

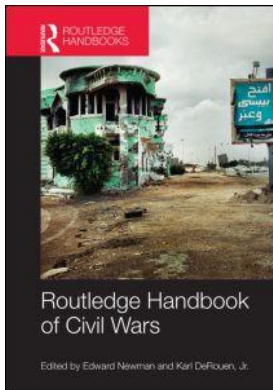
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## 11

# DEMOGRAPHIC FACTORS AND CIVIL WAR

*Gudrun Østby and Henrik Urdal*

In “The coming anarchy,” Robert Kaplan (1994) argues that anarchy and the crumbling of nation states will be attributed to demographic and environmental factors in the future. After the Cold War, demography has indeed claimed a strong position in the security discourse. Most of the attention has been devoted to two arguably distinctive sets of population–conflict dynamics; the effect of population growth on dwindling resources, and the importance of age structure transitions, or “youth bulges.” However, other demographic factors such as differential population growth between ethnic groups and rapid urbanization have also been suggested as potential triggers of violent conflict.

Despite a growing interest in the linkages between population dynamics and the security trajectories of states, systematic, quantitative research on demographic aspects of conflict has been surprisingly scarce (Brunborg *et al.* 2006). In fact, in recent years only a very limited number of articles have been dedicated to understanding how demographic shifts influence large-scale violence both within and between states (Goldstone *et al.* 2012).<sup>1</sup> This is probably partly due to the fact that scholars and policymakers alike tend to focus most of their attention on proximate causes of armed conflict, paying less attention to underlying or complex sources (Dabelko 2005).

This chapter discusses various demographic security perspectives and presents results from recent quantitative studies of systematic empirical relationships between demographic change and civil conflict. It does not offer new theoretical perspectives or empirical evidence on the effects of demographic factors on conflict, but summarizes the current state of the literature. We present the main theoretical propositions and examine the relevant empirical tests, drawing mainly on statistical studies. We focus primarily on the effect of population growth on resource scarcity, and the importance of youth bulges, but also address four other demographic factors which have received less attention in the larger literature on the causes of conflict, including skewed sex ratio in the population; differential population growth between ethnic and religious groups; migration; and urbanization. In the last section we summarize the main empirical findings in the literature, discuss some challenges with existing studies, and identify some avenues for future research.

## **Population growth and density, resource scarcity**

High population growth and density are seen as major causes of scarcity of renewable resources like arable land, fresh water, forests, and fisheries. Arguably, such scarcities may trigger armed

conflict over resource access (Ehrlich 1968; Kaplan 1994; Homer-Dixon and Blitt 1998; Baechler 1999; Kahl 2006). Resource scarcity is seen as a product of three different factors interacting: population growth, resource degradation, and the distribution of resources between individuals and groups. Homer-Dixon has termed this demand-induced, supply-induced, and structural scarcity respectively (Homer-Dixon and Blitt 1998; Homer-Dixon 1999). The distributional aspect is central in all the most influential frameworks of the resource scarcity tradition (Baechler 1999; Homer-Dixon 1999; Kahl 2006). While many countries have the ability to adapt to environmental change, some countries, particularly poor and institutionally weak states, are likely to be more vulnerable to environmentally related violence (Baechler 1999: xvi; Homer-Dixon 1999: 181). Resource scarcity arguably also has the potential to aggravate social segmentation (Homer-Dixon 1999: 96). While demographic and environmental pressures are seen as unlikely causes of international wars, it is claimed that such factors may spur local violent low-intensity disputes (Baechler 1999; Homer-Dixon 1999; Kahl 2006).

The major challenges to the resource scarcity perspective come from the traditions of neoclassical economics and political ecology. Neoclassical economists, often also referred to as cornucopians or resource optimists, have posed three sets of challenges to the view that resource scarcities are likely to bolster conflict. First, they argue that most renewable resources are not scarce at the global level, and markets, technological developments, and resource substitution are likely to help us adapt to situations of local scarcity (Maddox 1972; Lomborg 2001). Furthermore, in virtually all areas of the world, people are responding to lower mortality by reducing their fertility, albeit at different speeds. A second argument is that high population pressure and resource scarcity may be a vehicle for development. High population growth and increasing scarcity of resources provide incentives for finding ways to mitigate scarcity by means of technological development and resource substitution (e.g. Boserup and Schultz 1990; Simon 1989). Hence, high population pressure will eventually lead to declining resource dependence and less scarcity. The third neoclassical argument is that it is resource abundance that causes conflict, not scarcity, either because rich resources may be captured for personal enrichment or for conflict financing, or because resource abundance works indirectly by paving the way for corruption and “Dutch Disease,” hence weakening state institutions.

