Adverse sex ratio at birth in Southeast Europe

Christophe Z Guilmoto, senior fellow, IRD/CEPED

Email: Christophe.guilmoto@ird.fr

Address: CEPED Paris Descartes 45 rue des Saints-Pères 75006 Paris

Résumé en français :

Les déséquilibres de sexe à la naissance ont été étudiés depuis longtemps en Asie et les cas de la Chine et de l'Inde examinés dans un grand détail. En Europe orientale, on a également observé un surplus de naissances masculines depuis 1991dans les pays au sud du Caucase. Ce papier résume l'état des connaissances statistiques sur les Balkans occidentaux et met en évidence des déséquilibres durables au détriment des filles dans un certain nombre de pays situés autour de l'Albanie. Nous passons en revue différents pays issus de l'ancienne Yougoslavie ainsi que l'Albanie. Nous utilisons pour ce faire à la fois les données relatives à l'enregistrement des naissances et les distributions par âge et sexe du recensement. Diverses études plus qualitatives sont également utilisées.

Le rapport de masculinité des naissances selon l'état civil est excessivement élevé en Albanie, ainsi qu'au Kosovo et au Monténégro, tandis que le déséquilibre est moins prononcé en Macédoine (sans doute en raison de sa diversité de peuplement). Les chiffres du recensement, quand ils sont disponibles, tendent à confirmer le surplus de naissances masculines identifié par l'état civil. Il s'agit visiblement d'un déséquilibre continu et des recherches qualitatives ont démontré qu'il était lié au désir d'avoir des garçons et au recours à l'avortement sélectif. Cette préférence pour les garçons est profondément ancrée dans des systèmes familiaux patrilinéaires typiques de cette région d'Europe et ce sexisme s'est exprimé historiquement par différents phénomènes démographiques tels que la surmortalité féminine dans l'enfance, les préférences de fécondité en fonction de la composition par sexe de la famille et la sélection prénatale. Cette analyse dessine les contours d'une zone d'influence albanaise qui se distingue du reste des Balkans occidentaux. Dans les autres républiques de l'ex-Yougoslavie, les hausses de la masculinité des naissances sont en effet de taille plus modeste et éphémères, mais elles correspondent souvent à des années importants du conflit des années 1990.

Abstract in English

Gender imbalances at birth have been studied for a long time in Asia and the cases of China and India already examined in great detail. In Eastern Europe, a surplus of male births has also been observed since 1991 in countries of the South Caucasus. This paper summarizes the state of statistical knowledge on the Western Balkans. It highlights sustained sex imbalances at birth and surplus male births in a number of countries located next to Albania. We review the situation in various countries from the former Yugoslavia as well as Albania's case. To do this, we use both birth registration data and census age and sex distributions. Additional qualitative studies are also used.

The gender ratio of births is excessively high in Albania, Kosovo and Montenegro according to birth registration data, while the imbalance is less pronounced in Macedonia (probably due to its

population's diversity). Census figures, when available, tend to confirm the surplus of male births identified by marital status. There is a well-established imbalance and qualitative research has shown that it is linked to the desire to have boys and the use of sex-selective abortions. This son preference is deeply rooted in family patrilineal systems typical of this part of Europe, and this gender bias has historically been expressed by various demographic phenomena such as excess female mortality in childhood, fertility preferences according to the sex composition of the family, and prenatal selection. This analysis draws the outlines of an Albanian zone of influence that differs from the rest of the Western Balkans. In the other republics of the former Yugoslavia, increases in birth masculinity are indeed more modest and ephemeral, but they often correspond to important years of the conflict of the 1990s.

The case of birth masculinity in Asia is relatively well known. Over the last thirty years, parents have resorted in increasing numbers to prenatal sex selection to avoid the birth of daughters. In some countries of West, South and East Asia, the sex ratio at birth (SRB) has gradually increased from the natural level of 105 male births per 100 female births to levels above 110, with SRB levels above 125 in several regions of China and India (Croll 2000, Attané and Guilmoto 2006, UNFPA 2012a). Three preconditions for this rise have been identified: a demand factor linked to the preference for sons in patriarchal societies, a supply factor associated with the emergence of prenatal sex diagnostic combined with the availability of abortion, and the exacerbating factor of low fertility that reduces the probability to have a son in smaller families (Guilmoto 2009).

The increase in prenatal sex selection in a population can be seen as one of the most blatant manifestations of gender bias. The rising proportion of male births reflects poorly on women's status in rapidly modernizing societies. But beyond its significance for current gender relations, the declining share of female births is also a portent of serious social and demographic imbalances in affected countries linked to the surplus of adult men in the decades to come.

In this paper, I will bring together evidence of sex imbalances at birth in Southeast Europe based on birth registration figures. It will be seen that the most pronounced forms of sex-ratio imbalances are found in several countries bordering Albania while more distant countries display only isolated cases of high sex ratio at birth. These high levels of birth masculinity can be easily related to sex-selective abortions and to son preference, and ultimately to local kinship systems heavily biased against female family members.

1 Measuring the sex ratio at birth

The sex ratio at birth (SRB) tends to oscillate around 105 boys per 100 female births. This slight excess of male births is one of the few invariants found across all populations. There are biological variations across populations such as lower SRB levels observed among populations of African origin, be it among countries in Sub-Saharan Africa or among the African-American population. Similarly, reliable SRB estimates based on birth registration data from developed countries indicate the presence of significant time variations, the origin of which remain poorly understood. But observed SRB levels always remain within the 104-106 range. Departures from this range usually result from estimation errors such as selective underreporting of births by sex or from random variations due to small samples.

