2b$. The maximal density is located at the point $t_m<b$ which is approximately $t_m=b/(1+b(abe^{-1}))$.

Later, we implement the new sickle transition-rate model with starting threshold proposed by Billari (2001b). The general formulation of models with starting threshold is that until certain time level d (called 'threshold'), intensity lingers monotonically on a constant rate c. Standard model intensity rate r_0 is shifted for the threshold d and the intensity c afterwards (Billari, 2001a):

$r(t;c,d) = c$ for $t \leq d$

$r(t;c,d) = c + r_0(t\text{-}d)$ for $t > d$

Sickle model with starting threshold[35] is formulated as:

$$r(t;a,b,c,d) = c + a(t\text{-}d) \exp\left[(-(t\text{-}d)b^{-1})\right] I(t,d)$$

where $I = 0$ for $t \leq d$ and $I = 1$ for $t > d$. As this model is no more proportional, the explanation of the influence of covariates is not straightforward. The shift in parameter a can be understood as a change in the intensity and the shift in parameter b as a change in timing. The implementation of the threshold into the model can be advantageous, as for example specific legislative norms or customs can aggravate or even restrain divorce in short duration since marriage formation (depicted by parameter d), causing thus very low marital dissolution rates c (see also figure 7). We use this model for general overview of marital dissolution behaviour in both studied regions and for the explanation of the role of covariates in various dimensions of the process, implementing explanatory variables into three of four parameter terms:

$a = \exp(\alpha_0 + \alpha_1 x_1 + \ldots + \alpha_k x_k)$

$b = \exp(\beta_0 + \beta_1 x_1 + \ldots + \beta_k x_k)$

$d = \exp(\delta_0 + \delta_1 x_1 + \ldots + \delta_k x_k)$

The constant rate c is presumed to be very low, near zero (Billari, 2001a: 17), and we are not interested in its variation. Therefore we leave it independent on studied covariates: $c = \exp(\gamma_0)$

The figures 8 and 9 present the graphical test of fitness of both types of Sickle model into real data (displayed using piecewise linear model and life table estimates). We have found that Austrian data are well traced by both types of Sickle model,

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[35] Maximum likelihood estimates of parameters are those values for which the following log-likelihood functions are maximised:
$F(a,b) = \Sigma_S \text{-}ab[b\text{-}(t+b)\exp(\text{-}tb\text{-}1)] + \Sigma_{S1}[\log(at) - tb\text{-}1]$ for standard sickle model, and
$F(a,b,c,d) = \Sigma_S \{\text{-}ct - \mathrm{I}(t,d)ab[b\text{-}(t\text{-}d+b)\exp(\text{-}(t\text{-}d)b\text{-}1)]\} + \Sigma_{S1}[c + \mathrm{I}(t,d)\log(a(t\text{-}d)) - (t\text{-}d)b\text{-}1]$ for sickle model with starting threshold, where I=0 for $t \leq d$ and I=1 for $t > d$; S_0 is a subset of cases with no divorce, with t meaning the time from marriage date till the date of censoring and S_1 is subset of divorced cases, with t meaning the time from marriage date till the divorce; $S = S_0 + S_1$. See appendix for the TDA program script for model estimates computations.

starting threshold model being better than the standard one. The Czech data fluctuations in first five years after marriage could not be picked by standard sickle model, but are more or less traced by the sickle model with starting threshold. The general shape of duration-dependent disruption risk fits roughly into the area circumscribed by both distinct types of Sickle model.

For the distinction between old and new subgroups we use birth cohort, period and marital cohort approach. Cohort analysis were performed by splitting Czech sample into two parts according to the year of birth or year of marriage, respectively, and then modelled separately. Period-based analysis is implementing the method on episode splitting (Blossfeld and Rohwer, 1995) according to an exact historical date. This date was set to November 1989, when the sudden fall of the communist regime in the Czech Republic was triggered. Each episode that passed over November 1989 was split into two episodes, one prior to the date (including November), second after that date. The episodes prior to November 1989 were right censored, while episodes following November 1989 were left censored on this date. The data sample was finally divided into two samples and the behaviour in the period until 1989 and after 1989 is analysed separately, the former right-censored and the latter both left- and right-censored.

IV.2.1 Standard sickle model

Our results for covariates, depicted in tables IV.1-IV.4, follow the findings generally detected among European populations. Intergenerational transmission of marital instability is represented by 60% increment of disruption risk of Czech, and even 91% of Austrian women from dissolved families as compared to women that grew up in intact families. This covariate is important also in both Czech cohort groups. According to the period analysis, the impact of the covariate was stressed after 1989.

The role of religiousness was found important only in Austrian society, where religious persons enjoy one-third reduced risk of dissolution. The behaviour of religious persons was significantly different from non-religious ones in the Czech Republic prior to 1989, but since that time the effect disappeared. This finding is conformable with the sociological background of both countries – the Austrian society persists on its Catholic values, whereas Czech society can be defined as atheist wherefore even religious part of population does not differ significantly from the rest.

Table IV.1: Standard sickle model with covariates, parameter estimates for Czech Republic and Austria

Country	**Czech Republic**			**Austria**		
Parameter	Value	r.r.	sig.	Value	r.r.	sig.
α_0	-9.513			-9.919		
Parents divorced	0.473	**1.60**	***	0.648	**1.91**	***
Religious person	-0.193	**0.82**		-0.419	**0.66**	***
Premarital cohabitation	0.572	**1.77**	***	0.396	**1.49**	***
Early marriage (-18y.)	0.522	**1.69**	***	0.609	**1.84**	***
β_0	4.145			4.427		
Log-likelihood	-2002.5			-4717.6		

Table IV.2: Standard sickle model with covariates, parameter estimates according to birth cohorts, Czech Republic

Czech Republic - generations	**1952-1967**			**1968-1980**		
Parameter	Value	r.r.	sig.	Value	r.r.	sig.
α_0	-9.863			-8.407		
Parents divorced	0.451	**1.57**	**	0.476	**1.61**	*
Religious person	-0.196	**0.82**		-0.111	**0.90**	
Premarital cohabitation	0.609	**1.84**	***	0.382	**1.47**	
Early marriage (-18y.)	0.470	**1.60**	***	0.502	**1.65**	**
β_0	4.328			3.524		
Log-likelihood	-1528.1			-460.9		

Table IV.3: Standard sickle model with covariates, parameter estimates according to the period, Czech Republic

Czech Republic - period	**until 1989**			**after 1989**		
Parameter	Value	r.r.	sig.	Value	r.r.	sig.
α_0	-9.624			-9.309		
Parents divorced	0.322	**1.38**		0.573	**1.77**	***
Religious person	-0.543	**0.58**	*	0.045	**1.05**	
Premarital cohabitation	0.593	**1.81**	***	0.550	**1.73**	***
Early marriage (-18y.)	0.512	**1.67**	***	0.601	**1.82**	***
β_0	4.168			4.061		
Log-likelihood	-905.0			-1092.0		

Table IV.4: Standard sickle model with covariates, parameter estimates according to marital cohorts, Czech Republic

Czech Republic - marital cohorts	**1969-1989**			**1990-1997**		
Parameter	Value	r.r.	sig.	Value	r.r.	sig.
α_0	-9.684			-8.227		
Parents divorced	0.484	**1.62**	***	0.527	**1.69**	
Religious person	-0.154	**0.86**		-0.418	**0.66**	
Premarital cohabitation	0.494	**1.64**	***	0.660	**1.93**	**
Early marriage (-18y.)	0.515	**1.67**	***	0.728	**2.07**	**
β_0	4.250			3.072		
Log-likelihood	-1710.7			-281.4		

Note: Significance *** = significant on 1% level; ** = 5%; * = 10%
r.r. means relative risk and refers to exp (value)

The premarital cohabitation is elevating the dissolution risk in both countries, however more markedly in the Czech Republic – 77% higher risk compared to direct marriages; 49% in Austria. In Czech society the effect is stronger among older generations (84% for older but insignificant 47% for younger Czech cohorts). Such dissimilarities could originate in the different perception of premarital cohabitation in

both countries and in its change through the time. The spread of informal unions started in Austria some 20 years earlier than in the Czech Republic, while the spread among the Czech society was quite fast since the beginning of the 1990s. The increasing normality of premarital cohabitation and thus decreasing negative influence connected to their former exceptionality can be the cause of descending importance of the covariate. This conclusion is however not supported by the results according to marital cohorts, where the effect among newly weds of the last decade did not weaken in comparison with those who married during socialism.

An early marriage is generally elevating marital discord, displaying 60-107% higher risk of dissolution than marriages concluded in later, mature ages. This effect has even intensified among recent Czech marriage cohorts married in the 1990s. While during socialist era, the nuptiality in early ages was quite common, the phenomenon has gradually become rather exceptional after 1989.

Graphically demonstrated (figure 10), Czech women born in 1952-67 exhibit almost the same duration-dependent dissolution risk course (as modelled by the standard sickle model baseline) as women in Austria, whereas younger Czech birth cohorts display significantly different patterns. The maximum of marital disruption intensity of young Czech cohorts (2.8‰) is located 34 months after marriage compared to 76 months maximum and 1.45‰ intensity of their older counterparts. In Austria, the maximum of intensity (1.52‰) is located 84 months after marriage. The figure 11 suggests no important shift in the dissolution risk course after the change of political and socio-economic system in the Czech Republic after 1989. The maximum of disruption rates has diminished from 65 just to 58 months and the maximal intensity has only slightly progressed from 1.6‰ to 1.9‰. The comparison of the duration-dependent intensity of marital dissolution according to marriage cohorts is presented in figure 12. There is a notable similarity of the behaviour of Czech marriages concluded until 1989 to the behaviour in Austria, and a significant difference of the behaviour of Czech marriages contracted in the 1990s. Recent marriages display the high maximum of intensity of marital breakdown shortly (22 months) after marriage. The caution should be kept regarding selectivity problem – women that form younger marital cohorts were surveyed not more than seven years after marriage what could cause selectivity in several dimensions. Other problem could be incurred by the fact that we extend the modelled curve outside the actual data range – marital cohorts 1990-97 were censored maximally 94 months after

marriage formation. Also the previous analysis concerning period change could suffer from selectivity because of the left censoring.

The comparison of findings suggests the conclusion that the change in the marital disruption in recent years is more apparent when taking cohort approach as a proxy of time compared to the period-specific approach. That could be also the explanation of persistent high divorce rates among Czech society. Despite the falling rates in other demographic processes (fertility, nuptiality, mortality, and even abortion use), the marital dissolution persists on extensively high levels. Much less people are entering marriage, but those who yet marry, dissolve with same or even higher risk than previously. Our explanation is that younger cohorts who were entering the married population in the 1990s have fewer barriers to divorce and display higher intensities of marital disruption than their older counterparts.

IV.2.2 Sickle model with starting threshold

The idea of the following analysis is to decompose the effect of explanatory covariates on various dimensions of the process of marital dissolution. We have added dummy variables into a, b and d parameter terms to check their impact on intensity and timing shift, as well as on the onset of the threshold. According to our results, the overall trend of hazard intensity displays patterns similar to the relative risks derived from the standard sickle model. Parental divorce, premarital cohabitation and premature marriage are shifting the marital disruption intensities towards higher levels, while the religiousness lowers them. However, as the model with starting threshold is no more proportional, the interpretation of the parameter estimates presented in table IV.5 is rather complex.[36] For better understanding, we have added coloured figures 13 and 14 to illustrate the effects of explanatory variables. We will concentrate on the general character of the effects, not going deep into the details.

[36] According to Billari (2001b), one can interpret the difference between model component covering the duration-dependent intensity after reaching the threshold a and the constant intensity c from the behavioural point of view by assuming that 'random' transition can occur at any point of time at a constant rate, while the 'social' transitions are originated from distinct social processes, independent from random transitions. We thus distinguish a 'statistical risk set' from a 'social risk set' (Billari, 2001a: 17). The interpretation of b and d components is more straightforward: Exponential of the parameter estimates of the baseline means directly the maximum of 'social' risk (b) or total risk ($b+d$); and the threshold onset (d). The relative risks of explanatory variables shift these values multiplicatively.

Table IV.5: Sickle model with starting threshold, parameter estimates for Czech Republic and Austria

	Czech Republic			Austria		
Covariate	Value	exp (value)	sig.	Value	exp (value)	sig.
Intensity term						
Baseline parameter α_0	*-9.780*	*0.00006*	***	*-9.840*	*0.00005*	***
Parents divorced	1.312	3.71	*	1.209	3.35	***
Religious person	-3.910	0.02	***	-1.667	0.19	***
Premarital cohabitation	2.703	14.92	***	1.063	2.89	***
Early marriage (-18y.)	1.063	2.89	*	0.813	2.26	**
Timing term						
Baseline parameter β_0	*3.184*	*24.15*	***	*3.834*	*46.26*	***
Parents divorced	0.017	1.02		-0.161	0.85	
Religious person	13.181	530036		0.689	1.99	***
Premarital cohabitation	-1.393	0.25	***	-0.267	0.77	
Early marriage (-18y.)	0.117	1.12		0.135	1.14	
Constant intensity term						
Baseline parameter γ_0	*-6.702*	*0.00123*	***	*-7.541*	*0.00053*	***
Threshold onset term						
Baseline parameter δ_0	*2.057*	*7.82*	***	*-6.796*	*0.00*	
Parents divorced	0.811	2.25	***	0.453	1.57	**
Religious person	-0.376	0.69		-0.595	0.55	*
Premarital cohabitation	0.795	2.21	***	9.806	18133	
Early marriage (-18y.)	-0.864	0.42	***	-4.024	0.02	
Log-likelihood	-1988.6			-4693.5		

Note: Significance *** = significant on 1% level; ** = 5%; * = 10%

The baseline intensity, represented by non-religious women from intact families, who married directly after age 18, is characterised by zero threshold of constant rate 0.53‰, followed by the sickle-shaped intensity with the maximum of 1.44‰ located 46 months after marriage formation in the Austria. The baseline threshold onset found for the Czech Republics is 8 months, and the maximum hazard of 1.73‰ located 32 months after marriage is not high compared to the constant intensity of 1.23‰. The religiousness covariate reduces the intensity of marital dissolution almost to constant rate (and also postpones the intensity maximum in both countries, in the Czech Republic even to unrealistic levels). Parental divorce and premature marriage escalate the hazard risk and roughly doubles the maximal intensity. In Austria, descendants of divorced parents face the maximum of marital dissolution intensity somewhat earlier and prematurely marrying slightly later than the reference group; in the Czech Republic the relation is inverse. The threshold is significantly affected in the Czech Republic – parental divorce postpones the onset while early marriage accelerates it. The premarital cohabitation in the Czech Republic leads to 17 months threshold, then the disruption risk quickly reaches its maximum in 23 months after marriage, followed by a rapid drop. Five years after transformation of

cohabitation into marriage, the risk of such union dissolution is virtually as low as the constant rate c. In Austria the premarital cohabitation is the only variable that leads to an apparent threshold (20 months), after what the intensity almost doubles the baseline risk.

Czech constant hazard depicted by term c was found quite high, amounting to 71% of the maximum of the baseline intensity rate. This could be a shortage of the utilisation of sickle model with starting threshold as the tool of modelling marital disruption rates, as the constant rate in models with starting threshold is presumed to be very low (Billari, 2001a: 17). However, if we interpret such phenomenon in a way that our results indicate the duration-independent rate being a considerable component of marital disruption process, than the starting threshold is an important improvement of the Sickle model.

Further we have found only negligible threshold time for the Austria. The model nevertheless profits from the fact that the risk starts at certain level even at lowest marital duration and do not presume the zero intensity at the start of the process.

IV.3 CONCLUSIONS

The main goal of this chapter was to observe the marital dissolution behaviour in the Czech Republic from the perspective of time, to identify the most important time dimension in the recent changes of the behaviour, and to compare the marital disruption process in distinct time dimensions to the process in Austria. We investigated the explanatory variables from the perspective of time as well, studying the transformation of their meaning through marital and birth cohorts and through the historical time. Comparing the marital dissolution behaviour of distinct cohorts in the Czech Republic, we conclude that the behaviour of older generations, born in 1952-1967, as well as the behaviour of couples that married before 1990, is much more similar to the course of the process in Austria. On the contrary, younger Czech women born in 1968-1980 or those married in the 1990s reveal completely new behaviour, identified by significantly higher intensities of disruption and faster timing of union break-up with regards to the duration since marriage formation. Concerning historical periods, the marital dissolution behaviour after 1989 did not change dramatically when compared to that before the 1990s; the virtual difference between

the periods was at first place induced by different marital and birth cohorts dominating the sample of disrupting marriages in the given period. From the comparison of results we conclude that the recent development in marital dissolution behaviour is rather cohort-driven than historical period-driven.

The general patterns of marital dissolution behaviour in the Czech Republic and in Austria were found accordant with those commonly documented among Western societies: The experience of parental family disruption, premarital cohabitation and premature marriage are escalating the risk of marital breakdown. Contrariwise the risk is reduced for religious persons, especially in Austria.

The most important change in the meaning of covariates across the generations in the Czech Republic was the weakening of the significance and the value of relative hazard risk of premaritally cohabiting women. As this finding was not supported by the period-oriented and marital cohort-oriented analysis, we conclude that the meaning of cohabitation has changed across generations. In the period after 1989 the effect of religiousness on marital stability has disappeared. The increased impact of premature marriages on later instability was detected among the marriages concluded after 1989.

The role of covariates was examined in a more complex manner using the sickle model with starting threshold, yielding at least three interesting findings. First, parental divorce and premature age at marriage roughly double the risk of disruption. Second, the premarital cohabitation in the Czech Republic leads to concentration of disruption into relatively short interval of 1.5-4 years since marriage, while in Austria induces the 20 months threshold. And third, the marital dissolution risk of religious women is very low and rather constant than affected by the duration of marriage.

Both types of Sickle model were found useful and suitable for the analysis of marital disruption. While the standard sickle model determined the role of explanatory covariates and the measures of time on the intensity of the process, the extended model with starting threshold helped to determine also their role in the timing of the events. The sickle model with starting threshold proposed by Billari in 2001 was found as a powerful tool of parametric analysis, however with several limitations for the study of marital disruption. Among the possible problems we shell mention the high constant rate (especially for the Czech Republic). However, if we interpret such a phenomenon in a way that our results indicate the duration-independent rate as being a considerable component of marital disruption process, than the starting threshold is an important improvement of the Sickle model. The negligible threshold

for Austria can be also perceived either as a shortage or as an advantage of the extended model: the analysis profits from the fact that the risk starts at certain level even at lowest marital duration and does not presume the zero intensity at the start of the process.

Computation problems forced us to economise with the number of variables. More variables covering the individual and marital characteristics will be added in the next chapter to explain the marital dissolution behaviour in the Czech Republic and in Austria in a more proper way.

V PREMARITAL COHABITATION AND OTHER FACTORS OF MARITAL INSTABILITY

In this chapter, we apply the event history analysis to examine the possible determinants of marital disruption in the Czech Republic and in Austria. The chapter consists of three sections. In the first one we concentrate on the role of personal characteristics, the attributes of individuality and conditions of partnership formation, with particular interest in characteristics covering the development of respondent's individuality in early life stages, like being an only child, experiencing parents' divorce, growing up in the metropolis and living alone after leaving parental home. Special attention is given to the role of premarital cohabitation, distinguishing between the direct causal effect, indirect influence through the mediating factors and the effect of selectivity. The analysis is employing the simple hazard regression model.

The second section of this chapter elaborates the idea of the influence of early life living arrangements on subsequent marital behaviour. Apart from the hazard model of marital dissolution, also probit models of union formation and leaving parental home processes are introduced. The analysis of the role of premarital cohabitation is extended: utilising the joint model of leaving parental home, union formation and marital disruption, we examine the role of unobserved heterogeneity and self-selection. We test the hypothesis of endogeneity of earlier processes in the process of marital disruption, expecting that the impact of premarital cohabitation will disappear after controlling for unobserved heterogeneity and self-selection. We also test, whether the effect of higher disruption-proneness of women living independently in earlier stages of life is originated in self-selection, or whether it is a direct effect of living alone. The third section concludes.

V.1 THE ROLE OF PERSONAL CHARACTERISTICS AND PREMARITAL COHABITATION

However the comparison between the countries is not the main goal of this paper, we examine whether the high incidence of marital breakdown in both societies is accompanied by the same underlying factors. The focus is targeted to the phenomena of premarital cohabitation. We also compare the influence of religiousness among both societies, keeping in mind that according to 2001 censuses three quarters of Austrian population but only one quarter of Czech population were Catholics. Despite pronounced two-child norm and the recent decline in fertility level present in both societies, the impact of childbearing on marital stability could vary across them. The distinctness in social background can also lead to diversity of roles of some of the personal characteristics (for example education).

V.1.1 Hazard model of marital disruption

We use the method of hazard regression with the baseline captured by the duration since marriage formation (marriage date set to zero).[37] The event under observation is the marital union disruption, censored at the time of survey (or in the rare cases at the time of a partner's death or forced living apart together). As an additional representation of time was use the birth cohort.[38] Following Sobotka et al. (2003), we distinguish between three cohort groups in the Czech Republic: women born in 1952-1967, generations 1968-1972 and birth cohorts 1973-1980. In Austria, we have grouped together women born in 1941-54, 1955-64 and 1965-76. The age is captured by the time constant variable 'age at marriage', divided into four subcategories of dummy variables (premature group of 15-18 years old, most

[37] We use the duration since marriage formation rather than the duration since the initiation of the union, as we are interested in the stability of the marital union. We also introduce the length of premarital cohabitation as an explanatory variable and later examine the role of age at union formation. The baseline is split into intervals with nodes at 4, 8, 12 and 18 months and 2, 3, 4, 5 and 6 years since marriage formation. The nodes are based on preliminary results so as to express the nature of the process in the best possible way.

[38] In preliminary results, the examined effect of generation was more pronounced than the effect of period. Therefore, we have chosen the birth cohort approach and omitted the period. However, combining birth cohort, age at marriage and the duration of marriage, the representation of period is latent in the model.

common 19-22, ripe 23-26 and more rare, but recently increasing group of those who marry at age 27 or later).

The model has a form:

$$\log h_i(t) = y(t) + \Sigma_j \alpha_j x_{ij} + \Sigma_k \beta_k w_{ik}(t)$$

where h_i is the intensity of marital disruption for individual i, t is the basic duration variable (duration since marriage formation) and y is a spline that picks up the effect of marriage duration. The two sums represent the sets of fixed covariates x indexed by j and time varying covariates w indexed by k, with corresponding vectors of parameters α and β, respectively. All computations were made using aML software (see Appendix); data preparation was made in Stata statistical software.

As already mentioned, this chapter deals with the problem of how personal and partnership characteristics affect marital stability. Among partnership characteristics, we are particularly interested in the effect of premarital cohabitation and its duration.

Moreover, we add an indicator for the length of premarital cohabitation. Our model recognises three categories of cohabitation duration – less than half a year, from half year until two years and more than two years. Apart from direct and transformed marriages, we have also observed a category of couples moving in together only after marriage. We include these unions as a separate category into the model, but generally we treat them as direct marriages.

Our hypothesis is that leaving the problem of unobserved selectivity out of account, the direct effect of premarital cohabitation is partly responsible for the higher marital instability of transformed marriages in the Czech Republic, while in Austria the direct effect is missing, leaving only indirect effect moderated entirely by mediating factors. We also expect that the part of the effect is interfered by the lowered age at start of partnership (as related to the age at marriage) of premaritally cohabiting, and that this effect component disappears when we replace the representation of age at marriage by age at union formation.[39] Finally, we expect that marriages concluded

[39] The mean age in our samples was 20.7 at first marriage and 20.4 at first union formation (taking into account just partnerships that ended in marriage) in the Czech Republic and 22.3 and 21.2, respectively, in Austria. Nevertheless, while the mean age at first marriage in the Czech Republic is 20.4 for direct marriages and 21.5 for premaritally cohabiting, the age at union formation for directly marrying is still 20.4, while for transformed marriages diminishes on 20.2. In Austria, the mean age at direct marriage is 21.4, the premarital cohabitation is formed in average at age 20.9 and the cohabitants later marry at age

after short period of cohabitation are more liken to direct ones, while unions that cohabited for more than two years before wedding are more fragile.

V.1.2 Explanatory and control Variables

Besides the information about the premarital cohabitation, we indeed include the indicator of number of marital union (first or higher order). Among characteristics capturing personality and individuality, we add following explanatory variables, which at the same time control for indirect effect of premarital cohabitation:

- As an indicator of individuality development during the childhood we use the number of respondent's siblings to capture possible exceptionality of respondents with no siblings. Our hypothesis is that in the Czech Republic and in Austria lone children have a higher propensity for disruption even after controlling for other factors (especially parental divorce).
- Indicator of early childhood personality development captured by the dummy variable whether individual spent her childhood in Vienna or Prague. In both countries under focus, the capitals form an exceptionally big unit with more than one million inhabitants[40], with no other city of comparable populace in the country. We test, if such individuals differ significantly from their counterparts from rural areas and smaller cities in later life stages behaviour.
- We use an indicator of parental union disruption until the respondent's 18th birthday to capture the effect of the union instability transmission.
- As an indicator of individuality and independence development in early adulthood is implemented the living alone variable, constructed by comparing the date of a partnership's formation with the date of leaving parental home (LPH). We are testing the hypothesis that more individual and self-contained respondents recognised by leaving their parental home and living alone for distinct period before starting first union (cohabitation or direct marriage) later display less stable marital behaviour. Observing the FFS data, this indicator was found strongly correlated to the occurrence of premarital cohabitation.

