

Explaining cross-national differences in marriage, cohabitation, and divorce in Europe, 1990–2000

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European countries differ considerably in their marriage patterns. The study presented in this paper describes these differences for the 1990s and attempts to explain them from a macro-level perspective. We find that different indicators of marriage (i.e., marriage rate, age at marriage, divorce rate, and prevalence of unmarried cohabitation) cannot be seen as indicators of an underlying concept such as the 'strength of marriage'. Multivariate ordinary least squares (OLS) regression analyses are estimated with countries as units and panel regression models are estimated in which annual time series for multiple countries are pooled. Using these models, we find that popular explanations of trends in the indicators—explanations that focus on gender roles, secularization, unemployment, and educational expansion—are also important for understanding differences among countries. We also find evidence for the role of historical continuity and societal disintegration in understanding cross-national differences.

Keywords: marriage; cohabitation; divorce; Europe; secularization

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Introduction

Much of the debate about marriage patterns in the contemporary Western world is prompted by the trends that have occurred in recent decades. Rates of marriage and remarriage have fallen, rates of divorce and separation have increased, and age at marriage has risen. Together with falls in fertility, these trends have been described as constituting the Second Demographic Transition (Lesthaeghe 1983; Lesthaeghe and Van de Kaa 1986; Van de Kaa 1987). This transition has also influenced micro-level research. Most micro-level studies have focused on explanations and variables that are potentially relevant not only to understanding differences among individuals but also to trends over time. Examples of such factors are women's employment, individualistic values, religiosity, men's socio-economic prospects, higher education, and school enrolment.

The emphasis on trends—although important in itself—has diverted attention away from another macro-level phenomenon—differences among countries. While marriage rates have declined in many Western countries—albeit not simultaneously or to the same degree—the differences among countries

at any point in time remain striking. In part these differences may reflect marriage customs and traditions established many years ago, but they may also result from contemporary differences among countries, such as differences in women's roles, religious differences, and economic differences. This paper examines whether the standard explanations of trends from the literature on the Second Demographic Transition are also relevant for understanding cross-national differences.

Cross-national research on marriage and divorce is scarce, though some earlier studies are noteworthy despite the fact that their findings are now dated. In an interesting paper in *Population Studies* in 1971, Dixon compared the timing and prevalence of marriage in 57 countries (including non-Western countries) and related these to indicators of economic development, women's employment, and sex ratios (Dixon 1971). She concluded that variation in the feasibility and the desirability of marriage could explain many of the cross-national differences. She also claimed that the marriage patterns of European countries were converging. Dixon was writing at a time when marriage rates were increasing in Western Europe and the USA, and when age at marriage had fallen to historically low points in these regions.

There is clearly a case for a replication of her work in the era of the Second Demographic Transition. Divorce too was the subject of some older cross-national studies. South and Trent (1989) analysed crude divorce rates in 66 countries in the late 1970s and found associations with women's employment and the availability of mates, but no associations with religion. In more recent times, there have been several comparative studies of marriage and divorce, but virtually all of these have been of a more descriptive nature (Botev 1990; Darsky and Scherbov 1995; Schoenmaeckers and Lodewijckx 1999; Kiernan 2002; Andersson 2003; Prioux 2006).

In the literature on the Second Demographic Transition, it has often been argued that different demographic indicators, such as divorce rate, marriage timing, and cohabitation rate, are measures of a more general underlying phenomenon, one that could be called the 'strength of marriage'. Similarly, it has been held that declining rates of marriage, rising rates of remarriage, the rise in the age at marriage, and the increase in cohabitation and divorce all point to a more general 'erosion of marriage'. Implicit in this view is the assumption that the forces that make marriage less attractive for single persons are also those that make divorce less unattractive for married persons and cohabitation more attractive than marriage. Whether this assumption is correct is not obvious. For example, a decline in marriage rates can be caused by an increase in the age at marriage and is not in itself an indication that marriage has become less attractive. Similarly, changing values may have resulted in greater acceptance of less traditional forms of behaviour (e.g., divorce, cohabitation), but this does not necessarily imply that people value marriage less. The weakening of the normative barrier to divorce need not mean that marriage has become less desirable; it may mean simply that unsatisfactory matches can be more readily ended and replaced by new and better ones. The high rates of remarriage are in line with this reasoning.

The goal of the study presented in this paper was to describe and explain differences in marriage patterns among more than 30 European countries in the 1990s. We present data on marriage rates, the timing of marriage, divorce rates, and cohabitation. Marriage patterns are described for individual countries but we also group the countries into major regions in order to detect patterns. The following regions are distinguished: Western Europe, Northern Europe, Southern Europe, South-Eastern Europe, and Central-Eastern Europe. After describing marriage patterns, we present an examination of

whether the indicators are related to each other. This is one way of assessing whether they are indicators of a concept such as the 'strength of marriage' that is common to all the phenomena. Subsequently, we test our macro-level hypotheses by examining how the various marriage indicators are related to a series of country characteristics. This analysis is also used to answer the question of whether the indicators are affected by the same or different social forces.

Background and hypotheses

The first hypothesis is based on the notion that declining gender-role specialization has weakened marriage (Becker 1981). A strengthening of the economic position of women reduces the benefits of specialization in marriage. It also reduces the costs of leaving a poor marriage, which increases the risk of divorce when a marriage is unhappy. Women's employment may also reduce participation in joint activities and time together in marriage, which may further weaken it.

Research in Europe that focuses on the timing of marriage has not unequivocally shown that women's employment and occupation affect entry to marriage. In many European countries, women's employment does not have the effect of delaying marriage, and in some countries, such as Germany, the effect is positive (Bracher and Santow 1998; Kravdal 1999; Liefbroer and Corijn 1999; Baizan 2001; Hullen 2001). In only two countries—Italy and Belgium—does the evidence on the timing of marriage provide positive support for the economic hypothesis, and primarily for the younger age groups (Corijn 2001; Ongaro 2001).

Studies of divorce offer stronger evidence. Most studies show that married women's employment and earnings increase the chances of divorce (De Rose 1992; Blossfeld and Muller 2002; Bukodi and Robert 2003; Chan and Halpin 2003; Jalovaara 2003; Kalmijn et al. 2004, 2007). In some countries, such as Russia, there appears to be no effect of women's employment on divorce, perhaps because such a high proportion of women are working in this part of Europe (Muszynska 2006). On the other hand, there is also evidence to suggest that in former communist societies, women's economic position has become more relevant only after the transition to a market economy (Kantorova 2004).

The micro-level hypothesis can be translated to the macro level. We thus expected that *the less specialized the economic roles of men and women in*

a society, the weaker marriage would be in that society. The effect of specialization should apply to both marriage and divorce since less specialization implies both lower gains to marriage and lower exit costs. One may also expect effects on cohabitation, since when women are economically independent, there is less need for economic insurance via the marriage contract. Some studies have indeed shown that women's employment reduces the probability that cohabiting women will marry (Kravdal 1999). Finally, it can be argued that the economic hypothesis does not apply to the timing of marriage, since the economic logic applies to the question of whether or not to marry, not to the question of when to marry (Oppenheimer 1994). For this reason, we expected an effect on marriage rate, but not on age at marriage. It should be noted, finally, that the causal arrow from women's employment to marriage may also run in the opposite direction, and this study does not disentangle the two directions.

The second hypothesis focuses on secularization. Numerous European (and American) studies at the micro level have demonstrated the important role of religious affiliation for a variety of demographic behaviours. People who are church members are more likely to marry early, largely because they tend to choose marriage over cohabitation. When union formation is considered, regardless of whether it is marriage or cohabitation, church membership generally has no effect (Thornton et al. 1992; Cartwright 2000; Berrington 2001; Corijn 2001; Jansen and Liefbroer 2001; Pfeiffer and Nowak 2001). There is also evidence that church members and people who attend church frequently are less likely to divorce than non-members and people who attend church less often (Berrington and Diamond 1999; Bukodi and Robert 2003; Henz and Jonsson 2003; Kalmijn et al. 2004).

At the macro level, our hypothesis was that *the more secularized a country, the weaker marriage would be in the country*. Should we have expected this effect to be similar for the different outcomes? In other words, does the religious factor affect marriage, cohabitation, and divorce to the same extent? One argument is that secularization has merely weakened norms *against* cohabitation and divorce, without having weakened values *favouring* marriage. If so, religion would explain the rise of cohabitation and divorce, but not the decline in the percentage of persons eventually married. Another argument is that secularization has also had the result of reducing the symbolic value of marriage, which could mean that, now, people who cohabit

have weaker incentives to formalize their relationships by marrying.

The influence of religion on marriage variables is fairly well established when religion is measured simply as whether or not people go to church. Fewer studies, however, have examined the possibly additional effects of denomination or religious group. The exceptions—in the USA and elsewhere—do not suggest that there are strong or systematic differences between religious groups in union and marriage formation, at least not in contemporary times (Thornton et al. 1992; Sander 1993; Jansen 2002). For divorce, differences are not strong either (Kalmijn et al. 2005). Nevertheless it seemed interesting to explore whether denominational differences at the macro level affect marriage and divorce.

The third hypothesis is based on another important societal trend, the expansion of higher education. In most European countries, education leads to delays in marriage and the birth of the first child (Blossfeld 1995; Liefbroer and Corijn 1999; Corijn and Klijzing 2001). One reason for this is that more highly educated women have higher opportunity costs of childbearing and are economically more independent of marriage. According to a competing argument, the reason for the importance of education is that it leads to delays in marriage and childbearing. Higher education usually means a *longer* education, and since marriage and childbearing are incompatible with school enrolment, for both economic and normative reasons, education leads to marriage delays. Studies have generally confirmed the importance of the length rather than the level of schooling: the more highly educated postpone marriage and childbearing because they have been in school longer (Blossfeld and Huinink 1991). There is also no evidence of a negative effect, however. Oppenheimer and Lew find positive rather than negative effects of educational level on the probability of marrying and argue that these result from the greater attractiveness of the more highly educated in the marriage market (Oppenheimer and Lew 1995).

We expected that, at the macro level, *the more people who completed tertiary education in a society, the weaker marriage would be in that society*. We apply this hypothesis primarily to the timing of marriage, as Blossfeld and others have proposed, and not to the number of people who eventually marry or to the divorce rate. University and other post-secondary forms of education may also be positively associated with cohabitation since studies have suggested that college enrolment is less

incompatible with unmarried cohabitation than with marriage (Thornton et al. 1995; Berrington 2001).

A fourth influential hypothesis is based on the neo-Malthusian idea that entering marriage and starting a family requires economic security (Oppenheimer 1988). Marriage means setting up a new household and buying or renting a new home. Marriage is also intended as a long-term arrangement, so prospective partners need to have some certainty about each other's future lifestyles and economic prospects. In micro-level research, this notion has been tested by looking at the influence of men's economic resources on the probability of marrying. Virtually all micro-level studies, both in Europe and the USA, find that low earnings and unemployment decrease men's probability of marrying, in line with neo-Malthusian ideas (Oppenheimer et al. 1997; Corijn and Klijzing 2001; Sweeney 2002; Xie et al. 2003; Blossfeld et al. 2005; Kalmijn and Luijkx 2005). It has also been suggested that such effects would be especially likely to occur in countries where the nuclear family is the norm (the West). In countries where couples can live with parents (the joint family), poor economic prospects would not delay marriage (Dixon 1971).