The second tradition challenging the resource scarcity perspective, political ecology, sees resource distribution as the main mediating factor between the environment and conflict (Peluso and Watts 2001). While political ecologists argue that local cases of “scarcity” may very well happen in the context of local abundance, they also argue that the resource scarcity perspective mostly ignores important sources of resource degradation caused by resource extraction in the forms of mining and logging, dam construction, and other forms of industrial activity (Peluso and Watts 2001: 26). Implicitly, political ecologists critique proponents of the resource scarcity perspective for blaming the poor for causing scarcity and violence (Hartmann 2001: 50). While it is true that Homer-Dixon’s case studies mainly address local violent responses, resource distribution plays a major role in many of Homer-Dixon’s cases, arguably diluting the concept of resource scarcity (Gleditsch and Urdal 2002).

### ***Empirical evidence on population pressure, environment, and conflict***

Previous quantitative studies have found mixed evidence for the resource scarcity and conflict nexus. Two early and influential quantitative studies in the field, the State Failure Task Force Report (Esty *et al.* 1998) and Hauge and Ellingsen (1998), reported different results. Esty *et al.* (1998) found no effects of soil degradation, deforestation, and freshwater supply on the risk of state failure. Hauge and Ellingsen (1998), on the contrary, concluded that the same environmental

problems as well as high population density were indeed positively associated with civil war, but that the magnitude of the effects was secondary to political and economic factors. However, these results have, for unknown reasons, proven not to be replicable even with the assistance of the authors (Theisen 2008), and are also not reproduced in an analysis of extended time-series resource scarcity data (*ibid.*). Assessing the issue of land scarcity, de Soysa (2002) found a significant effect of population density on domestic armed conflict. This is a surprising finding and may be due to a statistical artifact, as other studies using more or less similar data seem to converge on finding no effect of population density (see Table 11.1).<sup>2</sup>

The cross-national correlations of population pressure and internal conflict were studied more thoroughly in a global study by Urdal (2005). The results of this study indicated that national-level aggregate demographic pressures are not strongly related to armed conflict. The interaction between population growth and scarcity of potentially arable land is not robustly associated with the onset of an armed conflict. In fact, in countries with negligible population growth, high population densities seem to lower risk of conflict somewhat. This negative finding could be interpreted as a result of technological and economic development driven by land scarcity, as argued by Boserup and Schultz (1990) and Simon (1989). High levels of development are consistently found to reduce the risk of conflict.

Three subnational studies were later conducted to investigate whether the null-findings were simply a result of a too-high level of aggregation, where local conflicts driven by population pressure-resource dynamics would not be captured. First, in a global study of small geographical squares of 100 × 100 km covering civil conflicts observed from 1990 to 2004 Raleigh and Urdal (2007) investigated whether local-level demographic and environmental factors determine the location of armed conflict. The study addressed three different demographic and environmental concerns, population pressure, land degradation, and water scarcity, starting from the assumption that high population density, degradation, and water scarcity should be more strongly associated with conflict in areas with increasing population pressure. For the full global sample, there was a robust effect on conflict of the interactions between population growth and density, as well as population growth and water scarcity. When looking exclusively at the poorer half of the globe, which presumably should be more susceptible to conflict generated by demographic and environmental pressures, the only consistent and robust effect found was for the interaction between population growth and density.

Second, Urdal (2008a) addressed the relationships between demography, environment, and political violence in 27 states of India from 1956 to 2002. The advantage of such a quantitative case study is the availability of data comparable over time and space, while implicitly controlling for type and strength of government. The analysis showed that scarcity of productive rural land was associated with higher risks of political violence, particularly when interacted with high rural population growth and low agricultural yield. Other central aspects of the resource scarcity scenario were not supported. Structural scarcity (measured by rural inequality) and high urbanization rates were not found to increase the risk of political violence. Hindu-Muslim riots, a predominantly urban phenomenon, did not seem to be related to population pressure, not even to rapid urbanization.

