

# Transformation of Partnership Formation in Eastern Europe: The Legacy of the Past Demographic Divide<sup>1</sup>

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## INTRODUCTION

Since the late 1960s, demographic development in Europe has been shaped by profound transformations in nuptiality and fertility. The break with preceding patterns was so radical that two decades later, Ron Lesthaeghe and Dirk Van de Kaa (1986) introduced the concept of a Second Demographic Transition (SDT), which has gradually evolved into an overarching theoretical framework for the description and analysis of contemporary demographic change. Among the developments at the core of the SDT, the formation of partnerships outside marriage, the associated rise in non-marital childbearing to unprecedented levels, and the postponement of marriage are indeed some of the most salient transformations. The shift from marriage to cohabitation has far-reaching implications for the demographic structure of the population as well as for the institution of the family, social reproduction, and family relations. Unlike marriage, cohabitation is generally characterised by a lower degree of commitment, fewer entitlements, and a higher risk of disruption (Mills 2000; Prinz 1995; Wu 2000). In several countries, the postponement of marriage seems to have been compensated by an earlier and more frequent entry into cohabitation (Nazio 2008; Schoenmakers and Lodewijckx 1999). Because of the multiple effects on individuals' lives, the spread of non-marital cohabitation is a topic of considerable interest and policy relevance.

Non-marital cohabitation is effectively replacing direct marriage as the means of initiating conjugal union and is exhibiting a tendency to develop into a socially accepted alternative to registered marriage and locus of childbearing. The spectacular growth in the prevalence and duration of cohabitation has made the shift in partnership formation an important marker for distinguishing “leaders” and “laggers” in the SDT (Lesthaeghe 1995; 2010). In this context, Eastern Europe has tended, from the 1990s until quite recently, to be treated as a relatively homogeneous area, which, at least with respect to these family patterns, has been lagging

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behind more advanced societies in Western Europe (Monnier and Rychtarikova 1992; Ni Brolchain 1993; Thornton and Philipov 2009). This “lagging” has been interpreted as an outcome of societal conditions less conducive to the Second Demographic Transition. Nevertheless, different and contrary opinions have also been expressed, based primarily on the diversity of Eastern Europe (Katus 2003; Macura and Klijzing 1997; Sobotka 2003; 2008; Stankuniene and Maslauskaitė 2008).

Research with regard to changes in partnership formation has been hampered by a lack of comparative data. The Family and Fertility Surveys (FFS) programme of the 1990s provided evidence from eight countries of the region, but due to the timing of data collection, (in the majority of Eastern European countries, the surveys were completed by 1995), a detailed analysis of the emerging patterns had to be postponed until the following round of comparative surveys. These were undertaken in the mid-2000s within the framework of the Generations and Gender (GGS) programme, and in recent years, an increasing number of studies, of individual countries as well as comparative, have examined trends in partnership formation in the region (Bradatan and Kulcsar 2008; Hoem and Kostova 2008; Hoem et al., 2008; Kostova 2008; Mureşan 2008; Philipov and Jasilioniene 2007; Puur et al., 2009; Speder 2005; Stankuniene et al., 2009).

This article aims to complement the aforementioned body of research by comparatively analysing the pattern of first partnership formation in seven countries of Eastern Europe: Bulgaria, East Germany, Estonia, Hungary, Lithuania, Romania and Russia. The objective is to provide an account of the switch from direct marriage to non-marital cohabitation as it has progressed over the past 40–50 years. Unlike previous studies of partnership formation in the region, we set out to examine whether the cross-national variation in the tempo and scale of contemporary partnership transformation is related to demographic patterns that existed in the past. Such long-term legacies, as well as their underlying structural and cultural mechanisms, have been identified for several countries of Western Europe (Lesthaeghe 1983; Lesthaeghe and Neels 2002; 2006; Reher 1998). However, evidence of similar continuities in demographic development with regard to Eastern Europe appears limited. Guided by the questions raised in the special issue of the JCFS, this article contributes to filling this void and investigates the correspondence between contemporary patterns of partnership formation and the historical nuptiality regimes described by Hajnal (1965).

The article is divided into five sections. Following the introduction, the second section provides a concise overview of previous research on the long-term legacies in demographic development. The third section introduces the data sources and analytical methods employed in the study. The fourth section presents the empirical results with regard to contemporary patterns of partnership formation and connects them to historical evidence. The concluding section includes a summary and discussion of the findings. Although derived from a primarily descriptive account, our results support the correspondence between contemporary and historical patterns of partnership formation.

### **PREVIOUS FINDINGS RELATED TO THE CONTINUITY OF DEMOGRAPHIC PATTERNS**

Demographic transition theorists (Notestein 1953; Kirk 1996) expected the shift towards the modern demographic regime to result in a new equilibrium between low levels of mortality and fertility. However, developments did not occur exactly as forecast and advanced countries have not yet witnessed a deceleration in demographic change. Following the temporary respite of the post-war baby boom and the golden age of marriage, a new wave of

transformation in the patterns of family formation and reproduction started in Northern and Western Europe after the mid-1960s. Conceptualised as the Second Demographic Transition, it involved interconnected changes in several behaviours (Lesthaeghe and van de Kaa 1986; Van de Kaa 1987). In the countries concerned, marriage rates decreased considerably and fertility fell below the replacement level; marriage and childbearing were postponed until later in life and, to a certain extent, foregone.

The following decades have witnessed a gradual spread of these phenomena to Southern and Eastern Europe, transcending economic, social and cultural boundaries (Lesthaeghe and Surkyn 2002; Lesthaeghe 2010). By and large, the evidence supports the notion that demographic development is a gradual, multistage process, with “leaders” and “laggers” between countries and within sub-groups of the population. Building on the concepts proposed by Hoffmann-Nowotny (1987), van de Kaa (1994) developed a broad explanatory framework for the SDT, encompassing the three fundamental dimensions of the social system—structure, culture and technology. Since its inception, proponents of the theory have strongly argued in favour of the distinctiveness of the second demographic transition and rejected claims that the second transition should be regarded as merely a further unfolding of the first. However, the theorists have acknowledged the continuity between the successive phases of demographic development.

The notion of demographic continuity was proposed by Ron Lesthaeghe (1983), who investigated the extent to which the contemporaneous changes in fertility and nuptiality in Western Europe—the term “second demographic transition” was not yet coined—could be viewed as manifestations of patterns that had already emerged at the time of the (first) demographic transition in the region. This idea was further developed and tested in a series of studies conducted in the late 1990s and early 2000s (Lesthaeghe and Vanderhoeft 2001; Lesthaeghe and Neels 2002; 2006). Their work was based on Coale's model for describing and analysing the adoption of new forms of demographic behaviour. In an article summarising the main findings of the Princeton European Fertility Project, Coale (1973) specified three preconditions—readiness, willingness and ability—for new behavioural patterns to spread.<sup>2</sup> In this context, readiness means that the new forms must be advantageous, and that their benefits must clearly outweigh their costs. Willingness refers to the legitimacy and normative acceptability of the new behaviours. Ability signifies the accessibility of adequate means to implement them. For a new form of behaviour to become established, all three preconditions must be met simultaneously; failure to satisfy one condition prevents the innovation from breaking through, even if the other conditions are met.

Using data for geographical areas of Belgium, France and Switzerland in the 18<sup>th</sup>-20<sup>th</sup> centuries, Lesthaeghe and his colleagues found striking similarities in the spatial patterns of the two demographic transitions (Lesthaeghe and Neels 2002; 2006). Regions that were in the forefront of the first transition were also more advanced with respect to the second, and conversely, those where demographic modernisation lagged have also been slower to exhibit the SDT. In accord with the RWA-model, the observed continuity was regarded as evidence of the persistence of the “bottleneck” that modulated characterised the spread of new demographic behaviours across geographical areas. Although the focus of behavioural innovations changed from one wave to the next, the barriers shaping its diffusion remained unaltered, resulting in a similar spatial patterning of the two transitions.

<sup>2</sup> The authors maintain that the “ready, willing, and able” (RWA) conceptual model is universal and may have applications in a variety of fields (Lesthaeghe and Vanderhoeft 2001). The RWA model is also credited for creating links between various social science disciplines that otherwise tend to focus on specific conditions.

Another interesting finding with regard to the continuity of demographic patterns connects historical nuptiality regimes and the onset of the fertility transition. Based on evidence from the Princeton project, Ansley Coale (1992) reported a systematic and strong relationship between marriage patterns that emerged in pre-modern Europe, and the onset of a decline in marital fertility that occurred in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. According to Coale, the transition to controlled fertility started earlier in the areas in which the Western European pattern of late marriage prevailed, and later in the early-marrying populations east of Hajnal's line.<sup>1</sup> This relationship was surprising because the lower overall fertility among late-marrying populations could be assumed to reduce the need to undertake fertility restriction in marriage. In interpreting the findings, Coale maintained that the fertility transition began earlier in late-marrying populations not because the nuptiality pattern directly promoted deliberate birth control, but rather because long-established social conditions accounting for late marriage also favoured the early adoption of innovative fertility behaviour. Similarly, the factors associated with a tradition of early marriage were less conducive to the early adoption of birth control.