Our macro-level hypothesis was as follows: *the higher the unemployment level in a society, the weaker will marriage be in that society*. It is to be expected that unemployment will affect not only the timing of marriage but also the number of people who eventually marry, because high levels of unemployment affect marriage rates at all ages. Unemployment may also be relevant to cohabitation, since it can be argued that the stability of men's employment is a less important condition for what is frequently a less permanent union. The micro-level evidence for a weaker effect of unemployment on cohabitation is mixed, however (Kravdal 1999; Oppenheimer 2003; Kalmijn and Luijkx 2005).

One would expect an effect on divorce as well. When men are in a poor economic position, the resulting financial stress may put marriages under pressure. Unemployment can also lead to normative disapproval, especially when gender roles are traditional. Most studies at the micro level confirm this link (Cherlin 1979; Voydanoff 1990; Hansen 2005; Poortman 2005). At the macro level, the evidence so far is limited to longitudinal studies in single countries. Research in Britain and the Netherlands has shown that divorce is more likely during economic recessions (Cameron 1996; Fischer and Liefbroer 2006).

In comparing marriage behaviour among European countries in the 1990s, it is also important to consider recent events, and in particular the demise

of the communist regimes in Central-Eastern European countries, the subsequent collapse of the Soviet empire, and the economic and political crises that followed. Demographers have shown that fertility declined rapidly after the fall of communism (Eberstadt 1994; DaVanzo 1996; Sobotka et al. 2003; Barkalov 2005; Perelli-Harris 2005). Evidence on marriage and divorce is more limited but suggests that marriage rates have declined (Eberstadt 1994; Avdeev and Monnier 2000).

There has been debate over whether the fertility decline was caused by the economic crisis. Micro-level evidence does not suggest that poverty or other indicators of a couple's economic situation are associated with the postponement of fertility in Central-Eastern Europe (Kohler and Kohler 2002). Other observers have argued that some of the changes in fertility may have been a continuation of past trends (DaVanzo and Grammich 2001). Yet others argue that the recent fertility decline in Central-Eastern Europe is not a crisis but part of a 'late' Second Demographic Transition. From this perspective, the decline has been driven by value changes, which these countries have been allowed to experience as a result of the economic and political reforms (Rabušić 2001; Sobotka et al. 2003).

The trends may also point in the direction of a social crisis. High levels of uncertainty, rapid social change, disappearing institutions, and rising but largely unrealized expectations of economic prosperity may have contributed to an increase in anomie (Durkheim 1951 [1897]; Arts et al. 1995). The evidence on mortality in Central-Eastern Europe is consistent with this interpretation. Research has shown large increases in mortality after 1989 in many Central-Eastern European countries, especially for men (Chen et al. 1996; DaVanzo and Grammich 2001). The trend has been due in large measure to disproportionate increases in cardiovascular disease (e.g., strokes) and injuries (e.g., suicide, homicide), suggesting that increases in psychosocial stress play an important role (Stone 2000). Researchers have also observed high and increasing levels of alcohol consumption and have related these to the rise in mortality (DaVanzo and Grammich 2001; Malyutina et al. 2004).

Anomie can also have consequences for marriage (Glenn and Shelton 1985). First, an increase in anomie implies a decline in social control and a weakening of social norms, suggesting that norms against divorce will be weaker under conditions of anomie. Second, an increase in anomie may go hand in hand with problematic behaviour such as excessive consumption of alcohol and (domestic)

violence. Micro-level research has demonstrated a positive association between alcohol consumption and the risk of divorce and a negative association between alcohol consumption and the probability of marrying, both in the West (Prescott and Kendler 2001; Simon 2002) and in the East (Stack and Bankowski 1994; Malyutina et al. 2004).

To test the role of social integration at the macro level, we use suicide rates (Yang and Lester 1991; Lester 1999). Because suicide and divorce can both be regarded as indicators of anomie, it is not assumed that suicide *causes* divorce. A correlation between these two indicators shows that there is a common underlying cause and it is plausible that this common cause is anomie. The hypothesis was, therefore, *the higher the level of suicide in a country, the weaker marriage will be in that country*. This hypothesis applies to both divorce and marriage.

The hypotheses presented above may explain some of the differences among European countries, but it is unlikely that they can explain all the differences. One important reason for this lies in the notion of path dependency or historical continuity (Inglehart and Baker 2000). The idea that historical peculiarities of certain countries or regions persist over time has been invoked against the argument of modernization theory that the individualization process results in increasing similarity among countries. Even though all countries are affected by long-term processes of industrialization, modernization, and individualization, traditional habits and customs may persist. These are often passed on from one generation to the next and become part of the culture of a society.

The thesis of path dependency is also relevant to demographic behaviour. The most important example may well be the differences marked by what has become known as 'the Hajnal line'. To the east of this line—which runs from Saint Petersburg to Trieste—marriage was early and almost universal, whereas to the west of it, marriage was delayed and many people never married at all (Hajnal 1965; Dixon 1971). The source of these differences remains debated to this day (Botev 1990), but presumably both cultural and economic factors were involved. Hajnal noted in particular the system of the joint family in the East, under which newly formed couples could live in their parents' home instead of having to establish a new and independent household of their own. In the West, the nuclear family was the norm. This arrangement required people to have the economic resources to establish a secure household before marrying, which meant that delayed marriage was more common in the West

than the East. Some authors have already noted the persistence of the Hajnal line for marriage (Monnier and Rychtarikova 1992), but the evidence so far is limited to single-country studies.

Another example of a 'traditional' pattern is the strong inter-generational linkage that exists in Southern European countries like Spain and Italy (Reher 1998; Billari 2004). In these countries, there has long been the custom of adults continuing to live with their parents (Aassve et al. 2002; Saraceno 2007). In contrast to the Eastern pattern, these are older adults (often men) and not couples living with the parents of either the husband or the wife. The prolonged co-residence of parents and adult but unmarried children has often been regarded as a cause of delayed marriage (Reher 1998), although the co-residence pattern may also have originated in (past) restrictions on marrying at a young age.

Direct tests of the path dependency hypothesis have rarely been conducted, largely because it is difficult to rule out the possibility that current differences in circumstances are still operating to produce patterns that seem similar to those of the past. Hence, tests of this hypothesis have been indirect, as are the tests of it presented here. The notion of path dependency or historical continuity is tested in two ways. First, regional differences are described to assess whether contemporary marriage patterns are still 'influenced' by the Hajnal line, the hypothesis being: *marriage is stronger in societies to the east of the Hajnal line than in societies to the west of it, after other macro-characteristics have been held constant*. Second, we compare patterns of marriage behaviour over time. If there are historical path dependencies, there should be a strong correlation between marriage behaviour in the past and marriage behaviour now, despite changing social, economic, and political conditions. The hypothesis in this case was: *marriage patterns at the beginning of the twenty-first century are positively correlated with marriage patterns at the beginning of the twentieth century*. This hypothesis was expected to apply primarily to the timing of marriage and to the percentage of the population eventually married. Because divorce and cohabitation are newer phenomena, they are less likely to be subject to the effects of historical continuity.

Finally, it is important to mention some macro-level hypotheses that we were unable to test. One factor often mentioned is the institutional setting, one feature of which is the law governing divorce. By the 1990s, divorce was legally allowed in all European countries except Malta and Ireland (where divorce became legally allowed in 1997)

and most European countries had already made the move from a system requiring a 'fault' to be established as the justification for divorce to a no-fault system. The remaining differences between countries are between those in which a divorce can be obtained even if only one of the spouses wants it and those that require the consent of both. Recent time-series analyses in Europe have shown that variations and changes in divorce laws in the 1950–2000 period had a strong impact on the divorce rate (Gonzalez and Viitanen 2006). It remains uncertain, however, to what extent the changes in the law and cross-national differences are a function of the demand for divorce.

Another institutional factor that we did not investigate are the provisions of the welfare state. In some societies, single individuals are better protected financially by the government than in other societies, and it has been shown that in the more strongly protective welfare states, the economic consequences of divorce for women are less severe than elsewhere (Uunk 2004). As a result, one would also expect that divorce rates would be higher in societies with a more generous welfare system.

Data, measures, and methods

We set out to include as many European countries as possible and managed to assemble data for 37 countries (the sources are listed at the end of the paper). The following data were taken from vital statistics: total first-marriage rate, mean age at first marriage, crude divorce rate, and net divorce rate (the number of divorces per 1,000 married women). The total first-marriage rate was chosen because it is not dependent on the age structure of a population. The net divorce rate was constructed using information on the number of divorces and census estimates of the married population. The crude divorce rate—although less attractive as a measure—was also used because it was available for more years. The divorce rate per 100 contracted marriages is more widely available but is affected by recent trends in marriage and therefore less useful.

To measure cohabitation, we had to rely on survey data. Since these data provide less reliable macro-level indicators, two different sources were used: the Family and Fertility Surveys (FFS) that were conducted in the mid-to-late 1990s and the European Social Survey (ESS) conducted in 2004. Using the FFS, we calculated the percentage of all first unions that were unmarried cohabitations (applying to cohorts born in the mid-to-late 1960s). These were

obtained from tables published on the Internet. Using the ESS, we calculated the percentage of people aged 18–50 in a union who had ever cohabited. For the regression analyses, the two measures were combined by standardizing the items and then taking the mean (see also the descriptive section below).

The following are used as independent variables: (i) the percentage of women aged 20–49 active in the labour force, (ii) the percentage of the adult population who were members of a church (obtained from the 1999 European Values Studies), (iii) the rate of enrolment in tertiary education (i.e., the number of people enrolled in tertiary education divided by the population in the relevant age category), (iv) the unemployment rate, and (v) the suicide rate for males (i.e., the age-standardized death rate for self-inflicted injuries and suicides). To measure historical continuity, we use the percentage of women married at selected ages between 1900 and 1930 (Hajnal 1965, pp. 102–3). These numbers are compared with percentages married in recent census data (around 2000). In the regression models, we also use a division into East and West, roughly following Hajnal. Hence, East combines South-Eastern and Central-Eastern European countries (see Table 1).

The data needed for the dependent variables are available for most years in the period 1990–99. Four independent variables are time-varying—the suicide rate, women's employment, the unemployment rate, and the year of measurement. The other two are not time-varying, either because no annual data are available (enrolment in tertiary education) or because their influence does not have its effect on a year-by-year basis (religion). To analyse these data, we used models of three types: an ordinary least squares (OLS) model that uses only information about variation among countries, a model that uses information about both variation among countries and variation over time (a random intercept panel regression model), and a model that uses only information about variation over time (a fixed-effects panel regression model).