23.4. As a result, mean duration of first premarital cohabitation is 15 months in the Czech Republic, and the double – 30 months – in Austria.

[40] Vienna has 1.5 million inhabitants in 8.0 million Austria (Statistics Austria, 2002b), Prague has 1.2 million residents in 10.3 million Czech Republic (CZSO, 2003a).

- We control for the interaction of education with marital stability, implementing a time-varying variable that combine the level of education with educational enrolment. We follow the recommendation to make a distinction between an achieved level of education and the effect of being a student in studies on family formation (Hoem, 1986), distinguishing between the period prior to finishing education and the period after the education is finished. The latter one is divided further into three subcategories according to the highest attained education level: Low level of education covers basic level (primary school) or no education. Middle level of education covers secondary or high school education. High level denotes completed university education. [41] The evidence of the role of educational attainment in marital stability is ambiguous. While official statistics offer just crude divorce rates that indicate negative impact of level of schooling on marital stability, supported for example by analysis of Běláček (1991) for the Czech Republic, Haller (1977) for Austria and Bennett et al. (1988) and Hoem and Hoem (1992) for other countries, the positive impact is reported by Rychtaříková (1983) for the Czech Republic, Doblhammer et al. (1997) for Austria and by Martin and Bumbass (1989), Feng et al. (1999), Wolfinger (1999) and Le Bourdais et al. (2000) for other countries. Moreover, Diekmann and Schmidheiny (2002) report positive impact in both countries, while Dourleijn and Liefbroer (2002) report positive impact in the Czech Republic but negative one in Austria. Our expectation is nevertheless that the propensity to disrupt goes down the higher the education of the respondent. The effect of educational enrolment after marriage is not clear due to its possible correlation to the age at marriage as well as to other factors.
- Finally, we included an indicator of religiousness.[42] We are observing the effect in the atmosphere of high secularisation of the Czech society in contrast with still influential role of Catholic faith in Austria, expecting thus stronger impact in Austria than in Czech Lands.

[41] Not stated and not classifiable were included into the low level. According to FFS coding, low level means the responses 0-2 and 7 of the questions v801 and v805, middle level means 3-4 and high level 5-6.

[42] Because of lack of indicators on confession in the Czech data, we use only data on religiousness in general. As religious is taken respondent who returned “Yes” to the question “Are you religious?” The self-determination of religiousness may be time varying but we could not control for that in the model.

We further control for the effect of the number of children, their age and pregnancy, adding single combined time-varying covariate on childlessness, first pregnancy, the number of children (1, 2, 3+) and age of the youngest child (younger than one year or older). Among partnership characteristics we also control for the age difference between partners (whether female respondent was older than her partner), for previous divorces of male partner and for children from previous partnerships. We also test the hypothesis whether the unions that begun during pregnancy of respondent are less stable than other unions.

V.1.3 Results

Using the aML software, we have obtained the parameter estimates of the final hazard regression model. The baseline is shown in figure 15. The fluctuation in the first year of marriage is probably caused by a high incidence of pregnancy and first childbearing in this period. These events often follow from premarital conceptions, and both are recognised as reducing disruption-proneness. The intensity of disruption reaches its maximum shortly after marriage, followed by a stabilisation on a relatively high level. The risk tends to decline only twenty years after marriage. The pattern is however affected by other explanatory variables, especially by the cohort representation.

Beginning from the zero model that include only the baseline and the dummy variable capturing the effect of premarital cohabitation, transformed marriages display the crude relative risk of disruption 59% higher than direct marrying in the Czech Republic and 50% in Austria (table V.1; for full set of models' estimates see tables T.9 and T.10). Contrariwise to our expectations based on the notions of Thomson and Colella (1992) and Bennett (1988), the effect is stronger for cohabitations of short duration and weaker for long time cohabiting (zero model II). Those who started to live together only after marriage were found about 30% less likely to dissolve their eventual marriages than direct marrying in Austria, and about 30% more likely to disrupt in the Czech Republic.

However, when controlling for possible mediating factors (final model, see also table V.3), the effect of premarital cohabitation almost disappears in the Austria, and when replacing the representation of age at marriage by the age at the start of the union (final model II), the effect vanishes also in the Czech Republic, except for

the cohabitations of short duration. These findings impeach the notion about a substantially lower stability of marriages preceded by premarital cohabitation compared to direct marriages. In Austria, the effect is mostly indirect, moderated by personal characteristics like religiousness, childhood in metropolis, educational enrolment, parental divorce and independent living in earlier stages of life.[43] The finding about absent effect of premarital cohabitation in Austria validates the results of Dourleijn and Liefbroer (2002) and Kiernan (2001), indicating that the direct link between cohabitation and marital dissolution is no longer present in countries, where the phenomena of non-marital cohabitation is already well established.

Table V.1: The crude and net effect of premarital cohabitation on marital stability

Czech Republic	Zero model	Zero model II	Final model	Final model II
Moved together after marriage	\	1.27	1.29	1.30
Direct marriage	1	1	1	1
Premarital cohabitation 1-5 months	\	2.27 ***	1.91 ***	1.83 ***
Premarital cohabitation 1/2-2 years	1.59 ***	1.31	1.12	1.00
Premarital cohabitation more than 2 y.	/	1.79 **	1.72 **	1.25

Austria	Zero model	Zero model II	Final model	Final model II
Moved together after marriage	\	0.72 **	0.66 ***	0.66 ***
Direct marriage	1	1	1	1
Premarital cohabitation 1-5 months	\	1.54 ***	1.16	1.13
Premarital cohabitation 1/2-2 years	1.50 ***	1.50 ***	1.13	1.01
Premarital cohabitation more than 2 y.	/	1.32 **	1.17	0.88

Given figures represent relative risks of marital disruption related to direct marriages
Significance: '*'=10%; '**'=5%; '***'=1%
Zero model: No covariates, just baseline and premarital cohabitation
Zero model II: No covariates, baseline, premarital cohabitation and its duration
Final model: Full set of variables, derived from final model (table V.3)
Final model II: Full set of variables, age at marriage in final model replaced by age at union formation

Mixed results were gained from parameter estimates for the Czech Republic. The crude effect is partly mediated by indirect influence, partly by the effect of the earlier age at union formation. The direct effect persists especially for the premarital cohabitations of short duration, displaying almost twice as high dissolution intensity than direct marriages (Dourleijn and Liefbroer, 2002, found 67% super-risk of premaritally cohabiting in the Czech Republic after controlling for age at start union).

In order to disentangle the link between premarital cohabitation, its duration and age at union formation, we have analysed the interaction between the respective

[43] From stepwise preliminary computation we know that controlling for personal characteristics eliminates the direct effect of premarital cohabitation, while controlling for the impact of partnership characteristics and childbearing does not have such impact.

covariates. The estimates of the model that controls for all available covariates (excluding age at marriage) are presented in table V.2. The results indicate the importance of age at union formation, belittling the net impact of cohabitation. Yet in the Czech Republic, premarital cohabitations of short duration under half year, concluded until age of 22, display higher instability of subsequent marriage as compared with direct marriages. But longer cohabitations miss significant effect, and there is also no significant relationship between cohabitation and marital stability among unions concluded in more mature ages of 23 and higher.[44] In Austria, premarital unions of certain duration might have some destabilising effect when concluded until 22, but the 'trial marriage' has surprisingly stabilising impact on marriages when formed in later stages of life. Following Kahn and London, 1991; Lillard et al. (1995); Hall (1996); Brüderl et al. (1999) and others we conclude that cohabitation has no clear direct effect on marital stability.

Table V.2: Interaction between age at union formation and premarital cohabitation
(relative risks of marital disruption related to direct marriage in age 19-22)

Czech Republic			
Age at union formation	14-18	19-22	23-40
Moved together after marriage	\	1.10	1.17
Direct marriage	1.70 ***	1	0.60 *
Premarital cohabitation 1-5 months	2.81 ***	2.26 ***	0.44
Premarital cohabitation 1/2-2 years	1.94 ***	1.10	0.47 *
Premarital cohabitation more than 2 y.	/	0.66	/

Austria				
Age at union formation	13-18	19-22	23-26	27-48
Moved together after marriage	1.60 *	0.74	0.26 **	\
Direct marriage	1.86 ***	1	0.85	0.99
Premarital cohabitation 1-5 months	2.26 ***	1.27	0.69	0.85
Premarital cohabitation 1/2-2 years	1.81 ***	1.16	1.03	0.48 *
Premarital cohabitation more than 2 y.	1.53 **	1.37 *	0.37 ***	0.53 *

Given figures represent relative risks related to direct marriages concluded in age 19-22 years
Significance: '*'=10%; '**'=5%; '***'=1%
Model controls for all other variables excluding age at marriage
Some spells were joined together because of too low number of observations.

Measuring personal characteristics[45], we have found a strong impact of living alone (out of cohabitation or marriage) before union formation. Such individuals have more than twice as high disruption risk in the Czech Republic, and 135% as high in

[44] Czech age groups 23-26 and 27+ were joined together because of too low number of observations.
[45] In what follows, we discuss the results of the 'final model', presented in table V.3. For full set of parameter estimates of zero models and final model II see tables T.9 and T.10.

Austria, as persons who left their parental home in order to begin a partnership. Another personal characteristic that assigned a powerful impact among both societies is the childhood in the metropolis. Women who lived in Prague or Vienna until their 15th birthday display almost twice as high propensity to divorce as women from smaller cities or rural areas. The effect of intergenerational transmission of marital instability is also quite strong among both societies, with more pronounced weight in Austria. The religiousness is not important in secularised Czech Republic – the 17% less disruption-proneness of religious people were not significant even on the 10% significance level. In Austria the religiousness is important and such people divorce with 27% lower probability compared to non-religious ones. On the contrary, the higher disruption-proneness of lone children (with no siblings), which reflects the influence of the respondent's personality and individuality development in the early stages of her life span on subsequent marital stability, is significant in the Czech Republic but not in Austria.

The results concerning education fulfilled our expectations: Less educated people have slightly higher risk of marriage disruption and university graduates slightly lowered risk. Austrian women are extremely prone to marital union disruption, if still enrolled in education.

The importance of birth cohort is evident in both regions. 'Transitory' cohorts born in 1968-72 in the Czech Republic and in 1955-64 in Austria, display about a half higher risk of marital breakdown than 'traditional' cohorts 1952-67 (1941-54 in Austria), while the dissolution intensity of 'the pioneers of the new behaviour' is more than twice as high in the same relation. We thus confirmed the findings of Diekmann and Mitter (1984), Bracher et al. (1993), Doblhammer at al. (1997) and Dourleijn and Liefbroer (2002) about particular importance of birth cohort for the examination of marital disruption behaviour.

Surprising finding is that Czech second marriages are dissolved with the similar risk as the first ones. One of the given explanations for this phenomenon is that second marriages are contracted in higher ages compared to first marriages, often concluded (especially during socialist era) in premature ages (Gjurić, 1981). However, this explanation is not valid after controlling for the age at marriage. The Austrian higher order marriages show 73% higher risk of dissolution, compared to first marrying. When the marriage was of second or higher order from the perspective of the male partner, the effect on the marital stability was conformable to that of

woman's rank, i.e. non-significant in Czech Republic and with 46% super-risk in Austria.

Pregnancy during the partnership formation did not show any interference with union stability. Our hypothesis about the particular importance of this covariate was not proved. The age difference between spouses was found important in Austria, where woman with younger husband divorce more often than woman with older or coeval partner.

As expected, premature marriages of young women aged 18 or less display expressively high probability to end in separation compared to the group of women who married at ages 19-22 (52% in CR and 75% in Austria). Marriages contracted at a more mature age of 23+ displayed about 30% lesser risk to dissolve. Age at marriage, one of the strongest and most consistently documented determinants of union stability (Cherlin, 1977; Martin and Bumpass, 1989; Bracher et al., 1993) was thus found to be important also in the Czech Republic and in Austria. The effect is even broader when incorporating instead the age at union formation (final model II), reducing thus the effect of premarital cohabitation (according to the recommendation of Cohen, 1991 and Brüderl et al., 1999).

Controlling for the effect of children in unions, we have found a strong proneness among childless couples to divorce, displaying about twice as high risk as the control group. As the control group was chosen the common situation of couples who have two children, the second one being older than one year. As found in other studies (Lillard et al., 1995; Hoem, 1997; Andersson, 1997; Dourleijn and Liefbroer, 2002), the union is most stable during pregnancy. The presence of young children or a higher number of children seems to be stabilising factors for marriage as well. The result is important in relation to one older child (84% higher risk of dissolution in Czech and 53% higher in Austrian society): As already discussed, in the two-child climate, the presence of just one child of higher age can cause or display some problems among parents that may alternatively flow into a family breakdown. Unions that have higher number of children do not differ significantly from two-child partnerships. The children from previous partnerships do not affect the stability of unions significantly.

For the full coverage of cohabitation effects, we shell incorporate the representation of unobserved heterogeneity, controlling for self-selection of more divorce prone ones into cohabitation. The next section deals with this problem, as

well as with the phenomenon of leaving parental home and its impact on both marital formation and dissolution.

Table V.3: Hazard of marital disruption – parameter estimates of the final model

	Czech Republic			**Austria**		
	Intensity	r.r.	sig.	Intensity	r.r.	sig.
Duration of marriage - constant	-10.238			-12.658		
0-3 months	0.805			1.256		
4-7	-0.578			-0.120		
8-11	0.609			0.008		
12-17	-0.013			0.126		
18-23	-0.042			-0.062		
24-35	-0.017			0.042		
36-47	-0.010			-0.029		
48-59	0.036			0.025		
60-119	-0.001			0.000		
120-179	0.001			-0.003		
180-239	-0.002			0.006		
240+	-0.016			-0.011		
Birth cohort (CR | Austria)						
1952-67 | 1941-54	0	1		0	1	
1968-72 | 1955-64	0.496	1.64	***	0.385	1.47	***
1973-80 | 1965-76	0.747	2.11	***	0.968	2.63	***
PERSONAL CHARACTERISTICS						
The only child (no siblings)	0.496	1.64	***	0.087	1.09	
Religious person	-0.186	0.83		-0.315	0.73	***
Childhood in Prague/Vienna	0.676	1.97	***	0.545	1.72	***
Parental family disrupted	0.316	1.37	**	0.554	1.74	***
Lived alone before starting 1st union	0.747	2.11	***	0.298	1.35	***
Still in education	-0.044	0.96		0.881	2.41	***
Education finished-low level	0.287	1.33	**	0.096	1.10	
Education finished-middle level	0	1		0	1	
Education finished-high level	-0.510	0.60		-0.168	0.85	
PARTNERSHIP CHARACTERISTICS						
Second or higher order marriage	-0.153	0.86		0.545	1.73	***
Cohabitation						
Moved together after marriage	0.257	1.29		-0.421	0.66	***
Direct marriage	0	1		0	1	
Premarital cohabitation 1-5 months	0.648	1.91	***	0.145	1.16	
Premarital cohabitation 1/2-2 years	0.114	1.12		0.126	1.13	
Premarital cohabitation more than 2 y.	0.545	1.72	**	0.156	1.17	
Age at marriage						
-18	0.421	1.52	***	0.562	1.75	***
19-22	0	1		0	1	
23-26	-0.347	0.71		-0.107	0.90	
27+	-0.438	0.65		-0.414	0.66	**
Partnership begun during pregnancy	0.011	1.01		0.010	1.01	
Woman older than partner	-0.222	0.80		0.288	1.33	**
Male partner divorced before	0.074	1.08		0.378	1.46	*
Child/ren from previous partnerships	-0.214	0.81		0.010	1.01	
Children from current partnership						
No children	0.836	2.31	***	0.623	1.86	***
Pregnant with 1st ch. (conc. in marr.)	-	0.00	***	-	0.00	***
One child 0-11 months old	-0.084	0.92		-0.545	0.58	**
One child 12+ months old	0.609	1.84	***	0.424	1.53	***
Two children, 2nd 0-11 months old	-0.525	0.59		-0.827	0.44	**
Two children, 2nd 12+ months old	0	1		0	1	
Three or more children	-0.267	0.77		-0.102	0.90	
Log-likelihood	-1829.2			-4436.6		

Significance: '*'=10%; '**'=5%; '***'=1%; r.r. = relative risk = exp (intensity)

V.2 THE ROLE OF SELF-SELECTION

In the previous section we have shown that the indirect effects and observed selectivity are mostly (in the Czech Republic) or entirely (in Austria) responsible for the elevated dissolution risk of premaritally cohabiting. Now we expect that after controlling for the impact of self-selection the remaining direct disturbing effect of premarital cohabitation in the Czech Republic will disappear. We model simultaneously the marital disruption process with hazard regression model and the leaving parental home process (to live alone or to start a union) and the union formation process (by premarital cohabitation or by direct marriage) with probit models. We allow for endogeneity of living alone in cohabitation and disruption processes, and we add the information about premarital cohabitation into the dissolution model. Finally, we include the unobserved heterogeneity term in each equation, and allow for correlation across heterogeneity components, controlling thus for self-selection among examined processes. As an additional factor we observe the impact of parental divorce in leaving parental home, union formation and marital dissolution behaviours. We control for couple of personal and partnership characteristics, taken from the model of the previous section.

Concerning the leaving parental home behaviour, we first test the hypothesis that the higher cohabitation- and marital dissolution-proneness of respondents, who experienced an independent living, is partly the result of self-selection. After controlling for self-selection by including the unobserved heterogeneity into the model, the effect should weaken or disappear. Second we raise the antithesis that the underlying factor is not the selection and that those who leave parental home in order to live independently do it for rational, often logistic reasons (beginning higher education, entering labour market). Such persons are not necessarily selected for unobserved characteristics that lead to higher divorce-proneness in later stages of their lives.[46] Shortly, we test between 'self-selection' and 'direct-effect' hypothesis.

[46] For example migrants from rural areas into big cities could have displayed characteristics that were more targeted towards traditional norms, and only after moving they acquired new norms of behaviour that made them more prone to cohabit or to dissolve the unsuccessful marriage.

V.2.1 Joint model of LPH, union formation and marital disruption

We use three model segments on leaving parental home process, marital union formation process and the marital dissolution process to build one complex model covering all three processes simultaneously.

The leaving parental home and union formation processes are modelled using probit function. Contrary to parametric and non-parametric (hazard) models of event history analysis that falls into the group of regression models, probit function is a probability model, where the probability of entering a state 0 or 1 (denoted by an outcome dummy variable) is modelled as conditioned on a set of explanatory and control time-constant variables. In LPH process, the outcome equals one if the respondent left parental home and lived alone or with other people, but not in a partnership (cohabitation or marital union). Outcome variable equals zero, if individual left parental home in order to start cohabitation (premarital or not) or marry directly, or if respondent still lived with parents at the time of censoring. The outcome is non-repeatable for one individual, deals only with first leaving, and does not count with returns to parental home etc.[47] The explanatory and control variables cover the period of respondent's childhood and early adulthood and the demographic and educational situation at the time of LPH.

The union formation model has the outcome 1 if the union started as a premarital cohabitation and 0 if direct marriage is concerned. Only unions that ended in marriage are taken into account. Up to three such unions are recorded for each individual. Included time-constant variables cover the period of respondent's childhood and early adulthood, demographic and educational situation at the time of start of the union and the outcome variable of LPH process, modelled as endogenous in union formation process.

The marital dissolution process is modelled by hazard regression with a marital duration risk as a baseline. This equation includes time-constant as well as time-varying variables. The LPH and union formation processes are modelled as endogenous in marital disruption process.

[47] For discussion on contextual problems in studies of leaving parental home see Buck and Scott (1993).

- Probit model of leaving parental home:

$$p_i = \alpha_0 + \Sigma_j \alpha_{1j} x_{ij} + U_i$$

$$LA_i = \{0 \text{ if } p_i \leq 0;\ 1 \text{ if } p_i > 0\}$$

- Probit model of union formation:

$$q_{im} = \beta_0 + \Sigma_j \beta_{1j} x_{ij} + \Sigma_j \beta_{2j} y_{ijm} + \beta_3 LA_i + V_i$$

$$COH_{im} = \{0 \text{ if } q_i \leq 0;\ 1 \text{ if } q_i > 0\}$$

- Hazard regression model of the intensity of marital disruption:

$$\log MD_{im}(t) = \delta_0(t) + \Sigma_j \delta_{1j} x_{ij} + \Sigma_j \delta_{2j} y_{ijm} + \Sigma_j \Sigma_k \delta_{3j} z_{ijmk}(t) + \delta_4 LA_i + \delta_5 COH_{im} + W_i$$

Individuals are indexed by i, unions by m, covariates by j[48], and time marks of time-varying covariates by k. Vectors of parameters are denoted by Greek letters, α_0 and β_0 being constants and $\delta_0(t)$ being a baseline log-hazard represented by the duration piecewise-linear spline (generalised Gompertz function) and capturing the effect of duration of marriage, with two nodes at 2 and 5 years after marriage formation. The sums represent the sets of fixed individual-specific covariates x, marital-specific covariates y and time-varying covariates z. The marital-specific variables include also the information about the number of union (first or subsequent). We therefore make rather strong assumption about the independence of parameters β_{2j}, δ_{2j}, δ_{3j} and δ_5 on m. We will address this issue later. The endogeneity of living alone and cohabitation in subsequent processes is provided by LA_i and COH_{im} terms. All computations were made using aML software (see Appendix); data preparation was made in Stata statistical software.

We will present three models for each country, model I without heterogeneity terms and models II and III with included residual terms to control for the influence of individual unobserved characteristics. The residual term U_i picks up the unobserved heterogeneity of propensity of individual i to live alone after LPH, V_i represents the woman-specific unobserved heterogeneity in the propensity to cohabit before marriage, and W_i picks up the unobserved heterogeneity of respondent's propensity to divorce. All residual terms are individual-specific, constant across unions. The heterogeneity components are assumed to be (jointly) normally distributed across individuals.

In model II we include the residual term into each model segment, without allowing for the correlation between them ($\rho_{UV} = \rho_{UW} = \rho_{VW} = 0$). We test, whether the

[48] For the sake of simplicity we use the same letter j for different covariates in different processes.

repeated outcomes (unions) are mutually independent or not, i.e. whether there is a significant unobserved heterogeneity in union formation or marital disruption process respectively (Lillard and Panis, 2003: 126). The standard deviation of LPH process frailty term U was fixed to 1.[49] If the hypothesis of self-selection inside distinct processes is validated and the standard deviation of residual terms V and W is significantly different from zero, some of the estimated variable effects should weaken, especially the effect of higher number of marital union on the divorce rates of such unions.

In model III, correlation between residual will provide the full interaction between the processes, disentangling the role of self-selection (Kahn and London, 1991; Lillard et al., 1995; Brüderl et al., 1999). If the hypothesis about self-selection is correct, the same important unmeasured characteristics are contained in two or three of heterogeneity components U_i, V_i and W_i and the correlation coefficient between them thus will be significant and positive. If the correlation coefficient between respective pairs of processes is non-significant, the underlying factor of the relationship is not originated in self-selection, and should be ascribed to direct effects. We have built the model III stepwise, first modelling just marital dissolution with LPH process only, then the marital dissolution with union formation process only, and finally modelling all three processes with full interaction between them. In the text we present just the final model with full interaction (tables V.5 and V.6), for the full set of covariates and for the partial results see tables T.11 and T.12).

On the top of the thesis, we include the analysis concerning the interaction among the important terms picking up the full matrix of the relation between marital formation course and the marital stability. Below we present the state-space diagram of processes under study. First two diagrams represent the numbers of transitions, with corresponding numbers of subsequent marital breakdown, and the percentage of dissolved couples. Transitions refer to first marital unions, the first diagram in Austria and the second one in the Czech Republic. The last diagram represents the share of passed spaces on a respondents' course into the first marriage as the percentage of all first-marrying, upper figures for Austria and the lower for the Czech Republic.

[49] Some researchers use fixed standard deviation of heterogeneity in processes where no repeated events per individual are included: "In order to identify the standard deviation of the heterogeneity component, we need multiple outcomes on at least a subset of the observations" (Lillard and Panis, 2003: 127). However, this theoretical justification is actually not correct (J.M.Hoem, personal consultation). Anyway we use fixed sigma of LPH heterogeneity, because the model estimates do not converge otherwise.