The continuity between historical and contemporary demographic patterns also emerges in several other studies. Reher (1998) contextualised present familial behaviour in Western Europe in the light of historical experience and concluded that vestiges of the past can be clearly seen in many aspects of family life, particularly in the ways in which the family organises support for its vulnerable members. On a national level, Bernhardt and Hoem (1985) found that in Sweden, the cradle of the SDT, regional gradients in modern patterns of union formation closely correspond to findings for earlier periods, dating back to the 19<sup>th</sup> century. Livi-Bacci's work on Portugal (1971) and Italy (1977) has also revealed the survival of older spatial patterns in the genesis of newer forms of demographic behaviour.

### RESEARCH QUESTIONS, DATA AND METHODS

The focus of the JCFS special issue provided a good opportunity to investigate whether the correspondence between contemporary and historical family patterns could also be discerned in the countries of Eastern Europe. We decided to examine the extent to which the emergence of new patterns of family formation, characteristic of the SDT, could be associated with nuptiality regimes that prevailed in the region in the 19<sup>th</sup> and early 20<sup>th</sup> centuries. In the empirical analysis that follows, we addressed two main questions: (i) How far have different countries in Eastern Europe progressed in the transformation of partnership patterns, and (ii) Do the "leaders" and "laggers" of this transformation follow the historical division described by Hajnal? In the search for answers, we assumed that the change had started earlier in the populations with the Western European pattern of late/low prevalence marriage and later in areas where this pattern was less pronounced or where earlier and more universal marriage prevailed. In the light of previous studies, it seemed likely that the interconnections between historical and contemporary patterns of family formation were not necessarily causal or deterministic, but were the outcome of structural and cultural forces that have long shaped the developmental trajectories of the family and continue to exert their influence today.

Our analysis draws on several sources of demographic information and employs different analytical methods. The evidence related to contemporary partnership patterns has been

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<sup>1</sup> Coale (1992) demonstrated the robustness of his finding, reporting a relationship in a number of different settings (late-marrying European populations to the west of Hajnal's line, republics of the former Soviet Union, and states of India).

extracted from surveys carried out within the framework of the Generations and Gender programme. The results presented in the following sections pertain to seven countries of Eastern Europe for which GGS data were available in 2010: Bulgaria, East Germany, Estonia, Hungary, Lithuania, Romania and Russia. The selection of countries is considered representative of both the historical and contemporary demographic diversity that exists in the region. From the historical perspective, the countries cover a broad spectrum with regard to marriage patterns and the onset of demographic modernisation (Coale and Watkins 1986; Hajnal 1965). With respect to more recent periods, they exhibit considerable variation in the mode of partnership formation, which provides a good opportunity to explore the connection between contemporary and earlier demographic patterns. To place the findings into broader perspective, further parallels are drawn with the countries of Western Europe, exemplified by France, Norway and West Germany.<sup>4</sup>

Methodologically, the surveys combine a retrospective view, derived from event histories, with a prospective approach based on a three-wave panel (UNECE 2005). Of most importance to this analysis, complete histories of partnership formation and dissolution were collected in the first wave of each survey. The partnership histories provide beginning and end dates (accurate to the month) of co-residential unions and dates of marriages, if applicable. The GGS is based on nationally representative probability samples of men and women aged 18-79 living in non-institutional households (Simard and Franklin 2005). These features make the GGS an unparalleled source of current life course information on partnership formation across contemporary Europe. Compared to its predecessor, the Family and Fertility Surveys programme, the GGS offers a particularly valuable account of the demographic changes that have swept through Eastern Europe since the beginning of the 1990s.

The analysis of contemporary family patterns focused on the mode of first union formation. This decision was based on the fact that among various aspects of the change in partnership behaviour, the shift from direct marriage to cohabitation best exemplifies the essential criteria of a transition—it has the innovative character of a newly introduced practice, constitutes a break with the preceding practice of couple formation, and demonstrates cohesiveness and irreversibility (Lesthaeghe 1995). This part of the analysis started with a description of trends in the prevalence of non-marital cohabitation among first partnerships, applying both period and cohort perspectives. The combination of descriptive and multivariate methods allowed us to carefully map the shift along both dimensions and relate its progression to specific events, in particular the demise of state socialism. Proportional hazard event history models were then used to examine the shift from direct marriage to cohabitation in a more comprehensive manner. Unlike the conventional approach, in which competing transitions are analysed separately, entry into marital and non-marital unions was studied jointly, in a way that allowed for direct comparison of the two modes of partnership formation, controlling for other factors that are known to influence that process. The same procedure has recently been applied by Hoem and colleagues (2008), to whose work we refer for a technical description of the method. Details pertaining to the specification of models

<sup>4</sup> Among the European GGS countries for which the data are available, Austria, Georgia and the Netherlands were not included. The Austrian GGS was not considered because of the reduced cohort range of its target population. For Georgia, the reason of non-inclusion relates to the country's location on the southeastern frontier of Christendom. This location implies a specific pattern of nuptiality and fertility that combines features of Eastern European and Central Asian patterns. In Georgia in the late 19<sup>th</sup> century and first decades of the 20<sup>th</sup> century, the proportion of women who married before age 20 was twice as high as in Russia and other countries which exhibited the Eastern European marriage pattern in the same period (Coale, Anderson and Härm 1979). The Dutch GGS was excluded for technical reasons: dates of events in the harmonised datafile were recoded with yearly accuracy, which is not sufficiently precise for the study of partnership formation.

and variables are discussed in the following sections. In accord with the convention used in many studies of family formation, the analysis was restricted to female respondents.<sup>5</sup> Table A1 in the Appendix contains the size of our working samples in terms of number of respondents, person-years of exposure, and family formation events.

The second part of the analysis examined the correspondence between contemporary and historical patterns of partnership formation. A subset of descriptive and multivariate measures that illustrate the progression of the shift from direct marriage to cohabitation was selected as indicators of contemporary patterns. For the historical data, we relied on singulate mean age at first marriage (SMAM) and the proportion of those never marrying used by Hajnal (1965) to distinguish the nuptiality regimes in Europe. These measures were complemented by the nuptiality index  $I_m$  derived from the Princeton European Fertility Project (Coale and Watkins 1986). Unlike Lesthaeghe and Neels's studies (2002; 2006), our analysis dealt with countries. From the methodological point of view, despite increasing internationalisation, countries are considered primary contexts for the diffusion of behavioural innovations. The reasons include a shared language, culture and history, specific institutional frameworks and (mostly national) mass media, leading to a high density of communication (Bongaarts and Watkins 1996; Palloni 2001). Because of the limited number of countries for which GGS data is available, our results in the second part of the analysis are descriptive, based on the correspondence between contemporary and historical measures of partnership formation across countries. However, despite this obvious analytical shortcoming, we think that comparison with historical patterns has the potential to enrich our understanding of contemporary demographic trends.

## RESULTS

### Contemporary Patterns of Partnership Formation

#### *Descriptive Results*

A characteristic feature of modern family initiation has been the far-reaching disconnection of union formation from marriage: it has become increasingly common for unmarried young people to start living together as a couple. Trends in the mode of partnership formation in Eastern Europe have been addressed in several recent studies (Bradatan and Kulcsar 2008; Hoem et al., 2008; Katus, Puur, and Sakkeus 2008; Kostova 2008; Stankuniene et al., 2009; Zakharov 2008), but none has attempted to combine the evidence from all of the GGS countries in that region.

To begin with the descriptive results, the first panel of Figure 1 reveals an extensive inter-cohort change in the mode of union formation, as well as marked differences between countries. In the earliest cohorts, the countries cluster in two fairly distinct groups. Although direct marriage is still the prevalent pathway to partnership formation in all countries, in

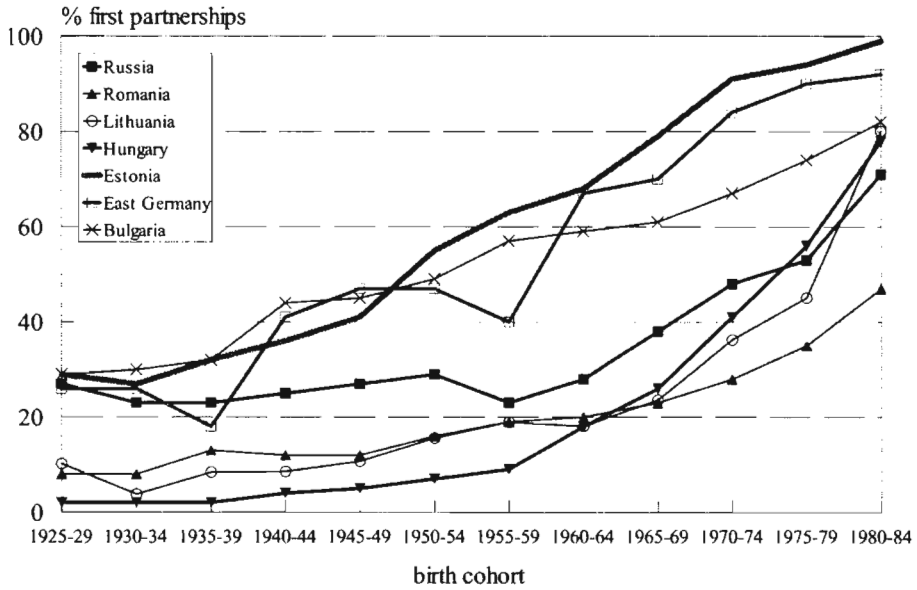
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<sup>5</sup> An additional selection criterion was applied to the Estonian GGS data. To obtain a more homogeneous study population, the analysis focused on the native population and excluded immigrants and their descendants who settled in the country after the Second World War. The reason relates to the distinctive demographic patterns in the Russian Federation, the region from which the majority of immigrants originate. Unlike the host country, Russia did not follow the Western European marriage pattern, and experienced a noticeably later onset of demographic modernisation. Although these are historical features, analyses have demonstrated that differences in behavioural patterns between the native and foreign-origin populations persist, including family formation (e.g., Katus, Puur, and Sakkeus 2000, 2002; Sakkeus 2000, 2003). The relative size of the foreign-origin population (nearly 30% of the total population) results in estimates for the total population that are an aggregate of two divergent elements. The heterogeneity inherent in such estimates blurs the picture, particularly with respect to international comparisons.