The OLS regression models use countries as the units of analysis. In these models, the dependent variables are the averages of the vital statistics for the period 1995–99, and the independent variables refer to the early or mid-1990s. One reason to use OLS was that annual data for some variables were not available. Another reason was that, because this model uses only information about differences among countries and excludes measures of variation over time, it gives a good first idea of how the

Table 1 Statistics on marriage, divorce, and cohabitation in Europe, 1990–2000

	Marriage rate	Age at marriage	Crude divorce rate	Net divorce rate	Cohabitation rate FFS	Cohabitation rate ESS	In union at age 24	Abbreviation
<i>Western Europe</i>	0.61	26.4	2.24	9.51	58.1	43.3	70.8	
Austria	0.56	25.8	2.17	11.00	71.0	35.5	70.2	Aus
Belgium	0.61	25.1	2.47	10.35	14.2	49.0	75.7	Bel
France			1.96	9.19	60.5	61.4	76.1	Fra
Germany	0.58	26.2	2.05	6.41	66.4	51.2	65.0	Ger
Ireland	0.64	27.4				25.9		Ire
Luxembourg	0.61	26.3	2.03	10.40		54.4		Lux
Netherlands	0.60	26.8	2.09	8.75	60.4	60.0	71.3	Net
Switzerland	0.68	27.2	2.28	7.23	75.8	52.5	66.5	Swi
United Kingdom	0.57	26.1	2.89	12.76				UK
<i>Northern Europe</i>	0.55	27.9	2.36	11.99	81.4	84.4	77.3	
Denmark	0.64	28.7	2.51	12.70	87.6	86.4	73.2	Den
Finland	0.58	26.8	2.64	11.26	87.9	79.9	77.8	Fin
Iceland	0.53	28.3	1.90	11.43		90.6		Ice
Norway	0.54	27.2	2.33	11.80	58.2	76.5	78.5	Nor
Sweden	0.48	28.3	2.42	12.74	91.8	88.6	79.8	Swe
<i>Southern Europe</i>	0.69	25.9	0.84	3.77	17.6	21.6	57.4	
Greece	0.68	25.7	0.78	3.30	29.9	18.3	69.6	Gre
Italy	0.63	26.8	0.51	2.38	10.5		40.7	Ita
Portugal	0.82	24.6	1.30	5.88	17.5	14.4	66.0	Por
Spain	0.63	26.4	0.76	3.54	12.8	32.0	53.3	Spa
<i>South-Eastern Europe</i>	0.68	23.6	0.74	3.83			77.3	
Albania			0.65	2.82				Alb
Bosnia-Herzegovenia			0.39					Bos
Bulgaria	0.62	22.2	1.15	5.48			70.8	Bul
Croatia	0.66	24.0	0.91	4.18				Cro
Serbia and Montenegro	0.70	23.8	0.76	4.61				Ser
Slovenia	0.49	24.8	0.97	4.72	46.3	47.5	83.8	Slo
Macedonia	0.92	22.9	0.38	1.19				Mac
<i>Central-Eastern Europe</i>	0.73	22.3	2.93	12.84	19.8	33.6	80.6	
Belarussia	0.88	21.9	4.19	20.35				Bla
Czech Republic	0.63	22.3	3.03	12.42	24.8	38.7	87.4	Cze
Hungary	0.59	22.8	2.33	10.83	17.7	34.5	83.8	Hun
Poland	0.72	23.1	0.97	5.20	5.8	15.4	74.0	Pol
Moldavia	0.90	21.6	3.03	11.54				Mol
Romania	0.78	22.5	1.54	5.57				Rom
Russian Federation	0.85	21.8	4.04	17.95				Rus
Slovakia	0.66	22.2	1.65	7.18		19.2		Slk
Ukraine	0.86	21.4	3.86	15.87				Ukr
Estonia	0.51	23.3	3.80	18.90		60.2		Est
Latvia	0.59	22.8	3.40	14.45	37.3		80.8	Lat
Lithuania	0.74	22.5	3.31	13.85	13.4		76.9	Lit
<i>F-Test for region</i>	3.0*	63.1*	14.7*	11.0*	11.6*	15.7*	6.6*	

Marriage rate = total first-marriage rate of women—average of annual data, 1990–99.

Age at marriage = average age at first marriage of women—average of annual data, 1990–99.

Crude divorce rate = divorces per 1,000 population—average of annual data, 1990–99.

Net divorce rate = divorces per 1,000 married women (own calculations)—average data for years around 1990 and 2000.

Cohabitation rate FFS = percentage of unions starting as cohabiting (see text).

Cohabitation rate ESS = percentage ever cohabited among persons aged 18–50 now in union (see text).

In union at age 24 = percentage of women in union at age 24 (FFS) (see text).

F-Test from ANOVA on averages per country, as listed in the table.

* $p < 0.05$.

Source: See list at end of text.

independent variables are associated with differences among countries. Two versions of the OLS model were estimated. The first includes all cases with valid data (listwise deletion) while the second excludes outliers. Outliers, which are important given the relatively small number of countries, were detected by identifying cases that had a disproportionate influence on the regression coefficients. More specifically, countries were excluded if the DFBETA for any coefficient was larger than $2/\sqrt{n}$, where n is the number of countries (Belsley et al. 1980). (The DFBETA for a specific observation is the difference between the regression coefficient with and without that observation, expressed in units of standard error of the regression coefficient.)

The panel regression models use the same variables as the OLS models, but have country-years as units of analysis for a 10-year period (1990–99). In these models, the annual marriage rate, the annual divorce rate, and the annual age at first marriage are the dependent variables. The independent variables are either time-varying or time-constant. Two versions of the panel regression model were estimated: a random intercept model and a fixed-effects model. The first uses both variation over time and variation among countries. Its main advantage is that it allows the error to be correlated within countries and therefore yields lower standard errors and p -values than would be obtained if an OLS model were applied to the country-year data. The fixed-effects model uses only variation over time *within* countries. Intuitively, this model associates *changes* in marriage and divorce with *changes* in suicide and unemployment. It therefore offered a more stringent test of the hypotheses about anomie and unemployment. Both models include a variable indicating the year of the observation and an interaction of year and region to allow trends to be different for East and West. (The panel regression models were estimated using the *xtreg* procedure in Stata.)

One other difference between the OLS and the panel regression models is that the net divorce rate (which is preferred) is used for the former whereas the crude divorce rate is used for the latter. The reason is that the net divorce rate could be constructed only for the beginning of the 1990s (around 1990) and the end of the 1990s (usually around 2001). Note that in the descriptive tables, the two measures are averaged, but in the OLS models the latter measure is the dependent variable since the independent variables refer to the beginning or middle of the 1990s. Because we have no informa-

tion about variation over time for cohabitation, we have only an OLS model for this variable.

Descriptive results for marriage, divorce, and cohabitation are presented in Table 1, where the measures are listed for each country, with countries grouped into regions. The other tables show correlations among independent and dependent variables (Table 2), means and standard deviations (Table 3), and regression results (Table 4).

Results

Regional and country differences in marriage and divorce

Descriptive information on regional differences is presented in Table 1 (which shows the average for the period 1990–99) and Figure 1 (which is based on country-year observations). Each boxplot represents the median and the 25-per-cent and 75-per-cent intervals for a specific region. There are large differences among countries. Central-Eastern Europe has the highest marriage rates, followed by Southern and South-Eastern Europe. The rates are lowest in Northern and Western Europe. Differences in marriage rates are paralleled by even more pronounced differences in marriage timing. The age at marriage for women is about 22 in Central-Eastern Europe, while it is about 28 in Northern Europe. The Southern European countries are a special case: although the marriage rate is high, the age at marriage is also relatively high, almost comparable with that in Western Europe.

We also investigated marriage statistics for men but found that the indices for men and women were highly correlated ($r=0.98$ for the marriage rate and $r=0.97$ for the age at marriage). For the regression analyses, it probably does not matter which one is used. Note that age differences between brides and grooms are higher on average in Southern and South-Eastern Europe. For example, in Italy men marry on average 3 years later than women and in Greece 4 years later (compared with the overall difference of about 2 years).

Regional differences in marriage are marked, but there are also differences among countries within regions. The marriage rate varies within regions, especially in those where marriage rates are high, such as South-Eastern Europe and Central-Eastern Europe. Central-Eastern Europe, Latvia and Estonia (but not Lithuania) have relatively low rates,

Table 2 Correlations (with *p*-values) between variables used for an analysis of marriage, divorce, and cohabitation in Europe, 1990–2000, with countries as units of analysis (*N* = 23–37)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Women in labour force (mid-1990s)	1.00									
(2) Church membership (1999)	-0.27 (0.15)	1.00								
(3) Tertiary education (mid-1990s)	0.20 (0.24)	-0.17 (0.36)	1.00							
(4) Suicide rate (1990–95)	0.52 (0.00)	-0.48 (0.01)	0.29 (0.08)	1.00						
(5) Unemployment rate (1995)	-0.16 (0.35)	0.21 (0.25)	-0.08 (0.66)	0.09 (0.59)	1.00					
(6) Female first marriage rate (1995–99)	-0.23 (0.19)	0.33 (0.08)	0.16 (0.36)	-0.23 (0.20)	-0.10 (0.59)	1.00				
(7) Women's age at first marriage (1995–99)	-0.22 (0.21)	0.42 (0.02)	0.06 (0.73)	-0.48 (0.01)	-0.18 (0.32)	-0.30 (0.09)	1.00			
(8) Men's age at first marriage (1995–99)	-0.26 (0.14)	0.47 (0.01)	0.00 (0.98)	-0.56 (0.00)	-0.15 (0.40)	-0.24 (0.17)	0.97 (0.00)	1.00		
(9) Net divorce rate (2000)	0.57 (0.00)	-0.55 (0.00)	0.50 (0.00)	0.61 (0.00)	-0.38 (0.03)	-0.10 (0.59)	-0.16 (0.38)	-0.29 (0.11)	1.00	
(10) Cohabitation rate (ESS & FFS)	0.44 (0.03)	-0.07 (0.77)	0.31 (0.13)	0.03 (0.87)	-0.34 (0.09)	-0.27 (0.21)	0.68 (0.00)	0.64 (0.00)	0.48 (0.02)	1.00

Source: See list at end of text.

clearly resembling the neighbouring Northern European countries. The age at marriage is low in these Baltic republics, however, and in that respect they are more like Central-Eastern Europe. In South-Eastern Europe, Slovenia is an exception, with its low marriage rate. An analysis of variance shows that differences between regions are larger than differences within regions ($F = 3.0$, $p < 0.05$ for the marriage rate and $F = 63.1$, $p < 0.01$ for the age at marriage). The evidence therefore supports the view that marriage patterns of countries are clustered in regions, although this is clearly truer for the age at marriage than for the marriage rate.

Differences in marriage rate and age at marriage tell us only part of the story. A marriage rate can be high in a certain country, but if the divorce rate is high too, marriage cannot be considered ‘strong’ in that country. The data in Figure 1 show that divorce rates are very low in Southern Europe, and highest in Northern Europe. The Western European rate is also high. The crude divorce rate suggests no difference between North and West (Table 1), but this is because the relative share of married persons in the total population is smaller in Northern Europe than in Western Europe, which makes the crude rate less valid for comparisons.

