Union formation, marriage and first birth: convergence across cohorts in Austria, Hungary, Northern Italy and Slovenia?

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1. Introduction

Convergence of demographic behaviour across European countries is an interesting topic which has been frequently addressed in the demographic literature. However, to date uniformity in opinions on whether demographic behaviour across Europe is increasingly similar or dissimilar has not been reached yet, according to data on demographic dynamics observed during the recent decades.

The Second Demographic Transition (SDT) theory, the most appealing framework for interpreting demographic changes which occurred in Western Europe in the last forty years, raised, even though rather indirectly, the issue of demographic convergence. Despite the time lag with which changes have involved different European countries, according to van de Kaa (1987) destandardization and individualization of demographic behaviour is likely to occur all around Europe. As de Beer *et al.* (2000) point out, the concept of SDT suggests that European countries have been experiencing the same transition process and, therefore, changes should lead to increasing homogeneity of national experience or, at least, move in the same direction. Similarly, other authors, such as Roussel (1992), support the hypothesis of a generalized convergence in the main demographic indicators among Western European countries. The political union in Europe will not only lead to socio-economic similarity, but it will influence also more intimate spheres of individual life and will, therefore, affect demographic behaviour, despite a certain extent of cross-country heterogeneity has to be "accepted" (Roussel, 1992).

Contrarily to those who support the hypothesis of narrowing cross-national gaps across European countries, mainly regarding Western Europe, other authors argue that the effect of distinct historical and contemporary experiences will persist in the next future and that the

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process of growing similarities in demographic behaviour across Europe may be hampered by both cultural and institutional path-dependencies (Reher, 1998; Mayer, 2001).

As regards family formation and reproductive behaviour patterns, persistent differences across Europe and a substantially fluctuating between-country variation cannot be easily explained as expressions of between-nation differentials in the speed with which countries move on the same trajectory (Kuijsten, 1996). One would rather "interpret them as indicators for differential structural conditions and differential models of development of family life in Europe. Of course it cannot be denied that everywhere in Europe we find proof of individualization and pluralization. But, at the same time, one observes substantial differences in intensity of these processes and, more important, differences in the way they find themselves transformed into changes in family-life form patterns" (ibidem, p.138). At the end of the 1980s, Boh (1989) coined the term "convergence to diversity" intended as to highlight the common feature characterizing changes in family formation patterns across Europe. "Whatever the existing patterns are, they are characterised by the acceptance of diversity that has given men and women the possibility to choose inside the boundaries of the system of available options the life pattern that is best adapted to their own needs and aspirations" (ibidem, p.296).

In the current study we address the study of convergence focusing on a selected group of countries. In particular, the aim of the analysis is to investigate whether convergence or divergence dynamics prevail between countries in terms of union formation and transition to motherhood. Using a life course perspective we would like to highlight differences in the transition rate between some European countries and see whether and how these differences have changed across cohorts in terms of diverging or converging demographic behaviour.

2. Austria, Hungary, Northern Italy and Slovenia: similar or diverse?

The purpose of the current analysis is not to establish to what extent a broad number of European countries is converging or diverging in a cohort perspective. It is rather to be considered as a case study on convergence using individual data. Therefore, we preferred to pay attention at a selected group of countries that are similar as regards some characteristics that could favour convergence, but present dissimilarities as regards other features that may

hamper it. We decided to focus in particular on the following four countries: Austria, Hungary, Italy and Slovenia. More precisely, we included in the analysis Northern Italian regions rather than the whole of Italy, being aware of the differences between North and South, supported also by several well-known empirical findings (see for example Santini, 1995; De Sandre *et al.*, 1999).

There might be various reasons for choosing these four countries: they present some points in common and clearly differ for some others.

Noteworthy is their geographical proximity which together with an ongoing economic and political integration could work in favour of increasing between-country similarities. Therefore, on the one hand, geographical proximity might have strengthen the effect of globalization, contributed to make communication between populations easier and, thus, influenced transmission and diffusion of novelties in individual demographic behaviour[2]. On the other hand, however, geographical proximity might have had little influence, offset by differences in political and socio-economic systems and by a severe closure of borders between Western and Central-Eastern Europe (CEE) until the end of the 1980s[3]. Moreover, from a purely demographic point of view, the geographical proximity is interesting since the four countries are located on the borders of the so-called "Hajnal's line" that divides Europe in two parts according to prevailing family models (Hajnal, 1965). In this case, Austria and Northern Italy are characterised by late marriage pattern and a higher proportion of never married. In Hungary and Slovenia, on the contrary, an early and nearly universal marriage pattern prevails.

Cultural path-dependencies and different historical experiences could imply persisting differences rather than convergence. With regard to Western Europe, Reher points out that "the outcome […] of transformations will be a convergence in the external indicators of family life, but this convergence will not undermine the deep disparities that have always characterized the family in the different regions and cultures of Europe" (Reher, 1998, p.221). Moreover, the concept of path-dependency implies that "no matter how nearly universal the factors of modernization may be, once they enter into contact with different historical, cultural

[2] Macura *et al.* (2000) pointed out that East-West differences in family behaviour, in particular as regards extramarital childbearing and cohabitation, faded first along the borders even before the fall of the Iron Curtain due to a form of eastward diffusion and, involuntarily, to some policy measures adopted in some CEE countries.
[3] In this context Slovenia represents an exception as part of the former Yugoslavia which adopted more tolerant measures with respect to East-West border crossing.

and geographical, or social realities, the end result will necessarily be different in each context" (ibidem, p.221). The concept may be extended to CEE countries. In this case the region that includes Austria, Hungary and Slovenia, shares more historical and cultural experiences in common than if considered altogether with the major part of the territories included in Northern Italy.

The attempt to disentangle the effect of different aspects that could trigger or prevent the convergence process between Austria, Hungary, Northern Italy and Slovenia would be too ambitious. However, we think that a cohort-based analysis of the dynamics of country differences may give a valuable, although rough, idea of the underlying between-country converging or diverging patterns.

The remainder of the chapter is structured as follows. In the next section we briefly illustrate recent period nuptiality and fertility trends in the countries considered. After introducing the data in Section 4, we describe cohort dynamics in union formation, first marriage and first birth for Austria, Hungary, Northern Italy and Slovenia (Section 5). In Section 6 we study the changes across cohorts in cross-country differences in the transition to first union, first marriage and first birth using an event history model. In Section 7 we present our concluding remarks.

3. Recent nuptiality and fertility trends: short background

Changes that have affected in the past decades family and reproductive behaviour all around Europe, can be found also in demographic patterns in Austria, Hungary[4], Northern Italy and Slovenia. On the borders of the famous line St. Petersburg-Triest delineated by Hajnal (1965), who suggested an East-West divide in European marriage patterns, and close to the line St. Petersburg-Dubrovnik recently proposed by Philipov (2001) the area is particularly interesting for comparing recent dynamics of demographic behaviour and evaluating the driving forces that may trigger similar or contrasting demographic trends.