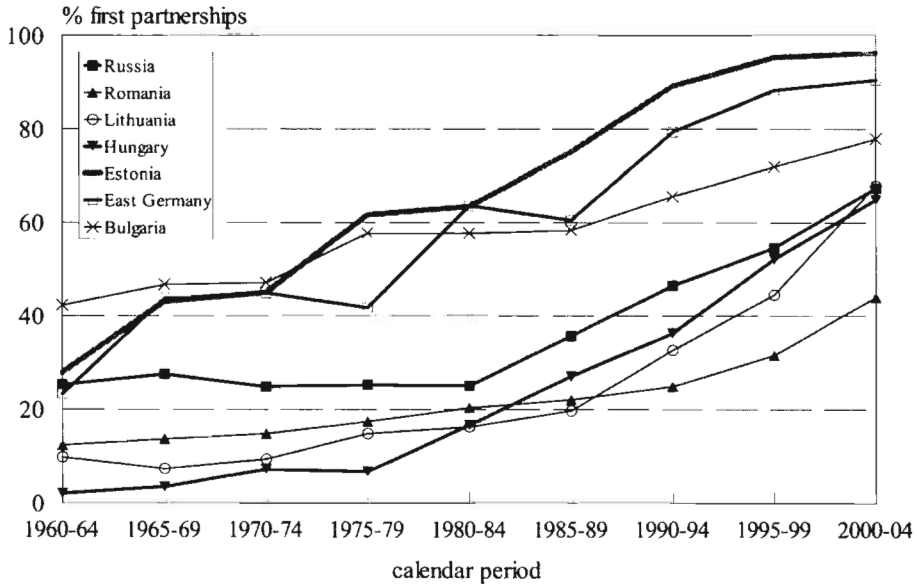
Figure 1

**Proportion of First Partnerships Formed as Cohabitation.**

Panel 1: Birth cohorts 1925–1984.



Panel 2: Calendar periods 1960–2004.



Source: GGS database, authors' calculations

Bulgaria, East Germany, Estonia and Russia, 23%-30% of women who were born in the late 1920s and early 1930s entered their first conjugal union via non-married cohabitation. In Hungary, Lithuania, and Romania, the proportion of first unions initiated outside registered marriage is noticeably lower, ranging from 2% to 10% in the same generations.<sup>6</sup>

Starting with the cohorts born in the late 1930s and 1940s, the dominance of direct marriage began to weaken in the first group of countries. Among these countries, Estonia was the first where cohabitation replaced direct marriage as the main route to family formation. The shift occurred among women born in 1950–1954, who tended to form their first partnerships in the 1970s. Judging from the data, Bulgaria reached a similar tipping point in the subsequent, 1955–59 cohort. Had there not been irregular fluctuations caused by the small size of the subsample extracted from the German GGS, the same would probably have held true for East Germany. In the following generations, entry into partnership through cohabitation grew steadily, particularly in Estonia and East Germany. Among women born in the early 1970s, the proportion of partnerships initiated via cohabitation exceeded 80% in both countries. The reported percentages for some of the youngest cohorts may slightly overestimate the decrease in direct marriage, since the data do not include unions contracted at older ages. Nevertheless, Estonia and East Germany exemplify a virtually complete shift from marriage to cohabitation. In Bulgaria, the change has been noticeably slower in the younger generations.<sup>6</sup>

In the second group (Hungary, Lithuania, and Romania), adherence to the traditional mode of partnership formation persisted much longer. Although there has been a slow downward trend in the proportion of first unions initiated via direct marriage among the older GGS generations, the proportion remained above 80% until the birth cohorts of the late 1950s. As a result, the difference in the mode of partnership formation between the two groups of countries increased and peaked among women born during the 1960s. Among the younger generations, the shift away from the traditional mode of partnership formation accelerated in the second group, particularly for Hungary and Lithuania, which almost caught up with Bulgaria.

Among the seven countries included in the analysis, Russia constitutes probably the most peculiar case. The older GGS cohorts exhibit a high proportion of partnerships initiated outside registered marriage: among women born in the late 1920s, 27% entered their first conjugal union unmarried. This places Russia among the early adopters of non-married cohabitation, next to Estonia and East Germany. Moving further along the cohort axis, however, Russia did not follow the trajectory of the latter countries, and the proportion of direct marriage relative to cohabitation stalled for another 30–35 years. The proportion that characterised the 1960–1964 birth cohort is only marginally different from that observed in 1925–1929. Judging from the figure, the period of prolonged stability moved Russia closer to the second group of countries with steep acceleration of change among the younger generations.

The second panel of Figure 1 illustrates the trends in partnership formation since the beginning of the 1960s. Overall, the data reveal a secular shift from direct marriage to cohabitation as described above, but there are some additional details to be noted. With regard to the first group of countries, East Germany and Estonia follow a similar trajectory.

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<sup>6</sup> More refined life-table measures, not reported in detail in this article, show that among the 1970s birth cohorts, 93% of Estonian and 87% of East German women who had formed partnerships by age 25 started their first union via cohabitation. For Bulgaria, the corresponding proportion was 69%.



The change in the mode of partnership formation started early, and apart from some fluctuations in specific periods, which likely result from a small sample size for both countries, the trend exhibits a steady and relatively steep upward gradient for most of the period. This increased the proportion of first partnerships from 23-27% in the early 1960s to levels that exceed 90% at the beginning of the 21<sup>st</sup> century.

Among the countries included in the analysis, Bulgaria featured the highest proportion of first unions initiated via non-married cohabitation at the beginning of our observation period, but relatively modest change up to the 1990s: between 1960-1964 and 1985-1989, the overall increase did not exceed 16 percentage points, compared to 38 for the former GDR and 47 for Estonia over the same period. We will discuss the Bulgarian findings in the following sections.

In the remaining countries, the data reveal a clear divide between the two stages in the mode of partnership formation. The first stage was characterised by relatively slow change and the persistence of the traditional pattern; direct marriage accounted for 75-92% of first partnerships across countries. In the second stage, the shift from direct marriage to cohabitation significantly accelerated, and, with the exception of Romania, cohabitation replaced direct marriage as the main route to union formation. The peculiar patterns noted above for the Russian Federation—high incidence of non-married cohabitation at the beginning of the observation period followed by prolonged stability—was also evident in the period perspective.

The calendar period in which the accelerated change in the mode of partnership formation started varies from one country to another, and to judge from the figure it appears to be fairly independent of how traditional partnership patterns initially were. In Hungary, the acceleration occurred between the late 1970s and early 1980s, in Russia it took place in the 1980s, and in Lithuania it more or less coincides with the onset of societal transformation around the turn of the 1990s. In Hungary and Russia, the entry into first partnership without registered marriage passed the 50% threshold in 1995-1999, and in Lithuania the switch occurred in the early 2000s. In Romania, the divide between the changes gained momentum more gradually, and in 2000-2004 the majority of first partnerships (56%) were contracted in the traditional mode.

### *Multivariate Results*

As noted above, we used multiplicative regression models to analyse the transition from never-partnered status to marriage and cohabitation jointly (Hoem and Kostova 2008; Hoem et al., 2008). In the models, exposure was measured in months, starting at the age of 15. The respondents were tracked until they entered their first partnership or attained age 45, whichever came first. The time axis was partitioned into ten intervals: 15-16, 17-18, 19-20, 21-22, 23-24, 25-26, 27-28, 29-30, 31-34, and 35 years and older. A small number of respondents whose partnership records were incomplete, and those who entered a co-residential partnership before the age of 15, were excluded from the analysis.

In accordance with the aim of the article, independent variables of main interest were related to time, and operationalised in terms of five-year birth cohorts (time-fixed) and calendar periods (time-varying). The time axis was partitioned into five-year intervals, starting from the birth cohort 1925-29 and calendar period 1960-64. Other covariates related to the respondent's background, parity-pregnancy and educational status. Earlier studies have demonstrated that these variables modulate the propensity for forming a union; therefore,

their influence should be controlled. Our time-varying parity-pregnancy status distinguished between three groups of never-partnered women: childless and non-pregnant, childless and pregnant, and women who had one or more children. A specification recommended by Hoem and Kreyenfeld (2006) was used to construct the time-varying education variable. The covariates that were used to indicate the respondent's family background (number of siblings (0, 1, 2+), educational attainment of parents (low, medium, high), and whether the female lived with both parents most of the time until age 15) were available from the harmonised GGS dataset. Two models were fitted for each country, using birth cohort and calendar period respectively as the independent variable. The results, produced as partial likelihood estimates of the model's effect parameters, are presented in the form of relative risks. The trends in the mode of first partnership formation are shown in Figure 2.

