



The relationship between population growth, age structure, conflict, and governance in Sub- Saharan Africa

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About this report

The K4D Emerging Issues report series highlights research and emerging evidence to policymakers to help inform policies that are more resilient to the future. K4D staff researchers work with thematic experts and the UK Government's Foreign, Commonwealth and Development Office (FCDO) to identify where new or emerging research can inform and influence policy.

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1. Executive summary

This report addresses the relationship between population growth, age structure and conflict in Sub-Saharan Africa (SSA). The literature reviewed for this report presents strong evidence that age structure and population growth matter for conflict. There is particularly strong evidence that points to the relationship between young age structure and conflict, although studies that disaggregate types of conflict and characteristics of young age structures (urban, male, etc.) tend to offer more robust findings. Youth bulges in particular have been associated with increased risk of conflict. The general consensus is that, in countries that will continue to experience high rates of population growth and large youth cohorts, the potential for conflict will continue to be elevated.

SSA has the world's youngest population and many states in the region are experiencing a youth bulge (when the proportion of young people aged 15–24 is high relative to the adult population). High proportions of young people (with the literature reviewed in this report pointing to 20% and above as high risk of conflict and above 35% as very high risk) can present a challenge for both security and governance. The literature points to youth bulges increasing the risk of domestic armed conflict. The predominant theory to explain why youth bulges increase the risk of violent conflict is that the large number of young people increases the pool of possible combatants, and limited opportunities decrease the opportunity costs of insurgency.

In addition, large youth cohorts stretch the limits of social institutions including as the labour, education, and healthcare systems. When large young cohorts aspiring to political positions are prevented from participating in the political processes, they may turn to violent conflict to force democratic reform. However, youth bulge *by itself* is not the main factor that increases the risk of violence; rather, it is a lack of the opportunities that support the transition from childhood to adulthood. Moreover, the imbalance between growth in specific sectors of the population and growth of the economy is a driver of conflict.

Youth bulges can also offer an opportunity for economic growth if the demographic transition continues, the dependency ratio (the ratio of working age to non-working age people) declines, and human capital and job creation investments are made to harness a demographic dividend.

While overall mortality and infant mortality have both declined in SSA, fertility rate decline has been slower, meaning that the dependency ratio remains relatively high. High dependency ratios correlate with conflict. SSA is slowly moving towards a demographic window of opportunity, although the move has been highly uneven across the region. There is strong evidence that states experience a decline in risk of conflict as they approach and pass through the demographic window of opportunity.

Importantly, the demographic factors are significant alongside socioeconomic ones. Population growth interacts with other factors that might increase or lower the risk of conflict, such as:

- Political regime: while the type of political regime matters for conflict risk, the interaction between regime type, youthful age structure, and conflict is less clear, with only limited evidence available.
- Employment: youth underemployment and unemployment is an issue in the region. Employment opportunities are key to mitigating the conflict risks of youth bulges. Existing research points to the connection between youth bulges, lack of employment opportunities, and conflict. The labour markets in SSA are not well equipped to be able to absorb the supply side, which may increase the proportion of marginalised and frustrated young people.

- Migration: interconnected to employment, SSA is the world's fastest urbanising region, but research shows that urbanisation does not seem to lead to social urban disturbance in itself. Migration (urban–rural and across borders) works as a “safety valve” and, consequently, if migration opportunities are significantly restricted, this can cause an increased pressure from youth bulges accompanied by a higher risk of political disturbance and violence. Countries that experience an influx of refugees from neighbouring states are significantly more likely to experience violent conflict themselves.
- Education: education is a key factor in facilitating demographic transition and could open up a window of opportunity to realise the demographic dividend in SSA. However, education only mitigates conflict risk if the existing labour market can accommodate the newly educated population: if it cannot, the lack of opportunities for educated young people may act as a driver of conflict risk.
- Inequality: socioeconomic inequality has been found to correlate with violent conflict. While future climate change, coupled with demographic growth and socioeconomic development, is expected to worsen environmental and ecological conditions and negatively impact agricultural productivity improvements across Africa, the trajectories of social, political, and economic contexts within which food security threats emerge and are dealt with are seen as more important for conflict.