In the current section we briefly illustrate the major changes in reproductive and union formation patterns occurred during the recent decades in the area under study focusing on

[4] Tómka (2002) recently analysed demographic convergence between Hungary and Western Europe. According to the author, in the period from the mid 1960s to 1990 Hungary took rather a course diverging from Western Europe.

period indicators. To facilitate cross-country comparisons, we prefer at this stage considering Italy as a whole, even though bearing in mind the deep within-country heterogeneity (see for example De Sandre *et al.*, 1999).

At the end of the last decade Austria, Hungary, Italy and Slovenia registered low fertility and nuptiality figures, but with some differences. Relying on the "lowest-low" fertility country classification (Kohler *et al.*, 2002), in 1999 among the countries considered Italy registered the lowest fertility level (1.23), followed by Slovenia (1.21), Hungary (1.29) and Austria (1.32). As noted by Kohler *et al.* (2002), Italy was, together with Spain, the first country reaching lowest-low fertility in the early 1990s. Slovenia reached below 1.3 levels in 1995, whilst Austria has been by the end of the 1990s in the group of the "candidate" countries.

However, the four countries exhibited rather different dynamics in period fertility since the 1980s. In 1980 the TFR in Austria and Italy was around 1.64. In Italy the decline proceeded at a faster pace thereafter. Slovenia showed in 1980 the highest TFR (2.10), but had already started experiencing a sharp decrease in the period fertility indicator. By that time Hungary was registering a downward trend in fertility levels[5], after the baby-boom experienced in the 1970s (usually explained by population policy measures). Slovenia and Hungary reached similar TFRs in the mid 1980s, but in the former the TFR continued its decrease afterwards. In Hungary a significant decline in fertility rates was observed during the last decade.

If according to recent fertility levels Austria, Hungary, Italy and Slovenia might seem rather similar, we cannot disregard the possibility that the picture is misleading, due to tempo and compositional distortions and to period-related shifts that may affect the period fertility measure. It is beyond our scope to focus on this issue that has recently produced a huge amount of demographic literature (see for instance Bongaarts and Feeney, 1998; Kohler and Ortega, 2001; Sobotka, 2003). We rely, however, on the mean age at first child (MAFB) as fertility timing indicator in order to highlight some major differences between the four countries. Late childbearing is particularly pronounced in Italy which in 1997 exhibited a MAFB of 28.7. In 1999 Austria and Slovenia registered a MAFB of 26.3 and 26.1 respectively, whilst in Hungary in the same year a relatively early pattern prevailed (24.9). It

[5] In 1980 the TFR in Hungary was 1.91.

is noteworthy that the four countries differ according to the year of onset of the postponement transition. In Italy and Austria the postponement of first births started before the 1980s. On the contrary, Slovenia registered the onset of postponement in the second half of the 1980s and Hungary in the 1990s[6]. In these two countries the postponement process has been extremely fast.

The link between cohort and period fertility measures is one of the hottest issues tackled in demographic literature dealing with population fertility trends. Thus, the lowest-low fertility observed (or nearly observed) in Austria, Hungary, Italy and Slovenia might have a different meaning. Persistent low fertility and late childbearing could hamper the potential for recuperation, as it might be the case for Southern Europe. In CEE countries, conversely, and in our case Hungary and Slovenia are of particular interest, the relatively young childbearing pattern favours a still high cumulative fertility of the currently younger cohorts (Frejka and Calot, 2001; Kohler *et al*., 2002).

As regards marriage patterns, Western Europe and CEE underwent significant changes over the last decades that in the end can be mainly summarized, for the female population, in a downswing in total first marriage rates and a rise in the mean age at first marriage. In Austria, Hungary, Italy and Slovenia the transformation followed distinct patterns and between-country differences reflected to a certain extent the East-West divide proposed by Hajnal (Hajnal, 1965).

Up to the 1970s, in Austria, Hungary, Italy and Slovenia marriage was largely accepted as the most common way of union and family formation. However, during the 1970s nuptiality trends changed and a period of decline set in. Since the end of the 1970s Slovenia experienced a faster decline in total first marriage rates than Hungary and the figures dropped from 0.79 in 1980 to 0.51 in 1990. In Hungary, in the same period, the nuptiality rate declined from 0.89 to 0.77, but the sharpest decrease occurred during the last decade (0.46 in 1999). It is noteworthy that changes in total first marriage rates in Italy reflect, nonetheless, the Mediterranean specificity of the phenomenon. Even if marriage is not universal anymore, the inclination to marry has been weakening in Italy at a slower pace. Consequently, at the end of the last decade, Italy registered the highest figures in comparison to the other three countries under study.

[6] For a detailed discussion on the first birth postponement transition see Kohler *et al.* (2002).

A distinctive feature in the geographical area considered relates to the female mean age at first marriage. Italy is characterised by the latest marriage pattern, followed by Austria, Slovenia and Hungary. A lower propensity to marry has not been accompanied from the very beginning by an increase in the timing of marriage. In Austria and Italy the delay in first marriage has started in the second half of the 1970s, whilst in Hungary and Slovenia the onset of postponement occurred in the mid 1980s. To date it seems, however, difficult to assess to what extent recently observed delays in marriage in Hungary and Slovenia will trigger the catch-up of late marriage patterns registered throughout Western Europe.

After a brief introduction of trends of period family and fertility indicators in Austria, Hungary, Italy and Slovenia, we would like to investigate transformations occurred in family formation and reproductive behaviour adopting a cohort perspective and see whether there is any evidence of between-country convergence or divergence across cohorts. This topic will be discussed in the remainder of the chapter.

4. Data

We use data from the Family and Fertility Surveys (FFS) carried out in Austria, Hungary, Italy and Slovenia during the 1990s (Prinz *et al.*, 1998; Kamarás, 1999; De Sandre *et al.*, 2000; De Sandre *et al.*, 1999; Obersnel Kveder *et al.*, 2001). The surveys were organized within a comparative programme taken upon by the Population Activities Unit (PAU) of the United Nations Economic Commission for Europe (UN/ECE). In Austria the survey was held between 1995 and 1996 with a representative sample of 4581 women and 1539 men. In Hungary the survey was carried out between 1992 and 1993 on a sample of 3554 women and 1919 men. The Italian survey was held between 1995 and 1996 with a representative sample of 4824 women and 1206 men. Finally, in Slovenia 2798 women and 1761 men were interviewed between 1994 and 1995.