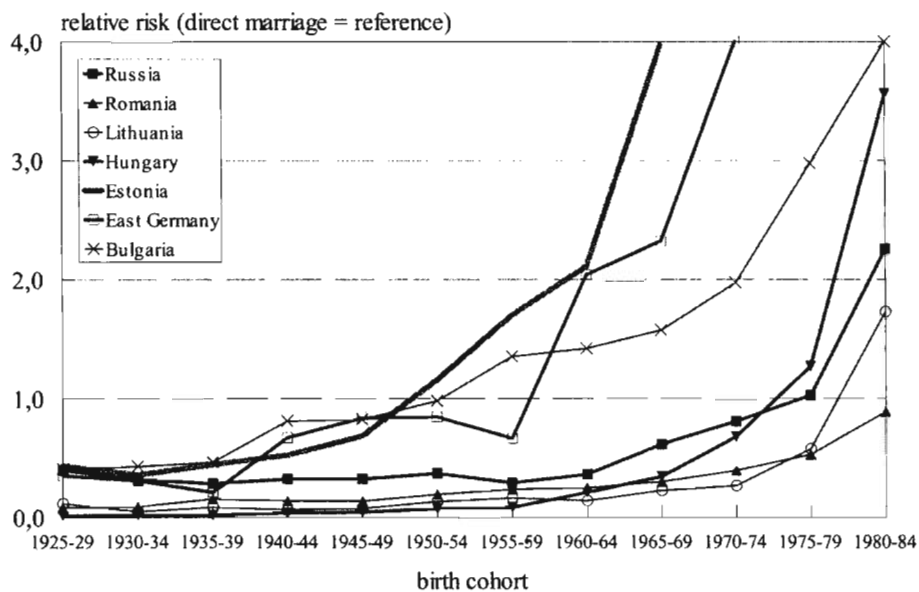
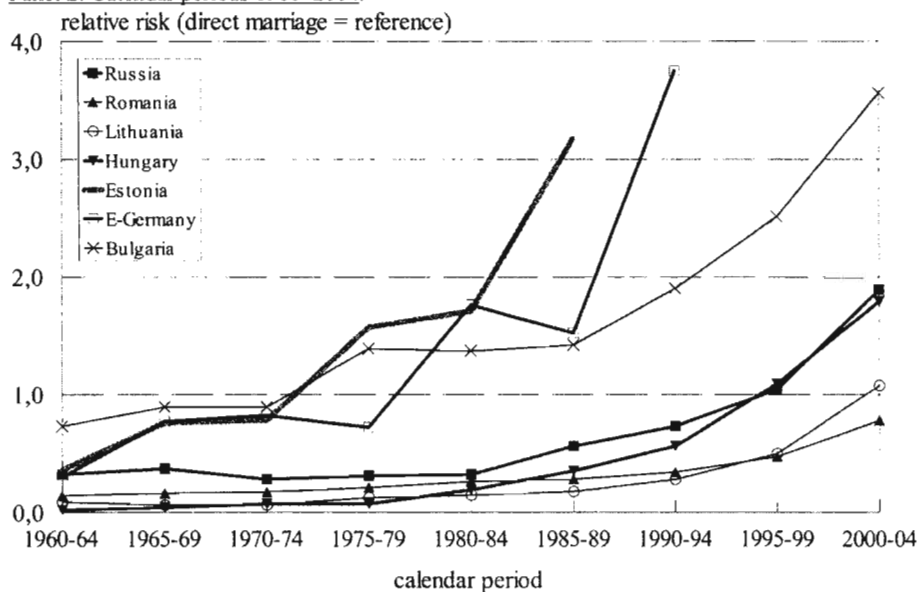
The upper panel of the figure provides a condensed description of the trend in the mode of union formation across birth cohorts, standardised for the effects of the control variables. For each cohort, the risk of entry into cohabitation is presented relative to the corresponding risk of direct marriage. This presentation identifies the progressive shift in the mode of partnership, independent of concurrent changes in the intensity of union formation over time and variation across countries. Overall, the multivariate results corroborate the descriptive findings reported earlier in this section. Across the GGS cohort range, the models reveal a universal and irreversible shift from direct marriage to cohabitation. There are, however, differences in the time the change in partnership formation started and how rapidly it has progressed in specific countries.

Among the countries included in the analysis, Estonia appears to be the first in which the standardised risk of entry into cohabitation exceeded that of registered marriage: the shift occurred among women born in 1950-1954. Bulgaria and East Germany followed shortly thereafter; in these countries, the shift occurred in the 1955-1959 and 1960-1964 birth cohorts, respectively.<sup>7</sup> In the following generations, Estonia and East Germany exhibit the sharpest turn away from the traditional pathway to family building. Among the generations born in the 1970s, the risk of entry into cohabitation exceeded the propensity for direct marriage by such a degree that it exceeded the scale of the figure (the relative risks are reported in Table A2 of the Appendix). Consistent with the evidence derived from descriptive measures, Bulgaria clearly lagged behind Estonia and East Germany among the younger generations. In the remaining countries, the crossover of the relative risks occurred noticeably later. In Hungary and Russia, the risk of cohabitation surpassed that of direct marriage in the 1975-1979 birth cohort. In Lithuania, this threshold was reached among women born in the early 1980s. In Romania, the propensity of the youngest generation to start a consensual union is 10% less than that of direct marriage.

The second panel of Figure 2 presents the trend in relative risks by calendar periods. Again, the models indicate considerable diversity in the timing of the shift from direct marriage to cohabitation across countries. The crossover in the relative risks of cohabitation and marriage was pioneered by Estonia and Bulgaria in 1975-1979, followed by East Germany in the early 1980s. For the next three countries, it took two more decades to reach the turning point—Hungary and Russia in 1995-1999 and Lithuania at the beginning of the 2000s. In Romania, the risk of entry into cohabitation was still about 20% lower at the beginning of the 21<sup>st</sup> century than the risk of direct marriage. However, the transformation in the mode of partnership formation is also clearly under way in Romania, and the evidence presented in

<sup>7</sup> The later shift to cohabitation in East Germany relative to Bulgaria could stem from a combination of irregular variation caused by the small size of the East German subsample and a specific practice of engagement cohabitation characteristic of Bulgaria.

Figure 2.

**Relative Risks of Starting First Partnership as Cohabitation.**Panel 1: Birth cohorts 1925–1984.Panel 2: Calendar periods 1960–2004.

Source: GGS database, authors' calculations.

the article leaves little doubt that the country will follow the trendsetters. Finally, the models also corroborated the peculiarity of partnership trends in the Russian Federation, where a relatively high risk of entry into cohabitation among the oldest GGS generations was not translated into an early shift away from registered marriage.

The control variables included in the models are outside the main focus of our analysis and the discussion of the corresponding findings has been omitted. Model estimates for the control variables are presented in the Appendix (Table A4).

### Correspondence between Contemporary and Historical Patterns

To illustrate the continuity of demographic behaviour, we compared contemporary union formation with nuptiality regimes that prevailed in the late 19<sup>th</sup> century in the countries included in the analysis (Table 1).

In the table, contemporary patterns of partnership formation are represented by the three descriptive and multivariate measures reported in the previous section: the proportion of first partnerships which began as non-married cohabitation, the likelihood of entering into cohabitation relative to marrying, and the five-year calendar period in which the relative risks of direct marriage and cohabitation were reversed in different countries. The countries are ranked according to the risk of entering into cohabitation relative to marriage in 2000-04. The ranking is almost identical for all three measures, which reflects the extent to which individual countries have progressed in their shift from traditional to modern forms of partnership initiation.

Table 1.

#### Characteristics of Contemporary and Historical Patterns of Partnership Formation

Country	Contemporary pattern			Historical pattern		
	Relative risk of entering into cohabitation relative to direct marriage 2000-04	Proportion of first partnerships started as cohabitation 2000-04	Period in which the risk of entry into cohabitation exceeded the risk of direct marriage	Singulate mean age at marriage, women	Proportion of never-married, women aged 40-49	Coale's nuptiality index $I_m$
	1	2	3	4	5	6
<b>Eastern Europe</b>						
Estonia	25.8	96%	1975-79	26.3	12%	0.493
East Germany	9.3	91%	1980-84	25.5	10%	0.467
Bulgaria	3.6	78%	1975-79	20.8	1%	0.737
Russia	1.9	67%	1995-99	20.9	5%	0.714
Hungary	1.8	65%	1995-99	22.0	4%	0.692
Lithuania	1.1	68%	2000-04	25.4	10%	0.502
Romania	0.8	44%	not reached	20.3	3%	0.748
<b>Western Europe</b>						
France	10.1	83%	1980-84	24.0	12%	0.543
Norway	9.8	87%	1975-79	26.9	20%	0.420
West Germany	3.9	80%	1975-79	25.4	11%	0.513

Three other measures were selected for the historical patterns. These include singulate mean age at first marriage (SMAM)\* and the proportion of those never marrying used by Hajnal (1965) to distinguish the historical nuptiality regimes in Europe, delimited by an approximate boundary from St. Petersburg on the Baltic Sea to Trieste at the Mediterranean. According to Hajnal, the areas west of this line exhibited the late/low prevalence marriage, termed the West European pattern, whereas the populations on the eastern side of the boundary were characterised by earlier marriage and a lower proportion remaining single, termed the East European pattern. In 1900, the female mean age at first marriage was consistently above 23 years, often 25-26 years, and the proportion of single women around age 50 was above 10% in the areas where the West European pattern prevailed. In contrast, the East European pattern of marriage was characterised by a SMAM of 20-22 years and a proportion of approximately 5-10% of women who never married. At the turn of the 20<sup>th</sup> century, some areas of Russia and the Balkan countries featured a proportion of approximately 1-3% of women who never married and a SMAM of 18-20 years, which resembles the marriage pattern among non-European populations (see Appendix, Figure A1).

