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Fertility and union formation during crisis and societal consolidation in the Western Balkans

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Fertility decline in central and eastern Europe (CEE) since the fall of the communist regimes has been driven by both stopping and postponement of childbearing: two processes that have been related to crisis and economic development, respectively. In the Western Balkans these economic and political contexts followed each other in the form of a biphasic transition. I examine whether this sequence triggered fertility responses like those observed elsewhere. Relying on three independent data sources, I cross-validate the levels of, and describe the trends in, union formation and fertility (by birth order) between 1980 and 2010. Results do not reveal widespread declines in fertility to lowest-low levels during the most acute period of crisis. The subsequent postponement of marriage and first birth was also limited, and the two-child family remains the norm. This relative resilience of childbearing patterns compared with other CEE countries is discussed with reference to the institutional context.

Introduction

Demographers expect fertility to decline when a society experiences periods of crisis and social upheaval (Malthus 1826; Caldwell 2004; Sobotka et al. 2011), or undergoes the kinds of structural transformation that accompany modern economic development (Notestein 1945; Bryant 2007). In central and eastern European (CEE) countries, the transitions from state socialism to market economies and multiparty political systems were accompanied by both kinds of disruption. This paper focuses on the Western Balkans, that is, Albania and the successor states of the Socialist Federal Republic of Yugoslavia (SFRY). Although the Western Balkans experienced a fast process of population decline and ageing during this post-communist transition, the evidence on the fertility component of these trends is scarce (Sardon 2000; Mrdjen and Penev 2003; Parant and Penev 2009; Gjonça and Gjonça 2011). I assess and analyse fertility change in relation to the economic and political transformations since 1980 in six countries of the region (Albania,

Bosnia-Herzegovina, Kosovo, Macedonia, Montenegro, and Serbia (excluding Kosovo)).

Previous research has documented sharp declines in fertility in CEE countries after the end of communist rule (Kohler et al. 2002; Philipov and Dorbritz 2003; Sobotka 2003; Basten and Frejka 2015). The determinants of these trends varied in space and time, and between social groups, and interacted with each other, leading to heterogeneous pathways of fertility decline. In countries that experienced faster economic and political transitions in the 1990s—such as Slovenia, the Czech Republic, Hungary, and Poland—women significantly postponed the onset of family formation, as defined here by the first marriage or the first birth. This exerted tempo effects that temporarily depressed the total fertility rate (TFR) to lowest-low levels (i.e., below 1.3 children per woman; Sobotka 2004; Kotowska et al. 2008; Sobotka et al. 2008; Spéder and Kamarás 2008; Stropnik and Sircelj 2008). However, since 2005, the TFR has experienced a small, renewed increase, as recuperation of births at older ages has begun and the postponement at younger ages has slowed down (Sobotka 2011; Basten and Frejka 2015).

However, in countries that underwent a prolonged crisis—such as Ukraine and Russia—the sharp decline in fertility was essentially driven by the limitation of higher-order births (hereafter referred to as stopping behaviour). Fertility postponement was initiated by some population groups before the regime change, but the process diffused in society and significantly depressed the TFR only after the late 1990s (Perelli-Harris 2005, 2008; Zakharov 2008; Gerber and Berman 2010). Although there is much inter-country variation in CEE, multivariate analysis of trends in age-specific fertility rates shows that stopping behaviour was associated with crisis. Birth postponement, in contrast, was related to economic development (Sobotka 2003; Billingsley 2010; Billingsley and Duntava 2015).

In the Western Balkans these two social contexts were very marked and followed each other in the form of a biphasic post-communist transition (described further in the next section). I examine whether, and to what extent, this transition triggered a biphasic model of fertility decline—that is, a decline driven by a stopping of childbearing during the crises and by a postponement of the onset of family formation in the subsequent periods of development. My results for the Western Balkans are compared with the patterns observed in other CEE countries.

The paper is organized as follows. I first introduce the study context, discuss the determinants of fertility change in CEE, and describe the biphasic economic and political transition in the Western Balkans to inform my expectations about the fertility responses. Given the uncertain quality of demographic data, I then systematically cross-validate direct and indirect estimates of the TFR and the onset of family formation between 1980 and 2010, relying on official statistics, surveys, and population censuses. Although the levels of fertility and timing of the onset of family formation vary significantly according to the source, the trends are congruent. The biphasic response model is then examined in a descriptive analysis of the trends in total fertility and fertility by birth order. Unlike elsewhere in CEE, the TFR did not reach lowest-low levels in the Western Balkans in the early 1990s, and the evidence for crisis-driven stopping behaviour is limited. The later trend towards the postponement of first unions and first births was also slow and the two-child family remains the norm. I discuss the institutional context that contributed to this relative resilience of childbearing behaviour, and the implications of my findings for understanding demographic responses to social change.

Background and expectations regarding fertility responses in the Western Balkans

The Western Balkans region is a mountainous territory located on the eastern border of the Adriatic Sea. Under communist rule between 1945 and 1991, the region consisted of two political entities: the independent People's Socialist Republic of Albania and the SFRY. The SFRY was made up of six independent republics (Bosnia-Herzegovina, Croatia, Macedonia, Montenegro, Serbia, and Slovenia) and two autonomous regions in the north and south of Serbia (Vojvodina and Kosovo, respectively).

Under communist rule, these mainly rural societies experienced rapid industrial modernization, alongside major advances in health and education. Yet compared with the relative homogeneity in terms of fertility in the rest of CEE during the communist period, there were marked regional differentials in the Western Balkans that reflected its economic geography (Sardon 2000; Falkingham and Gjonça 2001; Blayo et al. 2004; Drezgic 2010; United Nations 2015). In the poorer areas—Albania, Bosnia-Herzegovina, Macedonia, Montenegro, and Kosovo—TFRs were between four and seven children in 1950–55. In contrast, in the richer areas—Slovenia, Croatia, and Serbia (excluding Kosovo)—the level of fertility was already moderate, with TFRs between 2.5 and 2.8. Yet unlike in western and much of eastern Europe, where secular increases in the female mean age at marriage contributed significantly to decreases in fertility levels, in the Western Balkans limitation of higher-order births was the only relevant factor in the fertility decline (Sklar 1974; Botev 1990; Sardon 2000).

By the early 1980s the regional gradient had narrowed. Women in Albania and Kosovo were having at least four births and Macedonians 2.6 on average. As in western and eastern European countries, TFRs in Bosnia-Herzegovina, Croatia, Montenegro, Serbia, and Slovenia were around replacement level (i.e., 2.1) (Sardon 2000). But, except in Slovenia, women throughout the Western Balkans still married and had their first birth at younger ages than women in other European countries. This pattern has been related to lower levels of economic development, preferential allocation of state housing to families, and patriarchal traits in society (Sklar 1974; Botev 1990).

To illuminate the patterns of fertility decline since 1980, I first review the societal factors affecting post-communist changes in childbearing behaviour in CEE. I then compare the societal trends in the

Western Balkans with those in Ukraine and the Czech Republic. The latter two countries serve, respectively, as illustrative examples of more and less intense post-communist crises observed throughout CEE.

Determinants of post-communist fertility decline in CEE

In the 1990s, the newly capitalist societies of CEE experienced economic crises, in conjunction with decreases in social benefit levels and rising costs of living. This motivated couples to stop childbearing in order to limit family size (Kohler et al. 2002; Philipov and Dorbritz 2003; Frejka 2008).

