Enhancing Gender Equality in Georgia

Gender-biased Sex Selection in Georgia

CONTEXT, EVIDENCE AND IMPLICATIONS

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Executive summary

This report proceeds from a growing concern about potential sex imbalances at birth in several East-European countries, following the United Nations interagency statement of 2011 on gender-biased sex selection (OCHR et al. 2011) and the report prepared the same year for the Parliamentary Assembly of the Council of Europe (PACE) on prenatal sex selection in Southeast Europe and in the Caucasus. The PACE resolution included a call to public authorities and international agencies to mobilize around the fight against sex selection through systematic studies of existing evidence and policy responses (Council of Europe 2011). This report is the first systematic study of Georgia and aims at providing an in-depth review of existing evidence on possible sex imbalances at birth. It draws on a variety of sources, ranging from existing socioeconomic and anthropological studies to recent statistical and qualitative evidence. In particular, it uses data assembled by a set of qualitative surveys conducted in Georgia in early 2014, as well as original microdata from Georgia's statistics office.

A brief overview of the international state of affairs helps to situate the issue of prenatal sex selection in a global perspective. Many countries in Asia and Eastern Europe have been affected by a rise in the proportion of male births over the last 25 years, primarily caused by growing recourse to sex-selective abortions. The most visible evidence of this is the rise in the average sex ratio at birth (the number of male birth per 100 female births) from 105 to 110-120. The evidence from these countries demonstrates that several factors are crucial for sex selection to take place. These preconditions particularly include the presence of a staunch preference for sons among families, the availability of modern sex-selection technologies and the pressure of low fertility.

Based on documentary evidence, it can be shown that the Georgian situation is in many respects similar to that found in countries with established prenatal sex selection. The features associated with high sex ratio at birth SRB are indeed found in Georgia since the 1990s. First, there has always been a latent preference for boys in Georgian society. This bias derives essentially from the strong need for a male heir felt by many Georgian parents. This insistence on a son is closely linked to the prevailing patrilineal system and to the role of sons in old-age support and in the perpetuation of the family line. In-depth demographic analysis shows that patrilocal coresidence is indeed a typical feature of the country's family system. A complementary analysis of fertility behaviour based on disaggregated census data also shows that the absence of a son significantly increases subsequent fertility. We see for instance that a third of the population has a third child only because of the absence of a son. In other words, Georgian families adjust their reproductive strategies to acquire a son. This fact probably demonstrates better than opinion surveys the central importance of sons in Georgian society.

This underlying need for a son has long been satisfied by a flexible fertility regime in which couples would continue child-bearing until they had a boy. But since the collapse of the Soviet Union, fertility has declined to reach its lowest levels, around 1.5 children per woman. This, in turn, led couples to resort to increased use of birth control, with abortion being the most common method of avoiding unwanted births since the Soviet period. The onset of the transition period accelerated the modernization of clinics and hospitals, and the importation of modern equipment since 1991 has dramatically altered the quality of reproductive services in the country. In particular, prenatal sex diagnosis became a routine procedure offered to pregnant mothers by private healthcare units. For the first time in the country's history, the combination of access to ultrasound and abortion has made prenatal sex selection possible and worthwhile, enabling Georgian couples to reduce the size of their families and to select its gender composition.

This report then embarks in a systematic review of the demographic evidence of sex imbalances. This requires a preliminary discussion of the nature and quality of statistical sources, particularly in view of the limited number of reliable sources available for the study of sex imbalances. The only exhaustive source is the 12-year old census data, which only sheds light on the period preceding 2002. The integrity of the birth registration system has severely deteriorated since the mid-1990s and it is only since 2005 that data are both available and of reasonably good quality. Individual demographic surveys are based on samples too small to offer a reliable source for evaluating birth masculinity. The lack of reliable demographic records is one of the principal reasons for the delay in obtaining accurate information about existing sex imbalances at birth.

Once all demographic sources are pieced together, the emerging picture depicts a rise in the sex ratio at birth since the early 1990s. This increase coincides exactly with the country's acquisition of independence, and with the subsequent fall in birth rates and emergence of modern tools of prenatal sex selection. Many Georgians opted for a selective fertility reduction, aimed at reducing the number of births without endangering the probability of hav-

ing a son. The sex ratio at birth gradually increased from the biological level in 1990 to about 112-114 male births per 100 female births at the beginning of the 21st century. The SRB then plateaued for a few years at this level, but then appears to have begun to reduce. According to the latest figure, it is now below 110 male births per 100 female births. This level is significantly below that of Azerbaijan and Armenia, but it is too early to know whether the decline will continue.

One of the most salient features of the sex imbalance is its link with birth parity. The sex ratio of first and second births is only slightly higher than the normal level. High-order births are characterized by skewed SRB levels often reaching values above 140 male births per 100 female. It is usually after two successive female births that parents opt for a third birth and resort to sex selection. Recent data suggest that first and second births also contribute significantly to the overall sex imbalance at birth. A complementary analysis of the sex ratio also shed light on several differentials across social classes, regions, ethnic groups as well as urban and rural areas. Tbilisi and the more educated regions are notably less affected than rural and more traditional regions in which the presence of sons is a crucial element of family composition. High levels of birth masculinity closely coincide with more intense levels of son preference than previously evidenced. Yet, there seems to be no group in the country completely immune to prenatal gender discrimination.

The large qualitative surveys conducted in 2014 have provided the first extensive source on attitudes and behavior related to son preference. They demonstrate the very limited awareness of Georgian citizens of the presence and extent of sex imbalances at birth in their country. In addition, the surveys demonstrate the persistent need for sons felt across large segments of Georgian society. Participants in these surveys also explain how families try to respond to this demand for a son without overly increasing their family size. Selective abortion after the birth of daughters is, as expected, found to be the main tool for beating the biological odds. No other old or modern method of sex selection seems to have any sizeable impact on current birth masculinity. However, this may change as new technologies become available. The justification for this gender requirement is often expressed as an inevitable outcome of the Georgian (or Caucasian) mentality. Established customs and patriarchal norms exert considerable pressure on couples to produce a son. But apart from family traditions, the need for a son is strengthened today by the central importance of the family, which has become during the transition the major buffer institution able to withstand economic and political uncertainties. For many families, the absence of a son may represent increased vulnerability to the kinds of socioeconomic shocks that many in the country have experienced over the last twenty years.

Besides being a radical strategy of gender discrimination, prenatal sex selection will also lead to future population imbalances. The trend observed during the last ten years can be projected into the future and provide an idea of the lasting impact of recent sex imbalances at birth. We have contrasted different demographic scenarios–with or without sex imbalances at birth–and their consequences up until 2050. Demographic simulations assess the mounting effects of skewed sex ratio at birth in the future, demonstrating in particular a growing number of “missing girls” and “missing adult women”. While it is difficult account for all potential demographic developments, the different SRB scenarios result in rather divergent evolutions in terms of the sex imbalances among adults–with a potential surplus of young men that only international migration would be able to alleviate.

This report provides the foundation for a larger debate within civil society on the issue of sex selection. It offers the first systematic inquiry of the long-disputed existence of sex selection in Georgia, leading to a reasonable estimate of the extent of the phenomenon and its variations across the country. Most probably, the main source of change will be the transformation of cultural attitudes resulting in a decline in son preference. The more quickly these transformations in gender attitudes take place, the smaller the overall consequences of sex imbalances at birth on Georgia’s future demographic structures will be. The report concludes with a list of recommendations that emphasize, in particular, the need for better demographic monitoring of birth masculinity trends and differentials across the country, for more research to understand the changing context of son preference, for widespread dissemination of the findings of this research to raise awareness on the current situation, and for launching a policy dialogue with the main stakeholders regarding ways to address gender discrimination in the country.

Introduction

This report investigates the presence of sex imbalances at birth in Georgia and examines its main causes and implications. The research has been based on a wide variety of sources, starting with discussions held during my visit to Tbilisi in June 2014 with a large range of decision-makers, health and gender specialists, NGO representatives, statisticians and social scientists. These are complemented by access to available documentary sources and to existing academic studies. But most of the original findings derive from the analysis of original datasets provided by Geostat and by the large qualitative survey conducted in 2014 with support from the World Bank and the UNFPA Country Office in Georgia.

The report is divided into chapters that we will briefly summarize here. It opens with a chapter describing the main tools used to study variations in the sex ratio at birth. It also reviews the current global situation, stressing in particular the existence of important national differentials as well as some typical features. The final section in this chapter also summarizes the main factors associated with the rise of prenatal sex selection in affected countries and introduces the basic explanatory framework used extensively in our analysis. It is followed by a second chapter detailing both our research objectives and our methodologies. This includes a presentation of our sources, including the demographic statistics that have been used to assess the current sex ratio at birth and its social and demographic disparities in Georgia. A more detailed discussion of the quality of birth registration has been included in this chapter.

The third chapter brings together contextual elements in order to depict some of the main conditions likely to have generated sex preferences and prenatal bias in Georgia. This review covers both sociodemographic changes and cultural factors linked to the local gender system. Chapter 4 uses some of the available information to further probe the crucial phenomenon of son preference in the country. Here, we complement the analysis of the main features of Georgia's family systems with original findings derived from the 2002 census data, demonstrating how far gender considerations affect the reproductive strategy of Georgian couples.

The fifth chapter provides a more systematic analysis of birth masculinity in Georgia since the 1990s. We combine here the use of census, survey and registration data and try to reconcile some of the conflicting trends they reflect. Once the presence of an abnormally high sex ratio at birth is established, we outline some of its main characteristics, focusing in particular on ethnic, socioeconomic and regional variations. Data on sex ratio by parity gives a more precise idea of the mechanisms at work among Georgian families. The next chapter, chapter 6, is entirely based on the qualitative surveys taken in early 2014 and fleshes out the main social and cultural aspects of son preference and sex selection in the country. While the practice of selective abortions is rarely freely discussed, individual interviews and group discussions provide the best possible materials for understanding the logic behind son preference and sex selection in practice.

Chapter 7 examines some future implications of the current situation. It starts with a section discussing the long silence that has enveloped the phenomenon in Georgia for almost twenty years and the resulting low level of awareness and preparedness characterizing the present situation. In contrast, the next section of this chapter documents the inescapable demographic implications of the shortage of females. The interplay between migration and low fertility makes for a complex scenario that differs significantly from the prognostics drawn from countries in East or South Asia.

The final chapter concludes by stressing some of the principal results of our analysis. Drawing on the experience of other countries, we also formulate a set of recommendations for future action.

1. Prenatal sex selection and its determinants

The distribution of the population by sex is rarely a matter of a great concern and it is mostly seen as being governed by two distinct biological phenomena. On the one hand, more boys are born than girls. While there are variations across the world, the sex ratio at birth (SRB, the number of males per 100 female births) tends to be close to 105 male births per 100 female births and fluctuates only within a narrow range of 103-106. In countries as diverse as the United States, Brazil, France, the Russian Federation and Japan, the sex ratio at birth ranged from 104.7 to 105.8 in 2011-12. On the other hand, women enjoy better survival conditions from birth and, with the exception of countries where maternal mortality is high, male mortality rates are systematically higher than female rates. The combination of these two processes results in a sex ratio that gradually declines from 105 to levels below 100 among older age groups. The sex ratio tends to further decease during old age and women vastly predominate among the elderly. Since the last century, rapid progression of human longevity has caused a gradual increase in the overall female population precisely due to women's survival advantage. Indeed, the populations of the five countries mentioned earlier have a female majority. If it weren't for the demographic imbalances observed in China and India, the world's population would be predominantly female.

There are very few non biological factors affecting this sex distribution. We have already mentioned the impact of the growing life expectancy on the rising proportion of female adults. In some countries in Eastern Europe, there is in fact considerable mortality inequality and the imbalance has grown very rapidly. The Russian Federation is a case in point, as the overall sex ratio has reached 86 men per 100 women, with a ratio below 50 among residents aged 65 years and more.[1] The other sizeable factor likely to disturb the sex distribution of the population is migration, as either men or women often predominate among various migratory streams, but this imbalance is limited to specific localities or age-groups directly affected by geographic mobility.

Sex ratios were rarely the subject of in-depth demographic analysis, but the situation changed when, in 1990,Noble Prize winner Amartya Sen denounced the extent of excess female mortality and the resulting number of "missing women" observed in many Asian countries (Sen 1990). A few years later, population statisticians started noticing that beyond excess mortality, women were also affected by a more insidious form of discrimination,occurring before birth in a few countries in South and East Asia. The rise of the sex ratio at birth was an entirely new phenomenon in world populations, so unexpected, in fact, that it took years to detect and confirm in Asia. In many countries, including Georgia, SRB imbalances are still a disputed issue and this is often attributed to the lack of reliable data and of documentary evidence. But before going any further, it may be useful to provide a more detailed overview of the issue of sex imbalances.

1.1. Sex imbalances at birth today: an international perspective

The analysis of sex ratios and sex imbalances requires some familiarity with a few concepts and processes that need to be discussed at the outset.[2] As we suggested in the previous section, there are a few factors likely to affect sex distributions in a population from conception to death. Some are strictly biological while others proceed from the social and economic environment.

1.1.1 Biology vs. sex discrimination

Biological factors bear no connection with gender discrimination, but they do affect the sex ratio at birth. For instance, the ratio of birth masculinity is usually close to 105 male births per 100 female births, with variations ranging from 103 to 106 across countries. All available estimates suggest that the natural sex ratio at birth only undergoes limited fluctuations. In addition, mortality is always higher in boys, unless direct discrimination against women takes place, and the initial higher proportion of men declines with age. Migration and, in some rarer cases, sex differentials in underenumeration affect the sex distribution, sometimes leading to a complex picture of observed sex ratios.

Yet, some factors directly related to discriminatory practices may cause a distinct rise in the proportion of men in the population.We have already mentioned excess female mortality and there are many countries where the survival of boys is actually greater than that of girls, contrary to the biological model (Chahnazarian 1988; Waldron 1998; United Nations 2011). This excess mortality may be due to female infanticide or to a less visible form of neglect toward female infants and children, implemented though discrimination in health care or feeding. These are what we could call "traditional" forms of discrimination. But discriminatory practices have

1 On mortality by sex in Russia, see for instance Gjonca et al. (2005).

2 This section draws in particular on the recent study of sex selection globally (UNFPA 2012). See also Attané and Guilmoto (2007).

evolved rapidly over the last three decades and todaya major practice is prenatal discrimination towards unborn girls. Abortion has been the main vehicle for this form of discrimination when parents are able to determine the sex of their offspring in advance. This latest development originates with the development of prenatal sex diagnosis during the 1980s (via amniocentesis and ultrasound scanning), allowing the determination of the sex of the child within 12-14 weeks of pregnancy. When combined with abortion, the prenatal diagnosis may lead to sex selective abortions when parents want to avoid births on the basis of the sex of the fetus. We now know that millions of families have taken advantage of these technological progresses to eliminate unwanted female births in Asia.

New techniques have now emerged, such as fetal blood tests predicting the sex of the fetus within less than eight weeks of pregnancy. More high-tech methods are based on pre-conception selection, such as the pre-implantation genetic diagnosis (PGD), but these are expensive procedures conducted in a limited number of fertility clinics across the world.

1.1.2 Impact on sex ratio

The impact of prenatal discriminatory behavior on the sex ratio at birth can be pronounced. Let us suppose for instance that in a particular population, 2% of the population refuse to give birth to girls and insist on having only boys through sex selection. The resulting sex ratio at birth will rise from 105 to 109 male births per 100 female births. This simulation shows that it takes only a very small minority of couples to have a sizeable effect on this demographic indicator and put the affected population in the category of excess sex ratio at birth.

Significant variations in birth masculinity are often observed across households, regions, and ethnic groups. The most significant source of variations corresponds to birth order or parity. The sex ratio is often normal for the first one or two births, but increases rapidly for higher-order births. The absence of a male child after one or two births leads some parents to intensify their efforts at having a boy and prenatal sex selection is an obvious solution.

Regional differences in SRB are also quite common. In addition, there are often measurable differentials across rural and urban areas, as well as between religious, ethnic or socioeconomic groups. This is sometimes due to variations in the overall degree of son preference, but it can also be caused by access to technology or to other sociodemographic factors.

1.2. Rising sex ratio at birth since the 1980s

Recent data on birth masculinity provide an overview of the situation across the world. Table 1 brings together a few countries affected by a high SRB level. This table suggests that sex imbalances at birth are not observed only in Asian countries. Prenatal sex selection turns out to be a more global phenomenon than commonly acknowledged.

Table 1: Sex ratio at birth in various countries, 2008-2014

Country / regions	SRB	Period	Data source
East Asia			
China	115.9	2014	Annual estimate
South Korea	105.3	2013	Birth registration
Vietnam	112.2	2010	Annual demographic survey
South Asia			
India	110.0	2011-13	Sample registration
South Caucasus			
Azerbaijan	115.6	2013	Birth registration
Armenia	114.0	2012-13	Birth registration
Georgia	111.8	2008-12	Birth registration
Southeast Europe			
Kosovo	110.4	2011-13	Birth registration
Northwest Macedonia	110.4	2009-13	Birth registration
Montenegro	109.0	2009-13	Birth registration
Data compiled from national statistical offices			

China remains,however,the major contributor to the number of excess male births for reasons of sheer demographic size and intensity of prenatal discrimination. Birth masculinity started to increase in China in the late 1980s, from 105 to close to 120 by the beginning of this century. The rise has often been linked to the implementation of a drastic family planning policy that prevents families from having more than one child in many parts of China. China's SRB may have decreased slightly over the last five years and is probably closer to 118 male

births per 100 female births. This remains the highest levels in the world.Inversely, the level is lower than average in other regions, including in other Chinese-dominated territories such as Taiwan, Singapore or Hong-Kong.

The other most affected country is India. Prenatal sex selection was first introduced during the 1980s, but birth masculinity has increased far less rapidly than elsewhere. It is now still estimated at 110, a level well below that of several countries listed in Table 1. But India is particularly important for two reasons. First, it has by far the largest number of births of all countries in the world and it is therefore a major contributor to excess male births. Second, India's SRB conceals sizeable regional variations, with many regions displaying sex ratio levels higher than in China.

In Vietnam, the increase in birth masculinity has been both recent–occurring only after 2003– and rather rapid since it reached 112 after a few years. The SRB has also deteriorated recently in Nepal and is likely high in Pakistan too. The most emblematic case remains that of South Korea. Here, SRB rose up to 113 in the early 1990s, just as in China. The SRB statistics were almost identical in these two countries for a decade. But the frequency of sex selective abortions plateaued in the mid-1990s in South Korea and later started to decline. As we prepare this report, the sex ratio at birth is now below 106 and a combination of social change, increasing gender equity and rapid policy responses by South Korea's government are seen as responsible for this swift downturn. Yet, the specific contribution of policy initiatives to the decline of the SRB in South Korea remains unfortunately poorly documented.

Most relevant to us in this report is the situation in countries in Eastern Europe. This region is here taken to cover all former socialist countries from the Baltic to the Caucasus. Many of them were part of the former Soviet Union or were independent socialist countries like Albania and the former Yugoslavia. Two specific regional clusters of high SRB emerge from data shown in Table 1: South Caucasus and the Western Balkans. Levels around 110 are observed in Southeast Europe and they correspond to a series of countries or regions around Albania. Like Albania, Kosovo and Western Macedonia are mostly inhabited by ethnic Albanians. Their northern neighbor, Montenegro, is populated mostly by Slavs.[3] While the statistics on these countries are often imperfect, sex imbalances have been confirmed by census figures and other sample survey estimates.

3 See Meslé, Vallin, and Badurashvili (2007) and Brainerd (2010). On Southeast Europe see Guilmoto (2010). For a recent review, see Guilmoto and Duthé (2013)

The South Caucasus represents another cluster in which birth masculinity briefly reached levels as high as 115 after independence. This is notably the case for Azerbaijan and Armenia,where annual SRB estimates demonstrate a clear rise during the 1990s, followed more recently by stabilization, if not a slight decline. Incidentally, the high birth masculinity is even detectable in the small disputed territory of Nagorno-Karabakh. Georgia apparently displays an SRB level typical of South Caucasus countries.

1.3. The causes of sex selection

The confirmation of high sex ratio at birth has taken a long time in most countries and many demographers and other social scientists maintained that the rise in birth masculinity was in fact non-existent or that it was not caused by discriminatory behavior. The list of justifications given for such an artificially inflated sex ratio at birth includes the following: insufficient data, defective data, higher biological SRB, effects of prior epidemics, effects of fetal mortality, underregistration of girls, sex differentials in age misstatement, confusion with infanticide, foreign propaganda and the effects of stress and local conditions on birth masculinity. As this inventory suggests, there are many arguments that can be made to challenge the existence of prenatal sex selection and this explains why in some places it took more than ten years for the reality of sex imbalances at birth to emerge. Beyond the legitimate statistical doubt arising from incomplete data, the underlying reason for denying sex selection often relates to the deep sense of embarrassment that the acknowledgement of discrimination against unborn girls provokes. Because it relates to gender and an intimate sphere, the issue of sex selection can be highly sensitive and politicized.

These difficulties have also affected attempt to explain the rise in the sex ratio at birth. Sex selection was always interpreted as the proof that something "went wrong" in particular local contexts, with no effort to understand it as a global phenomenon. In each country, local explanations emerged, such as the role of dowry inflation in India, drastic family planning regulations in China, or Confucian traditions in South Korea.In cultural terms, sex selection is also blamed more vaguely on patriarchy, family traditions and religious superstitions or, on the contrary, on deteriorating economic conditions or on the market economy.

We will adopt a more analytical approach to ensure the same arguments apply to all contexts in which birth masculinity has suddenly increased. We consider sex selection to be, firstly,an adaptivebehav-

iorfor manipulating the sex ratio of the offspring and, secondly, a rational strategy responding to inherited cultural constraints, modern opportunities, and specific demographic circumstances. Sex selection is not an archaic practice, but a modern reproductive behavior to achieve genderedobjectives. The near simultaneous occurrence of sex selection–in countries as diverse in their political system, religious traditions and economic circumstances as India, South Korea or Albania–requires a focus on the social and demographic commonalities to account for the recent rise in the proportion of male births. We are using here a three-legged framework,[4] in which three specific preconditions for sex selection can be singled out:

1. Sex selection should be *feasible.* It requires the availability of affordable and efficient technologies to alter the random, biological sex distribution of children.

2. Sex selection should be *advantageous*. Parents resort to sex selection only when they perceive clear benefits in having boys rather than girls.

3. Sex selection should be *necessary*.Families are no longer able to ensure the birth of a son through repeated pregnancies,as in the past.

These three conditions can easily be expressed in a simple framework, in which parents have to be *able*to resort to sex selection, *ready*to do it to their perceived benefits and *compelled* to do it for lack of other options. The first precondition corresponds to a rather straightforward supply factor, since the availability of facilitating technology is an indispensable ingredient for performing sex selection. This entails many independent conditions, such as the effectiveness of available methods, their cost and accessibility, as well as the legal environment. Methods also need to be socially acceptable, as specific techniques such as infanticide or abortion may be considered objectionable for ethical reasons.

The second precondition corresponds to the demand factor (Croll 2000; Miller 2001). The birth of children of a particular gender carries a variety of distinct social, cultural, spiritual, or economic benefits according to local contexts.They usually relate to practicalconsiderations such the support and protection offered by sons to their parents' family. This presupposes a patrilocal system in which parents remain close to their married sons. In addition, sons may work on the family land or in the family business, share part of their income with their parents and inherit the family properties. If they live away, they still extend support to their parents via remittances. In addition to these material benefits, sons also play a role in the after-life of their parents, be it in terms of spiritual salvation through specific rituals or in family honor through name perpetuation. On the contrary, daughters are usually married off to "other" families and they are expected to redirect their loyalty towards their husband's family after marriage.

The third precondition follows from the aggravating effect of fertility decline on fertility strategy. People opt for sex selection because they want to avoid additional births of *girls*, something that contraception cannot alone ensure. Low fertilitymeans that parents cannot any longer support the number of children previous generations did and it puts pressure on them to avoid additional births. It acts as a "squeeze factor", forcing parents to make choiceson the desired gender composition of their family. If they do not practice any form of sex selection, 24% of parents with two children would be left without a son. This proportion increases to 34% when fertility further diminishes to 1.5 children, which was the lowest fertility level observed in Georgia at the beginning of the century. In the past, the percentage of sonless women was negligible because they were able to have repeated pregnancies and births to obtain a boy.[5]

These three conditions are indispensable for prenatal sex selection. For instance, in most Western Europe, son preference is almost nonexistent and sex selection is pointless. In Sub-Saharan Africa, high fertility and poor access to new technologies similarly precludes active prenatal sex selection. However, all three conditions seem to have converged in the South Caucasus. We will now examine in greater detail whether these different factors operate in Georgia, and if so, in what ways.

4 The framework is borrowed from a model developed by demographer Ansley Coale (1973) to explain fertility decline in historical Europe. See Guilmoto (2009) for a more detailed presentation of this framework.

5 It takes on average two pregnancies to ensure the birth of one boy.

2. Research objectives and methodology

In this section, we presentbriefly the main research questions posed in this report. The following sections describe the data available for the demographic analysis of sex imbalances and the methodology used for the qualitative survey of the causes and attitudes related to sex selection. The most detailed section is devoted to birth registration figures and derives from a background analysis prepared by Irina Badurashvili.

2.1. Objectives

The first research issue is the existence of a distorted sex ratio at birth in Georgia. As we will see, this is not a simple issue, in view of the inconsistent demographic sources on Georgia. Georgia is a country where the demographic information system underwent considerable changes after the fall of the communist regime. The previous statistical apparatus gave way to a more flexible and transparent system in the early 1990s. Yet, the quality of the registration and data compilation may have suffered from the transitions experienced by the country's statistical organizations. Unfortunately, this period of relative statistical uncertainly coincides with the years when the sex ratio at birth increased. As a result, we have almost no straightforward and reliable evidence to document the annual change in birth masculinity in Georgia. Our first efforts to document the presence of an elevated sex ratio at birth in Georgia and its magnitude will mostly rely on indirect estimation techniques. We will need a non-statistical confirmation of these discriminatory practices and this will be achieved by analyzing the contents of group discussions and in-depth interviews.

The second research question follows from the first one. After confirming the presence of an excess number of male births, we need to understand when and where this trend emerged in Georgia and how it evolved over time. Going beyond the mere description of trends and regional variations, we would also like to identify all potential correlates of higher SRB levels in the country: birth parity, sex composition of the family, age of the parents, socio-economic status, ethnicity, etc. This will help us identify the characteristics of the "sex selectors" and better understand the main features of prenatal sex discrimination in Georgia.

A third research question relates to the overall context of sex selection and son preference in Georgia. Some of the contextual elements, such as rapid demographic change and fertility decline, are well-documented, but other factors are less known. This is particularly the case for the availability of medical technology in Georgia, as well as the broader question of the importance of sons in Georgian families. In addition, qualitative research provides the only firm evidence of the mechanisms behind the sex imbalances at birth measured by the sex ratio at birth. We will rely here firstly on the findings of the qualitative survey and its description of the main motivations behind son preference and active sex selection. Additional materials drawn from the literature on family and gender systems may also help to understand gender attitudes. In some cases, statistical evidence may confirm the findings from the qualitative and documentary analysis.

The final research objective corresponds to the consequences of prenatal sex selection, in terms of both gender equity and future demographic imbalances. We will draw in particular on the results of a projection analysis to forecast the future impact on the adult population of current sex imbalances at birth.

2.2. Quantitative sources used in our analysis

We will be here looking at sources that give evidence on birth masculinity in Georgia for different time ranges and this first section is devoted to statistical materials while qualitative sources are examined in the next section. The main statistical source for a reliable study of variations in birth masculinity has always been the civil registration system. It is expected to provide an exhaustive count of births taking place in all parts of a country and it provides additional data on parity or age of the mother. But in many countries, birth registration may be incomplete or deficient, because of under-registration or the poor functioning of local statistical departments. In more extreme cases, such as in countries at war, there may not be any form of civil registration system in place. The absence of civil registration is always a severe impediment for the examination of the sex ratio at birth.

There are other sources to investigate the SRB level. The principal alternative source is a census. The age and sex distribution of the population computed from census tabulations provides an indirect measurement of the sex ratio at birth at the time of births of various cohorts. For instance, the population aged 0 to 4 years was born during the five years preceding the census operations and its sex composition is directly affected by the sex ratio at birth during these five years. Yet, the observed sex ratio itself may have been influenced by many oth-

er factors, such as mortality. We need therefore to correct the sex ratio of age groups observed in a census by sex differentials in mortality to estimate the sex ratio at birth. We use here the standard WHO life table by sex for Georgia.