Finally, in an analysis of political violence across provinces in Indonesia for the period 1990–2003, Østby *et al.* (2011) combine elements from the scarcity perspective with arguments pertaining to group identity and horizontal inequalities (i.e. systematic inequalities between identity groups). They investigate two types of violence. First, they look at “routine” social violence, centered around group-based vigilante violence/popular justice and intergroup/neighborhood brawls. This should be distinguished from simple criminal acts with no socioeconomic or political basis. Second, they include “episodic” violence, which refers to

Table 11.1 Demographic causes of internal armed conflict: quantitative findings

Variables	Cross-national studies	Subnational studies
Population density, growth, and their interaction	<p><b>Population density</b></p> <p><i>Positive effect:</i></p> <ul style="list-style-type: none"> <li>• Hauge and Ellingsen (1998)</li> <li>• de Soysa (2002)</li> </ul> <p><i>No effect:</i></p> <ul style="list-style-type: none"> <li>• Collier and Hoeffler (1998, 2004)</li> <li>• Esty <i>et al.</i> (1998)</li> <li>• Hegre and Sambanis (2006)</li> <li>• Theisen (2008)</li> <li>• Urdal (2005)</li> </ul> <p><b>Growth and density interaction</b></p> <p><i>Marginal effect:</i></p> <ul style="list-style-type: none"> <li>• Urdal (2005) (positive for the 1970–79 period only)</li> </ul>	<p><b>Population density</b></p> <p><i>Positive effect:</i></p> <ul style="list-style-type: none"> <li>• Hegre and Raleigh (2009) (Central Africa)</li> </ul> <p><i>No effect:</i></p> <ul style="list-style-type: none"> <li>• Buhaug and Rød (2006) (sub-Saharan Africa)</li> </ul> <p><b>Growth and density interaction</b></p> <p><i>Weak positive effect:</i></p> <ul style="list-style-type: none"> <li>• Raleigh and Urdal (2007) (low-income countries only, global)</li> <li>• Urdal (2008a) (rural population density and growth, India)</li> </ul>
Youth bulges	<p><b>Proportion of youth relative to adult population</b></p> <p><i>Positive effect:</i></p> <ul style="list-style-type: none"> <li>• Urdal (2006)</li> <li>• Cincotta <i>et al.</i> (2003)</li> </ul> <p><b>Proportion of youth relative to entire population</b></p> <p><i>No effect:</i></p> <ul style="list-style-type: none"> <li>• Collier and Hoeffler (2004)</li> <li>• Fearon and Laitin (2003)</li> <li>• Fearon (2010)</li> </ul>	<p><i>No effect:</i></p> <ul style="list-style-type: none"> <li>• Urdal and Hoelscher (2012) (<i>urban violence</i>)</li> </ul>
Skewed sex ratio	No statistical studies	<p><i>Positive effect</i></p> <ul style="list-style-type: none"> <li>• Urdal (2008a) (India, some support for the interaction of youth bulges and a skewed gender balance on armed conflict)</li> </ul>
Differential ethnic growth	<p><i>Positive effect:</i></p> <ul style="list-style-type: none"> <li>• Toft (2007)</li> </ul> <p><b>The publication of ethnic information by censuses</b></p> <p><i>No effect:</i></p> <ul style="list-style-type: none"> <li>• Strand and Urdal (2007)</li> </ul>	<p><i>Positive effect:</i></p> <ul style="list-style-type: none"> <li>• Urdal (2008a) (India, positive effect of differential growth between religious groups on armed conflict)</li> </ul>
Migration	<p><i>Positive effect:</i></p> <ul style="list-style-type: none"> <li>• Salehyan and Gleditsch (2006)</li> <li>• Reuveny (2007) (comparative study of 38 countries)</li> </ul>	<p><i>No effect:</i></p> <ul style="list-style-type: none"> <li>• Østby (2011) (no effect of rural–urban migration, and overall urban in-migration on <i>urban violence</i>)</li> </ul>
Urbanization (urban population growth)	<p><i>Positive effect:</i></p> <ul style="list-style-type: none"> <li>• Cincotta <i>et al.</i> (2003)</li> </ul> <p><i>No effect:</i></p> <ul style="list-style-type: none"> <li>• Urdal (2005) (negative for the post-Cold War period)</li> </ul>	<p><i>No effect:</i></p> <ul style="list-style-type: none"> <li>• Urdal (2008a) (India, negative for armed conflict)</li> <li>• Buhaug and Urdal (2013) (<i>urban violence</i>)</li> </ul>

ethno-communal and separatist violence. They find that high rates of population growth increase the risk of “routine” violence, but not of “episodic” violence. Furthermore, whereas demographic pressure and horizontal inequality seem to have little effect in isolation, in provinces where population growth is high, greater levels of socioeconomic inequality between religious groups appear to increase the violence risk. Under certain circumstances, hence, it seems as if inequality may work as a catalyst for scarcity-based conflict.

In sum, the results from the subnational studies generally provide more support for the resource scarcity and conflict nexus than the global studies. This highlights the potential importance of local processes and as regards conflicts driven by population pressure–resource dynamics. It could be for various reasons (including political) that certain people choose to stay in areas with higher population pressure. The subnational studies also reveal that population pressure may have different effects on different types of political violence, and that the violence potential may be conditioned by other factors, such as intergroup dynamics.