Since the early to late 1990s, however, the economies have recovered and developed at a fast pace, as the political systems consolidated. The accompanying rise in new educational and labour market opportunities increased women's time spent in higher education as well as their opportunity costs of childbearing once they were in the labour market. Young people's plans for irreversible family events, such as childbirth, conflicted with their ambitions to adapt skills and work experiences to the new economic context in order to secure future material well-being. This was the main impetus for the delayed onset of marriage and motherhood, which temporarily depressed period measures of the TFR to lowest-low levels (Kohler et al. 2002; Sobotka 2003; Billingsley 2010; Billingsley and Duntava 2015).

People in CEE also delayed decision-making in the family domain because of political uncertainty, as well as psychological disorientation during the institutional transition from a communist to a liberal social system—a state referred to as social anomie (Philipov 2002; Rodin 2011). It has also been argued that renewed social interactions with western Europe since 1990 have led to a diffusion of Western values and family ideals in CEE. This sustained the trend in fertility postponement by challenging the traditional social institutions that had supported earlier and higher fertility in the past (Lesthaeghe and Surkyn 2002; Thornton and Philipov 2007; Hoem et al. 2008).

Economic, political, and social changes in the Western Balkans

In the Western Balkans, the economic crises and subsequent recoveries followed each other in a biphasic model of transition, even though the starting conditions differed significantly between countries.

Development had already slowed in the 1970s, and reversed into crisis in the 1980s, due to the partitioning and increasing isolation of regional markets (Zecevic and Jovanovic 1991). According to the United Nations (UN), the average gross domestic product per capita at current prices (GDPc) of the poorest country (Albania) in 1989–90 was less than one-fifth of the GDPc of the richest one (Serbia; see Table 1). The GDPc levels in Bosnia-Herzegovina, Macedonia, and Kosovo were comparable to the levels observed among the poorest other CEE countries, such as Ukraine. In contrast, Montenegro ranked closer to the richer Czech Republic, which itself lagged significantly behind Serbia. In the first transition decade (the 1990s), most countries of the Western Balkans experienced declines in GDPc of at least 60 per cent, similar to the Ukraine, which was hard hit. The more limited and shorter economic downturns in Albania, and particularly in Macedonia, can be explained by their low initial levels of GDPc and the important contribution of migrant remittances to their fast recoveries. Unemployment skyrocketed to more than 35 per cent across the Western Balkans in the mid-1990s (UNICEF 2014) and more than one-fifth of the population still lived below their national poverty line around 2000, with another sizeable share being situated just above them (Bezemer 2006).

Besides the economic crisis, the general context of uncertainty during the change in the social system in the 1990s was exacerbated by major social upheavals in the Western Balkans (see Bideleux and Jeffries 2007). The dissolution of the SFRY in 1990–91 led to civil wars between the newly formed Serbia-Montenegro and the other newly independent states, lasting until 1995 in Bosnia-Herzegovina. The clash between Serbian nationalism and Kosovo's aspiration for independence provoked a series of riots in 1989 and again ended in a civil war in 1998–99. Although Macedonia did not experience war, there were ethnic tensions and clashes between the titular ethnic group and the Albanian minority. In Albania, social upheavals also erupted against the communist regime in the early 1990s, and a financial crisis that was caused by the collapse of fraudulent pyramid banking schemes led to a state of emergency in 1998.

The second transition decade (the 2000s) was characterized by peace and political stability, the independence of Montenegro in 2006 and Kosovo in 2008, and economic consolidation. Unlike the Czech Republic, which experienced a fast economic recovery in the 1990s, the majority of the Western Balkan countries did not return to pre-transition levels of GDPc until 2002–07, like Ukraine (Table 1). (The financial crisis of 2008 had a more

Table 1 Socio-economic and cultural indicators, six Western Balkan countries, Ukraine, and the Czech Republic, 1989–2011

Country	Gross domestic product per capita at current US$ (UN)				% women aged 20–39 with post-secondary education		% women aged 15–19 ever married (year)	Sex ratio at birth, as number of boys per 100 girls (time period)
	1989–90	2008	1990s trough, as % of 1989–90 value	1990 level caught up by (year)	1990	2010		
Albania	888	4,081	51	1995	7	10	9.5 (2002)	110 (2000–08)
Macedonia	1,450	4,722	95	1993	–	12[a]	9.4 (1994)	108 (1995–2001)
Bosnia-Herzegovina	1,713	4,846	34	2002	–	13	17.1 (2004)	109 (1995–99)
Ukraine	1,823	4,087	36	2005	17	21	6.7 (2007)	Normal
Kosovo	2,443	2,394	26	2011	2[b]	10[c]	4.4 (2011)	109 (2002–09)
Montenegro	3,494	7,306	38	2005	12	17	4.3 (2003)	110 (2000–08)
Czech Republic	3,905	22,620	73	1993	9	19	0.4 (2007)	Normal
Serbia (excluding Kosovo)	4,739	6,702	18	2007	12	17	5.2 (2002)	108 (2000s)

[a]Women aged 20–44 in 2002 (United Nations 2017b).
[b]Women aged 15 or above (Radivojevic 1996).
[c]Women aged 20–39 in 2011 (SOK 2014).
Sources: United Nations (2013, 2017a, 2017b), Wittgenstein Centre for Demography and Global Human Capital (2015), and Guilmoto (2010).

limited macroeconomic impact on the Western Balkans than the severe disruptions of the 1990s, although unemployment in the region increased.) The 2000s were marked by important achievements in terms of reducing poverty and unemployment, although unemployment remained comparatively high in 2008 (from 15 per cent in Albania and Serbia to 35 per cent in Macedonia, compared with less than 10 per cent in other CEE countries) (UNICEF 2014). Educational systems also underwent significant restructuring. When compared with the Czech Republic, the educational structures of the populations of Montenegro and Serbia in 1990 were similar, as were subsequent developments (Table 1): the proportion of women aged 20–39 with a post-secondary degree increased from 12 per cent in 1990 to 17 per cent in 2010 in both Montenegro and Serbia. In contrast, the less developed countries of the Western Balkans reached the 12 per cent bar only in 2002 or later.

In addition to this very marked biphasic economic and political transition, the region also interacted socially with Western countries to an even greater extent than other CEE countries. During the communist period, international exchanges in the political, social, and economic spheres were sustained by the SFRY's emphasis on non-alignment, its engagement in the international policy arena, and the combination of elements of market and planned economies in the economic system. The governments also promoted important flows of labour migration to western Europe. Although Albanian society evolved in complete autarky from the outside world under one of the strictest Stalinist regimes, it also contributed to a large number of migrants in the European Union after 1990. During the post-communist crises, at least 22 per cent of the resident population of the Western Balkans moved abroad (Kupiszewski et al. 2009; Parant and Penev 2009).

Yet these external social influences competed with a strong patriarchal culture. The Western Balkans region is known for its secular history of tributary social systems and customary laws, which provide a favourable context for the survival of traditional kinship structures (Kaser 2008). These ascribe social power to (older) men and relegate women to the household sphere in order to protect family integrity and reproduce the kinship group. The moral primacy of patriarchy in the Western Balkans is illustrated by the continuously high share of adolescent girls ever married, as well as by the preferences for, and selection of, masculine births (as revealed by a sex ratio above the natural level of 104–106; see Table 1).

Expected fertility changes in the Western Balkans

The transition context of the Western Balkans, as described in the previous subsection, motivates my hypotheses about fertility change after 1980. According to demographic theory, the different stages of progress in the fertility transition by 1980 should have mediated the birth order patterns of the subsequent declines. For the high-fertility countries in the region (Albania, Kosovo, and Macedonia), the classic transition hypothesis predicts a shift from larger to smaller families through a progressive diffusion of birth-limiting behaviours from women who have attained higher parities (i.e., number of children ever born) to those who have attained lower parities (Henry 1961). In the low fertility countries, limitation of fertility at lower parities would be expected to drive the declining trend.