In the present study we selected the women sample. For Italy we considered women who spent the first 15 years of their life in Northern Italian regions[7]. We included in the analysis cohorts born between 1950 and 1975 in order to homogenise cross-country

[7] According to Istat classification the following eight regions are considered within Northern Italy: Valle d'Aosta, Emilia-Romagna, Friuli-Venezia Giulia, Liguria, Lombardia, Piemonte, Trentino-Alto Adige, Veneto.

comparisons between cohorts. In particular, the cohorts considered have been classified in four groups: 1950-55, 1956-61, 1962-68 and 1969-75. In Tab. 1 we report the women sample size for each country by cohort.

We are interested in investigating the changes across cohorts in between-country differences as regards the timing of first union, first marriage and first birth. For this purpose we use retrospective information on union formation and childbearing available from the FFS. The statistical analysis is based, first, on non-parametric estimates of the survivor functions for different cohorts and, second, on parametric estimation of time to event.

Tab. 1 - Sample size by cohort and country

	Austria	Hungary	Northern Italy	Slovenia
1950-55	689	792	419	604
1956-61	798	930	426	662
1962-68	1114	930	571	762
1969-75	1031	742	571	519
Total	*3632*	*3394*	*1987*	*2547*

5. First union, first marriage and first child: cohort trends

In this section we present some descriptive findings on cross-country differences in the experience of cohorts with respect to union formation, marriage and the birth of the first child. For this purpose we make cross-country comparisons of the Kaplan-Meier (KM) survivor function estimates[8] for the four cohorts of women considered.

From Tab. 2 it emerges clearly that Northern Italian women have postponed significantly the transition to the first union. For all the cohorts, Northern Italy registers the highest median age at first union compared to Austria, Hungry and Slovenia. The early 1950s cohorts have a median age of 22.8, whilst for the youngest Italian cohort the median age will be well over 25. In Hungary, conversely, women tend to enter first unions early. The oldest cohort has a median age of 20.3 and it is only one year lower than for the youngest one.

[8] We use TDA software (Rohwer and Pötter, 1999) to estimate the KM survivor functions and the transition rate models that we present in the next section.

The difference in the transition to first union between the four countries considered is therefore striking. The difference in cohort dynamics is mainly observed between Northern Italy and the other three countries. Even though Austria, Hungary and Slovenia register higher median ages at first union for the youngest cohort (which may be due to an increase in the speed of the postponement process) the cohort dynamics in these countries are far from the Northern Italian pattern and suggest that the cross-country differences are increasing rather than decreasing. However, it seems that the former three neighbouring countries have been characterised by rather similar union formation patterns. Moreover, the proportion of women who have ever entered a union by the age of 30 is very similar between Austria, Hungary and Slovenia.

Tab. 2 - First union. Synthetic value estimates from KM survivor functions

Cohort 1950-55				
	First q.	Median	S(20)	S(30)
Austria	19.2	21.0	0.63	0.05
Hungary	18.8	20.3	0.54	0.05
Northern Italy	20.7	22.8	0.84	0.11
Slovenia	19.4	21.1	0.65	0.06
Cohort 1956-61				
	First q.	Median	S(20)	S(30)
Austria	19.0	20.9	0.62	0.08
Hungary	18.6	20.1	0.52	0.06
Northern Italy	21.0	23.8	0.83	0.19
Slovenia	19.2	20.8	0.61	0.05
Cohort 1962-68				
	First q.	Median	S(20)	S(30)
Austria	18.9	21.0	0.62	0.07
Hungary	18.8	20.6	0.57	-
Northern Italy	22.3	25.5	0.90	0.26
Slovenia	19.2	21.1	0.64	0.05
Cohort 1969-75				
	First q.	Median	S(20)	S(30)
Austria	19.3	21.8	0.69	-
Hungary	19.3	21.3	0.65	-
Northern Italy	25.0	-	0.98	-
Slovenia	19.8	22.3	0.73	-

A tendency towards postponement is evident for Northern Italy and for Austria when we look at first marriage (Tab. 3). For Northern Italy the median age rises from 22.8 for women born in the early 1950s to 26.2 for the cohort 1962-68. In Austria the increase is from

21.7 to 24. For the youngest cohorts of both countries the median age at first marriage will probably be well over 25. Hungary shows little evidence of postponement for the cohorts considered, whilst in Slovenia the rise in the median age at first marriage is more pronounced for the youngest cohort (24.9). For the oldest cohort the proportion of ever married women at age 30 is similar between Austria and Northern Italy (88% and 87% respectively) and between Hungary and Slovenia (93% and 91%). For the younger cohorts the slow decline in the proportion of ever married women is accompanied with increasing differences across countries. Contrarily to what observed for first unions, for which a divergent pattern in the proportion of ever married women at age 30 has been observed mainly for Northern Italy, in case of first marriage countries show greater heterogeneity both in postponement dynamics and in the proportion of women who experienced the event by the age of 30. Further evidence of persisting between-country heterogeneity in the postponement process emerges by considering changes across cohorts of the proportion of ever married women by the age of 20.

Tab. 3 - First marriage. Synthetic value estimates from KM survivor functions

Cohort 1950-55				
	First q.	Median	S(20)	S(30)
Austria	19.8	21.7	0.71	0.12
Hungary	18.9	20.4	0.56	0.07
Northern Italy	20.8	22.8	0.84	0.13
Slovenia	19.6	21.4	0.68	0.09
Cohort 1956-61				
	First q.	Median	S(20)	S(30)
Austria	20.2	23.0	0.79	0.19
Hungary	18.8	20.3	0.55	0.09
Northern Italy	21.2	24.1	0.85	0.23
Slovenia	19.6	21.6	0.69	0.12
Cohort 1962-68				
	First q.	Median	S(20)	S(30)
Austria	21.0	24.0	0.83	0.23
Hungary	19.1	21.1	0.62	-
Northern Italy	22.5	26.2	0.92	0.31
Slovenia	20.3	22.6	0.78	0.18
Cohort 1969-75				
	First q.	Median	S(20)	S(30)
Austria	22.7	-	0.91	-
Hungary	19.9	22.7	0.73	-
Northern Italy	25.4	-	0.98	-
Slovenia	21.2	24.9	0.86	-

Let us now focus on first births (Tab. 4). Postponement appears clearly for Northern Italian women with a median age that rises from 24.7 for the early 1950s cohorts to 28.2 for the cohorts 1962-68. The increase in the median age at first birth is more modest in Austria, Hungary and Slovenia. Moreover, in Northern Italy the proportion of women who entered motherhood by the age of 30 is declining markedly with cohorts. 59% of Italian women born in the 1960s has already experienced a first birth by the age of 30 compared to 81% of the oldest cohort. Hungary and Slovenia show, on the contrary, a certain stability in the proportion of women who had a first child by the age of 30. For the youngest cohorts it should be noted, however, that the proportion of women who entered motherhood by the age of 20 has decreased also in Austria, Hungary and Slovenia. To conclude, as observed for first union, Northern Italian women stand on their own again and increasing differences with the other three countries seem to prevail.