As a matter of fact, one of the major risks encountered in sex ratio analysis relates to sample sizes. Based on an average SRB set at 105, observed SRB figures close to 110 may not be

uncommon when samples are limited to fewer than 10,000 annual births—such as found in many smaller European countries. The 5% confidence interval extends in the previous case from 101.0 to 109.2 male births per 100 female births. When births number less than 5000, the SRB estimates are indeed extremely less reliable with an estimation range larger than 11 per 100 births. Even with bigger samples close to 50,000 births, the sex ratio at birth may come very close to 107 with a confidence range still as large as 3.7 per 100 (Guilmoto 2015).

There are, however, two other potential factors for significant SRB fluctuations: deliberate prenatal sex selection and stress-induced changes in the sex ratio at birth. The first factor is well-known outside Europe as the sex ratio at birth is known to have undergone a rapid increase since the 1980s in many Asian countries for reasons unrelated to biological changes in their populations. SRB levels above 110 are now observed in several countries from the Caucasus to South and East Asia. This increase is mostly due to the growing use of sex-selective abortions to avoid the birth of daughters and the resulting rise in the proportion of male births. While many other factors have been mentioned in this connection, ranging from birth underreporting to clandestine female infanticide, prenatal sex selection remains the key factor behind high SRB figures reported in Asian and Caucasian countries.

The second potential cause for significant SRB changes relates to the common hypothesis of the existence of a stress-induced increase in birth masculinity. Such an increase in SRB has often been reported in case of stressful events such as natural catastrophes or conflicts. The wars in the former Yugoslavia and its successor states have led to a large number of studies devoted to the analysis of potential changes in SRB. Yet, the evidence of such changes during the conflict period appears to be rather inconclusive. Contrary to long-term changes observed in Asian SRB levels mentioned above, the impact of a conflict on SRB level is supposed to be limited to short periods and to be almost entirely reversible. Moreover, the impact of a crisis tends to be rather limited in magnitude and, therefore, undetectable in the absence of an extremely reliable civil registration system (Guilmoto 2015).

2 Available sources

The estimation of the sex ratio at birth is ideally based on birth registration data by sex. When the number of births is sufficient and birth registration exhaustive, these civil registration series provide the best indicators to examine the existence of significant variations in birth masculinity. They also allow for the computation of trends and of regional differentials. In the region under study, these civil registration series are at times incomplete, unpublished or based on birth samples that are vulnerable to estimation errors.

In the absence of birth registration statistics, the most reliable alternative source is the exhaustive sex and age distribution derived from censuses. In both China and India, census figures

have long represented the major source for the study of skewed sex ratios. While the sex ratio of populations below ages 1 and 5 are also affected by sex differentials in infant and child mortality, the influence of mortality variations tends to be modest and can be corrected. Age specific sex ratios provide the next best source to detect a significant departure from the biological norm in the absence of birth registration. But censuses are not always regular events and data for several countries in Southeastern Europe are either dated or incomplete. The last possible source to study birth masculinity relates to sample surveys that include birth history, but in most cases, the size of the survey samples is too small to allow for reliable SRB estimates or for any further meaningful analysis of birth masculinity. I will therefore focus here on birth registration statistics, but interested readers may also refer to the disaggregated age and sex results from the most recent censuses.

Before discussing the results, a few preliminary comments about the database are in order. The SRB data displayed here and used further below in this paper have been collected from both national statistical institutes (paper publications or tables available from their website) and from international agencies such as Eurostat and UNECE. They refer in particular to several countries or autonomous administrative entities of the former Yugoslavia that have undergone important administrative or political changes, both in their external borders and regional divisions. To simplify, I treat here "Kosovo" as a separate entity and I identify the Former Yugoslav Republic of Macedonia as "Macedonia."

Our sources remain incomplete for various reasons. It must be borne in mind that no fewer than six states have undergone border changes since 1991 as a result of the break-up of the former Yugoslavia. Kosovo is the latest addition to this list, with a first census finally held in 2011 on most of its territories after three decades without reliable census data. While most data for the new political entities are retrievable from past Yugoslav censuses and birth registration, civil registration series are often incomplete because of the bureaucratic disorganization during the conflict period in the successor states. This is for instance the case for Bosnia and Herzegovina, in which the annual series of births are available only from 1996. The annual series of births in Kosovo has also become available only from 2001 onwards (figures collected during the earlier Serbian rule may not be reliable). Yet, the statistical series overall appear of reasonably good quality. They can be corroborated by census figures when available.

As indicated earlier, a rather different potential problem arises from the annual number of births in several countries. Not only are populations often limited in these countries, but the birth rates in most of them have also experienced a brutal decline since the fall of the socialist regimes, most notoriously illustrated by Albania. Birth series are, therefore, plagued by serious sample limitations as can be visible for the small countries, such as Montenegro with fewer than 10,000 births per year. But many countries record today less than 50,000 births per

year, which means that the sex ratio at birth has to be clearly above 107 to be significantly different from 105. Sample size issues also prevent from computing the SRB at lower administrative levels. In multiethnic and regionally heterogeneous countries, this hinders a more refined demographic analysis of SRB variations. One way to get around small numbers of births consists in combining annual figures over several years (moving average). The drawback of such an approach is that by merging together birth cohorts, we miss the chronological details of SRB trends.