There are, in theory,two other related factors that may also affect observed sex ratios: migration and underenumeration. Among the youth and adults, study and labor migrations tend to affect the sex distribution of the population. Migration has played a large role in Georgia, whether labor migration or forced migration (refugees and displaced populations). These departures (or arrivals) are rarely balanced in terms of sex composition and, as a result, they impact the observed sex ratios; more male international emigrants may therefore be present in the migratory destination, while migrations also affect communities of origin. Migration from age 15 may therefore disturb sex ratio levels and it is preferable to focus on the child population,which is less affected by migration differentials by sex. Similarly, the quality of the enumeration during the census may vary by sex. It is for instance well-known that male migrants are often missed by the census because of their more nomadic life-styles. This represents a further reason to estimate the sex ratio at birth based solely on the younger population, which is less likely to be underenumerated during the census.

Other surveys and statistics can also be used to compensate for the absence of reliable information on the sex composition of the population. We will briefly review these sources at the end of this section

2.2.1 2002 census microdata

Georgia successfully conducted its last census in 2002, following the final census of the Soviet Union,taken in 1989. The unusual intercensal gap of 13 years is due partly to the difficult conditions faced by the country after the collapse of the Soviet Union. However, it has again taken more than ten years to hold a new census. Detailed results from the November 2014 census are not expected to be available before end of 2015 and cannot be used in this report.

In view of the major shortcomings in demographic information, it was decided to make full use of the existing census of 2002. The census results have already been published, but no social scientist took notice of any sex imbalances. However, a closer inspection of the age and sex distribution should have been enough to suggest the presence of sizeable sex imbalances at birth in the country. The convergence of an abnormally high sex ratio among the child population and of a high SRB level during the late 1990s should have been enough to spark off a debate among demographers about the factors behind this unusual demographic feature, observed in 2002. The 2002 census does in fact evidence what happened during the 1990s, and it provides information of unusually good quality.

The census information comprises two sets of variables based on the individual questionnaire and on the household questionnaire, respectively. The first set provides a description of the characteristics of the entire population. It includes the usual demographic variables such as age, sex, and migratory status and a larger set of socioeconomic variables such as education, ethnicity, and occupation. There is unfortunately no question on past births by sex that could be used for our review. The household schedule covers a large array of information on housing status as well as on household amenities. Geostat provided us access to the raw census data, given as a rather complex set of Access datasets. For unknown reasons, several variables were further coded in binary format, which made the preparation of a standard statistical dataset relatively cumbersome. Some variables of lesser importance were not decoded in view of the complexity of the operations involved. Yet, the chief advantage of the final dataset used here is that it provides access to an exhaustive survey of the Georgian population in 2002, which can be subject to all types of tabulations and statistical analyses.

Several new variables were created in the course of our work. We generated, in particular, a new indicator of socio-economic status (SES) based on the original household file. We did so by combining ten variables related to the facilities of the dwelling (electricity, heating, sewerage, water-heater etc.). These variables tend to be directly correlated to the quality of the housing and indirectly with the socio-economic status of the household. We conducted a factor analysis based on these household-level variables.[6] This SES indicator will be used in our analysis to rank households by socio-economic status and to derive the socio-economic quintiles. Lack of appropriate information based on occupation and income prevented us from computing a similar indicator based on individual characteristics of adults living in the household.

A more complex analysis of individual-level variables was needed to reconstruct family structures.

6 The factor analysis method used here is multiple correspondence analysis, which allows for the use categorical variables. We use the first factor as a synthetic indicator of socioeconomic status. This first factor accounts for 81% of the variance of the original ten variables and is used as a proxy for the family's socioeconomic status.

We examined whether the composition of the offspring influences subsequent fertility or selective behavior and this analysis was based on the family reconstruction. In each household, we can identify mothers and their children and therefore rank children by age. Whenever the mother is head of household or her husband, the household configuration is easy to interpret: children are simply identified here as "children of the household head" and form a separate sibship made of brothers and sisters. Yet, many children during the 2002 census were in fact "grandchildren" of the household head. In such cases, we first identify the prospective mother (usually the daughter-in-law of the family head) and once this is done, we can treat "grandchildren" as constituting a single sibship. When parents of young children are absent or happen to be distant relatives, it is not possible to reconstruct the sibship group and we have discarded this child population (accounting for 4% of all children less than 15 years). For older children, the situation is obviously more complex because of migration and the departure of married children.

Once these sibship groups of children were reconstructed, they can be ranked by age and previous family composition, such as children with older brother and without older brother. The rank of children is almost equivalent to the birth parity and can be used for SRB estimation.[7] We will in particular examine two indicators of gender bias:

1. *Parity progression ratios* (PPR): This indicator captures the probability of having an additional birth by parity. We can distinguish progression ratios by current family composition (number and sex of previous children) and this will serve as an indicator of gender preferences. Since it is truncated by the date of the survey, we use the Kaplan-Meier method to estimate the probability of having another child according to duration.

2. *Sex ratio at birth of children*: This basic indicator will show how the sex of children is also influenced by rank among sibs (equivalent to parity) and by previous family composition.

PPR and SRBs can be computed from our microdata for different regions, periods, characteristics of the mother (age, education) and characteristics of the household (size, socioeconomic status, etc.).

2.2.2 Birth registration statistics

The civil registration system relied on the Soviet system of demographic monitoring till 1991. This system functioned satisfactorily and collected a range of information on deaths, births and marriages, even if only basic information was finally published. Citizens frequently needed death, birth or marriage certificates for bureaucratic purposes and it was both easy to register demographic events and difficult to survive without these certificates.[8] In addition, population censuses were conducted every ten years from 1959 and population figures were subsequently updated every year using annual vital statistics based on civil registration and migration statistics.

After independence in 1991, the main structures for the production of demographic statistics established during the Soviet period remained in place, with the exception of those related to external migration. However, contrary to other parts of the ex-USSR, Georgia encountered serious difficulties regarding the quality of official population statistics. This deterioration was mainly caused by three different types of disruption: migration flows, conflicts and wars, and the deterioration of the registration system. We will focus here on the increasing fragility of birth and death registration in Georgia.

The Soviet system of civil registration had several bureaucratic constraints, which ensured the completeness of the registration, but it also had advantagesfor the citizens. With the political changes that took place in Georgia after the dissolution of the Soviet Union, all state institutions were greatly weakened and this directly affected the quality and completeness of demographic statistics. Previously, the system of routine data registration was based on data collected by local registration offices (ZAGS)[9]. A major setback to the registration system came at the beginning of 1990s with the introduction of a fee for issuing of certificates to applicants. The amount charged for certificates was 7 Georgian Lari (around USD 4), equivalent at that time to the monthly pension benefit of many Georgians. This new measure had a disruptive effect on civil registration and impacted the reliability of vital statistics in Georgia for several years. Birth registration was probably less affected than the registration of deaths, but it also suffered from the gradual deterioration of governmental educational and health structures and the disappearance of child benefits for parents. Even after the abolishment of this payment system, starting in Tbilisi in 1998, people still

7 The main difference between the census-based child rank and the birth order is that the former incorporates the effect of mortality (child ranks are based only on living children). It may therefore better reflect the process of family formation than the more exhaustive birth history.

8 This section borrows from the report prepared by Irina Badurashvili (2014).

9 ZAGS stands for Записи Актов Гражданского Состояния(office of vital registration).

had to pay to doctors for the medical certificates used as the basis for the registration of births. Later surveys made it clear that the deterioration in the quality of the birth registration system was due to both the introduction of the fees and the lack of incentives to register births.[10]

As a result, under-registration or late registration of births became common throughout Georgia. The severity of the degradation of civil registration occurring during the 1990s can be illustrated by a comparison of two different sources. Table 2brings together the numbers of births estimated by the Georgian State Department for Statistics (SDSG)[11] through the ZAGS and those estimated independently by the Ministry of Health based on reports from the health facilities through its Center for Medical Statistics and Information (CMSI). The table contrasts SDSG and CMSI data for births in the period 1990-2003.

Table 2: Annual number of births according to the SDSG and CMSI systems, 1990-2003

Year of birth	SDSG	CMSI
1990	92815	91648
1991	89091	82737
1992	72631	69445
1993	61594	56985
1994	57311	53453
1995	56341	55284
1996	53669	54146
1997	52020	52287
1998	46841	49588
1999	40778	46827
2000	40392	46765
2001	40416	46006
2002	38033	45033
2003	36313	46194

See text for explanations

Sources: data obtained from SDSG in 2004; Tsuladzeet *al.,* 2002

Table 2shows that the data from the statistics office tended to exceed those from the Ministry of Health, but that situation reversed from 1996 onwards. The gap between these two sources is often larger than 20% Even though CMSI data are generally to be treated with caution;it is obvious that births were dramatically under-represented by official civil registration through the ZAGS offices.

2.2.2.1. Correcting data from the 1990s

The results of the 2002 census confirmed the lack of reliability in official demographic statistics for the 1990s. SDSG then decided to update its annual estimates of vital events between the two censuses of 1989 and 2002. A special Commission was established for this purpose and it produced a new series of more reliable demographic statistics on Georgia for 1990-2002, later published in the statistical abstract "Population of Georgia" (SDSG, 2003a). Subsequently, all original statistical tables produced annually by the SDSG, based on records compiled by the ZAGS, were replaced by these new estimated tables. According to our discussion with Geostat personnel in June 2014, no paper or digital record of these original statistics has been preserved. We do not know what procedure was used to produce this revised series of vital events, but the methodology is described in one document (SDSG, 2003b). We summarize it in the following paragraph:

Starting from year 1996, when SDSG-estimated live births fell under those estimated by the Ministry of Health, the latter were considered more reliable and used for later estimation. Previous data from the SDSG from before 2005 were, however, retained. Data produced by Georgian Ministry of Health were used for 1996 and 1997. For the period 1998-2002, another estimation strategy was devised, based on the 1999 RHS estimate of births taking place in health institutions. The number of births was therefore corrected for births taking place at home. Another procedure was introduced to produce births by sex and is of major interest for our study. Since the sex ratio at birth had started to increase in the early 1990s, to reach 112 in 1995 and 119 later on, it was felt that this unusually high SRB level was simply a statistical artifact. The real SRB in Georgia was assumed to lie close to 110 by reference to results of the 2002 census sex ratio of population under 1 year. Hence, the SRB was taken to be 111 boys per 100 girls for the entire period of 1996-2002. Using this artificial number, births were redistributed into male and female births. Very few statisticians became alarmed of this admittedly unusually high SRB level.

2.2.2.2. Birth registration after 2002

The Georgian government decided in 2002 to set up a new registration system centering on medical facilities in order to correct existing deficiencies. Health facilities were requested to duplicate the individual birth or death medical certificates given

10 See, in particular, the 1998 Survey on completeness and quality (WHO and CMSI, 2000), the 1999 Reproductive Health Survey and the 2000 Survey on registration of infant and child mortality (WHO and CMSI, 2002).

11 This was the official title of Geostat at that time.

to the families for civil registration, and to send the copies to SDSG through regional public health centers. In January 2003, this new system was introduced countrywide and the national statistical office processed two different sources on births and deaths (registration office, and medical facilities) until 2009. Figure 1summarizes the flow of records in the two systems. Statisticians cross-matched records from two sources in order to estimate the total number of births and deaths.

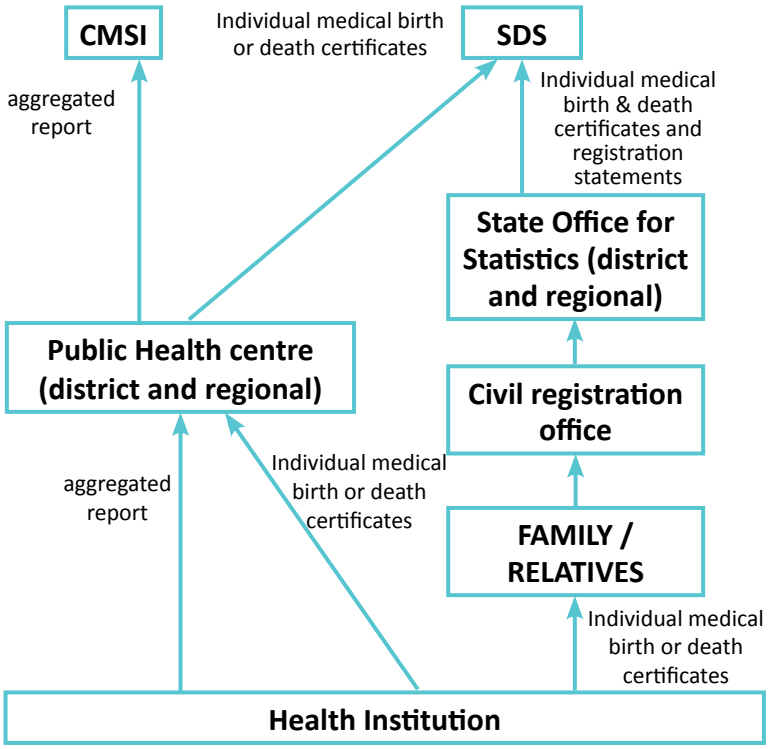

Figure 1: Flows of demographic records in Georgia and integration of the CMSI and SDS systems *Source:* **WHO** *et al.*, **2003**

The new system was experimentally launched in pilot regions in 2002, and after further improvements, it was expanded to Georgia as a whole in 2003. Much better results were obtained in 2003 as the new system estimated 21 % more births than the previous system (and 11% more deaths). 46,194 births were recorded in 2003 as opposed to 36,313, according to the old system.[12] The 2003 change therefore had a dramatic impact on vital registration in Georgia and the new system can be regarded as being of much better quality that the previous data collection system based solely on registration offices or medical records. Official statistics are therefore based on the new registration system from 2003 onwards. In 2004, the system was further improved by a systematic cross-checking of both sources to avoid missed births as well as double counts. The new official statistics for 2004-2009 are based on this cross-checked systemand can be considered more or less complete.

Since the Revolution of Rose Revolution in 2004, the government has pushed for the reorganization of the entire state apparatus and implemented effective measures toward the strengthening of the civil registration system. In 2006, a new independent agency–the Georgian Civil Registry renamed later the Civil Registry Agency (CRA)–was created with 80 regional offices. They were given the responsibility of issuing all civil documents, including birth certificates. Since 2006, thisnew agency sends a computerized database of registered vital events to Geostat and this data wereused for calculating the official demographic statistics for Georgia up until 2010 after cross-matching with the information received from health centers. Since 2010, vital statistics are based only on the electronic database of registered vital events sent by CRA to Geostat. The current system is depicted in Figure 2.

Since the introduction of the online system of electronic medical notification countrywide in 2011, medical institu-

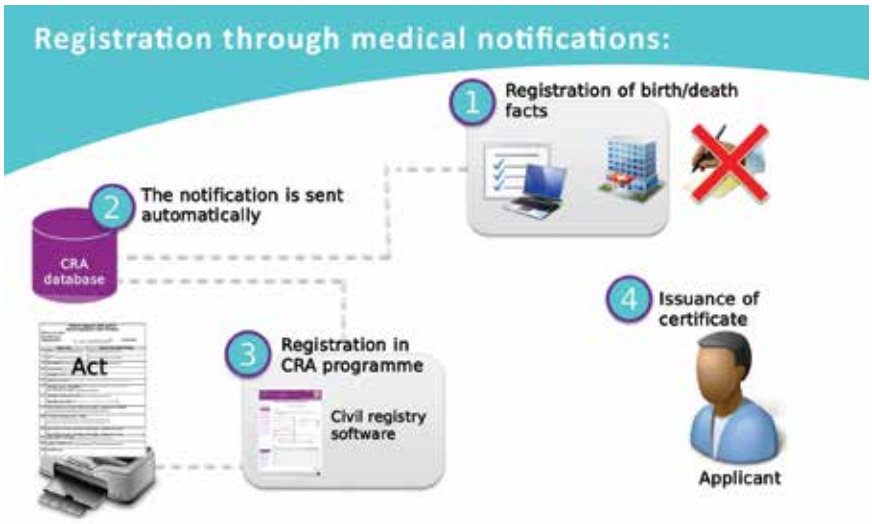

Figure 2: Current system of civil registration based on medical records in Georgia *Source:* **CRA , n.d., p.6**

12 It may however be mentioned that the SRB derived from both new and old system was the same (112.6 male births per 100 female births).

tions are obliged to transmit all birth and death notifications to the CRA within five days of the event. CRA regional offices can later issue civil certificates to citizens. Measures were also taken to ensure the registration of vital events taking place at home. It is believed that current national civil registration system covers all vital events in Georgia.

2.2.2.3. Implications for SRB estimation

As already mentioned, all vital events for the period 1990-2002 were re-estimated in 2003 and no official record remains of the original data. The SRB has been estimated at 111 for 1996-2002, but this figure is not supported by original birth registration data. Badurashvili has shown in previous works that the deterioration of the vital registration system observed in Georgia after 1991 had little impact on under-registration by sex. Moreover, other sources such as the RHS rounds of 1999 and 2005 appear to confirma rise in the SRB since the 1990s (Meslé et al., 2007; Duthé *et al,* 2010).

It is therefore feasible to provide an alternative SRB series for the ambiguous period 1996-2003: Badurashvili proposed relying on the annual data of registered births obtained from the Georgian statistical office during this period. While these data are incomplete because of the under-recording of vital events in the ZAGS office during these few years, the SRB level they record may still be more reliable and better reflect the true fluctuations of SRB in Georgia during this few years. From 2003 onwards, data have been cross-checked as indicated earlier. But for 2004, we do have separate data from two sources to use for verification. After 2004, the registration system has undergone final improvements and official birth registration data are more reliable.[13]

A few caveats should be mentioned about the available data. First, data are entirely missing for 1993, as all original data files were destroyed during the transition from Soviet-period computers to the newly imported computer equipment. Second, annual data provided were limited to basic tables such as live births by sex, further classified by administrative units (mkhare) and urban-rural areas (since 1995).Badurashvili has been able to reconstitute a large number of these tables from local publications and records kept for her work on mortality. Going forward, it would be important for Geostat to retrieve all information on past vital events in collaboration with CRA, since all hard copies of civil documents issued in Georgia have been recently computerized.

13 The 2005 MICS survey estimates that only 92% of recent births in Georgia were properly registered. The proportion was lower in less developed regions such as Kvemo-Kartli, but there was no tangible difference between boys and girls.

2.2.3 Other sources of data

Several demographic surveys have been conducted in Georgia over the last 20 years. They often complement the imperfect knowledge that census and registration statistics provide on the demographic and health behavior. The Reproductive and Health Surveys (RHS) conducted in 1999, 2005 and 2010 are essential, as they provide the only detailed description of demographic and health change among Georgian couples. We can add to this list the Multiple Indicator Cluster Survey (MICS) conducted in 2005, which follows the template of all MICS surveys initiated by UNICEF around the world.

These four surveys provide much useful information on reproductive health and the status of children, ranging from contraceptive behavior to child care. Yet, as we should make clear in our review, the size of the samples used for such survey is rather small. In particular, the number of births recorded and the size of child populationsare far too limited to allow for a reliable estimation of sex imbalances.

Table 3: Sample of births from various demographic surveys in Georgia

Birth cohorts	RHS-1999	RHS-2005	RHS-2010	MICS-2005
1985-1989	2907	1346		3588
1990-1994	3094	2188	1196	3443
1995-1999	2499	2105	1730	2786
2000-2004		1888	1845	2238
2005-2010			2170	
Source: Computed from individual surveys				

Table 3 summarizes the samples of births which can be derived from these different surveys. Birth cohorts are cumulated over five-year periods (annual figures run in the hundreds). As this table shows, each five-year period corresponds to about 2,000 to 2,500 births. Yet, it must be kept in mind that an SRB estimate of 110 has a confidence interval ranging from 101 to 120 when computed over 2000 births (the average five-year sample size). The confidence interval being quite large, it is therefore difficult to assess the true level of SRB based on such sources and equally perilous to interpret trends at face value. We will however compare these figures with birth registration estimates later in our demographic analysis.

A final source that can be used to assess the presence and extent of sex selection relates to school statistics. They are not available in Georgia for the period under consideration, but Geostat was able to provide us with some recent figures. These fig-

ures relate to the enrollment of children in primary education in the last school year, 2013-2014. The advantage of this source is that it is almost exhaustive, since children are schooled in Georgia from age 6. We have large populations of school children classified by age and sex (and school level) and they are very similar to the corresponding birth cohorts. Table 4 shows the size of this population and totals per year.

Table 4: Primary school enrolment in 2013-2014

Year of birth	Number of children	SRB
2007	44387	109.4
2006	46833	112.8
2005	46105	114.0
2004	45627	117.0
2003	44007	114.0
2002	44310	114.0

Source: Figures provided by Geostat

2.3. Qualitative study

Son preference and sex selection have only very recently appeared on the agenda in South Caucasus. While statistical sources have been one major obstacle to the analysis of the current situation, there was also a dire need for documentary evidence of gender systems and selective behavior. In fact, no country in Eastern Europe had conducted any in-depth field research before the studies sponsored by UNFPA in Armenia in 2012 and in Albania in 2013 (UNFPA 2012b, 2013b). For the first time, these studies allowed local voices to be heard, confirming the existence of sex-selective practices and relating it to the gender normsof Armenian and Albanian families. But until 2014, no such source existed in Georgia, to document the process of sex selection in the country and more generally, to depict the sets of attitudes and behaviors that could lead to sex-selective practices. The lack of understanding of the overall social and gender context for discriminatory practices is in fact a major impediment to our analysis.

The situation changed for the first time in 2014, as research institutes located in the three countries of the South Caucasus were commissioned by the World Bank (in Georgia the research was co-funded by UNFPA Country Office, the methodology design was led by the World Bank) to conduct a large regional qualitative study. In Azerbaijan and Georgia, this project was the first of its kind and this report directly benefits from access to the findings of the Georgian study. The template for the study was almost identical in each of the three countries. In Georgia, the qualitative study was successfully conducted during the first months of 2014 by GORBI, a major research institute, specializing in conducting social and economic surveys.

2.3.1 Study sites

The study was conducted in four different communities across the country with a view to capturing the heterogeneity of socioeconomic conditions and cultural attitudes. It also targeted different social groups, from experts and local leaders to ordinary citizens.

The list of study sites starts with Tbilisi. The capital city and its metropolitan region cover 25% of the country's population and today contain more a million inhabitants. As a result, it is very different in its economic outlook from the rest of the country. It is also influenced by its urban traditions found nowhere else in the country, which dates back to the 19th century, when the town's population first reached 100,000 inhabitants. Its formidable demographic growth over the century was, however, halted during the post-1991 transition. Data were collected in a relatively prosperous district under the growing influence of migrations from rural areas.

The second study site is a village in the Dusheti area, a locality belonging to the Mtskheta-Mtianeti mkhare but lying close to Tbilisi. It combines a mountainous setting where agriculture predominates with an advantageous location, offering easy access to the capital for employment or urban institutions. Another village was selected as a rural research site in the Southwestern Autonomous Republic of Adjara. It is close to Batumi, the dynamic third largest city of Georgia. This Adjaran village, located in the plains, is considered more developed than most rural areas in the country. As elsewhere in Adjara, the population of this village is mixed, with a significant proportion of Muslim inhabitants living along with the Orthodox population.

The fourth series of interviews were conducted in the medium-sized town of Zugdidi. It is the headquarters of the western mkhare of Samegrelo and Zemo Svaneti. The area is mostly inhabited by Mingrelian-speakers and was deeply affected by both the civil war of 1993 and the influx of inhabitants expelled from Abkhazia. Refugees still constitute a considerable proportion of the population.

These four locations offer a reasonably representative sample of contemporary rural and urban Geor-

gia, by including some minority populations, rural and mountainous regions, as well as typical urban units.

2.3.2 Participants and survey instruments

The survey was based on different sets of interviews and group discussions. First are expert interviews from both Tbilisi ("national experts") and from each of the other study sites ("local experts"). This sample ranges from political leaders (including a vice-minister) and population specialists, at a national level, to local leaders and professionals such as health personnel, clerics and lawyers, at the local level. Their interview consists of a clear set of questions on gender and family relations, as well as on the precise issue of sex selection and its potential consequences. Expert interviews aim to gauge the level of awareness in these elite groupsof sex selection issues, as well as to gather their attitudes and opinions on social issues.

A second instrument was the collection of the life stories ofsix individuals in each study site. Participants were selected with a view to coveringa range of age groups and marital circumstances. Life stories follow the same template as interviews, but interviews are much more flexible in order to accommodate the specific social trajectories and experiences of each interviewee. These interviews help in particular to frame the family dynamics (marriage and separation, coresidence, reproduction, solidarity etc.) within the lives of individuals.

The richest part of the study is based on the focus-group discussions (FGD) held in each site. Six FGDs were conducted in each location, each with a group of 7-10 people of same demographic profile (sex, age and family situation).These FGDs aimed at probing the social attitudes towards various phases of family life.Their structure was adjusted to the demographic composition of each FGD. In particular, they offer the best reflection of the gender norms prevailing in each community.

Each of these instruments has its own advantages and limitations. Combined, however, they provide an effective way to explore gender attitudes and behaviors across a large cross-section of Georgian citizens. As such, it represents a unique database in view of the relatively limited literature available on family and gender relations in independent Georgia.

2.3.3 Analysis

All interviews were recorded, transcribed in Georgian and translated into English. They were supplemented by data sheets on communities and on social characteristics of individuals. In the analysis performed in this report, data have duly been made anonymous, but standard locational and demographic descriptors are available to identify individuals or groups quoted.

The transcripts in English were coded with the help of the original version in Georgian. We used both original descriptors of individuals and interview settings, as well as a set of main themes emerging from the interviews. These codes have been used to classify, retrieve and process information using qualitative analysis software.

One of the main challenges of this survey was its focus on sex selection, an issue often unfamiliar to the public, as well as to national experts. Several topics raised by the survey, such as discriminatory behavior towards girls, selective abortions, male surplus, were received by participants with various levels of disbelief or puzzlement. While this confirms the limited level of awareness on these issues in Georgia, it also affected the content of the discussions. Attimes, a distinct sense of uneasiness among both interviewers and interviewees accompanied the discussion of sensitive issues. The strong moral stigma attached to abortion turned out to be an aggravating factor, which may have prevented a more candid debate on reproductive strategies. Some parts of the transcripts, notably those related to future demographic imbalances and to possible policy responses, are little used in this report;these often offer limited insight since most participants were not familiar with the issues involved and did not evince concern about any potential negative consequences of current sex imbalances at birth.[14]

14 In view of the recent declarations by the head of the Georgian Orthodox Church, many participants thought, for instance, that banning abortion was the natural solution to sex-selective abortions. Yet, sex selection accounts only for a very small proportion of all abortions in Georgia.

3. Gender bias and its context

We will review here some of the main dimensions of social change in Georgia that may influence demographic behavior. One major dimension is the way the post-1991 era opened Georgia up to new opportunities, while seeing a severe deterioration of both the social fabric and the institutional support mechanisms set in place by the former regime. This economic upheaval is exemplified by the change in Georgia's gross national income during this period. Georgia used to be one of the most affluent Soviet republics. But following independence and a brutal economic collapse in 1992, the total GDP was reduced to a third in just four years, reaching its nadir in 1994 at 2.5 billion USD. The average GDP was then 517 USD per capita. Since then, the average GDP has steadily grown, increasing by about 5% during most years. This gradual economic recovery was sustained after 2000, with the exception of the 2009 crisis. –This was a result of the global financial crisis' impact on exports and migrants' remittances, compounded with the added consequences of the conflict with Russia. Political developmentsin Georgia have been no less tumultuous, with a civil war and a conflict in Abkhazia and South Ossetia immediately after independence, the Rose Revolution in 2003, and the recent brief war with Russia in 2008.

Much has already been written on political and economic transformations in the Caucasus since the dissolution of the Soviet Union and the impoverishment it caused (Dudwick et al. 2003), and this need not be examined further in this report. We concentrate on the domains which bear direct influence on gender discrimination: population dynamics, gender issues, the family situationand changes in health systems.This part will therefore be divided into a number of somewhat disparate sections focusing on several aspects of social change in Georgia that we will use later on in our analysis of sex imbalances at birth.