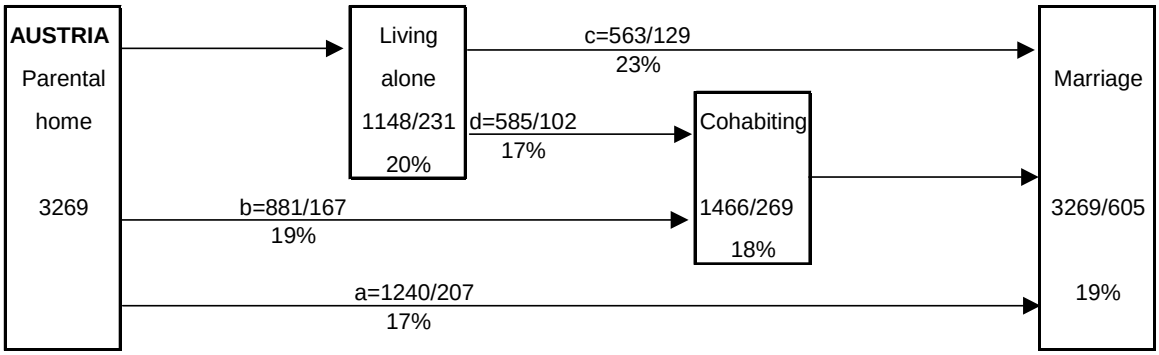
The analysis will use extended hazard regression model of the intensity of marital disruption:

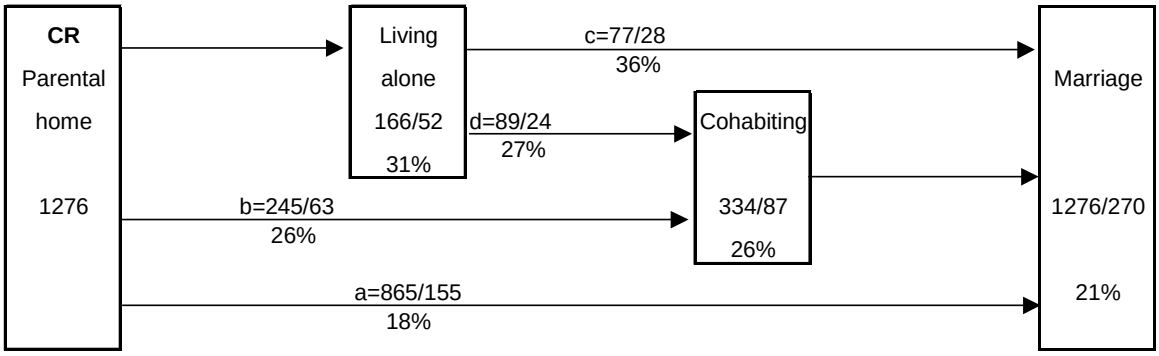
$$\log MD_{im}(t) = \delta_0(t) + \Sigma_j \delta_{1j} x_{ij} + \Sigma_j \delta_{2j} y_{ijm} + \Sigma_j \Sigma_k \delta_{3j} z_{ijmk}(t) +$$
$$+ \theta_1(1\text{-}LA_i).COH_{im} + \theta_2 LA_i.(1\text{-}COH_{im}) + \theta_3 LA_i.COH_{im} + W_i$$

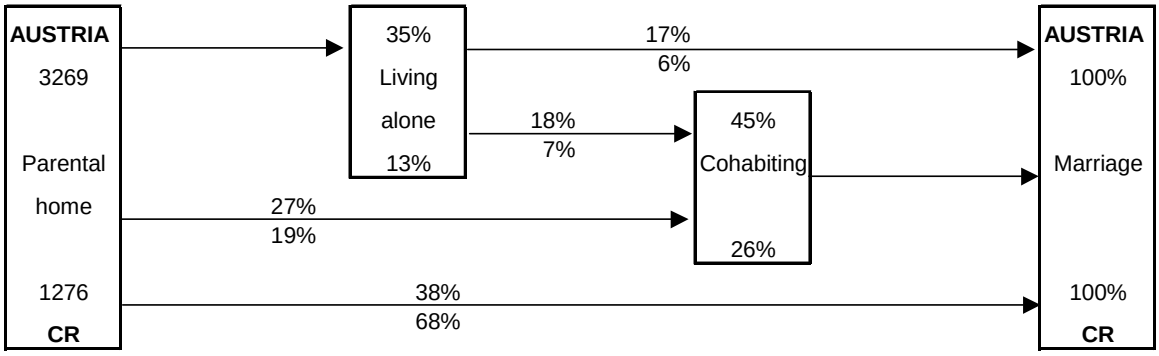
We distinguish between four sequences of stages among the process of marriage formation:

a) Woman marries without cohabitation, directly after leaving parental home (or even within parental home). Such course was the most frequent in Austria and prevalent in the Czech Republic, where more than two thirds of women married directly without previous independent living. According to our expectation such marriage formation course should display the lowest probability of later marital failure, and we use it as a reference category.
b) The second most frequent sequence is the marriage preceded by cohabitation that started immediately after leaving parental home. Such category should have somewhat elevated risk of marital dissolution, depicted by term θ_1, which should however disappear after controlling for unobserved heterogeneity and the self-selection into cohabitation.
c) The rarest life course is to form marriage directly after a distinct period of living alone. Such woman we expect to dissolve with rather high relative risk θ_2.
d) Finally we observe the women who experienced the individualistic-oriented stages of life, living alone first and then entering the cohabitation before definitely marrying. We expect this group to display highest intensity of marital discord with relative risk depicted by θ_3.

Diagrams 1-3: State-space diagrams of the process of marriage formation.







V.2.2 Explanatory and control variables

Our main interest is devoted to variables expressing the potential endogeneity of various processes, so we include the ‘living alone’ covariate into both union formation and disruption model segments, and the information whether the marriage was preceded by premarital cohabitation into marital dissolution equation. The ‘living alone’ equals one, if respondent lived independently after LPH, and equals zero, if individual started a union immediately after leaving the parental home.

Both the union formation and marital dissolution equations include the indicator of number of marital union (first or higher order), as the risk of divorce in second and subsequent marriages is usually found higher than in first marriages. This effect should disappear after controlling for selection using the unobserved heterogeneity term (Lillard et al., 1995). Including the number of union as an explanatory variable into the model, we have made an assumption of the independence of other important covariates on the number of union. As we tested during preliminary computations, this assumption is generally correct, impeached just in few cases: The role of children and the birth cohort are not important for stability of second and subsequent marriages, while they were important in the case of first marriages. And more importantly, the role of premarital cohabitation seems to be different among first and subsequent unions. Second marriages are more stable when preceded by cohabitation than if concluded directly. However, after introducing unobserved heterogeneity the effect of premarital cohabitation became insignificant for all marriages. Because only 9% of Czech respondents and 7% of Austrian ones experienced more than one marital union, we will neglect the problem of slightly different structure of the divorce intensities for first and later marriages, and treat marriages of all orders as homogeneous in a sense of the meaning of explanatory and control variables.

Our interest is also devoted to the intactness of respondent's parental family since such experience seems to affect significantly all subsequent individual decisions about important life events. We are testing the hypothesis that the experience of parental discord is contributing not only to higher risk of own divorce, but also to higher occurrence of living alone and non-marital cohabitation among respondents with divorced parents compared to individuals brought up in an intact family. The parents' divorce is taken into account only if occurred before the respondent's 18^{th} birthday.

The role of educational enrolment and attainment seems to be important for the marital behaviour of the spouses. We use joint variable, taken from the analysis of previous section: A low level of education covers basic level (primary school) or no education, a middle level covers secondary or high school education and the high level indicates that university (college) education was completed. The highest attained level of education is examined only if education is finished, otherwise the effect of educational enrolment is observed. In disruption equation we use a time-varying variable combining the level of education with educational enrolment.

Following the results of previous section, we expect positive impact of reached level of education on marital stability in the Czech Republic and the negative influence of continuing education in Austria. In union formation equation, we add information on educational enrolment and adjusted level of education at the time of the union initiation. Regarding highest attained level of education we expect that the propensity to cohabit goes up the higher the education of the respondent. As the causality between educational attainment and the leaving of parental home is not clear, we have included only the information whether the education was finished at the time of LPH. Continuing education is often the reason for nest leaving (Mulder and Manting, 1994), especially during the move from secondary to distant university education centre. The resulting student living arrangement is then in compliance with the 'living alone' category.

Among individual characteristics, we control for the exclusiveness of individuals with no siblings. We also test, whether individuals who spent their childhood and grew up in Vienna or in Prague differ significantly in early life stages behaviour. We expect that city women live independently (Buck and Scott, 1993: 871) and cohabit more often, having more opportunities and less social control than women from smaller places do. We use the indicator on most frequent place of living until the age of 15. Yet we control for the religiousness of respondents.

The pregnancy of female respondent during the leaving parental home and at the time of starting the union and marrying is controlled as well. Pregnancy during these transitions is quite frequent, often enforcing the events under observation.

In marital dissolution process we control for the number of children born in current union, captured by time-varying covariate that distinguishes between childlessness, one child parenthood and parenthood of two or more children. We expect positive relationship between the number of children and union stability. We control also for the presence of children of prior unions, commonly associated with elevated rates of divorce.

Further we control for the age difference between partners (whether female respondent was older than her partner) and for previous divorces of male partner. We expect that partnerships where the male partner was already divorced start by premarital union with much higher frequency.

As a baseline log-hazard we use the duration piecewise-linear spline, controlling for the effect of duration of marriage. We expect that the effect of marital duration on its stability will weaken after controlling for unobserved heterogeneity.

Moreover, we observe the role of birth cohort among all processes. We expect that especially the probability of starting a union as cohabitation will be strongly correlated to the birth cohort.

Finally, we control for the age at leaving parental home and the age at start of union. The reason for leaving parental home is closely connected to the age, when the transition occurs. In teen-ages, the LPH is often related to education, and nest-leavers are more likely to seek for independent living. Older respondents usually leave parental home in order to start a partnership.[50] The relation between age at start of the union and the type of union is probably not linear (Liefbroer, 1991; Lillard et al., 1995). We would expect higher propensity to cohabit among young women who still do not want to engage into life-long commitment, but also among older women who already experienced marital divorce. Also in marital dissolution behaviour we control for the age at the start of partnership rather than marriage age.

The overview of all variables is presented in table V.4.

Table V.4: Description of variables

Process		**LPH**	**Union formation**	**Marital dissolution**
Type of model		**Probit**	**Probit**	**Hazard**
Premarital cohabitation	yes/no			X
Lived alone after leaving parental home	yes/no		X	X
Number of marriage	$1^{st}/2^{nd}+$		X	X
Duration since marriage formation	0-2, 2-5, 5+ years			X
Birth cohort	3 groups (see text)	X	X	X
Age at start of union	-18, 19-22, 23-26, 27+		X	X
Age at leaving parental home	-18, 19-22, 23-26, 27+	X		
Parents' divorce until age 18	yes/no	X	X	X
No siblings	yes/no	X	X	X
Lived in Vienna/Prague until age 15	yes/no	X	X	X
Religious person	yes/no	X	X	X
Educational enrolment	finished/not finished	at LPH	at start	time-varying
Educational attainment	low/middle/high		at start	time-varying
Pregnant during an event	yes/no	at LPH	at start	at marriage
Woman older than partner	yes/no		X	X
Partner divorced	yes/no		X	X
Number of children born in current union	0/1/2+			time-varying
Child/ren from previous unions	yes/no			X

[50] According to Mulder and Manting (1994), the proportion of those leaving home to live with a partner increases with the age, but after age 25 the proportion decreases again.

V.2.3 Results

Selected important results are presented in tables V.5 and V.6; the full set of model estimates is located in tables T.11 and T.12. First before turning our attention to the main and most important results of this section, let us discuss the importance of time dimension in observed processes.

The effect of marital duration on the hazard of dissolution is depicted in figure 16. We may see fractional upward trend during first two years of matrimony, after that the risk stay at constant level. After introduction of unobserved heterogeneity term (model II) and allowing for the full interaction of all processes (model III), we witness significant reduction in disruption rates. The reduction is more pronounced the longer is the marital duration, which flow into virtually duration-independent rate after controlling for unobserved heterogeneity: individuals with personal unobserved characteristics that make them more prone to divorce disrupt their unions earlier, leaving the share of individuals with higher partner-cohesive unobserved characteristics elevated among wedlocks of longer duration. We have thus controlled for the selection bias among the partnerships of longer duration. Comparing regions under observation, we witness a higher risk of marital dissolution in the Czech Republic. However, in models II and III Czech risk of dissolution is lower than in Austria, indicating more pronounced role of unobserved heterogeneity in Czech society. However, such findings should not be over-interpreted, as the decline in the baseline intensities is counterbalanced by an increase in the relative risks of control variables, especially of those picking up the role of time in its various dimensions.

We included two variables depicting the role of time – the birth cohort and the age at the time of entering the state. The results are displayed in figures 17-19 (bold bars label difference of the relative risk from the baseline hazard at 5% significance level) and in tables T.11 and T.12. We have examined important cohort shift in all three processes in following direction: younger cohorts are less likely to live independently but much more likely to precede the marriage by cohabitation than older cohorts. The latter effect is much more pronounced in Austria, where the phenomenon of premarital cohabitation is more embedded than in the Czech Republic. The importance of birth cohort is evident also in marital disruption process. Young cohorts in both the Czech Republic and the Austria display about twice as high dissolution risk compared to more traditional cohorts. Interestingly, in Czech

Republic the increase in disruption risks is a matter of two younger generation groups born after 1968, while the increase in the frequency of premarital cohabitation and decrease in living alone is the phenomenon found significant only among the youngest group born after 1973. These findings suggest two important conclusions: First that the link between generation increase in cohabitation and divorce is not causal, and second that the increase in cohabitation is counterbalanced by decrease in living alone after LPH. While traditionally people left parental home to live alone or to directly marry, now they do it often in order to enter a consensual union, and the intensity of independent living is thus limited.

The effect of age at leaving parental home was also found important. Respondents who left parental home in their teen-ages, did it (in relation to the age category 19-22) more often in order to live alone, usually in some kind of student housing (the same strong effect was found among those who still studied at the time of LPH). On the contrary, those who left parents after their 23rd birthday did it more often in order to start a union (but this relationship is present just in Austria). The effect of age at the start of union on the decision between premarital cohabitation and direct marriage is also clear: youngest spouses choose premarital cohabitation with about 50% higher probability; after the age of 19, the age at entering the union is irrelevant for the choice between premarital union and direct marriage. The strongly positive effect of age at union formation on subsequent marital stability was found important as in previously cited studies.

We controlled for several individual and partnership characteristics among studied processes. The parameter estimates of control variables in marital dissolution model do not differ from those observed in the previous section of this chapter: childhood in a big city or childlessness is shifting the probability of marital breakdown upward in both societies, some characteristics, like religiousness are important only in Austria. The new findings of actual paper will deal with union formation and LPH processes. We faced significantly lower probability of starting a union as cohabitation among religious persons in Austria. Regarding growing up in a metropolis, we did not find any effect in union formation process – children from Prague and Vienna show in their adulthood the same probability of choosing between cohabitation and marriage as children from smaller cities and rural areas. But they differ concerning attitudes towards independent living, however with inverse results in both countries: people from Prague prefer to live alone after LPH, while young women from Vienna tend to

start a union directly when leaving parental home (in relation to women from smaller places).

Interestingly, Austrian women with comparatively younger male partner tend to cohabit before marriage. In the Czech Republic such effect is not significant. More pronounced is the impact of previous divorce of male partner – such partnerships almost exclusively start as cohabitation among both societies.

As already discussed, the educational enrolment during LPH indicates moving towards a centre of higher education, which means an independent living in a student accommodation. Students also prefer to cohabit in both countries. The effect of educational enrolment is stronger in Austria, especially in the case of LPH. The level of schooling does not affect the way of forming union significantly; just low educated women in Austria tend to marry directly. This means that the phenomenon of premarital cohabitation is not connected to the educational attainment via the notion of higher individualism of university graduates, nor that the consensual union is a behaviour of low-educated women with lower economic status.

The effect of pregnancy during important life events of early adulthood is fully clear: pregnant women seek for quick certainty and security, entering marriage directly.

Now we will discuss the impact of parental divorce on important life-course events. In LPH process, there was not found any effect of parental divorce in Austria, but in the Czech Republic such experience elevates the propensity of offspring's independent living by 26%. Higher likelihood to cohabit before marriage among persons who experienced family breakdown during childhood is detected in both countries – the super-risk is 28% in the Czech Republic and even 43% in Austria. The intergenerational transmission of marital instability is more pronounced in Austria (children from broken families display 68% higher breakage risk of own marriage than children from intact families), but we have found its clear evidence also in the Czech Republic (37%). So the experience of parental family discord tends to lead first to living alone, then to premarital cohabiting and finally to the discord in own marital union. Our results indicate a strong pervasive impact of experiencing parental divorce in all three studied processes even after controlling for possible intervening behaviours and factors like age at marriage, education and cohabitation experience. We have found that there is a direct effect of parental divorce on own marital

instability (Amato, 1996; Diekmann and Schmidheiny, 2002); however, its mechanism remained uncovered.

Now let us turn to the core of our analysis, disentangling the interaction between the processes of leaving parental home, union formation and marital dissolution. First we will discuss the important results of model I, with no implementation of unobserved heterogeneity terms. The role of an independent living in early adulthood is quite complex. Independent living influences the union formation process and both these processes have significant impact on marital cohesiveness. Czech women who experienced a period of an independent living choose the premarital cohabitation with twice as high probability as women without such experience. In Austria, the effect is not so strong, but still significant (28% higher probability of cohabiting before marriage). Almost the same can be said for the effect of living alone on subsequent marital stability: in the Czech Republic, risk of breakdown is doubled if women lived alone, in Austria the risk is 39% higher. The usual negative influence of premarital cohabitation on subsequent stability of the marital union was not observed in Austria after controlling for couple of mediating factors covering the family background and the individuality and personality of respondent, and especially after controlling for the age at union formation. Yet in the Czech Republic, part of the direct effect remained (28% disruption hazard super-risk compared to direct marriages).

Table V.5: Selected results of the model estimates for the Czech Republic

Czech Republic	**Model I**		**Model II**		**Model III**	
	No heterogeneity		**Heterogeneity**		**Full interaction**	
MARITAL DISSOLUTION (Risk of marital disruption)						
Premarital cohabitation	0.248	1.28*	0.171	1.19	-0.643	0.53**
2nd+ marriage	0.017	1.02	-1.671	0.19**	-2.304	0.10***
Lived alone	0.726	2.07***	1.152	3.16***	1.618	5.04***
Parental family disrupted	0.315	1.37**	0.446	1.56**	0.532	1.70***
UNION FORMATION (Risk of cohabiting before marr.)						
2nd+ marriage	0.464	1.59***	0.486	1.63***	0.075	1.08
Lived alone	0.770	2.16***	0.817	2.26***	0.987	2.68***
Parental family disrupted	0.249	1.28**	0.264	1.30**	0.262	1.30**
The only child (no siblings)	0.140	1.15	0.144	1.15	0.149	1.16
Religious person	-0.164	0.85	-0.177	0.84	-0.175	0.84
Childhood in Prague	0.102	1.11	0.112	1.12	0.061	1.06
Education not finished at union start	0.308	1.36**	0.327	1.39**	0.287	1.33**
Partnership begun during pregnancy	-1.085	0.34***	-1.143	0.32***	-1.153	0.32***
Woman older than partner	0.230	1.26	0.236	1.27	0.193	1.21
Partner divorced	1.851	6.37***	1.941	6.97***	1.920	6.82***
LEAVING PAR. HOME (Risk of living alone after LPH)						
Parental family disrupted	0.234	1.26*	0.327	1.39*	0.328	1.39
The only child (no siblings)	0.002	1.00	0.003	1.00	-0.015	0.98
Religious person	0.135	1.14	0.189	1.21	0.186	1.20
Childhood in Prague	0.474	1.61***	0.665	1.94***	0.674	1.96***
Education not finished at LPH	0.498	1.64***	0.700	2.01***	0.704	2.02***
Pregnant during LPH	-1.428	0.24***	-2.025	0.13***	-2.026	0.13***
RESIDUAL STRUCTURE						
Standard deviation of heterogeneity:						
Marital disruption			1.676	***	2.104	***
Union formation			0.343		0.399	
Leaving parental home			1		1	
Correlation coefficients:						
Marital disruption-Union formation					0.846	
Marital disruption-LPH					-0.099	
Union formation-LPH					-0.386	

Given figures represent the intensities and relative risks. Significance: '*'=10%; '**'=5%; '***'=1%
For full set of covariates see table T.11

Table V.6: Selected results of the model estimates for Austria

Austria	**Model I**		**Model II**		**Model III**	
	No heterogeneity		**Heterogeneity**		**Full interaction**	
MARITAL DISSOLUTION (Risk of marital disruption)						
Premarital cohabitation	0.040	1.04	0.048	1.05	-0.226	0.80
2nd+ marriage	0.523	1.69***	0.001	1.00	-0.003	1.00
Lived alone	0.326	1.39***	0.377	1.46***	0.726	2.07***
Parental family disrupted	0.520	1.68***	0.567	1.76***	0.584	1.79***
UNION FORMATION (Risk of cohabiting before marr.)						
2nd+ marriage	0.387	1.47***	0.648	1.91***	0.475	1.61**
Lived alone	0.247	1.28***	0.364	1.44***	0.739	2.09***
Parental family disrupted	0.356	1.43***	0.518	1.68***	0.498	1.65***
The only child (no siblings)	0.023	1.02	0.044	1.05	0.073	1.08
Religious person	-0.359	0.70***	-0.499	0.61***	-0.496	0.61***
Childhood in Vienna	-0.109	0.90	-0.163	0.85	-0.136	0.87
Education not finished at union start	0.358	1.43***	0.494	1.64***	0.392	1.48***
Partnership begun during pregnancy	-0.759	0.47***	-1.048	0.35***	-1.022	0.36***
Woman older than partner	0.269	1.31***	0.386	1.47***	0.408	1.50***
Partner divorced	2.246	9.45***	3.057	21.27***	3.054	21.20***
LEAVING PAR. HOME (Risk of living alone after LPH)						
Parental family disrupted	0.031	1.03	0.043	1.04	0.047	1.05
The only child (no siblings)	-0.101	0.90	-0.141	0.87	-0.138	0.87
Religious person	-0.046	0.95	-0.066	0.94	-0.062	0.94
Childhood in Vienna	-0.184	0.83**	-0.258	0.77**	-0.257	0.77**
Education not finished at LPH	0.840	2.32***	1.196	3.31***	1.185	3.27***
Pregnant during LPH	-0.968	0.38***	-1.365	0.26***	-1.360	0.26***
RESIDUAL STRUCTURE						
Standard deviation of heterogeneity:						
Marital disruption			0.897	***	0.942	***
Union formation			0.980	***	1.030	***
Leaving parental home			1		1	
Correlation coefficients:						
Marital disruption-Union formation					0.286	
Marital disruption-LPH					-0.380	*
Union formation-LPH					-0.393	**

Given figures represent the intensities and relative risks. Significance: '*'=10%; '**'=5%; '***'=1%
For full set of covariates see table T.12

After implementing the unobserved heterogeneity into the model II, we witness a significant frailty present in marital disruption process in Austria (standard deviation of $W = 0.90$), and also in the Czech Republic ($\sigma_W = 1.68$). The heterogeneity in union formation process was however found significant just in Austria ($\sigma_V = 0.98$), but not in the Czech Republic ($\sigma_V = 0.34$). Our results indicate that there is substantial bias in the model of marital disruption caused by the presence of unobserved characteristics that are important for the process in both countries, with higher importance among Czech society (this was also indicated by broader reduction of baseline risk after controlling for heterogeneity in the Czech Republic compared to the decrease in Austria). The unobserved heterogeneity is substantial also for union

formation process in Austria; in the Czech Republic the bias is not significantly affecting the process. Such phenomenon is responsible for overestimation of the impact of explanatory covariates, especially the impact of the number of marital union.

Second and subsequent marriages display higher fragility only in Austria (169% of first marriage disruption risk), whereas in the Czech Republic, the number of union does not seem to have a significant impact.[51] After controlling for unobserved heterogeneity, the effect totally disappears also in Austria. The mechanism of such reduction is similar to that discussed in reference to marital duration effect – women with unobserved characteristics that make an individual less committed to successful partnership are over-represented among unions of higher order, because they already experienced at least one divorce (leaving widowhood out of consideration).

Unions of higher order also tend to start as cohabitation. The probability is about 50% higher than among first unions in both countries.

Now it is time to start discussing the model III with full interaction between observed processes. In this model, we control not just for the unobserved heterogeneity, but also for its correlation across distinct processes, controlling whether the unobserved heterogeneity, which make an individual more prone to live alone, make the same individual also more likely to cohabit before marriage and to disrupt her union and vice versa. Our results are in accordance with the self-selection hypothesis of more divorce-prone women into cohabitation (Lillard et al., 1995; Brüderl et al., 1999): after controlling for frailty, the effect of cohabitation disappears or even reverses. The marriages preceded by cohabitation then display 20% lower risk of disruption in Austria (however without statistical significance), and even 47% in the Czech Republic, as compared to direct marriages. This suggests that the informational function of premarital cohabitation has some effect at least in the Czech society. The correlation between heterogeneity components of distinct modelled processes indicates a link between unobserved characteristics inherent among them. The correlation coefficients between unobserved traits enforcing the cohabitation

[51] From raw data we compute that 21.2% of Czech first marriages were dissolved, while it was only 13.2% of unions of higher order. However, there are just 16 dissolutions out of 121 second and third marriages, which indicate that our model suffers from the lack of more populous data set. But even official vital statistic data do not support the notion of higher divorce-proneness of second and subsequent marriages in the Czech Republic (Zeman, 2003).

before marriage and those provoking marital breakdown is reaching the level $\rho_{VW} = 0.85$ in the Czech Republic, indicating the presence of self-selection of disruption-prone individuals into premarital cohabitation, as predicted in our hypothesis. In Austria the coefficient is insignificant at the level $\rho_{VW} = 0.29$, suggesting that self-selection is not an important underlying factor in this country. Crude effect of premarital cohabitation is rather ascribed to mediating individual and family background factors and to the intervening behaviours, especially the younger age at start of the partnership. The phenomena of self-selection connected usually to characteristics unfavourable for longer commitment is no longer present in Austria, where the phenomenon of cohabitation not only as a premarital phase of partnership but also as an alternative to marriage has been spreading for relatively long time, and the negative societal attitudes to such phenomenon has gradually softened.