3 High sex ratio at birth in Europe

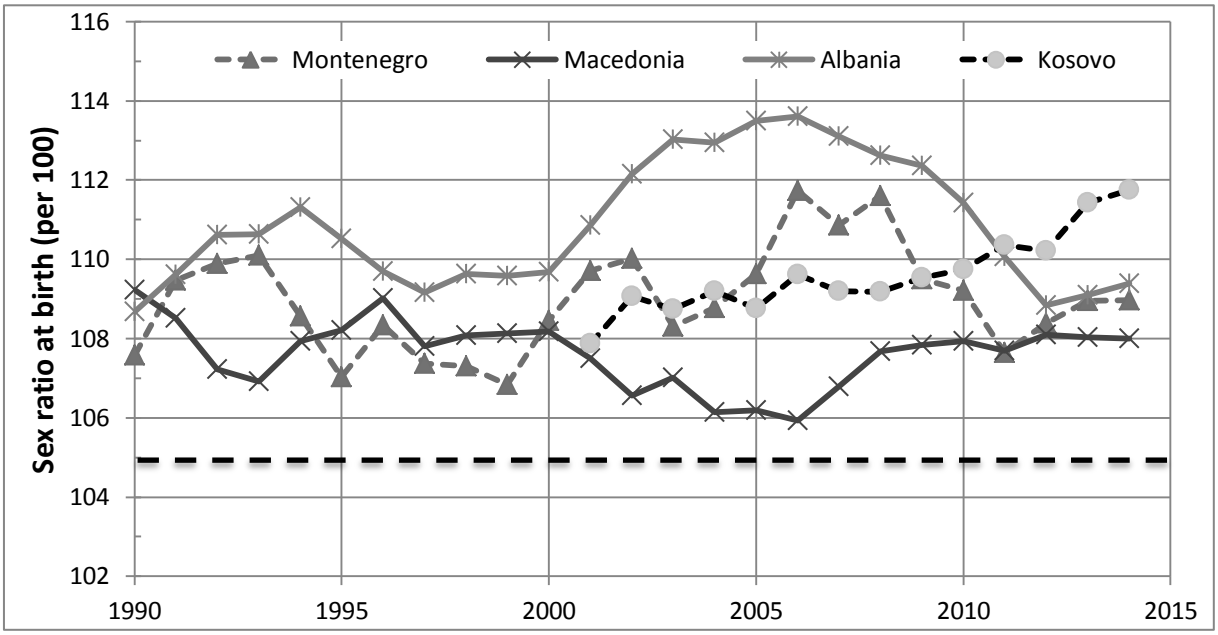
With the exception of countries in the Caucasus (Guilmoto and Duthé 2013), the major case of rising SRB levels documented outside South or East Asia refers to Asian diasporas residing in industrialized countries such as the UK or the US. No significant rise in birth masculinity had been described for autochthonous European populations before 2000. But this brief survey of birth statistics demonstrates the existence of a regional core of high birth masculinity in Southeast Europe. This high birth masculinity may be related in particular to patterns of excess female mortality—as identified by Courbage in a seminal paper (1991)—existing in the past, but the nature of modern gender discrimination via sex-selective abortions is entirely new.

Our review of birth statistics demonstrates an unusual rise in birth masculinity that can be observed in four countries and areas: Albania, Kosovo, Western Macedonia, and Montenegro. These four countries form a regional block in the Western Balkans, to which I refer as the "Albanian Core," and share many political, anthropological, economic and demographic features as far as gender and family norms are concerned (Denich 1974). For comparative purposes, I also examined birth series from all other countries in Southeast Europe from Slovenia to Turkey and found no significant departures from the biological average in these other countries. The only countries where we could unearth traces of short-term SRB distortions are Bosnia and Herzegovina, Croatia and Serbia—which are contiguous to the Albanian core of high sex ratio at birth and were part of former Yugoslavia. But these SRB levels seem to be isolated and not confirmed by available census age distributions. I believe that the evidence for elevated SRBs in these countries is inconclusive. I have, therefore, decided to exclude them from the present analysis which will focus only on the cases of Albania, Kosovo, Macedonia, and Montenegro.

The data used here are drawn from the raw figures compiled and disseminated by national statistical bureaus. Figure 1 shows the diversity of SRB curves for the four selected countries. But we will see later, estimates for individual years may be rather erratic, with national series such as Montenegro's oscillating between 105 and 113 from one year to the next. I have therefore opted for moving averages over three years, a method that tends to reduce the num-