### **Youth bulges**

The second demographic concern relates to whether countries and areas undergoing age structure transitions, resulting in very youthful populations, are increasingly susceptible to political violence. Youth often play a prominent role in political violence, and the existence of a “youth bulge” has historically been associated with times of political crisis (Goldstone 1991, 2001). Furthermore, youth bulges have become a focus of current political upheavals in the Arab world, including the most recent revolutions in Tunisia and Egypt, as well as for recruitment to international terrorist networks.

It has been proposed that youth cohorts may develop a generational consciousness, and especially so out of awareness of belonging to a generation of an extraordinary size and strength, enabling them to act collectively (Braungart 1984; Feuer 1969; Goldstone 1991). However, violent conflict between groups only divided by age, i.e. conflicts between young and old, are rare.<sup>3</sup> The generational approach has some serious shortcomings with regard to the explanatory power of the relationship between youth bulges and violence. In principle, the development of generational consciousness may explain the formation of youth movements that can function as identity groups, and some form of collective identity is necessary before collective violent action can take place. But it is clearly not necessary that identity groups are generation-based for youth bulges to increase the likelihood of armed conflict. Furthermore, the generational approach does not offer explanations for the motives of youth rebellion nor does it provide a sufficient explanation for the opportunities of conflict. It is clear that if large youth bulges that hold a common generational consciousness always produced conflict, we would have seen a lot more of violent youth revolts. Conditions that provide youth bulges with the necessary motives and opportunities for armed conflict are discussed below, starting from what we may call the opportunity and the motive perspectives.

The opportunity literature has its roots in economic theory and focuses on structural conditions that provide opportunities for a rebel group to wage war against a government (Collier 2000; Collier and Hoeffler 2004). These are conditions that provide the rebel group with the financial means to fight, or factors that reduce the cost of rebellion, such as unusually low recruitment costs for rebel soldiers. Paul Collier has suggested that relatively large youth cohorts may be a factor that reduces recruitment costs through the abundant supply of rebel labor with low opportunity cost, increasing the risk of armed conflict (Collier 2000: 94). According to the opportunity perspective, rebellion is feasible only when the potential gain from joining is so high and the expected costs so low that rebel recruits will favor joining over

alternative income-earning opportunities. The motive-oriented tradition has its origins in relative deprivation theory and tends to see the eruption of political violence as a rational means to redress economic or political grievances (Gurr 1970; Sambanis 2002: 223). Motives for committing political violence can be economic – like poverty, economic recession, or inequality – or political – such as lack of democracy, an absence of minority representation or self-governance. Most of the literature on youth bulges and political violence arguably falls into this tradition. It focuses on how large youth cohorts facing institutional crowding in the labor market or educational system, lack of political openness, and crowding in urban centers may be aggrieved, paving the way for political violence (Braungart 1984; Choucri 1974; Goldstone 1991, 2001).<sup>4</sup>

A number of relevant contextual factors have been suggested as affecting the relationship between large youth cohorts and conflict. First, the mere existence of an extraordinarily large pool of youth is a factor that lowers the cost of recruitment since the opportunity cost for a young person generally is low (Collier 2000: 94). Additionally research in economic demography suggests that the alternative cost of individuals belonging to larger youth cohorts are generally lower compared to members of smaller cohorts. This is called the cohort-size effect. So not only do youth bulges provide an unusually high supply of individuals with low opportunity cost, but an individual belonging to a relatively large youth cohort generally also has a lower opportunity cost relative to a young person born into a smaller cohort. The influence of the size of youth cohorts on unemployment is also emphasized in the motive-oriented literature on civil violence (Moller 1968; Choucri 1974; Braungart 1984; Goldstone 1991, 2001; Cincotta *et al.* 2003). If the labor market cannot absorb a sudden surplus of young job-seekers, a large pool of unemployed youths will generate considerable frustration.

Second, for large youth cohorts, the economic climate at the time they enter into the labor market is particularly crucial. Large youth cohorts are likely to be rendered particularly susceptible to lower income opportunities when economic conditions generally deteriorate, reducing the income they forego by signing up as a rebel. Similarly, the motive-oriented literature posits that youth belonging to large cohorts will be especially vulnerable to unemployment if their entry into the labor force coincides with periods of serious economic decline. Such coincidences may generate despair among young people that moves them towards the use of violence (Choucri 1974: 73).