The effect of an independent living on union formation even amplifies when allowing for full interaction between the processes. There is a negative correlation between traits that make women more prone to live alone and to cohabit before marriage ($\rho_{UV} = -0.39$ in both Austria and the Czech Republic), which means that unobserved characteristics favouring independent living and living alone also tend to favour direct marriage rather than cohabitation during a union formation. Our hypothesis of nest-leavers' self-selection was not proved. The underlying mechanism of more frequent cohabitation of previously independently living women is rather the sense of individualism attained during living alone (Goldscheider and Waite, 1986), or some direct effects, like having an own flat (Manting, 1996) or being independent from parental influence (Liefbroer, 1991).

The interpretation of the change in the estimated effect of independent living on later marital satisfaction after including full heterogeneity interaction into the model is rather difficult. In both countries the disruption risk significantly elevates – in Austria is then twice as high and in the Czech Republic even five times[52] as high as the risk of those who started the partnership right after LPH. In Austria, unobserved characteristics favouring independent living are also more prone towards successful marriage ($\rho_{UW} = -0.38$). In the Czech Republic, there was not found a link between frailty of marital disruption and LPH behaviour (non-significant -0.10).

[52] We ascribe the high magnitude of the change to rather low number of events among Czech data. However, the direction rather than quantity of the change is important for our conclusions.

The association between independent living experience and subsequently elevated risk of marital discord is therefore not self-selection, but the direct effect mediated through the individualism and autonomy gained during the period of independent living (Hogan and Astone, 1986).

It seems that individuals who previously displayed unobserved characteristics making them more likely to marry directly tend to live alone after LPH. In this period they however develop more individualist behaviour, they turn to cohabit and subsequently they suffer from weaker marital cohesiveness. The period of independent living is directly affecting behaviour in later life stages in the direction towards higher individualism, leading to increased intensities of both premarital cohabitation and subsequent marital dissolution.

The interaction between the processes of leaving parental home and union formation in regards of the joint impact on subsequent marital stability is depicted in table V.7. As expected, marriages direct after LPH display lowest probability to disrupt, however after controlling for self-selection the most marital cohesive category is of those who cohabited between leaving the parents and marrying. Interestingly, the top-risk women are those who married directly after distinct period of living alone. We might speculate about somewhat deviant behaviour of this category: Living alone first and then marrying directly without building the relationship gradually may indicate a sort of individual problems that later imprint into marital discord. Those who experienced both independence-oriented stages of life event – living alone and premarital cohabitation – also display somewhat elevated risk of marital disruption, which however becomes insignificant in Austria after controlling for self-selection.

This indicates an important difference between the marriage formation process in the Czech Republic and in Austria. While in the Czech Republic, direct marriage is still perceived as a normal behaviour and the cohabitation is spreading as a stage of union preceding marriage, in Austria the cohabitation as both prelude and an alternative to marriage is already well established. Period of seeking for a mate, including the experience of non-marital partnerships (that display much higher dissolution risk than marital unions) and accompanied by the postponement of marriage until later ages, became distinct stage in a life of Austrian women. The gradual development of responsible individuality and mature personality during the periods of independent living and non-marital cohabitation/s and the prolonged mate-

searching finally results into marriage that is not significantly more fragile than traditional marriages concluded directly after leaving the parental home.

Table V.7: Interaction between leaving parental home and union formation processes and the impact on subsequent marital stability – relative risks of marital disruption

	Event			Expected	Czech Republic		Austria	
	LA	COH	(DM)	risk	No heterogeneity	Full interaction	No heterogeneity	Full interaction
a	0	0	1	min	1	1	1	1
b	0	1	0	>	1.50 **	0.55	1.19	0.93
c	1	0	1	>>	2.77 ***	5.24 ***	1.63 ***	2.35 ***
d	1	1	0	max	2.19 ***	2.60 ***	1.36 **	1.49

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

LA = lived independently after leaving parental home; COH = marriage preceded by premarital cohabitation

DM = direct marriage; 1 = yes / 0 = no

V.3 CONCLUSIONS

Following previous research on the topic in Western Europe and in the USA, this chapter tried to explain the high rates of marital instability in the Czech Republic and Austria using the Fertility and Family Survey data. The results indicate similarity of Czech and Austrian marital disruption behaviour with the behaviour in other Western societies in following matters:

- clear evidence of the intergenerational transmission of marital instability;
- increased risk of dissolution of women reared up in a big city;
- higher disruption-proneness of partnerships (marriages or unions) concluded in premature ages;
- high disruption risk of childless couples and lowest risk during pregnancy;
- positive influence of childbearing and childrearing on marital stability, with the exception of having just one older child;
- progress towards higher intensities of disruption among younger generations.

Religiousness was found important only in Austria. Risk of disruption after remarriage was increased only in Austria, even when viewed from the position of male partner. Higher marital instability of lone children was detected in the Czech society. The new finding of section V.1 was high marital instability of persons living independently before union formation. Shotgun marriages were not found significantly more fragile than ordinary unions and also the presence of child/ren of previous partnerships was not associated with higher disruption risk. Unions, where woman

was older than her husband were slightly less stable in Austria. Role of education differed most noticeably across studied populations: while in Austria, the more important factor was the educational enrolment (excessive risk of marital disruption of students); in the Czech Republic it was rather the educational attainment (positive impact of the level of educational attainment on the marital stability).

The role of premarital cohabitation was examined in a complex manner. The first section observed direct and indirect effects of premarital cohabitation on elevated risk of subsequent marital union. The crude disruption risk excess of premaritally cohabiting of 50-60% was found to be largely moderated by other explanatory variables, and almost completely disappeared after controlling for the age at union formation rather than age at marriage. The only persistent effect on higher marital instability remained among short-term cohabitations in early stage of life in the Czech Republic. Most of the usually depicted impact was thus contributed to mediating factors. In the second section we incorporated heterogeneity terms to pick up the role of self-selection among the processes of union formation and marital dissolution, and also in the process of leaving parental home that was found important for later life stages. The remaining link between premarital cohabitation and subsequently elevated risk of marital breakage in the Czech Republic was ascribed to self-selection, thus confirming our hypothesis that originated in the work of Lillard et al. (1995).

Controlling for several individual and partnership characteristics among underlying processes we have found some interesting consequences concerning the preference for premarital cohabitation and for living alone after LPH: partnerships where one of the spouses (female respondent or her male partner) has already experienced a divorce tend to start as a cohabitation. The impact of previous divorce of male partner was especially pronounced. Students were found preferring living alone and cohabiting rather than marrying directly in both countries; the influence of educational attainment has not been proved. Pregnancy had the inverse effect: pregnant women tend to seek for quick certainty and security, entering marriage directly. Interestingly, children from Prague and Vienna were found mutually different concerning attitudes towards independent living – people from Prague prefer first to live alone whilst young women from Vienna tend to start a union directly after leaving parental home. Concerning premarital cohabitation, women of metropolis do not behave distinctly from the rest of the sample.

Apart from the intergenerational transmission of marital instability, children of disrupted families tend both to live alone after LPH and to cohabit before marriage. Religious people cohabit with lower probability, but the difference is not big (and even not significant in the Czech Republic). The results and conclusions concerning the influence of living alone and premarital cohabitation, and the time dimension of the problem (age at marriage, age at union formation, birth cohort) will be further discussed in the next, concluding chapter.

VI CONCLUSIONS AND DISCUSSION

This concluding chapter resumes and summarises the results of our analysis. Conclusions of the empirical findings are extended for the generalisation about the meaning of cohabitation and marital disruption in the Czech Republic and in Austria. Later on, recommendations and outlooks for further research are proposed, the relevance of the thesis is evaluated and final remarks are given.

VI.1 EMPIRICAL FINDINGS

First we observed the marital dissolution behaviour in the Czech Republic from the perspective of time, trying to identify the most important time dimension in the recent changes of behaviour, and to compare accordingly specified marital disruption behaviour to the process in Austria. The meaning of explanatory variables was investigated from the perspective of time as well, studying the transformation through marital and birth cohorts, and through historical time. Among several approaches of cohort and historical time focus, the birth cohort representation of time was found most informative. Among the Czech sample, we identified two groups of generations, 1952-67 and 1968-80, the former group with disruption behaviour comparable to the Austrian one and the recent group displaying new specific behaviour, identified by significantly higher intensities of disruption and faster timing of union break-up with regards to the duration since marriage formation. The same distinction but with less evident differences was found among marital cohorts 1969-89 as compared to those who married in the 1990s. When using a period approach, no significant difference was found between the paths of dissolution risk before and after the socio-economic change in the 1989. The virtual difference between the two periods is triggered by the fact that different marital and birth cohorts are splitting in the respective periods. From the comparison of results we conclude that **the recent development in marital dissolution behaviour is rather cohort-driven than historical period-driven**.

The importance of birth cohort for the intensities of marital disruption is evident in both regions. ‘Transitory’ cohorts born in 1968-72 in the Czech Republic and in 1955-64 in Austria display about fifty percent higher risk of marital breakdown than more traditional generations 1952-67 (1941-54 in Austria), while the dissolution

intensity of ‘the pioneers of the new behaviour’, born from 1973 (from 1965 in Austria) is more than twice as high in the same relation. We thus confirmed the findings of Diekmann and Mitter (1984), Bracher et al. (1993), Doblhammer at al. (1997) and Dourleijn and Liefbroer (2002) about particular importance of birth cohort for the examination of marital disruption behaviour. As the second most important time variable was found the age at marriage, following the conclusions of Cherlin (1977), Bracher et al. (1993) and the others. The importance was even broader when taking into account the age at union formation.

The role of individual and partnership characteristics was examined in a complex view. The results indicate increased risk of dissolution of women reared up in a big city, positive influence of childbearing and childrearing on marital stability and high marital instability of persons living independently before union formation. Some of the explanatory variables were found important only in Austria (religiousness, number of union) some of them only in the Czech society (higher marital instability of lone children). The role of education differed across studied populations: while in Austria, the more important factor was the educational enrolment, in the Czech Republic it was rather the educational attainment.

The most important change in the meaning of covariates across the generations in the Czech Republic was the reduction of the effect of premarital cohabitation. As this finding was not supported by the period-oriented and marital cohort-oriented analysis, we conclude that **the meaning of cohabitation has changed across generations**. While such behaviour was perceived as deviant among older cohorts, young women are increasingly adopting the premarital cohabitation as a normal stage of the life course. As a result, the effect on later marital stability is weakening, tracing the process that has begun earlier in Austrian society.

In the period after 1989 we witnessed the fade away of the effect of religiousness on marital stability, as the general atheism among Czech society was further broadening after the fall of communism. The even more pronounced impact of age at marriage, manifested especially by excessive instability of premature marriages, was detected among the marriages concluded after the 1989. While during socialism the marriages at the age of 18 and even lower were quite common, the postponement of nuptiality in the 1990s imprinted into fast progress in marital age and early wedlocks became rather deviant behaviour.

Controlling for several individual and partnership characteristics among underlying processes we have found some interesting consequences concerning the preference for premarital cohabitation and for living alone after LPH: remarriages tend to start as a cohabitation; students prefer to live alone and to cohabit rather than to marry directly; pregnant women tend to seek for quick certainty and security, entering marriage directly.

In examining the link between the processes of leaving parental home, union formation and marital disruption we have found following mechanism: living independently after LPH directly influences subsequent life events in the sense of developing higher level of individuality and autonomy during this stage. **Persons who experienced independent living tend to cohabit before marriage and their partnerships are more fragile. The underlying mechanism is not a self-selection**, as the unobserved characteristics of those who seek for independent living are not positively correlated with disruption-prone unobserved traits (in Austria negatively correlated); the correlation with cohabitation-prone unobserved characteristics is even negative. It seems that individuals who previously displayed unobserved characteristics 'predestining' them for direct marriage tend to live alone after LPH, in which period, however, they develop more individualist behaviour, turn to cohabit and subsequently 'suffer' from lesser marital cohesiveness. The hypothesis of nest-leavers' self-selection into cohabitation (Mulder and Manting, 1994) was not proved. The link between cohabitation and previous independent living is rather the sense of individualism attained during living alone (Goldscheider and Waite, 1986), or some unexamined direct effects, like having an own flat (Manting, 1996) or being independent from parental influence (Liefbroer, 1991).

The link between premarital cohabitation and subsequently elevated risk of marital breakage was ascribed to intervening factors (especially the gap between the age at the start of partnership and the marriage age – Cohen, 1991; Brüderl et al., 1999), to the selectivity (observed indirectly by family background and individuality and personality characteristics – Kahn and London, 1991) and in the Czech Republic also to the effect of self-selection (Lillard et al., 1995; Brüderl et al., 1999). Either there is no adverse impact of premarital cohabitation on later marital instability, or such impact is counterbalanced by the beneficial effect of information gained during premarital mate-searching (Becker, 1981; Oppenheimer, 1988). In Austria, the effect of self-selection is not pronounced; the adverse outcomes of premarital cohabitation on marital stability are explained already by indirect moderating factors and

observable selection mechanisms. Nevertheless, the hypothesis about direct effect of premarital cohabitation (Bennett et al., 1988; Axinn and Thornton, 1992; Thomson and Colella, 1992) was clearly rejected. We may conclude that **it is not the experience of premarital cohabitation itself, but events and characteristics contributing to the development of individualistic mode of behaviour during childhood and early adulthood that subsequently trigger the higher instability of marital unions.** The association of the results with understanding of the meaning of cohabitation in real societies is discussed in the next section.

Last but not least, our results indicate a strong pervasive impact of experiencing parental divorce in all three studied processes. **Women who experienced parental family discord tend to live independently after leaving the nest and to cohabit before marriage, and their own marital unions display higher risk of dissolution.** Although our results indicate statistical association between parental divorce and adverse long-term outcomes for children, there is still no evidence that the relationship is causal. For justifying the causal inference, one would first need to build a behavioural theory specifying mechanisms that cause the effect and verify its assumptions (Ní Bhrolcháin, 2001). However, the 'absence of evidence' of causal effect is not same as the 'evidence of absence', i.e. if we cannot prove that premarital cohabitation causes adverse outcomes for marital stability, it does not mean that it actually does not have any effect.

We have found that there is a direct effect of parental family breakdown on own marital instability (Amato, 1996; Diekmann and Schmidheiny, 2002), but the mechanism between parental divorce, independent living, cohabitation and own disruption remained uncovered.

VI.2 PREMARITAL COHABITATION AND MARITAL DISRUPTION IN THE CZECH REPUBLIC AND IN AUSTRIA

Similarity in the marital disruption behaviour between the two societies under study, implied by the vital statistics, was confirmed after implementation of more sophisticated statistical analysis based on individual survey data. Besides the different impact of religiousness or education, our main finding is the distinct meaning of cohabitation among both societies.

In Austria the adverse statistical association between the premarital cohabitation and higher marital instability is sufficiently explained after controlling for individual and partnership characteristics. Additional controlling for the gap between the union formation and marriage neither the advanced statistical analysis of self-selection do not further modify the results significantly. On the other side, the risk of disruption of transformed marriages in the Czech sample remains increased even after controlling for mediating characteristics and intervening behaviours. After further controlling for the effect of self-selection the risk not only diminishes but even reverses, indicating the importance of informational function of premarital 'mate-testing'.

The interpretation of the results is following: while in both regions, cohabitation is traditionally the living arrangement of distinct population groups (widowed and previously divorced partners, people from some Alpine areas in Austria or distinct professions in towns), the phenomenon is spreading among common population since the 1970s in Austria and since the 1980s in the Czech Republic. In the Austrian society the phenomena of non-marital cohabitation is already well established; those who cohabit premaritally do not account for self-selection and the experience of premarital cohabitation does not display adverse outcomes for subsequent marital stability anymore. The finding of missing effect of premarital cohabitation in Austria validates the results of Kiernan (2001) and Dourleijn and Liefbroer (2002), indicating that the direct link between cohabitation and marital dissolution is no longer present in countries advanced in the course of second demographic transition. In Czech society, direct marriage is still the dominant way of partnership building. Premarital cohabitation is recently increasingly utilised, however in the first phase the 'pioneers of the new behaviour' are usually individuals with some characteristics (observed or unobserved), which are unfavourable for the life-long commitment and which lead to higher instability of subsequent marriage. After the adoption of the behaviour by

broader public, the adverse outcome diminishes, as is recognisable by change in the meaning of cohabitation among younger Czech generations.

In Austria, the cohort shift towards more frequent premarital cohabitation started from cohorts of the 1950s, while in the Czech Republic they were the cohorts of the 1970s' baby boom. While in Austria, religious persons and low educated respondent show the preference for direct marriage, in Czech Republic the stratification concerning the preferences for cohabiting versus directly marrying is not pronounced and also the unobserved heterogeneity in union formation process is non-significant here. The notion of higher frequency of premarital cohabitation among more individualistic-oriented women was not supported, as neither university graduates nor women from Prague show significant difference from the rest of the sample. Even the notion that consensual union is an attitude of low-educated women with lower economic status was not supported. The link between generation increase in cohabitation and disruption risk was not found causal, as the increase in disruption risks is a matter of two younger Czech generation groups born after 1968, while the increase in the frequency of premarital cohabitation is the phenomenon detected among the youngest group born after 1973. Moreover, the increase in cohabitation was counterbalanced by decrease in living alone after LPH. While traditionally people left parental home to live alone or directly marry, now they do it often in order to enter a consensual union, and the intensity of living independently is thus limited.

From the analysis of the interaction between the processes of leaving parental home and union formation with regards to joint impact on subsequent marital stability we conclude that in Austria the period of seeking for a mate, associated with the experience of non-marital union/s and with the postponement of marriage until later ages, became a distinct stage in the life of young women. Gradual development of responsible individuality and personality through the periods of independent living and non-marital cohabitation/s and the prolonged mate-searching finally result in a marriage that is not significantly more fragile than traditional marriages concluded directly after leaving the parental home.

The differences between the marital union formation process in the Czech Republic and in Austria are leading us to a conclusion that in the Czech Republic, direct marriage is still perceived as a normal behaviour and the phenomena of

cohabitation as a stage of union preceding marriage is spreading just recently, while in Austria the cohabitation as both prelude and an alternative to marriage is already well established. The course of demographic behaviour denoted by the notion of second demographic transition is followed for a longer period in Austria, but in the Czech Republic it has progressed at an exceptional pace after the relaxation of the state control over the society in 1989.

VI.3 FURTHER RESEARCH DIRECTIONS

This thesis demonstrated the importance of including the selectivity and unobserved heterogeneity into the analyses that explain phenomena with adverse outcomes for demographic behaviour, like an association between premarital cohabitation and subsequently elevated risk of marital discord. Following Kahn and London (1991) and Hall (1996) we have shown that controlling for selectivity by proxy of characteristics that represent family background and individuality development is important for separating the direct causal effect from the effect of selectivity. Besides observable selectivity, controlling for self-selection by means of unobserved heterogeneity analysis the net effect of cohabitation rather decreases than elevates the risk of disruption (Lillard et al., 1995; Brüderl et al., 1999). Another important feature is to consider intervening behaviours in the analysis. We have found especially contributing to replace the commonly used age at marital formation by the age at union initiation, following the recommendation of Cohen (1991): “Using age at first union appears to reduce ... the differences in the incidence of marital dissolution between the two groups” (of directly marrying and premaritally cohabiting). “Therefore, future studies on cohabitation and divorce should follow Cohen’s advice” (Brüderl et al., 1999: 8).

The ‘diffusion hypothesis’ of Dourleijn and Liefbroer (2002) assumes that characteristics of women who opt for premarital cohabitation become more similar to those who opt for direct marriage as the incidence of cohabitation increases, resulting into convergence between disruption rates of direct and transformed marriages; but rates are expected to diverge again as the sub-population of directly marrying becomes increasingly selective. As a result, Dourleijn and Liefbroer expect U-shaped pattern of the relative risk of disruption of transformed marriages as related to the proportion of premaritally cohabiting in the population. Our analysis offers support for

the first part of the hypothesis, showing that the respective disruption rates are much more convergent in Austria than among Czech women, following from the different phase of the phenomenon development in both countries. For further validating the hypothesis, data from other countries (particularly from those where the phenomena is already well established – e.g. Nordic countries) should be included.

However we have identified the direct effect of parental family breakdown on subsequent behaviour of individuals, the mechanism between parental divorce, independent living, cohabitation and own disruption remained uncovered. Ní Bhrolcháin (2001) suggests that for justifying the causal inference, one would first need to build a behavioural theory specifying mechanisms that cause the effect and then verify its assumptions – an ambitious task for future research.

More attention should be given also to the association between education, cohabitation and marital disruption. In our thesis, the focus was devoted to the relationship between the premarital cohabitation and marital disruption; the education was reserved only limited attention assigned to control variables.

Given the close connection between childbearing and marital stability, another future research direction could be the simultaneous analysis of competing risks, namely of fertility and marital disruption.

VI.4 EVALUATION

The main goal of this thesis was to disentangle the role of premarital cohabitation in subsequent marital stability. We have processed the rich Fertility and Family Survey data set utilising the event history techniques in order to accomplish this assignment in a highly sophisticated way. Advanced statistical analysis uncovered the mediating factors, intervening behaviours, selection and self-selection to be the mechanisms of the association between the experience of premarital cohabitation and subsequently elevated risk of marital breakdown, with the different importance in the Czech Republic and in Austria following from the distinct meaning of cohabitation among them.

Other determinants of marital disruption were unsurprisingly ascribed the roles usually depicted among related sociological and demographic literature. However, even if parameter estimates of some factors were found significant, there is still no evidence that the relationship is causal (Ní Bhrolcháin, 2001) and our results

should not be over-interpreted in this sense. As the most powerful measures of time were identified the birth cohort and the age at marital/union formation. Period increase in transversal indicators was explained by the generational shift of marital disruption rates. The mechanism of intergenerational transmission of marital instability was ascribed to direct effect, but in fact remained uncovered, bequeathing the problem to the future research. The differences between the results of the two countries were discussed and interpreted in the context of social and demographic development of the respective societies.

The thesis introduced new methods of event history analysis. Sickle model with starting threshold proposed by Billari in 2001 was found as a powerful tool of parametric analysis, however with several limitations for the study of marital disruption. Hazard model with incorporated unobserved heterogeneity term allowed identifying the role of self-selection among studied processes. Moreover, we have presented statistical software aML and TDA with simple user instructions.

All targets of the doctoral dissertation were met – the thesis utilised new methods, processed a unique data set and published important and inspiring results. We hope that apart from bringing direct results, our work will help to stimulate the interest in the new brand of methodology and in related data sources.

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APPENDIX

This section presents the statistical software used in the thesis. Apart of Stata 7.0 used for data preparation and Microsoft Excel used for output data processing and presentation of the results, two advanced programs – TDA and aML – were utilised. Here we focus on the latter two programs.

TDA program

TDA (Transition Data Analysis) is a specialised computer package designed as a powerful tool for processing of event history-oriented surveys data, and as such is especially useful for our purposes of event history modelling.

The program was developed by Götz Rohwer and Ulrich Pötter from Ruhr-Universität in Bochum and is distributed freely as a freeware.[53] Rather small (1.2 MB) DOS-based program does not include any user interface; the commands are entered in text mode. For data preparation and managing, we recommend using any of common statistical programs (SPSS, SAS, Stata...) TDA can read data in format Stata, SPSS (both Portable and `*.sav`), ASCII text files and also own format `*.sys`. Apart from the data file we create the program script file, containing the description of the input data, the definition of the statistical model itself and the output options. As a result, one or more output files are created, which are recommended to handle in software like MS Excel.

The program is run from the command line of the system using the script:

```
tda cf=commandfile.cf>output.out
```

where the `commandfile.cf` identifies the program script (text file) and `output.out` is an output file (the extension is optional). "`tda`" means in fact `tda.exe` followed by parameters, it is thus necessary to run the script from the same directory that contains the `tda.exe` file.

[53] To be downloaded from internet address <http://www.stat.ruhr-uni-bochum.de/tda.html> where is located also the documentation, comprehensive manual, examples and several papers on the topic, or from the ftp address <ftp://ftp.stat.ruhr-uni-bochum.de/pub/tda/binaries/>

TDA program script

Program may be created in any text editor, e.g. Notepad. The variable names must begin with upper case and their maximum length is 8 (non-restricted) characters. Each line must be finished with semicolon! The program script goes as follows[54]:

1. Input of the data file

`rstata=file.dta; rspss=file.sav; rsys=file.sys;` according to the type of input data file. Data in text format must be separated by space, each line containing single 'sentence' for an individual. The import of such file is achieved by command

`nvar(mpnt=-9999,dfile=file.raw,Id=c1,Birthdat=c2,Sex=c3,...);`

where the value from the first column of text data file is assigned to the variable `Id`, second column value to variable `Birthdat` etc. The facultative command '`mpnt`' replaces the missing values (represented in the data file with dot and replaced by TDA automatically with value -1) with the value -9999 (TDA cannot work with missing values *per se*, they must be replaced with a numerical value).

2. Variable specification

After the input specification, we first specify the variables needed for event history analysis:

`edef(org=...,des=...,ts=...,tf=...,`*`varlist, optional commands`*`);`

where `org` denotes the original state, `des` stands for a destination state (denoting also censoring variable: `des` has a value 0 for censored, 1 for non-censored events), `ts` is a starting time (usually 0) and `tf` is an ending time (time at the event or at censoring). Second we may need to define other variables especially if we intend to use the dummy variables (with values 0/1). For example:

`edef(...,Coh1=eq(COH,1),Coh2=eq(COH,2),Coh3=eq(COH,3));`

where `Coh1` is 1 if `COH` is equal 1 or 0 if `COH`≠1 (then `COH`=2 or 3), analogously for `Coh2` and `Coh3`. Besides '`eq`' for equal we may use logical operators '`lt`' (less than), '`le`' (less equal than), '`gt`' (greater than) with analogous '`ge`', '`ne`' for 'not equal' and '`&`' for logical 'and'.