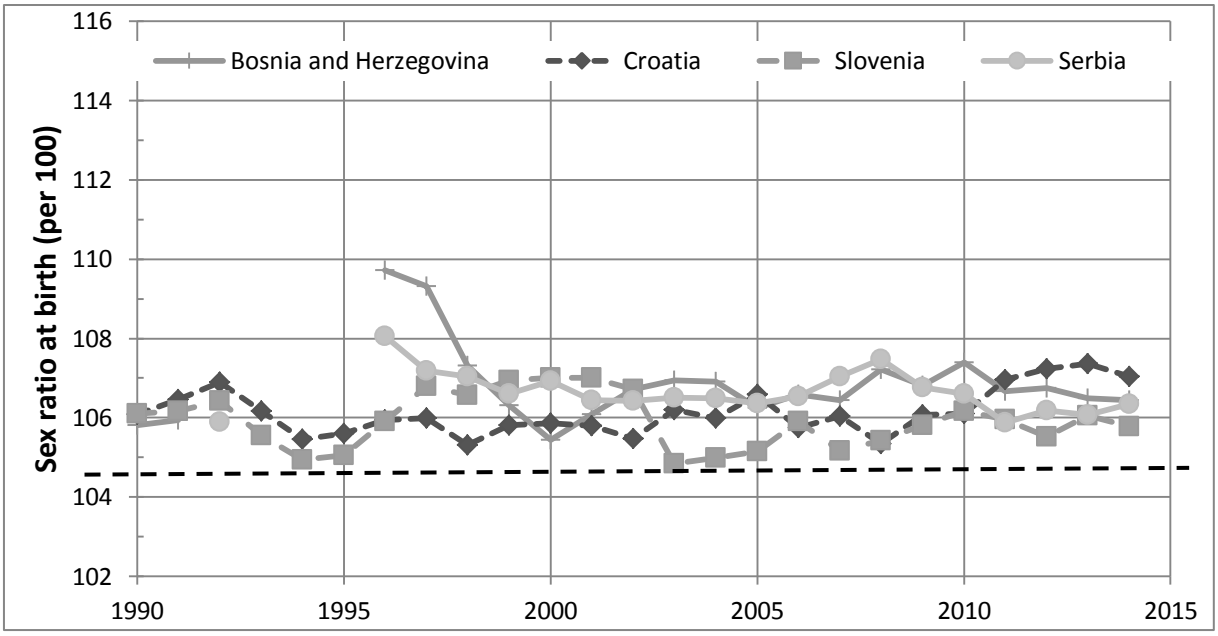
ber of spikes. This figure demonstrates that the sex ratio at birth in these four countries tends to be systematically at the natural level of 105 male births per 100 female births. While SRB values are moderate in Macedonia, extreme values exceeding 110 have been observed in Albania after 2000 and in Kosovo during the last few years.

Figure 1: Sex ratio at birth, 1980-2009, Albania, Kosovo, Macedonia and Montenegro



The next figure is also based on moving averages. We have kept here for comparison the other four new countries born from former Yugoslavia. In these countries, the sex ratio at birth is often above 105, but it rarely goes above 107, except in 1996. It is difficult to posit a real increase in SRB during this period as the average levels are close or below 106. Yet, these values are slightly higher than national averages observed in Western Europe where birth masculinity tends to be closer to 105 male births per 100 female births.

Figure 2: Sex ratio at birth, 1980-2009, Bosnia-Hercegovina, Croatia, Serbia and Slovenia.



4 A closer look at the statistical series

While birth registration is the most appropriate source for detecting high birth masculinity (Figure 1), the child sex ratio computed from census figures may offer an indirect confirmation of existing distortion. The analysis is often possible at the disaggregated regional level such as the *rrethi* or *prefektura* in Albania, *the distrikt* in Kosovo or the *opštini* in Macedonia and Montenegro, but the present report will be restricted to the national level because variations are very pronounced for subnational units.[1]

Table 1: Average sex ratio at birth in Southeast Europe, 1990-14

	Sex ratio at birth	
	Average	**Standard deviation**
Bosnia and Herzegovina	106.8	1.5
Croatia	106.1	1.1
Serbia	106.6	.9
Slovenia	105.9	1.3
Albania	110.8	1.9
Kosovo	109.7	1.5
Macedonia	107.6	1.5
Montenegro	109.0	1.5
SRB computed from available birth registration figures per year.		

Table 1 provides a summary of the evidence based on recent estimates of the SRB. Data used

[1] See however UNFPA (2012b and 2016) for a disaggregated analyse of SRB trends in Albania and Kosovo.

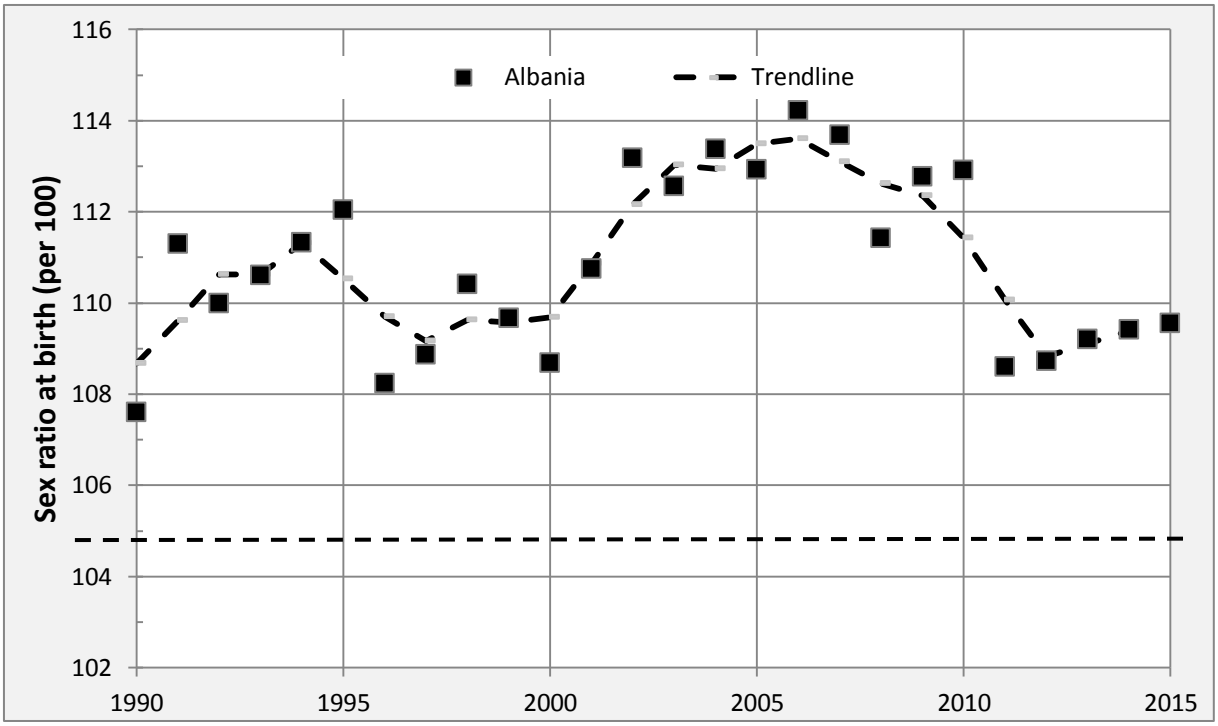
here are based on birth registration figures published by individual statistical offices. They confirm what the previous charts indicated. Countries of the Albanian Core display an elevated sex ratio at birth, with figures in Albania and Kosovo close to 110, while Montenegro's average is slightly lower. Macedonia lies in an intermediary position, while birth masculinity in the other former Yugoslav republics hovers around 106. The next section offers a closer examination of national series and combines original annual data with trendlines derived from moving averages.