3.1. Health services and infrastructures

During the Soviet period, the Georgian government gave high priority to improving healthcare.It instituted a centralized and entirely state-controlled system offering free health services. The increase in life expectancywas considerable thanks to the Soviet Semashko (centralized and State-funded) system, until it began to stagnate in the 1970s. The average life expectancy for both sexes, which had grown to 73 years in 1960, started to decline from then on, declining to 71 years by 1991. This deterioration did not affect infant mortality, which continued its sustained decline and reached 21 deaths per 1000 in 1990. The Soviet health care system proved efficient for death prevention and child health, but it was unable to handle chronic diseases and it did not have access to modern equipment or advancements. While nominally free of charge, health services gradually became conditional on informal payments and the entire system was affected by rampant corruption.

There was, however, a further degradation of health conditions after 1991. Infant mortality increased in Georgia by almost 50% within a few years, in part because of the dramatic deterioration of existing state health facilities. By 1998, infant mortality had returned to the 1990 level and it has since then resumed its gradual downward trend, reaching 11 deaths per 1000 births in 2013.[15]Similarly, life expectancy has been improving since 2000, though the overall progress is not as fast as in Asia or Latin America. It now stands now at around 75 years, with a considerable eight-year advantage for women compared to men. The current life expectancy is almost on par with that estimated for Armenia, and almost five years higher than that in Russia or Azerbaijan.

Georgia's health system underwent several reforms during the shift from centrally planned to market economy that can be only summarized here. Initially, the healthcare system evolved into a combined system: the public system remained paramount, including the primary health centres, but patients were made to cover part of the health expenses, notably for essential medication. After a few years, signs of privatization started to emerge in the drug industry and some doctors became private practitioners (Schechter 2011). This trend reached its climax after the Rose Revolution when the new regime adopted a more radical approach to full privatization, announced in 2007. Local primary health centers were closed while hospitals and clinics became private. Individuals are encouraged to have private health insurance for themselves and their families. Along with pharmaceutical firms, insurance companies have become major players in Georgia and are responsible for a large number of the new health facilities opened in the country. The state only covers expenses for the poorest households via a voucher system, but many of them are still vulnerable. The cost of health services has increased significantly and the share of out-of-pockets payments is just below 70%, which is almost twice that in Russia today.The number of doctors

15 In this section I am relying on figures from the demographic yearbooks prepared by G. Tsuladze and his collaborators. Some sources offer different sets of estimates and paint a less dramatic picture of the stagnation during 1970-1990 (Hohman and Lefèvre 2014)

remains quite high in Georgia, but the number of hospital beds has plummeted to 3 per 1000 inhabitants, one of the lowest rates in the former Soviet Union. The major reform came only in 2013 with the introduction of the Universal Health Care program.

Regarding new reproductive technologies, we have only indirect information about their gradual dissemination in Georgia since the 1990s. There was definitely a breakthrough in 1991, since imports of new equipment to replace old Soviet ultrasound machines finally became possible. But the timing of the rise in the sex ratio at birth, which immediately followed independence as will be shown below, suggests that available equipment allowed for prenatal diagnosis. In the absence of systematic registration of available equipment, we have almost no information on the volume and nature of the modern sonography equipment imported since 1991 and we can only surmise that the mounting demand accelerated the process of technological replacement. According to the 2010 RHS, the use of ultrasound is extremely common during pregnancies in Georgia and more than 97% of women reported an ultrasound in 2005-2010. Lower figures of ultrasound examination are reported in Racha-Svaneti, as well as among women with lower levels of education, but the proportion remains close to 90%. Interestingly, the first ultrasound takes place during the first trimester of pregnancy among 77% of the women, butthis represents a recent development, as this proportion was only 44% five years earlier.

Today, private clinics and hospitals compete for the supply of reproductive services and recent ultrasound machines can easily be found in urban facilities. The cost of an ultrasound test may be as low as 20 GEL (USD 11). In addition, Georgia has emerged as a country offering high-tech reproductive services and attracts a large number of international customers. IVF and related services such as egg donation, embryo transfer and surrogacy are commonly offered at competitive rates in a variety of “fertility clinics” mostly located in Tbilisi.But sex selection can also be obtained through PGD (preimplantation genetic diagnosis). A simple internet search indicates that there are clinics mentioning such facilities in Tbilisi, even if it remains doubtful whether preimplantation sex selection services are actually offered by these clinics. In contrast, IVF and surrogacy services for foreigners are well advertised in the country.

3.2. Demographic change

Prior to the 1990s, Georgia recorded a moderate demographic growth rate oscillating between 0.5% and 1% per year, reflecting its relative advancement in terms of economic development and demographic transition. Georgia’s population had increased from 3.5 million after World War II to 5.4 million in 1990 (de jure population). It had also experienced considerable urbanizationduring the 1970s. While the average demographic growth was more rapid than in Russia, it was significantly below the growth observed elsewhere in the South Caucasus. This moderate demographic growth was only partly due to the relative stagnation of mortality observed during the last decades of the Soviet Union (Hohman and Lefèvre 2014). The major factor has been the sustained fertility decline which started in Georgia much earlier than elsewhere in the region. Women in Georgia already had on average less than 2.5 children by the mid-1970s. This gradual decline took fertility rates to 2.1 children per woman by the end of the 1980s, which was the lowest level observed in the South Caucasus region (Smith 2011).

The 1990s were again a period of tremendous change for Georgia’s demography. While mortality briefly increased, this had only a modest impact on the overall demographic trend in the country. The population was primarily affected by a rapid fall in birth rates after 1990 and by asubstantial loss of population through international migration. As a result, it stopped increasing after 1991 and shrunk over the years. The de jure population is now estimated at 4.5 million (2014), a figure soon to be confirmed by the population census. In contrast, the de facto population, which does not include international migrants, has decreased to 3.8 million. This unique population reduction was also accompanied by a small decline in the population living in urban areas, which now stands at 53% of the overall total.

3.2.1 Below-replacement fertility

The decrease in fertility was abrupt since the number of births plunged by more than 30% from 1990 to 1993. As Figure 3 indicates, there was already a slow downward trend prior to 1991, but fertility had only declined by 0.5 children during the previous two decades. In the following two years, fertility fell from 2.1 to 1.5 children. Over ten years, fertility continued to slowly decline and reached an all-time low of 1.4 children per woman in 2005. The absolute decline may have been lower than in other countries of the South Caucasus, but Georgia remained the country with the lowestrecorded fertility level during this period. We have already discussed the potential impact of low fertility on sex

selection, but we can now assess the impact of this lowest-low fertility level on gendered reproductive outcomes. With an average fertility of 1.4 children in 2005 and a normal sex ratio at birth of 105, 36% of the couples would have no son without resorting to any artificial prenatal selection.

Fertility was raised slightly after this and increased back to 1.7 in the most recent period. It also underwent a sudden hike in 2009, reaching a level close to 1.9 children per woman. The increase observed in 2009 is largely attributed to the call of the Patriarch in 2008, encouraging Georgians to have more children, and his promise to baptize all children of parity three and higher. But this growth in birth rates proved short-lived and fertility has already slid back to 1.7 children per woman. While Georgia's real fertility may be slightly underestimated by Geostat–a hypothesis that only the new census results will clarify– the average number of children per woman is definitely below the replacement level of 2.1 and this will have long-term implications for the country.

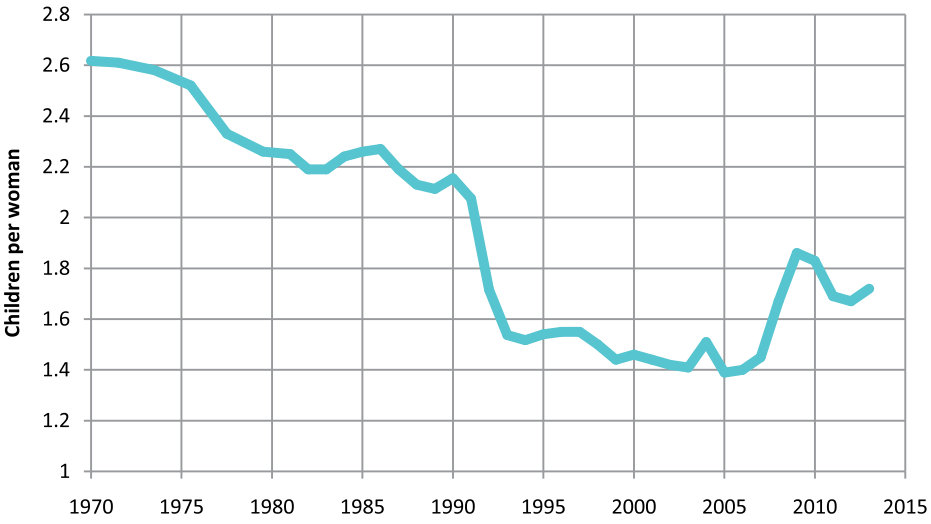

Figure 3: Fertility rates in Georgia, 1970-2013

Fertility unmistakably declinedbecause of the political and economic turmoil that followed the breakup of the Soviet Union. Georgian couples all of a sudden discovered the threat of unemployment and the deterioration of health insurance and child care. Many chose to postpone childbirthand the impact on family formation was considerable; the marriage rate shrunk even faster than the birth rate, falling from 38,000 in 1991 to 27,000 the following year and 12,000 in 2003. There are now about 31,000 registered marriages per year, a level still below that of 1991. This decline may havebeen caused partly by the rise in unregistered religious marriages; the proportion of births outside registered marriage rapidly increased and stands today at about a third of the annual total. Since people postponed the official registration of their union, the average age at marriage rose gradually among both men and women by about two years. The average age at marriage among men is now over 30 years (29.5 years for first marriages). Since lower marriage rates, higher age at marriage and lower fertility rates have now been observed over a long period, we can exclude the possibility of a temporary delay in child-bearing caused by adverse circumstances. Below-replacement fertility is now a well-entrenched feature of Georgia's demographic profile and births at parities 3 and higher accounted for only 15% of births in 2011.

Apart from its effects on reproductive decisions, low fertility will have long-term effects on population trends in Georgia. As we have seen, the overall population of the country has already diminished over the last two decades and this trend is most likely going to continue in the coming decades. Standard demographic forecasts envisage a further decline of one million people during the next four decades (United Nations 2013). Another major implication of low fertility is the rapidly changing age structure of the population. The younger population has already decreased due to gradual fertility decline. On the other hand, the adult population, aged 15-64 years, has increased in relative terms during the last twenty years, but it will now start a long-term downward trend becauseof low fertility and population decrease. The elderly population will show a constant and rapid increase during the next few decades. The percentage of people aged 65+ has changed from 10% in 1990 to more than 15% today and may come close to 25% by the beginning of the second half of the century. This doesn't bode well for the dependency ratio, which is poised to increase regularly from 2010 onwards, owing to the shrinking size of the workforce. Options for significantly raising participation rates or labor productivity in the workforce are limited and may not be enough to counterbalance age-structure changes. In relation to our topic of concern, the age composition of Georgia's population in the future will therefore increase the pressure on adult children to support their ageing parents.

3.2.2 Migration

As we emphasized in the previous section, below-replacement fertility has remained a central determinant of population dynamics during the last three decades and, in particular, it is at the root of the overall reduction in population size and the rapid increase in the population's average age. But international migration is another important component of population change, as a sizeable share of the Georgia-born population resides and works abroad. International migration usually plays a buffer role on the labor market, allowing individuals (and their families) to find work in other countries in cases of increased local unemployment.

The situation is slightly more complex in Georgia since 1991 because of the departure of a sizeable amount of the not ethnically Georgian population, following the dissolution of the Soviet Union. The number of Russians, Greeks and Ukrainians, for instance, dwindled by about 80 % during the 1990s, while the number of Armenians was almost halved. Their total percentage in the population decreased from 18% to 8% between 1989 and 2002.[16] This intercensal period recorded a net emigration from Georgia of one million people. More important to this study is the role played by the international migration of the majority ethnic Georgian population and other permanent residents. It is estimated that ethnic Georgians accounted for about 30% of migration abroad. They primarily travelled to Russia and Turkey, but also to several European countries (Germany, Greece, Italy, Cyprus, etc.) and the US. Emigration of Georgian citizens to Russia is no longer feasible because of the tension between the two countries, because of which many Georgian residents have returned from Russia. Nonetheless, Russia still accounts for more than half of Georgian expatriates.

These migratory streams were highly differentiated in terms of skills and gender composition. Migration northwards to Russia was dominated by men working in industries, construction and trade, while migration towards the West had a strong female component, working in services, the care sector in particular. Study abroad and family reunification constitute two other important components of the flow of emigration. A more economic approach to migration would stress the increasing volume of migrants' remittances. Personal remittances–as computed by the World Bank–stood at almost 2 billion USD in 2013 and accounted for more than 12% of the country's GDP, compared to 8% 15 years ago. Although lower than the figures for Armenia, income from international migrants represents a considerable contribution to Georgia's economy.Since 2009, a growing number of migrants are travelling to European countries and remittances from these locations are increasing proportionally. Remittances from Greece already account for 10% of the total.

Contrary to migratory flows from Armenia, which are predominantly composed of male workers, women represent a large proportion of Georgian migrants. There are conflicting figures on the exact number of female migrants, but they may have constituted about 30-50% of net migrants ten years ago, and this percentage would have increased with the cessation of migration to Russia. The latest figures put the total number of labor migrants at 350,000-500,000 people in 2012, with women accounting for 43% of these (Tukhashvili and Shelia 2012). The overall stock of emigrants computed by the United Nations Population Division estimated the number of people born in Georgia but living elsewhere at 430,000 in 2013, 46% of whom were women, but this figure also includes a large proportion of non-ethnic Georgians who left the country after independence (Geostat 2013).

This has an interesting consequence for our analysis. Female migration testifies to an increasing economic agency,removed from stricter patriarchal structures. It also indicates a diminution of the traditional household system, organized around a male breadwinner, and points to women's increasing contribution to family resources, by both participation in the local workforce and international migration. Existing research has already stressed that, in Georgia, the migration of women is often framed as being "within the bounds of traditional gender norms" (Hoffman and Buckley 2012) and therefore unlikely to challenge the distribution of power between men and women. But the migration experience is empowering women, and one study argues that it offers a potential challenge to women's primary roles in the domestic sphere (Zurabishvili and Zurabishvili, 2010).

3.2.3 Abortion

Abortion in Georgia necessitates a separate section for several reasons. Its frequent use as a way of avoidingunwanted pregnancies is a legacy of the Soviet period and represents a distinctive feature of Georgia's demographic regime. In addition, the introduction of prenatal diagnosis has made abortion an indispensable element of the sex selection process among couples.[17]

16 The 2002 census could not, however, be held in all Georgian territories, which also affected the recorded ethnic composition.

17 Sources for this section include Dagarguli and Badashvili (2008), Ross (2012), and RAMOS (2008), Westoff and Serbanescu (2008).

Abortion was legalized early in the Soviet era. From 1920 to 1991, it emerged as the primary method of birth control, including the period 1936-1955,despite being officially limited to specific medical conditions at this time. It is available today to women during the first 12 weeks of pregnancy, but a three -day waiting period (recently extended to five days) anda counseling session with a physician are required. Indirect evidence suggests that most clinicians do not respect this delayand tend to conduct the abortion immediately, especially for women who travelled for the procedure. The permissible period for an abortion to be performed can legally be extended to 22 weeks on medical and social indications (articles 133, 136). It is also readily available–except for women residing in isolated communities–and relatively affordable (around 100 GEL for a "mini-abortion" by aspiration).In theory, prenatal sex diagnosis is feasible only after the eleventh or twelfth week of pregnancy and sex-selective abortions should be especially difficult for women according to the law. But women and clinicians have found many ways to circumvent this problem, mostly by performing abortions slightly beyond the three-month period.[18]

In the 1990s, Georgia was identified as one of the countries with the highest frequency of induced abortion. 3.7 abortions per women were estimated by the first RHS round of 2000, at a time when fertility rates were close to 1.5 children per woman. As in other countries, abortion statistics are often unreliable; the official number of procedures in 2012 is today estimated at 40,000 abortions, compared to 57,000 births, but this is most likely an underestimate. The official figure was below 25,000 a few years earlier. RHS indirect estimates tend to be more consistent. The main type of abortion practiced today isabortion by aspiration (more than two thirds of the total procedures), but the number of medical abortionsis currently on the rise. Abortifacient drugs (based on misoprostol) since September 2014 are available in Georgia with a prescription, but the exact public health impact is poorly documented. What is unknown is the frequency with which women use drugs such as Cytotec to induce a second-trimester abortion for sex-selective purposes. In contrast, modern forms contraception–such as the IUD and the pill–are less common; they are somewhat more expensive in the long run and are perceived as detrimental to women's health. Traditional contraceptive methods such as withdrawal have long prevailed in Georgia and are responsible for a large number of unintended pregnancies.

In spite of how common it is, abortion often leads to a sensation of guilt, an emotion reinforced by the growing influence of the Orthodox Church in shaping public discourses. There has been a gradual change in attitudes towards abortion in the country since the 1990s, corresponding to the growing influence of the Church, often seen as one of the most trustworthy national institutions. Patriarch Ilia II particularly stigmatized abortion as "a terrible sin" in May 2013 and called for its abolition. Abortion may be primarily denounced on moral and religious grounds, but demographic preoccupations may not be far behind, since reversing Georgia's demographic decline is also one of the Patriarch's objectives. Yet, there is among Georgian women a frequent dissonance between public statements reflecting religiosityand patriotism–as recorded in interviews and group discussions–and the more private adjustments called for by socioeconomic constraints and reproductive objectives–as measured by statistics.

Over the last twenty years, the frequency of abortions seems to show a rapid downward trend, with the latest RHS reporting a level of 1.6per woman in 2010. While this level remains high by international standards, the lower frequency of abortion is rather a welcome development, especially since it has been caused by a rise in the prevalence of modern contraceptives, including the use of condoms. Abortion rate estimation remains a grey area as the registration of abortions in clinics and other health centres is gravely defective. Estimates are therefore based only a data survey and both under-reporting and the very size of the sample used prevents us from using these figures as an accuratesummary of the abortion situation in Georgia. Abortion is, as expected, more common among older women and women of higher parity. Abortion appears less frequent among higher-income groups and more common in some rural areas of the country, including among the Azeri community. But disaggregated data on abortion practices are notoriously hard to come by.

In particular, there has never been any data available on the sex of aborted fetuses that could provide direct evidence of its use as a sex selection method. Sex selection was in fact not covered by any representative survey, but two recent sources provide a range of estimates. The latest 2010 RHS, however, includes sex selection as a potential reason for abortion, but only 1.4% of women gave it as a reason for their abortion. A simple arithmetic simulation suggests that given that there are 2 abortions for every 3 births in the country, this percentage should be higher than 3% to account for an average SRB of 110. In contrast, according to the 2013 survey by ISSA (2013)–conducted among

18 According to official statistics, second-trimester abortions account for less than 1% of all registered abortions.

2,400 persons in four regions of Georgia by the Institute of Social Studies and Analysis–, 9% of women living in a union declared to have once resorted to a sex-selective abortion. Compared to the RHS figure, this may bea slight over-estimate of the frequency of sex-selective abortions in the country.[19]

3.3. Family, gender and society

3.3.1 Family as a buffer institutionin insecure times

In the past, guaranteed employment for workers, as well pension benefits for the aged, were a major source of security for individuals and households. But the collapse of the Soviet Union had a dramatic impact on social protection. We have already mentioned the consequences on the health sector, which is now completely privatized. The gradual disappearance of large state-owned enterprises and the abrupt rise in unemployment directly affected a large share of Georgian households. The former Soviet welfare system was based in particular on full employment, but also on the provision of subsidized or free social services, such as housing, schooling and a state insurance system. In spite of its many shortcomings, it offered stability and security to citizens and all this disappeared within a few years after 1991. Men and women were differently affected. For instance, a large part of the industrial labor force was male and the economic reforms put many of them out of work. Their identity as breadwinners was directly affected, especially as female workers proved more adjustable to the rapid changes in the occupational structures. In contrast, the land reform of 1991-93 and the rapid privatization of agricultural holdings typically favored men, depriving most women of access and rights to land.

The new market economy was gradually supposed to take care of employment, health, housing, public utilities, food prices, and pensions. More than poverty, a rise in insecurity and inequality marked the post-independence period in Georgia. In a way, these varied transformations affected the whole population, children, mothers, workers and the elderly (Baumann 2012). While many of these features are found in former communist countries, Georgia has probably been the most radical in its move towards a fully liberal system since 2003. The transformation of the country has been drastic and justified by a somewhat libertarian political ideology extolled after the Rose Revolution.

The reduction in state interventions after 1991 was not fully compensated for by the rise of market-based institutions. Once again, families became a dominant social institution as it acted as the prime provider of support for children, mothers, the unemployed and the sick, as well as the elderlypopulation, who saw pension benefits dramatically reduced to levels akin to poverty-alleviation allowances. Families and large social networks based on kinship and proximity served not only as buffers against health and economic shocks, but provided access to services as varied as housing, employment, and physical protection that neither the state nor emerging markets could offer. The civil code confirmed this growing dependence on families by strengthening the reciprocal duties of family members–parents, spouses, children and grandchildren–towards each other (Gzirishvili 2012).

3.3.2 Gender inequity

Changes in the gender situation have been somewhat difficult to summarize because of the many conflicting trends observed in Georgia, as in many other former communist countries. The Soviet heritage was significant in improving the status of women over fifty years, achieving much in the fields of access to education, employment and health. Yet, the collapse of the regime in 1991 and the ensuing social and political turmoil have had a wide-ranging impact on this legacy, ranging from the resurgence of traditional forms of women's subjugation to the emergence of new avenues of autonomy and empowerment (Ishkanian 2004; Kaser 2008). Several gender assessment reports provide a detailed description of the current situation in Georgia, especially for the last ten years.[20] Yet, for want of a systematic assessment of the actual status of women at the end of the Soviet period, it is often difficult to gauge the magnitude of changes brought about by the withdrawal of government institutions and by the concomitant emergence of market-based institutions on gender relations in the country.

In several fields, women do enjoy a favorable position and the influence of the socialist system is still felt. For instance, the legal system bears little obvious trace of gender discrimination. Georgia became a party to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1994 and the *Law on Gender Equality* of 2010 was passed specificallyto address persisting discrimination in employment, family issues and other sectors. Whether women make a full use of existing laws remains of course a different issue, as

19 I used a preliminary English translation of the report (ISSA 2013), undertaken with UNFPA Georgia CO support. Interestingly, only 2% of male respondentsreported that their partner had undergone a selective abortion.

20 See in particular USAID (2010) and Sumbadze (2008). For a demographic analysis of gender in Georgia, see Badurashvili (2002) and Badurashvili et al. (2008, 2011).

the cases of family inheritance and domestic violence discussed below illustrate. Georgian women fare relatively well in schools and educational institutions on the whole, in spite of the substandard facilities in underprivileged regions. Women are in the majority among university students and in some professions, such as the medical sector. In briefly examining mortality differences, we have also seen that men are clearly trailing behind women, notably because of unhealthy lifestyles. But women are regarded as the prime caretakers for family in the event of disability or illness. As a consequence, they have been directly hit by the decrease in state funding for the health system, such as the higher costs of drugs and the reduction in the number of hospital beds. Women have been also directly impacted by the insufficient modernization of health care infrastructures, particularly regarding access to modern contraception and cancer diagnoses.

Recent reports identified a few areas in which women in Georgia suffered from clear disadvantages. In the area of policy-making, women are clearly underrepresented compared to men.This is especially the case at the national level in governmental and executive bodies. A few women have gained prominence in politics, but women remain very under-represented in the country's political arena. In addition, the gender equality movement lacks a strong mobilization around a platform shared by women's organizations and NGOs. Consequently, women's voices on many pressing issues are often not heard or marginalized. Issues related to gender equity do not enjoy broad support across civil society, and are often seen as less critical than pressing economic or international affairs. Even the media, a sector with a strong female representation, fails to combat gender stereotypes or highlight important gender issues (Sabedashvili 2007).

Women represent a slightly smaller share of the workforce than men in Georgia today. Reports have also stressed the existence of horizontal and vertical differentials between men and women that account for the significant pay gap between male and female workers. Thus, working women tend to be concentrated in a few sectors of activity, such as care and education, while being far less numerous for instance in construction, transportation, manufacturing or real estate. These female-dominated sectors tend to be based on informal employment and to report lower wages. In addition to this horizontal segregation, women also suffer from fewer career development and promotion opportunities. As a result, they tend to occupy lower-level positions than men and are often excluded from decision-making positions, irrespective of their experience, working hours,or educational background.

The transitional context also needs to be taken into account in order to understand the changing gender issues in the labor force. Men were strongly affected by the rapid changes in the country's economic structure, asa large proportion of men were employed in the industrial sector, which was hit hard after 1991. Many lost jobs and were subsequently unable to find new employment in a similar sector or to adapt to a new sector. Unemployment deprived many men of their privileged status as the family's main provider. The same phenomenon was encountered in the section on international migration, where the deterioration of political relations with Russia severely reduced migration opportunities for men. In comparison, women proved more resilient and adaptable, accepting lower-paid and more vulnerable jobs in smaller enterprises. Their unemployment level may be lower precisely because of their more modest expectations. But their economic contribution has also become essential to many families, despite the prevalence of the stereotype of men as primary breadwinners. Internally-displaced persons constitute a special subgroup, which has been most heavily affected by impoverishment and unemployment since the 1990s and men from these communities are once again especially vulnerable to the loss of social status and economic resources.

Studies have also highlighted other serious issues affecting women in Georgia, starting with the prevalence of gender-based violence and human trafficking. Domestic violence is a common experience among Georgian women and has been documented in several reports. It is characterized by a high level of tacit tolerance, leading most cases of violence perpetrated by spouses or other household members to go unreported. The response to domestic violence and other forms of sexual harassment is still seen today as inadequate in view of the prevalence of these issues. traditional institutions found in Georgia included the practices of bride kidnapping and child marriage (UNFPA 2013a). Even if these practices are on the decline, they clearly manifest a distinct domain of gender domination relating to the control of female sexuality and reproduction through force. These aspects of gender relations in Georgia demonstrate a society in which gender inequality is expressed through lack of representation in the social and economic domains, but also through violence in the private sphere.

3.3.3 Women in family and society

Many of the indicators used for assessing gender equity are based on standard measurements that allow for international comparisons and often place Georgia in a somewhat medium ranking in view of

its overall socioeconomic development (Bendeliani 2012). But these indicators point to the formal level of social arrangements and cannot substitute for a deeper analysis of the many forms of gender discrimination found in Georgian society. Gender equality is not considered a key value of today's society, in which men occupy the central role. The gender structure is rather hierarchical and equality remains a legal formality only touching on the social sphere.In various contexts, from that of couples and extended families to that of communities and the nation, women are seen to be in the background, with men assuming the most important decision-making roles. Men benefit from privileged access to public and private resources and have the ultimate authority in most decisions, reflecting the traditional distribution of gender roles in Georgian culture.

Not only is this situation reflected by social, economic and political arrangements, but it is also deeply ingrained in the value system of individuals, as evidenced by what some of the interviewees labeled as "the Georgian mentality". This summarizes the congruence between the preeminence of in the power structure, their control of resources and the male-biased normative. Unsurprisingly, women are stereotyped as obedient, modest, tradition-bound, devoted to their family, enduring and affectionate (United Nations Women 2013). Their contribution to the household finances is either downplayed or lamented as evidence of a wider crisis, but motherhood is celebrated a national duty (Rekhviashvili 2010). Justifications for such a basic inequality may be drawn from different repertoires, from the argument of biological self-evidence (male strength and innate talent) to the cultural inheritance (orthodox traditions or Caucasian warlike history). But whatever the folk theory for the origin of gender inequality, norms are actively transmitted through the family, schools, the media and the Church and gender roles are perceived as a natural extension of essential gender characteristics.

Of primary importance to us in this report are the links between gender inequity and family organization, because demographic strategies and decisions are shaped within the intimate sphere of couples and their immediate kin. The question lying at the core of our investigation is the preference for male offspring that–in concert with changes in the demographic environment–provides a rationale for sex selection. Interestingly, gender studies on Georgia have little to say about son preference per se. While it is clear that men hold supremacy over women in a large range of social domains, the existing literature fails to explain if and why this inequity converts directly into a bias in favor of boys. After all, many countries in Eastern Europe or in Central Asia are similarly characterized by a significant level of gender inequity, but this does not translate automatically into an active son preference. Put differently, Georgia–like its Caucasian neighbors–is not the only nation in the region with forms of social or economic gender discrimination, nor is it the worst for gender inequity. Yet, it appears to be a distinct example of prenatal sex selection, a phenomenon not observed in countries such as Turkey, Iran, Ukraine or Russia–not to mention more distant countries in Eastern Europe or Central Asia–with which Georgia shares many common historical and cultural traits. This is why we believe there is something missing in the gender evaluations describing Georgia's peculiar circumstances.