COVID-19 is putting a dent in already weak formal employment and education. Policy responses to the pandemic will have lasting impacts for those most affected, including young people, and should therefore include them in response. The following policy recommendations are made in the literature:

- Patriarchal gender norms and masculinity contribute to violence and conflict, and thus policies aimed at increasing gender equality help mitigate conflict risk.
- Reducing dependency ratios will lead to strengthening of the region's human capital provided adequate policies and investments are put into place at the same time.
- In SSA women's education, particularly secondary education, is one of the most important drivers of the demographic transition because it is a strong factor in reducing family size (Goldstone, 2019). Further investments will help reduce dependency ratios and improve human capital.
- The prediction that youth bulge is associated with the onset of conflict should encourage policymakers in countries with young age structures to address societal and economic inequality and foster greater inclusion of the younger cohorts into society.
- Youth underemployment (and unemployment) remain an issue in SSA; bringing about structural changes that facilitate the transition into the labour market is likely to mitigate the conflict risks associated with youth bulges.

2. Introduction

This report is based on 10 days' desk research and examines the political demography literature in order to address the question of the relationship between population growth, age structure, and conflict in Sub-Saharan Africa (SSA). Population growth and age structure matter for conflict and peace, and paying attention to demographic trends – and considering them *within* the wider socioeconomic context of a particular state – offers useful lessons to national policymakers and international actors.

SSA has some of the world's youngest populations (see Appendix A) and it is also experiencing some of the most vigorous population growth globally. Youth bulges, demographic transition, and the potential for demographic dividends have all preoccupied political and economic demographers and other experts studying population trends in SSA. The intersection of young populations and conflict (in its various manifestations) has been discussed by political theorists, international relations scholars, and development and conflict scholars and experts with sometimes mixed conclusions. This report consolidates the resultant literature across disciplinary divides.

While predicting conflict using demographic theories and data is notoriously difficult, a range of correlations have been observed that allow some helpful conclusions to be drawn about the relationship between population growth and age structure and conflict. Notably, in most research the demographic factors are seen as significant *alongside* socioeconomic ones; demography is thus one factor among many that shape politics and by extension influence conflict.

In particular, the phenomenon of youth bulge, occurring when a country succeeds in reducing infant mortality but fertility rate remains high, has received much attention (Goldstone, 2002; Urdal, 2004, 2006, 2008, 2011, 2012; Collier & Hoeffler, 2004; Cincotta, 2011; Yair & Miodownik, 2016; Flückiger & Ludwig, 2018). This report presents strong evidence that youthful population increases the risk of some forms of violent conflict. Of particular importance are studies that disaggregate both conflict and youth bulges and appear to offer more robust analytical tools (Urdal, 2011; Yair & Miodownik, 2016; Menashe-Oren, 2020; Weber, 2013). For example, the gender composition of youth bulge was found to matter, with Weber (2013) demonstrating the positive correlation between high proportion of young males and likelihood of instability. At the same time, the importance of youth bulges in causing non-ethnic political violence is expected to fade in SSA over the next decades, provided fertility rates continue to decline. This report explores questions of these variables in depth.