3. Model specification

- Kaplan-Meier estimator: `ple(grp=`*`dummy variables`*`)=results.res;`

where 'grp' is a command defining the groups (identified by dummy variables), for which the product-limit estimator will be computed.

- Lifetable: `ltb(grp=`*`dummy variables`*`,tp=`*`t1,t2,...`*`)=results.res;`

where '`tp`' means the time interval limits.

- Parametric models: `rate(xa(0,1)=`*`varlist`*`)=#;`

where # is a number defining the type of model.[55] For the extra output of parameter estimates (the standard output also includes them) we may include `ppar=`*`file`*`;`. In TDA one can also build user-defined models using the command '`frml`' and the likelihood function definition '`fn`'.

4. Other commands

- Basic statistics: `dstat; freq=`*`varlist`*`; corr=`*`varlist`*`;`
- Data saving: `pdata=asciifile; wsys=file.sys; wstata=file.dta; wspss=file.sav;` etc.
- The command `pdata(keep=Id,Sex,dtda=descfile)=asciifile;` saves only selected variables `Id` and `Sex` and creates extra file with the description of the data file.
- The `epdat` command is helpful for handling the time-varying covariates with the method of episode splitting (developed by Blossfeld and Rohwer, 1995). For example the following script creates a new data file, where the number of lines for each individual corresponds with the number of changes of the value of variables `Job` and `Edu` between the starting and the ending time:

```
edef(org=0,des=Censor,ts=0,tf=Time,split=Job,Edu);
epdat(v=Job,Edu,dtda=descfile.tda)=splitedu.dat;
```

Description file `descfile.tda` than looks as follows:

---

[54] We present just the basic commands, for advanced programming information consult the manual (Rohwer and Pötter, 1999), internet introduction (Ludwig-Mayerhofer, 2002) or Blossfeld and Rohwer (1995).

[55] 1=Cox, 2=exponential, 3=piecewise constant, 4=polynomial I, 5=polynomial II, 6=Gompertz, 7=Weibull, 8=Sickle, 9=log-logistic, 12=log-normal, 13=generalised gamma, 14=inverse Gaussian, 16=piecewise constant exponential with period specific effects, 20=logistic regression, 21=complementary log-logistic. Piecewise constant model requires the defining of time nodes using `tp=`*`t1,t2,...`*`;`.

```
nvar(
  dfile = splitedu.dat,
  noc = 4533,
  ID   [6.0] = c1, # id number
  SN   [3.0] = c2, # spell number
  NSPL [3.0] = c3, # number of splits
  SPL  [3.0] = c4, # split number
  ORG  [3.0] = c5, # origin state
  DES  [3.0] = c6, # destination state
  TS   [6.2] = c7, # starting time
  TF   [6.2] = c8, # ending time
  Job  [9.0] = c9,
  Edu  [9.0] = c10,
);
```

This script we copy into a new program file and adding the model specification we gain a model containing time-varying covariates `Job` and `Edu`. We could joint these two steps into the single one and make all operations using just one file, but it is recommended to make two steps to ensure the data correctness.

In what follows, we present the program script for computing the Kaplan-Meier estimates (used in section IV.1), and for Sickle parameter model, including both the default model and the user defined model with starting threshold (section IV.2). The comments are denoted by the # character.

TDA code for computing Kaplan-Meier model estimates

File 1 for episode splitting according to the variable Revoluce (whether event took place before or after November 1989):

```
rstata = czech.dta;                    #input data file specification
edef(
org=ORG,
des=DES,
ts=TS,
tf=TF,
split=Revoluce);   #episode splitting according to variable Revoluce

epdat(
v=Revoluce,Parents,Relig,COH,PA,       #list of output variables
dtda=split.des,                        #specification of description file
)=split.dat;                           #data output file
```

File 2 for the computation of product-limit estimator:

```
nvar(                                  #specification  of  data  taken  from
split.des
  dfile = split.dat,
  noc = 2060,                          #number of cases
  ID   [6.0] = c1, # id number
  SN   [3.0] = c2, # spell number
  NSPL [3.0] = c3, # number of splits
  SPL  [3.0] = c4, # split number
  ORG  [3.0] = c5, # origin state
  DES  [3.0] = c6, # destination state
  TS   [6.2] = c7, # starting time
  TF   [6.2] = c8, # ending time
  Revoluce [9.0] = c9,
  Parents [9.0] = c10,                 #explanatory variables
  Relig [9.0] = c11,
  COH [9.0] = c12,
  PA [9.0] = c13,
);

edef(                                  #defining EHA variables
org=ORG,
des=DES,
ts=TS,
tf=TF,
REV=gt(tf,Revoluce),                   #defining dummy variables
NR=1-REV,
);

ple (csf,grp=NR,REV)=km.res;           #product-limit estimation
```

TDA code for Sickle model estimates computations

```
rstata = sickle.dta;                              #input data file specification

edef(
org=ORG,
des=DES,
ts=TS,
tf=TF,
P=eq(Parents,1),                                  # 1=Parents divorced
R=eq(Relig,1),                                    # 1=Religious person
C=ge(COH,2),                                      # 1=Premarital cohabitation
B1=eq(PA,1);                                      # 1=Age at marriage < 19

#STANDARD SICKLE MODEL
rate(mina=6)=8;                                   # mina=minimising algorithm
                                                  # 8=Sickle model

#STANDARD SICKLE WITH COVARIATES
rate(
xa(0,1)=P,xa(0,1)=R,xa(0,1)=C,xa(0,1)=B1,     #specifying explanatory
variables
xp=-9,.4,-.2,0,0,4,                               #starting values
mina=6)=8;

#THRESHOLD SICKLE, no COVARIATES                   user defined model
frml(                                             #log-likelihood estimation
mina=6,                                           #minimisation algorithm-Newton
xp=-10,4,-7,2,                                    #starting values
mxit=60,                                          #maximum number of iterations
dscal=-0.001,                                     #scaling parameter
) = aa=exp(a0),
    bb=exp(b0),
    cc=exp(cc0),
    dd=exp(d0),
    rate=cc+if(gt(tf,dd),aa*(tf-dd)*exp(-(tf-dd)/bb),0),
    lsurv=(-cc*tf)-if(gt(tf,dd),aa*bb*(bb-(tf-dd+bb)*exp(-(tf-dd)/bb)),0)-
          (-cc*ts)-if(gt(ts,dd),aa*bb*(bb-(ts-dd+bb)*exp(-(ts-dd)/bb)),0),
    oth=if(des,log(rate),0),
    fn=lsurv+oth;                                 #log-likelihood function

#THRESHOLD SICKLE WITH COVARIATES IN THE a+b+d TERMs
frml(                                              #log-likelihood estimation
mina=6,                                            #minimisation algorithm-Newton
xp=-10,1,-1.3,1,.8,                                #starting values
    4,-.1,.6,-.3,.13,
   -7.5,
   -6.7,0.5,-.6,9.8,-4,
mxit=60,                                           #maximum number of iterations
dscal=-0.001,                                      #scaling parameter
) = aa=exp(a0+a1*P+a2*R+a3*C+a4*B1),
    bb=exp(b0+b1*P+b2*R+b3*C+b4*B1),
    cc=exp(cc0),
    dd=exp(d0+d1*P+d2*R+d3*C+d4*B1),
    rate=cc+if(gt(tf,dd),aa*(tf-dd)*exp(-(tf-dd)/bb),0),
    lsurv=(-cc*tf)-if(gt(tf,dd),aa*bb*(bb-(tf-dd+bb)*exp(-(tf-dd)/bb)),0)-
          (-cc*ts)-if(gt(ts,dd),aa*bb*(bb-(ts-dd+bb)*exp(-(ts-dd)/bb)),0),
    oth=if(des,log(rate),0),
    fn=lsurv+oth;                                  #log-likelihood function
```

aML program

aML is a specialised software for multilevel multiprocess modelling, developed initially as an econometric software by Lee Lillard and Constantijn Panis from EconWare, USA (Lillard and Panis, 2003). The program addresses heterogeneity and endogeneity issues, and among others includes important features of the multiple duration clocks (the baseline can be identified by multiple time axis) and the simultaneous modelling of several models influencing each other mutually. Contrary to the TDA, the program is distributed on commercial basis.

The program handling is similar to the programming in TDA: first we prepare extra files with data and program script, then we run the aML program from the command line of the system and finally we process the result data from output files. The input data must be in comma-separated-values format, which can be ensured for example by Stata command

```
outfile id n ni1 ni2 ni3 varlist using data.raw , comma nolabel
wide replace;
```

This data file must be first transformed into aML data file by special utility `r2a.exe`, which is a component of the aML program distribution, using the command script:

```
raw2aml.exe descript.r2a
```

where `descript.r2a` is a description file of the input data, for example:

```
ascii data file = data.raw;
output data file = data.dat (replace=yes);
level 1 var = ;
level 2 var = gen generace parents only city relig la cohbef;
level 3 var (nb=3) =  n censor lower upper pm pa pu coh pch
                      preg diff pd;
level 4 var (nb=10) = TF noch edu hiedu;
```

As an output of this process, we gain the `data.sum` file that summarises the data and its basic statistics, and the data file `data.dat`. The data in aML are organised in multiple levels, the first level is usually reserved just for `id` variable and for the description of level 3 and level 4 variables `n,ni1,ni2,ni3,...` (which are never explicitly defined in the description file). On level 2 are usually located personal fixed characteristics, level 3 includes event-specific time-fixed covariates and event history data: starting time is understood to be 0, ending time is defined by the lower-upper variables, which are identical if the episode is right-censored (then `censor=1`) or includes distinct ‘observation window’ if the episode is ended by the transition

between the states (then `censor=0`). The level 4 defines the time-varying variables, with the special variable TF denoting the ending time of the episode. The command `nb` denotes the maximum possible number of data-lines, the actual number is always defined among level 1 variables (`n` corresponds to the number of level 3 variables, i.e. events, for example number of marital unions; `ni1,ni2,ni3` corresponds to number of episodes among each marriage, for example childbirths). For details, consult the aML manual (Lillard and Panis, 2003).

Finally, we run the program typing `aml.exe script.aml`, where the script includes input data file specification, computational options, output specification and the model definition including starting values. The model is defined using building blocks, which allows virtually unlimited range of modelling possibilities. Building blocks are ordered in the following sequence[56]:

1. indication of input data file:

```
dsn=data.dat;
```

2. definition of splines:

```
define spline DurMar;
nodes = 4 8 12 18 24 36 48 60 120 180 240;
intercept;
```

Intercept includes the node also at 0 duration (and introduces the constant);

3. definition of regressor set:

```
define regressor set Div;
var=(gen==2)(gen==3)(only==1)(relig==1)...;
```

4. definition of distributions (when dealing with unobserved heterogeneity):

```
define normal distribution; dim=1; name=u1;
```

5. the model definition:

```
hazard model;
censor = censor; duration = lower upper; timemarks = TF;
model = durspline(origin=0, ref=DurMar) + regset Div;
```

where the EHA variables are first defined and than the baseline and the set of variables identified.

6. starting values in a sequence: constant, baseline hazards, regressors.

Each command requires to be finished by semicolon; building blocks 2-5 may be multiple.

[56] We present just the building blocks used in our modelling.

We append two program scripts, first the basic hazard model used for the estimation of results presented in section V.1, second the simultaneous model presented in section V.2. The comments are enclosed into `/*...*/` characters.

aML code for hazard model

```
option title = 'Hazard model of marital disruption';
option starting value format = yes;
option screen info level = 5;     /*output options*/
option file info level = 5;
option table format = yes;
option iterations = 200;          /*iteration procedure options*/
option step range = 30;
option save step = yes;
option ensure positive definite = yes;
option converge = wgn<0.01;
option huber = yes;               /*standard deviation computation option*/

dsn = data.dat;                   /*input data file*/

define spline DurMar; nodes = 4 8 12 18 24 36 48 60 120 180 240; intercept;

define regressor set Div;
var =  (gen==2) (gen==3)
       (only==1) (relig==1) (city==1) (parents==1) (la==1)
       (edu==1) (hiedu==1&edu==0) (hiedu==3&edu==0)
       (n>=2) (preg==1) (diff==1) (pd==1)
       (pa<=18) ((pa>22)&(pa<=26)) (pa>=27)
       (pch==1) (noch==0) (noch==1) (noch==2) (noch==3) (noch==4) (noch==6)
       (coh==-1) (coh==1) (coh==2) (coh==3);

hazard model;                     /*Hazard model of marital disruption*/
       censor = censor; duration = lower upper; timemarks = TF;
       model = durspline(origin=0, ref=DurMar) + regset Div;

starting values;

Constant    T  -11.593963977
dur0-4      T   .71767511102
...
gen68-72    T   .4
gen73-80    T   1
only        T   .46358854324
relig       T  -.20182478663
city        T   .66714661693
parents     T   0.3186972453
...;
```

aML code for simultaneous model

```
option title = 'Simultaneous model;
option starting value format = yes;
option screen info level = 5;
option file info level = 5;
option table format = yes;
option iterations = 200;
option step range = 30;
option save step = yes;
option ensure positive definite = yes;
option converge = wgn<0.01;
option huber = yes;

dsn = new.dat;

define spline DurMar; nodes = 24 60; intercept;

define regressor set Hazard;     /*3 regressor sets for 3 distinct models*/
var  =  (ps==2) (n>=2) (la==1)
       (gen==2) (gen==3)
       (only==1) (relig==1) (city==1) (parents==1)
       (edu==1) (hiedu==1&edu==0) (hiedu==3&edu==0)
       (pregmar==1) (diff==1) (pd==1)
       (pu<=18) ((pu>22)&(pu<=26)) (pu>=27)
       (pch==1) (noch<=1) ((noch>=2)&(noch<=3));

define regressor set Coh;
var = 1 (n>=2) (la==1)
       (gen==2) (gen==3)
       (only==1) (relig==1) (city==1) (parents==1)
       (pregcoh==1) (diff==1) (pd==1)
       (e==1) (h==1&e==0) (h==3&e==0)
       (pu<=18) ((pu>22)&(pu<=26)) (pu>=27);

define regressor set LA;
var = 1 (gen==2) (gen==3)
       (only==1) (relig==1) (city==1) (parents==1)
       (preglph==1) (ledu==1)
       (lage<=18) ((lage>22)&(lage<=26)) (lage>=27);

define normal distribution; dim=3; number of integration points=4;
name=u1; name=u2; name=u3;
       /*joint distribution for unobserved heterogeneity handling*/

hazard model;       /*Hazard model of marital disruption*/
       censor = censor; duration = lower upper; timemarks = TF;
       model = durspline(origin=0, ref=DurMar) +
              regset Hazard + intres (draw=1, ref=u1);
                            /*intres=integrated residuum*/

probit model;
       /*Probit model of entering union (cohabitation/direct marriage*/
       outcome = (ps==2);
       model = regset Coh + intres (draw=1, ref=u2);

probit model;
       /*Probit model of LPH (lived alone/directly entered union after LPH)*/
       outcome = (la==1);
       model = regset LA + intres (draw=1, ref=u3);
```

```
starting values;                /*T=free/F=fixed*/

Constant    T   -10.42562996
dur0-23     T   .07316238851
dur24-59    T   .01443444317
dur60+      T   .00402552129
coh         T   0.3791598445
2+          T  -1.8990049918
la          T   1.0819451566
...
/*standard deviation of heterogeneity:*/
sigmaD      T   1.6171837893
sigmaC      T   .34211995875
sigmaL      F            1.0  /*for LPH process set to 1*/

/*correlation coefficients between heterogeneity components:*/
rhoDC       T   0
rhoDL       T   0
rhoCL       T   0
;
```

Table T.1: Main demographic indicators in the Czech Republic, 1960-2000

Year	Population (1st Jan)	Marriages	Divorces	Live births	Total first marriage rate	Mean age of women at 1st marr *(years)*	Total fertility rate	Mean age at childbirth *(years)*	Mean age at birth of first child *(years)*	Share of non-marr. live births **100*	Crude divorce rate **1000*	Index divorces/ marr. **100*	Total divorce rate **100*	Median duration of marr. *(years)*	Mean duration of marr. *(years)*	Year
1960	9637840	74173	12970	128879	1.04	22.0	2.09	25.4	22.9	4.9	1.35	17.5	15.9	8.4	9.7	1960
1961	9566172	74003	13939	131019	0.99	21.9	2.11	25.4	22.9	4.6	1.45	18.8	17.3	8.5	9.7	1961
1962	9607129	77296	14137	133557	1.00	21.8	2.12	25.3	22.8	4.5	1.47	18.3	17.7	8.4	9.8	1962
1963	9642191	80118	14703	148840	0.99	21.7	2.31	25.4	22.8	4.7	1.52	18.4	18.5	8.0	9.7	1963
1964	9699179	80573	14446	154420	0.94	21.7	2.34	25.6	22.7	4.8	1.49	17.9	18.1	8.2	9.9	1964
1965	9756429	81757	16196	147438	0.90	21.7	2.18	25.6	22.7	5.0	1.66	19.8	20.3	7.7	9.7	1965
1966	9802287	84807	17435	141162	0.89	21.6	2.02	25.4	22.6	5.3	1.78	20.6	21.7	7.1	9.6	1966
1967	9839792	87214	17352	138448	0.90	21.7	1.91	25.2	22.5	5.3	1.76	19.9	21.6	6.8	9.5	1967
1968	9866006	89146	18647	137437	0.91	21.6	1.84	25.1	22.5	5.4	1.89	20.9	22.9	6.4	9.5	1968
1969	9886686	90408	20550	143165	0.91	21.6	1.87	25.0	22.5	5.5	2.09	22.7	25.1	6.4	9.5	1969
1970	9789500	90624	21516	147865	0.91	21.6	1.93	25.0	22.5	5.4	2.20	23.7	26.2	6.6	9.8	1970
1971	9809667	91864	23616	154180	0.93	21.7	1.99	25.1	22.6	5.3	2.40	25.7	28.6	6.6	9.9	1971
1972	9843962	95337	22392	163661	0.96	21.7	2.09	25.1	22.6	5.0	2.27	23.5	27.0	6.9	10.1	1972
1973	9891302	99518	25271	181750	1.00	21.7	2.31	25.3	22.6	4.4	2.55	25.4	30.0	6.7	10.2	1973
1974	9953230	98048	24970	194215	0.99	21.6	2.46	25.2	22.6	4.3	2.50	25.5	29.1	6.6	10.0	1974
1975	10023688	97373	26154	191776	0.99	21.6	2.43	25.1	22.5	4.5	2.60	26.9	30.1	6.7	10.1	1975
1976	10093551	94929	25544	187378	0.98	21.6	2.39	25.1	22.5	4.5	2.52	26.9	29.2	6.6	10.2	1976
1977	10158327	93011	25442	181763	1.00	21.5	2.34	25.0	22.5	4.6	2.50	27.4	28.8	6.6	10.2	1977
1978	10215183	90338	27071	178901	0.99	21.6	2.33	24.9	22.5	4.7	2.64	30.0	30.6	6.6	10.1	1978
1979	10269012	84496	26191	172112	0.96	21.6	2.27	24.8	22.4	5.0	2.55	31.0	29.6	6.7	10.1	1979
1980	10272600	78343	27218	153801	0.90	21.5	2.07	24.7	22.4	5.6	2.65	34.7	30.8	6.6	10.0	1980
1981	10292717	77453	27608	144438	0.90	21.6	2.00	24.7	22.4	5.8	2.68	35.6	31.5	6.9	10.0	1981
1982	10308465	76978	27821	141738	0.89	21.5	2.00	24.6	22.4	6.4	2.70	36.1	32.0	7.1	9.9	1982
1983	10321186	80417	29319	137431	0.92	21.6	1.97	24.6	22.4	6.8	2.84	36.5	34.1	7.6	10.1	1983
1984	10326526	81714	30514	136941	0.94	21.5	1.97	24.6	22.4	7.2	2.95	37.3	35.8	7.8	10.2	1984
1985	10333900	80653	30489	135881	0.91	21.6	1.95	24.6	22.4	7.3	2.95	37.8	35.9	8.0	10.2	1985
1986	10340335	81638	29560	133356	0.92	21.6	1.94	24.6	22.4	7.4	2.86	36.2	34.9	8.2	10.3	1986
1987	10344119	83773	31036	130921	0.94	21.7	1.91	24.7	22.4	7.2	3.00	37.0	36.7	8.2	10.2	1987
1988	10350517	81458	30652	132667	0.92	21.6	1.94	24.7	22.5	7.5	2.96	37.6	36.3	8.1	10.2	1988
1989	10360034	81262	31376	128356	0.90	21.7	1.87	24.8	22.5	7.9	3.03	38.6	37.2	8.0	10.2	1989
1990	10362102	90953	32055	130564	1.02	21.6	1.89	24.8	22.5	8.6	3.10	35.2	38.0	7.6	10.0	1990
1991	10304607	71973	29366	129354	0.75	21.6	1.86	24.7	22.5	9.8	2.85	40.8	34.7	7.6	10.0	1991
1992	10312548	74060	28572	121705	0.73	21.6	1.72	24.8	22.5	10.7	2.77	38.6	33.9	7.6	10.0	1992
1993	10325697	66033	30227	121025	0.64	22.0	1.67	25.0	22.6	12.7	2.93	45.8	36.1	7.8	10.1	1993
1994	10334013	58440	30939	106579	0.55	22.3	1.44	25.4	22.9	14.5	2.99	52.9	37.4	8.1	10.3	1994
1995	10333161	54956	31135	96097	0.50	22.7	1.28	25.8	23.3	15.6	3.01	56.7	38.4	8.3	10.3	1995
1996	10321344	53896	33113	90446	0.49	23.0	1.18	26.1	23.7	16.9	3.21	61.4	41.7	8.6	10.5	1996
1997	10309137	57804	32465	90657	0.50	23.4	1.17	26.4	24.0	17.8	3.15	56.2	42.0	8.9	10.5	1997
1998	10299125	55027	32363	90535	0.49	23.7	1.16	26.6	24.4	19.0	3.14	58.8	43.0	9.3	10.6	1998
1999	10289621	53523	23657	89471	0.48	24.1	1.13	26.9	24.6	20.6	2.30	44.2	32.3	9.4	10.5	1999
2000	10278098	55321	29704	90910	0.50	24.5	1.14	27.2	24.9	21.8	2.89	53.7	41.2	10.0	10.8	2000

Source: CR POPIN and own calculations.

Table T.2: Divorce according to the duration since marriage (number of divorces per 100 initial marriages), Czech Republic, 1960-2000

Duration since marriage (years)	1960	1965	1970	1975	1980	1985	1990	1995	2000
0	0.34	0.44	0.52	0.80	0.75	0.82	0.75	0.37	0
1	1.04	1.55	1.77	2.28	2.25	2.48	2.69	1.89	2.33
2	1.40	1.91	2.37	2.52	2.80	2.92	3.38	2.97	2.88
3	1.36	1.80	2.38	2.38	2.65	2.77	3.16	3.46	3.21
4	1.08	1.32	1.98	2.02	2.25	2.59	2.83	3.05	3.00
5	1.15	1.35	2.03	2.04	1.97	2.21	2.50	2.61	2.66
6	0.97	1.10	1.47	1.60	1.77	1.98	2.14	2.34	2.44
7	0.92	1.17	1.50	1.63	1.42	1.86	2.00	2.09	2.29
8	0.81	0.88	1.15	1.31	1.40	1.71	1.66	1.86	2.14
9	0.74	0.83	1.18	1.35	1.20	1.57	1.53	1.69	1.98
0-4	5.21	7.03	9.02	10.00	10.70	11.60	12.80	11.75	11.41
5-9	4.60	5.33	7.33	7.93	7.77	9.33	9.83	10.59	11.52
10-14	2.76	3.31	3.84	4.83	4.83	6.04	6.08	6.52	7.45
15-19	1.52	2.28	2.78	3.16	3.47	4.17	4.41	4.37	4.78
20-24	0.86	1.22	1.59	2.29	2.10	2.63	2.89	3.00	3.26
25+	0.94	1.09	1.64	1.92	1.93	2.13	1.94	2.13	2.75
Total divorce rate	15.89	20.25	26.20	30.13	30.80	35.90	37.95	38.37	41.18
Mean duration	9.73	9.73	9.80	10.14	10.00	10.23	9.97	10.30	10.76
Median duration	8.4	7.7	6.6	6.7	6.6	8.0	7.6	8.3	10.0

Source: CR POPIN and own calculations.

Table T.3: Share of divorced from distinct marriage cohorts after given number of years since marriage formation (in %), Czech Republic

Duration of marriage	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	1998
1	0.6	0.3	0.4	0.5	0.5	0.9	0.8	0.7	0.7	0.4	0.5
2	1.5	1.1	1.6	2.1	2.5	3.1	3.1	3.1	3.1	2.4	2.6
3	2.6	2.3	3.2	4.4	4.8	5.6	6.0	6.2	6.1	5.4	5.5
4	3.7	3.7	4.7	6.6	7.3	8.1	8.8	9.2	9.2	8.2	8.6
5	4.7	4.9	6.0	8.6	9.3	10.2	11.4	12.0	12.1	10.9	
6	5.9	6.1	7.4	10.7	11.3	12.2	13.6	14.4	14.9	13.5	
7	6.8	7.0	8.6	12.3	12.8	14.1	15.6	16.4	17.6	16.3	
8	7.7	8.0	9.8	13.9	14.3	15.7	17.4	18.3	20.0		
9	8.5	8.8	10.7	15.2	15.6	17.4	19.1	20.1	21.9		
10	9.3	9.6	11.8	16.5	16.8	19.0	20.6	21.8	23.6		
15	12.3	13.0	16.4	21.1	22.3	24.9	26.4	28.7			
20	14.8	16.0	19.7	24.9	26.6	28.9	30.9				
25	16.7	18.2	22.0	27.5	29.1	32.0					
Total cohort divorce rate	18.6	20.2	24.2	29.5	31.4	34.8					

Source: Zeman (2003).