Third, according to the opportunity perspective, increasing education increases the income-earning opportunities of an individual, assuming a negative relationship between education and rebel recruitment. While this is not inconsistent with the motive-oriented literature, it has been suggested that when countries respond to large youth cohorts by expanding opportunities for higher education, this may produce a much larger group of highly educated youths than can be accommodated in the normal economy. Raising the expectations among large youth groups and failing to deliver employment opportunities could carry a risk for radicalizing and mobilizing an increasingly competent youth population.

Fourth, when large youth groups aspiring to political positions are excluded from participation in the political processes, they may engage in violent conflict behavior in an attempt to force democratic reform (Goldstone 2001).

Finally, it has been suggested that if youth are abundant in relatively compact geographical locations, like urban areas, this may increase the likelihood that grievances caused by crowding in the labor market or educational institutions arise (Goldstone 1991, 2001). Youth often constitute a disproportionately large part of rural-to-urban migrants, hence strong urbanization may be expected to lead to an extraordinary crowding of youth in urban centers, potentially increasing the risk of political violence.

### **Empirical evidence on youth bulges and conflict**

Two highly influential civil war studies, Fearon and Laitin (2003) and Collier and Hoeffler (2004) found no effect of youth bulges on the risk of civil war outbreak. However, both studies used a flawed measure of youth bulges, dividing those aged 15 to 24 years by the total population, including all cohorts under the age of 15 years in the denominator. Such a definition is highly problematic both theoretically and empirically (see Urdal 2012). These studies also use a relatively high battle deaths threshold and thus only include major civil wars.

In a cross-national time-series study of the 1950–2000 period using the low-intensity UCDP/PRIO conflict data (Gleditsch *et al.* 2002), Urdal found that the presence of youth bulges increased the risk of conflict outbreak significantly (Urdal 2006). Similar results were reported by Cincotta *et al.* (2003). In a background paper for the *World Development Report 2011* Fearon (2010) finds less robust support for the youth bulge hypothesis when using the same operationalization of youth bulge as Urdal (2006). However, the discrepancies in findings between these two studies may be due to differences in sample and model setup.

Assessing possible interaction effects, Urdal (2006) finds that the conflict risk associated with youth bulges does not seem to increase when youth bulges coincide with long-term per capita economic decline, expansions in higher education or strong urban growth. However, the results suggest that the effect of youth bulges is greater in the most autocratic regimes as well as in the most democratic states. It could indicate that youth bulges provide greater opportunities in autocracies and greater motives in democracies.

Finally, the study on India reported above (Urdal 2008a) also included age structure measures. Generally, the results supported the findings from the global study. A young age structure was the only demographic factor in that study to be statistically associated with increased risks of all three forms of political violence. However Urdal and Hoelscher (2012) find no effect of a young urban age structure for urban violent and nonviolent social disorder.

### **Other demographic factors associated with conflict risk**

Apart from population growth and density and young age structures, there are a number of other demographic factors which have been postulated to influence the risk of armed conflict. This section briefly reviews arguments and empirical findings linked to four such factors, which have so far been less studied in the quantitative literature on internal armed conflict: differential sex ratio; differential growth between identity groups; migration; and urbanization.

#### ***Differential sex ratio***

The short answer to the question of why are youth bulges so often volatile, Cincotta *et al.* (2003: 44) assert, is “too many young men with not enough to do.” However, does it follow from this that societies with an abnormal ratio between men and women are more at risk of instability and conflict? Gender balance is among the less studied demographic factors which have been proposed to influence national security.

Tracing the rise in offspring sex selection in China and India, Hudson and den Boer (2002, 2004) argue that surpluses of men increase the potential for internal and external violence while diminishing the prospects for democracy. Their so-called sex-ratio hypothesis holds that the greater the imbalance in favor of men in a society, the greater the likelihood of instability and conflict (Hudson and den Boer 2004). According to the authors, this phenomenon could destabilize the two countries, the region, and beyond. The authors examine “seven facts” –



including that males in general are more violent than females, unmarried males commit more violence than married males, and low-status males commit more violence than high-status males – to conclude that what they refer to as bare branches (young, unmarried men) are more likely to turn to vice and violence than other males (Hudson and den Boer 2004: 192–200). This conclusion derives in part from blending aspects from environmental security, which considers the role of scarcity and inequality in producing conflict, and human security, which examines how the security of individuals is related to the security of nations.