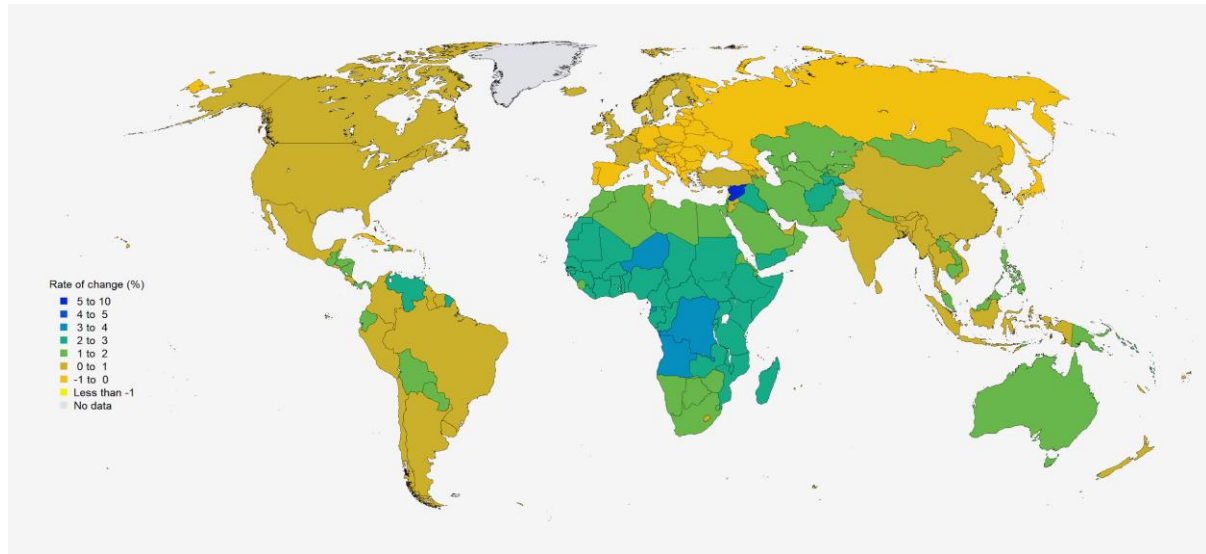
Population age structure and growth also impact conflict in other ways. It is generally accepted that SSA is slowly, albeit unevenly, moving towards a demographic window of opportunity. This idea has received much attention, also in relation to the future stability of the region. Evidence shows that states in civil conflicts experience a decline in risk as they approach and pass through the demographic window of opportunity (Cincotta, 2017). The general relationship between age structure and conflict is weakened as countries experience declining fertility rates and become positioned to take advantage of their young age structures and potential demographic dividends (Urdal, 2012; Cincotta, 2018b). While most countries in SSA are still decades away from entering the window of demographic opportunity and the related potential economic and security rewards, policymakers and international actors should seek interventions that accelerate its move towards it. This report assesses the available evidence on the current demographic trends, the progress of the demographic transition in the region, and the impact these have on conflict and stability.

A range of factors that interact with population growth and age structure have been considered in the literature as potentially affecting conflict. These include: employment, education, urbanisation, globalisation, climate change, and resource scarcity. Each of these is considered in this report.

The report ends with some broad policy recommendations aimed at mitigating the risk of youth bulges and population growth in SSA.