Table T.4: Divorces by causes in the Czech Republic, 1960-2000 (in %)

	1960	1965	1970	1975	1980	1985	1990	1995	2000
Total number of divorces	12970	16196	21516	26154	27218	30489	32055	31135	29704
Due to male									
1. Rash marriage	1.7	7.8	5.5	3.3	3.9	1.1	5.6	4.4	2.2
2. Habitual drinking	11.9	13.0	13.9	13.3	16.4	16.2	10.3	9.4	5.8
3. Adultery	29.4	21.7	15.8	19.3	18.3	20.9	15.0	12.9	8.0
4. Family neglect	6.5	8.7	13.9	11.9	8.4	5.7	7.6	7.3	5.3
5. Brutal treatment, criminal act	11.4	12.0	10.1	10.8	6.7	5.7	2.7	2.1	1.6
6. Interest, nature, opinion disharmony	10.6	14.0	19.9	21.1	26.1	27.8	40.5	48.8	47.0
7. Health reasons	1.9	1.9	1.4	1.4	0.6	0.5	1.0	0.5	0.3
8. Sexual incompatibility	2.7	4.5	4.5	3.9	3.7	3.2	2.7	1.7	0.6
9. Other	14.5	11.6	8.5	7.4	5.7	5.2	7.9	9.3	22.3
0. Not identified by court	9.4	4.8	6.6	7.6	10.1	13.8	6.8	3.7	6.9
Due to female									
1. Rash marriage	1.2	9.3	6.0	3.3	3.9	1.1	5.6	4.5	2.2
2. Habitual drinking	0.4	0.3	0.4	0.5	0.7	0.9	0.9	0.7	0.5
3. Adultery	28.6	20.0	12.4	17.9	16.9	18.7	13.2	10.5	5.6
4. Family neglect	6.3	7.1	11.3	12.8	8.1	3.2	2.5	1.8	1.2
5. Brutal treatment, criminal act	2.8	3.5	1.3	1.4	0.5	0.4	0.1	0.2	0.1
6. Interest, nature, opinion disharmony	10.9	16.5	21.7	21.7	26.1	27.8	40.5	49.9	49.1
7. Health reasons	2.1	2.8	1.7	1.9	0.6	0.5	1.3	0.5	0.3
8. Sexual incompatibility	2.5	4.7	5.0	4.2	3.7	3.2	2.7	1.7	0.6
9. Other	15.6	13.8	9.3	6.9	5.4	4.9	9.4	12.6	26.6
0. Not identified by court	29.6	22.1	30.9	29.5	34.3	39.4	23.8	17.5	13.7

Sources: CZSO (1995; 2001).

Table T.5: Main demographic indicators in Austria, 1960-2000

Year	Population (1st Jan)	Marriages	Divorces	Live births	Total first marriage rate	Mean age of women at 1st marr *(years)*	Total fertility rate	Mean age at childbirth *(years)*	Mean age at birth of first child *(years)*	Share of non-marr. live births **100*	Crude divorce rate **1000*	Index divorces/ marr. **100*	Total divorce rate **100*	Median duration of marr. *(years)*	Mean duration of marr. *(years)*	Year
1960	7030385	58508	8011	125945	1.03	24.0	2.70	27.6		13.3	1.14	13.7	14.1	7.2	9.8	1960
1961	7064693	60001	8045	131563	1.04	23.8	2.79	27.5		12.8	1.14	13.4	13.6	6.6	9.5	1961
1962	7107904	59705	7969	133253	1.03	23.6	2.80	27.5		12.2	1.12	13.3	13.3	6.4	9.4	1962
1963	7151824	58415	8150	134809	1.01	23.5	2.82	27.4		11.8	1.14	14.0	13.8	6.2	9.2	1963
1964	7199798	57533	8390	133841	1.00	23.3	2.80	27.4		11.5	1.16	14.6	14.5	6.1	9.2	1964
1965	7247804	56738	8423	129924	1.00	23.3	2.71	27.3		11.4	1.16	14.8	14.7	5.8	8.9	1965
1966	7293973	55816	8643	128577	0.98	23.1	2.66	27.1		11.6	1.18	15.5	15.4	5.8	9.0	1966
1967	7350159	56091	8880	127404	0.98	23.1	2.62	27.0		11.6	1.20	15.8	15.9	5.9	9.0	1967
1968	7403837	56001	9705	126115	0.98	23.0	2.59	26.9		12.2	1.31	17.3	17.3	6.0	8.9	1968
1969	7426968	54559	9969	121377	0.95	23.0	2.49	26.8		12.4	1.34	18.3	18.0	6.1	8.9	1969
1970	7455142	52773	10356	112301	0.91	22.9	2.29	26.7	22.9	12.8	1.39	19.6	19.3	6.2	9.0	1970
1971	7479030	48166	10005	108510	0.82	22.9	2.20	26.7	22.9	13.0	1.33	20.8	19.8	6.2	9.0	1971
1972	7521933	57372	9939	104033	0.99	22.9	2.09	26.5	22.9	13.7	1.32	17.3	18.8	6.3	9.0	1972
1973	7566469	49430	9972	98041	0.82	22.8	1.94	26.4	22.8	13.7	1.31	20.2	18.7	6.6	9.2	1973
1974	7605760	49296	10638	97430	0.81	22.7	1.91	26.3	22.9	13.8	1.40	21.6	21.6	6.6	9.1	1974
1975	7592316	46542	10763	93757	0.75	22.7	1.83	26.3	23.0	13.5	1.42	23.1	22.5	6.7	9.1	1975
1976	7565489	45767	11168	87446	0.72	22.7	1.69	26.2	23.1	13.8	1.48	24.4	24.2	6.9	9.3	1976
1977	7565561	45378	11668	85595	0.71	22.9	1.63	26.3	23.2	14.2	1.54	25.7	25.6	7.0	9.5	1977
1978	7571299	44573	12400	85402	0.67	23.0	1.61	26.2	23.2	14.8	1.64	27.8	27.6	8.1	11.3	1978
1979	7553310	45445	13072	86388	0.67	23.2	1.60	26.3	23.2	16.5	1.73	28.8	29.0	8.0	11.1	1979
1980	7545539	46435	13327	90872	0.68	23.2	1.65	26.3	23.3	17.8	1.77	28.7	29.0	7.8	10.4	1980
1981	7553326	47768	13369	93942	0.68	23.3	1.67	26.3	23.4	19.4	1.77	28.0	28.4	7.8	10.4	1981
1982	7584094	47643	14298	94840	0.67	23.5	1.66	26.3	23.5	21.6	1.89	30.0	30.0	7.9	10.4	1982
1983	7567339	56171	14692	90118	0.79	23.6	1.56	26.5	23.7	22.4	1.94	26.2	28.3	7.7	10.4	1983
1984	7566693	45823	14869	89234	0.62	23.8	1.52	26.6	24.1	21.5	1.96	32.4	29.2	7.5	10.4	1984
1985	7574364	44867	15460	87440	0.60	24.1	1.47	26.7	24.3	22.4	2.04	34.5	34.1	7.7	10.6	1985
1986	7582160	45821	14679	86964	0.61	24.3	1.45	26.8	24.4	23.3	1.93	32.0	32.4	8.0	10.8	1986
1987	7593818	76205	14639	86503	1.07	24.3	1.43	26.9	24.6	23.4	1.93	19.2	24.0	7.7	10.9	1987
1988	7602488	35361	14924	88052	0.44	24.6	1.44	27.0	24.7	21.0	1.96	42.2	26.8	7.6	10.7	1988
1989	7628072	42523	15489	88759	0.54	24.7	1.44	27.1	24.8	22.6	2.02	36.4	39.8	7.3	10.6	1989
1990	7689529	45212	16282	90454	0.58	24.9	1.45	27.2	25.0	23.6	2.11	36.0	37.1	7.3	10.6	1990
1991	7768944	44106	16391	94629	0.55	25.2	1.49	27.2	25.0	24.8	2.10	37.2	36.7	7.3	10.5	1991
1992	7867796	45701	16296	95302	0.57	25.3	1.49	27.3	25.0	25.2	2.06	35.7	36.3	7.6	10.7	1992
1993	7962003	45014	16299	95227	0.56	25.6	1.48	27.3	25.1	26.3	2.04	36.2	35.9	7.5	10.7	1993
1994	8015027	43284	16928	92415	0.55	25.8	1.44	27.5	25.4	26.8	2.11	39.1	38.3	7.9	11.1	1994
1995	8039865	42946	18204	88669	0.56	26.1	1.40	27.7	25.6	27.4	2.26	42.4	42.2	8.4	11.5	1995
1996	8054802	42298	18079	88809	0.56	26.3	1.42	27.8	25.9	28.0	2.24	42.7	42.4	9.0	11.7	1996
1997	8067812	41394	18027	84045	0.55	26.5	1.37	27.9	26.0	28.8	2.23	43.5	43.1	8.5	11.3	1997
1998	8075425	39143	17884	81233	0.53	26.7	1.34	28.0	26.1	29.5	2.21	45.7	44.4	9.2	11.8	1998
1999	8082819	39485	18512	78138	0.53	27.0	1.32	28.1	26.3	30.5	2.29	46.9	40.5	9.1		1999
2000	8102557	39228	19552	78268	0.54	27.2	1.34	28.2	26.3	31.3	2.41	49.8	43.1	9.4		2000

Source: COE (2001) New Cronos database and own calculations.

Table T.6: Divorce according to the duration since marriage (number of divorces per 100 innitial marriages), Austria, 1960-2000

Duration since marriage	1960	1965	1970	1975	1980	1985	1990	1995	2000
0	0.19	0.20	0.34	0.25	0.25	0.22	0.36	0.21	1.18
1	0.98	1.17	1.42	1.51	1.76	1.97	2.45	2.02	2.70
2	1.29	1.62	1.98	1.97	2.33	3.54	2.50	3.10	3.22
3	1.25	1.56	1.87	2.36	2.38	2.99	4.83	3.17	3.15
4	1.06	1.34	1.69	1.62	2.15	2.50	2.48	3.01	3.14
5	1.01	1.18	1.47	1.76	1.86	2.18	2.23	2.76	
6	0.76	0.87	1.34	1.50	1.72	1.82	1.97	2.40	
7	0.65	0.75	1.15	1.35	1.55	1.49	2.10	1.74	
8	0.62	0.64	1.01	1.26	1.69	1.53	1.58	3.08	
9	0.65	0.53	0.81	1.12	1.12	1.33	1.44	1.83	
0-4	4.78	5.90	7.30	7.71	8.87	11.22	12.61	11.51	13.38
5-9	3.69	3.97	5.77	7.00	7.94	8.36	9.33	11.81	12.72
10-14	2.73	2.07	2.69	3.92	5.07	5.36	5.31	6.92	8.83
15-19	1.15	1.51	1.61	1.91	3.60	4.20	3.97	4.54	6.21
20-24	1.01	0.60	1.15	1.04	1.78	2.81	3.10	3.54	3.91
25+	0.69	0.69	0.76	0.88	1.75	2.14	2.79	3.90	4.62
Total divorce rate	14.05	14.74	19.30	22.46	29.01	34.09	37.12	42.22	43.10
Mean duration	9.79	8.90	8.98	9.09	10.45	10.60	10.61	11.49	
Median duration	7.2	5.8	6.2	6.7	7.8	7.7	7.3	8.4	9.4

Source: New Cronos database; Familien in Zahlen (ÖIF, 1998; 2001; 2002).

Table T.7: Share of divorced from distinct marriage cohorts after given number of years since marriage formation (in %), Austria

Duration of marriage	1947/48	1952/53	1960	1965	1970	1975	1980	1985	1990	1995	1998
1			0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.7
2			1.3	1.4	1.6	1.8	2.2	2.1	2.8	2.4	3.4
3			2.8	3.1	3.3	4.0	4.9	4.7	5.8	5.1	
4			4.2	4.8	4.9	6.1	7.5	7.1	8.6	7.9	
5	5.1	4.9	5.4	6.4	6.5	8.2	9.9	9.5	11.4	10.8	
6			6.6	7.8	8.0	10.0	12.0	11.7	14.0		
7			7.5	9.1	9.3	11.8	13.8	13.6	16.2		
8			8.4	10.1	10.5	13.4	15.4	15.4	18.2		
9			9.3	11.1	11.5	14.8	16.8	17.0	20.1		
10	9.3	8.4	10.0	12.0	12.6	16.1	18.1	18.6			
15	11.5	10.2	12.8	15.7	16.9	21.1	23.5				
20	12.8	11.6	15.1	18.9	20.2	24.7					
25	13.5	12.5	16.9	21.1	22.6						
Total cohort divorce rate	14.6	13.9	19.1	23.3	24.2						

Source: Demographisches Jahrbuch 1993/94/95 (ÖSZ, 1996); Demographisches Jahrbuch 1999 (Statistics Austria 2001), New Cronos database.

Table T.8: Divorces by causes in Austria, 1961-1999

	1961	1965	1970	1975	1981	1985	1990	1995	1999
Total	8045	8423	10356	10763	13362	14679	16282	18204	18512
Adultery, refusal of procreation (§ 47,48)	265	233	169	129	17	62	105	308	253
Health reasons (§ 50, 51)	44	36	36	26	12	/	/	/	/
Other serious matrimonial offences (§ 49)	7227	7733	9760	10243	3338	2208	1224	1349	1141
Dissolution of household (§ 55)	509	421	391	365	601	508	423	913	858
Mutual agreement (§ 55A)	-	-	-	-	9394	11901	14530	15634	16260
No fault (in %)					71.7	81.8	89.8	87.9	89.4
Fault of man (in %)					18.6	12.0	7.0	7.8	6.9

Source: Demographisches Jahrbuch 1993/94/95 (ÖSZ, 1996); Demographisches Jahrbuch 1999 (Statistics Austria 2001).

Table T.9: Hazard of marital disruption - parameter estimates of the models of section V.I for the Czech Republic

Czech Republic		**Zero model**			**Zero model II**			**Final model**			**Final model II**		
		Value	r.r.	sig.	Value	r.r.	sig.	Value	r.r.	sig.	Value	r.r.	sig.
Duration of marriage - constant		-7.315			-7.351			-10.238			-10.245		
0-23 months	0-3 months	0.049			0.049			0.805			0.808		
24-59	4-7	-0.010			-0.010			-0.578			-0.577		
60+	8-11	-0.002			-0.002			0.609			0.610		
	12-17							-0.013			-0.011		
	18-23							-0.042			-0.042		
	24-35							-0.017			-0.017		
	36-47							-0.010			-0.009		
	48-59							0.036			0.036		
	60-119							-0.001			-0.001		
	120-179							0.001			0.001		
	180-239							-0.002			-0.003		
	240+							-0.016			-0.016		
Birth cohort													
1952-67								0	1		0	1	
1968-72								0.496	1.64	***	0.444	1.56	***
1973-80								0.747	2.11	***	0.653	1.92	**
PERSONAL CHARACTERISTICS													
The only child (no siblings)								0.496	1.64	***	0.493	1.64	***
Religious person								-0.186	0.83		-0.173	0.84	
Childhood in Prague								0.676	1.97	***	0.670	1.95	***
Parental family disrupted								0.316	1.37	**	0.312	1.37	**
Lived alone before starting 1st union								0.747	2.11	***	0.763	2.14	***
Still in education								-0.044	0.96		-0.089	0.91	
Education finished-low level								0.287	1.33	**	0.243	1.27	*
Education finished-middle level								0	1		0	1	
Education finished-high level								-0.510	0.60		-0.437	0.65	
PARTNERSHIP CHARACTERISTICS													
Second or higher order marriage								-0.153	0.86		0.078	1.08	
Cohabitation													
	Moved together after marriage				0.238	1.27		0.257	1.29		0.259	1.30	
Direct marriage	Direct marriage	0	1		0	1		0	1		0	1	
Premarital coh.	Premarital cohabitation 1-5 months	0.465	1.59	***	0.819	2.27	***	0.648	1.91	***	0.604	1.83	***
	Premarital cohabitation 1/2-2 years				0.268	1.31		0.114	1.12		0.004	1.00	
	Premarital cohabitation more than 2 y.				0.584	1.79	**	0.545	1.72	**	0.226	1.25	
Age at marriage / at union formation								Age at marriage			at union formation		
-18								0.421	1.52	***	0.508	1.66	***
19-22								0	1		0	1	
23-26								-0.347	0.71		-0.533	0.59	**
27+								-0.438	0.65		-0.869	0.42	**
Partnership begun during pregnancy								0.011	1.01		0.007	1.01	
Woman older than partner								-0.222	0.80		-0.142	0.87	
Male partner divorced before								0.074	1.08		0.089	1.09	
Child/ren from previous partnerships								-0.214	0.81		-0.195	0.82	
Children from current partnership													
No children								0.836	2.31	***	0.884	2.42	***
Pregnant with 1st ch. (conc. in marr.)								-	0.00	***	-	0.00	***
One child 0-11 months old								-0.084	0.92		-0.068	0.93	
One child 12+ months old								0.609	1.84	***	0.616	1.85	***
Two children, 2nd 0-11 months old								-0.525	0.59		-0.530	0.59	
Two children, 2nd 12+ months old								0	1		0	1	
Three or more children								-0.267	0.77		-0.287	0.75	
Log-likelihood		-1909.8			-1906.4			-1829.2			-1823.1		

Significance: '*'=10%; '**'=5%; '***'=1%; r.r.=relative risk=exp(value)

Table T.10: Hazard of marital disruption - parameter estimates of the models of section V.I for Austria

Austria		**Zero model**			**Zero model II**			**Final model**			**Final model II**		
		Value	r.r.	sig.	Value	r.r.	sig.	Value	r.r.	sig.	Value	r.r.	sig.
Duration of marriage - constant		-7.853			-7.806			-12.658			-12.623		
0-23 months	0-3 months	0.047			0.046			1.256			1.263		
24-59	4-7	0.001			0.001			-0.120			-0.125		
60+	8-11	-0.003			-0.003			0.008			0.010		
	12-17							0.126			0.126		
	18-23							-0.062			-0.062		
	24-35							0.042			0.042		
	36-47							-0.029			-0.029		
	48-59							0.025			0.025		
	60-119							0.000			0.000		
	120-179							-0.003			-0.003		
	180-239							0.006			0.006		
	240+							-0.011			-0.011		
Birth cohort													
1941-54								0	1		0	1	
1955-64								0.385	1.47	***	0.354	1.43	***
1965-76								0.968	2.63	***	0.924	2.52	***
PERSONAL CHARACTERISTICS													
The only child (no siblings)								0.087	1.09		0.094	1.10	
Religious person								-0.315	0.73	***	-0.320	0.73	***
Childhood in Vienna								0.545	1.72	***	0.544	1.72	***
Parental family disrupted								0.554	1.74	***	0.525	1.69	***
Lived alone before starting 1st union								0.298	1.35	***	0.327	1.39	***
Still in education								0.881	2.41	***	0.901	2.46	***
Education finished-low level								0.096	1.10		0.083	1.09	
Education finished-middle level								0	1		0	1	
Education finished-high level								-0.168	0.85		-0.111	0.89	
PARTNERSHIP CHARACTERISTICS													
Second or higher order marriage								0.545	1.73	***	0.535	1.71	***
Cohabitation													
	Moved together after marriage				-0.325	0.72	**	-0.421	0.66	***	-0.420	0.66	***
Direct marriage	Direct marriage	0	1		0	1		0	1		0	1	
Premarital coh.	Premarital cohabitation 1-5 months	0.404	1.50	***	0.435	1.54	***	0.145	1.16		0.125	1.13	
	Premarital cohabitation 1/2-2 years				0.406	1.50	***	0.126	1.13		0.009	1.01	
	Premarital cohabitation more than 2 y.				0.279	1.32	**	0.156	1.17		-0.133	0.88	
Age at marriage / at union formation								Age at marriage			at union formation		
-18								0.562	1.75	***	0.519	1.68	***
19-22								0	1		0	1	
23-26								-0.107	0.90		-0.378	0.69	***
27+								-0.414	0.66	**	-0.300	0.74	
Partnership begun during pregnancy								0.010	1.01		0.012	1.01	
Woman older than partner								0.288	1.33	**	0.347	1.41	**
Male partner divorced before								0.378	1.46	*	0.453	1.57	**
Child/ren from previous partnerships								0.010	1.01		0.029	1.03	
Children from current partnership													
No children								0.623	1.86	***	0.620	1.86	***
Pregnant with 1st ch. (conc. in marr.)								-	0.00	***	-	0.00	***
One child 0-11 months old								-0.545	0.58	**	-0.541	0.58	**
One child 12+ months old								0.424	1.53	***	0.424	1.53	***
Two children, 2nd 0-11 months old								-0.827	0.44	**	-0.816	0.44	**
Two children, 2nd 12+ months old								0	1		0	1	
Three or more children								-0.102	0.90		-0.088	0.92	
Log-likelihood		-4610.1			-4607.4			-4436.6			-4431.4		

Significance: '*'=10%; '**'=5%; '***'=1%; r.r.=relative risk=exp(value)

Table T.11: Parameter estimates of the models of section V.II for the Czech Republic