But the biphasic economic and political transitions in the Western Balkans constitute an interesting setting to test the competing hypothesis of a biphasic model of fertility responses. The model links the underlying patterns by birth order to the abrupt changes in socio-economic context that are expected to disrupt the classic trajectory of fertility change. During the economic crises in the 1990s, negative income shocks in conjunction with rising prices would be expected to motivate stopping behaviour at all birth parities in all countries. According to this model, the TFR should have declined sharply, while the rate of, and the mean age at, the onset of family formation should have remained unchanged. We would expect this general trend to be accompanied by a temporary postponement of all family events in periods of acute levels of uncertainty and physical insecurity, particularly in war-torn countries (Bosnia-Herzegovina, Serbia, Kosovo, and Montenegro). As fertility levels in these countries (except Kosovo) were already moderate to low in 1980, they would have been expected to reach lowest-low levels in the early 1990s, like in other CEE countries.

In the subsequent decade of economic development, alongside rising educational and employment opportunities, we would expect the postponement of first marriages and first births to have played a predominant role in depressing the TFR to lowest-low levels. Ideational change would be expected to intensify and to diffuse this behaviour, which had already started in the 1980s in the most developed republics of SFRY (Serbia and Montenegro, and particularly Slovenia; Sardon 1991; Bobic 2000; Stropnik and Sircelj 2008). For the less developed countries that also

constitute the historical core area of Balkan patriarchy (Albania, Kosovo, Macedonia, and Montenegro; Kaser 2008), we would conjecture a slower postponement trend because of higher social resistance to ideational change. Given the historically young age at the onset of family formation in the region, we would not expect a slowing down of the postponement during the period of observation. Hence, a renewed increase in the TFR would be unlikely.

Cross-validation of the levels of total fertility

The demographic evidence base in the Western Balkans is incomplete and of uncertain quality. Before investigating whether fertility responded to the post-communist transformations in the expected way, I therefore cross-validated the country-specific annual series of the TFR based on three independent sources (see Figure 1 and Table 2). The details about the data, the methods, and the differences in the implied levels can be found in the supplementary material. Here, I report the rationale and the summary results of the assessment.

The first series of estimates, which are based on annual statistics of registered births and women of childbearing age, have been compiled by the Human Fertility Collection (HFC; MPIDR and VID 2017a) and other researchers. The series are incomplete and generally provide the lowest estimates of fertility among the three sources. Serbia is the exception because its official figures up to 1997 also include Kosovo, which was characterized by a much higher level of fertility. Underestimation of fertility by the HFC can be explained by the social upheavals, large-scale emigration, and population displacements in the 1990s. Births were underreported in this period and the at-risk population could not be properly estimated (Rasevic 2004; Lerch and Wanner 2008; Parant and Penev 2009; Staveteig 2011). Statistical offices relied instead on post-census projections of the number of women, which were regularly over-projected due to the major migration flows. These problems have been exacerbated by prolonged periods without a census, as well as by boycotts of national vital status registration systems by minority populations.

Next, I compared these official statistics with a second series: retrospective estimates from surveys. TFRs were estimated by applying the own-children method (see Cho et al. 1986) to data about household members from waves III (2005/06) and IV (2010/11) of the Multiple Indicator Cluster Survey (MICS; run by the UN Children's Fund), as well as to data from the World Bank's Living Standards Measurement Study (LSMS). In addition, I compiled published figures based on birth histories from the Reproductive and Health Surveys (RHS) and Demographic and Health Surveys (DHS) in Albania and Kosovo.

Survey data generally indicate the highest levels of the TFR among the three sources. Besides the problems with official statistics, this may be related to sampling biases. Random sample surveys struggle to reach and interview young, single, and childless women; hence they are frequently under-represented among the survey respondents, leading to an overestimation of fertility (Avery et al. 2013; Hertrich and Lardoux 2014; Schoumaker 2014; Spoorenberg 2014a). This appears to be the case in the Albanian RHS and DHS. Moreover, the MICS purposively oversampled the target population of households with children aged under five (except in Albania). Although I only considered estimates up to five years before the date of data collection, the survey weights may still not sufficiently correct the more distant estimates for the MICS sampling design. In Kosovo, the changing patterns of over- to underestimation by surveys over time, when compared with the official TFRs, highlight the difficulty of gathering representative data in a context of infrequent and poor census enumeration, and after wars.

To evaluate the scale of sampling biases in the surveys, I also computed retrospective estimates of the TFR based on population counts by age and sex at the 1990, 2000, and 2010 Census rounds, which constituted the surveys' sampling frames. The reverse-survival method of fertility estimation was applied (Moultrie et al. 2013); for Albania, the availability of individual-level data allowed me to implement the own-children method.

The levels of fertility estimated in this third series, census-based estimates, are situated between the HFC and the MICS estimates. This tends to confirm the registration and estimation problems in official statistics, as well as the sampling biases in surveys. However, the estimates from censuses and surveys are also likely to be affected by any large-scale and potentially selective emigration before the date of data collection: the reverse-survived sample of respondents may not be representative of the actual events (births) and at-risk populations in past years (Cho et al. 1986; Abbasi-Shavazi 1997; Andersson and Sobolev 2013; Spoorenberg 2014b). As the TFRs based on official statistics diverge to a lesser extent from census-based figures than from survey-based figures, it appears that these selection biases play a minor role (indeed, both series of retrospective estimates would be similarly affected).
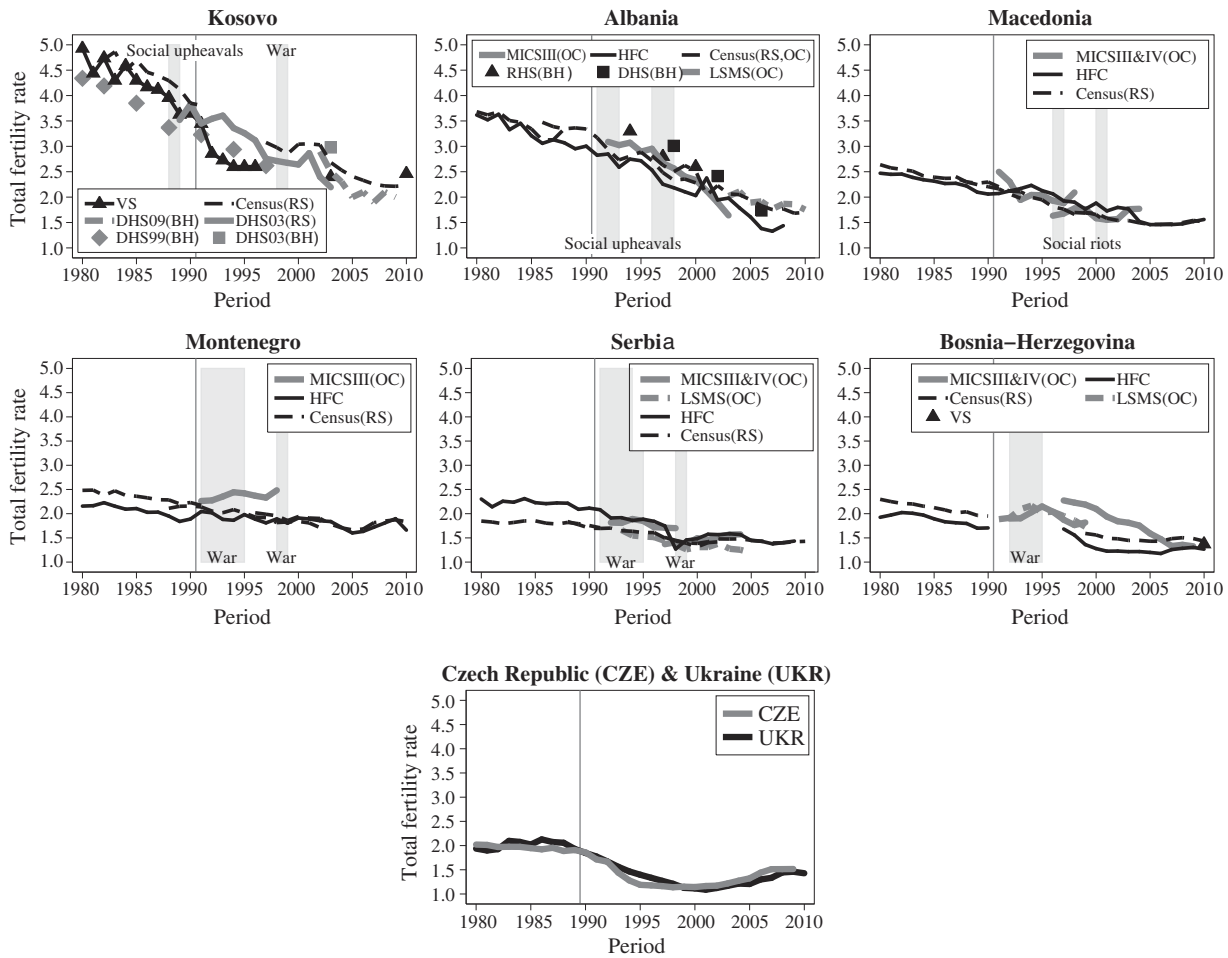
Figure 1 Trends in the TFR according to different data sources and estimation methods, Western Balkans 1980–2010