Tab. 4 - First birth. Synthetic value estimates from KM survivor functions

Cohort 1950-55				
	First q.	Median	S(20)	S(30)
Austria	20.3	23.3	0.79	0.16
Hungary	20.2	22.2	0.78	0.13
Northern Italy	21.6	24.7	0.88	0.19
Slovenia	20.1	21.9	0.77	0.08
Cohort 1956-61				
	First q.	Median	S(20)	S(30)
Austria	21.0	24.0	0.82	0.21
Hungary	19.9	22.1	0.74	0.13
Northern Italy	21.6	25.4	0.85	0.30
Slovenia	19.9	21.9	0.74	0.08
Cohort 1962-68				
	First q.	Median	S(20)	S(30)
Austria	21.3	24.3	0.85	0.18
Hungary	20.3	22.8	0.78	0.15
Northern Italy	23.8	28.2	0.91	0.41
Slovenia	20.2	22.3	0.77	0.09
Cohort 1969-75				
	First q.	Median	S(20)	S(30)
Austria	21.9	25.4	0.88	-
Hungary	20.9	23.2	0.82	-
Northern Italy	26.6	-	0.96	-
Slovenia	20.9	23.8	0.84	-

In the next section we use event history models to study cross-country differences in the impact on the transition rate and, therefore, assess quantitatively whether countries converge or diverge in terms of the dynamics of cross-country differences.

6. Cohort specific country differences in the transition to first union, first marriage and first birth: convergence or divergence?

In this paragraph we focus on country differences in the impact on the transition to first union, first marriage and first birth. In particular, we would like to test separately for the three events whether country specific differences are becoming less pronounced. The purpose is to get evidence of cohort convergence or divergence. Therefore, the main focus of the analysis is on cohort differentials between countries and precisely, on how cross-country differences change across cohorts.

We estimate piecewise constant exponential models (Blossfeld and Rohwer, 2002) with time constant covariates. We include in the models the following variables: birth cohort, country of residence at the time of the interview[9], demographic dimension of the settlement where the respondent lived up to the age of 15, educational attainment of the respondent and the number of siblings. The birth cohorts were aggregated in four groups: 1950-55, 1956-61, 1962-68 and 1969-75. The country variable refers to Northern Italy, Hungary, Slovenia and Austria. The remaining three variables were included in the analysis in order to control for background characteristics of the respondent. Generally, such variables may function as rough proxies for population compositional differences. We, therefore, recode the demographic dimension of the settlement into less than 10,000 inhabitants, up to 100,000 and more than 100,000. The variable referring to the number of siblings distinguishes between less than 2 siblings and 2 or more. Finally, the variable on educational level takes into account the completed educational level of the respondent and has been recoded into three categories. Low educational attainment includes respondents who attained at maximum the first stage of the second level of education[10], medium takes into account respondents who completed the second stage of the second level of education and, finally, high educational level is intended for those who completed at least the first stage of the third level of education.

[9] For Northern Italy this variable refers to the place of residence up to the age of 15.
[10] The educational level has been recoded in the FFS standard record according to the ISCED-76 classification.

The results of the estimation for the three events are reported in Tab. 5-Tab. 7. For each of the events we run three models by introducing, first, cohort and country dummies, second, the interaction terms and, third, variables related to respondent's characteristics.

We focus first on the event *first union formation* (Model la-Model 3a, Tab. 5). We note (Model 1a) that in the four countries the transition to first union has been postponed (the relative risk for the youngest cohort is of about 68% compared to the oldest). Moreover, if we concentrate on cross-country differences, the relative risk of experiencing the event is higher for Hungary (218%), Slovenia (195%) and Austria (186%) with respect to Northern Italy.

In Model 2a we introduce the interaction terms. On the one hand, we distinguish the effect of postponement on the transition by comparing for different countries the younger cohorts with the oldest one. On the other hand, we focus on different country effect on the transition for every given cohort. In particular, we would like to see whether differences across countries vanish for the younger cohorts.

It is interesting, first, to account for changes on the impact on the transition rate due to cohort dynamics within each country. We consider jointly the coefficient of the cohort dummy and the coefficient of the interaction term for the given cohort (Cohort+Country*Cohort) and we plot it in Fig. 1. In Italy the impact of cohort dynamics on the transition to first union is the strongest if compared to the other three countries. In Hungary and in Slovenia the postponement process started with the cohorts 1962-68, whilst in Austria a tendency towards postponement is registered already with the cohort 1956-61. In the three countries, however, we register a speed-up of the delay and, therefore, an increase in the impact on the risk of experiencing a first union for the youngest cohorts. Such a result suggests that the postponement process involved all the four countries considered, but there is between country heterogeneity in the way it occurred.

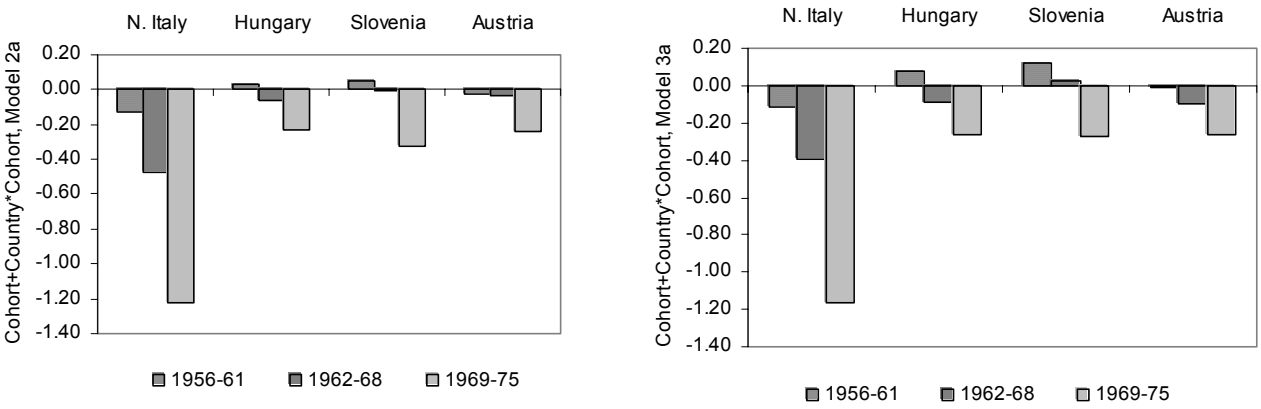
Tab. 5 – First union: results of the piecewise constant exponential model