Perhaps the most striking result is the high divorce rate in Central-Eastern Europe. With the exception of Poland, Slovakia, and Romania, all the Central-Eastern European countries have very high rates of divorce. This high level of marital instability occurs in conjunction with frequent and early marriage. Although the regions are not homogeneous in their divorce rate, regional differences in the rate are statistically significant ($F = 11.0$, $p < 0.01$), which confirms that divorce in Europe is regionally differentiated.

To examine cohabitation, data from surveys are used (the FFS and the ESS). We focus first on the percentage of first unions that start out as unmarried, from the FFS data (Table 1). Unmarried cohabitation is most common in Northern Europe, as has long been the case (Trost 1978). In Sweden, Denmark, and Finland, almost 90 per cent of all couples begin living together without being officially married. In Northern Europe, Norway appears to be an exception, having a relatively low level of cohabitation (Noack 2001). Cohabitation is also quite common in Western Europe, with percentages ranging from 61 in France to 76 in Switzerland. In Western Europe, Belgium (Flanders) appears to be an exception, having a relatively low level, at least according to the FFS data (Corijn 1994). Cohabitation is least common in Southern Europe, with

Table 3 Means, standard deviations, and range of variables in regression models for an analysis of statistics on union formation and dissolution in Europe, 1990–2000

	Range	Mean	SD	N
Total first-marriage rate, women	36–111	65.7	15.1	286
Crude divorce rate	2–55	20.8	11.0	350
Net divorce rate (constant)	2.8–20.4	9.9	4.8	33
Women's age at first marriage	21.1–30.1	24.7	2.3	286
Cohabitation rate (ESS & FFS) (constant)	–1.4–1.7	–0.1	1.0	25
Year	0–9	4.5	2.9	365
East (constant)	0/1	0.4		365
Women in labour force	49–93	75.6	11.0	370
Church membership (constant)	25–97	73.3	18.5	35
Tertiary education (constant)	6–53	29.4	11.9	36
Men's suicide rate	2–79	27.4	16.7	324
Unemployment rate	1–39	9.4	6.3	275

Note: Statistics for time-varying variables based on country-year file, statistics for time-constant variables based on country file.

Source: See list at end of text.

percentages ranging from 11 in Italy to 30 in Greece. Cohabitation seems equally rare in Central-Eastern Europe. Of all the countries represented in the data we use, Poland has the lowest level of cohabitation (6 per cent).

The ESS indicator reveals a similar variation among countries. We should not expect levels from the FFS and ESS to be the same because the definitions are somewhat different, but they should be in the same range. The correlation at the macro level between the two is $r=0.81$. While this shows good overall agreement between the sources, some specific discrepancies are worth mentioning. The unusually low cohabitation level in Belgium according to the FFS is not replicated in the ESS. This is not related to the fact that the FFS sample is limited to the Flemish-speaking part of Belgium, since the Flemish region in the ESS also reveals a higher cohabitation level. Another discrepancy is that cohabitation in Austria and Switzerland is more prevalent in the FFS than in the ESS sample. According to the ESS, these countries have somewhat lower cohabitation levels than the rest of Western Europe, whereas according to the FFS they have higher levels, which seems less plausible. Finally, the low cohabitation level for Norway (relative to other Northern countries) according to the FFS is also not replicated in the ESS. Despite these differences, the overall level of agreement seemed good enough to justify using as a single index the mean of the cohabitation rates measured by the FFS and ESS. Before taking the mean, both rates were standardized with a mean of 0 and a standard deviation of 1. As Table 1 shows, regional

differences in cohabitation are significant, for both measures.

Are regional differences in the timing of marriage limited to marriage, or do they extend to the timing of union formation? The last column of Table 1 shows that the East/West distinction is smaller when we focus on early unions regardless of their legal status. The percentage of women who are in a union by age 24 is higher in Central-Eastern Europe and South-Eastern Europe than in Western Europe, but the difference is smaller than for marriage. Moreover, we see that the very low percentage of married women aged 20–24 in Northern Europe is balanced by high percentages of young cohabiting women. The relatively late age of union formation in Southern Europe, however, remains evident when we look at the rates for all unions. Because cohabitation is rare in Southern Europe, delayed marriage is not balanced by early cohabitation in the way it seems to be for Northern Europe. When unions are the focus of analysis, Southern Europe has the most delayed timing in Europe.

Relationships among indicators

Before turning to the multivariate analyses, it is important to examine the strength of association between the various dependent variables. Are they strongly enough related to be regarded as indicators of a common, underlying concept, or is the picture less clear-cut? We start with the relation between marriage and divorce rate and plot these two variables for each country in Figure 2. The scatterplot shows that the two indicators are not correlated

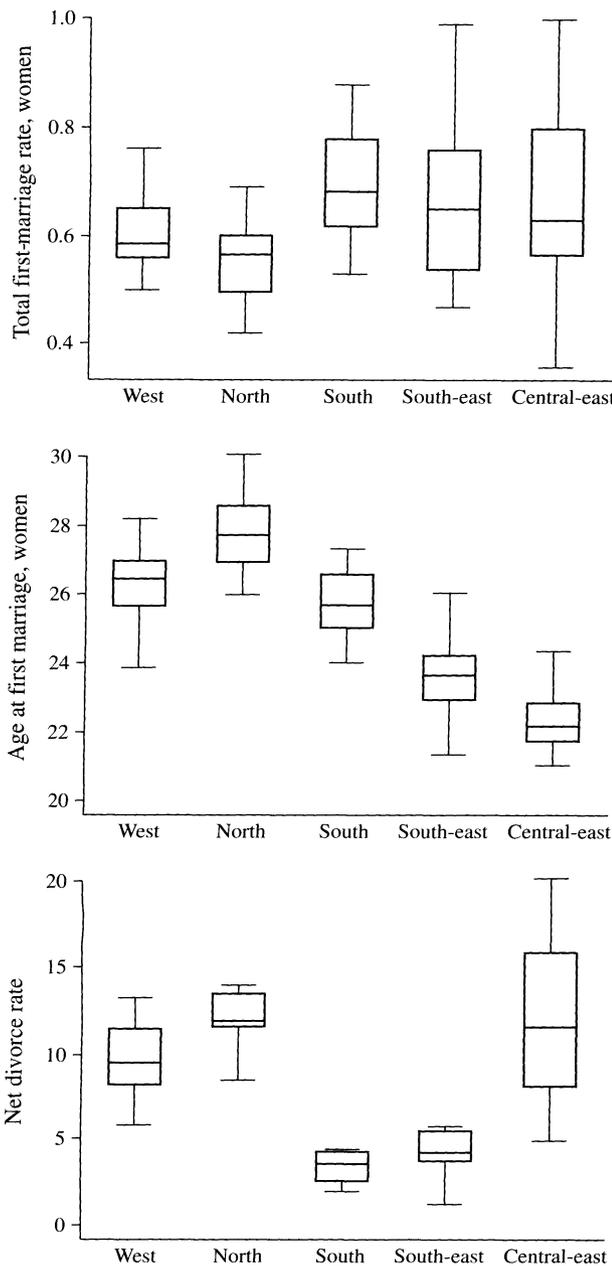


Figure 1 Vital statistics on marriage in Europe by region, 1990–2000

Source: United Nations Statistical Division

($r = -0.10$; see also Table 2). If rates of marriage formation and marriage dissolution were both indicators of the ‘strength of marriage’, one would expect a strong negative correlation. That the correlation is low may in part be a result of the influence of the rates in Central-Eastern Europe. In this region, the divorce rate is high but so is the marriage rate. If we leave out these countries, the correlation becomes more negative ($r = -0.58$), as expected. All in all, it seems that level of divorce and level of marriage have at least partially different

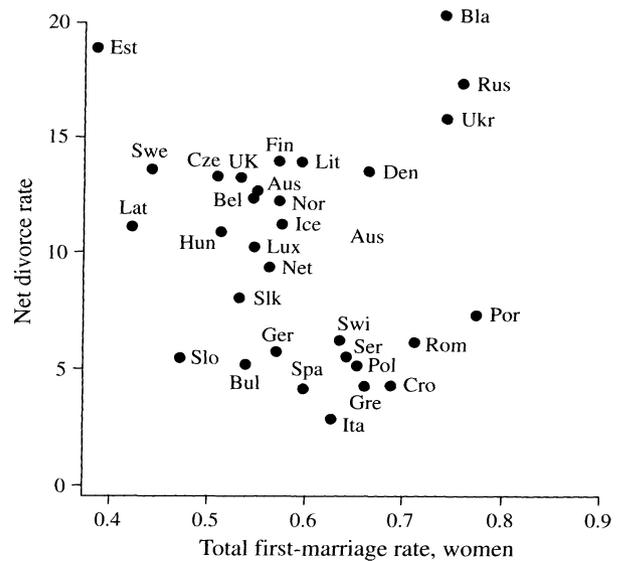


Figure 2 The relationship between marriage and divorce rates in Europe, 1999–2000

Note: See Table 1 for full names of countries

Source: As for Figure 1

causes and need at least partially different theories to explain variation in them.

Is the prevalence of cohabitation related to the popularity of marriage? Past research on trends has claimed that the declining marriage rates over recent decades have been accompanied by a corresponding rise in rates of cohabitation (Bumpass et al. 1991). This view can also be examined by comparing countries at a single point in time. Figure 3 shows a strong positive relationship between the prevalence of cohabitation and age at first marriage: the more common cohabitation is in a country, the more marriage is postponed. The correlation is quite strong ($r = 0.68$, $p < 0.01$ (Table 2)). Some countries appear to be exceptions. Southern European countries like Spain and Italy have late marriage, but cohabitation is not common in them. If we leave out the Southern European countries the correlation increases to $r = 0.79$.