The table also provides the nuptiality index  $I_m$  derived from the Princeton European Fertility Project (Coale and Watkins 1986). Coale's nuptiality index combines the timing and prevalence of marriage in a single measure. In the final monograph of the Princeton project, Coale and Treadway (1986) concluded that the geographic pattern of the nuptiality index in the late 19<sup>th</sup> century confirms the validity of Hajnal's designation of a line from Trieste to St. Petersburg. A cut-off level of 0.55 revealed that the nuptiality index yielded an almost perfect separation of the two marriage patterns: there were no provinces with an  $I_m$  less than that level east of the line.

The evidence generally supports the idea of correspondence between contemporary and historical patterns: the forerunners in the new mode of partnership formation, Estonia and East Germany, exhibited a late/low prevalence of marriage toward the end of the 19<sup>th</sup> century. With regard to the shift from direct marriage to cohabitation, Estonia and East Germany do not lag behind the three Western European GGS countries whose data are presented at the bottom of the table. The latecomers in the shift away from direct marriage, on the other hand, are typically—with one exception—situated east of the Hajnal line, which historically featured relatively early and universal marriage.

However, the continuity argument is challenged by some countries whose historical and contemporary patterns do not correspond. Among the countries included in the study, this lack of correspondence is exemplified by Bulgaria and Lithuania. Although the East European marriage pattern is clearly evident in Bulgaria, the country has experienced a relatively early shift away from direct marriage and features a high proportion of partnerships initiated outside of registered marriage among the older generations. The Lithuanian pattern is opposite to that of Bulgaria. Historically, Lithuania was characterised by late marriage and a high proportion of individuals who remained single; the prevalence of the Western European nuptiality pattern in that country is also corroborated by Coale's indices. However, Lithuania did not experience an early shift from registered marriage to cohabitation.

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\* Singulate mean age at marriage (SMAM) is the mean age at first marriage of those who marry. It is usually computed from census data, from the proportion of singles in each age group. In many instances, especially for earlier periods, SMAM is preferable to statistics derived from marriage registration, which are likely to be incomplete and do not distinguish between first and subsequent marriages (Hajnal 1953; UN 1990).

To summarise the correspondence between contemporary and historical measures, Table 2 presents the Pearson correlations between the proportion of partnerships started as cohabitation in 2000-04, the five-year period in which the propensity of cohabitation exceeded that of direct marriage, and the characteristics of the nuptiality regimes that prevailed around 1900. For the countries included in the analysis, the correlation between the historical measures and the proportion of partnerships initiated via cohabitation ranged from 0.62-0.74. The two-tailed tests show that the associations are statistically significant. The association between the period in which the risk of direct marriage and cohabitation reversed and the characteristics of the historical nuptiality regime is 0.51-0.59. It is noteworthy that the correlations do not differ greatly from those within the groups of historical and contemporary measures.<sup>9</sup>

Table 2.

**Correlation between the Characteristics of Contemporary  
and Historical Patterns of Partnership Formation.**

Historical pattern	Contemporary pattern							
	Proportion of first partnerships started as cohabitation, 2000-04				Calendar period in which relative risk of cohabitation exceeded that of direct marriage			
	V1	V2	V3	V4	V1	V2	V3	V4
<b>SMAM</b>								
Pearson Correlation	0,742	0,819	0,837	0,907	-0,537	-0,723	-0,768	-0,958
Sig. (2-tailed)	0,014	0,007	0,005	0,002	0,110	0,028	0,016	0,001
N of countries	10	9	9	8	10	9	9	8
<b>Percent of never-married at age 40-49</b>								
Pearson Correlation	0,624	0,650	0,742	0,758	-0,488	-0,577	-0,769	-0,857
Sig. (2-tailed)	0,054	0,058	0,022	0,029	0,153	0,104	0,015	0,007
N of countries	10	9	9	8	10	9	9	8
<b>Coale's index <math>I_m</math></b>								
Pearson Correlation	-0,730	-0,806	-0,838	-0,907	0,516	0,698	0,766	0,955
Sig. (2-tailed)	0,017	0,009	0,005	0,002	0,127	0,036	0,016	0,001
N of countries	10	9	9	8	10	9	9	8

Because of the peculiarities of Bulgaria and Lithuania, the correlations were recalculated excluding these countries. The data in Table 2 reveal a marked increase in the strength of the associations. The exclusion of one outlier at a time renders all pairwise correlations statistically significant and brings the coefficients to levels between 0.58 and 0.84. The omission of both outliers increases the correlation coefficients to levels between 0.76 and 0.94. Notably, four out of six correlation coefficients exceed 0.9 and are statistically significant at the 0.1-0.2% level, despite the reduction in the number of observations.

Our findings thus corroborate earlier results, which suggested a systematic association between historical nuptiality regimes and the onset of the fertility transition (Coale 1992). In fact, the correlations presented in Table 2 are no less robust than those reported in Coale's study for the correspondence between the mean age at marriage and the estimated beginning of the decline in marital fertility.<sup>10</sup> Our results appear to extend the legacy of historical marriage patterns from the first to the second demographic transition. In the concluding

<sup>9</sup> The correlation between the three contemporary measures ranged from -0.60 to 0.88.

<sup>10</sup> Excluding outliers, Coale (1992) reported correlations between 0.76 and 0.84.

section of the article, we will summarise the findings and discuss the plausible mechanisms underpinning the observed continuity.

### **SUMMARY AND DISCUSSION OF THE FINDINGS**

This article addressed trends in the mode of partnership formation in seven countries of Eastern Europe. Drawing on evidence newly available from the GGS, the empirical sections of the article provided an up-to-date account of the shift from direct marriage to non-marital cohabitation as the dominant pathway to family building.

The results corroborate the idea that change in partnership formation is significant, universal, irreversible, and central to the SDT. In the countries included in the study, the shift to cohabitation constitutes a break with an earlier behaviour pattern in which direct marriage predominated. Once initiated, the increase in the proportion of unions which began outside marriage persisted and eventually led to a complete reversal in the way partnerships are formed. All of the countries included in the analysis—historical, socio-economic and cultural differences notwithstanding—have begun the transformation, and, halfway through the shift, none of them shows signs of a halt.

The findings also lend support to the notion that the transition to a new pattern of partnership formation does not occur synchronously: there are marked differences in the timing of the onset of the change, its pace, and levels achieved across the region. Among the countries included in the analysis, East Germany and Estonia emerge as forerunners in the shift towards a new mode of partnership formation. In accord with findings from previous studies (Hoem and Kostova 2008; Kostova 2008; Hoem et al., 2008), Bulgaria also exhibited relatively early traces of the SDT in its pattern of union formation, but lags behind the two above-mentioned countries in the younger generations. Hungary, Lithuania, Russia and Romania are latecomers by approximately 20-25 years in completing the transition from direct marriage to cohabitation. Although it might be premature to make inferences about the future path of the latter countries, it seems very likely that there as well, a strong majority of partnerships will be started outside marriage, underscoring the universality of the shift.

The findings reported in this article reinforce the view, based on several earlier studies, that in several countries of Eastern Europe the spread of the new family patterns began well before the change in the societal regime which took place at the beginning of the 1990s (Huinink and Wagner 1995; Kantorova 2004; Katus et al., 2008; Speder 2005; Stropnik 1995; Stankuniene et al., 2009; Zakharov 2008). Descriptive and multivariate analyses both revealed that in Estonia and East Germany, non-marital cohabitation had already become the dominant route to family building in the late 1970s or early 1980s. The shift had occurred in parallel with similar developments in Western European countries participating in the GGS programme (see Appendix, Tables A2 and A3). The simultaneous emergence of these SDT features on both sides of the Iron Curtain lends nuance to the notion of an East-West divide in family and fertility behaviour along the post-WWII political boundaries (Monnier and Rychtarikova 1992; Ni Brolchain 1993; Roussel 1994). The latter studies drew on official statistics, which revealed no major transformation in the patterns of marriage and childbearing—relatively early and universal—that had spread to most countries of the region and prevailed until the onset of the societal changes. The shift in the mode of partnership formation remained largely veiled from contemporary view and only became evident as a result of retrospective demographic surveys conducted in the 1990s and 2000s.

The diversity of the patterns of family formation in Eastern Europe, before and after the

societal transition, has been described in a number of studies (e.g., Macura and Klijzing 1997; Sobotka 2003; Stankuniene and Maslauskaitė 2008). This article takes the novel approach of attempting to link contemporary patterns of partnership formation to nuptiality regimes that prevailed in the region in the 19<sup>th</sup> and early 20<sup>th</sup> centuries. The results generally support the notion of correspondence between historical and contemporary patterns. On one hand, the forerunners in the shift towards partnership formation outside marriage come from areas which exhibited a late/low prevalence of marriage in the past. On the other hand, the latecomers tend to be situated east of the Hajnal line. Our study thus corroborates earlier findings with regard to the legacy of historical marriage patterns (Coale 1992) and extends it from the onset of the first to the second demographic transition. Our findings also reinforce the notion of continuity across successive waves of demographic innovation demonstrated for Western Europe (Lesthaeghe 1983; Lesthaeghe and Neels 2002; 2006). The results reported above make a similar argument for Eastern Europe.