	Model 1a		Model 2a		Model 3a	
Cohort (Ref. 1950-55)						
1956-61	-0.0049		-0.1230	*	-0.1184	
	(0.03)		(0.07)		(0.07)	
1962-68	-0.0970	***	-0.4695	***	-0.3984	***
	(0.039		(0.07)		(0.07)	
1969-75	-0.3880	***	-1.2230	***	-1.1644	***
	(0.03)		(0.10)		(0.10)	
Country (Ref. Italy)						
Hun.	0.7809	***	0.4704	***	0.5027	***
	(0.03)		(0.06)		(0.06)	
Slo.	0.6680	***	0.3478	***	0.4212	***
	(0.03)		(0.07)		(0.07)	
Aut.	0.6194	***	0.3050	***	0.3247	***
	(0.03)		(0.06)		(0.06)	
*Country*Cohort*						
Hun*1956-61			0.1516	*	0.1984	***
			(0.09)		(0.09)	
Slo*1956-61			0.1704	*	0.2403	***
			(0.09)		(0.09)	
Aut*1956-61			0.0983		0.1099	
			(0.09)		(0.09)	
Hun*1962-68			0.4110	***	0.3831	***
			(0.09)		(0.09)	
Slo*1962-68			0.4596	***	0.4973	***
			(0.09)		(0.09)	
Aut*1962-68			0.4358	***	0.3747	***
			(0.09)		(0.09)	
Hun*1969-75			0.9897	***	0.9618	***
			(0.12)		(0.12)	
Slo*1969-75			0.8949	***	0.9466	***
			(0.12)		(0.12)	
Aut*1969-75			0.9801	***	0.9604	***
			(0.11)		(0.12)	
Res. up to age 15 (Ref. <10.000 inh.)						
<=100.000 inh.					-0.0506	**
					(0.03)	
>100.000 inh.					-0.0894	***
					(0.03)	
Number of siblings (Ref. <2 sibl.)						
2+ siblings					0.1415	***
					(0.02)	
Education (Ref. Low)						
Medium					-0.2670	***
					(0.02)	
High					-0.4710	***
					(0.03)	
Log-likelihood	-50559.48		-50504.38	***	-50304.57	***

Note: Significant at level ***p<0.01, **p<0.05, *p<0.1. Standard error in brackets.

In Model 3a we introduce variables that take into account differences in individual characteristics of the respondent. The aim is to control roughly for differences in the impact on the transition rate that may be due to differences in compositional characteristics of the population. In terms of postponement dynamics, differences between Austria, Hungary and Slovenia as regards changes in the impact on the transition rate, have been levelled for the youngest cohort (Fig. 1). Nonetheless, in comparison to Northern Italy for the youngest cohort there are persistent differences in the postponement process of first unions.

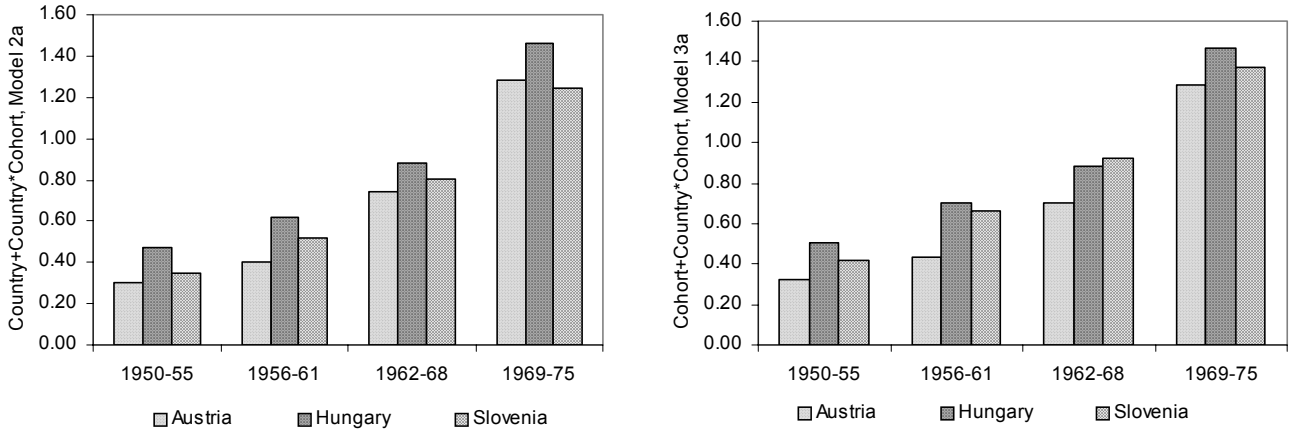
Fig. 1 – First union. Effect of cohort differences on the transition rate. Model 2a and Model 3a



In the perspective of convergence analysis, we are, however, more interested in whether cross-country heterogeneity has decreased across cohorts. Therefore, we focus on country differentials in the impact on the transition to first union within a given cohort. In Fig. 2 we plot jointly the coefficient on the country dummy and the coefficient on the interaction term (Country+Country*Cohort). For any given cohort, the transition rate rises if compared to Northern Italy. Hungary shows the highest impact on the transition rate, followed by Slovenia (apart from the youngest cohort) and Austria. The risk of entering first union is higher in these countries in comparison to Northern Italy. Such a result suggests increasing divergence in the risk of entering first union between Northern Italy, on the one hand, Hungary, Slovenia and Austria, on the other hand. Considering only the latter three countries, changes in the differences in the effect on the transition, for a given cohort, do not show evidence neither of increasing divergence nor of convergence and they are relatively stable within cohorts. The introduction in Model 3a of variables controlling for differences in

population composition does not change significantly the aforementioned results. The greater divergence with Northern Italy is once again confirmed. Differences in the effect on the transition for Hungary and Slovenia are lower than in Model 2a and we find increased differences between Slovenia and Austria, in particular for the cohorts 1956-61 and 1962-68.

Fig. 2 – First union. Effect of country differences on the transition rate. Model 2a and Model 3a



As regards first union formation, Austria, Hungary, Northern Italy and Slovenia have all shown a tendency towards postponement. However, the postponement process has led to increasing divergence in entering first union between Northern Italy, on the one hand, and Austria, Slovenia and Hungary, on the other hand. No evidence of increasing cross-country divergence is found for Austria, Hungary and Slovenia.

In Model 1b-Model 3b (Tab. 6) we focus on the event *first marriage*. From Model 1b we note that first marriage has been postponed in the four countries and the younger cohorts have a relative risk of about 41% compared to the oldest cohort. The relative risk of experiencing the event is higher in Hungary, Slovenia and Austria compared to Northern Italy. Hungary has a relative risk of 196%, Slovenia of 143% and Austria of 112%.