Notes: OC = own children; RS = reverse survival; BH = birth history. The full vertical lines indicate the end of communist rule.
Sources: Human Fertility Collection (HFC); Vital Statistics (VS); Multiple Indicator Cluster Survey (MICS) waves III and IV; Demographic and Health Survey (DHS); Reproductive and Health Survey (RHS); Living Standards Measurement Study (LSMS); estimates based on 1990, 2000, and 2010 Census rounds.

Additional tests supported this interpretation of the data (see supplementary material).

We can conclude that the measurement problems involve different kinds of bias and concern all countries. However, the decreasing differences in the levels of the TFR between the sources over time suggest that measurement of fertility improved in the 2000s. Moreover, the country-specific *trends* in fertility, as well as in the underlying age patterns (not shown), are sufficiently consistent across sources to allow a more detailed analysis.

Trends in total fertility

To compare fertility change during the biphasic post-communist transition in the Western Balkans with the experiences in other CEE countries, Figure 1 also includes the trends in the TFR for the Czech

Republic and Ukraine (from the Human Fertility Database (HFD) (MPIDR and VID 2017b)).

In the countries of the Western Balkans where TFRs were still moderate to high in 1980, fertility dropped (surprisingly) at a rather constant pace, to 2.0–2.5 children per woman in Kosovo, 1.7 in Albania, and 1.5 in Macedonia in the mid-2000s, at which time the levels stabilized. The large-scale unemployment and poverty in the 1990s did not accelerate the fertility decline in these least developed countries. Only a slight temporary drop in fertility can be observed in Kosovo during the civil war in 1998–99.

In Bosnia-Herzegovina, Montenegro, and Serbia—where fertility was already low in 1980—the trends were different. Unlike in other CEE countries, the TFR continued to fluctuate at levels of around two, or declined only slightly, until the mid-1990s. Survey estimates (MICS and LSMS) for Bosnia-Herzegovina

Table 2 Data sources and methods used to estimate indicators of fertility (by birth order) and union formation, six Western Balkan countries, 1980–2011

Country	Year/period of data collection	Data source	Indicator	Method of estimation
Albania	1980–2010	Official statistics (HFC (MPIDR and VID 2017a) and Falkingham and Gjonca (2001))	TFR, MAM	Direct
	1989	Census counts (INSTAT et al. 2010)	TFR	Reverse survival
	2001	Census individual-level data (accessed at INSTAT)	TFR, TFR1–TFR4+	Own children
	2002	RHS: N (women) = 5,697; response rate = 94 per cent (Morris et al. 2005; Lerch 2013a)	TFR	Birth history
			Synthetic cohort rate first union	Retrospective information
	2005	MICS3: N (hh) = 5,418; response rate = 96 per cent	TFR	Own children
			Synthetic cohort rate first union	Retrospective information
	2008–09	DHS: N (women) = 7,584; response rate = 96 per cent (INSTAT et al. 2010; Lerch 2013a)	TFR	Birth history
			Synthetic cohort rate first union	Retrospective information
	2011	Census individual-level data (accessed at INSTAT)	TFR, TFR1–TFR4+	Own children
	2012	LSMS 2012: N (hh) = 6,671; response rate = n/a	TFR	Own children
Bosnia-Herzegovina	1980–2010	Official statistics (HFC (MPIDR and VID 2017a))	TFR, TFR1–TFR4+ up to 1990	Direct
	1991	Census counts (SOK and UNFPA 2005)	TFR	Reverse survival
	2001	LSMS: N (hh) = 5,402; response rate = 82 per cent	TFR	Own children
	2006	MICS3: N = 5,549; response rate = 93 per cent	TFR	Own children
			Synthetic cohort rate first union	Retrospective information
	2011–12	MICS4: N = 5,778; response rate = 91 per cent	TFR	Own children
			Synthetic cohort rate first union	Retrospective information
	2010	Official statistics and reverse-survived Census 2013 counts (author's own estimates)	TFR, TFR1–TFR4+	Direct and indirect
	2013	Census counts (BHAS 2016)	TFR	Reverse survival
Kosovo	1980–96, 2003, 2010	Official statistics (Petrovic 1996; Bobic 2000; Blayo et al. 2004; author's own estimates)	TMR, TFR, TFR1–TFR4+	Direct
	1991	Census estimate (Penev 2017)	TFR	Reverse survival
	2002	Census counts (Penev 2017)	TFR	Reverse survival
	1999/2000	DHS: N = 7,343; response rate = 99 per cent (Blayo et al. 2004)	TFR	Birth history
			First union	SMAM
	2003	DHS: N = 3,192; response rate = 99 per cent (SOK 2005)	TFR	Birth history, reverse survival
			Marriage	SMAM
	2009	DHS: N = 3,992; response rate = 99 per cent (SOK 2011)	TFR	Birth history
	2011	Census counts (SOK 2014)	TFR	Reverse survival
			First birth/union	SMAB1 / SMAM
Macedonia	1980–2010	Official statistics (HFC)	TFR, TFR1–TFR4+	Direct
	1994	Census counts (UN DYB)	TFR	Reverse survival
	2002	Census counts (UN DYB)	TFR	Reverse survival
	2005–06	MICS3: N = 4,701; response rate = 89 per cent	TFR	Own children
			Synthetic cohort rate first union	Retrospective information
	2011	MICS4: N = 4,018; response rate = 91 per cent	TFR	Own children
			Synthetic cohort rate first union	Retrospective information
	2013	Estimates (MAKSTAT 2013)	TFR	Reverse survival
Montenegro	1980–2010	Official statistics (HFC)	TFR, TFR1–TFR4+	Direct
	1991	Census estimate (Penev 2017)	TFR	Reverse survival
	2003	Census counts (Penev 2017)	TFR	Reverse survival
	2005	MICS3: N = 2,358; response rate = 94 per cent	TFR	Own children
			Synthetic cohort rate first union	Retrospective information
	2011	Census counts (UNICEF 2012)	TFR	Reverse survival

(*Continued*)

Table 2   Continued.