3.3.4 Family and kinship structures

The predominant nature of the missing element of Georgia's gender equation is anthropological and is related to the functioning of its family systems.As suggested before, kinship systems are often seen at the core of gender bias. The presence of a strictly patrilineal system can be taken as a litmus test for the potential presence of sex selection in a given society (Das Gupta et al. 2003). Yet, we have almost no detailed of description of the Georgian family structure. In fact, the functioning and the roles of families in Georgia are often taken for granted. The family–along with the Orthodox Church–is also seen as one of the powerful social institutions. It has resisted years of onslaught during the communist period when the State offered women direct support such as child care, employment, legal rights and economic benefits that weakened the role of the traditional family.

The main anthropological characteristics of the family unit in Georgia revolve around its patrilineal and patrilateral nature. A patrilineal system consists of a kinship system in which family identity proceeds from the male line. The male line is a descent line obtained through men (mostly from father to sons), which women join by marrying one of its members. This membership is often reflected by patronymic usage, but this is not a perfect testimony to the nature of the kinship system.[21] Patrilineal systems are usually based on patrilateral unions, in which women join their husbands' household after marriage. In many cases, patrilateral systems also allow for neolocal arrangements, in which couples form a new household after union. But they tend to vigorously exclude the possibility of matrilateral (or uxorilocal) residence in which newlywed couples reside with the wife's parents.Patrilineality is a feature of

21 In fact, Georgian women often keep their original family name after marriage.

the Georgian family that it shares with family systems found in neighboring Azerbaijan and Armenia, as well as in many societies of the North Caucasus region. It is inscribed in the Georgian language itself as the woman is "brought", "given away" or goes "to the family" [of her husband] upon marriage. Dragadze (1988) produced the most detailed profile of Georgia's patrilineal system, based on her fieldwork conducted during the 1970s in the Racha province (today's mkhare of Racha-Lechkhumi and Kvemo Svaneti).[22] She stresses in particular that the identity (surname, clan membership), residence (after marriage and in old age) and solidarity (loyalty, social and economic support) of villagers are defined patrilineally. Members of the wives' family play a rather marginal role in the kinship. Marriage practices were based on village exogamy, but they exclude other members of the patrilineage(*sadzmo*) and especially its branches (*sht'o*).

We do not have equally rich ethnographic studies for the more recent period. There is also no literature focusing on areas of distinct culturalidentity such as the Mingrelian-speaking areas to the Northwest, or Muslim-dominated areas to the South. We have substantial literature referring to family support and somewhat tacitly to patrilateral customs. But no effort is made to describe the origin and functioning of this asymmetrical kinship system. For instance, Roberts et al. (2009) describes family formation processes in the Caucasus. This study stresses the crucial role of parents' families in providing housing to new couples and the possible revival of traditional family attitudes. Yet, there is little explicit mention of the typically patrilineal arrangements prevailing among younger couples. Similarly, the extensive survey on gender and society published by Nana Sumbadze (2008) sees the Georgian family of the past as typically "patriarchal"[23], but provides no analysis of the patrilateral bias still found today (see estimates below). Extended families are always expected to revolve around sons, daughter-in-law and their children.

It is in fact almost impossible to gauge the exact prevalence of the patrilineal system today across the country, though it is clear that the presence of more gender-blind bilateral systems–such as those found in Western Europe–has never been reported for Georgian populations. However, the 2002 census does provide an indirect indication of the prevalence of patrilateral arrangements. We can first observe that about 48% of younger adults aged under 40co-reside with the parents of one of the spouses.[24] This proportion is at its lowest in Kvemo-Kartli and Tbilisi (around 40%) and at its highest in Guria (62%). It may also be shown that coresidence is highest among Armenians and rural households (52%), while being significantly lower among Azeris and urban dwellers (42%), with ethnic Georgian families somewhere in between. But using the raw data, we may concentrate here on married couples coresiding with their parents and we can examine whether they live with the wife or the husband's parents. To do that, we compute the relative distribution of sons-in-law and daughters-in-law, i.e. the number of married persons residing with their spouse's family. The overall proportion is 90.4% of women (i.e. daughters-in-law) vs. 9.6% of men (son-in-laws). Patrilateral arrangements in which couples live with the husband's family vastly predominate in a ratio of 10 to 1.

This proportion of patrilateral coresidence is above 90% in all mkhare, with the exception of Tbilisi where it falls to 78%. The highest occurrence of patrilateral coresidence among intergenerational households is found in Samtskhe-Javakheti and Kvemo Kartli, areas occupied by large Armenian and Azeri populations, respectively.[25] This demonstrates that the patrilineal family structure is a trait found across all regions and ethnic groups of Georgia. Further analysis of the census data indicates that the frequency of patrilateral families tend to decline slightly with socioeconomic status. While it is 95% among the poorest quintile, this figure decreases to 80% among the richest quintile. It is also lower in urban areas and among couples with higher levels of education. These results can be equated with the relatively lower value noted for Tbilisi, where relative affluence, higher education and new urban lifestyles combine to explain the less rigid family norms prevailing in this metropolitan setting (see also Gagoshashvili 2008).

3.4. Conclusion

This chapter recognizes the presence of the three preconditions for sex selection in Georgia. The most obvious factor is the role played by demographic change in reproductive strategy. Post-1991 Georgia has recorded a significant fall in birth rates and has left the country with an ultra-low fertility level for several years. The recent recovery of fer-

22 Gagoshashvili (2008) provides a more recent, but similar description of patrilineal settings in Svaneti. For a broader perspective on patrilineality and son preference in former communist countries, see Grogan(2013).

23 Patriarchy as a concept of male domination is often confused with the precise anthropological definition of patrilineality.

24 We distinguish households where young adults are classified as "head" or spouse of the head from those where they are children or other relatives of the household head. Postmarital coresidence typically corresponds to married "children" of the household head living in the household.

25 A rare mention of patrilocal family systems in the literature on Georgia may be found in a gender study of the Azeri population (Peinhopf 2014).

tility after 2007 has been rather short-lived and it still seems unlikely that the fertility rates will reach two children per woman in the near future. Georgia is therefore typically a country where more than a quarter of the parents will not produce a boy if they rely on biological odds alone.

In comparison, the existing evidence on the "supply factor"–the second precondition of sex selection related to access to sex selection technology– is less straightforward. Prenatal diagnosis is offered by many clinics at a reasonable rate and no legislation prevents radiologists from informing mothers of the sex of their fetus. We do not know when the importation of modern ultrasound equipment, such as 3-D scanners, took place on a large scale, although the indirect evidence points to the changes that affected the health system during the 1990s. A good example is provided by a well-known hospital opened in 1991 in Tbilisi by a radiologist who is currently member of the Georgian Academy of Science. The center was initially named the Institute of Radiology and Interventional Diagnostics and played a great role in the dissemination of modern diagnostic techniques during the 1990s.[26]

Based on discussions held with local gynecologists, there is no evidence of more sophisticated methodssuch as PGDor blood testing–being offered in Georgia. We have also limited information on the frequency of self-administered medical abortions and their role in sex selection, even though health specialists agree that the use of a drug such as misoprostol is becoming more widespread and leading to more frequent post-abortion complications.[27]Abortion clearlyremains very common among Georgian women and abortion services are both affordable and of reasonably high qualityalmost everywhere in the country. The only apparent issue in accessing sex selection services through abortion relates to timing. Since prenatal sex diagnosis is feasible after twelve weeks of pregnancy and abortion authorized only during the first 12 weeks (after a waiting period), sex-selective abortions are in theory difficult for women. But the experiences of other countries where there is a strong demand for sex selection,-suggest that there are many ways for clinic owners and their patients to circumvent such regulations. .

The major factor behind the rise in the proportion of male births remains the biased gender preference system. In the previous section, we have stressed some common features of gender inequity found in Georgia, but we consider the kinship system to have a greater impact than other factors. In patrilineal systems, the birth of a son is desired in order to perpetuate the family and carry on its name. Unsurprisingly, boys are clearly favored in inheritance in spite of succession laws that have long been gender-neutral. In addition, coresidence of parents with one of their married sons is the most frequent intergenerational arrangements and census statistics stress how this family arrangement remains prevalent across the country and its various social groups.

It is not certain, however, whether this patrilineal and patrilocal system does in fact translate into a real need for sons and consequently an active son preference expressed through specific reproductive strategies. Many preferences stated by families refer to an ideal situation and may not be followed by concrete steps to achieve gender objectives. For instance, it is common for parents in Western Europe to favor a balanced offspring made for instance of one daughter and one son, but there is no tangible sign that this preference affects in a sizeable way the reproductive outcome of European couples. The next chapter will examine precisely whether or not there is any measurable preference for sons among Georgian families.

26 See an interview with its founder here: http://www.winne.com/ge/interviews/fridon-todua

27 As pointed out to me by Tina Tsomaia (Georgian Institute of Public Affairs)and Tina Turdziladze (health consultant), the importation of such drugs in Georgia has rapidly increased in Georgia over the last five years. See also: http://pharmacy.moh.gov.ge/Default.aspx

4. Assessing gender preference

Son preference is a frequent feature of many family systems and leads to a large range of discriminatory practices. We have already mentioned some of the facets of gender inequity in Georgia, but it must said that they are also found in other Eastern European countries with no trace of active son preference or prenatal discrimination. We therefore need to identify the distinct characteristics of son preference to establish its presence in Georgia before going any further.

4.1. Mortality bias and stated preference

In several Asian countries, the manifestation of son preference relates to post-birth discrimination expressed, for instance, in selective infanticide in the past or in discrimination in food distribution or in health caretowards girls. No clear sign of active discrimination can be found in Georgia. If we examine the age and sex distribution of the population before 1991, there is no noticeable surplus of males among the child population. Starting from the first census of the Russian empire in 1897 to the Soviet censuses from 1926 to 1989, the distribution of the child population by sex corresponds to both a normal SRB and the usual higher male mortality among infants and children.[28]This is in stark contrast with countries such China or India, whose demographic structures have long borne distinct traces of excess mortality among female children, reflecting the long-held prejudice towards girls.

For the more recent period, we have assembled a set of data on infant and child mortality in Georgia and we find only fragmentary evidence of excess female mortality (Table 5). As expected, neonatal mortality is much higher among boys. This is unsurprising as mortality during the first month of life is firstly determined by congenital factors or birth accidents. It is seldom affected by sex discrimination except in the case of deliberate infanticide.

Table 5: Infant and child mortality by sex, surveys in Georgia, 2000-2010

Survey	Neonatal mortality		Postneonatal mortality		Infant mortality		Child mortality		Under-5 mortality	
	First month		Months 2-12		First year		Year 2-5			
	M	F	M	F	M	F	M	F	M	F
2000 RHS	29	18	17	13	46	31	7	5	53	36
2005 RHS	24	13	9	11	33	24	4	4	37	28
2010 RHS	18	16	8	4	27	20	2	3	28	23

- *Mortality rates per 1000 population*
- *Neonatal mortality = during the first month; Postneonatal mortality=1st to 11th month; Infant mortality=first year; Child mortality=1st to 4th year.*

RHS data point to some cases where mortality is unexpectedly high among girls, such as neonatal mortality in 2005 and child mortality in 2005 and 2010. But estimation errors may also explain such fluctuations, as the number of infant or child deaths collected by such surveys is rather limited. It would therefore be difficult to infer from such estimates the presence of any actual mortality bias, even though we may also observe other such cases of higher female mortality in similar survey data from Armenia and Azerbaijan. Statistical series based on civil registration do not point to any clear excess female infant mortality, even if the gap between male and female death rates is narrower than expected in 2004-2009.The relatively high level of female mortality under five is also reflected in the official life tables for the same period. Yet, this may be due once again to estimation issues and since 2009, this discrepancy is no longer evident.

A more eloquent manifestation of biased gender preference comes from the Caucasus Barometer, a survey held in the three countries of the South Caucasus.[29]This is an opinion survey based on a limited sample and should be consequently treated with caution, but this is only source probing the presence of a gender bias regarding children in the population of these countries. A simple question on preference for a child was introduced in its 2010 round, focusingon single-child families; the question posed is about the preferred gender of the child if the family were to have only one child.

28 We have used here historical statistics compiled in the Demogravphic Yearbooks of Georgia (Tsuladze et al., various years).

29 We provide here unweighted figures. Data are accessible from the website of Caucasus Research Resources Center: http://www.crrccenters.org/ http://www.crrccenters.org/

Armenia emerges as the country with the largest proportion of respondents preferring a boy (54%) toa girl (11%), with 35% professing indifference. But the bias appears only marginally less pronounced among Georgians: 46% would prefer a boy against 9% who would opt for a girl. 44% of Georgian respondents say that gender doesn't matter. If we exclude the population reporting gender indifference, the preference for a son is therefore five times more frequent than for girls.

This ratio of son preference happens to be significantly higher among men (9:1) than women (3:1) according to the survey results. It is more marked in rural areas than in towns or cities, but there is no visible difference across age groups.There is also a visible link between stated son preference and other patriarchal attitudes. But the analysis of this admittedly small sample (2,089 respondents in the 2010 Caucasus Barometer) should be treated with caution as the number of respondents stating a gender preference represents less than 1200 people. The same question is not posed in the later rounds of the survey in 2011, 2012, and 2013. We are therefore unable to further explore the existence of a trend in son preference in Georgia.

Unfortunately, the RHS survey has not included any specific question on the preferred family composition as found in DHS surveys (Bongaarts 2013; Fuse 2010). Unlike DHS surveys, which document the ideal number of sons and daughters as reported by adult women, the RHS rounds have not published any such detailed statistics.

4.2. Son preference and fertility behavior

This section is based on the reconstructed family structure derived from the 2002 census. As indicated in the methodological section, this new database includes all child records for which we have both parity and the gender composition of the family, as well as additional information on their households (region, socioeconomic status, etc.). The following analysis uses a more reliable and exhaustive source than opinion polls to study how gender preferences are implemented within Georgian families. It is also nearly exhaustive in its range, since it is based on all census records–barring 4% of the population below 15 years of age for which we could not ascertain the family position.

This section aimsidentify the potential impact of gender preferences on fertility behavior in Georgia. There are in theory very different configurations for family composition and subsequent fertility decisions. The first case consists of parents who are somewhat indifferent to the gender composition of their family and focus on the number of children they want to have. This is the rather frequent scenario around the world, especially in Western Europe and in North and South America. In this situation, parents who already have children are only influenced by the number they have and the gender composition plays no role in the decision to have another child. The second configuration corresponds to "family balancing" patterns, in which parents prefer to have children of different sexes. Their fertility would therefore be higher after two boys or two girls than after a mixed progeny. It is also discernible in industrialized countries, but at a rather low intensity.

The third situation represents a clear-cut sex preference, usually towards male births. Fertility behavior is determined not only by considerations for family size (parity), but also by the desired number children of a particular sex. The most common case relates to parents who want to have at least one son and will have therefore much higher subsequent fertility when they have had only daughters.Contrary to popular opinion, the so-called "stopping behavior"–ceasing to bear children after the birth of a son–has no impact whatsoever on the resulting level of birth masculinity. The sex of the births remains a random biological factor throughout and no imbalance can be detected.

The intensity of fertility is measured in terms of the probability that a couple will have another child, which corresponds to what demographers call the parity progression ratio (PPR). Using the Kaplan-Meier technique, we can estimate this probability in terms of years since the previous birth. These PPRs are computed at each parity level and they decline quickly once the average fertility level is reached. When average fertility is close to two children, the decline in PPRs will be steep in the progression from one to two births to from two to three births. This corresponds to the situation in Georgia. Once we have computed these parity-specific PPRs, we can compare their values according to the prior gender composition and see, for instance, whether the absence of a son tends to increase the probability of having another child.

4.2.1 Son preference according to family composition

Figure 4 displays the progression from first to second birth over the ten years that follow the first birth. In pre-2002 Georgia, this probability rises fast during the first two years following the birth of a first child. More than half of parents do indeed have

a second child 3 years after the birth of the first. After ten years, PPRs tend to plateau at about 70%. This means that 70% of parents with one child will have a second child. This probability is below 100% as the fertility levels during that period was at its lowest and well below two children per woman.

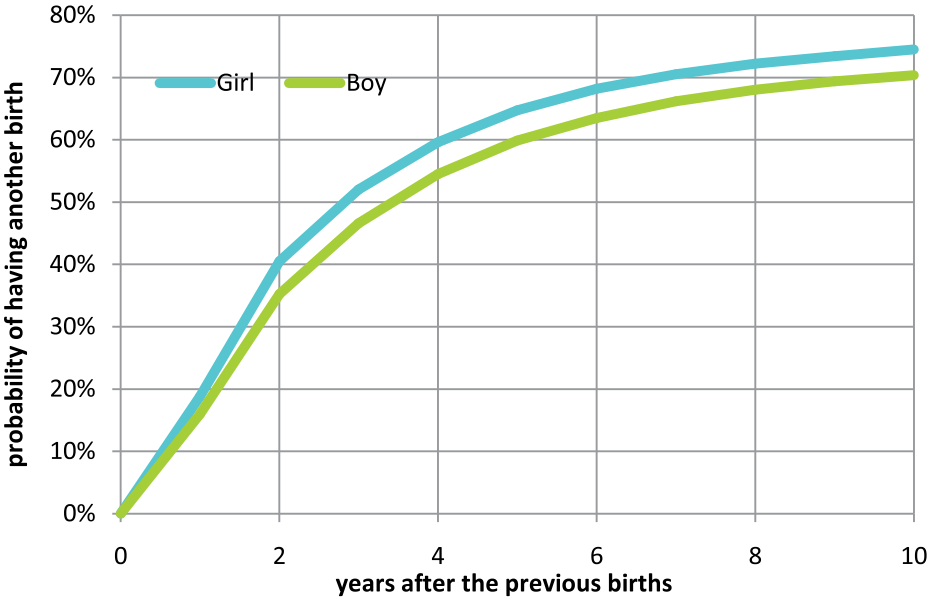

Figure 4: Probability of having another child (PPR) after the birth of the first child

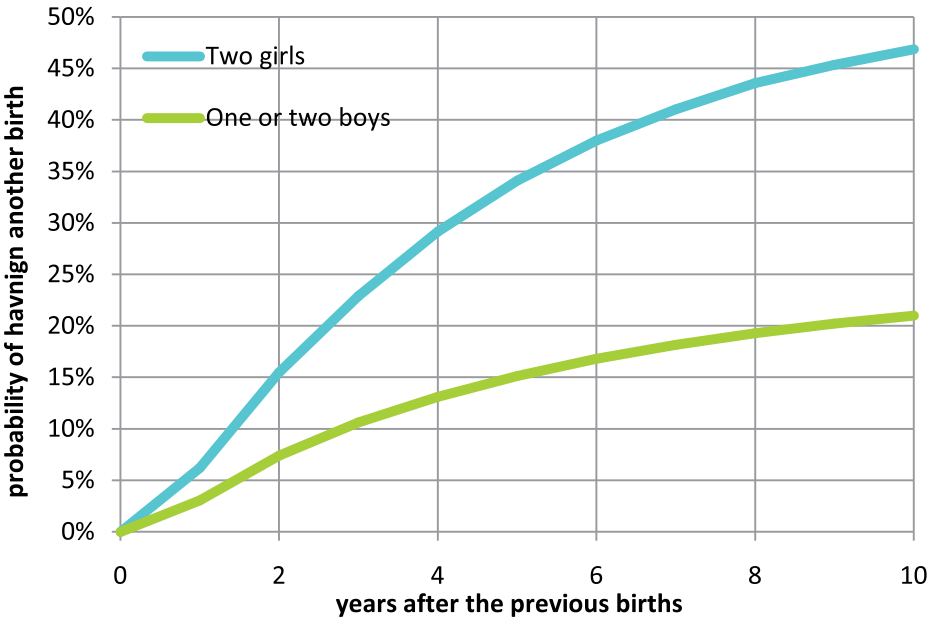

Figure 5: Probability of having another child (PPR) after the birth of a second child

Figure 4 also underlines the difference between parents of a boy and those of a girl.[30]The curves are roughly similar, but we can observe that the proportion of parents with a second child is systematically higher for parents whose first child was female. While the cumulated probability tends to plateau after ten years, there is a small gap and parents who had a female child first have a 4% higher chance of having another child after ten years than parents of a boy do. A second pregnancy was therefore slightly more frequent in the absence of a boy. The difference is modest, but statistically significant.

Figure 5 spells out more clearly the dynamics of family building in Georgia. The curves shown here summarize the subsequent birth history of women who already have two children. The overall PPR is twice smaller than the progression from first to second births. Once again, we contrast here the situation of sonless families with that of families with one or more boys. As the figure shows, the probability of subsequent fertility increases very rapidly in the absence of a male child. The progression is much slower in families who already have at least one boy. After ten years, the difference between the two curves is no more a matter of a few percentage points, as in the previous PPR analysis. 47% of parents with no male child have a third child as against 21% of those with at least a boy. This progression ratio (PPR) from a second to a third birth is 2.2 times greater among parents who had no previous male child.

The gap between the two probabilities (47% vs. 21%) is purely attributable to the gender strategies of parents. Put differently, the difference between parents with or without female children demonstrates that 26% (47%-21%) of parents with two girls opted to have an additional child onlybecause they had no son.

The gap in the proportion of parents having a third child according to the gender composition of their offspring is revealing. We could say that in the best

30 Parents with only girls are shown in red in this and later PPR figures.

gender configuration possible, i.e. when they have at least one son, only 21% of the parents will have another child. In other words, 79% of parents in the 1990s tried to avoid a third birth, but among them, 26% (47%-21%) decided to have anyway one more child for lack of a boy. We can therefore say that 33% of couples (26/79) felt compelled to have a third child because of their gender need. In other words, a distinct preference for a son emerges among a third of Georgia's population.

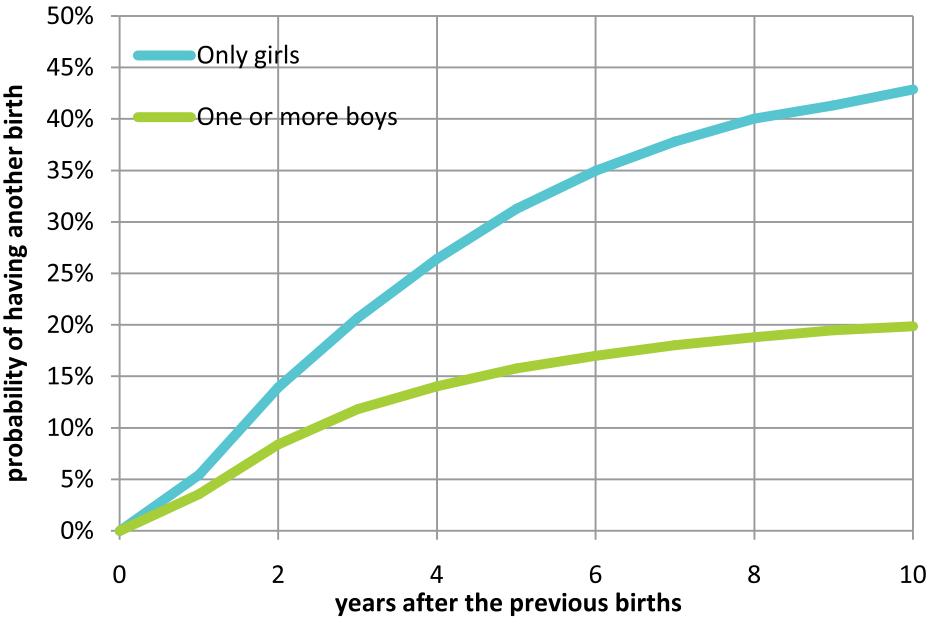

Figure 6: Probability of having another child (PPR) after the birth of a third or higher-order child

This bias for boys gets replicated for higher parities. In Figure 6, we brought together all parities above 2 and computed the subsequent birth history in the same way. The results are almost identical to what we saw in the progression from second to third births. The PPR is on average slightly lower than from the second to the third birth. Parents who already have a son have the lowest probability of having another child (20% after ten years). Parents without a son have double the chance of having another child. In fact, the ratio between the two series is 2.1, almost identical to the previous ratio of the progression from second to third births. We also observe a 23% excess in PPR between both series.

Results found from parities 2 and 3+ are therefore almost identical and they point to about a quarter of the whole population being willing to adjust their fertility rate in the absence of a son. This is a large percentage;if 25% of parents of two girls were to resort to prenatal sex selection after two female births, the average sex ratio at birth would in fact rise from 105 to 110 male births per 100 female births. The sex ratio of third births would jump to a level above 160.[31] These levels are in fact roughly similar to what is observed after 2000 in Georgia, as our analysis of birth masculinity will show.

4.2.2 Variations in son preference

In anticipation of our later analysis of sex imbalances at birth, we can use the same method to probe the presence of variations in the intensity of son preference within the country. In view of the previous findings, we will concentrate onthe fertility from parity 2 and above to examine the difference in fertility behavior caused by the absence of a previous male birth.

Table 6: Variations in fertility progression according to the gender composition among specific subpopulations, 1992-2002

	Ratio	Gap
Rural areas	2.41	34%
Urban areas	1.96	16%
Selected mkhare		
Tbilisi	1.71	12%
Samegrelo and Z. Svaneti	1.97	22%
Guria	2.00	24%
Kvemo-Kartli	2.43	34%
Adjara	2.51	36%
Racha-Lechkhumi and K. Svaneti	2.53	32%
Samtskhe- Javakheti	2.54	35%
Highest education among household adults		

31 This figure is produced through arithmetic simulations: we first assume that fertility behavior is similar to what is observed before the 2001 census and then that the sex of the births remains purely random, *except for 25% of parents of two girls* who only have a boy as a third child by resorting to sex selection. The sex ratio at birth shown here is computed over the resulting births of parities 1, 2 and 3.

Primary	1.90	27%
Secondary	2.27	28%
Higher	2.20	20%
	Ratio	**Gap**
Selected minorities		
Armenian Christian	2.55	32%
Muslim	2.44	42%
Azeri	2.50	42%
Russian	1.35	7%
Household member in agriculture		
No	2.03	18%
Yes	2.40	34%
Socioeconomic quintiles		
Poorest	2.42	33%
Poor	2.35	32%
Medium	2.29	27%
Rich	2.10	19%
Richest	1.89	14%
Georgia	2.22	25%

Notes:

- Computed on second and high-order births over the period 1992-2002
- Ratio = progression in families without son/ progression in families with at least a son
- Gap= difference between progression in families without son and with at least a son

Table 6 sums up the most pronounced variations in son preference across Georgia as expressed by fertility behavior. For each subpopulation, we have computed the relative and the absolute differences (ratio and gap, respectively) in parity progression according to the presence of an older brother in families with at least two children. For instance, in rural areas, the absence of a son results in a progression ratio which is 2.4 greater than in families with a son. The difference between progression ratios is 34%, suggesting that more than a third of rural families are ready to have another child in order to ensure the birth of a son. Comparison with the average values for Georgia shown in the last row of the table demonstrates that son preference appears more pronounced in rural areas than in urban regions, where the overall gap is only 16%. This result is confirmed by the analysis of agricultural households, which also display a stronger son preference than other households.

We can similarly contrast Tbilisi and two mkhare of coastal Georgia (Samegrelo and Z. Svaneti, and Guria) where son preference appears minimal with a few regions where it is significantly larger. The comparison across ethnicities or religious groups highlights the apparently stronger attraction towards sons among Muslims and Armenian Christians, as well as among ethnic Azeris, where 42% of parents are likely to opt for an additional child in the absence of a prior male birth. The small Russian community appears totally different, with almost no trace of son-targeting fertility strategy.

The socioeconomic gradient is also visible as higher education and higher living standards are associated with a lower relative and absolute desire for sons. This is especially well illustrated by economic quintile;the indicator of absolute and relative son preference declines regularly as one moves up the economic scale from the poorest to the richest households.