Similarly to first union formation, heterogeneity is observed across cohorts and across countries also for first marriage. In Model 2b the coefficients on the interaction terms have a positive sign[11] and, therefore, imply an increase in the transition rate. However, the impact on the risk of first marriage differs across countries with Hungary registering the highest effect for any cohort.

[11] Apart from Austria in the cohort 1956-61.

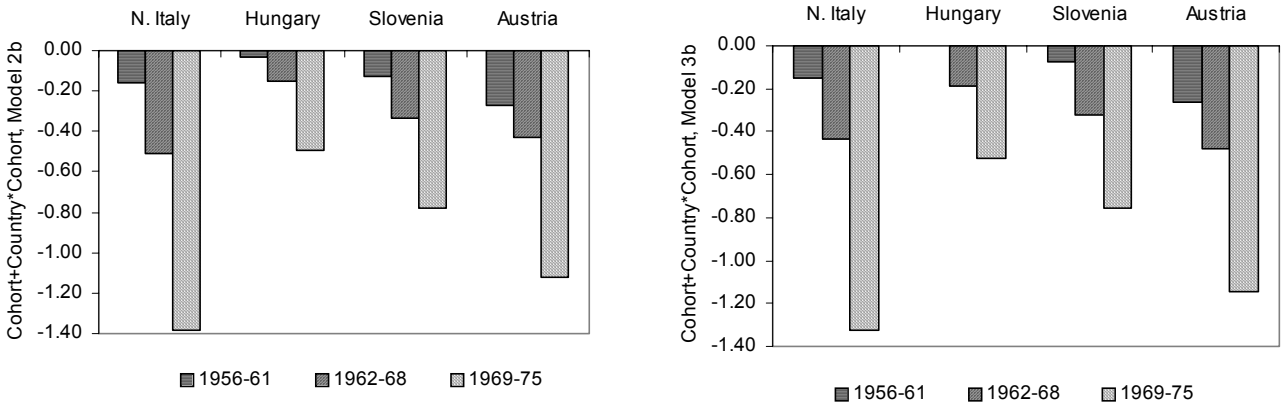
Tab. 6 – First marriage: results of the piecewise constant exponential model

	Model 1b		Model 2b		Model 3b	
Cohort (Ref. 1950-55)						
1956-61	-0.1387	***	-0.1569	***	-0.1470	***
	(0.03)		(0.07)		(0.07)	
1962-68	-0.3250	***	-0.5094	***	-0.4365	***
	(0.03)		(0.07)		(0.07)	
1969-75	-0.8949	***	-1.3859	***	-1.3262	***
	(0.04)		(0.11)		(0.11)	
Country (Ref. Italy)						
Hun.	0.6749	***	0.4386	***	0.4514	***
	(0.03)		(0.06)		(0.06)	
Slo.	0.3576	***	0.2293	***	0.2632	***
	(0.04)		(0.07)		(0.07)	
Aut.	0.1165	***	0.0987		0.0938	
	(0.03)		(0.06)		(0.07)	
*Country*Cohort*						
Hun*1956-61			0.1217		0.1560	**
			(0.09)		(0.09)	
Slo*1956-61			0.0298		0.0821	
			(0.09)		(0.09)	
Aut*1956-61			-0.1144		-0.1070	
			(0.09)		(0.09)	
Hun*1962-68			0.3559	***	0.3259	***
			(0.09)		(0.09)	
Slo*1962-68			0.1750	**	0.1843	**
			(0.09)		(0.09)	
Aut*1962-68			0.0834		0.0285	
			(0.09)		(0.09)	
Hun*1969-75			0.8890	***	0.8647	***
			(0.13)		(0.13)	
Slo*1969-75			0.6031	***	0.6264	***
			(0.14)		(0.14)	
Aut*1969-75			0.2679	***	0.2422	**
			(0.13)		(0.13)	
Res. up to age 15 (Ref. <10.000 inh.)						
<=100.000 inh.					-0.0991	***
					(0.03)	
>100.000 inh.					-0.1929	***
					(0.03)	
Number of siblings (Ref. <2 sibl.)						
2+ siblings					0.1003	***
					(0.02)	
Education (Ref. Low)						
Medium					-0.2465	***
					(0.03)	
High					-0.4221	***
					(0.03)	
Log-likelihood	-46675.86		-46637.96	***	-46470.7	***

Note: Significant at level ***p<0.01, **p<0.05, *p<0.1. Standard error in brackets.

As already noted, the delay in first marriages affected all the four countries considered, but it occurred at a different speed. In Fig. 3 we plot jointly the coefficient on the cohort dummy and on the interaction term. The effect on the transition to first marriage increases for all the younger cohorts compared to the oldest and the risk of experiencing the event decreases with cohorts. In Italy the postponement of marriage is more evident than in the other countries. Apart from the cohort 1956-61, the greatest difference with the oldest cohort is observed for Northern Italy, followed by Austria, Slovenia and Hungary. According to the results derived from Model 3b, the within country dynamics of the postponement process have not changed significantly in comparison to the results outlined in Model 2b, which does not consider additional covariates on respondent's characteristics. However, in case of Model 3b it may be interesting to note that in Austria the delay in experiencing first marriage for the cohorts 1956-61 and 1962-68 occurred faster than in Northern Italy.

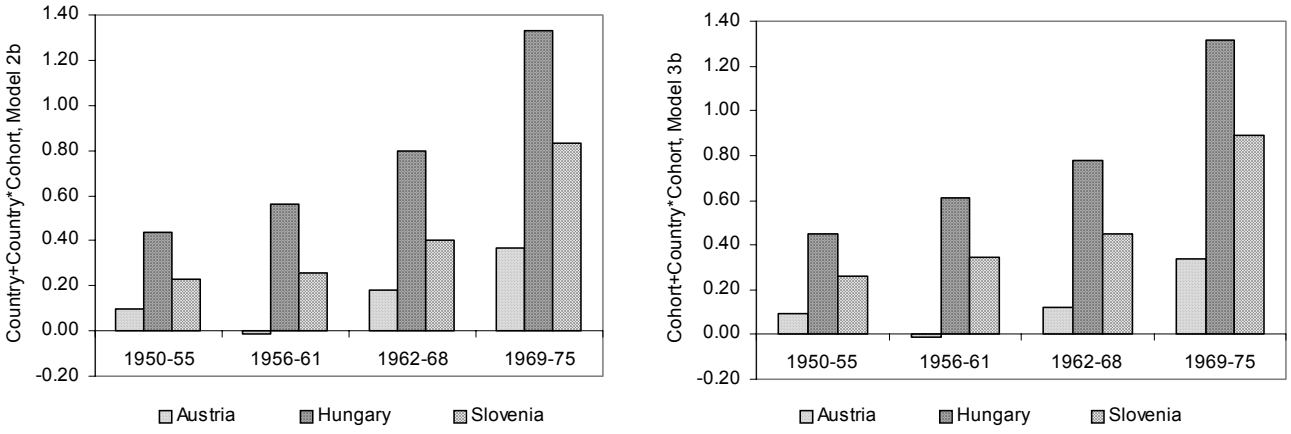
Fig. 3 – First marriage. Effect of cohort differences on the transition rate. Model 2b and Model 3b