Country	Year/period of data collection	Data source	Indicator	Method of estimation
Serbia (excluding Kosovo)	1980–2010	Official statistics (HFC)	TFR, TFR1–TFR4+	Direct
	1991	Census estimate (Penev 2017)	TFR	Reverse survival
	2002	Census counts (Penev 2017)	TFR	Reverse survival
	2005–06	MICS3: $N = 8{,}730$; response rate = 93 per cent	TFR	Own children
			Synthetic cohort rate first union	Retrospective information
	2007	LSMS: N (hh) = 5,557; response rate = 78 per cent	TFR	Own children
	2010	MICS4: $N = 6{,}392$; response rate = 94 per cent	TFR	Own children
			Synthetic cohort rate first union	Retrospective information
	2011	Census estimates (RSSO 2013)	TFR	Reverse survival

Notes: hh = household; TFR = total fertility rate; TFR1–TFR4+ = first to fourth+ birth components of the TFR; MAM = mean age at marriage; SMAM = singulate mean age at marriage; SMAB1 = singulate mean age at first birth; TMR = total marriage rate.
Sources: HFC = Human Fertility Collection; MICS3/4 = Multiple Indicator Cluster Survey wave III/IV; LSMS = Living Standards Measurement Study; RHS = Reproductive and Health Survey; DHS = Demographic and Health Survey; UN DYB = United Nations Demographic Yearbooks. Other sources cited can be found in references.

even point to a temporary increase in childbearing during the war in 1992–95. Neither the physical insecurity in the Bosnia-Herzegovinian territory, nor the state of uncertainty in the aggressing state Serbia, had a marked negative impact on the TFR.

In the period immediately after the war, official estimates of fertility declined to lowest-low levels (around 1.25) in both Bosnia-Herzegovina and Serbia. In Bosnia-Herzegovina, this coincided with the onset of post-war reconstruction and the economic transition. In Serbia, the period was marked by an economic crisis, which was followed by the Kosovo conflict on the national territory in 1998–99. These events relegated Serbia from the top to the bottom position (alongside Kosovo) in the regional ranking according to GDPc in 2000. The official TFR in Bosnia-Herzegovina remained at lowest-low levels until the end of the observation period. The Serbian TFR recovered to 1.7 immediately after the civil conflict and levelled off at 1.5, where it has remained since 2004.

However, fertility decline in these post-war countries was probably less pronounced and shorter than indicated by official statistics. For Bosnia-Herzegovina in the 2000s, the MICS indicates much higher fertility, and the TFRs from the last census reveal a smoother decline; neither of these estimates crossed the lowest-low threshold. For Serbia, the decline in the late 1990s was certainly also smoother according to other sources, as official figures up to 1997 were overestimated by the inclusion of Kosovo in the statistics. Montenegro continued to experience a very smooth decline in total fertility, to 1.75 children per woman in the late 2000s.

Thus, unlike in the Czech Republic and Ukraine, which were characterized by lowest-low fertility levels soon after 1990, such low levels were reached in only two countries of the Western Balkans (Bosnia-Herzegovina and Serbia) and only after the most acute periods of crisis. In addition, only one of them (Bosnia-Herzegovina) may have experienced these levels over a prolonged period.

Cross-validation of the rate of (and the mean age at) onset of family formation

To examine the biphasic model of responses in childbearing behaviour to the post-communist transformations (i.e., a stopping pattern during crises, followed by the postponement of the onset of family formation during economic development), the correct identification of the start of the second phase is crucial. I therefore cross-validated the estimates of the timing and intensity of the onset of family formation (Figure 2; left-hand and middle panels). The first birth component of the TFR (known as TFR1) and the mean age at first birth (MAB1)—as compiled by the HFC and other researchers—are compared against retrospective estimates of the synthetic cohort rate of (and mean age at) transition to the first union based on the MICS (see Hinde 1998). The first union is defined in the MICS as the first marriage or first cohabitation, two events that are closely linked in the region as non-marital cohabitation remains rare (Tomanovic and Ignyatovic 2006). For Kosovo, I computed singulate mean ages at marriage and first birth based on different sources (see Table 2).
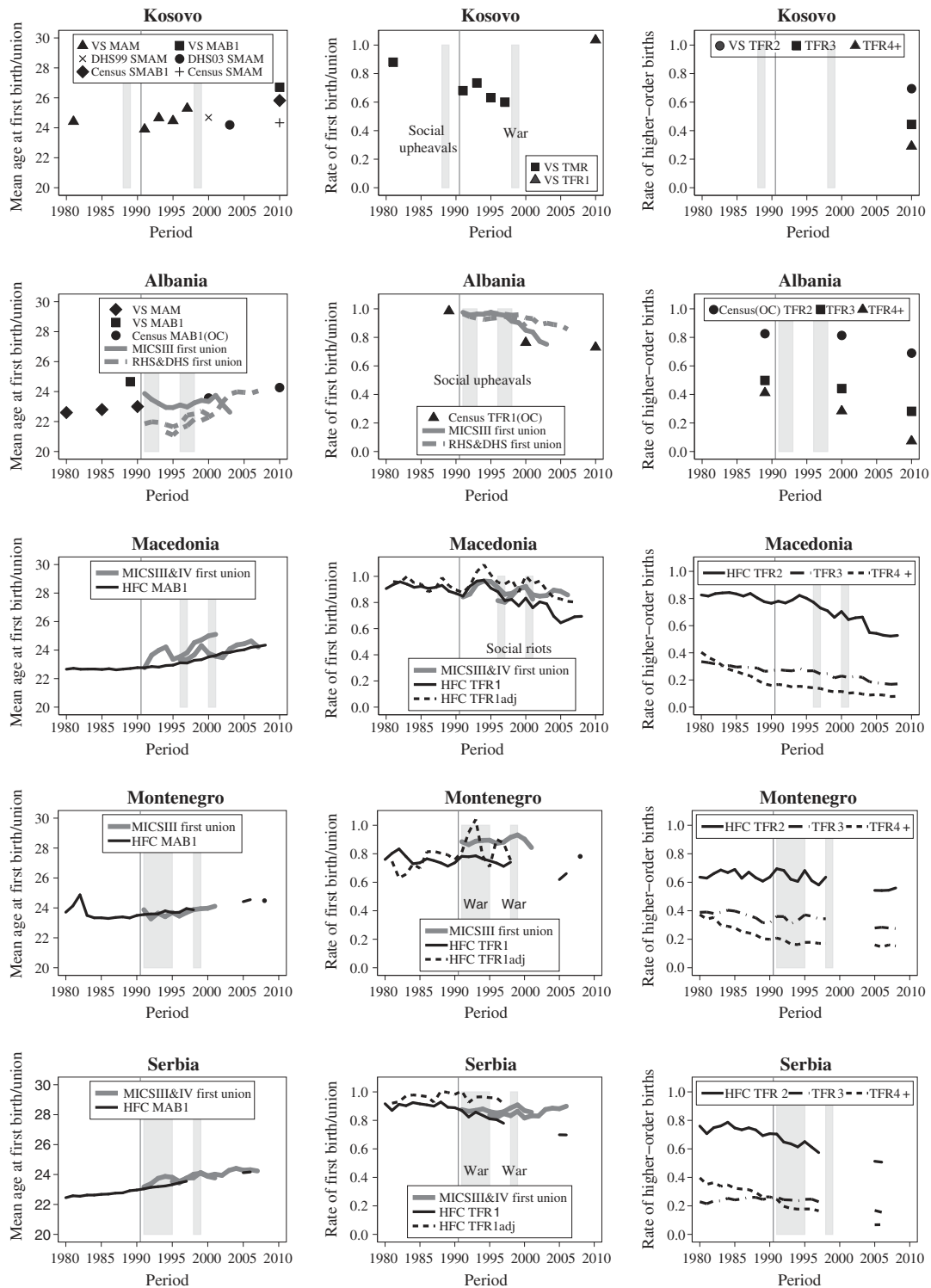
Figure 2   Trends in the female mean age at first union or first birth (left-hand panel), and in the rates of first- and higher-order births (middle and right-hand panels), according to a variety of sources and estimation methods, Western Balkans 1980–2010

Notes: MICS estimates are synthetic cohort rates of first unions and mean ages. HFC estimates are incidence-based rates of first to fourth+ births (TFR1–TFR4+) and the mean age at first birth (MAB1). TMR = total marriage rate; SMAM = singulate mean age at marriage; SMAB1 = singulate mean age at first birth; MAM = mean age at marriage; MAU = mean age at first union. The full vertical lines indicate the end of communist rule.