Despite an impressive range of evidence from the cases of China and India Hudson and den Boer's (2002, 2004) analysis does not lend itself to broad generalizations. The underlying logic and empirical support for the sex-ratio hypothesis, hence, remain largely untested (Toft 2005), although Urdal (2008a) finds some support for the interaction of youth bulges and a skewed gender balance on armed conflict in India. There is further statistical evidence from cross-national studies that a more moderate form of gender inequality (for example, measured in terms of percentage of women in parliament, unequal access to education between boys and girls) is positively associated with conflict (Caprioli 2000; Melander 2005).

### ***Differential ethnic growth***

How, if at all, do changes in the relative proportions of ethnic groups within a state affect the risk of civil war? In theory, this could work two ways: On the one hand, waning majorities might launch a preventive war – either by passing legislation designed to prevent a rising minority from gaining influence commensurate with its increasing numbers or by outright assault. On the other hand, a rising minority might demand redistribution, again ranging from increased access to various political and economic goods, or even outright independence (Toft 2007).

Indeed a number of prominent studies of ethnic conflict have suggested that when ethnic groups grow at different rates, this may lead to fears of an altered political balance, which in turn might cause political instability and violent conflict (Goldstone 2002; Horowitz 2001; Krebs and Levy 2001; Lake and Rothchild 2001; Toft 2002, 2007, 2012). There is ample anecdotal evidence for such a relationship. The civil war in Lebanon, for example, has largely been attributed to a shift in the delicate ethnic balance in that state (O'Ballance 1998). Further, in the early 1990s, radical Serb leaders were agitating for the secession of "Serbian" areas in Bosnia-Herzegovina by instigating popular fears that Serbs would soon be outnumbered by a growing Muslim population heading for the establishment of a Shari'a state (Urdal 2001).

To our knowledge the only quantitative large-N study that directly tests the differential growth hypothesis is a study by Toft (2007). Analyzing the conflict potential of shifts in the population size of ethnic groups derived from Ellingsen's (2000) "Ethnic witches' brew" dataset, she finds mixed evidence for the effect of differential growth, in that countries with decreasing majorities were at greater risk of conflict when the minority was static, but not when the minority was increasing.

In a related study, Strand and Urdal (2007), building on insights from Toft's (2002, 2007) analyses, ask whether states can reduce the risk of political instability and civil conflict simply by refusing to collect or publish data on their ethnic composition in the first place. Based on their cross-national time-series study they conclude that countries that publish data on ethnic group size from censuses, which is the primary source for information about differential growth rates between ethnic groups, do not, *ceteris paribus*, have an increased risk of experiencing violent conflict or instability. As noted by the authors, it could be that their lack of support for the differential growth hypothesis could be due to a selection effect. That is, one could argue that countries that do not publish identity data do so exactly because they have experienced ethnic

tensions or violent conflict in the past, while countries without such tensions may be less inclined to withhold ethnic census data. However, this problem should be less severe, as there are many states included in their analysis that both publish identity data and have long records of past ethnic animosities.

### **Migration**

Yet another part of the demography–conflict literature has explored the role of population movements. Most of this literature, as well as popular discussion, treats migration and refugee flows as a consequence of conflict rather than a potential cause. Some scholars, however, have noted that migration, and refugee migration in particular, can spur the spread of conflict both between and within states (Lischer 2005).

Existing work suggests that environmentally induced migration can lead to conflict in receiving areas due to competition for scarce resources and economic opportunities, ethnic tensions when migrants are from different ethnic groups, and exacerbation of socioeconomic “fault lines” (Raleigh *et al.* 2008). Similarly, Salehyan and Gleditsch (2006) point to spill-over effects, in the sense that mass refugee migration might spur tensions in neighboring or receiving states by imposing an economic burden and causing political instability. In particular, they argue that refugees can lead to the spread of violence through the expansion of rebel social networks both at home and in their host countries, and by posing negative externalities for receiving areas, such as negatively affecting economic conditions or changing the demographic profile of receiving areas. Based on a statistical analysis of refugees from neighboring countries and civil war onset during the period 1951–2001, they find that countries that experience an influx of refugees from neighboring states are significantly more likely to experience wars themselves.