In order to get evidence of cross-country divergence or convergence, we change perspective and concentrate on how the impact on the transition rate changes between countries within a given cohort. From Fig. 4 we notice first that the effect on the transition rate has a positive sign for all the cohorts when taking into account jointly the coefficient on the country dummy and on the interaction term and, therefore, it leads to a rise in the risk of experiencing the event. Moreover, the impact increases with cohorts and suggests diverging

behaviour between Northern Italy[12] and Hungary, Slovenia and Austria. Moreover, the impact on the transition rate differs not only compared to Northern Italy, but also between Hungary, Slovenia and Austria across cohorts. The difference in the impact between the three countries increases with cohorts and it may, thus, suggest greater cross-country heterogeneity. Increasing differences in the impact are registered between Hungary and Austria, with the former having across all the cohorts the highest effect. The difference in the impact between Slovenia and Austria increases particularly for the youngest cohort. Model 3b confirms the outlined results (Fig. 4). Finally, we observe for the event first marriage the greater the postponement process for a given cohort, the lower the divergence in the effect on the transition rate with Northern Italy.

Fig. 4 – First marriage. Effect of country differences on the transition rate. Model 2b and Model 3b



The postponement process has involved also first birth. In Model 1c (Tab. 7) we note that the relative risk of having a first child is of about 86% and 61% respectively for the younger cohorts in comparison to the oldest. The relative risk of entering motherhood is higher in Slovenia (233%), Hungary (202%) and Austria (154%) compared to Northern Italy.

In Model 2c (Tab. 7) we take into account the effect of the interactions and we note that the coefficients on the interaction term have always a positive sign and, therefore, contribute to the rise of the transition rate. The coefficient rises with cohorts for each country and it declines across countries, with Hungary registering the highest and Austria the lowest coefficient within a given cohort.

[12] It is interesting to note, however, that Austria converged to Northern Italy for the cohort 1956-61.

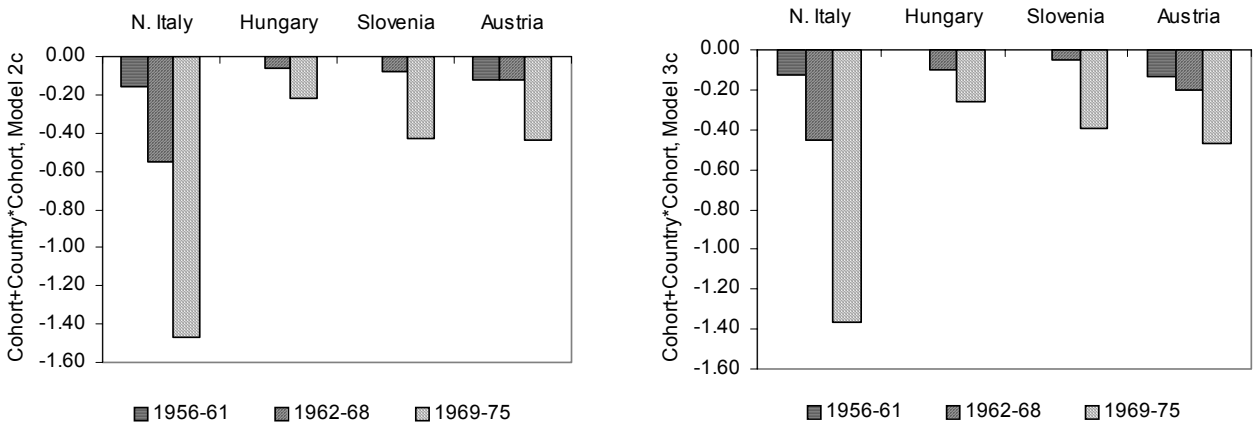
Tab. 7 – First child: results of the piecewise constant exponential model

	Model 1c		Model 2c		Model 3c	
Cohort (Ref. 1950-55)						
1956-61	-0.0509	*	-0.1561	**	-0.1226	*
	(0.03)		(0.07)		(0.07)	
1962-68	-0.1482	***	-0.5528	***	-0.4505	***
	(0.03)		(0.08)		(0.08)	
1969-75	-0.5010	***	-1.4650	***	-1.3692	***
	(0.04)		(0.13)		(0.13)	
Country (Ref. Italy)						
Hun.	0.7027	***	0.3804	***	0.4325	***
	(0.04)		(0.06)		(0.06)	
Slo.	0.8477	***	0.5520	***	0.6362	***
	(0.04)		(0.07)		(0.07)	
Aut.	0.4307	***	0.1831	***	0.1929	***
	(0.04)		(0.07)		(0.07)	
*Country*Cohort*						
Hun*1956-61			0.1774	**	0.2061	***
			(0.09)		(0.09)	
Slo*1956-61			0.1596	*	0.2066	***
			(0.09)		(0.09)	
Aut*1956-61			0.0305		0.0204	
			(0.09)		(0.09)	
Hun*1962-68			0.4925	***	0.4501	***
			(0.09)		(0.09)	
Slo*1962-68			0.4745	***	0.5041	***
			(0.09)		(0.09)	
Aut*1962-68			0.4335	***	0.3527	***
			(0.09)		(0.09)	
Hun*1969-75			1.2434	***	1.2062	***
			(0.15)		(0.15)	
Slo*1969-75			1.0379	***	1.0719	***
			(0.15)		(0.15)	
Aut*1969-75			1.0283	***	0.9962	***
			(0.15)		(0.15)	
Res. up to age 15 (Ref. <10.000 inh.)						
<=100.000 inh.					-0.1152	***
					(0.03)	
>100.000 inh.					-0.2311	***
					(0.03)	
Number of siblings (Ref. <2 sibl.)						
2+ siblings					0.1990	***
					(0.02)	
Education (Ref. Low)						
Medium					-0.2983	***
					(0.03)	
High					-0.5387	***
					(0.03)	
Log-likelihood	-47210.37		-47157.76	***	-46866.37	***

Note: Significant at level ***p<0.01, **p<0.05, *p<0.1. Standard error in brackets.