4.2.3 Summary

What this analysis demonstrates is that the birth of a son is a crucial objective for a large number of Georgian families. While the need for son is a commonly described feature of Georgian family structure, the analysis of fertility behaviour prior to the 2002 census sheds more light on its exact intensity and its modus operandi. The fertility average has long been around two children, but there was room for adjustment. We see for instance that parents with a first son were less likely to have a second child than parents of a daughter. The move from a second to a third birth displays, however, a more visible trace of gender preference.The probability rises from 21% to 47% in the absence of a son. We interpreted this difference of 26% (47 – 21) as the percentage of the population insisting on a male child and this number is perhaps an underestimation.[32]We take this number as an indication of revealed preference for sons among Georgians.

Within the country, we also see important differences. Among some communities, there was almost an indifference to gender and the Russian groupdemonstrates this feature. In cities like Tbilisi and among the economic elite, son preference also appears slightly less common. We should emphasize that even in privileged groups, the impact of son preference on fertility behavior is sizeable and easily measurable; the absence of a son almost doubles the probability of having another child. Yet, rural communities express a stronger desire for

32 Many parents could not have a third child for other reasons such marriage disruption or age of the mother. Moreover, the 27% gap would increase if we prolong the analysis beyond 10 years.

sons, and we find an almost identical phenomenon among agricultural families. When we break up the population by ethnicity and region, we also observe higher levels of son preference among the Azeri and Armenian communities, as well as in particular mkhare.

In conclusion, son preference shapes fertility behavior in Georgia in accurately measurable ways. Fertility has long represented the easiest way to adjust for the lack of sons. But as the means to have children decreased, changes in reproductive technologies offered Georgian couples another way to fine-tune their fertility to their gendered needs. This is what the next chapter on sex imbalances at birth will demonstrate.

5. Sex imbalances at birth from the 1980s until now

The previous section focuses on measuring son preference through fertility behavior. Contraception and abortion have long provided a way for parents to avoid births once the preferred gender composition of the family was achieved. This so-called stopping behavior had no impact whatsoever on the sex ratio at birth, which remained a purely biological, random factor. Parents still had no way of avoiding specifically female (or male) births due to the lack of appropriate technology.[33] Once this technology was introduced into the country, parents in theory had the capacity to selectively avoid births and therefore to alter the natural levels of birth masculinity. This section examines whether and when this happened. Due to the absence of a single, reliable source on the distribution of births by sex, our review will rely on the critical evaluation of various sources presented in the previous section. We also review the main social and demographic differentials related to SRB in Georgia.

5.1. The rise of birth masculinity after 1991

The years following the collapse of the Soviet Union are pivotal in many respects in the development of modern Georgia, including its demographic trajectory. This is particularly the case for the sex ratio at birth. But the discussion is complicated by the deterioration of the vital registration system during this period. We will therefore need to compare the various sources depicting the sex ratio at birth in Georgia since the 1990s and deduce the most probable SRB level by statistical triangulation across the available sources.

5.1.1 The diversity of SRB estimates

We distinguish two broad families of sources. The first family consists of four series of survey data. It includes the three RHS surveys of 1999, 2005 and 2010, as well as the 2005 MICS surveys. SRBs have been re-estimated from this review of the original microdata provided by Geostat. They are presented as five-year averages to limit fluctuations. Because these figures only refer to a very small sample of births (or child population) as indicated in the previous section, they will be treated separately and are no doubt less reliable than the second family of sources.

33 There are some examples in Georgia of folk theories on how to influence the sex of a child. For instance, salty foods are deemed favorable to male births while dairy-based foods favor female births (information courtesy of N. Shavlakadze).

The second family of sources includes five that cover the entire population for various periods. All series have their limitations in terms of quality and reliability, some of them are probably affected by under-registration or under-estimation issues. These sources have already been described in a previous chapter and will only be summarized here:

1. **Census estimates** -2001: annual SRB series obtained after mortality correction of age-specific sex ratios of the 2002 population. Data relating to population over the age of 15 years in 2002 are not included due to the impact of migration.

2. **Official BR** (birth registration) **data** for 1985-2004: SRB based on birth registration data up until 1996, followed by an SRB level estimated at 111 for 1996-2003, and SRB estimated after 2003 using the dual record system.

3. **Original BR data** for the period 1996-2003: alternative SRB series compiled by Irina Badurashvili and based on original birth records.

4. **Computerized BR data**: series based on computerized birth records available for the period 2005-2013.

5. **Primary school population**: SRB series derived from the primary school population in 2013-2014 after correction for sex specific mortality differentials.

5.1.2 Birth masculinity over the last thirty years

All these sources are plotted in

We start our examination with the second family of estimates, which are based on the largest number of recorded and estimated births and are therefore more reliable. The official birth registration data provides a series that starts with a flat trendline in SRB slightly above 105 before 2002. The census estimates put the pre-1991 SRB slightly below 105. These figures suggest that birth masculinity during the Soviet period was close to its usual biological level of 105 male births per 100 female births. The 1989 census data (not shown here) also confirm the absence of any notable departure from the natural SRB level.

After independence, the annual level of birth masculinity starts rising. Within five years, the SRB in Georgia reaches 110 male births per 100 female births. This distinct upward trend is attested by

both birth registration figures and census-based back projections, which means that it is highly unlikely that it could be generated by identical issues with registration of births and of enumeration of the populations several years later. This rise in SRB is also observed in neighboring Azerbaijan and Armenia and the trends in the three countries are almost parallel.

Census data even allows for a month-by-month reconstruction of SRB trends. While this series reflects important fluctuations caused by the small number of corresponding populations (about 5,000 per month), there is a detectable change in trends in 1991-92, when the rather flat pre-1991 SRB profile gives way to a regularly increasing level of birth masculinity. Using a permutation test, we can estimate the month when the sex ratio starts to increase and this happens in December 1991–i.e. eight months after the declaration of independence in April 1991.[34] According to this statistical modeling, the first cohorts of births affected by higher sex ratio would therefore have been born to women who were in their first month of pregnancy at the time of independence. This suggests an extremely close connection between changes in political regime and reproductive strategies.

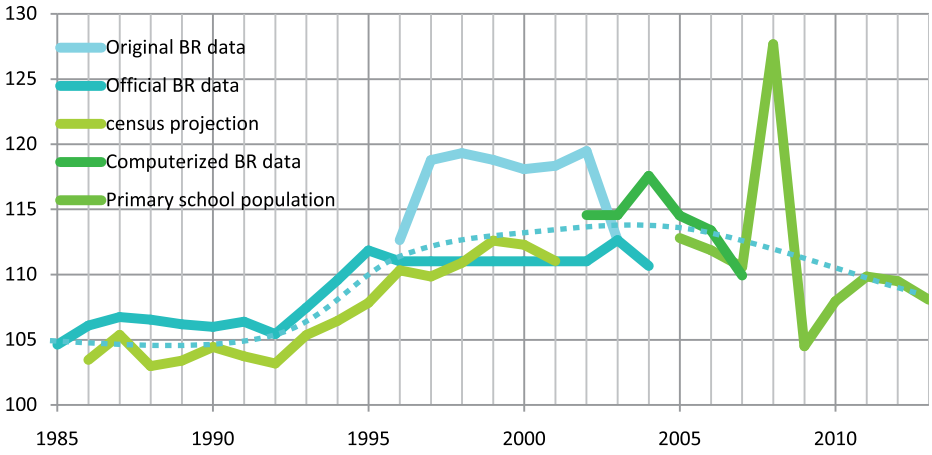

Figure 7: Sex ratio at birth in Georgia according to different sources, 1985-2013

After this initial jump, the SRB trend points clearly to an increase in birth masculinity over several years. But our sources do not entirely agree on the trendline. According to census back projections, the SRB peaks at 112 on the eve of the census. But according to original birth records produced by Irina Badurashvili, the SRB rises to 119 in 1997 and plateaus at this level for the next five years. We therefore have a wide discrepancy between estimates since they vary between peak values of 112 (census) and 119 (original birth registration data) during the five years preceding the census. The official SRB figure for that period stands at 111, but as this is purely conjectural we cannot use it.

In 2003, when birth registration improves, the range of SRB estimates narrows down. Birth masculinity is now around 113 male births per 100 female births according to the registered births, while estimates based on the primary education population puts it closer to 115. Over the following years, the sex ratio at birth appears to slide from 114 in 2005 to 108 according to the latest 2013 estimate. The interpretation of this significant decrease is, however, partly obfuscated by significant year-to-year fluctuations, such as the decrease below 105 in 2009 and above all the spike observed one year earlier when Georgia's SRB reaches the unlikely value of 128 (a world record).

We have plotted in a smooth (dotted) curve of SRB change in Georgia from 1985 to 2013 that may serve as a synthetic estimate for the entire period. It assumes a sustained rise from 1992 to 1997, followed by a slower increase up to 2003, when the SRB reaches its peak at 114. After this date, there is a prolonged decline over the next decade. Birth masculinity finally decreases below the 110 threshold in 2011 and the current trend could suggest a further decline in the years to come. Two dates are clearly distinguished: the year of independence in 1991 after which birth masculinity suddenly increases and the 2004 period when a downturn in SRB begins. This stylized trendline, however, leaves issues unaddressed: the possibility of a high plateau of 119 at the turn of the century and the exceptional surge to 128 detected in 2008. We will examine them separately below.

Turning our attention to the survey-based estimates (Figure 8), we see that these series display even greater discrepancies than the census and birth registration figures examined earlier. Even though SRB figures shown are based on a five-year moving average, variations across sources can be significant, as shown inFigure 8. The comparison of sources highlights the presence of large disparities

34 The computation is based on Kim et al. (2000). We use here the Jointpoint Regression Program for this computation. It may be noted that according to monthly records, fertility started to plunge in Georgia one month earlier–in November 1991–, which corresponds to conceptions that took place in February 1991.

in estimated SRB levels. For instance, the two older RHS estimates somewhat concur in depicting a rapid rise in birth masculinity, with the SRB rising to 118 in 1997. This exceptionally rapid increase also coincides with the SRB based on raw birth registration data shown in the earlier figure. Yet, the MICS estimates–derived from a survey almost identical in date and sample size to the 2005 RHS round– put the SRB at a far lower level. The difference between these two simultaneous surveys is almost 8 male births per 100 female births, with the exception of the 2000-2005 period. The latest RHS round, conducted in 2010, yields another set of estimates that are significantly lower–around 112 over the last ten years– and difficult to reconcile with the two previous MICS and RHS surveys taken five years earlier.

As it appears difficult to reconcile these series, we have computed the annual average SRB from these four series and fitted a quadratic trendline, shown as a dotted line in Figure 8. The resulting trendline represents the best SRB estimate that we can derive from these four sample surveys. We distinguish a clear rise after 1990, followed by a peak at 114, reached in 2002. The simulation ends with a downward trend during the most recent years. We notice that this trendline is almost parallel to the stylized trajectory shown previously in

It points to a rapid rise in SRB after independence, followed by a plateau between 112 and 115 male births per 100 female births at the beginning of the century and finally by a decline that brings the SRB to a level of 110 or below. Over the last few years, the sex ratio at birth is now back to a level of 109. This is probably the lowest level in Georgia since the mid-1990s.

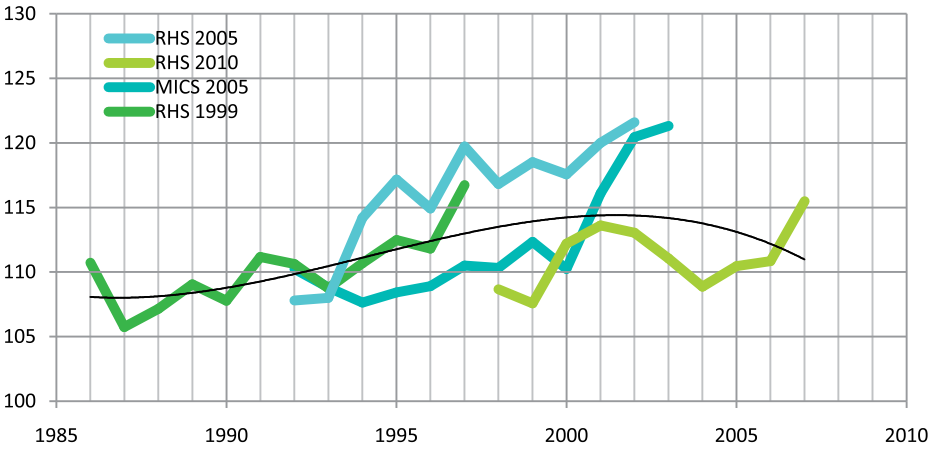

Figure 8: Sex ratio at birth in Georgia according to different surveys, 1986-2007

In view of the relative concordance of these two series and the absence of reliable data for the period 1995-2005, we consider these trendline to the best depiction of the probable evolution of the sex ratio at birth in Georgia during this period. Fortunately, birth registration figures are of far better quality before 1995 and after 2005 and provide a more plausible depiction of the actual level of birth masculinity in Georgia.

5.1.3 Two estimation issues

The discussion of SRB trends remains hampered by two unsolved issues: the high SRB, close to 120, based on uncorrected birth registration figures for 1997-2002 and the 2009 spike. We will briefly review them in this section.

The extremely high SRB postulated by uncorrected birth registration data from 1997 to 2003 is in many respects an oddity, in spite of the similarly high SRB figures obtained by the RHS rounds in 1999 and 2005. The evidence of an extremely high SRB at the turn of the century appears limited for various reasons. According to an exclusively quantitative argument, we fail to get any confirmation based on any alternative source with large samples, as the only datasets based on almost exhaustive birth cohorts fail to corroborate the high SRB plateau approaching 120. On the one hand, the census population born before 2002 displayed a much lower sex ratio of 111 and, on the other hand, the sex ratio of the current primary school population born after 2002 is only slightly higher, at 114. These values are far from the 119 level derived from uncorrected birth registration data. We may also add that the average uncorrected number of births was 40,500 per year during the three years preceding the 2002 census, while for the census birth cohorts for the years 1999-2001 is 47,500. This census figure, uncorrected for infant and child mortality, proves surprisingly higher and it is therefore very plausible that birth registration data suffered from a pronounced underestimation of about 15%, especially when a fee was being charged for civil registration. In 2003, this fee was abolished and the number of births registered in Georgia jumped suddenly by 21%. The sex ratio at birth according to birth registration data also plunged from 119.5 to 112.9, a figure more in line with the figure of 114 derived from the school data for 2003.

Viewed in a more comparative perspective, the high SRB level postulated by uncorrected birth figures sounds also implausible. First, the SRB rise from 105 to 120 in less than ten years is the most rapid rise recorded anywhere in the world. The hike from 1996 to 1997 is especially brutal. Second, the level of 118 male births per 100 female births reached in 1997-2002 would be among the highest SRB values ever recorded, with the SRB in rural areas averaging at 122. Third, the brutal decline from 2003 to 2004 described in the previous paragraph is as anomalous as the rise from 1996 to 1997.

The most likely hypothesis would be therefore that the traditional ZAGS-based birth registration system partially collapsed in the period 1996-2003. This was accompanied by a rise in birth under-registration, which may have affected more female than male births because of the importance bestowed on sons to families and property transmission. The actual SRB would have been slightly lower, ranging from 112 (highest census figure) to 114 (earliest school estimate). However, this range remains conjectural. The age and sex distribution derived from the forthcoming census data will help to put an end to the debate. The sex ratio of the population aged 12-17 years (born in 1997-2002) in the 2014 census will confirm the likely level of the SRB of these birth cohorts.

The dramatic SRB increase in 2008 represents another challenge to the understanding of SRB dynamics in Georgia.[35] In fact, it still serves as the basis for denying the value and significance of national statistics. The high SRB could be initially loosely associated with the 2008 conflict with Russia, hinting at the long-held biological link between, on one side, stress and conflict and birth masculinity on the other (James 2009). But it should be kept in mind that not only are sudden jumps in SRB during war periods rare and generally of much lower intensity, but the conflict lasted hardly more than a week in August 2008 and it took place one month *after* the beginning of the rise in male births. Disaggregated birth registration data show that the 2008 spike occurred suddenly in July 2008, when the monthly SRB skyrocketed from 117 in May-June to 164 the following month. Birth masculinity remained at 154 in August, declined to a plateau of 133 for the next four months, only to plunge to levels below 100 at the beginning of 2009. In fact, 2009 recorded the lowest SRB level (104.5) in the country since 1985 and 2010 also displayed an unusually moderate SRB level (107.9). When these three successive years are combined, the average SRB averages to 113.4, a somewhat plausible level in view of the overall SRB trend.

A plausible explanation can be offered for this sudden rise in SRB. It occurred precisely in July 2008, i.e. 7 months after the Patriarch Illia's famous declaration, given on 16 December 2007 at the Sameba Cathedral in Tbilisi.[36] This speech, in which the Patriarch announced he would personally baptize all children born into families with two or more children, has often been credited with a significant rise in Georgia's birth rates in 2008 and 2009. There is indeed a formidable increase in monthly births for July 2008, at a level not seen in the previous ten years. Births plateau in August, decline slightly afterwards and peak again in summer 2009. What analysts have missed is that this sudden escalation in the monthly birth rate is paralleled by that of the sex ratio at birth. Birth registration figures also demonstrate that there was no increase in the number of female births and the overall increase in birth rates registered in mid-2008 was only due to an increase in male births. In addition, we may observe that women would gave birth in July 2008 were already two months pregnant at the time of the Patriarch's declaration in the Holy Trinity Cathedral of Tbilisi. A more plausible scenario is therefore that following the Patriarch's promise, women expecting a male baby at that time decided to keep their child–instead of terminating their pregnancy. This would explain why the number of births and the SRB simultaneously jumped several months after December 2007. What exactly happened during the next year when the SRB suddenly declined to 105 remains, however, a moot point.

5.2. Variations in birth masculinity across Georgia

Disaggregated data on SRB are limited to a few variables because of available sources. A few tables have already been published, available by parity and region of birth. 2005-2013 disaggregated birth registration data also provide SRB by parity. In addition, the 2002 census allows for a more detailed testing of the impact of socioeconomic and demographic variables during the period preceding the census.

5.2.1 Birth order and gender composition

The impact of an elevated sex ratio at birth is primarily visible among high-parity births. With the exception of Vietnam, the SRB tends to increase with parity, especially once a threshold correspond-

35 The 2008 upsurge in birth masculinity is not evident from the last RHS round. However, it may be noted that this survey is based on less than 500 births for that year.

36 The Patriarch's full statement can be found here: http://www.orthodoxy.ge/patriarqi/qadagebebi/2007/16-12-2007.htm

ing to the average parity is crossed. For parity levels above the average number of children per woman, the SRB often jumps from a normal level to skewed levels well above 130 male births per 100 female births. This corresponds to a standard fertility strategy in which parents first have the desired number of children irrespective of their sex and in the absence of a male birth, opt for an additional child, using sex selection in some cases to avoid the birth of another girl.

Figure 9 (left panel) summarizes what happened during the 1990s in Georgia. This figure is based on the sex ratios of reconstructed families, in which we could estimate the parity of each child. Sex ratios are further corrected for the effect of mortality, which tends to reduce the sex ratio because of higher male mortality (see methodology section for detail). These child ranks (CR) are almost identical to parities. We have clubbed together all parities above 2 to ensure larger annual samples. What we see in this figure is a more detailed account of what took place during the 1990s.

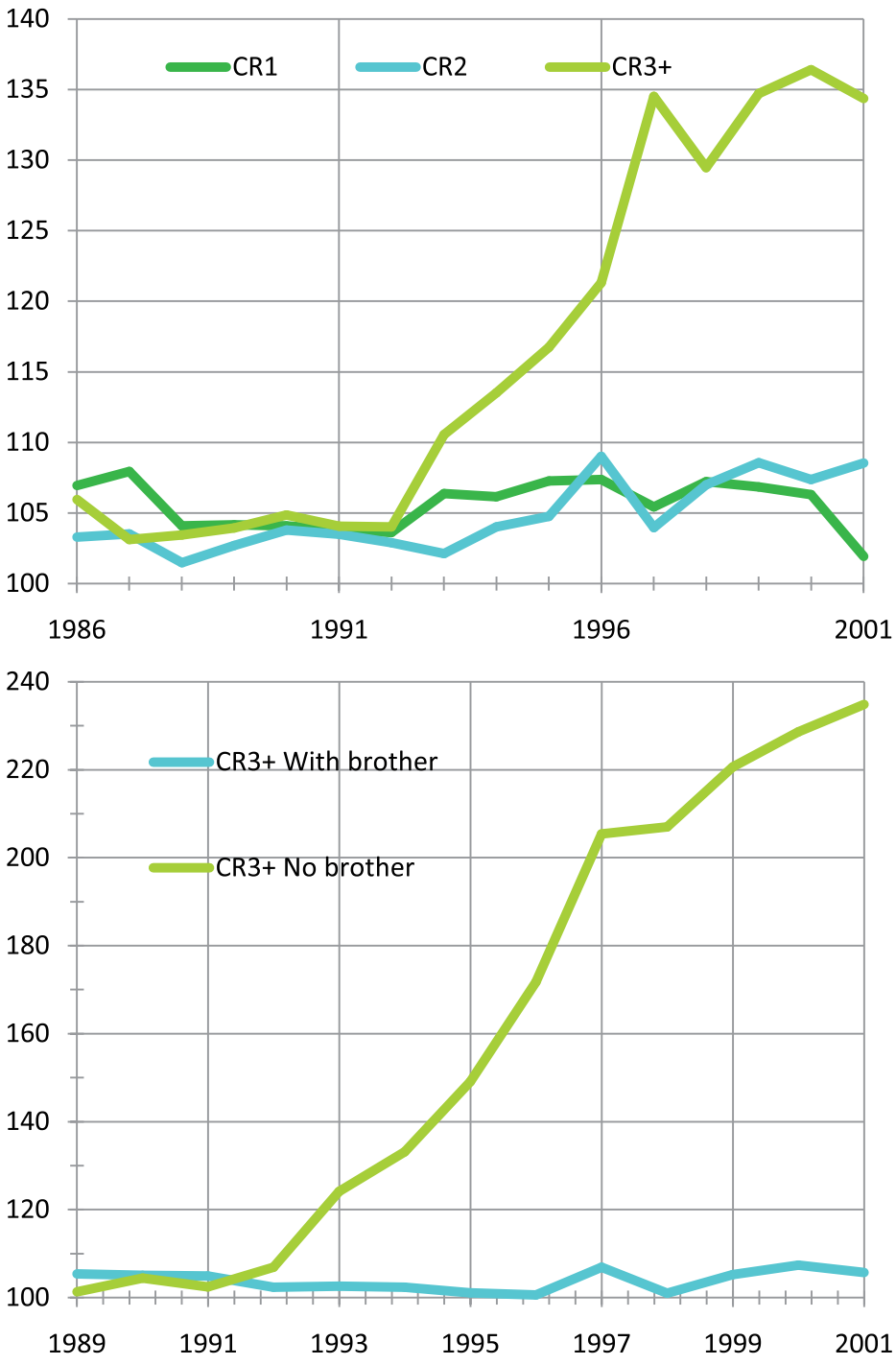

Figure 9: Conditional sex ratio at birth in Georgia according to parity and gender composition, 1989-2001

Up to 1991, the overall sex ratio at birth was close to its natural 105 level and there was no discernible difference across parities. After 1991, the sex ratio at birth of first and second births seems to have remained almost the same as before, with some random fluctuations and perhaps a slight increase among second-order births by the end of the period. But for higher-order children, the situation changes dramatically; the sex ratio of these third and higher-order births records a steady and rapid rise from 105 in 1992 to 120 in 1996 and 135 in 1999. In other words, the rise in sex ratio at birth after independence is almost entirely due to the gender of third and higher-parity births while first and second births were not affected. If we examine the number of these births (not shown here), we observe an absolute decline not only of higher-order births, but also of first and second births. This period corresponds indeed to a dramatic fertility decline.

A large share of the population decided to postpone or decide against childbearing after 1991. But parents with two children decided to forego female births rather than male births. The difference in SRB across birth orders also demonstrates that this was

not a biological phenomenon, since it did not affect all births at random. It was a deliberate adjustment to rapidly deteriorating economic and political circumstances and high-parity female births were the main victims.

In case there is any doubt regarding the nature of the fertility strategy initiated in the 1990s, family data reconstructed from census microdata allow us to look even more carefully at the gender situation of these extra male births. To do that, we classify children by parity as well as by the prior gender composition of the offspring. We restrict here our analysis to children of parity 3 and higher (CR3+) among whom the sex ratio at birth suddenly increased and distinguish those with and without an older brother. What we discover in Figure 9 (right panel) is especially revealing.

One series displays an almost normal level of sex ratio, fluctuating around 105 male births per 100 female births. This is the series corresponding to third and higher-parity children who already have an elder brother and they are shown in red on the right panel of Figure 9. Their SRB trend remains nearly flat during the decade preceding the census. But when we consider the case of children born in sonless families (in blue), the sex ratio at birth rises sharply after 1991. It reached 150 in 1995 and 200 two years later. On the eve of the census, the sex ratio at birth of this subpopulation was close to 240. This last figure is exceptional and we had to rescale our chart to allow for such an uncommon SRB level. This number also means that the proportion of boys was as high as 70% in the birth cohort preceding the 2002 census. According to the natural sex ratio at birth of 105, when 240 boys are born, we would expect to see the birth of 229 girls (229 = 240 * 100 /105). Instead there are 100 female births, which means that 56% of expected female births did not occur (56% = (229-100)/229). This reflects the probable frequency of sex-selective abortions after the birth of two or more daughters.

Focusing on families with two and more children, we can further observe that the annual number of male births fluctuated during the 1990s between 2500 in 1991 and a low level of 2,000 in 1994, at the end of the civil war of 1993. But the number of female births in families with no son recorded a steady decline from 2,500 in 1991 to values below 2000 in 1993, below 1,500 in 1994 and, finally, below 1,000 in 2000. Among these families female births had reduced by about 7,500. And this number of "missing female births" almost completely accounts for the overall deficit of girls observed at the time of the 2012 census. Since there is a strong consistency in our figures and no trace of excess mortality of any kind, we can safely surmise that this was not a random phenomenon, but rather the result of a conscious prenatal strategy targeting female fetuses among sonless parents. When we add our data on son preference presented in the previous chapter, it becomes clear that, after 1991, some parents in Georgia decided to avoid unwanted female births.

Since 2002, more statistics are available on parity differentials in SRB levels across the country. They have been subjected to the same estimation issues as the entire corpus of birth registration data and we will for this reason skip the most problematic sources to focus on the computerized database of births available since 2005. Table 7 provides the conditional SRB by birth order over the period 2005-2013, and is therefore based on half a million births registered by Geostat.

Table 7: Sex ratio at birth by parity, 2005-2013

	1	2	3+	Total
2005	108.9	109.7	145.3	112.8
2006	107.3	111.8	140.2	111.9
2007	106.3	111.0	137.4	110.6
2008	125.0	123.9	151.7	127.7
2009	100.3	103.3	125.9	104.5
2010	103.6	106.5	128.3	107.9
2011	109.1	105.1	125.4	109.8
2012	109.3	106.5	117.5	109.5
2013	106.5	104.4	121.7	108.1
Total	*108.2*	*108.4*	*130.2*	*111.1*

With the exception of the two unusual years of 2008 and 2009, this table points to an overall downward trend in SRB over the last decade. We also notice the pronounced difference between an almost normal sex ratio at birth among first and second births (below 110) and the high SRB level measured among third and higher-order births (about 130). The level of SRB among higher-order births at the beginning of the period was around 140 male births per 100 female births and in line with the 2002 census estimate (Figure 9, left panel). But it has appreciably fallen since 2005 and is presently closer to 120.

A closer examination does underline a major change, that is, the rise of the sex ratio of first and second births above the biological level of 105. The SRB among these births averages around 108.3 and is significantly above the expected level, pointing to the presence of a son-targeting strategy for first and second births. Compared to other SRB values, this level may appear virtually negligible and these

imbalances affected only 3% of these births. Yet, this new aspect of sex imbalances at birth is of major importance for several reasons. First, it shows that all births are now potentially affected by discriminatory behavior. Some Georgian couples do take steps to ensure the birth of a son from the first pregnancy. Second, since the 1990s Georgia has experienced a significant decline in fertility levels below the replacement level and as a result, high-order births are now a very small minority of births recorded in the country. In 2005-2013, third and higher-parity births account for only 13% of total births. Consequently, the impact of a skewed SRB among these births is far less than in the past when women had on average three children.