4.1 **Albania**

Albania is the clearest case of rising proportions of male births. Ever since the 1990s, the national SRB estimate was above 110 and it peaked to 114 during the following decade. The quality of data may have been disturbed during the political transition as the leap by 4 per 100 from 1990 to 1991 suggests, but there is a distinct rise noticeable from 1997 onward, a period coinciding with severe political unrest and a new abortion law. This increase brought Albania's SRB to its highest level. Over the last few years, the sex ratio at birth in Albania appears, however, to have dropped significantly from a plateau at 113 during the previous decade to a level closer to 109 today.

The quality of demographic data from Albania remains a serious issue (Wanner and Lerch 2009) and a preliminary review of birth registration would be necessary. Interestingly, high SRB at birth has also been observed among Albanian migrants in Greece where it reached 109.5 in 2006 (Verropoulou and Tsimbos, 2010).

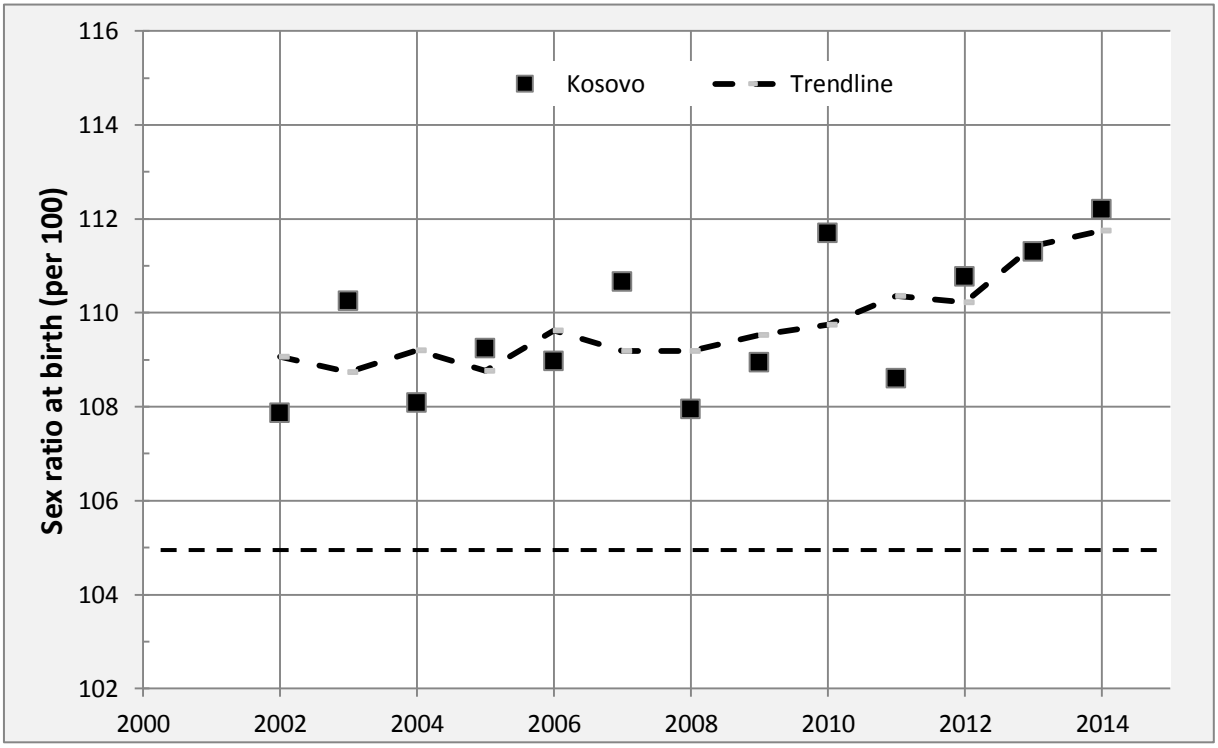
Figure 3: Sex ratio at birth, 1990-2015, Albania



This birth imbalance was, however, confirmed by the 2001 census results pointing to a slight surplus of male children (child sex ratio of 107). The results from the next census confirmed this male excess with a child sex ratio of 110 among the 0-4 year-old. These results are also corroborated by findings from other surveys (e.g. DHS, LSMS). For instance, the latest DHS results published in 2010 put the SRB at 110 for the period 2005-2009. While DHS samples remain small and subject to statistical error, they tend to provide a distinctly adverse sex ratio at birth in Albania for the entire decade and corroborate the other estimate of 111 measured in 2005 by the latest MICS round (INSTAT 2008)

4.2 **Kosovo**

Figure 4: Sex ratio at birth, 2002-2014, Kosovo



The absence of reliable census data since 1981 prevents any attempt at discerning long-term changes in Kosovo's sex ratio at birth. Yet, Kosovo has enjoyed a relatively good statistical monitoring system since 2002 even if certain data are completely missing from some Serb-dominated districts in the North. Available birth statistics point to systematic distortions in birth masculinity levels over 2002-14 when the SRB averages at 110. There are even clear signs of a slow SRB rise from 109 before 2010 to 111 during the last years.