How then has this long-term continuity arisen? We do not believe that there is a direct causal connection between historical nuptiality regimes and contemporary partnership patterns. Rather, in the light of previous research, we are inclined to regard both as manifestations of contextual features that had already emerged at the time of the (first) demographic transition and continue to exert their influence on partnership patterns today.

This view runs counter to reasoning that attributes the increase in non-marital cohabitation, the retreat of marriage and several other features of the STD to the economic difficulties and uncertainty that have affected the populations of Eastern Europe since the beginning of the 1990s (Adler 1997; Kalmijn 2007; Philipov 2003; Rychtarikova 2000; UNECE 1999; 2000). Despite supporting evidence, especially that pertaining to socio-economic differentials in union formation and non-marital childbearing (e.g., Blossfeld et al., 2005; Perelli-Harris et al., 2010; Perelli-Harris and Gerber 2011), we do not find the “crisis” argument a convincing explanation for the trends in partnership formation. First, in a number of East European countries included in the analysis, the shift away from direct marriage had started well before the onset of the societal transition; in some of these countries, cohabitation had become a common route to family building in the 1970s or 1980s. These trends cannot be ascribed to the economic downturn, unemployment or uncertainty that was characteristic of the transition period. Second, there is no discernible relationship across individual countries between the success or failure of reforms and the manifestation of new family and fertility behaviours characteristic of the STD. Third, despite improvements in economic conditions, no country has witnessed a halt in the shift from marriage to cohabitation, or a reversal of the trend.

In our view, the model proposed by Coale (1973) provides a more comprehensive explanatory framework for major developmental shifts in demographic patterns, including the substitution of cohabitation for direct marriage. The three main pillars of the conceptual framework of the SDT—structural, cultural and technological change—closely resemble the preconditions for behavioural innovation in Coale's model. According to this framework, cohabitation should not be viewed as an inferior alternative to marriage, but rather as an arrangement that entails benefits for the individuals involved. Oppenheimer (1988; 1994) has noted that cohabitation offers many of the benefits of marriage, ranging from companionship and sexual gratification to the economies of scale that result from living in partnership. Cohabitation also provides some of the advantages of remaining single, including greater flexibility and lower costs of terminating the partnership (Kravdal 1999; Barlow et al., 2001). The adoption of cohabitation also depends on the normative context, which defines the range of appropriate and tolerated practices with respect to family



formation. Norms serve as a guide for the members of a society and affect the willingness of individuals to establish consensual unions, facilitating or constraining the new behaviour. Finally, the spread of new behaviours is conditional on contextual features that enable individuals to convert their preferences into actual behaviour, such as access to independent housing (e.g., Kurz and Blossfeld 2004; Dalla Zuanna 2004).

This formulation describes a bottleneck model, in which the failure to satisfy one condition prevents the innovation from breaking through, even if the other conditions are met. In theory, any of the three pre-conditions can be decisive. Studies which have addressed the continuity of demographic patterns have concluded that willingness is the pre-condition that usually sets the pattern for new family behaviours. The spatial patterning of the SDT is primarily rooted in early secularisation, various manifestations of individual autonomy, and the rejection of religious, communal and familial authority (Lesthaeghe 1983; Lesthaeghe and Neels 2002; 2006). In his analyses of the relation between historical marriage patterns and the timing of the fertility transition, Coale (1992) shared this interpretation when he referred to the greater independence of young people, especially women, from parental domination in the areas west of the Hajnal line. He thought that these features were conducive to earlier adoption of birth control.

In this study, we were not able to rigorously test the validity of the cultural explanation, but it appears to corroborate our finding of “leaders” and “laggers”. Only two countries—Bulgaria and Lithuania—challenged the continuity argument and displayed a discrepancy between historical and contemporary patterns. However, an explanation can be provided for both cases. For a country located east of the Hajnal line, Bulgaria exhibited a remarkably early shift to cohabitation and a high proportion of partnerships initiated outside registered marriage among the older generations. This contradiction can be explained by the long-standing and socially accepted custom that young couples would begin living together, typically in the parental household, as soon as they became engaged to be married (Hoem and Kostova 2008; Koytcheva 2006). This practice is reflected in the remarkably rapid conversion of cohabitation to marriage in Bulgaria: the rate of conversion significantly exceeds that observed in any other country included in the study (Figure A2 in the Appendix). Until the late 1980s, approximately 80% of first partnerships that began with cohabitation were converted to marriage during the first year of conjugal union. To account for this practice, Kostova (2008) decided to ignore cohabitation that was converted to marriage within the first four months after the beginning of the union. This manipulation postponed the crossover between the relative risks of direct marriage and cohabitation until the early 1990s, and brought the pattern more into line with that of other countries east of the Hajnal line.<sup>11</sup>

The Lithuanian pattern is opposite to that of Bulgaria and draws attention to the need to also consider delimitations other than the Hajnal line. Historically, Lithuania was characterised by late marriage and a high proportion of individuals who remained single; the prevalence of the Western European nuptiality pattern in that country is corroborated by Coale's nuptiality indices. Despite these features, Lithuania did not experience an early shift from registered marriage to cohabitation. A plausible explanation can be found in cultural factors related to the religious denominations that have prevailed in Eastern Europe west of the Hajnal line. Estonia and East Germany, as well as Latvia, are among the highly secularised Protestant

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<sup>11</sup> Patterns of partnership formation among minority populations in Bulgaria, particularly the Roma, differ from those of ethnic Bulgarians (Kostova 2008; Koytcheva 2006). Following the recommendation of the reviewers, we re-calculated our models for Bulgaria, limiting the working sample to titular ethnicity. However, as ethnic Bulgarians constitute nearly 85% of the total population, the results were only marginally altered.

nations of Northern Europe, the commonly acknowledged *avant garde* of the SDT (Plaat 2003). Lithuania, on the other hand, has a long-standing Catholic tradition, and represents the case of historically later structural and cultural modernisation. Also, Poland (Matysiak 2009) and southern European countries (Billari et al., 2002; Gabrielli and Hoem 2008) have also resisted the spread of non-marital cohabitation until the 1990s.

In a broader framework, our results reveal considerable diversity in the pathways along which contemporary family and fertility patterns have evolved. Although the SDT channels partnership and childbearing behaviour in a common direction, these shifts have not proceeded in a similar manner in terms of timing, sequencing and intensity. Against that backdrop, theorists have pointed to the existence of several variants of the SDT, rooted in historical legacies and contextual features. From the beginning of the SDT, the countries and regions of Europe have exhibited significant differences in the rise of non-marital cohabitation and the onset of the “postponement transition” (Kohler, Billari, and Ortega 2002). In Northern and Western Europe, these two elements of the SDT occurred more or less simultaneously, but in Southern Europe, the increase in cohabitation followed 15–20 years later (Lesthaeghe 2010).

In view of the evidence presented in this article, Eastern Europe seems to embody two additional variants of the SDT. One group of countries, exemplified by Estonia and East Germany in our study, followed a path along which a shift from direct marriage to non-marital cohabitation preceded the “postponement transition” by up to 15–20 years. Other countries, represented most clearly by Romania, exhibited a pattern of relatively late transformation in the mode of partnership formation, but it occurred simultaneously with the delay of parenthood, and the onset of both transitions overlapped the rapid societal changes of the 1990s.

All of these variants can be interpreted in terms of the timing and synchronisation of the factors that are assumed to drive the key elements of the SDT. The simultaneous transitions characteristic of Northern and Western Europe occurred in situations where the structural and cultural pre-conditions were met early. In Southern Europe, structural factors prompted a relatively early onset of the postponement transition, but conservative family norms prevented a concurrent shift in partnership formation. The opposite sequence, exemplified by Estonia and East Germany, reflects a combination of institutional features that upheld family formation at young ages in the state socialist regimes (Frejka 2008; Sobotka 2004) and the early acceptance of new family forms. In most other countries of Eastern Europe, acceptance of cohabitation and non-marital childbearing emerged somewhat later. This accords with the conceptual model described above and supports the notion that bottleneck conditions may vary across the elements of the SDT. The factor that limits the rise of cohabitation is “willingness,” reflecting normative acceptability rather than the calculus of costs and benefits. The postponement of childbearing, on the other hand, seems more dependent on the “readiness,” i.e. on structural conditions.

To conclude, in this study, we painted a picture using broad strokes; the general prevailed over the specific. This entailed a certain degree of reductionism, and limited the consideration of conditions specific to individual countries, and the mechanisms that underpin path dependence in demographic patterns. Future reflection and analysis would be beneficial to tie up the loose ends of our argument. However, we are hopeful that the results presented in this study demonstrate the relevance of historical evidence for understanding contemporary demographic developments as they progress through successive cycles of divergence and convergence, and stimulate further research in this direction.