Does cohabitation compete with getting married, or does it only postpone marriage? The bottom part of Figure 3 shows how cohabitation is related to total first-marriage rate, which can be regarded as a measure of the fraction of persons who marry eventually. The graph shows that the higher the cohabitation level, the lower the marriage rate. The relationship is considerably weaker, however ($r = -0.27$), than the relationship with the age at marriage. We can therefore conclude that cohabitation primarily affects the timing of marriage and has less impact on the number of people who eventually marry. In a

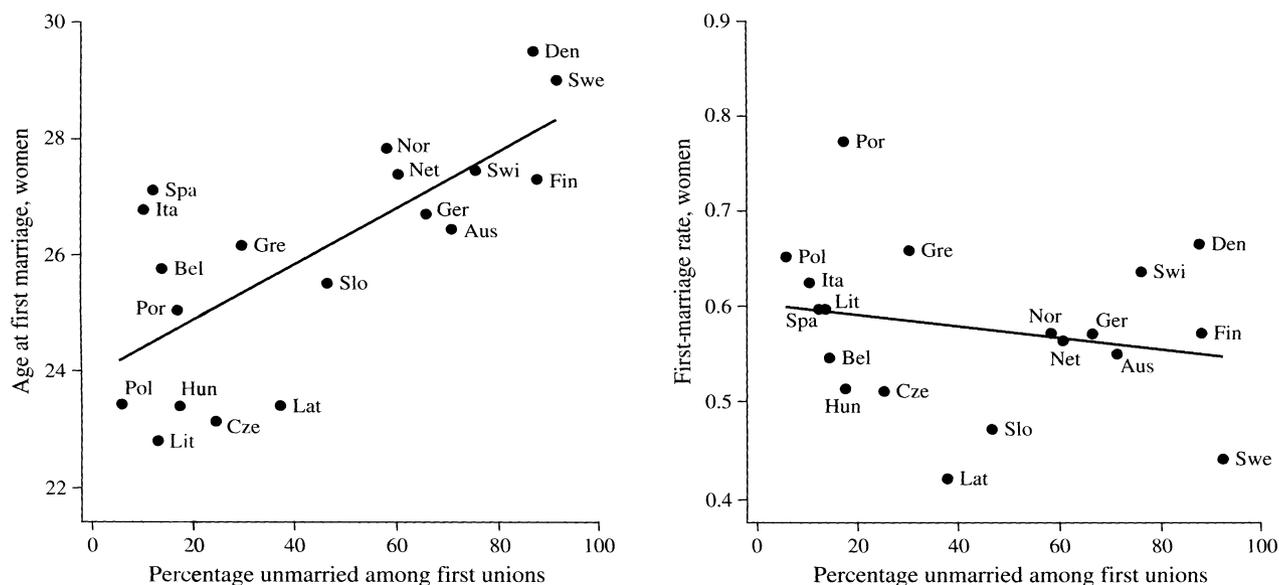


Figure 3 The relationship between marriage and cohabitation in Europe, 1990–2000

Note: See Table 1 for full names of countries

Source: As for Figure 1

more general sense, it seems that the timing of marriage and the prevalence of marriage are affected by different factors. For example, there is only a modest correlation between age at marriage and marriage rate ($r = -0.30$), which suggests that, at the macro level, late marriage is not reflecting the same underlying phenomena as reluctance to marry. This, as we have already seen, is also exemplified by the findings for the Southern European countries.

Finally, we consider the remaining correlations. Table 2 shows that divorce rate is only slightly correlated with age at marriage ($r = -0.16$ for women's age and $r = -0.29$ for men's age). Moreover, the association is negative, showing that late marriage is associated with low divorce rates. There is probably a causal connection here, since it is known that at the micro level in most European countries early marriages are more unstable than late marriages (Härkönen and Dronkers 2006). This is further illustration of the various ways in which trends in the Second Demographic Transition may not move in the same direction: the postponement of marriage must have a dampening effect on the increase in divorce. On the other hand, cohabitation and divorce are positively related ($r = 0.48$), which is a more positive finding for the notion of common indicators.

Overall, the evidence is mixed. Some pairs of indicators have a strong correlation, but several other pairs do not. To summarize the results, we can calculate a reliability coefficient such as Cronbach's α , which is based on all the inter-item correlations.

Here, the (adjusted) $\alpha = 0.62$ when listwise deletion is applied and is lower when mean imputation of missing values is applied ($\alpha = 0.50$). These values are low for a four-item scale. In many micro-level analyses, values of α around 0.70 are considered necessary for the items to form a scale. Given that aggregate analyses usually yield higher correlations than micro-level analyses, the observed value is clearly on the low side. In short, the four indicators cannot be regarded as simple indicators of a more general concept such as the 'strength of marriage'.

A test of macro-level hypotheses

How can we explain differences in rates of marriage, divorce, cohabitation, and in the timing of marriage? To answer this question, the results of the regression models are presented in Table 4. They will be discussed for each hypothesis separately, starting with the one about gender roles.

The results show that women's employment has the expected effects on marriage variables. The OLS models reveal significant effects for three of the four dependent variables. The higher the proportion of women in paid employment in a country, the lower the marriage rate, the higher the divorce rate, and the higher the cohabitation level. The standardized effects are of substantial magnitude. The random intercept regression models confirm the OLS results, but results from the fixed-effects regression models

are weaker. Effects are not significant or only marginally significant in the fixed-effects model, showing that year-to-year changes in women's employment within countries are only weakly related to marriage and divorce. One reason may be that the time period is short (10 years) and that women's employment is less cyclical in nature than, for instance, unemployment rates (see below). We further see that there is no evidence that women's employment leads to the postponement of marriage. The coefficient in the OLS model is positive, as expected, but only marginally significant, and small in size. This is in line with expectations, since arguments about specialization are primarily relevant to the attractiveness of marriage itself, not to when people marry.

The influence of religion is also confirmed. In the OLS regression models, we see a positive and significant effect on the marriage rate and a negative and significant effect on the divorce rate. In other words, in more religious countries, marriage is more widespread and divorce is less common. The panel regression models confirm these results. Surprisingly, we see no effect on cohabitation.

The models just discussed focus on church membership and ignore differences among denominations. To examine the possible role of denomination, we estimated an alternative model that contains three variables: the percentage of Catholics, the percentage of Protestants, and the percentage of Orthodox Christians in a country. The most Catholic country in the data-set is Poland, the most Protestant countries are Iceland and Denmark, and the most Orthodox countries are Greece and Romania. The sum of the three denomination variables is the percentage of the population that belongs to any church. Hence, the effect of each indicator contains an effect of church membership itself and a denomination effect. To examine the role of denomination, the coefficients must be compared with each other.

The (unstandardized) effects on the marriage rate are $b=0.34$ for Orthodox Christians, $b=0.31$ for Catholics, and $b=0.22$ for Protestants (all significant). An F -test for the hypothesis that these effects are equal cannot be rejected ($F=0.71$, $p>0.05$). For the divorce rate, the findings are similar: $b=-4.6$ for Orthodox Christians, $b=-6.6$ for Catholics, and $b=-4.8$ for Protestants. The F -test is 0.6 ($p>0.05$), which means that the hypothesis of equality cannot be rejected. Hence, for marriage and divorce, we conclude that the religious factor itself is more relevant than the type of religion. For cohabitation, the result is different. Here we find differential effects. The effect is positive but not significant for

Protestants ($b=1.28$, $p=0.02$) and negative and (marginally) significant for Catholics ($b=-1.39$, $p=0.03$) and Orthodox Christians ($b=-1.51$, $p=0.06$). The three effects are significantly different ($F=13.3$, $p<0.01$). Hence, cohabitation is less common in Catholic and Orthodox countries, in line with expectations, but more common in Protestant countries. This latter finding is probably related to the high levels of cohabitation and Protestantism in Northern countries.

To examine the role of higher education, we begin by looking at the marriage rate. Widespread enrolment in tertiary education in a country does not have a negative effect on the likelihood of marriage. Instead we find, contrary to our hypothesis, a significant effect in the opposite direction: the higher the enrolment rate at the tertiary level, the higher the marriage rate. Moreover, we see no significant effect on age at marriage. We also see a positive effect of tertiary education on divorce. This suggests that divorce is more common in more highly educated countries. We had no clear prior hypothesis about education and divorce, but in retrospect, we could argue that the positive effect reflects a more general influence of modernization. All in all, there does not seem to be much evidence in support of the view that educational expansion is important for understanding country differences in the popularity of marriage. The only positive evidence is found for cohabitation: tertiary education has a positive effect.

The hypothesis about unemployment received mixed support. The results in Table 4 first show a negative and significant effect of unemployment on the marriage rate in the OLS models. More importantly, we also see a significant negative effect of unemployment in the panel regression models: the higher the level of unemployment in a society in a certain year, the lower the marriage rate. Because unemployment is a cyclical phenomenon, the panel regression results should be regarded as more convincing. Even more convincing is the significant effect in the fixed-effects model, which shows that increases in unemployment are associated with declines in marrying. Is the effect strong or weak? The maximum range in unemployment observed in the data is 25.5, between Switzerland in 1990 (0.5) and Serbia in 1998 (27). This would produce a change in the marriage rate of $26 \times -0.48 = -12.5$, which is 83 per cent of a standard deviation in the marriage rate. This is a strong effect. Further analyses were done to assess whether unemployment affects marriage more in the West, where the nuclear family is the norm, than in the East, where

Table 4 Regression of marriage, divorce, and cohabitation on selected variables, Europe, 1990–2000 (with *p*-values)

	OLS-1 (countries)			OLS-2 (countries)			Random effects (country-years)			Fixed effects (country-years)		
	beta	<i>p</i>	beta	<i>p</i>	beta	<i>p</i>	b	<i>p</i>	b	<i>p</i>	b	<i>p</i>
<i>TOTAL FIRST MARRIAGE RATE</i>												
Year	–	(0.00)	–	(0.00)	–0.61*	(0.00)	–0.61*	(0.00)	–0.72*	(0.00)	–0.72*	(0.00)
East	0.60*	(0.00)	0.65*	(0.00)	28.39*	(0.00)	28.39*	(0.00)	–2.35*	(0.00)	–2.35*	(0.00)
Year * East	–	(0.02)	–	(0.01)	–2.60*	(0.00)	–2.60*	(0.00)	–0.21	(0.08)	–0.21	(0.08)
Women in labour force (varying)	–0.34*	(0.00)	–0.41*	(0.01)	–0.30*	(0.01)	–0.30*	(0.01)				
Church membership	0.50*	(0.00)	0.41*	(0.01)	0.20*	(0.00)	0.20*	(0.00)				
Tertiary education	0.48*	(0.00)	0.38*	(0.00)	0.36*	(0.00)	0.36*	(0.00)				
Men's suicide rate	0.04	(0.41)	–0.12	(0.24)	–0.11	(0.08)	–0.11	(0.08)	–0.22*	(0.03)	–0.22*	(0.03)
Unemployment rate	–0.28*	(0.02)	–0.28*	(0.02)	–0.54*	(0.00)	–0.54*	(0.00)	–0.48*	(0.00)	–0.48*	(0.00)
Constant	–		–		63.64*	(0.00)	63.64*	(0.00)	91.96*	(0.00)	91.96*	(0.00)
<i>N</i> countries/country-years	32		29		186		186		186		186	
<i>R</i> ² years/countries	0.49		0.53		0.46		0.46		0.47		0.47	
σ country level/ σ country-year level					7.64		7.64		14.40		14.40	
<i>AGE AT FIRST MARRIAGE</i>												
Year (varying)	–0.69*	(0.00)	–0.67*	(0.00)	0.23*	(0.00)	0.23*	(0.00)	0.24*	(0.00)	0.24*	(0.00)
East	0.19	(0.07)	0.05	(0.37)	–2.84*	(0.00)	–2.84*	(0.00)	–0.02	(0.26)	–0.02	(0.26)
Year * East (varying)	0.19	(0.07)	0.19	(0.08)	–0.01	(0.39)	–0.01	(0.39)	–0.01	(0.25)	–0.01	(0.25)
Women in labour force (varying)	0.01	(0.46)	–0.01	(0.48)	0.00	(0.02)	0.00	(0.02)				
Church membership	–0.32*	(0.01)	–0.28*	(0.03)	0.03*	(0.02)	0.03*	(0.02)				
Tertiary education	–0.13	(0.12)	–0.14	(0.12)	0.01	(0.27)	0.01	(0.27)				
Men's suicide rate (varying)					–0.02*	(0.00)	–0.02*	(0.00)	–0.01*	(0.02)	–0.01*	(0.02)
Unemployment rate (varying)					–0.01	(0.09)	–0.01	(0.09)	–0.01	(0.14)	–0.01	(0.14)
Constant					23.37*	(0.00)	23.37*	(0.00)	25.42*	(0.00)	25.42*	(0.00)
<i>N</i> countries/country-years	33		28		186		186		186		186	
<i>R</i> ² years/countries	0.60		0.65		0.89		0.89		0.89		0.89	
σ country level/ σ country-year level					1.19		1.19		2.07		2.07	
<i>NET/CRUDE DIVORCE RATE</i>												
Year (varying)	–	(0.01)	–	(0.01)	0.28*	(0.00)	0.28*	(0.00)	0.28*	(0.00)	0.28*	(0.00)
East	–0.28*	(0.01)	–0.33*	(0.01)	–3.50	(0.09)	–3.50	(0.09)	0.03	(0.43)	0.03	(0.43)
Year * East (varying)	–	(0.00)	–	(0.00)	0.12	(0.24)	0.12	(0.24)	0.07	(0.14)	0.07	(0.14)
Women in labour force (varying)	0.37*	(0.01)	0.44*	(0.00)	0.13*	(0.01)	0.13*	(0.01)				
Church membership	–0.27*	(0.01)	–0.38*	(0.01)	–0.18*	(0.00)	–0.18*	(0.00)				
Tertiary education	0.28*	(0.00)	0.26*	(0.00)	0.22*	(0.01)	0.22*	(0.01)				
Men's suicide rate (varying)	0.36*	(0.01)	0.24	(0.06)	0.17*	(0.00)	0.17*	(0.00)	0.15*	(0.00)	0.15*	(0.00)
Unemployment rate (varying)	–0.35*	(0.00)	–0.25*	(0.02)	–0.09	(0.11)	–0.09	(0.11)	–0.02	(0.41)	–0.02	(0.41)
Constant	–		–		13.98*	(0.02)	13.98*	(0.02)	10.82*	(0.01)	10.82*	(0.01)
<i>N</i> countries/country-years	31		27		222		222		222		222	
<i>R</i> ² years/countries	0.72		0.72		0.16		0.16		0.17		0.17	
σ country level/ σ country-year level					5.25		5.25		8.00		8.00	