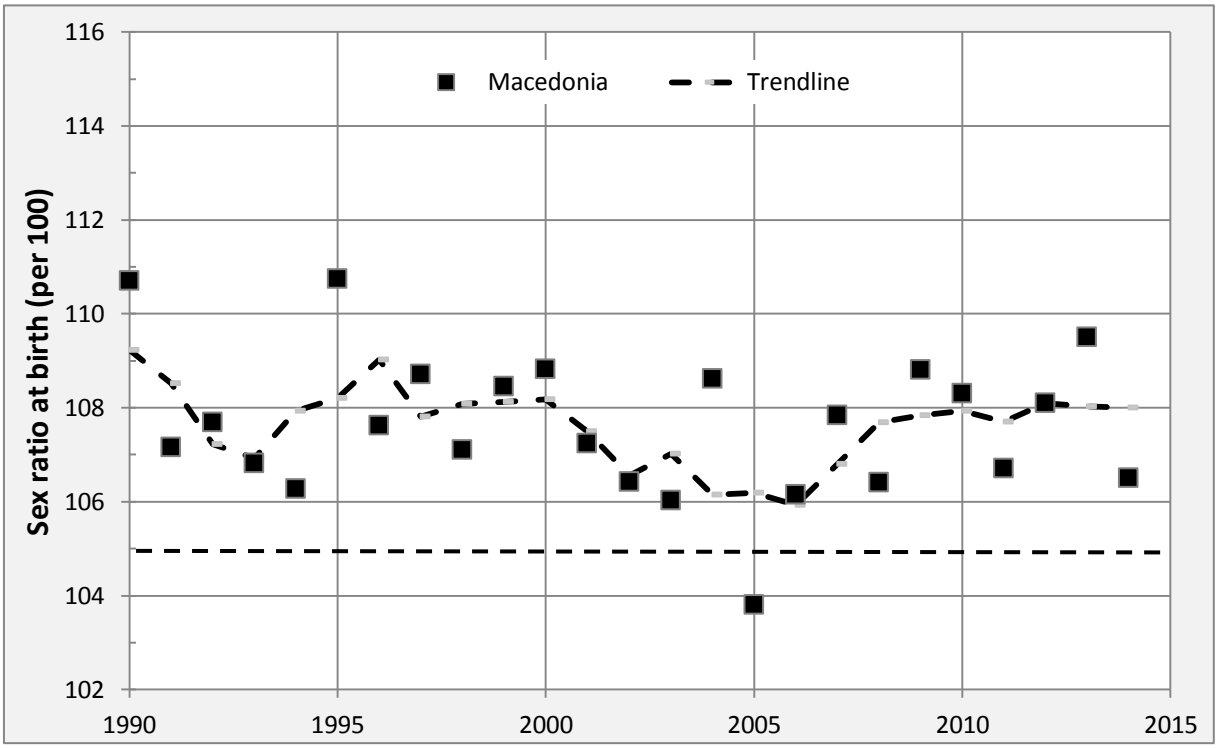
The inordinate proportion of male births had already been noticed after one of the first surveys conducted in Kosovo in 1999-2000 (Blayo et al. 2004). The results from the 2011 census provided an indirect confirmation of these trends by providing age and sex distributions for the child population, leading to a sex ratio of 108 in the population aged less than 5. It may

also be noticed that the results from qualitative surveys on abortion, gender violence and trafficking conducted during the last ten years have already provided a larger number of references to the incidence of sex-selective abortions among Kosovar women (see for instance KWN, 2008).

4.3 **Macedonia (FYROM)**

SRB levels in the Republic of Macedonia have always been above 106 since 1990, with the exception of 2005 when the ratio plunged somewhat unexpectedly below 104. At the same time, the departure of birth masculinity from natural levels has been moderate during the 25 years under study and there were only few peaks above 110 during this period. Birth masculinity has averaged at 107.6 in 1990-2014 and points to a limited bias.

Figure 5: Sex ratio at birth, 1990-2014, Macedonia



This moderate SRB level can be explained to some extent by Macedonia's social heterogeneity. Skewed SRB levels are mostly observed in specific municipalities of Northern and Western Macedonia. In fact, 2002 census and more recent birth registration data suggest that regions recording an unusually high proportion of boys among the child population tend to be inhabited by ethnic Albanians. In these regions (Southwest and Polog), the average SRB is closer to 109, a level comparable to what is observed in adjacent countries of the Albanian Core. This explains why the overall sex ratio at birth remains moderate in Macedonia. It should, however, be stressed that no qualitative survey exist on reproductive health in Macedonia supporting the hypothesis of sex selection among parts of its population. The absence of

a recent census is, however, a source of frustration for a more disaggregated analysis.