We can even compute the contribution of individual parity levels to the 13,700 missing girls estimated for 2005-2013, i.e. the number of additional girls that would have been born if the sex ratio at birth had been 105. Third and higher-order births now account for a slight majority of 52% of missing female births. First and second births now account for 48% of the deficit of female births identified in Georgia and play a pivotal role in the overall imbalances observed in the country. Birth registration statistics do not allow for a more detailed of the gender composition of the family and of the role of previous male births on reproductive choices, as was done with 2002 census data. But the fact that the sex ratio of first births is significantly skewed indicates that a minority of newly married Georgian couples manipulate the sex of their offspring from the first pregnancy.

5.2.2 Variations in birth masculinity in Georgia

International evidence for rising sex imbalances at birth suggest that the phenomenon is rarely evenly distributed within affected countries. Individual social groups may emerge as rarely participating in prenatal sex selection, while sex imbalances may be more pronounced in other areas of the population. Once again, we base our examination on the 2002 census data and on the more limited number of variables given by recent birth registration data.

A key area of interest is the geographical spread of sex ratio imbalances throughout the country. From Census microdata, the sex ratio at birth was estimated at 114 in rural areas compared with 108 in urban areas in 1999-2002, when the sex ratio at birth was high. This gap of 6 per 100 was then very pronounced. Importantly, this rural-urban differential suggests that in spite of their lower fertility rates and better access to modern reproductive technologies, towns and cities in Georgia did not witness a higher level of sex imbalances at birth than the rural regions. Disaggregated annual data (not shown here) show, however, that the birth masculinity first rose in cities and towns after 1991. But by 1996, rural areas had caught up and from then on the sex ratio at birth in rural areas became appreciably higher than in the rest of the country.

According to Badurashvili's birth registration estimates, the lead of rural areas reached 8 per 100 at the end of the 20th century, only to reduce to 3 per 100 in 2003. This figure corresponds well with data from the computerized database of 2005-2013. Table 8 shows the differences between urban areas (113.4) and the countryside (109.7) over the last nine years. The difference is still pronounced, with rural areas consistently recording a sex ratio at birth higher than urban areas by about 4 per 100 female births. The gap is almost constant during the period, in spite of the downward trend and the surge observed in 2008. This higher level of birth masculinity is perfectly consistent with the higher level of son preference in the countryside observed in the previous chapter.

Table 8: Sex ratio at birth in rural and urban areas, 2005-2013

	rural	urban
2005	115.6	111.4
2006	115.1	110.5
2007	114.1	109.1
2008	131.7	125.9
2009	106.2	103.7
2010	111.0	105.5
2011	113.7	107.1
2012	111.6	107.9
2013	108.8	107.5
Total	*113.4*	*109.7*

A more complex picture of geographical differentials emerges from the examination of regional series (Table 9). We use here mkhare as regional units, but we have for the sake simplicity removed mkhare whenever is either incomplete or too small for computations.[37] We use the SRB during the three years preceding the census, the SRB in families with at least two daughters but no son (1991-2002), the raw birth registration data of 1994-2003 and the more recent 2005-2013 series.

37 There are less than 400 births per year in the entire mkhare of Racha-Lechkhumi and Kvemo Svaneti. Data from Abkhazia are missing.

Table 9: Sex ratio at birth in mkhare according to different sources, 1991-2013

	1999-2002	1991-2002	1994-2003	2005-2013
Source	**Census**	**Census**	**Uncorrected birth registration**	**Birth registration**
Births	All	CR3+noboy	All	All
Tbilisi	108.1	189.3	112.6	107.4
Adjara	113.1	142.6	121.9	113.7
Guria	105.1	128.1	112.4	106.3
Imereti	111.2	159.9	114.1	109.9
Kakheti	112.2	182.9	119.7	114.6
Mtskheta- Mtianeti	115.7	196.6	117.7	115.2
Racha-Lechkhumi and Kvemo Svaneti	109.6	148.4	110.9	104.3
Samegrelo and Zemo Svaneti	106.2	116.2	111.7	111.4
Samtskhe-Javakheti	111.2	155.3	115.0	115.7
Kvemo-Kartli	117.1	205.3	120.3	116.5
Shida-Kartli	113.5	192.8	115.0	109.7
Georgia	*111.1*	*165.3*	*115.5*	*111.1*

The picture of regional differentials is less easy to interpret because of some disagreements that are found across periods and data sources. However, a few regions emerge with consistently higher SRB levels than average. This is most notably the case of Kvemo-Kartli, where SRB measurements are usually the highest in the country, with a difference of about 5-6 per 100 births to the national average. Adjara, Kakheti and Mtskheta-Mtianeti also display relatively high SRB levels according to our estimates. Conversely, Guria, Racha-Lechkhumi and Kvemo Svaneti, as well as Samegrelo and Zemo Svaneti are in most cases characterized by lower SRB levels compared to our estimates. These mkhare form a compact regional cluster where estimated SRB levels are at times hardly distinguishable from the natural 105 threshold.[38] We can add Tbilisi to this low-SRB group. Its lower-than-average birth masculinity is a direct consequence of the metropolitan nature of this region, as rural-urban differentials examined earlier suggest.

We can therefore distinguish in Georgia a broad Northwest-Southeastdivide according to which the SRB tends to rise from a nearly normal level along the Black Sea, epitomized by Guria, to average levels in Imereti and Shida-Kartli, as one moves towards the interior of the country. We finally hit the highest values as we reach Georgia's eastern border with the Russian Federation (Ingushetia, Chechnya and Dagestan), Azerbaijan and Armenia. Adjara and Tbilisi stand out from this basic Northeast-Southeast map with their respectively higher and lower SRB levels. Interestingly, the maximum difference in SRB levels remains the same at 12 per 1000 according to different estimates, with Guria and Kvemo-Kartli representing the two extremes. In Guria, therefore, we have a subpopulation with an almost natural sex ratio at birth, while in Kvemo-Kartli we observe some of the highest values in South Caucasus, not far from those observed in China.

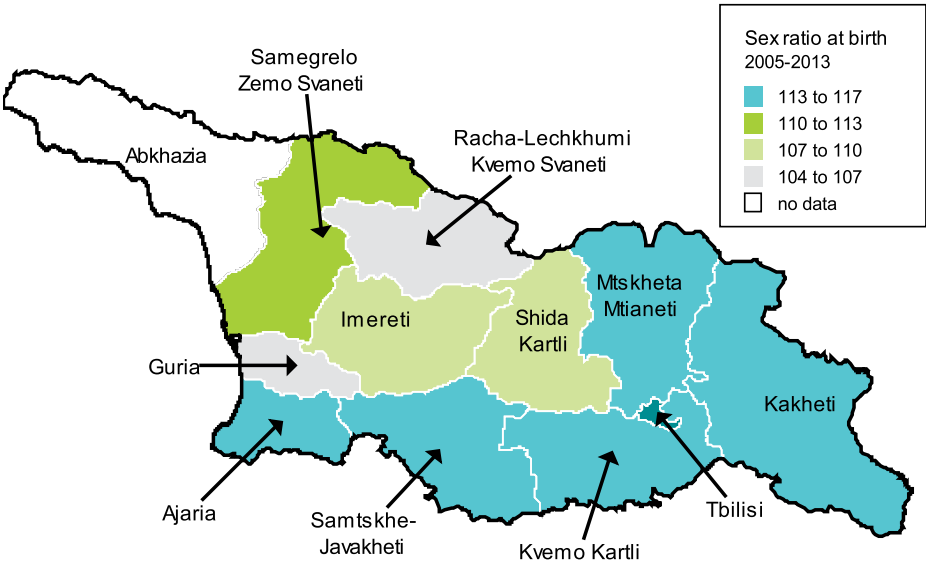

Figure 10: Sex ratio at birth by mkhare, birth registration data, 2005-2013

The level of heterogeneity in sex imbalances appears quite striking within the narrow confines of Georgia. Unsurprisingly, comparison of the estimates of son preference derived from fertility be-

38 The more precise analysis of the sex ratio following the birth of daughters suggests, however, the presence of slight discriminatory behaviour in this part of Georgia.

havior recorded at mkhare level (see previous chapter) suggests a close relationship with SRB levels. Prenatal sex selection appears to be an extension of son preference.

We have additional data at our disposal to account for the range of variations in Georgia today. Birth registration statistics provide few variables to test out the presence of SRB variations, apart from rural-urban and parity differentials. We therefore have to turn once again to the older data derived from the 2002 census. We use two sub-samples: births during 1999-2002 (when the SRB was at its highest) and births in families with at least two previous daughters but no son, the group most likely to resort to prenatal sex selection.

Table 10: Sex ratio at birth according to specific social and cultural characteristics, 1992-2002

	All births		Families with only daughters	
	1999-2002		2001-12	
	SRB	**Births**	**SRB**	**Births**
Religion				
Orthodox	109.8	108552	*161.3*	26236
Armenian	114.2	5497	175.4	1738
Muslim	**117.7**	18110	**181.4**	6335
Ethnicity				
Azerbaijani	**121.2**	12615	**222.2**	4115
Armenian	113.5	7497	166.2	2207
Georgian	109.8	113072	*158.7*	28435
Others	118.1	2964	173.1	639
Russian-speaking				
No	111.2	136259	165.9	34757
Yes	*90.1*	635	*137.6*	720
Household structure				
Nuclear	112.8	56425	166.9	21046
Complex	109.9	80469	163.1	14431
Household member in agriculture				
No	*108.9*	73957	**172.3**	15597
Yes	**113.8**	62937	*160.0*	19880
Total	*111.1*	*129317*	*166.5*	*33776*

SRB estimates are shown **in bold** when significantly higher than the national average and *in italics* when significantly lower

Table 10 provides a summary of our findings. We have removed several variables with no significant relationship with the birth masculinity–such as the presence of refugees in the family. The last line includes the average level for the entire country and may be used as a reference for specific values. We have also indicated SRB levels that are significantly different (at 5% level) from the national average to draw the attention to the most interesting results.

Let us start our analysis with cultural variables. Religion, ethnicity and linguistic features help to identify communities with the highest sex ratio disparities. Muslim groups (both Georgian and Azeri) clearly display the highest level of sex imbalances at birth. For both the overall SRB and the conditional SRB, estimates are significantly higher among Muslims. Among these groups, Azeris register the highest figures, that is, an SRB of 121 among births prior to the census and 222 among sonless parents. Birth masculinity among Georgia's Armenians is only marginally larger, while the Orthodox population, including ethnic Georgians, displays a slightly lower sex ratio level. The lowest level of sex imbalances is observed among the small Russian-speaking community and even if the size of this population is limited, they likely represent the only population in the country not affected by sex imbalances at birth.

We may observe that the SRB levels for ethnic groups are once again in line with the intensities of son preference estimated in the previous chapter. In addition, we can relate the high SRB level of Georgia's Azeris with the slightly lower levels observed in neighboring Azerbaijan, where SRB reached 116 in 1999-2002. The SRB of Armenians is, on the contrary, lower than that observed in Armenia (117 in 1999-2002). Unfortunately, we do not have data about Georgian communities outside the country–such as ethnic Georgians living in Russia–to test the presence of sex-selective behavior in the diaspora. These ethnic variations in sex ratio correspond to several of the regional differentials emphasized earlier. Thus, we can better understand the prominence of Kvemo-Kartli in terms of regional SRB levels, since Azeris comprise about half of the mkhare's population. Azeris also represent a significant minority

in the other high-SRB mkhare of Kakheti.[39] Yet, the ethnic composition by no means comprehensively explains the geographic SRB gradient noted earlier. If we restrict our analysis to ethnic Georgians, we observe that they also have higher SRB levels in Eastern regions, as a minority in Kvemo-Kartli or as the majority group in Mtskheta-Mtianeti. So SRB levels tend to be determined by a combination of both regional features trend and ethnic composition.

We also examined the relationship between birth masculinity and household structure, keeping in mind that son preference may be stronger in more traditional communities where multigenerational cohabitation is more frequent. An indicator was created to identify complex households characterized by the presence of grand-children (of the head of the household). But our data failed to identify any such link as SRB indicators are not significantly different from the national average values in either nuclear or complex families. In fact, the part of Georgia with the largest proportion of complex households in 2002 was low-SRB Guria mkhare, while the high-SRB region of Kvemo-Kartli had the highest percentage of nuclear families. We found also no clear association between a high SRB and peasant families. While the overall SRB is higher among peasant families, it is lower after the birth of two daughters. These two indicators–family structures and peasantry–of more traditional attitudes towards family values and the importance of sons turn out to be negatively correlated to the increased SRB in Georgia.

The next table, Table 11, focuses on socioeconomic indicators and here we use here two different variables. The first one captures educational status by identifying the highest level of education among household adults. The second one is a more synthetic indictor of socioeconomic status and divides Georgian households into economic quintiles (see methodology for a more detailed description of this indicator). This measurement of socioeconomic status is based on housing and amenities and is therefore more directly related to family wealth, living standards and income bands than occupation or education.

There is no visible difference across the three educational groups in terms of birth masculinity during the 3 years preceding the 2002 census. Yet, we notice that in families with two or more children but only daughters, the probability of having a male birth subsequently is significantly higher among the better educated classes, with the corresponding SRB as high as 190. We might therefore surmise that the capacity to implement sex selection is greater among households with higher educational levels for various reasons.

Table 11: Sex ratio at birth according to educational and economic characteristics, 1992-2002

	All births		Families with only daughters	
	1999-2002		1992-2002	
	SRB	**Births**	**SRB**	**Births**
Highest education among household adults				
higher	110.6	59216	**190.0**	10618
secondary	111.6	72106	*156.2*	23232
primary	110.1	5473	152.9	1626
Socioeconomic quintiles				
Poorest	112.5	28441	167.0	8769
Poor	112.6	26452	*152.3*	8298
Medium	111.4	26583	162.5	7353
Rich	109.2	24304	**182.0**	5425
Richest	109.5	23537	**185.9**	3931
Total	*111.1*	*129317*	*166.5*	*33776*

SRB estimates are shown **in bold** when significantly higher than the national average and *in italics* when significantly lower

Interestingly, there is no statistically discernible variation across socioeconomic quintiles. We notice, however, that privileged categories tend to have fewer sons than others.[40] When we focus on the specific situation of large families with no son, the richer groups have a distinctly higher proportion of boys than more disadvantaged groups. What should we make of these apparently contradictory observations? We should first understand that the discrepancy between observations is due to differing fertility behaviors. Poorer social groups have more children and therefore have more children of parity three and higher. As a result, the SRB distortion observed among third births weighs more

39 For descriptions of the local gender situations in minority areas, see UN Women (2014), Sumbadze and Tarkhan-Mouravi (2005b) and Peinhopf (2014).

40 This is demonstrated by a test of the declining trend of odds across quintiles, which is significant at 5%

among them and that is why the overall SRB of children born in 1999-2002 is slightly increased. On the contrary, more privileged groups have seldom a third child, even when they have only daughters, as shown by the study of son preference in the previous chapter. But when they do have a third child, they apparently practice a more rigorous form of sex selection and as a result, they end up with a higher percentage of male births, which is reflected in sex ratios in families with only daughters going above 180.

5.3. Conclusion

We can now summarize the main features of our analysis of the trends and differentials in sex imbalances at birth in Georgia. The gender composition of families has long been paramount to reproductive strategies in the country and the main objective is to have at least one son. In a more distant past, parents were able to address a lack of male progeny by having more children. This fertility flexibility usually allowed them to fulfill their gender objective through additional children, although, couples with no son after four or five children do occur (respectively 6% and 3%). In addition, abortion and contraception were used to avoid any further births once the appropriate gender composition was attained (stopping behavior).

The situation changed when the political and economic situation deteriorated in the early 1990s. While fertility had been on the decline for decades, it fell under replacement level after 1991 and reached 1.6 children per woman at the end of the century. The almost exact coincidence between the rise in SRB and the declaration of independence demonstrates the pivotal role of the changing political environment on family strategies. The newly available sex selection techniques offered a way for parents to both limit the size of their progeny and to ensure the birth of a son. As census data indicate, this new strategy almost exclusively focused on third births. Parents would have two children with no effort to influence their gender, but mostly opted for a third child when they had no boy and often took all available steps to avoid an additional female birth.

There are variations across Georgian society in terms of the intensity of these gendered strategies. However, with the possible exception of parts of the littoral (Guria), all regions were affected by high sex ratio at birth at the end of 1990s, with eastern regions displaying a relatively higher SRB level than the rest of the country. This is partly due to their ethnic composition, as Azeris–and to lesser extent Armenians–tend to have higher levels of birth masculinity. We also noted that urban areas, for the most part the Tbilisi region, are characterized by lower SRB levels. The situation is more complex in urban areas, educated groups and the richest quintiles. On the one hand, couples are far less likely to have a third birth, even in the absence of a male child and this may significantly bring down their average SRB level. On the other hand, the same groups tend to have a higher proportion of boys when they go for an additional birth after two daughters. It is not only a matter of determination, but also due to easier access to sex selection technology and to the effect of low fertility.

The sex ratio at birth reached a plateau after 2000, lying slightly below or above 115 male births per 100 female birthsaccording to various sources, a level slightly lower than that observed in neighboring Armenia and Azerbaijan. Over the last ten years, we observed an overall reduction in SRB levels. There was, however, an extraordinary upsurge in 2008, following the Patriarch's pronatalist (anti-abortion) pronouncements of 2007 and the equally unexpected dive in birth masculinity after 2008. However, over the last three years, birth masculinity has almost stabilized at a level slightly below 110 and this may represent an actual downward trend. This decline has an unanticipated component; it was generated by a very rapid decline of the sex ratio at birth among third and higher-order births, which decreased from 140 to 120, but a rising number of parents utilizing sex selection methods to influence the outcome of their first and second births. Lack of data precludes a more disaggregated analysis and a confirmation of the nature of the 2008-2009 fluctuations. But the analysis of 2014 census data will soon provide confirmation of some of the interpretations put forward in this section.

6. Social norms and prenatal gender bias

The qualitative research study for Georgia was designed to complement the findings of the existing statistical evidence. As indicated earlier, this study consisted of in-depth interviews with prominent women, focus groups discussions and interviews with local and national experts in four different regions. It aimed in particular at probing the use and awareness of prenatal sex selection, the factors contributing to gender bias and especially family attitudes towards sons and daughters, and attitudes towards potential demographic prospects and policy initiatives.

Figure 11: Frequency of words appearing in the group discussions and individual interviews conducted in February-March 2014

The voluminous materials derived from these surveys–constituting almost a thousand pages of transcripts–cannot be systematically reviewed here. The cloud in Figure 11 provides an overview of issues discussed during the survey. We will focus on a few issues: the level of awareness of prenatal sex selection, the presence of son preference, its justification and its possible impact on reproductive strategies among Georgian couples.[41] Individual sources are numbered and referred to as FGD (focus group discussions), LS (life stories), LEI and NEI (local and national expert interviews), but the analysis presented here focuses on materials drawn from FGDs and LSs.

41 For a larger perspective on the surveys conducted in the three South Caucasian countries, see the detailed analysis by Dudwick (2014).

6.1. Awareness of prenatal gender bias

In the section below, we review the opinions of experts interviewed during the 2014 survey as to the prevalence of sex-selective abortions in the country and found a significant number of them to be unaware of this phenomenon. It is therefore of interest to examine what emerged from the FGDs, as they engage with the wider public. On the whole, the level of awareness, or the readiness to discuss the issue in a FGD situation, appears even lower than among experts.

Respondents were mostly probed indirectly as to the potential reasons for the increase in the proportion of male births in Georgia and in other Caucasian countries, rather than on the existence of sex-selective abortions.[42] Only in a few cases was the potential role of selective abortions directly introduced. For instance, during several group discussions, participants concurred that they had not heard of selective abortions, and didn't know about any excess male births in the country [FGD5, FGD15, FGD24, FGD18, FGD17, FGD16]. Many express utter surprise at this information, if not open disbelief, as many participants assumed girls to be more numerous than boys. People may be skeptical about a surplus of boys in reference to their own fertility ("how come I have only girls?") or that of their kin. Some participants had, however, heard about the issue being discussed in the media.[43]

Similarly several women in the individual interviews declare not to have heard about terminations of pregnancies conditional on the sex of the fetus [LS16, LS18]. This stands in contrast with other interviews in which participants admit to having heard about this in the media recently, even if

42 The question was framed as: "There are currently many more boys than girls are being born in Armenia, Georgia and Azerbaijan than in any other post-Soviet country? What do you think the reason might be?"

43 The issue of sex-selective abortions arose prominently in the Georgian press in February 2014, while the survey was under way.

they often do not have any personal knowledge of sex-selective abortions.

When selective abortions are mentioned, isolated occurrences are referred to: [44]

> Mostly boys are more desired. Maybe abortion also affects it, and when parents learn that they are pregnant with a girl they abort her. [Adult married man, Tbilisi]

> I have also heard that when the family found out that the wife was pregnant with a girl, they decided to get abortion. [Young unmarried woman, Adjara]

> I can't exclude the possibility that women aborting girls. [Adult married woman, Tbilisi]

Sometimes, it is seen as a trend limited to more backward areas with no wider impact on the country's demography:

> This may take place somewhere in remote villages, […] where husbands pressure wives to have sons. The majority of Georgia's population lives in Tbilisi and civilization is changing a lot of traditions. […]. So I don't think that selective abortions happen so often that they could produce such results. It could be 0.1 percent, at the most. [Adult married man, Tbilisi]

> In my opinion they get abortions when they are pregnant with girls because they want to have sons, they are poor so they prefer to have a son. [Adult married man, Dusheti]

Examples are also given of abortions of male fetuses by couples desiring a girl after the birth of several boys in a row [Young unmarried woman, Adjara].

An acknowledgement of sex-selective abortions tends to emerge more easily from individual interviews than from FGDs. Mention of sex-selective abortions remains relatively infrequent and when it is referred to it is considered to be occurring occasionally or in regions other than that in which the interviewee resides:

> It might not be a lot, but they exist. [Adult married man, Zugdidi]

> Yes, I've heard about several cases when they were expecting a girl when wanting a boy and had the abortion for this reason. I also know that they try to do calculations. There's some kind of a scheme, according to which it's possible to determine the sex in advance. [Young single woman, Adjara]

> Today, families think that when they already have a daughter they don't need another one, so they get abortions. In Georgia during the wars, families delivered the boys mostly, but it happened naturally. [Old man, Adjara]

An ultrasound technician describes the procedures among Georgian and Azeri women in more detail. This type of account is rare and we reproduce here at length:

> Yes, there were a few cases [of prenatal sex selection] and there were Georgians among them. After families have 3-4 girls, they don't want to have any more girls and they get abortions. […] they say it straight [that they want abortion because it is a girl]. […] in our clinic, abortions are not being done if the fetus does not have any pathology. For this reason, people who want to get an abortion go to private doctors who give illegal abortions at home. […] [People] come here to find out the sex of the fetus and then they decide themselves how to act. They know that we don't give abortions in our clinic so they go to private doctors. There have been cases when they have offered to pay us whatever we asked, if only we would write in the patient history that the fetus has some kind of pathology and that it was dead.
>
> In such cases women mostly come alone. It is not necessary for the husband to pressure her to terminate the pregnancy because the fetus is a girl. In these cases women make the decision themselves as well. They want to have sons themselves so that they have a good status as a wife and a daughter-in-law in the eyes of family, neighbors and relatives […]. The majority of women think that if they have any problems in the family, if they give birth to a boy, those problems will get solved by themselves and everything will be fine.
>
> To tell you the truth, nowadays nobody asks [her] in-laws what to do. Young couples make these decisions themselves. In Georgian families [women take the decision themselves], among Muslim families, everyone [the whole family] is getting involved in this issue.[Maternal health expert, Dusheti]

Participants in FGDs were also probed on the reason for the rise in the proportion of male births. The phenomenon is variously attributed to biology ("a Georgian gene"), to the climate, to parents' "calculations", based on calendar methods, to God's will, to the overall tension in the country due to

44 Quotes used are from the unedited transcripts in English prepared from the Georgian original.

wars and displacements, or to artificial insemination. The concept of an excess of male births in the country is often so incongruous that it prompts wild hypotheses ("The climate and everything has also changed. Everyone flies to outer space now, and radiation has also become more common." [Adult married man, Adjara]. Group discussions usually inspire a wide range of accounts for the rising birth masculinity observed in the country, but a consensus rarely emerges among the participants regarding the main reason for this trend.

When invoking social reasons for the rise in the SRB, participants chose to refer the general preference for sons to the national mindset and to tradition ("this is the Caucasus"), only few of them blamed a deliberate manipulation by parents during pregnancy. But more straightforward answers also emerged from several interviews and group discussions. They may not find a consensus across participants, but they express clear opinions on what had changed over the years:

> The situation was changed, before you were content with what you got from the God. It did not matter it was a son or a daughter. If you had two or three girls, then the family tried to deliver a son as an ancestor of the family. Now they go and get an ultrasound. [Old man, Adjara]

> I think most families want a son and that is the reason. For girls, they have abortions. […] The main reason is because of medical and technological development. People can learn the sex of the fetus, and so they use this technology. [Old man, Adjara]

Some respondents have a distinct idea of what an ultrasound may be used for when parents want to have a male child.

> [Abortion] is easy to perform and [the sex of the fetus] became the reason for it. Sex calculation in advance resulted in the ratio [of male births]. [Young unmarried man, Zugdidi]

> If couple is waiting for a boy, they get rid of the girl. [Adult married woman, Dusheti]

> Whoever wants a son, they find out the sex with ultrasound and if it's a girl, they abort the fetus. [Adult married woman, Adjara]

Some of the comments offered by respondents accurately reflect what our analysis of SRB data by parity demonstrates: a normal level of birth masculinity for first births and skewed values for subsequent births.

> Nobody thinks of gender on their first pregnancy, but if they have two daughters, they try to have a son as their third child. It might have an impact on the increasing ratio of boys to girls. [Young unmarried woman, Zugdidi]

> If the family has 4-5 girls and then they get an ultrasound to make sure they will have a son. [Old woman, Adjara]

If, for our analysis, we were to depend on perceptions and knowledge of participants to the qualitative surveys, we would only have indirect confirmation of the existence of any sex imbalances at birth in Georgia. Many participants interviewed in 2014 have no firm idea of the incidence of prenatal sex selection and or may doubt its impact on births. This is symptomatic of the individuals' difficulty to assess demographic trends, but many people seem unaware of the practice of prenatal discrimination based on their personal experience and that of their relatives, friends and colleagues. This also suggests that recent discussion in the media, even when spearheaded by government figures, have so far had a limited impact on public opinion.