Sources: Human Fertility Collection (HFC); Vital Statistics (VS); Multiple Indicator Cluster Survey (MICS) waves III and IV; Demographic and Health Survey (DHS); Reproductive and Health Survey (RHS); estimates based on 1990, 2000, and 2010 Census rounds.
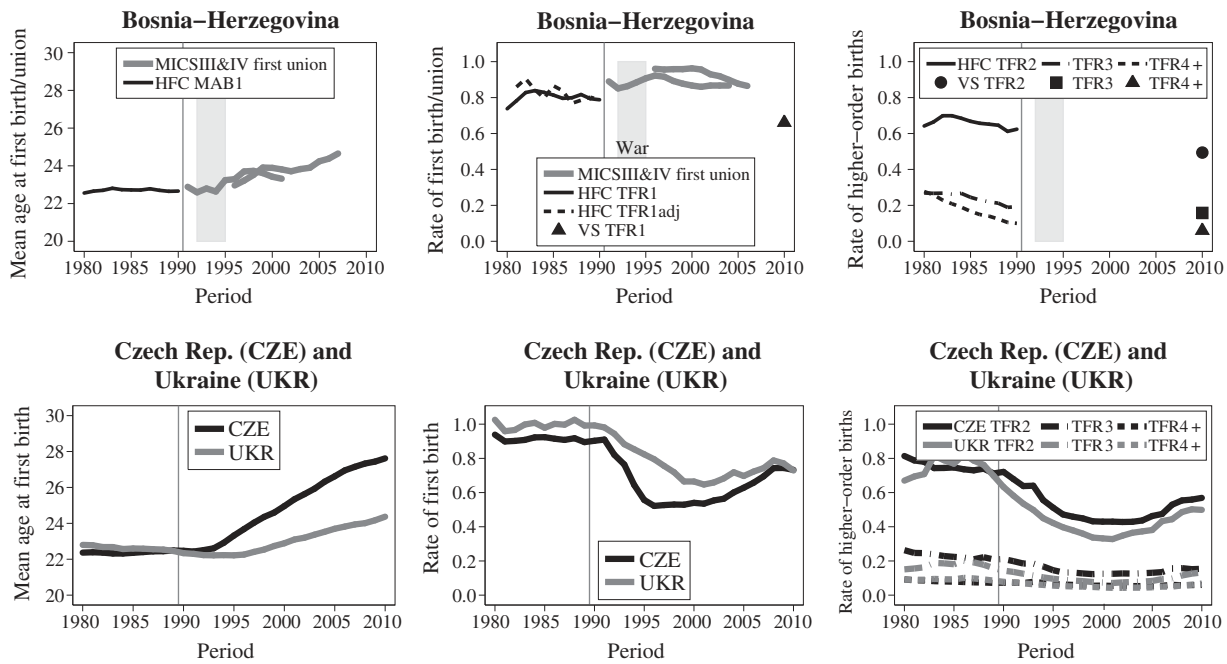
Figure 2 Continued.

The discrepancies between the official statistics and the survey estimates relate to the levels only, not the mean ages at the events (except in Albania and Kosovo). The congruence in the TFR1 and the MICS rate of first unions in Serbia, Albania, and Macedonia during the 1990s confirms, on the one hand, that first union and first birth are closely linked (Giudici et al. 2009), and on the other hand, that the share of non-marital births is small (stable at 10 per cent since 1990, except in Serbia and Montenegro where it increased to a maximum of 24 per cent in 2011; UNICEF 2014). Non-marital fertility is usually followed by the formalization of the union.

The HFC generally indicates the lowest and the MICS the highest levels of onset of family formation. Unlike for the TFR, however, the differences between the two series increase over time. This does not suggest major problems with the registration of first unions and births (except in Kosovo, where the importance of customary marriages and adolescent births are important factors of under-registration). The increasing differences between the HFC and the MICS rates of onset of family formation in the 2000s —of up to 20 percentage points (see middle panel)— result from a shift in the timing of this event within the life course (see left-hand panel). (This measurement problem particularly affects the TFR1; see supplementary material.) Tempo effects are revealed by the fact that the TFR1 begins to decrease when the MAB1 starts to rise significantly. My adjusted estimates of the first birth component of the TFR that control for changes in the tempo of childbearing

(using the formula of Bongaarts and Feeney 1998; TFR1adj, see Figure 2, middle panel) do indeed oscillate at higher levels situated around the synthetic cohort rates of first unions from the MICS, which are less subject to tempo effects.

We can thus conclude that the quantum and timing of the onset of family formation can be analysed with confidence using the TFR1adj along with the MAB1. When these annual official statistics are lacking, the synthetic cohort rate of (and mean age at) first union from the MICS provide a good approximation.

Trends in union formation and fertility by birth order

To test the biphasic model of fertility responses, I examined whether birth limitation concerned all birth orders during the crises, and whether the postponement of the onset of family formation diffused in the subsequent periods of societal consolidation. Figure 2 (right-hand panel) therefore also includes estimates of the second-, third-, and fourth and higher-order birth components of the TFR (referred to as TFR2, TFR3, and TFR4+) from the HFC and other researchers (see supplementary material). Average birth intervals are of minor interest because they remained rather stable, as has been shown from a cohort perspective (Giudici et al. 2009). Comparative trends for the Czech Republic and Ukraine are also shown, to illustrate the two stylized models of fertility decline in CEE: the Czech

trend is mainly determined by a postponed onset of family formation (as shown by the drop in TFR1 in the middle panel), whereas in Ukraine the limitation of second- and third-order births played a predominant role (see right-hand panel).

In the Western Balkan countries where fertility was still moderate to high in 1980, the subsequent decline up to the mid-1990s was mainly driven by lower rates of fourth and higher-order births. The TFR4+ fell from 0.4 in the 1980s to 0.1 at the end of the observation period in Albania and Macedonia. The rates of second and third births started to decline only after the mid-1990s. A similar pattern has been revealed by a cohort analysis in Kosovo (Blayo et al. 2004), where the transition to second birth remains the highest in the region, with a TFR2 above 0.8 in 2010. This progressive diffusion of stopping behaviours from higher to lower parity women does not strongly support the role of the economic crises. Nevertheless, the drop in third- and higher-order births lagged behind the main peaks of the crises in Albania (Lerch 2013a).

The onset of family formation did not change significantly before the mid-1990s either. In Kosovo, first marriage and first birth remain universal (with a TFR1 above unity in 2010; see middle panel of Figure 2) and their timing does not appear to have changed significantly throughout the observation period (left-hand panel), although the average ages at marriage and first birth are probably overestimated. In Albania and Macedonia too, virtually all women (at least 90 per cent) have at least one child, with an average age of family formation around 22 years up to at least 1995. The TFR1adj and the synthetic cohort rates of transition to first union remained around or above 0.8 even in the 2000s (middle panel), indicating a continuously high quantum of family formation. The bulk of the postponement occurred during the period of economic and political consolidation. The average age at the onset of family formation rose to 24 years in Albania and Macedonia by 2007.