3. Population growth and conflict

Figure 1. Rate of population change (%), 2020–2025

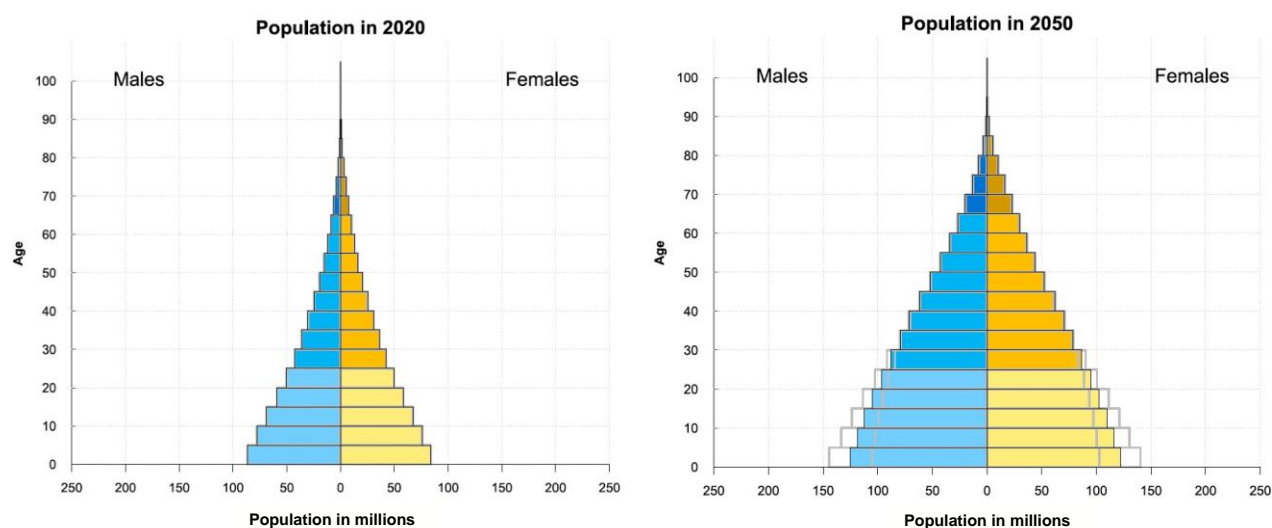


Source: UNDESA, *Population Division*, 2019.¹

Research has found a robust, positive relationship between population size and political violence (Raleigh & Hegre, 2009). More-populous areas have a higher risk of violent conflict between groups (Fjelde & Østby, 2014). This is important for SSA as the region becomes more populous in the decades to come. Figure 1 shows the predicted population change worldwide in the next five years. These trends are expected to continue. This means that within the next three decades the world's population is expected to increase by 2 billion people, from 7.7 billion today to 9.7 billion in 2050. The population of SSA is projected to double by 2050 (see Figure 2). Four of the nine countries that will account for more than half of the global population growth are located in SSA. They are, in order of their growth, Nigeria, the Democratic Republic of Congo (DRC), Ethiopia, and Tanzania (Hall, 2020). While population growth presents challenges as well as opportunities, it can also test the capacities of any state, and the increase in the population “represents a long period of demographic de-stabilisation” (Dyson, 2013, p. 85).

¹ From “World population prospects 2019.,” UNDESA, Population Division, 2019. (<https://population.un.org/wpp/>). © 2019 United Nations, DESA, Population Division. Licensed under [Creative Commons license CC By 3.0 IGO](https://creativecommons.org/licenses/by/3.0/)

Figure 2. Population by age and gender in Sub-Saharan Africa in 2020 and 2050



Source: UNDESA, Population Division, 2019.²

Population growth is thus linked to concerns for stability and security. The dramatic population growth in most developing countries spurred concerns in the 1960s and 1970s that food production would not be able to keep up. Urdal observes that “the gloomiest scenarios proved unfounded as food production has kept pace with population increases in most parts of the world” and eventual decline in fertility rates has followed (Urdal, 2011, p.1).

Historically, population growth is linked to conflict. For instance, as Acemoglu et al. (2020, p. 1,601) observe, the large population increases in many low-income countries that followed the developments in disease prevention and healthcare of the 1940s “contributed to an increase in internal violent conflicts, including civil wars and violent protests”. They argue that the problem is not so much that higher population will inevitably lead to more and greater conflict, but that “population surges unaccompanied by corresponding increases in productivity or physical and human capital investments will do so”. Their analysis shows that the effect of population increase on social conflict is sizable and that population growth increases conflict related to natural resources but has no effect on conflicts unrelated to natural resources (Acemoglu et al., 2020).

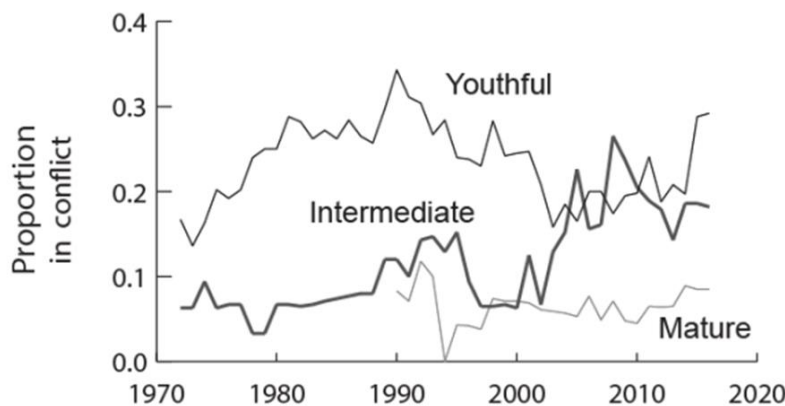
However, population growth needs to be considered in its local context to capture any intra-state variance and dependencies. Arguably, this is particularly pressing for countries with a history of ethnic conflict, as it has been demonstrated that when ethnic groups grow at different rates, it may result in fears of a shift in the often-delicate political balance, which in turn might lead to political instability and violent conflict. This has been the case in the civil war in Lebanon (Rustad et al., 2017). Uneven population growth can impact socioeconomic outcomes and Rustad et al. argue that “situations of differential growth may be aggravated by differential developments in age structures, potentially leading to economic and social development in areas and among groups with favourable age structures, and slower development among groups with larger youth bulges and higher dependency burdens” (2017, p. 493). This means that different groups (for example, ethnic groups and/or rural communities) within one state might experience uneven changes to their population structures, and thus their access to demographic dividends might be delayed in