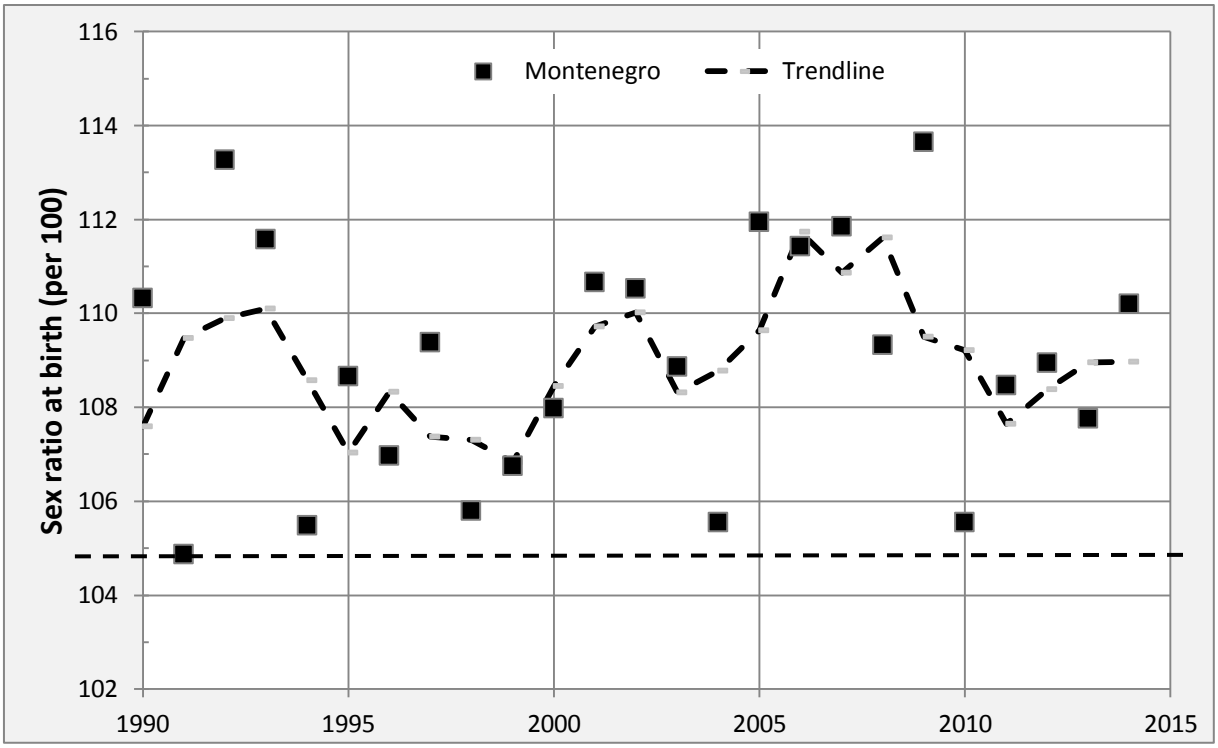
4.4 **Montenegro**

The situation prevailing in Montenegro is statistically difficult to assess because of the small number of annual births, usually well below 10,000 births in the country. The wide fluctuations in annual SRB estimates provide a distinct illustration of the effect of the small sample size and explain why SRB measurement is affected by important yearly fluctuations. Montenegro is indeed the country from our sample with the highest variability in annual SRB estimates (see standard deviation in Table 1).

The SRB level has been, however, clearly above the normal level since 1990, and there have been eight years since 1990 with SRB above 110. It averages at 109 over the 25 years under study. There is no clear discernible trend in birth masculinity although the years 2005-2009 recorded a rather high level of 111.5 male births per 100 female births. The latest estimate released by the Statistical Office for year 2014 puts birth masculinity in Montenegro at 110. The 2002 census results somewhat confirmed the masculinity of the child population, with a sex ratio of 107.6 for children below five. The age and sex tables from 2011 also show that males outnumber females among children, with sex ratios of 109.5 and 108.7 among the 0-4 and the 5-9 year-old respectively. Unfortunately, we have precious little in terms of qualitative study of gender preferences in Montenegro and most of the available literature refers to other forms of gender bias.

It is also interesting to note that Montenegro does not belong to the Albanian cultural sphere (except for a few municipalities along the border) and is characterized by mostly Orthodox Christian and Slavic traditions. In other words, it has cultural features more similar to its Serbian or Croatian neighbors. Yet, it may be argued that Montenegro shares many of the "tribal" traditions of Albania such as its strict form of violently enforced patriarchy in the past (Denich 1974). These typical features of gender bias common to Albania, Montenegro and Kosovo are probably what matters most when it comes to son preference and gender-based discrimination.

Figure 6: Sex ratio at birth, 1990-2014, Montenegro



5 Other evidence

Studies devoted to gender relations and inequalities in Southeast Europe have often focused on health, education, employment and legal aspects. Gender-based violence and human trafficking are two issues that have led to detailed monographs in most countries under study. But no specific in-depth qualitative surveys have addressed the issue of prenatal sex selection.

Sex selection is, however, mentioned in several gender assessment reports on Albania and Kosovo. References to sex selection in Albania can be found in studies prepared by SEDA and UNDP in 2005, by CEDAW (for USAID) in 2005 and by UNICEF in 2008. Two different UNFPA-sponsored publications on Kosovo—devoted to pregnancy and family planning (2006) and gender-based violence and reproductive health (2008)—offer a somewhat more detailed treatment of the issue. They include separate sections describing male-gender preference as a specific reason for pregnancy termination among Kosovar women to avoid unnecessary (female) births. These qualitative materials have brought together in the UNFPA-sponsored studies of birth masculinity in Albania and Kosovo (UNFPA 2016, 2012a).