Czech Republic	Model I		Model II						Model III	
RISK OF MARITAL DISSOLUTION	No heterogeneity		Heterogeneity		Interaction MD X LA		Interaction MD X Coh		Full interaction	
Duration of marriage	-8.563		-10.571		-10.624		-11.380		-11.411	
0-2 years	0.0542		0.0763		0.0767		0.0894		0.0894	
2-5 years	0.0036		0.0154		0.0154		0.0218		0.0219	
5+ years	-0.0001		0.0041		0.0041		0.0056		0.0056	
Premarital cohabitation	0.2483	1.28 *	0.1711	1.19	0.1559	1.17	-0.6347	0.53 **	-0.6435	0.53 **
2nd+ marriage	0.0167	1.02	-1.6711	0.19 **	-1.7601	0.17 **	-2.2656	0.10 ***	-2.3036	0.10 ***
Lived alone	0.7262	2.07 ***	1.1520	3.16 ***	1.3208	3.75 ***	1.4949	4.46 ***	1.6180	5.04 ***
Parental family disrupted	0.3152	1.37 **	0.4462	1.56 **	0.4467	1.56 **	0.5317	1.70 ***	0.5324	1.70 ***
The only child (no siblings)	0.4692	1.60 **	0.7419	2.10 **	0.7609	2.14 **	0.7568	2.13 **	0.7532	2.12 **
Religious person	-0.1629	0.85	-0.2638	0.77	-0.2754	0.76	-0.2801	0.76	-0.2924	0.75
Childhood in Prague	0.7013	2.02 ***	0.9635	2.62 ***	0.9269	2.53 ***	0.8658	2.38 ***	0.8488	2.34 ***
Education (time-varying):										
Not finished	-0.0910	0.91	-0.0255	0.97	-0.0354	0.97	0.0254	1.03	0.0263	1.03
Finished-low level	0.2348	1.26 *	0.3052	1.36 *	0.3205	1.38 *	0.3336	1.40 *	0.3429	1.41 *
Finished-middle level	0	1	0	1	0	1	0	1	0	1
Finished-high level	-0.4263	0.65	-0.5191	0.60	-0.5228	0.59	-0.5584	0.57	-0.5517	0.58
Married during pregnancy	-0.1203	0.89	-0.1363	0.87	-0.1206	0.89	-0.2841	0.75	-0.2610	0.77
Woman older than partner	-0.1693	0.84	-0.1134	0.89	-0.1146	0.89	-0.2662	0.77	-0.2394	0.79
Partner divorced	0.1072	1.11	0.2025	1.22	0.2388	1.27	0.5773	1.78	0.6191	1.86
Child/ren from previous partnerships	-0.1400	0.87	-0.2015	0.82	-0.1530	0.86	-0.2044	0.82	-0.1967	0.82
No children (in current p.)	0.8077	2.24 ***	0.8809	2.41 ***	0.8788	2.41 ***	0.9393	2.56 ***	0.9448	2.57 ***
One child in current p.	0.6682	1.95 ***	0.7770	2.17 ***	0.7735	2.17 ***	0.8685	2.38 ***	0.8681	2.38 ***
Two or more children	0	1	0	1	0	1	0	1	0	1
Birth coh. 1952-67	0	1	0	1	0	1	0	1	0	1
1968-72	0.4378	1.55 ***	0.6367	1.89 ***	0.6492	1.91 ***	0.7167	2.05 ***	0.7377	2.09 ***
1973-80	0.6923	2.00 ***	0.8819	2.42 **	0.9039	2.47 **	1.0286	2.80 ***	1.0379	2.82 ***
Age at union formation -18	0.4746	1.61 ***	0.8106	2.25 ***	0.7855	2.19 ***	1.0517	2.86 ***	1.0304	2.80 ***
19-22	0	1	0	1	0	1	0	1	0	1
23-26	-0.5460	0.58 **	-0.5267	0.59	-0.4986	0.61	-0.3164	0.73	-0.3070	0.74
27+	-0.8287	0.44 *	-0.8443	0.43	-0.7952	0.45	-0.6787	0.51	-0.6430	0.53
RISK OF COHABITING BEFORE MARR.										
Constant	-0.9002	0.41 ***	-0.9536	0.39 ***			-0.9815	0.37 ***	-0.9988	0.37 ***
2nd+ marriage	0.4642	1.59 ***	0.4862	1.63 ***			0.0996	1.10	0.0751	1.08
Lived alone	0.7701	2.16 ***	0.8166	2.26 ***			0.8327	2.30 ***	0.9874	2.68 ***
Parental family disrupted	0.2494	1.28 **	0.2644	1.30 **			0.2730	1.31 **	0.2616	1.30 **
The only child (no siblings)	0.1400	1.15	0.1437	1.15			0.1475	1.16	0.1491	1.16
Religious person	-0.1637	0.85	-0.1767	0.84			-0.1698	0.84	-0.1749	0.84
Childhood in Prague	0.1019	1.11	0.1116	1.12			0.0810	1.08	0.0615	1.06
Education (at start of union):										
Not finished	0.3077	1.36 **	0.3265	1.39 **			0.3058	1.36 **	0.2866	1.33 **
Finished-low level	0.1130	1.12	0.1213	1.13			0.1146	1.12	0.1143	1.12
Finished-middle level	0	1	0	1			0	1	0	1
Finished-high level	0.2724	1.31	0.2905	1.34			0.2767	1.32	0.2777	1.32
Partnership begun during pregnancy	-1.0848	0.34 ***	-1.1431	0.32 ***			-1.1713	0.31 ***	-1.1528	0.32 ***
Woman older than partner	0.2304	1.26	0.2356	1.27			0.1970	1.22	0.1932	1.21
Partner divorced	1.8512	6.37 ***	1.9415	6.97 ***			1.9243	6.85 ***	1.9205	6.82 ***
Birth coh. 1952-67	0	1	0	1			0	1	0	1
1968-72	0.1514	1.16	0.1645	1.18			0.1625	1.18	0.1650	1.18
1973-80	0.3663	1.44 ***	0.3861	1.47 ***			0.4043	1.50 ***	0.4125	1.51 ***
Age at union formation -18	0.5369	1.71 ***	0.5649	1.76 ***			0.5871	1.80 ***	0.5717	1.77 ***
19-22	0	1	0	1			0	1	0	1
23-26	0.0228	1.02	0.0261	1.03			0.0710	1.07	0.0798	1.08
27+	-0.0077	0.99	-0.0034	1.00			0.0657	1.07	0.0831	1.09
RISK OF LIVING ALONE AFTER LPH										
Constant	-1.2797	0.28 ***	-1.8070	0.16 ***	-1.8006	0.17 ***			-1.8042	0.16 ***
Parental family disrupted	0.2336	1.26 *	0.3274	1.39 *	0.3278	1.39 *			0.3282	1.39
The only child (no siblings)	0.0022	1.00	0.0029	1.00	-0.0118	0.99			-0.0154	0.98
Religious person	0.1349	1.14	0.1885	1.21	0.1884	1.21			0.1857	1.20
Childhood in Prague	0.4737	1.61 ***	0.6647	1.94 ***	0.6698	1.95 ***			0.6737	1.96 ***
Education not finished at LPH	0.4976	1.64 ***	0.7001	2.01 ***	0.7029	2.02 ***			0.7043	2.02 ***
Pregnant during LPH	-1.4278	0.24 ***	-2.0247	0.13 ***	-2.0323	0.13 ***			-2.0256	0.13 ***
Birth coh. 1952-67	0	1	0	1	0	1			0	1
1968-72	-0.0775	0.93	-0.1058	0.90	-0.1065	0.90			-0.1117	0.89
1973-80	-0.4289	0.65 ***	-0.6037	0.55 ***	-0.6058	0.55 ***			-0.6116	0.54 ***
Age at LPH -18	0.6984	2.01 ***	0.9832	2.67 ***	0.9765	2.66 ***			0.9929	2.70 ***
19-22	0	1	0	1	0	1			0	1
23-26	-0.1640	0.85	-0.2284	0.80	-0.2400	0.79			-0.2318	0.79
27+	-0.0132	0.99	-0.0153	0.98	-0.0161	0.98			-0.0377	0.96
RESIDUAL STRUCTURE										
Standard deviation of heterogeneity:										
Marital disruption			1.6756	***	1.6834	***	2.1110	***	2.1044	***
Cohabitation			0.3426				0.4045		0.3995	
Living alone			1		1				1	
Correlations coefficient:										
Marital disruption-Cohabitation							0.8259		0.8459	
Marital disruption-Living alone					-0.1235				-0.0990	
Cohabitation-Living alone									-0.3859	
Log-likelihood	-2870.5		-2868.2		-2241.4		-2469.7		-2862.6	

Given figures represent the intensities and relative risks. Significance: '*'=10%; '**'=5%; '***'=1%

Table T.12: Parameter estimates of the models of section V.II for Austria

Austria	Model I		Model II				Model III	
RISK OF MARITAL DISSOLUTION	No heterogeneity		Heterogeneity		Interaction MD X LA		Interaction MD X Coh		Full interaction	
Duration of marriage	-9.141		-9.749		-9.884		-9.699		-9.801	
0-2 years	0.0548		0.0576		0.0574		0.0575		0.0574	
2-5 years	0.0121		0.0161		0.0161		0.0161		0.0161	
5+ years	-0.0010		0.0002		0.0002		0.0002		0.0002	
Premarital cohabitation	0.0398	1.04	0.0484	1.05	0.0294	1.03	-0.1161	0.89	-0.2262	0.80
2nd+ marriage	0.5235	1.69 ***	0.0009	1.00	-0.0697	0.93	0.0404	1.04	-0.0029	1.00
Lived alone	0.3262	1.39 ***	0.3772	1.46 ***	0.6843	1.98 ***	0.3960	1.49 ***	0.7265	2.07 ***
Parental family disrupted	0.5204	1.68 ***	0.5666	1.76 ***	0.5541	1.74 ***	0.5887	1.80 ***	0.5841	1.79 ***
The only child (no siblings)	0.0899	1.09	0.0949	1.10	0.1145	1.12	0.0968	1.10	0.1160	1.12
Religious person	-0.3181	0.73 ***	-0.3866	0.68 ***	-0.3822	0.68 ***	-0.4089	0.66 ***	-0.4161	0.66 ***
Childhood in Vienna	0.5534	1.74 ***	0.6694	1.95 ***	0.6928	2.00 ***	0.6667	1.95 ***	0.6868	1.99 ***
Education (time-varying):										
Not finished	0.9219	2.51 ***	0.9424	2.57 ***	0.8757	2.40 ***	0.9624	2.62 ***	0.8994	2.46 ***
Finished-low level	0.1026	1.11	0.1267	1.14	0.1433	1.15	0.1147	1.12	0.1241	1.13
Finished-middle level	0	1	0	1	0	1	0	1	0	1
Finished-high level	-0.1350	0.87	-0.1441	0.87	-0.1657	0.85	-0.1358	0.87	-0.1533	0.86
Married during pregnancy	0.1620	1.18 *	0.1843	1.20 *	0.2106	1.23 **	0.1570	1.17	0.1702	1.19
Woman older than partner	0.3243	1.38 **	0.3777	1.46 **	0.3899	1.48 **	0.3935	1.48 **	0.4152	1.51 **
Partner divorced	0.4522	1.57 **	0.4768	1.61 **	0.4742	1.61 **	0.5519	1.74 **	0.5849	1.79 **
Child/ren from previous partnerships	0.0487	1.05	0.0544	1.06	0.0703	1.07	0.0541	1.06	0.0688	1.07
No children (in current p.)	0.7569	2.13 ***	0.8648	2.37 ***	0.8567	2.36 ***	0.8618	2.37 ***	0.8505	2.34 ***
One child in current p.	0.4811	1.62 ***	0.5287	1.70 ***	0.5271	1.69 ***	0.5295	1.70 ***	0.5272	1.69 ***
Two or more children	0	1	0	1	0	1	0	1	0	1
Birth coh. 1941-54	0	1	0	1	0	1	0	1	0	1
1955-64	0.3508	1.42 ***	0.4121	1.51 ***	0.4178	1.52 ***	0.4580	1.58 ***	0.4882	1.63 ***
1965-75	0.8841	2.42 ***	0.9646	2.62 ***	1.0012	2.72 ***	1.0236	2.78 ***	1.0934	2.98 ***
Age at union formation -18	0.4798	1.62 ***	0.5379	1.71 ***	0.4913	1.63 ***	0.5672	1.76 ***	0.5319	1.70 ***
19-22	0	1	0	1	0	1	0	1	0	1
23-26	-0.3655	0.69 ***	-0.4059	0.67 ***	-0.3897	0.68 ***	-0.4111	0.66 ***	-0.3945	0.67 ***
27+	-0.2648	0.77	-0.3075	0.74	-0.2691	0.76	-0.3162	0.73	-0.2816	0.75
RISK OF COHABITING BEFORE MARR.										
Constant	-0.4141	0.66 ***	-0.6076	0.54 ***			-0.6121	0.54 ***	-0.7668	0.46 ***
2nd+ marriage	0.3871	1.47 ***	0.6480	1.91 ***			0.5699	1.77 **	0.4754	1.61 **
Lived alone	0.2471	1.28 ***	0.3644	1.44 ***			0.3681	1.44 ***	0.7394	2.09 ***
Parental family disrupted	0.3555	1.43 ***	0.5179	1.68 ***			0.5183	1.68 ***	0.4981	1.65 ***
The only child (no siblings)	0.0227	1.02	0.0443	1.05			0.0472	1.05	0.0731	1.08
Religious person	-0.3595	0.70 ***	-0.4986	0.61 ***			-0.5011	0.61 ***	-0.4959	0.61 ***
Childhood in Vienna	-0.1085	0.90	-0.1629	0.85			-0.1636	0.85	-0.1356	0.87
Education (at start of union):										
Not finished	0.3577	1.43 ***	0.4945	1.64 ***			0.4868	1.63 ***	0.3920	1.48 ***
Finished-low level	-0.1541	0.86 ***	-0.2267	0.80 ***			-0.2285	0.80 ***	-0.2249	0.80 ***
Finished-middle level	0	1	0	1			0	1	0	1
Finished-high level	0.1272	1.14	0.1899	1.21			0.1883	1.21	0.1807	1.20
Partnership begun during pregnancy	-0.7595	0.47 ***	-1.0476	0.35 ***			-1.0540	0.35 ***	-1.0216	0.36 ***
Woman older than partner	0.2694	1.31 ***	0.3864	1.47 ***			0.3918	1.48 ***	0.4082	1.50 ***
Partner divorced	2.2458	9.45 ***	3.0572	21.27 ***			3.0541	21.20 ***	3.0542	21.20 ***
Birth coh. 1941-54	0	1	0	1			0	1	0	1
1955-64	0.6579	1.93 ***	0.9446	2.57 ***			0.9514	2.59 ***	0.9692	2.64 ***
1965-75	0.8571	2.36 ***	1.2236	3.40 ***			1.2309	3.42 ***	1.2813	3.60 ***
Age at union formation -18	0.4094	1.51 ***	0.5924	1.81 ***			0.5976	1.82 ***	0.5632	1.76 ***
19-22	0	1	0	1			0	1	0	1
23-26	-0.0392	0.96	-0.0620	0.94			-0.0612	0.94	-0.0387	0.96
27+	-0.1195	0.89	-0.1670	0.85			-0.1677	0.85	-0.1293	0.88
RISK OF LIVING ALONE AFTER LPH										
Constant	-0.3814	0.68 ***	-0.5435	0.58 ***	-0.5387	0.58 ***			-0.5398	0.58 ***
Parental family disrupted	0.0310	1.03	0.0431	1.04	0.0446	1.05			0.0473	1.05
The only child (no siblings)	-0.1010	0.90	-0.1411	0.87	-0.1443	0.87			-0.1377	0.87
Religious person	-0.0463	0.95	-0.0656	0.94	-0.0644	0.94			-0.0623	0.94
Childhood in Vienna	-0.1837	0.83 **	-0.2578	0.77 **	-0.2578	0.77 **			-0.2570	0.77 **
Education not finished at LPH	0.8395	2.32 ***	1.1964	3.31 ***	1.1957	3.31 ***			1.1848	3.27 ***
Pregnant during LPH	-0.9682	0.38 ***	-1.3651	0.26 ***	-1.3656	0.26 ***			-1.3598	0.26 ***
Birth coh. 1941-54	0	1	0	1	0	1			0	1
1955-64	-0.1172	0.89 **	-0.1669	0.85 **	-0.1681	0.85 **			-0.1643	0.85 **
1965-75	-0.3559	0.70 ***	-0.5028	0.60 ***	-0.5083	0.60 ***			-0.5064	0.60 ***
Age at LPH -18	0.4646	1.59 ***	0.6588	1.93 ***	0.6547	1.92 ***			0.6619	1.94 ***
19-22	0	1	0	1	0	1			0	1
23-26	-0.3635	0.70 ***	-0.5130	0.60 ***	-0.5172	0.60 ***			-0.5422	0.58 ***
27+	-1.0173	0.36 ***	-1.4290	0.24 ***	-1.4330	0.24 ***			-1.4295	0.24 ***
RESIDUAL STRUCTURE										
Standard deviation of heterogeneity:										
Marital disruption			0.8965	***	0.9294	***	0.9077	***	0.9422	***
Cohabitation			0.9801	***			0.9913	***	1.0300	***
Living alone			1		1				1	
Correlations coefficient:										
Marital disruption-Cohabitation							0.1703		0.2856	
Marital disruption-Living alone					-0.3663				-0.3798	*
Cohabitation-Living alone									-0.3925	**
Log-likelihood	-8140.3		-8126.3		-6187.1		-6413.1		-8121.9	

Given figures represent the intensities and relative risks. Significance: '*'=10%; '**'=5%; '***'=1%

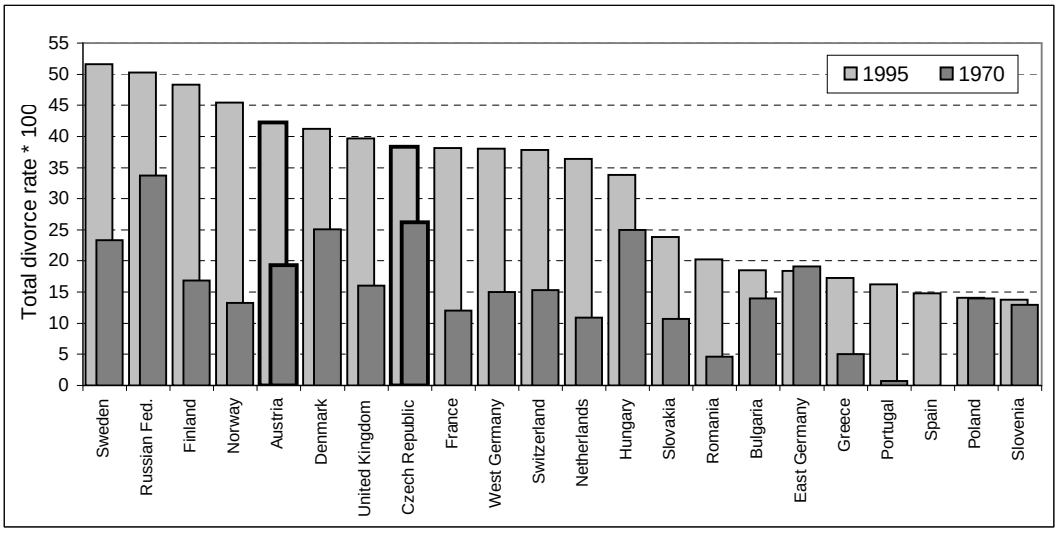

Figure 1: Total divorce rates in selected European countries in 1970 and 1995

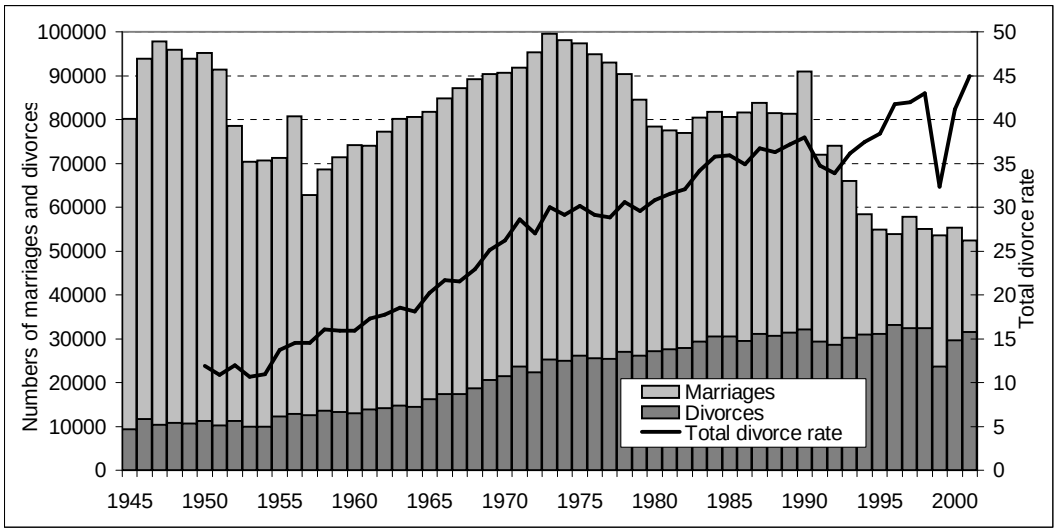

Figure 2: Number of marriages and divorces and total divorce rate in the Czech Republic, 1945-2001

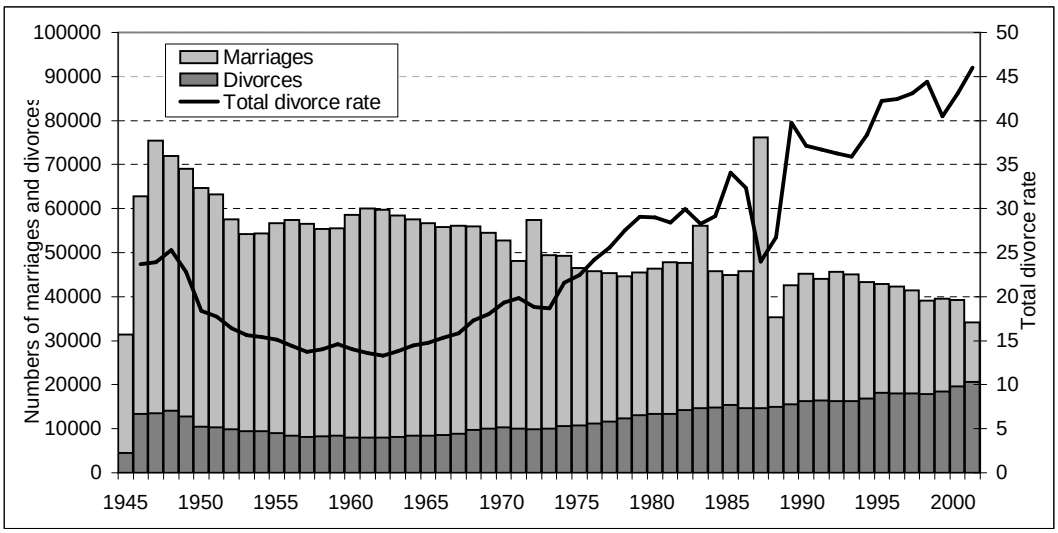

Figure 3: Number of marriages and divorces and total divorce rate in Austria, 1945-2001

Sources for figures 1-3: COE (2001); CR POPIN; New Cronos database.

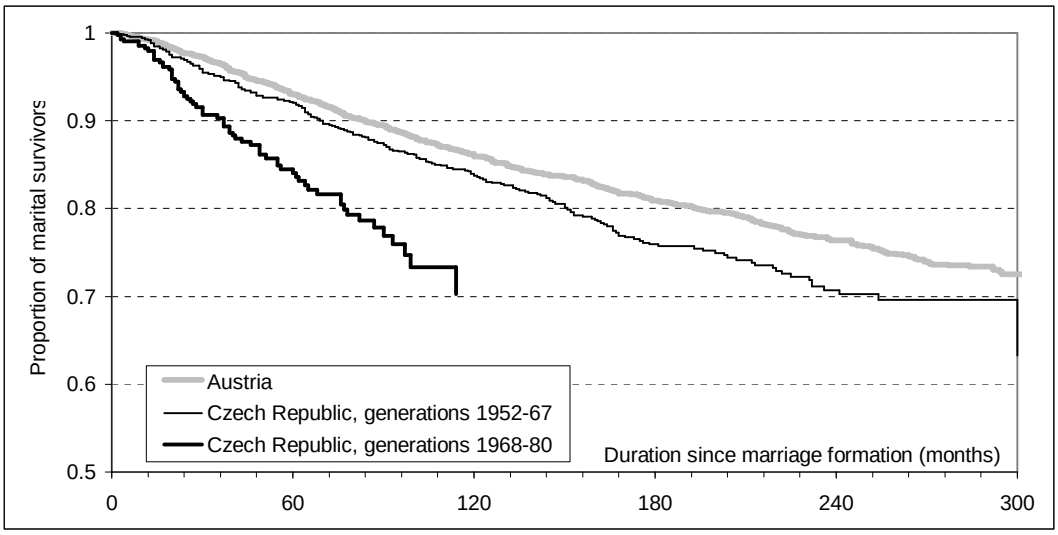

Figure 4: Kaplan-Meier estimator of marital survivors according to birth cohorts

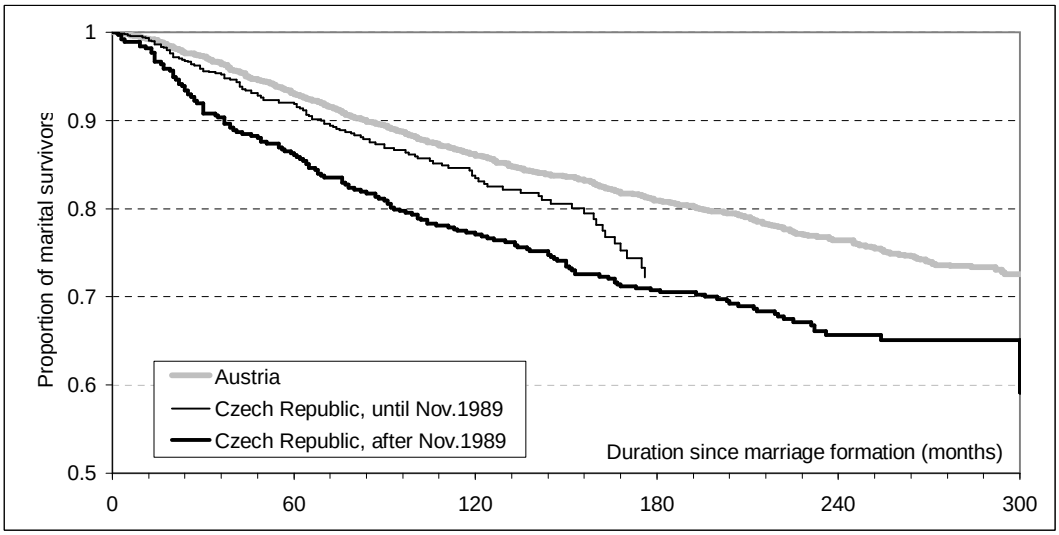

Figure 5: Kaplan-Meier estimator of marital survivors according to the period (prior and after November 1989)

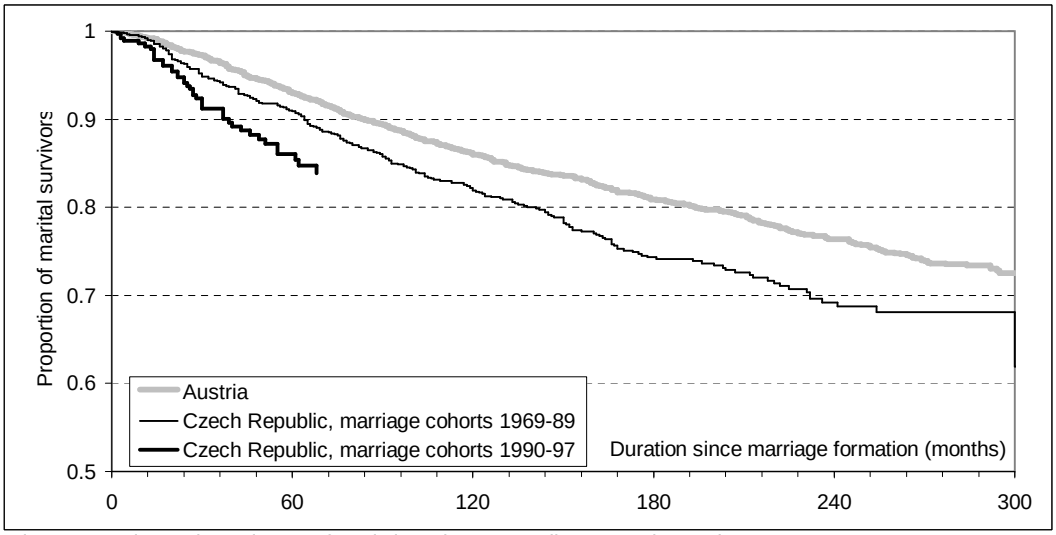

Figure 6: Kaplan-Meier estimator of marital survivors according to marriage cohorts

Note: Figures 4-6 refer to analysis in section IV.1.