6.2. Importance of sons

Just as selective abortions may not be seen as a source for sex imbalances at birth, many participants in the qualitative surveys think that sons and daughters are equally desirable in the Georgian family. Most discussion participants state publicly that it doesn't matter whether children born are girls or boys. The possibility of a bias towards sons is initially dismissed by an emphasis on the essential roles of girls and women in society, who, when compared to men, are often praised for typical virtues such as respect, care, obedience and aptitude for education, affection and kindness, moderation and temperance, etc.[45] There is an obvious difference between men and women in terms of gender preference. In contrast to men, women emphasize the role of daughters as care-givers. Some female respondents emphasize her closeness with their daughters:

> I'd [like to] have a girl, because I think a girl will be more useful for me. Considering everything we've said above – the girl is more likely to take care of the elderly mother. [Young unmarried woman, Adjara]

> Girls are closer to their parents. Boys create families and have more work to do. It's true that boys have the responsibility of providing for their parents, but girls have more time to

45 See UNDP (2013) for a detailed description of gender stereotypes.

> take care of the parents. Boys do not have enough time to talk with their parents for hours. [young unmarried woman, Adjara]

While the need for a daughter is often expressed, no distinct predilection for daughters emerges from the interviews. Daughters are therefore highly appreciated, but the desire for them is rarely exclusive and the preference expressed regarding the gender composition of the family is by and large balanced:

> Both of them are important. I can't say that having a boy was more important. I think that having children of both genders is important. When you have a son you want a daughter, and vice versa. [Adult married woman, Dusheti]

> Both sexes are needed in the family. They are the creatures of the God and therefore they have their functions. [Young unmarried woman, Zugdidi]

Yet, when probed further, young people or parents will inevitably point to the feature that neatly distinguishes girls from boys; daughters will leave the family while sons will lead it. The expected role of boys is reiterated during interviews and group discussion:

> Daughters get married and leave, so if there is no son the family disappears. [Demographer, Tbilisi]

> As a Georgian tradition, the leader of the family wants to have at least one boy, he continues the name and is the pride and strength of the family. [Married woman, Dusheti]

> The boy is born and carries on the name, and when parents are older, they take care of them. Girls will not be able to do so much. [Young unmarried woman, Adjara]

> Boys [have great] responsibilities, they have to support you financially. I am more oriented on boys. [Adult married woman, Dusheti]

> I wanted to have a son. Then the Abkhazia war happened and we had to move, we went through economic hardship. We did not have a house. So I was praying to have a son, because I did not know if I would be able to have a second child and I really wanted to have a son who would carry on my name. But I had a girl first; she is pretty, nice, and joyful. My second child is boy […]. My daughter has some character features that I wanted my son to have; she is more independent. She is 19 and a student. But I wanted to have a son because he will carry on the name. It's a tradition, right, to have at least one son. [Adult married woman, Tbilisi]

> I had a presentiment of having a son. Child is a child, but a son is a name successor, and a strong person who will always be by you side. Household needs a strong man. When I get older, I will pass my experience to him and wish he could serve the country. Hereafter, I will hand him the reins on household. A daughter will get married and leave the house. [Adult married woman, Zugdidi]

The last respondent sums up the male perspective on sons and daughters by stressing the importance of sons in 1) the perpetuation of family name and the transmission of family values, 2) the strength and support extended to parents, and 3) its role for the country as a whole. Daughters are transient and lost for their birth family after marriage. We find more or less identical explanations reiterated by many of the individuals surveyed, irrespective of their social class, region of origin, religious background or education level. The sample provided above tends to exhaust the narrow range of concrete justifications for son preference: coresidence after marriage, financial support and care to ageing parents, family perpetuation and bloodline, social pride, and patriotic roles. Interestingly, the old argumentsrelating to direct physical protection offered by sons does not emerge from these discussions and interviews.[46]

More generally, the preference is justified by regional traditions ("Caucasus") or by universal tendencies ("everyone wants sons"). This type of explanation is often difficult to unpack. But it should be added that "traditions" that call for sons are in fact converted into norms, and that norms are in turn enforced through pressure on parents. The honor of men without male heir is often at stake. Here are two illustrations of the way norms are implemented at the expenses of fathers who failed to have a male offspring:

> One of my neighbors has four daughters and everyone laughs at him. He may feel shame; this is more because of public opinion than because of family members. [Old woman, Tbilisi]

> My father always wanted to have a son […]. He was ashamed because before [he had one]. There were occasions when men joked at him

46 This argument is common in societies with insufficient law enforcement and unstable property rights. This may relate to Georgia during the mid-1990s, when the local mafia ("thieves-in-law") was especially powerful in some regions.

that he didn't have a son. [Old man, Zugdidi]

The need for a male heir leads to strategies of repeated pregnancies. Parents will have additional children till they have a son. No such attitude is mentioned in relation to the lack of daughters.

> I would continue trying. If I have ten children I would start to think of the eleventh. [Young unmarried man, Adjara]

Strategies to achieve the desired gender compositions have, however, changed over generations. There are differences between systematic attempts through repeated pregnancies in the past and the more recent approach based on "calculations", referring here to prenatal sex diagnosis. As one participant put it clearly during an FGD:

> In my father's generation, the families would have 8 children, but still would try to have a son. In my mom's generation, they already had begun doing calculations so that they would know if they would have a son or a daughter. [Young unmarried woman, Adjara]

The reason for such changes in attitude is linked to a more Malthusian environment in which the average family size has fallen below 2 children. Economic considerations tend to discourage families to have a third child.[47]

> I have heard about occasions when a mother who had daughters was pregnant with a girl and her husband told her he could not bear [afford] that many girls and asked her to have an abortion. [Young unmarried woman, Dusheti]

> Yes, I'll keep trying to have a boy until my third child. If my third child is a girl again, I'll stop trying. If I have a third girl I don't think that anyone will try to force me to have a fourth child. [Young unmarried woman, Adjara]

> Of course we will continue until the third one. After the third one it depends on our financial condition. [Young unmarried man, Tbilisi]

> God save us from [selective abortions] being a frequent thing, but there are individual cases. They don't want a third girl and are waiting until they are pregnant with a boy. [Old man, Adjara]

Parents may not agree on the need for a further pregnancy in the absence of a male child. For men, having a son is probably a more urgent need than for women, and this leads some of them to blackmail their wives into having more children or aborting female fetuses. While cases of actual violence linked to the desire for male births are extremely rare, many stories are told of psychological pressure applied and divorce as a consequence of reproductive disagreements following the birth of daughters.

> I've had in my practice a husband and a wife, who had a wonderful relationship, but they had 3 girls and the man was not happy about it. He wanted a son. The wife didn't want to have any more children, though. The man went and had a son with someone else and brought this child to his house, which led to the family to falling apart. [Maternal health expert, Tbilisi]

> I don't know what the percentage is, but such incidents are definitely happening. For example, a woman I know terminated 5-6 pregnancies because they were girls. Her husband was demanding that she get these abortions because she was not pregnant with a boy. Husbands intervene in these issues a lot. [Statistician, Tbilisi]

> I have also heard that a couple divorced because they did not have a daughter. [Young unmarried woman, Dusheti]

> My friend is very young and has two children. She has a daughter and [her husband's family was] telling her that she had to have a son. The second child was also a girl, and then she had miscarriages for the third, fourth and fifth ones. Now, three months ago her husband divorced her because she could not have a son. Her mother-in-law and husband were actively trying to make her have a son. [Adult married woman, Tbilisi]

> [My friend] beat his wife when she gave birth to a girl. […] He left his wife after that. [Adult married man, Zugdidi]

> My uncle is the father of 6 girls and now that my aunt had the sixth girl, he never addresses his wife by her name anymore. [Adult married man, Tbilisi]

There are very frequent references to family tension or divorce following unsuccessful attempts at having a boy throughout the interviews and group discussions. The husband's family is often accused of pressurizing their daughter-in-law in order to

47 According to the RHS round of 2010, a majority express a desire for three children, though the fertility rates are clearly below two. The gap may be partly explained by economic insecurity and the inability of parents to provide for household with more than two children.

have a son. Wives without a son may also be ostracized by their relatives. In several such cases, husbands may decide to ask for a divorce or simply to have a child with another woman. We observe that this type of pressure and blackmail is also common in cases of infertility, but the absence of a son falls into the same category even if biological reasons play no role in it.

6.3. Expectations and patrilocal living arrangements

The special role of sons in society is reflected in many of the survey questions touching upon the family's expectations and living arrangements. However, opinions are often clouded by a palpable tension between strong claims for strict equality across genders and the undeniable differences between men and women in Georgian traditions. Both justifications refer to normative statements grounded in common sense. They can be used almost simultaneously as a rationale for gender equity or for differential treatment.

On the one hand, participants often state that women should be entitled to exactly the rights as men as there is no reason to envisage different trajectories for boys and girls. All children are treated equally and both sons and daughters will in turn support their parents later in life. This attitude appears to more frequent among younger generations and the unmarried population.

> You should divide your attention and love all your children equally. [Young unmarried man, Adjara]

> I have the same expectations for both [sons and daughters], I cannot differentiate them in this regard. My expectations are equal. I don't think that he is a boy and should have more responsibility. [Adult married woman, Adjara]

> They [parents] love us the same way. Fathers love daughters more and my father expresses his feelings towards me better. My brother is 24. In terms of freedom we are equal. They expect my brother to be successful but they also expect this from us. I try to do the maximum of what I can for them. [Young unmarried woman, Adjara]

> I have a brother, but I have never felt a different attitude towards me from my family. [My parents have] the same kind of expectations from both of us and expect the same kind of financial assistance from me as from my brother. [Young unmarried woman, Tbilisi]

> It's natural that we will take care of our parents. The idea that boys have to take care of their parents, and that when girls get married they don't pay attention to their parents, such a thing does not exist. In the family boys, take the same care of their parents as girls do. [Young unmarried man, Tbilisi]

On the other hand, this equity in treatment often gives way in discussions to the pressure of social norms that will lead to inevitable gender divergences, especially after marriage. The dominant gender script remains that men will stay with, or close, to their parents while women will join their husband's household after getting married. The choice of postmarital residence, mostly imposed by "customs", confirms and justifies the close solidarity between married sons and their parents, while the incorporation of daughters with their husband's family marks their growing distance with their immediate family.

The main debate around residential arrangements nowadays centers on the decision by couples to live separately from the (husband's) parents (neolocal residence) or not.[48] Neolocal patterns are seen as a sign of modernity, dictated by social and economic independence, while some regret this change as evidence of weakening family links and of the undue influence of the daughter-in-law over her husband. But participants were also prompted to talk about symmetrical residential patterns, in which the new couple would live with the bride's family (uxorilocal residence). In patrilineal settings, this represents an anathema since it suggests the relinquishment of the patrilineal identity of the son and the dominance of the matrilineage. Wherever prenatal sex selection and son preference prevail, uxorilocal arrangements are seen as an aberration that contradict the patriarchal model more severely than neolocal residence. It is often considered as a case of dishonor if not of a lack of virility.

> Europeans would say that love [when deciding about residential patterns] is most important, but this is utopia. [Young unmarried man, Tbilisi]

> When a husband joins his wife's household, our people say the man is like a bride. [Adult married man, Zugdidi]

> Some are ashamed and return to their families. There was a case in my village... The boys told him it's better to have a flayed fox rather than a man who joins his wife's household. So

48 On Georgia see Sumbadze and Tarkhan-Mouravi (2005a). For a more general perspective on household formation in the Caucasus, see also Roberts et al. (2009).

> he took his wife and child and left. [Old woman, Dusheti]

> If I don't have money and that is the reason why [my wife] is offering me to move in with her parents, it will be a huge tragedy for me. Because, what she tells me is that: you are such a failed man that we have to live with my parents. [Young unmarried man, Tbilisi]

> There are cases when [boys live with the girl's parents], [her parents] have only one girl and they are forced to in this case. In society, some people say it's OK and others say it is not. [Old man, Adjara]

> I want to live with my husband's family; I don't him to live with mine. It's not nice, I would rather live with my husband's mom, than have my husband live with his mother-in-law. It decreases a man's honor in my eyes. [Young unmarried woman, Dusheti]

Adjustments to the rule are, however, frequent. Staying with the woman's relatives is at times seen in a more pragmatic fashion, as a solution for families with resources, but no male heir. A very common situation also relates to widows who stay with their married daughters, either for lack of married sons or because daughters are seen as more caring than daughters-in-law. Finally, many respondents also profess a growing indifference towards the unwritten rule preventing uxorilocal arrangements.

> It is rare [for men to live with their wife's family], but it happens in certain situations. My son lives with his in-laws in the mountains. The father-in-law died, so they did not have any man in the family and they accepted my son easily. They have a farm and he looks after it. [Old man, Dusheti]

> [Mothers staying with their married daughters happens] quite often. How can the daughter leave her alone, if the daughter-in-law doesn't care? [Old woman, Dusheti]

> Before, such a thing was considered shameful, nowadays it's not the case anymore; now it's not a problem anymore. My children can live wherever they feel is best. [Adult married woman, Tbilisi]

We have seen previously how infrequent uxorilocal arrangements are in the country. In 2002, they accounted for less than 10% of all postmarital co-residential patterns, often less than 5% in some regions. It is only in Tbilisi that this percentage exceeds 20%. But another dimension of this that is not properly accounted for is the support extended by married daughters to their parents, and especially to their widowed mother. It is a discreet, but relatively frequent form of support, even though husbands or brothers may object to it due to the primacy of patrilineal duties.

> If I can, I [as a daughter] will support my parents financially too and won't tell my brother anything. I will just buy what is needed – medicine or anything, by myself. If I can't, I would tell him. We have talked about it before, about supporting your parents with your husband's income… I want to add that you should tell you husband about it first, if he is against it, though that is unlikely. I would help my parents behind his back. [Young unmarried woman, Dusheti]

> [My husband] won't even notice missing 20-30 Gel [for my parents], but if it's a serious amount, then you must consult with him first. [Adult married woman, Dusheti]

> They say girls are brought up to serve somebody else. They don't have high hopes on us daughter, instead they have a daughter-in-law. But I think it's my obligation. I can't neglect the people who raised me. I will help with what they will need at the certain moment, financially or physically. [Old man, Zugdidi]

> I have heard that married girls all help their parents as much as they can. Depending on their economic wellbeing, 100-80% of women help their parents. It might not only be financial assistance, but they definitely help their parents. [Young unmarried woman, Tbilisi]

6.4. Inheritance

The prevalence of patrilocal patterns means that the major flow of supports runs from married sons to their ageing parents. Even when sons do not live with their parents, they are expected to provide most of the economic and social assistance needed by their parents. The weak social protection mechanisms (health insurance, pension benefits, etc.) often make this vertical support indispensable.

It is understood at the same time that the inheritance will is mostly intended for sons. As the first quote below suggests, there is a formal equality between children, but priority is given to sons. The family residence sometimes goes to the son who took care of his parents until their death; it is often the younger one, who remained after the departure of older married sons from the household

in what resembles the typical "stem family system". Dowries are not uncommon in Georgia and usually given by parents to their daughters at the time of marriage. But a dowry is usually composed of bedding, furniture or clothing, and its value modest in comparison to the transmission of land, house and other properties mostly reserved for their sons.

> The inheritance was passed on to the boy and it didn't matter if he was good or bad. It was a shame [in the past] to name the daughter as the heir. It was the daughter's shame, as well as the family's. [Old woman, Dusheti]
>
> My grandparents' generation mostly thinks that the parents' property belongs to the son; if there are several sons, then the heir is the youngest one. [Young unmarried woman, Dusheti]
>
> I will give my inheritance to my daughter and son equally. I have two houses–here and in Tbilisi. I will ask my son which one he wants and the rest will be my daughter's share. The priority of the choice belongs to the son. [Adult married woman, Dusheti]
>
> There are cases when daughters were inheritors, even in cases when the parents had a son. The reason is [that sons are] not paying attention to parents and the relationship [between parents and sons], or family disagreement. [Adult married man, Dusheti]
>
> In my case, the boy did inherit. My mom wanted to give all the property to me because she saw what was happening and that she was dying, but then everything went to my brother automatically. [Adult married woman, Tbilisi]
>
> The younger son gets the inheritance as a general rule. The elder son gets the plot of land and the daughter gets the dowry. [Adult married woman, Zugdidi]

Nevertheless, the picture is far from black and white. Several lawyers surveyed as experts and respondents from FGDs mention a number of cases in which daughters were able to receive some property, or in which they claim their share of family property in the absence of wills. Extracts from a rich discussion among married women held in Dusheti–a place influenced by both its "mountainous" traditions and its proximity to Tbilisi–illustrate the variety of situations:

> A. Sharing equally took place in my village several times. The house and the land was split equally, but it became the reason of much discussion… the neighbors didn't like it, saying that it's a shame to take the inheritance away from the brother. One brother shared it on his own will, but another did not. There was another case when a sister went to court and people showed disgust… but sharing […] cause a bad reaction in the mountains.
>
> B. They have to share equally… I will do it.
>
> C. There was an occasion where the sister made her brother sell the house and the brother was left with nothing. It happened about 3-4 years ago.
>
> D. A sister was arguing that she wanted to have her share and made her brother sell the house. The boy moved into a smaller house and this fact caused him to divorce his wife.
>
> E. A mother threw her son out of the family, she didn't like her daughter-in-law. So the girl's mother gave her some inheritance.
>
> F. There was one occasion where the sister took more than half of the house. […] but the response from society was very bad. [All quotes from adult married women in Dusheti]

Urban and more educated women are obviously more likely to assert their rights, while the sway of local customs and social pressure may prove stronger in rural areas. We have, however, little data to more accurately describe how inheritance works in Georgia and in which situations daughters are more likely to be discriminated against.

6.5. Conclusion

It is difficult to capture the wealth of the qualitative surveys without falling into stereotypes about attitudes and opinions on gender equity. Some topics are more difficult to acquire information about in group situations and abortion trends are clearly one of these. While its existence is widely acknowledged, participants often make a point of denouncing it as a sin practiced by a small number of people. The gender bias of prenatal sex selection is often ignored. Typically, no respondent has come forward to narrate her own experience of abortion, selective or not, or the experience of a sister or a close friend. Abortion stories usually refer to "people" participants know or to "stories" they have heard. Doctors also insist that "illegal" sex-selective abortions are not performed in their clinics, but in some other establishments. This denial is often the product of ignorance–most notably among men–, but shame and stigma about abortion also play a

large role. Underreporting is in fact typical of many situations causing embarrassment to individuals within a given normative system. Mental illness, criminal behavior, domestic violence, or sexual preference are typical examples of characteristics systematically underestimated by surveys. Abortion evaluation itself is fraught with underestimation issues precisely because of the stigma in reporting it (Rossier 2004).

Kumar et al. (2009), while acknowledging the wide prevalence of the abortion stigma, construes it as originating from a practice that marks women as inferior to the ideals of "womanhood". Since women are stigmatized for engaging in abortion, they underreport it and this underreporting, in turn, marks abortion as a fringe, non-normative behavior. This tends ultimately to reinforce the social norm against abortion. Reading the transcripts of the surveys in which individuals and groups often stress the immoral and marginal nature of abortion, it would be difficult to believe that Georgia has long been a country with especially high abortion rates.

The deeply entrenched stigma attached to abortion is evident at a number of different levels, from the individual level of women, for whom abortion may be seen as a failure in their family project, to the national level, in which it is marked as a testimony of individual opportunism against a more patriotic and pronatalist attitude. The decline in the former Soviet ideology that defended abortion as a way to free women from family pressures has played an important role in Georgia. The Church has also regained an important voice over the last two decades and tends to offer moral guidance to the nation;[49] its vigorous onslaught against abortion in recent years has probably contributed to a growing feeling of guilt among women and this goes a long way towards explaining why such an otherwise common practice is so often publicly disavowed by survey participants.

The role of norms in dictating gender preference emerges more spontaneously from the surveys. The traditional gender script supposes that girls are bound to leave their parents and join their husband's family for good after marriage and nurtures the parents' and children's expectations. This may not translate into active premarital discrimination affecting education, health, or affection, but it determines normative gendered trajectories. The deeply asymmetrical family situation is not explained by functional advantages–such as avoiding a potential rivalry between husband and father-in-law in uxorilocal situations–and it does not find any support in established religious traditions, in contrast to filial duties common in the Hindu or Confucian traditions. But the insistence on the (patrilineal) transmission of names from fathers to sons is often advanced as the main cultural reason behind son preference and patrilocal arrangements. This patronymic transmission is seen as a cultural duty since it ensures the perpetuation of Georgian identity and there seems to be no case in which family names could be transmitted though daughters.[50]

A more concrete outcome of patrilocal customs is evident in the inheritance patterns that are heavily biased towards sons, in spite of the egalitarian legal provisions inherited form the Soviet family code. It is seen most often as a logical reward for sons taking care of their parents. This leads to an extremely unequal situation in terms of family succession, since many daughters are prevented from inheriting from their parents. Nevertheless, it is difficult to assess the frequency of a more equitable sharing of family property between sons and daughters, as reported by many respondents. Written wills and traditional arrangements tend to favor sons over their sisters in access to assets, but attitudes are gradually changing.[51]

While son preference appears to be more challenged by young than by old adults, the main departure from established traditions currently being discussed in Georgian society is the settling of couples independently from the husband's family, including residing and working in the same locality as their parents. Only a closer study would confirm if the trend of separate living patterns is also associated with a larger tolerance of coresidence with the wife's family. The case of Tbilisi suggests that economic and social autonomy tends to weaken the strictly patrilineal and patrilocal approach to family arrangements.

49 Muslim clerics surveyed in 2014 have also expressed their strong opposition to the practice.

50 Minority families in Tbilisi that adopt Georgian family names are seen as particularly deceitful precisely because of the patronymic ambiguity this creates.

51 Sumbadze (2008) demonstrates that a majority of the population is today in favor of equitable transmission between daughters and sons. See also UNDP (2013) for a detailed description of attitudes towards inheritance.

7. Present vision and future scenario

This chapter will confront two different realities. On one side, we will examine what precisely people know about sex imbalances at birth and how they may reflect on the impact of imbalances on the future of the country. On the other side, we will use more traditional demographic tools to review the potential demographic trajectories of the country. In a way, the situation in Georgia lies within these two parameters: the relative ignorance that prevails about the presence and magnitude of recent sex imbalances and the relatively inevitable implications that prenatal discrimination will have on the country's future demographic structures.

7.1. Awareness

We have frequently stated in this report that its prime objective was to address a poorly known dimension of Georgia's recent history, i.e. the rapid increase of the number of sex-selective abortions in the country since it achieved independence. While this phenomenon may be perceived as a mere demographic oddity, its social significance is for many reasons inescapable; a broad system of gender preference privileging sons that pervades many aspects of social life has recently percolated to the core demographic and traditional son preference has morphed into a modern reproductive strategy. Yet, in spite of the rapid increase in prenatal sex selection across the country, it has not made headlines or been discussed as a solution for families desiring a son. In terms of press coverage and scientific studies, sex imbalances at birth in Georgia are almost inexistent. There has been almost no press coverage describing sex-selective abortions before the release of the PACE report in 2011. This topic had not been the focus of attention for TV, radio or other media. For at least twenty years, prenatal sex selection has remained a publicly invisible and unspoken practice in Georgian society.

7.1.1 Statistical and other evidence of sex selection

The blame is usually put on the quality of data and lack of scientific information. We have seen that the irregular quality of birth registration has to some extent blurred the issue of increasing sex ratio at birth. In that respect, Georgia's situation is akin at that prevailing in many other former socialist countries, where transitional years have been accompanied by deterioration in the State's capacity to collect, publish and analyze demographic data. It may also be added that the rise in birth masculinity was unexpected and is still seen as "the mystery of missing female children," as a scientific paper recently put it. But was the level of knowledge so incomplete that it took a non-technical report by the Council of Europe to act as eye-opener?

If we examine existing evidence, we could say that the 2001 census had already provided proof of an excess of boys, entirely confirming vital registration measurements since 1991. Demographers took note early on of the rising proportion of male births observed in Georgia and a paper published in 2001 by Yeganyan et al. already pointed to the suspiciously high levels of SRB in Georgia and Armenia.[52] In the following years, the topic of high SRB was re-examined in presentations by members of the original team of demographers and compared with other sources, such as existing sample surveys. A more formal diagnosis of excess male births in the South Caucasus region was published by Meslé et al. (2007) in a book on sex imbalances across the world. The international research team included Irina Badurashvili–who advocated early on for more systematic investigations on Georgia–and it therefore had access to a wide array of Georgian sources. By the late 1990s, the link between the increasing sex ratio at birth and prenatal sex selection had been clearly established in Asia and it is strange that this hypothesis could not be applied in a country such as Georgia, where abortion has always been very common.

Several reports described the circumstances of women in Georgia after independence, but we couldn't find any trace or mention of sex selection in these prior to 2011.[53] Missing women was never listed as a trait of gender systems in this country. It is only when the Council of Europe passed its resolution in 2011 that the issue came to the fore. The resolution was based on a report by Doris Stump, which brought together evidence based on birth registration and on the Meslé et al. 2007 study. The rapporteur observed that most local organizations were unaware of the issue. She also wrote that national authorities knew about the excess number of births, but did not see it as an issue. The previous government in Georgia held that prenatal sex selection, if it existed at all, would somehow self-regulate by itself over the years. Apart from a paper by Duthé et al. (2010) on Caucasian countries, there is no substantial new research available on the issue, as I write this report, with the exception of research

52 The debate on SRB in Georgia started in 1998 with a paper in the Georgian journal *Saqartvelo* (N°1) and was resumed in 2003 with a paper in the Russian Население и общество *(*N° 131-132)and a poster presented the same year at the meetings of the Population Association of America and of the European Association for Population Studies.

53 See, however, the mention of sex imbalances at birth in the more recent study by Bendeliani (2012).

conducted to assess the situation in Azerbaijan and in Armenia.[54] A recent 2014 chapter in a demographic study published in Tbilisi reexamines the issue of sex-selective abortions as a source of high SRB in Georgia and concludes that it is more a myth than a reality (Tsiklauri 2014).

7.1.2 Awareness of the presence of sex selection in society

Prior to 2011, there was almost complete ignorance of the fact that a large number of female births were missing and that this may be related to selective abortions. In 2014, the issue was revived due to the interest taken by the Health Minister David Sergeenko and his deputy minister Mariam Jashi. The question of sex-selective abortions was publicly discussed even if in the absence of substantial new evidence or documentation. Most of the experts and public figures I met during my research were aware of the issue, even if a minority still considered the phenomenon of prenatal sex selection to be mostly spurious because of a lack of evidence.

The survey conducted across the country in early 2014 provides a different source to probe the level of awareness among the elite, thanks to 20 interviews conducted across Georgia with national and regional experts. These respondents are mostly prominent scientist, lawyers, doctors, NGO representatives, decision-makers and clerics. We find again a significant number of people who apparently had never heard of the existence of sex-selective abortions. Most of them happen to be men. An Orthodox cleric comments, for instance, that he has never heard about it in his last 20 years of church work and professes his surprise at being questioned on selective abortions. When confronted with recent SRB figures, a well-experienced male ultrasound specialist doubts their reliability and assures that the sex of the fetus is never revealed in his clinic before 12 weeks. The suspicion of statistics and their reliability seems widespread, leading at times to some interviewees' complete denial of the existence of sex selection in their country. Two national experts with a strong statistical background and who are clearly well acquainted with demographic statistics disagree completely with the idea of sex imbalances at birth caused by abortions. The intensity of son preference is also ignored or denied. There is therefore a significant share of highly educated Georgians, surveyed in 2014, with no knowledge of the presence of sex selection or who deny actively its existence.

There are also many people interviewed during the surveys who had at least some notion of the occurrence of sex-selective abortions. They often prefer to state clearly that they are morally against this practice, and attribute this practice to prevailing "Georgian customs". The attitude is at times fatalistic or repentant ("unfortunately this happens"). Clerics may conflate it immediately with the "great sin" of abortion, but clinicians themselves tend to be careful. One of them admits that women would rarely state son preference as the particular reason for aborting. Another concedes that while it is not done in his clinic, this may happen in other establishments. A female lawyer tells a rare case in which she had to formally intervene to prevent a family from harassing a daughter-in-law who had refused to undergo a selective abortion. Another lawyer reports of a man threatening to kill his wife for failing to have a son. But direct evidence provided by respondents remains rare.

7.1.3 Implications

In conclusion, the level of public awareness on prenatal sex selection appears quite limited in the country. Mentions in the press have been rare and the absence of a fully-fledged study on the issue seems to be a major weakness. The absence of political engagement in government departments and of public debates though faith-based and civil organizations probably explains why very few experts surveyed in the country have a clear idea of the magnitude and frequency of the practice and why some may even believe the phenomenon to be non-existent. In fact, most of their sources of information derive from their personal experience, in their close families or through their professional practice for member of the law and medical communities. But this rarely gives an idea of the exact prevalence of sex selection in Georgia.

This situation explains largely why a practice, probably well-known in society, or at least among its female population, has been able to remain obscured from the public sphere for such a long time. While it probably took ten years for China and India to acknowledge the presence of sex imbalances at birth, the same situation has remained hidden from public view in Georgia for a much longer period, in spite of the wide publicity received by the similar cases in Asian countries in international press coverage. In contrast, sex selection in Vietnam, which today stands at a level roughly comparable with that of Georgia, has been widely publicized across the country ever since it was established in 2005. Not only have government departments launched various programs and campaigns around the issue, but it is also my personal experience that many people in the countryside seem to be quite aware of the prevalence of sex selection and its potential impli-

54 The paper by Michael et al. (2013) does not cover Georgia.

cations on the future demographic structure of the country.

This suggests that the lessons drawn from the experience of other countries have not percolated through to Georgia. The main implication of this brief analysis is that rapid change is required in order to share the result of analyses of this kind with the public, from ordinary citizens to policy-makers and academics. This is a necessary precondition for a fuller mobilization to be generated around the issue of prenatal discrimination and the ways Georgian society chooses to address it.

7.2. Future levels of birth masculinity and sex imbalances

Against this low level of awareness, we have a clear demographic reality evident in past and current trends. The future can also be partly anticipated with population forecasting, one of the most widely used tools in demography. Population projections are regularly carried out by both national and international institutes. The new 2014 census will provide a set of new data, which will be used as the baseline for updated projections. However, projections for Georgia routinely use the biological value of 105 male births per 100 female births or other assumes the levels, as in the case of UN population projections positing a sex ratio slowly decreasing from 110 today to 108 at the end of the 21st century. None of these values reflects a plausible scenario for SRB change in Georgia. It is in particular unlikely that the SRB could stay skewed at 108-110 for over a century.