Fertility trends by birth order in Bosnia-Herzegovina, Montenegro, and Serbia were surprisingly similar until the mid-1990s, despite lower levels of fertility in 1980 (compared with other Western Balkan countries). Whereas changing rates of third- and higher-order births drove the initial fertility decline, the trends stabilized in the 1990s (Figure 2; right-hand panel). The TFR2 remained high (at 0.6–0.7) or only declined marginally (in Serbia). Neither the war nor the economic crisis accelerated the trend in birth limitation. Moreover, the levels of third- and higher-order births have only declined marginally since the

mid-1990s, indicating a persistent minority of large families. After the Bosnian war, the sudden drop in Serbian fertility was mainly attributable to a fall in the TFR2. In Bosnia-Herzegovina, the number of second births also declined the most among all higher-order births between 1991 and 1996 (COE 2002; data for the intervening years are not available). Although these stopping behaviours after the first birth suggest a role for the post-war economic crises, even the lowest level of TFR2 attained in the Western Balkans (0.5) remained well above the trough observed in Ukraine around 2000 (below 0.4).

As in the moderate to high fertility countries of the Western Balkans, transition to motherhood remained the norm in the low-fertility countries: in the early 1990s, the rates of onset of family formation remained at around 0.9 or above in Serbia and 0.75 in Montenegro (Figure 2; middle panel). The most recent tempo-adjusted estimates are also still around 0.8 or higher. The timing of the onset of family formation did not change much until 1995 either, occurring on average at age 22–23, despite the wars (see left-hand panel). The postponement accelerated in Serbia and Montenegro, and diffused to Bosnia-Herzegovina only from the late 1990s (i.e., at the same time as in Albania and Macedonia). The process then further intensified during the period of societal consolidation.

Regardless of the stage of fertility transition attained by each country by 2000, the average age at the onset of family formation increased to 24–25 years by 2007; similar to that seen in Ukraine. Despite the wars and the fast structural changes in society, these increases of only one to two years over the observation period started later and were rather limited in the Western Balkans, when compared with the Czech Republic. The latter experienced similar changes within less than a decade in the 1990s, and the postponement continued in the 2000s. It is therefore not surprising that the lowest unadjusted estimate of the TFR1 in the Western Balkans (0.6) remained well above the trough observed in the Czech Republic (0.5), and that the postponement trend is also not yet levelling off (except perhaps in Montenegro, where the latest available estimate of the unadjusted TFR1 rebounded to nearly 0.8 in 2008).

A closer look at fertility postponement and its impact on the TFR

To increase understanding of this timid postponement trend in a period of acute levels of uncertainty
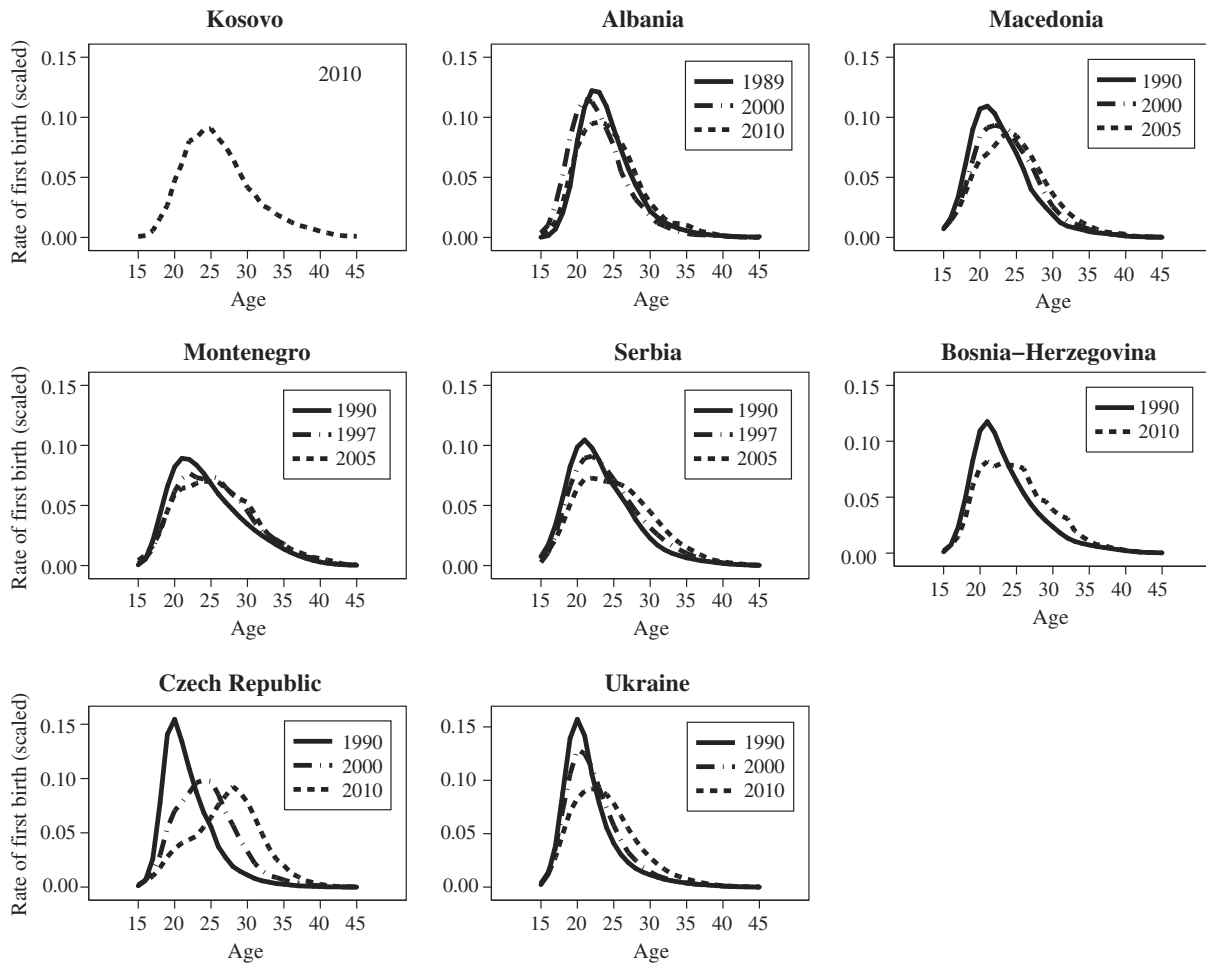
Figure 3   Relative age-specific rates for first births, Western Balkans, selected years around 1990, 2000, and 2005/10

Note: The closest available estimates around 1990, 2000, and 2005/10 are shown. Rates are scaled to unity to facilitate comparison of the age schedules' shapes over time.

Sources: Human Fertility Collection (HFC), Human fertility database (HFD), author's estimates (census-based and from vital statistics; see Table 2).

in the 1990s, followed by economic recovery and structural changes in the 2000s, Figure 3 presents age-specific first birth rates from the HFC for Bosnia-Herzegovina (until 1990 only), Macedonia, Serbia, and Montenegro. I also show my census-based estimates for Albania and my estimates based on recent official statistics for Kosovo and Bosnia-Herzegovina (for the period after 1990). Comparative figures for the Czech Republic and Ukraine, retrieved from the HFD, are also presented. The rates have been scaled to unity in order to facilitate comparison of the shapes of the age schedules over time.

In 1990 (and until 1995; not shown), the relative rates of first births rose steeply from age 15 up to a peak at around age 20, followed by a relatively rapid decline to age 30 (or 35 in Montenegro), after which age only a few births occurred. In Albania,

the age schedule even became slightly younger by 2000, as observed also by Lerch (2013a).