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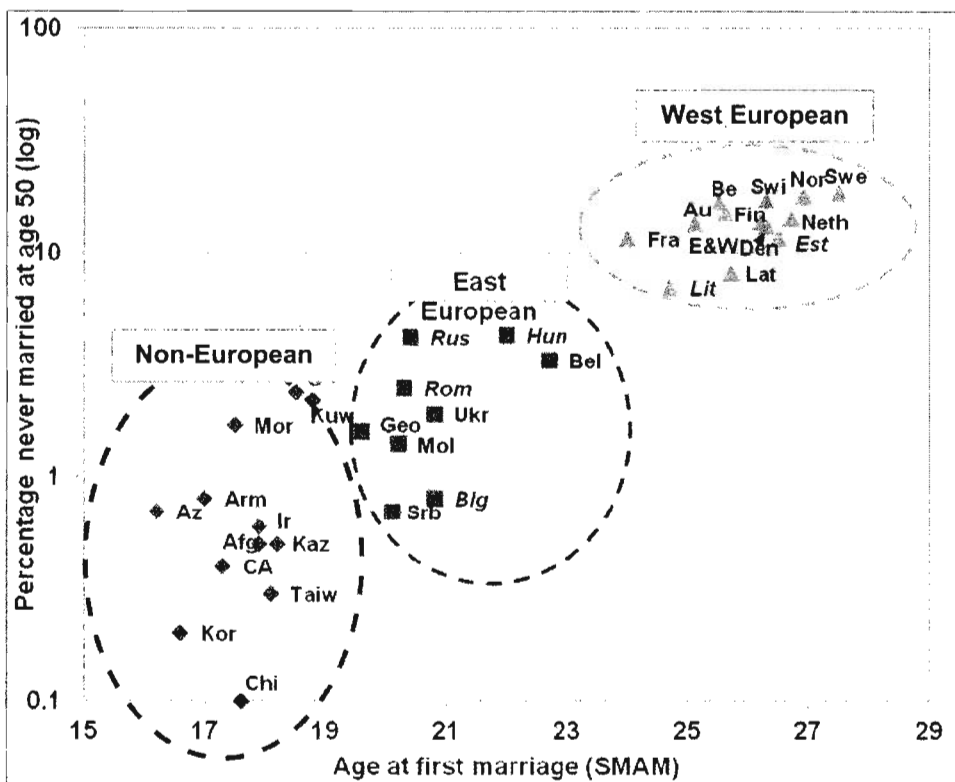
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## Appendix

Figure A1.

Percentage of Never-Married Women at age 50 and Female Singulate Mean Age at Marriage (SMAM). Selected Countries with Western European, Eastern European, and Non-European Marriage Pattern



Countries with non-European marriage pattern: Korea (Kor) before 1930; Taiwan (Taiw) before 1905; China (Chi) before 1930; Morocco (Mor) before 1960; Afganistan (Afg) before 1972; Kuwait (Kuw) before 1965.

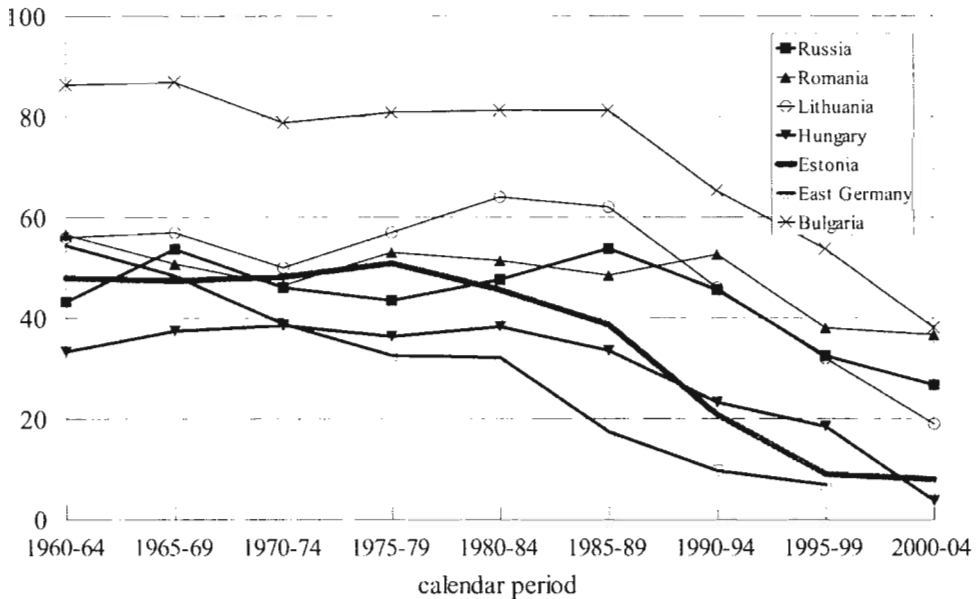
Countries with Eastern European marriage pattern: Bulgaria (Blg), Hungary (Hun), Romania (Rom), Serbia (Srb) all circa 1900; Belarus (Bel), Georgia (Geo), Moldavia (Mol), Russia (Rus), Ukraine (Ukr) all in 1897.

Countries with Western European marriage pattern: Lithuania (Lit), Latvia (Lat), Estonia (Est) all in 1897, rural population within today's boundaries; Austria (Au), Belgium (Be), Denmark (Den), England and Wales (E&W), France (Fra), Finland (Fin), Netherlands (Neth), Norway (Nor), Sweden (Swe), Switzerland (Swi) all circa 1900.

Source: Coale A.J., B.A. Anderson, and E. Härm (1979), pp. 136–137.



Figure A2.

**Proportion of First Partnerships Converted into Marriage Within 12 Months.**

Source: GGS database, authors' calculations.

Table A1.

**Characteristics of GGS datasets included in the analysis.**

Country	Year of data collection	Size of the working sample (women)	Person-months of exposure	Number of first partnerships started as direct marriage	Number of first partnerships started as cohabitation
<b>Eastern Europe</b>					
Bulgaria	2004	6115	536566	2216	2895
East Germany	2005	890	108954	331	382
Estonia (native)	2004-2005	3278	335769	1199	1753
Hungary	2004-2006	6952	597190	5223	1116
Lithuania	2006	4505	507155	3032	701
Romania	2005	5842	521796	4320	998
Russia	2004	6639	639529	4051	1988
<b>Western Europe</b>					
France	2005	5267	562257	2130	2460
Norway	2007-2008	6619	673891	2460	3508
West Germany	2005	3642	470008	1310	1660

Source: GGS database, authors' calculations.

Table A2.

**Relative Risk of First-Union Formation via Direct Marriage and Cohabitation,  
Birth Cohorts 1925–1984.**

Birth cohort	Bulgaria	East-Germany	Estonia	Hungary	Lithuania	Romania	Russia	France	Norway	West-Germany
<b>Direct marriage</b>										
1925-29	0.93	0.51 **	0.85 *	0.75 ***	0.85	0.73 ***	0.88	0.96	0.64 ***	0.72 **
1930-34	1	1	1	1	1	1	1	1	1	1
1935-39	1.16	1.32	0.83 *	1.04	1.16	1.02	1.33 **	1.17 *	1.06	1.42 ***
1940-44	1.12	1.19	0.93	1.05	1.22 *	1.22 ***	1.11	1.24 **	1.14 *	1.86 ***
1945-49	1.10	1.31	0.99	1.09	1.31 ***	1.23 ***	1.29 **	1.14 *	1.11	2.36 ***
1950-54	1.15	1.59 *	0.69 ***	1.07	1.12	1.28 ***	1.37 ***	1.09	0.95	1.82 ***
1955-59	0.90	1.56 *	0.54 **	1.06	1.09	1.18 **	1.54 ***	0.68 ***	0.70 ***	1.52 ***
1960-64	0.99	0.72	0.45 ***	0.90	1.27 **	1.32 ***	1.46 ***	0.45 ***	0.44 **	1.18
1965-69	0.85 *	0.83	0.33 ***	0.78 ***	1.32 ***	1.26 ***	1.41 ***	0.25 ***	0.29 ***	0.87
1970-74	0.72 ***	0.39 **	0.16 ***	0.53 ***	1.27 **	1.14 *	1.42 ***	0.18 ***	0.20 ***	0.80
1975-79	0.42 ***	0.30 **	0.11 ***	0.33 ***	1.40 ***	0.98	1.44 ***	0.15 ***	0.14 ***	0.85
1980-84	0.17 ***	0.26 **	0.03 ***	0.16 ***	1.19	0.55 ***	0.66 **	0.09 ***	0.10 ***	0.66 *
<b>Cohabitation</b>										
1924-29	0.38 ***	0.18 ***	0.37 ***	0.01 ***	0.10 ***	0.06 ***	0.35 ***	0.10 ***	0.10 ***	0.20
1930-34	0.43 ***	0.31 ***	0.36 ***	0.02 ***	0.05 ***	0.09 ***	0.32 ***	0.14 ***	0.13 ***	0.26
1935-39	0.54 ***	0.28 **	0.37 ***	0.02 ***	0.10 ***	0.16 ***	0.38 **	0.22 ***	0.17 ***	0.44
1940-44	0.91	0.80	0.49 ***	0.04 ***	0.08 ***	0.17 ***	0.36 ***	0.35 ***	0.26 ***	0.79
1945-49	0.91	1.10	0.68 ***	0.05 ***	0.10 ***	0.17 ***	0.42 ***	0.38 ***	0.36 ***	0.83
1950-54	1.13	1.35	0.80 *	0.08 ***	0.15 ***	0.25 ***	0.51 ***	0.57 ***	0.79 ***	1.71
1955-59	1.22 *	1.04	0.92	0.09 ***	0.18 ***	0.28 ***	0.45 ***	0.85 *	0.97	2.03
1960-64	1.41 ***	1.47 *	0.95	0.19 ***	0.18 ***	0.33 ***	0.53 ***	1.14 *	1.40 ***	2.38
1965-69	1.34 ***	1.93 ***	1.31 ***	0.27 ***	0.30 ***	0.38 ***	0.87	1.32 ***	1.57 ***	2.54
1970-74	1.42 ***	1.99 ***	1.58 ***	0.36 ***	0.34 ***	0.45 ***	1.15	1.43 ***	1.65 ***	2.57
1975-79	1.25 **	2.65 ***	1.70 ***	0.42 ***	0.81 *	0.52 ***	1.48 ***	1.33 ***	1.66 ***	2.86
1980-84	0.80 **	2.83 ***	1.95 ***	0.57 ***	2.06 ***	0.49 ***	1.49 ***	1.85 ***	1.83 ***	3.44
Initial LL	-11555	-1757	-5898	-12550	-5945	-11303	-7610	-9938	-11323	-6885
Final LL	-8593	-1228	-3840	-7693	-3231	-7899	-5331	-7021	-6969	-5099
degrees of freedom	40	39	43	41	43	41	43	39	40	39