² From “World population prospects 2019,” UNDESA, Population Division, 2019. (<https://population.un.org/wpp/>). © 2019 United Nations, DESA, Population Division. Licensed under [Creative Commons license CC By 3.0 IGO](https://creativecommons.org/licenses/by/3.0/)

comparison to other groups within the same state. Questions of dependency rates and youth bulges are linked to the age structure of a population and are explored in Section 4.

4. Age structure and conflict

Figure 3. The proportions of countries in three age-structural groups (youthful, intermediate, mature) in intra-state conflict, 1972–2016



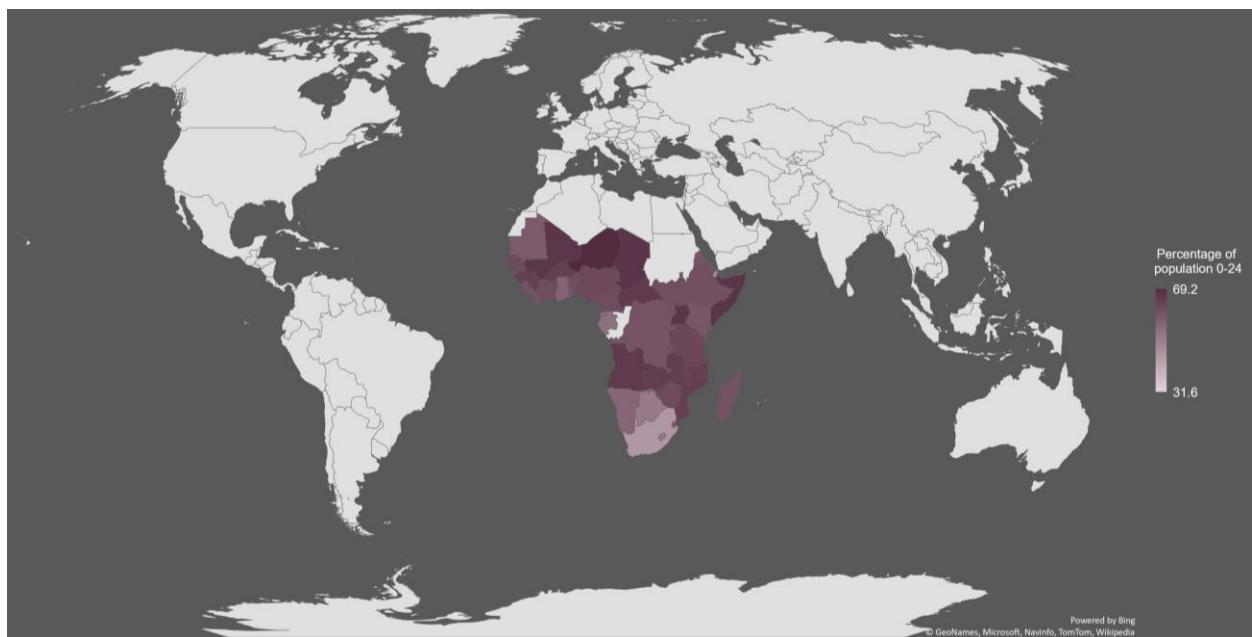
Source: Cincotta, 2018b.³

To understand the complex relationship between demographics and conflict, it is necessary to look at demographic measures alongside data on conflict. Cincotta (2018b) shows how age structure matters for conflict. In his analysis, he demonstrates that, while the share of countries involved in intra-state conflict (civil and ethnic conflicts within states, rather than wars between states) has recently increased, by 2016 a higher proportion of countries with young populations was experiencing an intra-state conflict than in any year during the past two decades (see Figure 3). Moreover, since 2000, a larger proportion of countries with intermediate age structures (median age from 25.6 to 35.5 years) has been involved in persistent low-intensity conflicts (defined as battle deaths of 25 per year or 1,000 total) mostly with ethnic separatists. Only the proportion involved in intra-state conflict in the mature group (median age from 35.6 to 45.5) has consistently remained low (below 10%) (Cincotta, 2018b). This does not mean that a country with a low median age is destined for conflict, but it does point to a correlation that warrants attention. As Goldstone (2002, p. 14) observes, “if we wish to know in what regions of the globe we are most likely to see population-induced political conflicts, we need to examine both expected population changes and the contexts in which they will occur”. Thus, demographic factors are only a part “of the complex causal forces behind violent conflicts” that economic development, regime type, colonial experience, trade and state discrimination among others may also play a role. Population factors may “interact and overlap” with other such causal factors to varying degrees (Goldstone, 2002, p. 12).

³ From “Age-structure and intra-state conflict: More or less than we imagined?,” by R. Cincotta, 2018b. (<https://www.newsecuritybeat.org/2018/04/age-structure-intra-state-conflict-imagined/>). © 2018 New Security Beat. Licensed under Creative Commons license CC By 3.0 IGO.

In developed countries, where fertility rates have been declining consistently for decades, young people make up a relatively small share of the total population; at the same time, the share of people over age 60 is rising. SSA has a high percentage of the population under 25 (see Figure 4). However, UN projections show that the youth cohort in SSA “will continue to grow and will likely represent almost 30 per cent of the world’s youth by 2050, up from 18 per cent in 2020 and almost 22 per cent in 2030” (UNDESA, 