First, we focus on country differentials in the delay of first childbearing (Fig. 5). In Slovenia and Hungary the postponement of first births has been noticeable since the cohorts 1962-68. In Austria, conversely, delays in motherhood have been registered since the cohort 1956-61. In Italy the postponement process has been faster than anywhere else, whilst in Hungary it occurred at a slower pace. In Slovenia the postponement of motherhood speeded up for the youngest cohort and it caught up with Austria. Compositional population differences (Model 3c) have not changed markedly the estimation results shown in Model 2c. However, the postponement for Hungary for cohorts 1962-68 seems to have been faster than in Slovenia (Fig. 5). Finally, for the youngest cohort, Slovenia has speeded up the postponement process, but there are still differences with the youngest Austrian cohort.

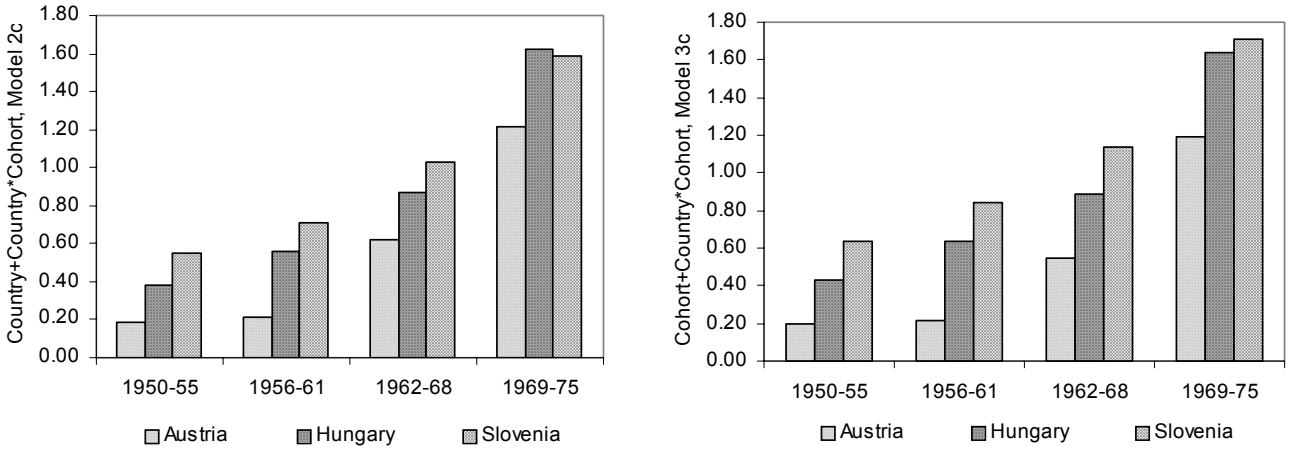
Fig. 5 – First child. Effect of cohort differences on the transition rate. Model 2c and Model 3c



Delays in childbearing have affected all the four countries considered. However, in the context of the convergence analysis, we would like to focus on whether the postponement dynamics effectively favoured convergence or divergence across countries. Taking into account the effect of each country on the transition rate within a given cohort, it turns out also for the first child the increasing divergent pattern between Northern Italy and the other three countries (Fig. 6). Thus, differences in the impact on the transition rate rise with cohorts. Slovenia seems to be the most distant compared to the neighbouring Northern Italy and it is followed by Hungary and Austria. Moreover, the difference in the transition rates between Hungary and Slovenia is stable for the cohorts 1956-61 and 1962-68, whilst it decreases for

the youngest cohort. The difference in the effect between Slovenia and Austria declines for the younger cohorts. Similar results are derived also from Model 3c (Tab. 7).

Fig. 6 – First child. Effect of country differences on the transition rate. Model 2c and Model 3c



7. Concluding remarks

In the present study the convergence hypothesis between countries has been tested through the comparison of cohort dynamics across countries and, in particular, of the differences across cohorts in the transition rate between Austria, Hungary, Northern Italy and Slovenia.

The results suggest that union formation and reproductive patterns have followed rather different trajectories in Austria, Hungary and Slovenia with respect to Northern Italy, even though changes have moved in the same direction. The Italian fashion of union formation, marriage and childbearing has once again emerged clearly and no evidence has been provided of increasing uniformity with the neighbouring countries. It is rather the case of rising differences. Postponement of family formation and motherhood has spread with cohorts, but between-country differences have been maintained or even have given evidence of divergent cross-country patterns.

Even though the findings of the current study are based on trends in demographic behaviour in a selected number of European countries, they are, however, relevant for the analysis of convergence from different aspects.

The study suggests that convergence in patterns of union formation and first birth is far from being achieved across the countries considered. At least, changes in the demographic behaviour of cohorts taken into account have not shown any sign of decreasing between-country differences. Such a result suggests, therefore, that patterns of family formation and first childbearing have been changing without diminishing between-country heterogeneity. If this is the case for the four neighbouring countries, we hardly believe that recent changes could indistinguishably favour growing similarities in the enlarged European context and that, therefore, differences would just be the effect of the time shift in experiencing changes in demographic behaviour.

As we pointed out in the introductory sections, there might be several driving forces triggering or preventing convergence in demographic behaviour. In our case, geographical proximity and, therefore, easier communication and transmission of new types of behaviour seem to have little affected family formation and reproductive patterns in the four countries on the borders of Eastern and Western Europe. Persistent differences rather suggest that cultural and institutional path-dependencies have played a significant role in orienting demographic changes.

The "liberalization" of individual's choices in terms of family formation and parenthood has led to increasing variety in demographic behaviour across Europe. Forming a family and having children are nowadays more pronouncedly determined than ever before by better quality-of-life expectances and the diffusion of new life styles. Accordingly, individual's preferences constitute one of the primary goals to be achieved. Later family formation and lower and later fertility seem to be in line with such aspirations and have been largely adopted in the European context. Nonetheless, in the European demographic scenario heterogeneity can still be observed in what is believed to be the most "convenient" choice and behaviour. The threshold of what is "acceptable" and "desirable" seems, therefore, to be also culturally and institutionally determined and leads to cross-country differences. Thus, it could be more reasonable to speak about convergence in the direction of changes that have involved the majority of European countries rather than about convergence at country-level.

Finally, the transition process in CEE countries after the events in the late 1980s-early 1990s has undoubtedly influenced demographic behaviour of cohorts reaching their twenties and thirties during the last decade. The available FFS data do not allow us to gain insight into these changes. Nonetheless, we can intuitively think that some demographic novelties might

have been speeded up on the trajectory of Western European countries. However, also in this case we can hardly imagine a fast adaptation to a common European family formation and reproductive pattern. It is more likely that the interplay between socio-economic, cultural, institutional legacies and individual preferences and constraints will lead to different country-equilibria, developing in similar directions but preventing from levelling cross-country heterogeneity.

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