Note: reference category is direct marriage in the birth cohort 1930–34; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: GGS database, authors' calculations.

Table A3.

## Relative Risk of First-Union Formation via Direct Marriage and Cohabitation, Calendar Periods 1960–2004.

Calendar period	Bulgaria	East-Germany	Estonia	Hungary	Lithuania	Romania	Russia	France	Norway	West-Germany
	1	1	1	1	1	1	1	1	1	1
1960-64	1.03	0.92	0.83 *	1.08	1.07	0.98	0.97	0.97	1.02	1.36 ***
1965-69	1.14	1.20	0.86	1.07	1.00	1.04	1.14	0.93	1.00	1.19 *
1970-74	0.90	1.15	0.60 ***	1.10 *	0.89	1.06	1.18 *	0.62 ***	0.63 ***	0.88
1975-79	0.95	0.54 ***	0.58 ***	0.90 *	1.04	1.09	1.16	0.37 ***	0.46 ***	0.74 ***
1980-84	0.91	0.75	0.41 ***	0.75 ***	1.08	1.10	1.24 **	0.23 ***	0.35 ***	0.55 ***
1985-89	0.72 ***	0.40 ***	0.18 ***	0.55 ***	1.14	1.10	1.18 *	0.18 ***	0.21 ***	0.61 ***
1990-94	0.49 ***	0.30 ***	0.08 ***	0.35 ***	0.96	0.88 *	0.92 *	0.11 ***	0.16 ***	0.56 ***
1995-99	0.25 ***	0.24 ***	0.05 ***	0.29 ***	1.06	0.58 ***	0.64 ***	0.14 ***	0.16 ***	0.56 ***
2000-04										
	<b>Cohabitation</b>									
1960-64	0.73 ***	0.30 ***	0.36 ***	0.02 ***	0.09 ***	0.14 ***	0.32 ***	0.22 ***	0.14 ***	0.35
1965-69	0.92	0.71	0.63 ***	0.04 ***	0.06 ***	0.16 ***	0.36 ***	0.26 ***	0.23 ***	0.51
1970-74	1.02	0.98	0.67 ***	0.08 ***	0.06 ***	0.18 ***	0.32 ***	0.35 ***	0.58 ***	0.70
1975-79	1.25 **	0.83	0.94	0.08 ***	0.11 ***	0.22 ***	0.37 ***	0.55 ***	0.84 **	0.99
1980-84	1.30 ***	0.95	0.99	0.17 ***	0.15 ***	0.28 ***	0.37 ***	0.76 ***	1.11	1.30
1985-89	1.29 ***	1.14	1.30 ***	0.26 ***	0.19 ***	0.31 ***	0.69 ***	0.96	1.30 ***	1.42
1990-94	1.37 ***	1.50 ***	1.47 ***	0.31 ***	0.32 ***	0.37 ***	0.86	1.02	1.43 ***	1.38
1995-99	1.23 **	2.11 ***	1.55 ***	0.38 ***	0.48 ***	0.41 ***	0.96	1.16 ***	1.43 ***	1.95
2000-04	0.89	2.23 ***	1.29 **	0.52 ***	1.14	0.45 ***	1.21 *	1.42 ***	1.57 ***	2.19
Initial LL	-1155	-1757	-5898	-12550	-5945	-11303	-7610	-9938	-11323	-6885
Final LL	-8650	-1237	-3824	-7720	-3244	-7933	-5333	-6973	-6999	-5118
degrees of freedom	36	35	39	37	39	37	39	35	36	35

Note: reference category is direct marriage in 1960–64; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1  
Source: GGS database, authors' calculations.

Table A4.

## Relative Risk of Starting First Union for Control Variables, Calendar Periods 1960-2004.

	Bulgaria	East-Germany	Estonia	Hungary	Lithuania	Romania	Russia	France	Norway	West-Germany
<b>Age</b>										
15-16	0.28 ***	0.11 ***	0.13 ***	0.11 ***	0.06 ***	0.27 ***	0.11 ***	0.09 ***	0.09 ***	0.13 ***
17-18	0.71 ***	0.52 ***	0.59 ***	0.51 ***	0.41 ***	0.67 ***	0.52 ***	0.44 ***	0.47 ***	0.54 ***
19-20	1	1	1	1	1	1	1	1	1	1
21-22	0.96	0.98	1.20 ***	1.18 ***	1.53 ***	1.11 ***	1.19 ***	1.41 ***	1.34 ***	1.20 ***
23-24	0.89 **	0.78 *	1.03	1.21 ***	1.74 ***	1.10 **	1.02	1.33 ***	1.38 ***	1.30 ***
25-26	0.66 ***	0.59 ***	1.07	1.05	1.65 ***	0.92	0.71 ***	1.03	1.22 ***	1.07
27-28	0.48 ***	0.35 ***	0.71 ***	0.77 ***	1.43	0.65 ***	0.63 ***	0.68 ***	0.96	0.88 *
29-30	0.39 ***	0.31 ***	0.72 ***	0.64 ***	1.18	0.47 ***	0.56 ***	0.52 ***	0.80 ***	0.73 ***
31-34	0.24 ***	0.14 ***	0.41 ***	0.33 ***	0.84 **	0.34 ***	0.31 ***	0.35 ***	0.54 ***	0.40 ***
35+	0.09 ***	0.07 ***	0.21 ***	0.18 ***	0.72	0.08 ***	0.14 ***	0.14 ***	0.27 ***	0.15 ***
<b>Education</b>										
In education	1	1	1	1	1	1	1	1	1	1
ISCED 1	1.86 ***	1.24	1.14	2.81 ***	1.08	2.82 ***	1.09	-	1.86 *	1.91 ***
ISCED 3-2	2.30 ***	1.15 *	1.57 ***	3.01 ***	1.25 **	3.01 ***	1.47 ***	-	1.34 ***	1.88 ***
ISCED 4	2.22 ***	2.60 ***	1.67 ***	2.15 ***	1.06	3.12 ***	1.58 ***	-	1.36 **	1.90 ***
ISCED 5-7		1.65 ***	1.37 ***	1.70 ***	0.86 *	3.39 ***	1.57 ***	-	1.32 ***	2.26 ***
<b>Living with both parents until age 15</b>										
Yes	1					1		1		*
No	1.13 **	-	-	-	-	1.09 *	-	1.06	-	-
<b>Number of siblings</b>										
None	1		1		1	1	1	1	1	1
One	1.13 ***	-	0.96	-	1.12 *	1.05	1.09	0.98	1.09	-
Two or more	1.28 ***	-	1.02	-	1.12	1.23 ***	1.16 ***	1.03	1.07	-

Note: reference category is direct marriage in 1960-64; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: GGS database, authors' calculations.

Table A4. (Contd.)  
Relative Risk of Starting First Union for Control Variables, Calendar Periods 1960-2004.

	Bulgaria	East-Germany	Estonia	Hungary	Lithuania	Romania	Russia	France	Norway	West-Germany
<b>Father's education</b>										
ISCED 1	-	-	1	1	1	-	1	-	-	-
ISCED 3-2	-	-	1.06	0.97	1.01	-	0.97	-	-	-
ISCED 4	-	-	1.15 **	0.96	0.92	-	0.93	-	-	-
ISCED 5-7	-	-	1.13	0.89 **	-	-	0.95	-	-	-
<b>Parity status</b>										
Childless	1	1	1	1	1	1	1	1	1	1
Childless, pregnant	12.71 ***	7.19 ***	11.70 ***	11.77 ***	10.64 ***	7.89 ***	10.03 ***	10.23 ***	11.53 ***	6.32 ***
Mother	0.54 ***	0.76 **	1.00	1.09	0.27 ***	0.73 ***	0.59 ***	1.14 *	1.15 ***	0.49 ***

Note: reference category is direct marriage in the birth cohort 1930-34;

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: GGS database, authors' calculations.

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