Table 4 (Continued)

	OLS-1 (countries)		OLS-2 (countries)		Random effects (country-years)		Fixed effects (country-years)	
	beta	p	beta	p	b	p	b	p
TOTAL FIRST MARRIAGE RATE								
COHABITATION RATE								
Women in labour force	0.45*	(0.01)	0.53*	(0.00)				
Church membership	0.01	(0.48)	-0.12	(0.24)				
Tertiary education	0.49*	(0.00)	0.39*	(0.02)				
Unemployment rate	-0.45*	(0.01)	-0.41*	(0.02)				
N countries/country-years	25		21					
R ² years/countries	0.40		0.47					

Net divorce rate for OLS models, crude divorce rate for panel regression models.

OLS Model 2 excludes outliers (see text).

**p* < 0.05 (one-tailed *p*-values).

Standardized coefficients for OLS and unstandardized coefficients for random and fixed effects models.

Source: See list at end of text.

other family types are also present. No significant difference was found (*p* = 0.40).

The unemployment rate also affects the divorce rate, but only in the OLS models. Moreover, the effect is negative, suggesting that the higher the unemployment rate in a country, the lower the divorce rate. The panel regression models do not confirm this, however. In both the random and fixed-effects models, the effect of unemployment is not significant. We also find contrary evidence for cohabitation. We expected cohabitation to be more common when levels of unemployment were high, but we find the opposite: cohabitation is less common when levels of unemployment are high. In sum, unemployment has its effect primarily on whether people get married, not on divorce or cohabitation.

The role of anomie in explaining differences in divorce is examined indirectly by looking at associations with suicide. The OLS models show, as expected, a strong positive effect on divorce: the higher the level of suicide in a society, the higher the level of divorce. The effect is substantial (beta = 0.36) and the correlation is even more pronounced (*r* = 0.61). The panel regression models also yield positive evidence for the hypothesis. Both the random intercept and the fixed-effects specification reveal a significant and positive effect of suicide on divorce. This means that increases in suicide are associated with increases in divorce. Again, the magnitude of the effect is strong. If we compare a country with a high level of suicide (e.g., the Russian Federation, 59) with one with a low level (e.g., Greece, 5), the implied change in the divorce rate is 54 × 0.15 = 8.1, which is 74 per cent of one standard deviation in the divorce rate. An important feature of this model is that the effect of suicide is found after controlling for unemployment changes, an important economic component of societal crisis.

Suicide, or rather the factor it reflects, also plays a role in the marriage rate. In the OLS models, we see no effect on the marriage rate, but in the fixed-effects regression models, the effect is significant. Hence, increases in the suicide rate within a country are associated with declines in the marriage rate. Overall, these results suggest that anomie not only has the effect of disrupting marriage, it also has the effect of lowering the probability of marrying.

To assess the role of historical continuity, we first examine whether the East/West division is still significant once other characteristics of the countries are taken into account. The results in Table 4 show clearly that in fact the division remains

significant, at least for marriage formation. In the OLS models, we see that the marriage rate is higher to the East of the Hajnal line after controlling for other societal characteristics. There is also a positive effect in the panel regression models. Because East is interacted with year, and year is coded from 0 (1990) to 10 (1999), the main effect of East in this model applies to 1990. We also see a significant and negative interaction effect of East and year, which shows that the marriage rate declines faster in the East than in the West, although the rate also declines in the West. Since the rates were higher to begin with in the East, this interaction indicates East/West convergence during the 1990s. For age at marriage, we see a positive effect of year, and no significant interaction with East. Hence, there are further delays in marriage timing but there is no (recent) convergence. Finally, for divorce we see no significant effect of the East/West division, as expected. We see no significant interaction effect with year either, which shows that the crude divorce rate has not increased faster in the East than in the West.

To examine the thesis further, we compare marriage in the past and present, focusing on the percentages of women married at age 20–24 and comparing the numbers around the year 2000 with the numbers around the year 1900. Because the number of countries is limited here, this approach cannot be incorporated into the multivariate regression models. Figure 4 shows a remarkable degree of continuity. The correlation between the years is $r = 0.83$, which is a high level of stability for a 100-year

period. It can also be seen that early marriage becomes less common in all countries, but that the order of the countries is fairly stable. Moreover, we see a ceiling effect: countries in which early marriage was most common in the 1900s had the greatest decline in early marriage. This can also be seen from the regression line, which has a slope less than 1 ($b = 0.41$, $p < 0.05$).

The graph further suggests that this remarkable level of historical continuity may in part be driven by the East/West division. Closer analysis shows, however, that this is only partly true. When we leave out the Eastern countries, the correlation is indeed lower, but still strong ($r = 0.55$, $p < 0.05$).

The historical continuity that exists applies to early marriage, but does it also apply to later ages? The bottom panel of Figure 4 shows the percentages of women aged 45–49 in 1900 and 2000 who were married. These percentages depend on the probability of marrying, the timing of marriage, and also on the probability of divorce. Figure 4 shows that this relationship is weaker than for early marriage ($r = 0.40$, $p = 0.08$). Moreover, the East/West division is suppressing the association in this case. Divorce is high in the East, which reduces the percentage of women who are married at later ages. If we leave out the East, the correlation increases to $r = 0.55$. It is therefore tempting to conclude that historical continuity applies to marrying early, but that owing to divorce it does not apply to the number of older people who are married.

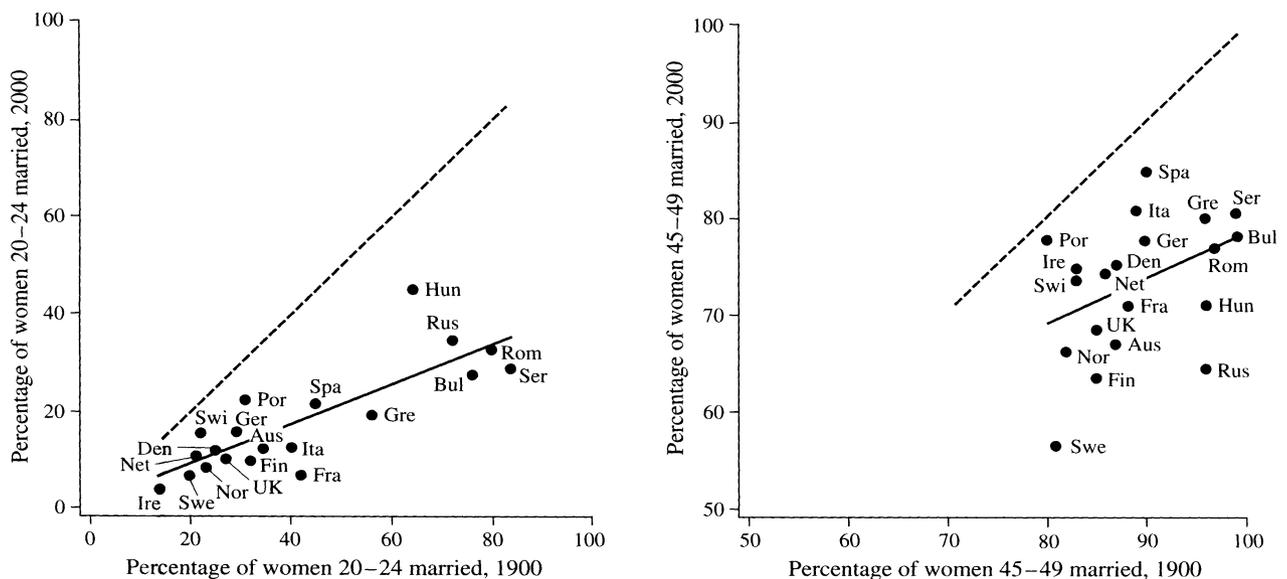


Figure 4 Percentages of women in Europe aged 20–24 and 45–49 who were married, 1900 and 2000

Note: See Table 1 for full names of countries

Source: As for Figure 1

Conclusion

There are large differences in marriage behaviour across contemporary Europe. To understand these differences, we first considered more or less standard explanations in the contemporary micro-analytic literature: gender roles, religion, education, and economic status. These explanations have been influential, presumably because they can explain the decline of marriage in recent decades in Western societies. The first goal of the study presented in this paper was to assess whether these explanations could also help us in understanding cross-national differences. This rather elementary question has not yet been answered in the recent research literature.