Our population projection series aims to explore two scenarios of SRB change in order to assess their consequences on future population composition. We added a third scenario to factor in the impact of international migrations. More than actual forecasts, our computations represent simulations of what different pathways would imply for population changes in Georgia.

7.2.1 Methodology and demographic assumptions

Our population projections start from a baseline. In the absence of 2014 census results, we use the estimates of Georgia's population in 2010 provided by Geostat. These estimates reflect, in particular, the estimated change since the 2002 census as estimated through civil registration. This provides the most plausible population estimates by age and sex. A slight limitation of this source lies in the underestimation of the actual SRB level at the turn of the century, for which Geostat assumed, somewhat arbitrarily, a fixed level of 111 male births per 100 female births, which is most probably below the actual level during that period (see our discussion of SRB trends). Alternatively, we could have used the 2013 estimates drawn up by the United Nations Population Division, but the differences to the Geostat estimates are not significant.

We then base our simulations of population changes in Georgia on three sets of parameters, namely mortality, fertility and migration. The method used here is cohort-component method, in which mortality, fertility and migration are estimated for each time interval on the basis of parameters selected for the projection. The projections are carried out from 2010 to 2050. It appears difficult to project populations beyond 40 years in view of the numerous hypotheses on the future trends of demographic parameters. Fertility and migration levels are in particular quite unstable.

For fertility and mortality, we are using the United Nations estimates (medium variant). The steady progress of mortality till 2050 is a reasonable assumption and corresponds to what has been observed during the last 15 years. For fertility, it assumes a relative stabilization at 1.77 in 2050. The current increase in fertility, observed in 2008, was apparently short-lived and there is no reason to believe that there would be a significant increase in the future. Similarly, Georgia has already experienced a "lowest-low" level of fertility after 2000, followed by the current rebound. The stable-fertility hypothesis is probably the most plausible scenario to work with.

Regarding the sex ratio at birth, we will use two distinct series. The first series is based on a normal sex ratio at birth of 105 and will be referred to as "normal SRB" scenario. We assume that birth masculinity has remained normal from the 1990s until 2050. This means that not only do we use a normal 105 SRB for the forecasts beyond 2010, but we also correct 2010 data by assuming a sex ratio of 104 among children below 15 years–as is observed among other populations. The second series is based on the recent elevated SRB level of 111 male births per 100 female births and it will be referred to as the "high SRB" scenario. This value is based on the birth registration data collected from 2005 to 2013. The simulation exercise will therefore present two different sets of population data: what the population should be in the absence of sex imbalances at birth and what the population will be if the SRB remains at 111 from 2010 to 2050. These two scenarios determine two different sets of age and sex structures, for which we can compute the

sex ratios of different age groups, as well as for the total population. Note that other demographic implications of our forecasts–such as the volume of births and population growth itself–are not examined here since we focus only on the impact of sex imbalances at birth.

The assumptions regarding migration are less straightforward. Migration is characterized by considerable annual variations in terms of volume, composition and direction. We will therefore assume no net migration at all in the future in our first two scenarios. However, in order to see whether migration could reduce the impact of sex imbalances at birth, we have developed a third scenario of "high SRB with migration". We have opted for a figure of 10 thousand net departures per year till 2050, which is less than was observed on some years, such as 2012. We have assumed that women represent half of the net migrants. Women migrate later in life–often after marriage and child-bearing–and the age distribution of net migrants is borrowed from the latest 2012 statistics on international migration (Geostat 2013).

7.2.2 Demographic forecasts and implications

The population of the country is assumed to decline due to below-replacement fertility. In all the scenarios, the annual number of births in the country will decline from 65,000 today to 45,000 at the end of the projection period. This is mainly due to forecast fertility levels, but also to the impact of the gradual reduction of cohort size. In the high-SRB scenario, the decline in the annual number of births is, however, slightly more pronounced because of the reduction in the number of women of child-bearing age. By 2050, this reduction in the number of women will in fact cause a deficit of almost 2,000 births per year.

Another impact of the high-SRB scenario relates to the mounting deficit of women, caused by the deficit of births occurring every year from the 1990s on wards. With a SRB of 111, the deficit is 850 female births per year after 2010. The cumulative impact of this annual deficit of female births increases quite rapidly. It can be converted into the number of "missing women" and "missing girls" for the female population below 20 years of age. These "missing women" are computed for different periods with reference to the sex distribution observed in the normal-SRB scenario: for each period and age group, we compute the expected number of women by applying to the sex ratio observed in the normal-SRB population series to the observed number of men; missing women represent the difference between the numbers of expected and projected women.[55]

In 2010, it had already been estimated that about 25,000 girls aged 0-19 years were missing from the country's population owing to the sex imbalances at birth that occurred since the 1990s. With a SRB of 111, this number will decline slightly over the years as the size of the birth cohorts diminishes because of low fertility. But the cumulative number of missing women will steadily increase over the years, as more and more age groups will be affected by sex imbalances at birth. As Figure 12 indicates, the total number of missing women would increase to 40,000 by 2020 and 60,000 by 2035 and almost reach 80,000 women in 2050. By that time, the number of these missing women would amount to almost 4% of the overall female population in the country.

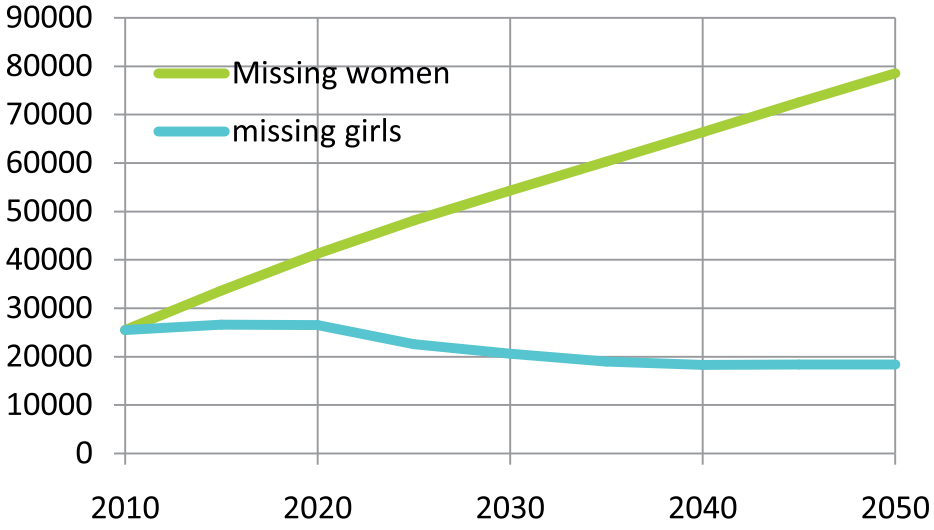

Figure 12: Estimated number of missing women and missing girls (aged less than 20) in Georgia, high-SRB scenario, 2010-2050

High SRB tends mechanically to increase the male proportion in the population and the sex ratio of Georgia's population is therefore bound to increase in the future. It should, however, be noted that Georgia's population has long been predominantly feminine, mostly because of male international

55 For instance, if 104 is the normal sex ratio among the population below 5 years, we computed missing girls this age group as the net difference between the expected female population (observed male population / 1.04) and the observed female population.

migration in the past and because of higher female longevity. The current population's sex ratio is slightly above 91 men per 100 women. As Figure 13 shows, this sex ratio would have increased in the future, even in the absence of prenatal sex selection. According to our normal SRB scenario, it would almost reach 94 men per 100 women before 2050, a rate comparable to what is observed in many Western European countries. But this increase is likely to proceed faster in the high-SRB scenario. The population sex ratio would then reach 92 men per 100 women in a few years, 94 before 2035 and 97 by 2050. At the end of our study period, the impact of prenatal sex selection will be felt over all birth cohorts born since the 1990s, i.e. the entire population below 60 years.

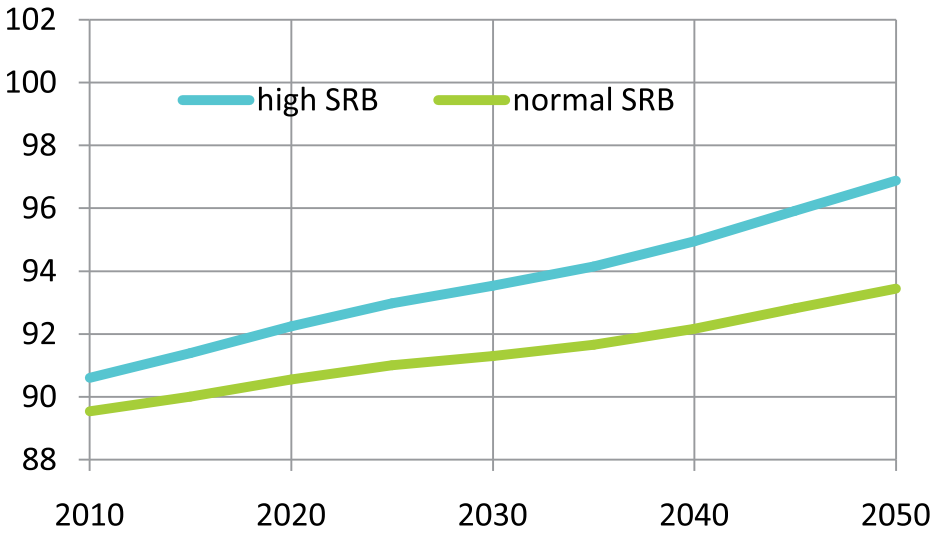

Figure 13: Estimated population sex ratio of Georgia according to two SRB scenarios, 2010-2050

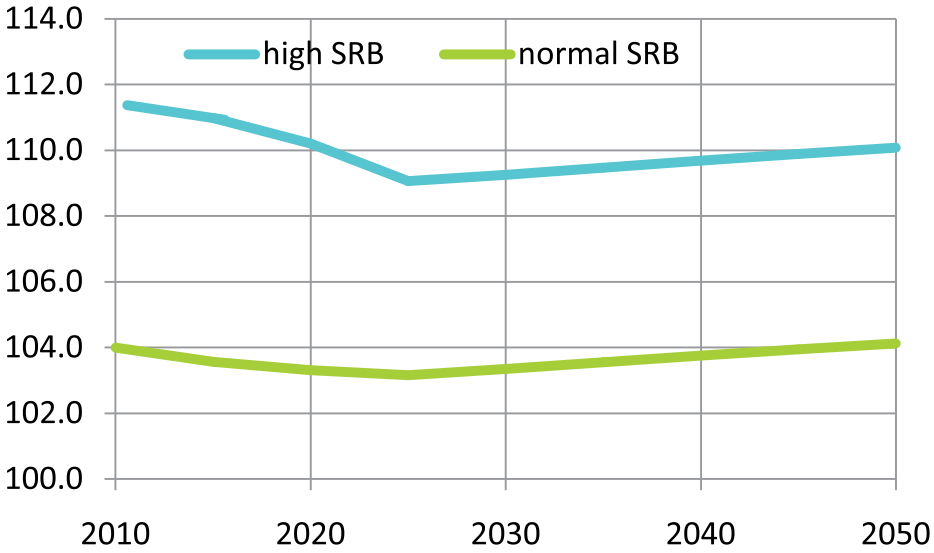

Figure 14: Estimated sex ratio of the population below 15 years in Georgia according to two SRB scenarios, 2010-2050

Figure 14 shows the sex ratio of the child population. As expected, it is very close to our assumptions related to the sex ratio at birth. In the normal-SRB scenario, it remains around 104, a value slightly lower than at birth because of the higher mortality affecting male children. In the high-SRB scenario, the sex ratio fluctuates between 112 and 109 from 2010 to 2050.

The impact on other age groups will be more complex. We will focus on young adults aged 20 to 39 years, as they constitute the first age category apart from children to be impacted by past sex imbalances at birth. The sex ratio according to our two scenarios is shown in Figure 15. Up to 2015, the curves increase at the same rate and there is no effect of past sex imbalances at birth. The sex ratio is close to 100, implying an almost equal distribution of men and women among young adults. But after 2015, the divergence becomes obvious. In the normal-SRB scenario, the share of young men plateaus at just above 102. This relative surplus of men corresponds to the sex ratio at birth of 105 slightly reduced by higher male mortality. It remains stable till 2050. In the high-SRB scenario, the situation is quite distinct. A constant flow of birth cohorts affected by prenatal sex selection will reach adulthood and swell the sex ratio of this category. The sex ratio of young adults reaches 105 in 2025 and 110 ten years later. It remains very close to 110 until the middle of the century. The comparison of both sex ratio curves reveals the growing gap between men and women if sex imbalances at birth were to persist into the future. It would of course continue well after 2050 unless there is a rapid decline in SRB levels by 2030.

The fact that young men will be more numerous than women by about 10% is not without consequence. Taking into account that most people marry between the ages of

20 and 40, the difference in sex ratio among adults shown in Figure 15 is likely to affect the marriage schedule. If the sex ratio is less favorable towards men, they are likely to delay marriage and some of them may not be able to marry at all. This is what is presently observed in many parts of China and India after decades of sex selection. Demographic simulations suggest that this is the scenario most likely to happen if the SRB remains high in the coming decades, as the number of prospective grooms will come to exceed that of prospective brides. It may however be noted that there would be almost no imbalance among young adults if the SRB had remained close its biological level.

In Figure 15 we have added the third scenario of high-SRB with migration described earlier. We may in fact postulate that Georgia will continue losing some of its population to migration in the future. We use here a migration scenario in which men leave earlier than women and this tends significantly to slow down the rise in the sex ratio among young adults. In fact, by 2035, net emigration from Georgia tends to cancel out the effect of a high SRB and the sex ratio of the young adult population is the same as for the scenario of normal SRB, without any migration. In other words, the early departure of young male migrants is enough to counterbalance sex imbalances at birth.

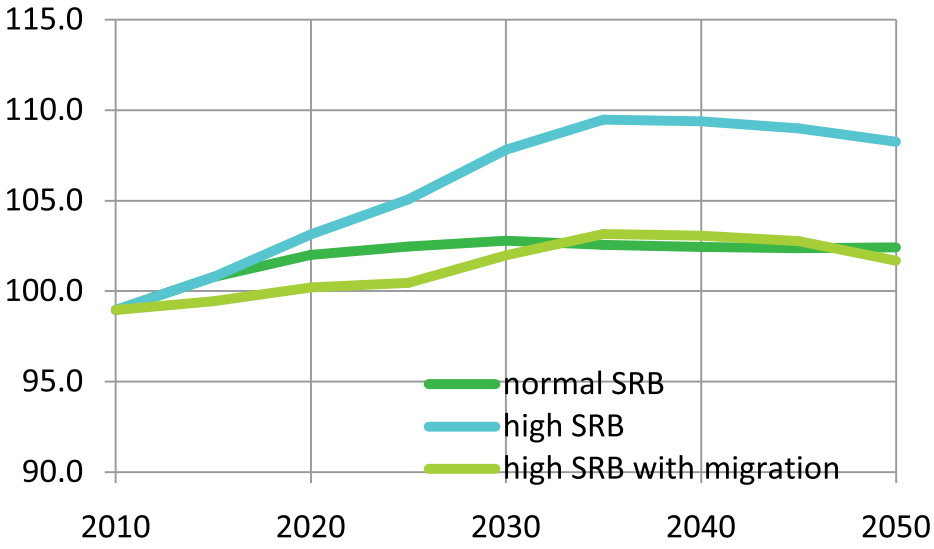

Figure 15: Estimated sex ratio of the population aged 20-39 years in Georgia according to three SRB scenarios, 2010-2050

This is not an imaginary scenario, since Georgia has long been affected by male emigration, even if recently women have played an increasing part in labor migrations. But migration may also be a classic response to the case of "marriage squeeze"; unmarried men are firstly encouraged to leave for better job opportunities, but they may well decide to marry abroad when there are sex imbalances affecting their marriage prospects at home. In other words, men facing a marriage squeeze may be led to migrate for both demographic and economic reasons.

In conclusion, we first observe that a rise in birth masculinity has taken place in Georgia when the overall male population had been depleted by migration for at least two decades. As a result, the baseline sex ratio is rather low in comparison with other countries and the sex ratio will increase more slowly. This situation is also typical of East-European countries affected by prenatal sex selection: it is the case for instance of Albania which has many male migrants in Italy and Greece, and of Armenia which still regularly sends male workers to Russia and other countries. Yet, the consequences of high birth masculinity will soon be felt on certain age groups in Georgia and we have singled out the case of young adults. Future missing women may slightly reduce the number of births in the next thirty years, but it may also generate significant imbalances among the adult population.

In a way, migrations may turn out to be the safety valve in the case that the imbalance among young adults is allowed to grow in the future. Migration potential has changed radically over the last ten years. Russia no longer offers the same possibilities for young male Georgians as in the past and it is not clear whether these prospective migrants will be able to identify new destination. Moreover, Georgia has recently witnessed a rise in female emigration, a phenomenon uncommon in other countries of the region such as Azerbaijan, Armenia and Turkey, where international migration has remained a male preserve. Today, female migration often relates to older, married women. But if Georgian women were to opt for earlier migration, especially before marriage, this would have an aggravating impact on the adult sex ratio; not only would men increase in proportions due to past sex imbalances at birth, but the share of women would also diminish due to the departure of female migrants from the country. The demographic balance among adults appears therefore rather fragile and changes in migration systems–in addition to persistent sex imbalances at birth–could heighten the potential male surplus in the population aged 20-39 years in the coming decades.

8. Conclusion and recommendations

8.1. Conclusion

This report on prenatal sex selection is the first of its kind for Georgia. It aims to bridge many of our knowledge gaps on the issue, ranging from the extent of son preference, the existence of sex imbalances at birth, and the future implications of such demographic characteristics for the country. It provides a thorough review of existing evidence on potential sex imbalances at birth in Georgia based on several sources, ranging from existing studies to recently collected statistical and qualitative evidence.

After a brief overview of the global state of the issues, this report starts with an examination of the documentary evidence in to probe whether the Georgian context is similar to that obtained in countries with established prenatal sex selection. The experience of Asian and East European countries demonstrates that several factors are usually necessary for sex selection to take place. These preconditions relate in particular to the presence of a staunch preference for sons, the availability of sex selection technologies and a low fertility requirement.

These conditions have indeed been met in Georgia since the 1990s. First, there has always a latent preference for boys in Georgian society, which derives from the strong need for a son felt by many Georgian families. This insistence on a male heir is closely linked to the prevailing patrilineal system and the central role of sons in supporting their parents and ensuring the perpetuation of the family line. Our in-depth demographic analysis shows that patrilocal coresidence is indeed a typical feature of the country's family structures. Moreover, we have shown that gender preferences directly affect reproductive choices, by demonstrating that the absence of a son in a family increases subsequent fertility. This underlying demand for a son has long been satisfied by a more flexible fertility system, but fertility declined severely in the 1990s in the face of mounting economic and political uncertainties, and this has forced Georgian households to reduce their family size. Meanwhile, the equipment used in clinics and hospitals has modernized prenatal sex diagnosis, which has become a routine examination. The combination of access to ultrasound and abortion has made prenatal sex selection possible, enabling couples to reduce the size of their family and to select its gender composition.

In a separate section, we reviewed the demographic evidence for sex imbalances, after an extensive evaluation of the quality of the statistical sources. This technical examination is required in view of the limited number of reliable sources at our disposal. There has not been a census in Georgia for the last 12 years and the quality of the birth registration system has severely deteriorated since the mid-1990s. Since sample surveys are unreliable sources for assessing the level of birth masculinity, particularly in view of estimation issues, we had to piece together several heterogeneous demographic series. The increased sex ratio at birth after 1991 is clearly visible and perfectly coincides with the independence of the country. In our opinion, it is the increased economic pressure and the availability of modern sex selection tools that induced a somewhat selective fertility decline, aimed at reducing in priority the number of female births.

The sex ratio at birth has gradually increased from a normal biological level in 1990 to about 112-114 male births per 100 female births since the beginning of the 21st century. Since then, the SRB has plateaued at this level for a number of years, after which it appears to have started to decrease. This decline has brought the SRB below 110, a level distinctly below that observed in neighboring Azerbaijan and Armenia. Yet, there is no guarantee that it will continue in the coming years. Extremely skewed SRB levels have long characterized high-order births. It is often after two successive female births that parents decide for a third birth and resort to sex selection to avoid a birth of another daughter, resulting such births being more than two thirds male, as 2002 census data suggest. But recent data suggest that first and second births also contributed significantly to the overall sex imbalances at birth. Our analysis also shed light on some disparities in birth masculinity across social classes, regions, and ethnic groups, as well as across urban and rural areas. Tbilisi and the more educated segments of society are notably less affected that more rural and traditional regions, in which the presence of sons is a crucial element of the family structure. Yet, there seems to be no social group in the country immune to some measure of prenatal gender discrimination.

The large qualitative surveys initiated by the World Bank in the South Caucasus countries have provided the first extensive source on son preference and prenatal sex discrimination. These surveys demonstrate first of all the limited awareness of citizens of the existence of sex imbalances at birth in their country. A large number of excerpts from the surveys show the persistent need for sons felt across large segments of society. Participants in these sur-

veys describe how families try to respond to this demand for a son without unduly enlarging their family size. Selective abortion after the birth of daughters is, as expected, the main tool for beating the biological odds, but abortion is here only a means to achieve a reproductive objective and new technologies may replace it in the future. The justification for this gendered requirement is often offered in broad terms as an expression of Georgian mentality. But besides established customs and norms deriving from patrilineal family systems, the need for a son is strengthened by the central importance of the family as a solid buffer institution able to withstand economic and political uncertainties. In view of the incomplete social protection offered to Georgian households, the absence of a son represents for many families a greater vulnerability to the type of economic shocks that the country has often experienced over the last twenty years.

Besides being a radical expression of gender discrimination, prenatal sex selection will also lead to future population imbalances. The trend observed during the last ten years can be projected into the future, providing an idea of the lasting impact of recent sex imbalances at birth. We have contrasted different demographic scenarios and their consequences up until 2050. Using demographic simulations, we can measure the mounting effects of a skewed sex ratio at birth in the future, in particular generating a growing number of "missing girls" and of women in the future. The cumulative impact of skewed SRB levels leads to very divergent scenarios in terms of the sex composition of the country's younger population. If sex imbalances are allowed to increase, migration abroad may turn out to be one option for men who may find it difficult to find women with whom to have a family

This report provides the basis for a larger debate within Georgian civil society on the issue of sex selection. First, it supplies the public and policy-makers with the best possible evidence of the long-disputed existence of sex selection in Georgia and offers the most reasonable estimate of the extent of the phenomenon. It also points to the most fragile systems and vulnerable social groups. The explanatory framework used suggests that future changes in fertility levels or access to technology are unlikely to alter Georgia's situation. Change will mostly come from a shift in cultural attitudes rather than from changes in the healthcare or demographic situation. It is only when the perceived need for sons and the norms that support this system are reduced that sex selection is likely to disappear. The increasing role of women in society and in the modern economy will weaken entrenched gender bias, but traditions still hold sway on aspects of demographic behavior and attitudes to family. The faster these transformations in gender attitudes take place, the less serious the overall consequences of sex imbalances at birth will be on Georgia's future demographic composition. It seems therefore crucial to encourage a rapid mobilization of all social and political organizations towards a better understanding of the mechanisms at work and the design of initiatives aimed at addressing gender prejudices and discrimination in Georgia.

8.2. Recommendations

This section presents a set of recommendations for a potential policy agenda, based on the findings of this report, validated at the dissemination conference held on May 4, 2015 in Tbilisi, Georgia. One of the main knowledge gaps identified in this study is the limited statistical information on the prevalence of sex imbalances at birth. A second gap is our incomplete understanding of how old traditions combine with the new social and economic circumstances to motivate prenatal sex selection. A third gap concerns the lack of awareness relating to existence of sex imbalances over the past 20 years and, consequently, the limited mobilization of the government and civil organizations to address the issue of prenatal gender discrimination.

Monitoring sex imbalances

This report illustrates our imperfect knowledge of basic demographic trends in Georgia. However, the new 2014 census and the recent modernization of the civil registration system offer great opportunities to improve this situation since we will soon be in a position to cross-check birth registration estimates with the age and sex structures computed from census records. These two sources will be essential in providing adequate monitoring of SRB trends and differentials.

- Ensure the regular publication of birth registration data, including births by sex, parity and region.
- Maintain efforts to improve the quality of civil registration data and their availability for research, and encourage the in-depth analysis of statistical sources.
- Use the 2014 census to develop monographs based on its microdata, focusing on sex imbalances at birth as well as other gender-related issues, such as family structures and gender bias in fertility behavior.
- Support capacity building activities in govern-

ment and research organizations to strengthen national competences in SRB analysis.

Strengthen our understanding of the causes and mechanisms of sex imbalances at birth

The mechanisms of sex selection across Georgia are not yet properly documented or understood. We still only have limited studies on abortion and almost no research linking gender practices to prenatal discrimination. We have no in-depth account of the extent of son preference among Georgian families or of its recent rise in the country. Similarly, we have no information on the role played by healthcare facilities in the supply of sex selection technology to women.

- Encourage new qualitative and anthropological research on gender inequity and gender bias in relation to prenatal discrimination in Georgia. Patrilineal family patterns, masculine values, the marriage system, and gender inequalities in inheritance are among the least documented aspects contributing to an overall preference for sons.
- Support targeted studies on the resources facilitating sex selection. This should include research on available reproductive technologies, healthcare facilities, second-trimester abortions, and the use of abortifacient drugs.
- Support initiatives by NGOs and other institutions to study the practice of prenatal sex selection and the motivations behind sex-selective attitudes.

Disseminating knowledge, raising awareness among population in Georgia, and engaging government and civil organizations

Information and dissemination form the foundation for launching a public discourse on sex selection in Georgia, the main participants being the public, civil organizations, the medical community and governmental departments. Sex selection can be seen not only a potential violation of human rights, but also carries serious long-term consequences because of its impact on demographic structures. Awareness and advocacy campaigns will serve to break the cycle of discrimination deriving from son preference and patrilineal customs that discriminate against women. They will form the first phase of a broader policy process in which the government needs to address the issue without endangering access to safe reproductive health.

- Launch campaigns based on the main findings of this study to raise the public awareness of the issue and its main implication in terms of gender equity and sustainable population dynamics.
- Target particular groups for sensitization and awareness campaigns, particularly teenagers and young people, educators, the media, parents, women, social and religious leaders, and government officials.
- Train health professionals about their responsibilities in the growing sex imbalances at birth and involve the medical community in the fight against prenatal sex discrimination through the development of a code of conduct and ethical guidelines.
- Avoid stigmatizing abortion or the women who avail of it when discussing sex imbalances at birth. Focus on gender inequity within Georgian families.
- Project Georgian traditions in ways that strengthen gender equity and the status of women in families and ensure that communication on reproductive choices does not reinforce male-oriented kinship and bias against parents without children or without son.
- Address more specifically women's empowerment issues and their role as care-givers and breadwinners in the promotion of gender equity.
- Review gender equality strategy and laws and monitor their enforcement to prevent direct or indirect discrimination against women of any age in the areas such as education and employment, health and social insurance, pension benefits, political rights, property rights, and inheritance.
- Ensure full and meaningful participation of civil groups in planned actions.
- Build partnerships with international organizations and with related ministry departments, national assemblies and commissions.
- Use targeted intervention in the most heavily affected populations.
- Promote international cooperation in order to benefit from policy initiatives already implemented in other countries of the region.

It may be early to discuss further policy options, especially as there is little consensus in Georgia on the issue of prenatal sex selection. In addition, the policy experience of countries such as China and

India offers no instant solution to the entrenched son preference.[56] Yet, the frequently heard call for restricting abortions–seen as the easiest way to solve the issue of sex imbalances at birth–is obviously misguided and dangerous, since it would lead to a massive increase in unsafe abortions. The root cause of the need for sons in Georgian society is ultimately an asymmetrical kinship system in favor of the male line that is so ingrained that nobody seems to distinguish it. The new forms of vulnerability emerging from the introduction of the market economy haveundoubtedly reinforced this patriarchal bias over the last twenty-five years. Measures that will be needed to address son preference relate firstly to gender equity in the economic, legal and social domains. They will aim at shifting and reversing norms and practices that have so far denied Georgian women equality within and outside the family.

56 See Rahm (2012) for a longer discussion of policy options in the case of Armenia.

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