In a related study, Reuveny (2007) examines the link between climate-induced migration and conflict in a study consisting of 38 cases of migration in Africa, Asia, and Latin America over recent decades. He finds that environmental migration does not necessarily induce violent behavior, but, when it does so, migration seems to intensify intrastate and interstate disputes alike. Half of the 38 cases in Reuveny’s study are classified as “no conflict.” In many, probably most, of the 19 conflict cases, environmental pressures are clearly mixed with inter-ethnic violence that predates the migration. In the absence of a multivariate analysis, one cannot conclude how much of the violence to attribute to the migration as such. What one *can* conclude from both the studies by Reuveny (2007) and Salehyan and Gleditsch (2006), though, is that migration at least seems to have the potential to provoke conflict in receiving areas.<sup>5</sup>

### **Urbanization**

For the first time in history, the majority of the world population now lives in cities. Global urbanization continues at high speed, and the world’s urban population is projected to increase by more than 3 billion people between 2010 and 2050. Some of this increase will be the result of high urban reproduction rates and reclassification of rural land into urban areas, but a significant portion of future urbanization will be caused by rural-to-urban migration (Kahl 2006). While urban populations generally enjoy a higher quality of life, many cities in the developing world have large slums with populations that are largely excluded from access to resources, jobs, and public services. In the environmental security literature, great rural resource scarcity, causing rural-to-urban migration, is seen as an important source of violent conflict.

Only a handful of statistical studies explore if and how changes in the size and composition of the urban population affect national security. One exception is Cincotta *et al.* (2003), who

conducted bivariate comparisons showing that countries undergoing rapid urban growth are significantly more likely to experience civil conflict. However, the analysis does not control for factors such as economic development and regime type, and it is restricted to the period 1990–2000 only. In Urdal's (2005) global, multivariate study described earlier he uses the same data on urban population growth and civil conflict as Cincotta *et al.* (2003). He finds that urban population growth is not associated with civil conflict for the entire period covered by the study (1950–2000), and that urban population growth is actually negatively associated with civil conflict onset when only looking at the post-conflict period (1990–2000). In a time-series subnational study of Indian states for the 1956 through 2002 period, Urdal (2008a) found that urban population growth rates did not predict any of three different measures of political violence across time and space in India.

In a recent contribution to the literature, Buhaug and Urdal (2013) highlight several issues implying that a rejection of a causal relationship between urbanization and political violence may be premature. Most important, they argue that the previous research conducts empirical analysis at too high a level of aggregation (i.e. the country-level), whereas most arguments link population pressure to *local* violence. In order to remedy this problem, Buhaug and Urdal use city-level data on population growth and political violence, drawing on the newly developed Urban Social Disorder data (Urdal and Hoelscher 2012) which cover 55 major cities in Africa and Asia. However, their results show that population growth in cities and urban disorder are at best causally unrelated (some models even indicate a reversed relationship). Buhaug and Urdal (2013) explain their findings by the comparably higher living standards in urban centers, and by the fact that population concentration tend to be vital for the development of industry and trade.

Buhaug and Urdal do not distinguish between city-level in-migration and natural population growth. An unpublished study by Østby (2011), however, drawing on household surveys, provides new city-level indicators of in-migration, poverty, and inequality for 34 cities in Africa and Asia for the period 1986–2006. These data are linked with the dataset on Urban Social Disorder (Urdal and Hoelscher 2012). The results suggest that it is not the actual movement of rural people into the cities that creates social upheaval. Rather, overall poor and unequal educational opportunities as well as socioeconomic marginalization of rural–urban migrants are found to spur increased levels of lethal urban political violence.

### Conclusion and avenues for future research

This chapter has provided a review of recent research on the relationship between demographic factors and internal armed conflict that goes beyond the extensive case-study literature on the topic. Table 11.1 summarizes the main findings from a set of quantitative studies which have explored the violence potential of six different demographic factors.

The combined findings of cross-national and disaggregated studies indicate that while overall demographic pressures and resource scarcity do not seem to make states more conflict-prone, the internal distribution and management of resources seem to contribute to explain the geographic distribution of political violence. Hence, relative regional differences in access to natural resources seem to impact the risk of conflict, even in the absence of any “absolute” scarcity in the country as a whole. While the youth bulge hypothesis in general is supported by empirical evidence, indicating that countries and areas with large youth cohorts are generally at a greater risk of low-intensity conflict, the causal pathways relating youth bulges to increased conflict propensity remain largely unexplored quantitatively. When it comes to the demographic factors which have so far received less attention in terms of systematic testing – skewed sex ratios, differential ethnic growth, migration, and urbanization – the evidence is somewhat mixed

(as evident from Table 11.1). Overall, several challenges remain within this research portfolio. Below we discuss some of these and outline some recommendations for future research.