The analyses indicate that gender roles and religiosity are the most influential factors. High levels of women's employment are associated with low marriage rates, high levels of cohabitation, and high divorce rates. In more religious countries, people are less likely to marry and more likely to divorce and, in Catholic and Orthodox countries, also less likely to cohabit. Somewhat less important but still relevant is the hypothesis about economic status. Increases in unemployment reduce marriage rates, as expected, but they have little effect on divorce rates and do not affect age at marriage. Least successful is the hypothesis about education. High levels of enrolment in tertiary education are not associated with later marriage or with low marriage rates; in contrast, we find positive and unexpected effects of tertiary education on marriage *and* divorce rates. Aside from this exception, however, the findings confirm that the well-known hypotheses about trends in the literature on the Second Demographic Transition literature are also relevant to understanding cross-national differences in Europe. The role of education is an exception, but this factor may prove to be more relevant to fertility than to nuptiality.

Some limitations of these results must be noted. First, because the number of European countries is small, the number of independent variables cannot be too large. Moreover, the sample-size problem makes it difficult to find significant effects for independent variables that are strongly related, which further limits the range of variables that can be considered. Second, the data used cover a relatively short timeframe (1990–99); most of the variance comes from differences among countries. This limits the possibility of examining the mutual causal connections between women's work

and women's marriage behaviour. High levels of women's employment may reduce the numbers getting married, but increasing levels of women's employment may also be the result of declining levels of marriage. This study has shown that there is an association after taking other important macro-characteristics into account, an association that has not yet been reported in the literature. It is up to further studies to unravel the strength of the two causal directions underlying this association.

Although the standard hypotheses about trends play a part in allowing us to understand cross-national differences, other explanations are needed for a full understanding of the differences. To a large extent, the differences we see represent a continuation of those described for the beginning of the twentieth century by Hajnal. The degree of stability over a 100-year period appears remarkable. All countries have changed (towards later marriage and fewer people married at higher ages), and there are also signs of convergence, but the ranking of countries has not changed so much. The degree of historical continuity and the regional differences are especially marked for marriage timing, which may point to the persistence of marriage customs over time. The tradition of early marriage in the East is believed to have been caused by the possibility for newly established couples to live with parents. Similarly, the tradition of late marriage in Southern Europe has been linked to the tradition of single men (and women) staying on in the parental home into late adulthood. The interpretation offered in this paper is that such traditions have persisted over time because they have been transmitted over generations and have become part of an institutionalized life course in these societies (Mayer 2004).

The high observed divorce rates in Central-Eastern Europe prompted us to seek alternative theories. It has been suggested in the literature that the transformation processes undergone by Central-Eastern European countries since the fall of communism may have resulted in an increase in anomie. There has been a rapid increase in mortality in Central-Eastern Europe and this has been related to behavioural factors such as suicide, homicide, violence, and alcohol abuse. To examine the implications of anomie for marriage, we considered the effects of suicide. In line with expectations, we find strong macro-level associations between suicide and divorce. More importantly, annual changes in suicide are associated with annual changes in divorce, even after controlling for cyclical fluctuations in unemployment. Finally, suicide levels also have a

negative effect on the probability of getting married. Although these findings are suggestive of the hypothesis that anomie undermines marriage, individual-level studies must confirm such a relationship before we can conclude that anomie is eroding marriage in Central-Eastern Europe.

When we consider the multivariate analyses, we see that not all dependent variables are affected by the same forces, although there is clearly an overlap. For example, we see that unemployment affects the likelihood of marriage, but not marriage timing, divorce, or cohabitation. Of more importance is the fact that cross-national differences in the timing of marriage are poorly explained by the independent variables. In these models the contrast between East and West dominates and the comparisons with data from 1900 suggest that timing differences are the product of historical traditions. The standard variables of the Second Demographic Transition do not explain differences in the *timing* of marriage very well, which suggests that there is a need to seek other macro-level conditions for an understanding of the postponement of marriage.

At the beginning of this paper, we posed the question of whether alternative demographic indicators point to an underlying concept such as the 'strength of marriage' or whether such indicators have their own dynamics. Empirically, the idea of an underlying concept has not been fully supported. There is a clear negative relation between cohabitation and marriage timing, but not between cohabitation and marriage rate. Moreover, the relation between divorce rate and marriage rate at the macro level is weak at best. Especially important in this context is the high divorce rate in Central-Eastern Europe. This high divorce rate occurs despite the still rather low age at marriage and the high (albeit declining) marriage rate in that region. Finally, delayed marriage is not strongly related to high levels of divorce or to low levels of marrying. In sum, although the study presented in this paper has shown that some elements of the modernization process have affected all these indicators—in particular, secularization and women's emancipation—the analyses make clear that the various indicators also need their 'own' theories. Whether or not a similar conclusion can be formulated for long-term trends is a question we leave to future research. It remains possible that the various indicators of marriage reveal more overlap in a longitudinal than in a cross-national framework.

Data sources

- Tables of marital status by age and sex: United Nations Statistics Division (Demographic Yearbook System).
- Vital statistics on marriage, divorce, and suicide and unemployment rates: the Demographic Database of the United Nations Economic Commission for Europe (UNECE).
- Statistics on education: the World Bank's Education Group of the Human Development Network.
- Employment statistics on women: the Labour Statistics Database of the International Labour Organization (ILO), Geneva.
- Statistics on church membership: the European Values Study, 1999/2000 (Halman 2001; Luijkx et al. 2003).
- Data on cohabitation: the Standard Tables of the Fertility and Family Surveys (FFS) (Population Activities Unit of the United Nations Economic Commission for Europe) and micro-analyses of the European Social Survey 2004.

Note

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References

- Aassve, A., F. C. Billari, S. Mazzucco, and F. Ongaro. 2002. Leaving home: a comparative analysis of ECHP data, *Journal of European Social Policy* 12(4): 259–276.
- Andersson, Gunnar. 2003. Dissolution of unions in Europe: a comparative overview, MPIDR Working Paper No. WP-2003-004. Max Planck Institute for Demographic Research.
- Arts, Wil, Piet Hermkens, and Peter Van Wijck. 1995. Anomie, distributive injustice and dissatisfaction with material well-being in Eastern Europe, *International Journal of Comparative Sociology* 36(1/2): 1–16.
- Avdeev, Alexandre and Alain Monnier. 2000. Marriage in Russia: a complex phenomenon poorly understood, *Population—An English Selection* 12(1): 7–50.
- Baizan, Paul. 2001. Transition to adulthood in Spain, in M. Corijn and E. Klijzing (eds.), *Transitions to Adulthood in Europe*. Dordrecht: Kluwer Academic, pp. 279–312.

- Barkalov, Nicholas B. 2005. Changes in the quantum of Russian fertility during the 1980s and early 1990s, *Population and Development Review* 31(3): 545–556.
- Becker, G. S. 1981. *A Treatise on the Family*. Cambridge, MA: Harvard University Press.
- Belsley, D. A., E. Kuh, and R. E. Welsch. 1980. *Regression Diagnostics*. New York: John Wiley.
- Berrington, A. and I. Diamond. 1999. Marital dissolution among the 1958 British birth cohort: the role of cohabitation, *Population Studies* 53(1): 19–38.
- Berrington, Ann. 2001. Transition to adulthood in Britain, in M. Corijn and E. Klijzing (eds.), *Transitions to Adulthood in Europe*. Dordrecht: Kluwer Academic, pp. 67–102.
- Billari, F. C. 2004. Becoming an adult in Europe: a macro (micro)-demographic perspective, *Demographic Research Special Collection* 3: 15–44.
- Blossfeld, H.-P. and J. Huinink. 1991. Human capital investments or norms of role transition: how women's schooling and career affect the process of family formation, *American Journal of Sociology* 97(1): 143–168.
- Blossfeld, H.-P. 1995. *The New Role of Women: Family Formation in Modern Societies*. Boulder, CO: Westview Press.
- Blossfeld, H.-P. and R. Muller. 2002. Union disruption in comparative perspective: the role of assortative partner choice and careers of couples, *International Journal of Sociology* 32(4): 3–35.
- Blossfeld, H.-P., M. Mills, E. Klijzing, and K. Kurz. 2005. *Globalization, Uncertainty and Youth in Society*. London: Routledge.
- Botev, Nikolai. 1990. Nuptiality in the course of the Demographic Transition: the experience of the Balkan countries, *Population Studies* 44(1): 107–126.
- Bracher, Michael and Gigi Santow. 1998. Economic independence and union formation in Sweden, *Population Studies* 52(3): 275–294.
- Bukodi, Erzsebet and Peter Robert. 2003. Union disruption in Hungary, *International Journal of Sociology* 33(1): 64–94.
- Bumpass, Larry L., J. A. Sweet, and Andrew Cherlin. 1991. The role of cohabitation in declining rates of marriage, *Journal of Marriage and the Family* 53(4): 913–927.
- Cameron, Samuel. 1996. Shifting parameters in the economic model of divorce: evidence from the United Kingdom, *Journal of Socio-Economics* 25(6): 663–669.
- Cartwright, Kimberly D. 2000. Shotgun weddings and the meaning of marriage in Russia: an event history analysis, *The History of the Family* 5(1): 1–22.
- Chan, Tak Wing and Brendan Halpin. 2003. Union dissolution in the United Kingdom, *International Journal of Sociology* 32(4): 76–93.
- Chen, Lincoln C., Friederike Wittgenstein, and Elizabeth McKeon. 1996. The upsurge of mortality in Russia: causes and policy implications, *Population and Development Review* 22(3): 517–530.
- Cherlin, A. J. 1979. Work life and marital dissolution, in G. Levinger and O. C. Moles (eds.), *Divorce and Separation: Context, Causes and Consequences*. New York: Basic Books, pp. 151–166.
- Corijn, M. 1994. Ongehuwd samenwonen in Vlaanderen in Europees perspectief, *Bevolking en Gezin* 23: 59–107.
- Corijn, Martine. 2001. Transition to adulthood in Flanders (Belgium), in M. Corijn and E. Klijzing (eds.), *Transitions to Adulthood in Europe*. Dordrecht: Kluwer Academic, pp. 103–130.
- Corijn, Martine and Erik Klijzing. 2001. Transitions to adulthood in Europe, *European Studies of Population*, Volume 10. Dordrecht: Kluwer Academic.
- Darsky, Leonid and Sergei Scherbov. 1995. Marital status behaviour of women in the former Soviet republics, *European Journal of Population* 11(1): 31–62.
- DaVanzo, Julie. 1996. Russia's demographic crisis, in *Rand Conference Proceedings*. Santa Monica, CA: Rand.
- DaVanzo, Julie and Clifford A. Grammich. 2001. *Dire Demographics: Population Trends in the Russian Federation*. Santa Monica, CA: Rand.
- De Rose, A. 1992. Socioeconomic factors and family size as determinants of marital dissolution in Italy, *European Sociological Review* 8(1): 71–91.
- Dixon, R. B. 1971. Explaining cross-cultural variations in age at marriage and proportions never marrying, *Population Studies* 25(2): 215–233.
- Durkheim, Emile. 1951 [1897]. *Suicide: A Study in Sociology*. New York: Free Press.
- Eberstadt, Nicholas. 1994. Demographic shocks after communism: Eastern Germany, 1989–93, *Population and Development Review* 20(1): 137–152.
- Fischer, Tamar and Aart C. Liefbroer. 2006. For richer, for poorer: the impact of macro-economic conditions on union dissolution rates in the Netherlands 1972–1996, *European Sociological Review* 22(5): 519–532.
- Glenn, Norval D. and Beth Ann Shelton. 1985. Regional differences in divorce in the United States, *Journal of Marriage and the Family* 47(3): 641–652.
- Gonzalez, Libertad and Tarja K. Viitanen. 2006. *The Effect of Divorce Laws on Divorce Rates in Europe*. Bonn: IZA.
- Hajnal, J. 1965. European marriage patterns in perspective, in D. V. Glass and D. E. C. Eversley (eds.), *Population in History: Essays in Historical Demography*. London: Edward Arnold, pp. 101–143.
- Halman, Loek. 2001. *The European Values Study: A Third Wave. Source Book of the 1999/2000 European Values Study Surveys*. Tilburg: EVS/WORC.