The son preference observed in these surveys results from the central place occupied by sons in patriarchal Albanian families. At the same time, the role of the newly introduced ultrasound technology is also acknowledged as well as the context of rapidly decreasing fertility rates since the 1990s in Albania or Kosovo, regions which had long been characterized by the highest birth rates in Europe (Sardon 2000; Gjonça et al. 2008). We recognize here the three classical preconditions for sex selection observed in Asia: latent demand for sex selection

caused by gender preferences, emergence of modern sex selection technology, and rapidly declining fertility.

Anthropological studies of the region extending from Montenegro to Western Macedonia have long described the main features of a patriarchal system, characterized by male dominance and frequent resort to violence. These studies often refer to older traditions such as blood feuding and the *Kanun* law[2] that were typical of mountainous communities in the Balkans. These clan-based or "tribal" societies were usually characterized by complex patriarchal households that lived in relative isolation from the Ottoman power and in which women were strictly excluded from inheritance rights (see for instance Reineck 1991). In fact, recent research has shown that localities carrying the most pronounced patriarchal features are precisely located in the Albanian Core (Gruber and Szołtysek 2015). Referring to some of these traits typical of North-eastern Albania before 1950 may sound anachronistic when discussing contemporary gender arrangements in post-socialist countries, often characterized by a disintegration of family structures. A real understanding of the roots of gender inequity, however, requires a longer historical perspective and recent studies demonstrate indeed how older forms of gender bias have been revived in contemporary Eastern Europe (Kaser 2008).

6 Discussion

Since sex ratio distortions in SE Europe have attracted little attention, field reports documenting the mechanisms behind this rise are extremely rare. Two plausible hypotheses can be advanced for explaining the elevated SRBs: a sudden rise due to special circumstances such as war stress and recourse to prenatal sex selection.

The former hypothesis has been documented in many settings and it is often considered that a biological mechanism is behind the short rise in birth masculinity that may be observed in war-torn areas. Several studies have examined the possible increase in birth masculinity in relation with the civil war of 1990s in the former Yugoslavia. Our data suggest, for instance, high SRB levels in Serbia and in Bosnia-Hercegovina at the end of the conflict in 1996-97, although we have no information about births during the conflict itself due to the collapse of the birth registration system during the war. More recent trends point to SRB levels oscillating around 107 in the latter two countries. This may correspond to traces of sex selection, but we would need confirmation from more disaggregated data to test whether such bias can indeed be linked to son preference and sex selection. Croatia and Slovenia display no long-term signs

[2] See for instance Mangalokova (2004), Joireman (2014) and INSTAT (2004). A well-known description of the marginal position of women in traditional Albanian society in the past can be found in Durham (1909). For a recent critique, see, however, Doja (2010).

of abnormal birth masculinity. Yet, we can detect a modest rise to levels above 107 in 1992, i.e. one year after the start of the conflict. There was a rebound in Croatia to 108 in 1996, corresponding to conceptions occurring in 1995 when Croatia launched Operation Storm to reclaim its Serbian-controlled territories.

Yet, the evidence for a purely biological rise in birth masculinity is limited and often inconclusive.[3] It corresponds to short periods and may affect male or female births. From the evidence available here, the high SRB observed in the Western Balkans often appears to extend over several years in these countries. Stress-induced peaks in SRB are supposed to correspond to brief periods and may apply only to a few cases such as the illustrations given for Croatia and Serbia. But a longer rise in birth masculinity does not correspond to conflict periods. For instance, it may be noted that in spite of political unrest during the years that followed the fall of the former communist regime, Albania—the area with the highest SRB figures—has not been affected by warlike conditions during the period under study except for the civil war in 1997. The same can be said for Montenegro as well as for Macedonia. Kosovo is probably the only part of the former Yugoslav federation that has been directly involved during the conflict and where the proportion of male births is abnormally high. But the recent rise observed in Kosovo corresponds to a more peaceful post-conflict period.

These observations suggest that the biological hypothesis of a stress-induced rise in SRB levels is unlikely to account for the rise in birth masculinity observed from the 1980s. This should lead us to consider deliberate prenatal sex selection to be the main and only plausible factor behind the rise. This has been confirmed by the two national studies conducted in Albania and Kosovo (UNFPA 2012b, 2016). These studies include a qualitative assessment of the gender situation and of the availability of sex selection technology. They confirm the existence of a staunch preference for sons in society and the idea that no family can afford to remain sonless in an environment characterized by dominant patrilineal and patrilocal kinship arrangements. When data permit (UNFPA 2016), son preference can be shown to manifest itself chiefly through gender bias in fertility behavior. For instance, a higher proportion of couples opt for having an additional child in the absence of a previous male birth. But with fertility decline, a large proportion of couples end up without a son and sex-selective abortions are the only way to avoid the birth of additional girls in families that insist on the presence of a male heir.

There is still need for a better understanding of the process at work. How do couples decide

[3] See for instance Polasek (2006). There are cases of increases and decreases following wars and major stresses (see James 2009). Recorded increases in birth masculinity analyzed in the former paper are relatively minor compared to the extent of adverse SRB estimates derived from birth registration data in the four areas studied here.

about pregnancies, how far do family-based considerations prevail on individual preferences and what are the current transformations in gender attitudes among the urban population? This will require more disaggregated data, both from birth registration (such as SRB by parity or lower administrative unit) and from the census (through access to census samples large enough for sex ratio analysis). Such data would allow us to better monitor trends and assess differentials, and help us understand the social dynamics at work in sex selection—its links to private clinics, male outmigration, female employment and education, and household patterns. More information is especially required as birth masculinity has somehow peaked in Southeast Europe to a level of 109-111, but without any clear instance of a sustained decline as observed elsewhere (China, Caucasus).

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