First, a clear challenge with regard to the study of demography and conflict pertains to data availability and reliability. In order to secure reliable demographic data, a country must conduct and publish censuses at regular intervals. However, censuses are not only costly, but conducting them in an adequate way also requires training of field agents and analysts. Many countries simply lack the resources and knowledge to conduct censuses properly (Toft 2005). Furthermore, the process of counting a state's population requires a relatively stable environment. Countries that are undergoing armed conflict are precisely those for which we need data, but also those in which census-taking is hampered by violence. Future studies should explore ways to minimize this problem. In many cases, useful information on demographic factors can be aggregated from individual-level data from national surveys. Furthermore, in the absence of good temporal data, there are various ways of overcoming these limitations by employing demographic methods to reconstruct historic data from surveys.<sup>6</sup>

Second, another key challenge is to empirically identify indirect and conditional effects on demographic factors on civil conflict. With a few exceptions (for example Østby *et al.* 2011) most previous quantitative studies are limited to investigating direct relationships or simple interaction effects, thereby enforcing rather crude causal assumptions. The general ignorance of conditional effects – such as underlying social and economic cleavages or quality of governance – has been a ready criticism of quantitative analyses among case-oriented researchers (Homer-Dixon 1999). Future studies should specify the conditions under which demographic factors are more likely to cause armed conflict.

Third, whereas statistical models typically apply a country-level approach where aggregate national statistics are regressed on country-level conflict data, the theoretical arguments often concern local-level relationships between demographic pressures and violence. Furthermore, it is rarely the case that a civil conflict engulfs an entire country (Buhaug and Gates 2002). Emerging evidence from geographically disaggregated studies underscore that environmental scarcity and conflict relationships should also be studied systematically at the local level. Geocoded data on armed conflict events and other types of violence are already available through the UCDP Geo-referenced Event Dataset (UCDP GED)<sup>7</sup> and the Armed Conflict Location and Events Data (ACLED).<sup>8</sup> Subnational data on socioeconomic, demographic, and environmental conditions may be obtained through more extensive use of censuses, as well as comprehensive surveys, such as e.g. the Demographic and Health Surveys (DHS) program. A priority for future research, hence, should be to re-examine demographic drivers of conflict using indicators measured precisely at the subnational or group level.

Fourth, previous quantitative research on demographic factors and political violence are dominated by studies of conventional armed conflicts (Collier and Hoeffler 2004; Urdal 2005). Although there is much merit in focusing on high-intensity violent conflict, such an approach leaves out other types of political violence, such as demonstrations, riots, and various forms of communal violence, which do not involve state actors. Various datasets, such as the UCDP Non-State Conflict Dataset<sup>9</sup> and the Urban Social Disorder dataset (USD) (Urdal 2008b; Urdal and Hoelscher 2012), provide highly useful, subnational, information on different forms of (low-intensity) political violence. Future research on demographic aspects of security should hence expand the scope of conflict and look at wider patterns of political and social unrest beyond conventional armed conflict.

In summary, there is plenty of room for future studies on the complex relationship between demography and armed conflict. The importance of advancing research on the demography of conflict is obvious due to the enormous human suffering associated with conflict and violence.

Demographics and conflict will continue to be an important and policy-relevant topic, and the results of research may have a profound impact. A better understanding of these issues is vital in order to ensure efficient aid and intervention strategies.

### Notes

- 1 However, demographic factors are often used to proxy other factors in large-N statistical studies of the causes of civil war, such as the size of a country (usually measured in terms of population size), and economic development (often proxied by infant mortality rate) (see Hegre and Raleigh 2009; Hegre and Sambanis 2006).
- 2 Furthermore, we argue that if the intention is to capture per capita cropland scarcity, a more valid measure than sheer population density (as used by de Soysa 2002), is a measure of population density relating the number of people in a country to the area that is potentially suitable for food production (see e.g. Urdal 2005: 424).
- 3 There is some historical evidence of intergenerational conflict in the warfare of the late precolonial East Africa. For example in Urambo (in today's Tanzania), the warlord Mirambo's state was built on the violence of young men who had been ripped from the family compound, many of the values of which were in turn aggressively eschewed (Reid 2010: 27).
- 4 The distinction between the motive and opportunity perspectives should not be overstated. For example, many factors may equally well be described as representing both opportunity and motive.
- 5 Since most migration flows *do not* lead to conflict Gleditsch *et al.* (2007) highlight the importance of social integration and citizenship policies.
- 6 See for example Moradi and Baten (2005) who use anthropometric data from the DHS surveys to construct measures of inequality for pre-survey decades.
- 7 See [www.pcr.uu.se/research/ucdp/datasets/](http://www.pcr.uu.se/research/ucdp/datasets/).
- 8 See [www.acleddata.com](http://www.acleddata.com).
- 9 See [www.pcr.uu.se/research/ucdp/datasets/ucdp\\_non-state\\_conflict\\_dataset/](http://www.pcr.uu.se/research/ucdp/datasets/ucdp_non-state_conflict_dataset/).

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