- Hansen, Hans-Tore. 2005. Unemployment and marital dissolution: a panel study of Norway, *European Sociological Review* 21(2): 135–148.
- Härkönen, Juho and Jaap Dronkers. 2006. Stability and change in the educational gradient of divorce: a comparison of seventeen countries, *European Sociological Review* 22(5): 501–517.
- Henz, Ursula and Jan O. Jonsson. 2003. Union disruption in Sweden, *International Journal of Sociology* 33(1): 3–39.
- Hullen, Gert. 2001. Transition to adulthood in Germany, in M. Corijn and E. Klijzing (eds.), *Transitions to Adulthood in Europe*. Dordrecht: Kluwer Academic, pp. 153–172.
- Inglehart, R. and Wayne E. Baker. 2000. Modernization, cultural change, and the persistence of traditional values, *American Sociological Review* 65(1): 19–51.
- Jalovaara, M. 2003. The joint effects of marriage partners' socioeconomic positions on the risk of divorce, *Demography* 40(1): 67–81.
- Jansen, Miranda and Aart Liefbroer. 2001. Transition to adulthood in the Netherlands, in M. Corijn and E. Klijzing (eds.), *Transitions to Adulthood in Europe*. Dordrecht: Kluwer Academic, pp. 209–232.
- Jansen, Miranda. 2002. Religiositeit en relatie- en gezinsvorming in Nederland nader beschouwd [Religiosity and union- and family formation in the Netherlands], *Bevolking en Gezin* 31(1): 125–150.
- Kalmijn, Matthijs, Paul M. De Graaf, and A. R. Poortman. 2004. Interactions between cultural and economic determinants of divorce in the Netherlands, *Journal of Marriage and Family* 66(1): 75–89.
- Kalmijn, M., P. M. De Graaf, and J. P. G. Janssen. 2005. The effect of intermarriage with respect to religion and national origins on the risk of divorce: evidence from vital statistics in the Netherlands, *Population Studies* 59(1): 71–85.
- Kalmijn, Matthijs and Ruud Luijkx. 2005. Has the reciprocal relationship between employment and marriage changed for men? An analysis of the life histories of men born in the Netherlands between 1930 and 1970, *Population Studies* 59(2): 211–231.
- Kalmijn, Matthijs, Anneke Loeve, and Dorien Manting. 2007. Income dynamics of couples and the dissolution of marriage and cohabitation, *Demography* 44(1): 159–179.
- Kantorova, Vladimira. 2004. Education and entry into motherhood: the Czech Republic during state socialism and the transition period, *Demographic Research Special Collection* 3: 245–273.
- Kiernan, Kathleen. 2002. Cohabitation in Western Europe: trends, issues, and implications, in A. Booth and A. C. Crouter (eds.), *Just Living Together: Implications of Cohabitation on Families, Children, and Social Policy*. University Park: The Pennsylvania State University, pp. 3–32.
- Kohler, Hans-Peter and Iliana Kohler. 2002. Fertility decline in Russia in the early and mid-1990s: the role of economic uncertainty and labour market crisis, *European Journal of Population* 18(3): 233–262.
- Kravdal, Øystein. 1999. Does marriage require a stronger economic underpinning than informal cohabitation?, *Population Studies* 53(1): 63–80.
- Lester, D. 1999. Regional differences in divorce rates: a preliminary study, *Journal of Divorce and Remarriage* 30(3/4): 121–124.
- Lesthaeghe, R. 1983. A century of demographic and cultural change in Western Europe: an exploration of underlying dimensions, *Population and Development Review* 9(3): 411–435.
- Lesthaeghe, R. and D. J. Van de Kaa. 1986. Twee demografische transitie? [Two demographic transitions?], *Mens & Maatschappij* 61: 9–24.
- Liefbroer, Aart C. and Martine Corijn. 1999. Who, what, where, and when? Specifying the impact of educational attainment and labour force participation on family formation, *European Journal of Population* 15(1): 45–76.
- Luijkx, Ruud, Evelyn Brislinger, and Wolfgang Zenk-Moeltgen. 2003. European Values Study 1999/2000—a third wave: data, documentation and databases on CD-ROM. *ZA-Information* 52: 171–183.
- Malyutina, Sofia, Martin Bobak, Svetlana Kurilovitch, Yuri Nikitin, and Michael Marmot. 2004. Trends in alcohol intake by education and marital status in an urban population in Russia between the mid 1980s and the mid 1990s, *Alcohol & Alcoholism* 39(1): 64–69.
- Mayer, K. U. 2004. Whose lives? How history, societies and institutions define and shape life courses, *Research in Human Development* 1(3): 161–187.
- Monnier, Alain and Jitka Rychtarikova. 1992. The division of Europe into East and West, *Population—An English Selection* 4(4): 129–160.
- Muszynska, Magdalena. 2006. Woman's employment and union disruption in a changing socio-economic context: the case of Russia. Max Planck Institute for Demographic Research.
- Noack, Turid. 2001. Transition to adulthood in Norway, in M. Corijn and E. Klijzing (eds.), *Transitions to Adulthood in Europe*. Dordrecht: Kluwer Academic, pp. 233–255.
- Ongaro, Fausta. 2001. Transition to adulthood in Italy, in M. Corijn and E. Klijzing (eds.), *Transitions to Adulthood in Europe*. Dordrecht: Kluwer Academic, pp. 173–207.
- Oppenheimer, V. K. 1988. A theory of marriage timing: assortative mating under varying degrees of uncertainty, *American Journal of Sociology* 94(3): 563–591.

- Oppenheimer, V. K. 1994. Women's rising employment and the future of the family in industrial societies, *Population and Development Review* 20(2): 293–342.
- Oppenheimer, V. K. and V. Lew. 1995. American marriage formation in the eighties: how important was women's economic independence?, in K. Oppenheim Mason and A. Jensen (eds.), *Gender and Family Change in Industrialized Countries*. Oxford: Clarendon, pp. 105–138.
- Oppenheimer, Valerie K., Matthijs Kalmijn, and Nelson Lim. 1997. Men's career development and marriage timing during a period of rising inequality, *Demography* 34(3): 311–330.
- Oppenheimer, V. K. 2003. Cohabiting and marriage during young men's career-development process, *Demography* 40(1): 127–149.
- Perelli-Harris, Brienna. 2005. The path to lowest-low fertility in Ukraine, *Population Studies* 59(1): 55–70.
- Pfeiffer, Christiane and Vera Nowak. 2001. Transition to adulthood in Austria, in M. Corijn and E. Klijzing (eds.), *Transitions to Adulthood in Europe*. Dordrecht: Kluwer Academic, pp. 43–66.
- Poortman, Anne-Rigt. 2005. How work affects divorce: the mediating role of financial and time pressures, *Journal of Family Issues* 26(2): 168–195.
- Prescott, Carola A. and Kenneth S. Kendler. 2001. Associations between marital status and alcohol consumption in a longitudinal study of female twins, *Journal of Studies on Alcohol* 62(5): 589–604.
- Prioux, France. 2006. Cohabitation, marriage, and separation: contrasts in Europe, *Population & Societies* 422(April): 1–4.
- Rabušic, Ladislav. 2001. Value change and demographic behaviour in the Czech Republic, *Czech Sociological Review* 9(1): 99–122.
- Reher, D. S. 1998. Family ties in Western Europe: persistent contrasts, *Population and Development Review* 24(2): 203–234.
- Sander, William. 1993. Catholicism and marriage in the United States, *Demography* 30(3): 373–384.
- Saraceno, C. 2007. Patterns of family living in enlarged Europe, in J. Alber, T. Fahey, and C. Saraceno (eds.), *Quality of Life in Europe*. Routledge: London.
- Schoenmaeckers, Ronald C. and Edith Lodewijckx. 1999. Demographic behavior in Europe: some results from FFS country reports and suggestions for future research, *European Journal of Population* 15(3): 207–240.
- Simon, R. W. 2002. Revisiting the relationships among gender, marital status, and mental health, *American Journal of Sociology* 107(4): 1065–1096.
- Sobotka, Tomas, Krystof Zeman, and Vladimira Kantorova. 2003. Demographic shifts in the Czech Republic after 1989: a Second Demographic Transition view, *European Journal of Population* 19(3): 249–277.
- South, Scott J. and Katherina Trent. 1989. Structural determinants of the divorce rate: a cross-national analysis, *Journal of Marriage and Family* 51(2): 391–404.
- Stack, Steven and Elena Bankowski. 1994. Divorce and drinking: an analysis of Russian data, *Journal of Marriage and Family* 56(4): 805–812.
- Stone, Richard. 2000. Stress: the invisible hand in Eastern Europe's death rates, *Science* 288(5472): 1732–1733.
- Sweeney, Megan M. 2002. Two decades of family change: the shifting economic foundations of marriage, *American Sociological Review* 67(1): 132–147.
- Thornton, A., W. G. Axinn, and D. H. Hill. 1992. Reciprocal effects of religiosity, cohabitation, and marriage, *American Journal of Sociology* 98(3): 628–651.
- Thornton, A., W. G. Axinn, and Jay D. Teachman. 1995. The influence of school enrollment and accumulation on cohabitation and marriage in early adulthood, *American Sociological Review* 60(5): 762–774.
- Trost, Jan. 1978. A renewed social institution: non-marital cohabitation, *Acta Sociologica* 21(4): 303–315.
- Unk, W. J. G. 2004. The economic consequences of divorce for women in the European Union: the impact of welfare state arrangements, *European Journal of Population* 20(3): 251–285.
- Van de Kaa, D. J. 1987. Europe's Second Demographic Transition, *Population Bulletin* 42(1): 1–59.
- Voydanoff, P. 1990. Economic distress and family relations: a review of the eighties, *Journal of Marriage and the Family* 52(4): 1099–1115.
- Xie, Yu, James M. Raymo, Kimberly Goyette, and Arland Thornton. 2003. Economic potential and entry into marriage and cohabitation, *Demography* 40(2): 351–367.
- Yang, B. and D. Lester. 1991. Correlates of statewide divorce rates, *Journal of Divorce and Remarriage* 15(3/4): 219–223.