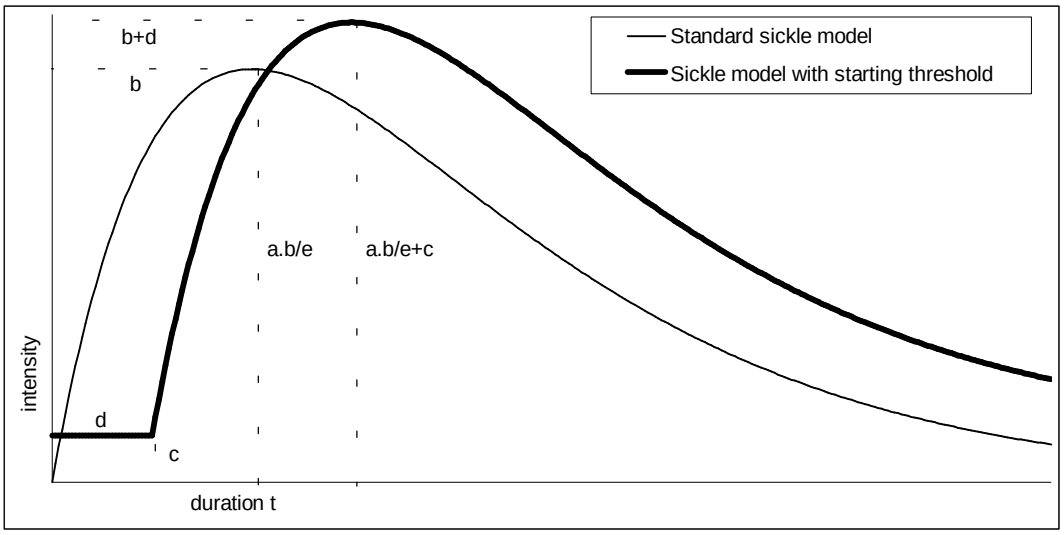

Figure 7: Standard sickle model, sickle model with starting threshold, and the meaning of their parameters

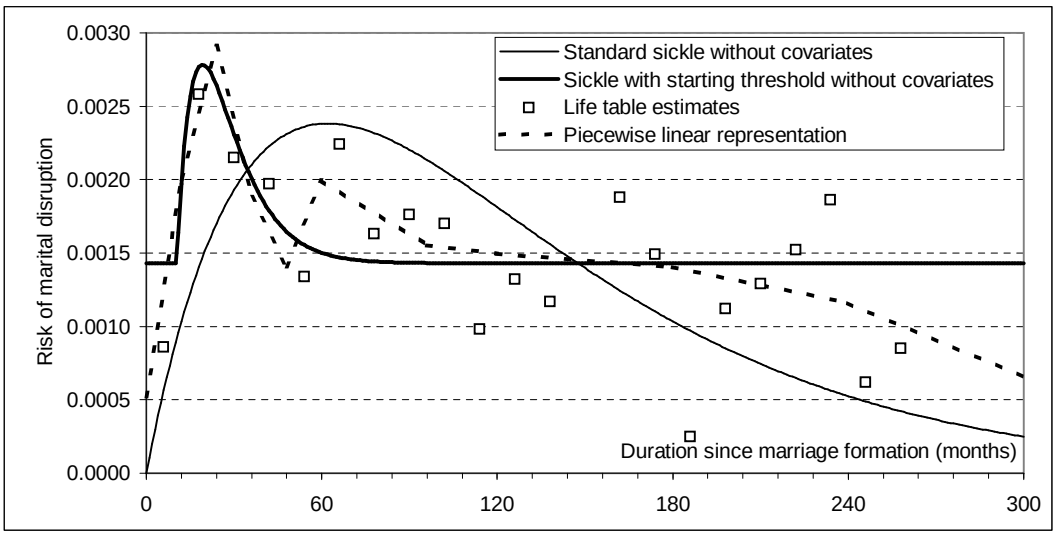

Figure 8: Comparison of sickle model with life table estimates and piecewise linear representation - Czech Republic

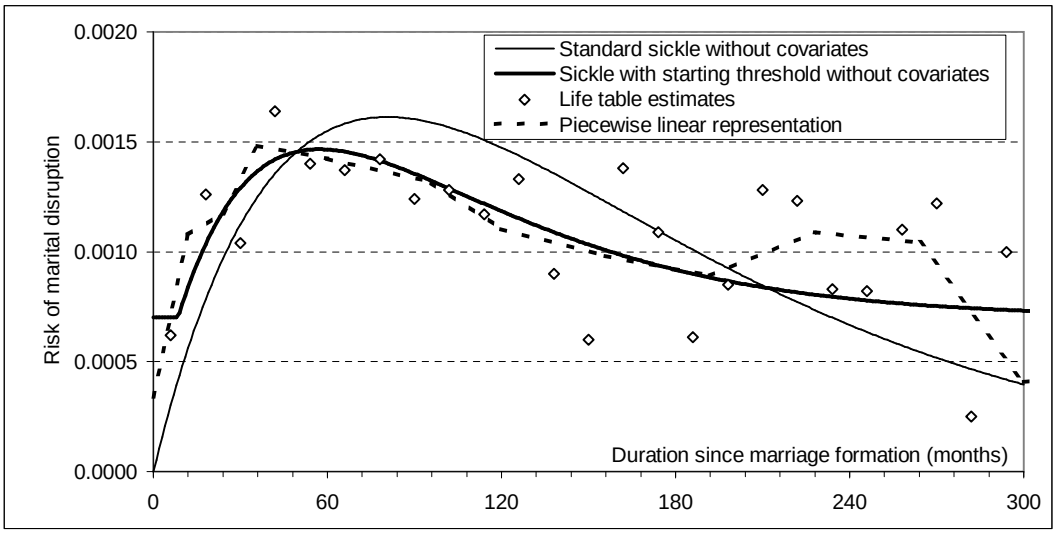

Figure 9: Comparison of sickle model with life table estimates and with piecewise linear representation - Austria

Note: Figures 7-9 refer to analysis in section IV.2.

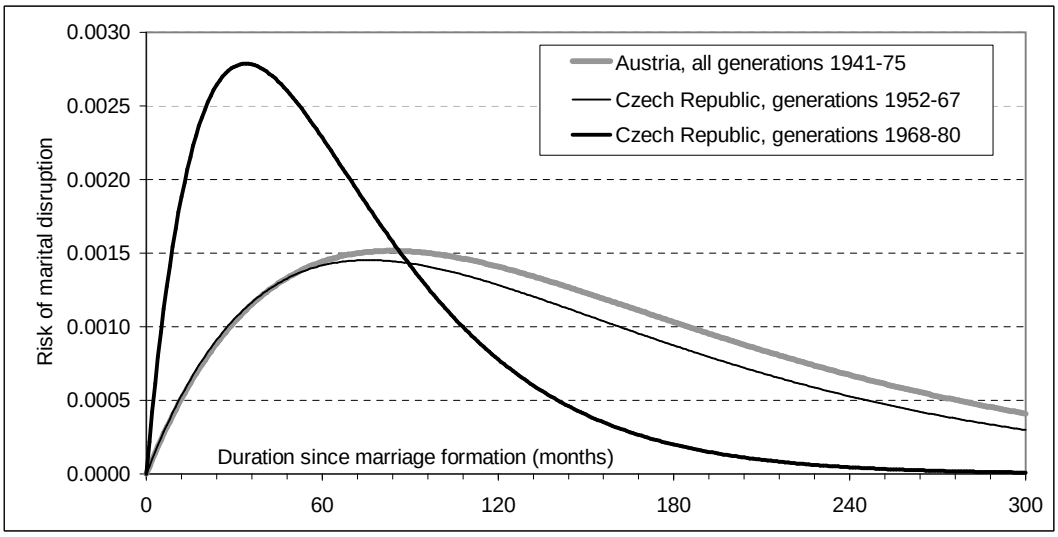

Figure 10: Baseline of standard sickle model with covariates, marital disruption of different birth cohorts

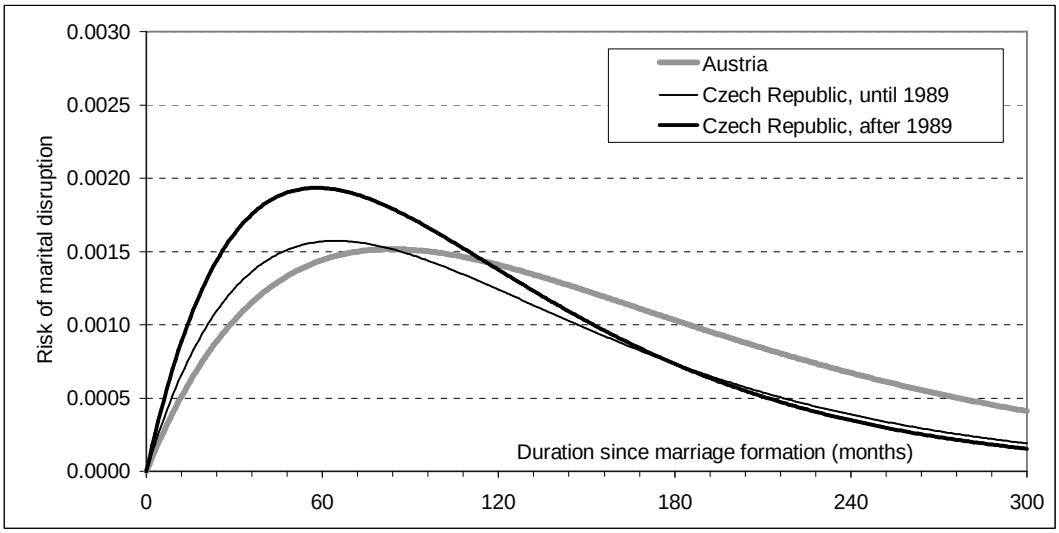

Figure 11: Baseline of standard sickle model with covariates, marital disruption before and after November 1989

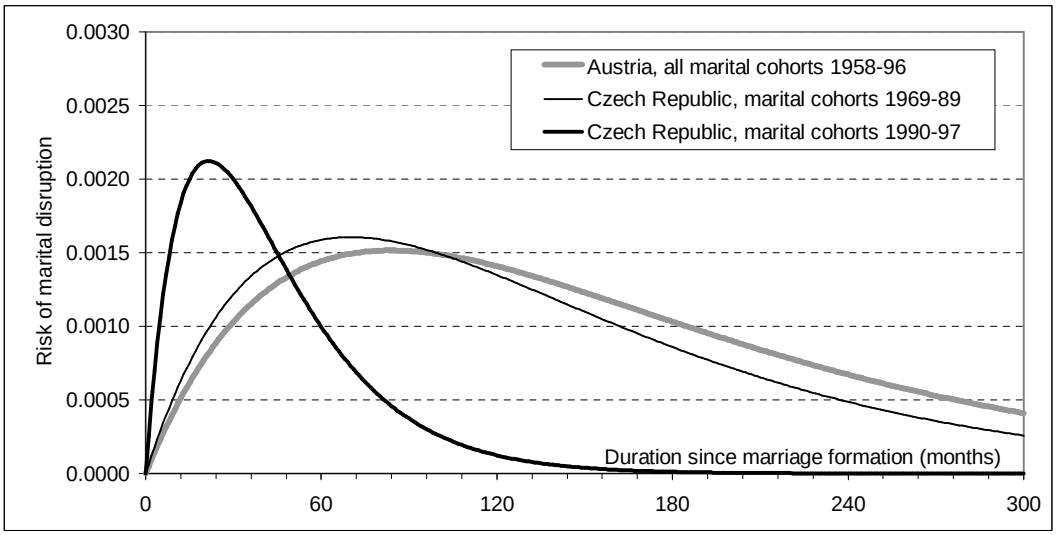

Figure 12: Baseline of standard sickle model with covariates, marital disruption of different marital cohorts

Note: Figures 10-12 refer to analysis in section IV.2.1.

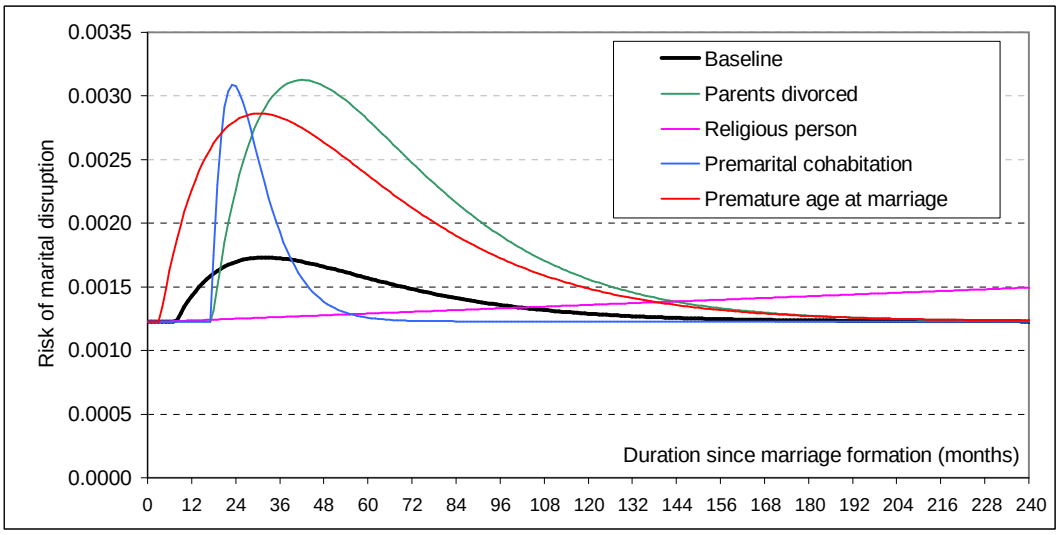

Figure 13: Sickle model with starting threshold – Czech Republic

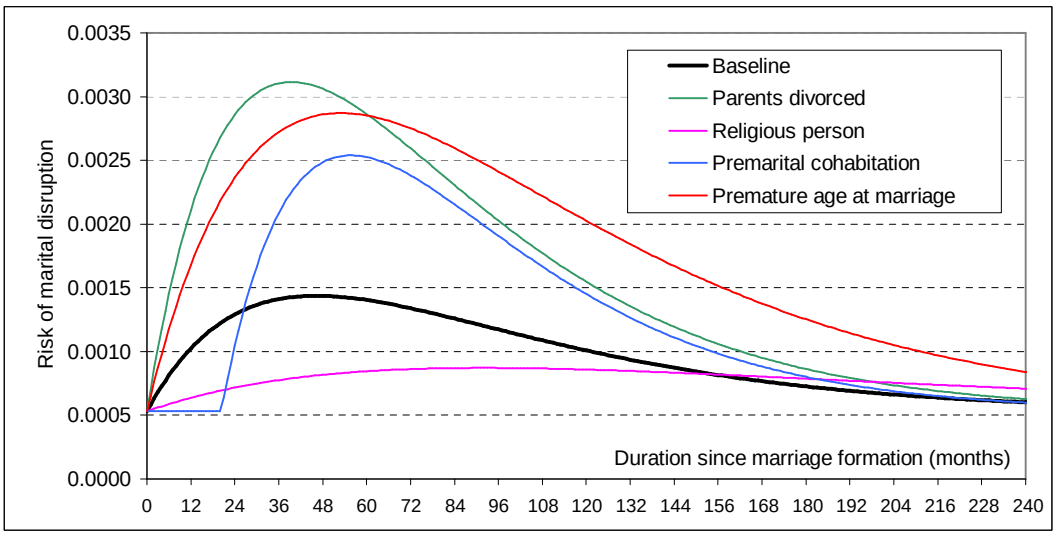

Figure 14: Sickle model with starting threshold – Austria

Notes: The baseline in figures 13 and 14 represents non-religious women from intact families who married directly at age 19+. Each of other curves represent women with changed value of one respective covariate, with the others kept unchanged. Figures refer to analysis in section IV.2.2.

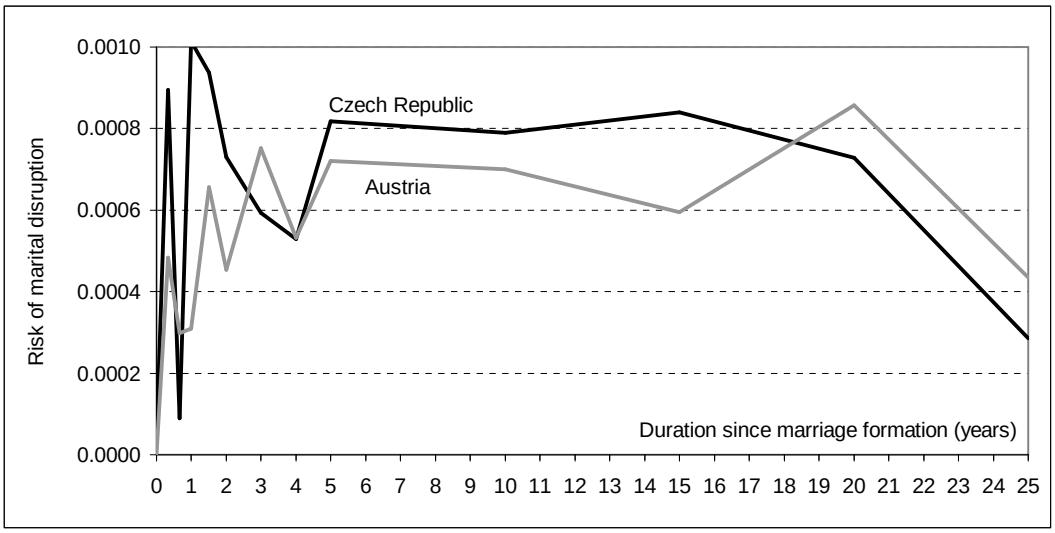

Figure 15: Baselines of marital union disruption according to the duration since marriage, final models for Austria and the Czech Republic (model in section V.1)

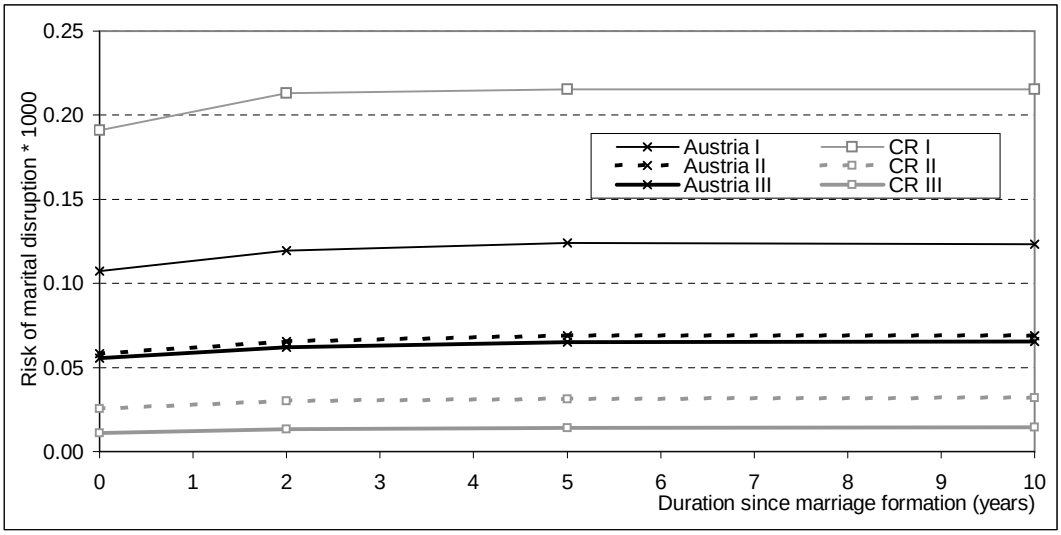

Figure 16: Baselines of hazard of marital disruption for distinct models - I model with no heterogeneity, II model with heterogeneity components, III model with full interaction; Austria and the Czech Republic (model in section V.2)

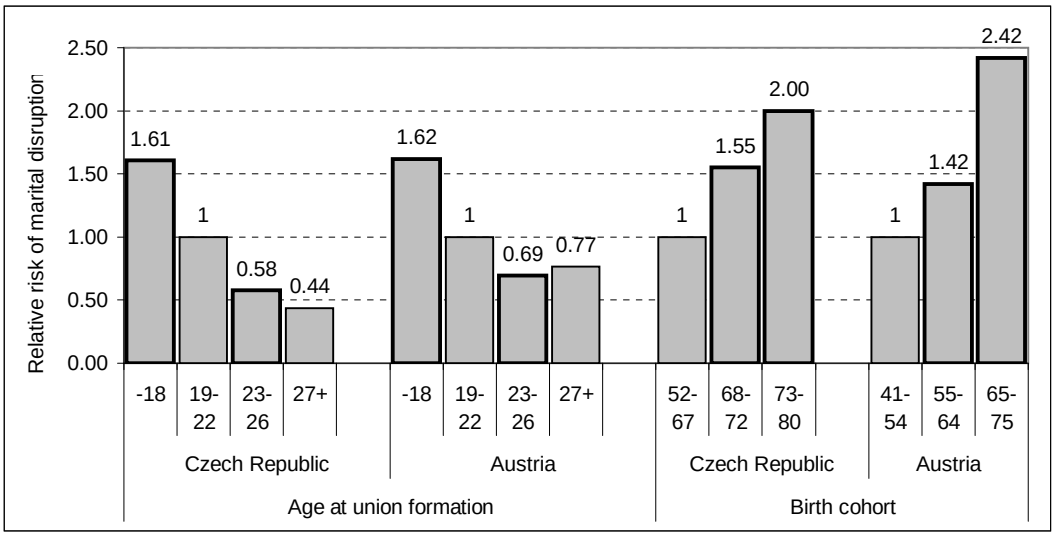

Figure 17: Relative risk of marital disruption (Hazard regression)

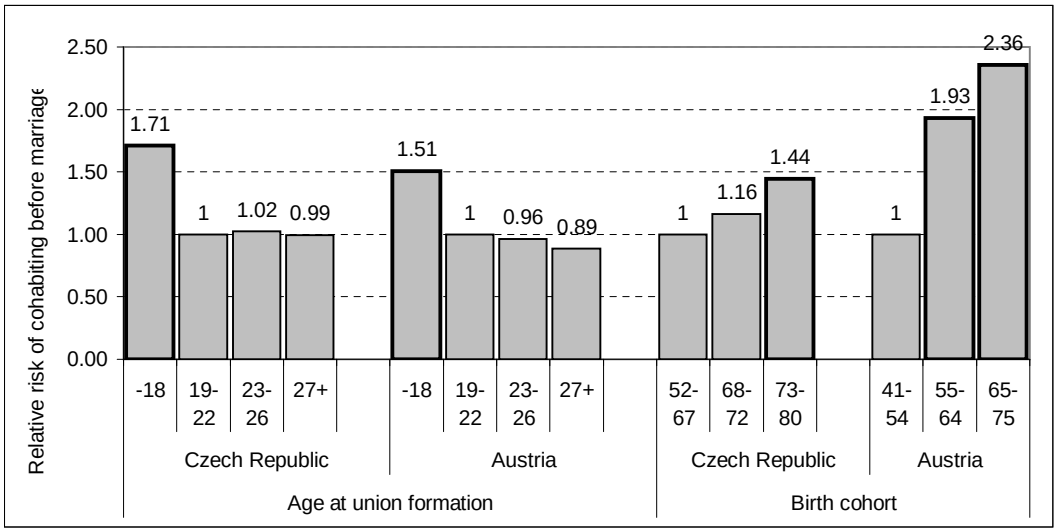

Figure 18: Relative risk of cohabiting before marriage (Probit model)

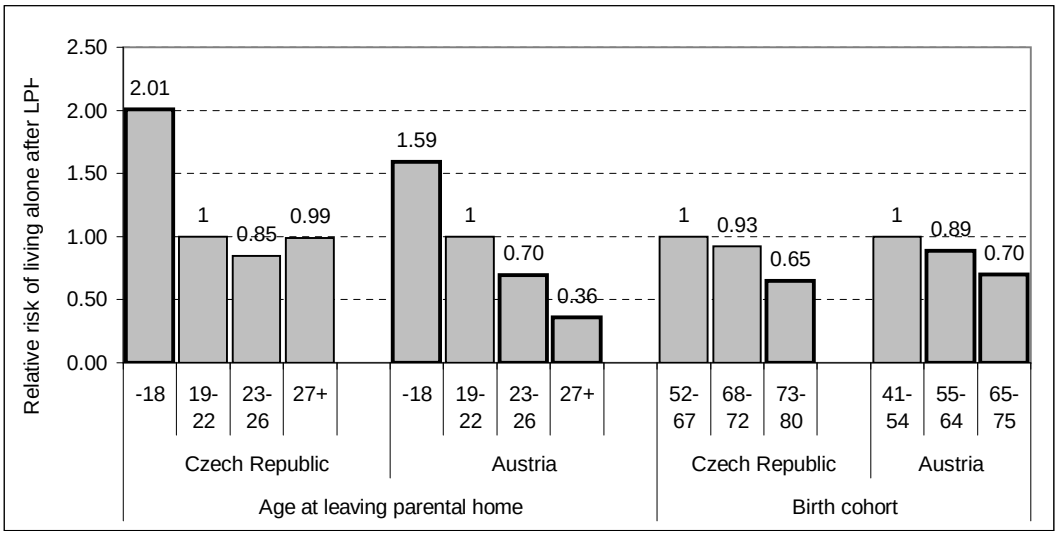

Figure 19: Relative risk of living alone after LPH (Probit model)

Notes: Figures 17-19 refer to analysis in section V.2.
Bold bars label difference of the relative risk from the baseline hazard at 5% significance level.