In the 2000s, the peak in first births dispersed, and by 2005/10 had shifted towards higher ages (in Albania, Macedonia, and probably also in Kosovo) or plateaued at lower levels (in Bosnia-Herzegovina, Montenegro, and Serbia). Yet the relative rates continued to rise steeply at younger ages and to fall rapidly after the ages 25 or 30. This postponement pattern is more similar to the Ukrainian model than to the Czech one. In the Czech Republic, the fertility peak not only dispersed earlier, but the entire rate schedule also aged significantly (by moving forward by ten years of age, becoming significantly right-skewed). In contrast, in the Western Balkans and Ukraine, fertility postponement mainly occurred around the mean age at first birth, which explains why this indicator progressed slowly.

The emerging trend towards postponement had a negligible impact on total fertility. The differences between the observed and the tempo-adjusted TFRs (at birth orders one to three) were only 0.1–0.2 in Macedonia, Montenegro, and Serbia (not shown). The adjusted TFRs were about 1.6 in the late 2000s, which is well above the lowest-low level.

Discussion

The sharp fertility decline in CEE since 1990 was driven by stopping and postponement of childbearing. The two trends have been attributed, respectively, to the post-communist crisis and new opportunities in the subsequent period of economic development. In the Western Balkans, these two social contexts followed each other in the form of a biphasic transition. In this paper, I have examined whether this sequence triggered a biphasic fertility response involving, first, a decline in all higher-order births and, later, a postponement of the onset of family formation. Fertility trends in the Western Balkans over the period 1980–2010 were described and compared with the experiences in CEE.

This analysis has filled a gap in the demographic evidence base for the Western Balkans by compiling and systematically cross-validating direct and indirect estimates of fertility and the onset of family formation, drawing upon independent sources. My results have revealed a considerable uncertainty regarding the *intensity* of reproductive behaviour across the region. In the 1990s, official statistics underestimated fertility because of the under-registration of births, incomplete data forwarding between governmental offices, and problems with the definition, coverage, and estimation of the at-risk populations. Fertility levels based on surveys tended to be overestimated due to sample biases. Comparative figures based on censuses did not reveal selection biases due to migration. The 2000s, in contrast, were characterized by an improved measurement of fertility. Moreover, fertility *trends* are shown to be congruent across the different sources. The two estimates of the onset of family formation based on official statistics and surveys also converged in the period before postponement started. The analysis of these trends confirmed that the Western Balkans experienced an initial limitation of higher-order births and a subsequent postponement of first unions and first births. Yet these biphasic responses were less marked than seen in other contexts of economic and political transition in CEE.

First, the TFR did not collapse to lowest-low levels during the periods of acute crises in the Western Balkans. In the countries that were less advanced in the fertility transition by 1980, the pace of decline was similar before and after 1990. Birth limitation diffused according to the classic model—from higher to lower parity women over time—even in war-torn Kosovo. In the other countries with TFRs around replacement level in 1980, fertility plateaued (or even temporarily increased) during the Bosnian war. Evidence for crisis-driven birth limitation has only been found in Bosnia-Herzegovina and Serbia immediately after the war, when their economies virtually collapsed (see also Pobric and Robinson 2015). Yet the drops in fertility varied in intensity and duration.

The second main observation relates to the trend of postponement of marriages and first births. These behaviours indeed started as of 1990 in the more developed countries, in which post-secondary education spread the most, and diffused throughout the region from the late 1990s when the economies started to recover. However, the pace of postponement was limited and a significant minority of women continued to give birth to their first child at a young age (or to have large families, or both), despite the acute uncertainty during the wars, the social interaction with western Europe, and the spread of post-secondary education.

Thus, stopping behaviours played a major role in the fertility decline in the Western Balkans, as seen in the Slavic countries of CEE (such as Ukraine and Russia). Yet unlike in those countries, the two-child family model persisted to a larger extent, as in the CEE countries that experienced a sharp fertility postponement. In contrast to these countries, however, the postponement of the onset of motherhood contributed only marginally to the fertility decline in the Western Balkans. This relative resilience of childbearing patterns explains why the region did not experience sustained lowest-low levels of fertility (except maybe in Bosnia-Herzegovina). This is surprising, given the more acute state of insecurity than in the rest of CEE, as well as the similar levels of fertility in 1990 and similar subsequent socio-economic transformations in half of the countries of the region. The fertility trends in the Western Balkans challenge established demographic theories about population responses to crises and development.

The fertility plateau in the countries affected by war is congruent with experiences in other conflict areas, such as Tajikistan or Iraq (Clifford et al. 2009; Cetorelli 2014). In the Western Balkans, this must be understood in relation to the social context

marked by violence, nationalistic ideologies, and the fear of depopulation due to low fertility among titular ethnic groups. Governmental and church discourses emphasized women's reproductive roles to stabilize population (in contrast to men's masculinity as soldiers), and access to family planning and abortion services was temporarily curtailed (Kesic 1999; Papic 1999; Shiffman et al. 2002). This led to a resurgence of traditional gender roles in society, including the protection and subordination of women; roles that had been strengthened by ethnic polarization, and interethnic fear and distrust (Kunovich and Deitelbaum 2004). Moreover, the importance of military conscription and anticipated spousal separation, as well as of rapes, in sustaining fertility levels among young people cannot be discounted (Staveteig 2011).

More generally, the results confirm the historical persistence of family behaviours in the region (Botev 1990; Sardon 1991). This can be related, according to Sklar (1974), to the historical importance of traditional social institutions. The peripheral location and mountainous topography of the Western Balkans, as well as the non-interventionist Ottoman regime, contributed to the survival of patriarchal kinship structures until 1950. Although these institutions were attacked by the communist regimes in order to reserve social power for themselves and to raise women's status, there has been a 'patriarchal backlash' in the context of weak states in the 1990s. When the communist regimes collapsed, traditional kinship structures filled the ideological and regulatory vacuum, and helped to ensure the material and physical security of individuals during a period otherwise characterized by crisis, social anomie, and upheaval (Fisher 1999; Kaser 2008). I argue that the resilience in family behaviours during the crisis reflects the continued moral primacy of traditional social institutions.

This re-traditionalization of society has had lasting effects beyond the crisis period. Traditional family values persist among young people and the patriarchal traits of society continue to shape reproductive behaviours (Tomanovic and Ignyatovic 2006; Kuhar and Reiter 2009; Lerch 2013b). This may have blocked the diffusion of Western ideas and norms regarding the family in the 2000s. As in Ukraine and Hungary, increasing living standards and the emergence of new educational and economic opportunities in a context of slow social change may have created tensions in society, leading to another state of social anomie (Perelli-Harris 2005; Spéder and Kapitany 2014). It appears that young people in the Western Balkans have chosen conformity, rather than challenging traditional norms of family formation, because the family remains the main social safety net.

The patterns of fertility change in the Western Balkans therefore highlight the importance of the social and cultural context in mediating people's responses to political and economic change in terms of childbearing behaviour. This paper has focused on national trends, but future research may further investigate subnational social and cultural contexts. National trends may be driven by changes in the social structure of the population even though the behaviours of different subpopulations (e.g., educational or wealth strata) remain unchanged. The impact of traditional social institutions in attenuating fertility responses may also have been heterogeneous, affecting some social strata but not others. In the case of Albania, the potential bias of changing population composition has been ruled out and the differential responses have been confirmed (Lerch 2013a). As the fertility trends reconstructed from the available household surveys are congruent, my study has highlighted the potential of these data for a more disaggregated comparative analysis, which may increase understanding of fertility change in the Western Balkans.

Notes and acknowledgements

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