2020, p. 39). The term “youth bulge” has been used to capture this demographic circumstance. High share of young people can present a challenge for both security and governance, but it can also offer an opportunity for economic growth if the region is able to harness the potential of demographic dividends that result from a demographic transition to a more mature age structure. For this to happen, fertility rates, infant mortality and, as a consequence, dependency ratios all need to decline. The relationship between these demographic measures and conflict is discussed in the next subsection.

Figure 4: Percentage of population under 24 in Sub-Saharan Africa



Source: Microsoft Excel. Data source: UNDESA, Population Division, 2019.⁴

Note: For exact percentages, see Appendix A.

Dependency ratios, fertility rates, infant mortality, and the demographic window of opportunity in SSA

When the working age population (15–64) is increasing relative to the dependent population (those below and above working age), it is associated with positive economic growth. Africa has witnessed the first phase of the demographic transition with declining mortality. The start of fertility decline marks the onset of the second half of this transition. If SSA succeeds in completing the demographic transition by establishing lower fertility rates and further reductions in mortality, this may generate positive economic effects similar to what has been seen in East Asia, India, and

⁴ © 2020 GeoNames, Microsoft, Navinfo, TomTom, Wikipedia. Microsoft Excel screen shot reprinted with permission from Microsoft Corporation under the following terms: <https://www.microsoft.com/en-us/maps/product/print-rights>.

Data from “World population prospects 2019,” UNDESA, Population Division, 2019. (<https://population.un.org/wpp/>). © 2019 United Nations, DESA, Population Division. Licensed under [Creative Commons license CC By 3.0 IGO](https://creativecommons.org/licenses/by/3.0/).

Latin America (Malmberg, 2008). It is widely accepted that the African continent is slowly, albeit unevenly, moving towards what is called the demographic window of opportunity. The demographic window of opportunity is characterised by:

- low proportions of children and seniors – with children (0–14 years old), making up less than 30% of the population, and seniors (65 years and older) constituting under 15%;
- high proportions of adults in the (taxable) prime working ages of 25 to 55 years;
- workforce growth rates that have slowed to levels commensurate with job growth; and
- an average family size that is small enough for parents, as well as the state, to provide relatively high levels of per-student investment (Cincotta, 2017).

Of all the countries in SSA, only Mauritius has already entered the window, while South Africa is said to be at the very beginning of its demographic window (Cincotta, 2017). Cabo Verde (Cape Verde) was projected by Cincotta (2017) to enter the window in 2018, Botswana, around 2021, and Djibouti, in 2022. Ethiopia, Namibia, Swaziland, and Lesotho are projected to enter the demographic window between 2035 and 2040; Kenya and Rwanda might join them, provided the trends remain unchanged, but none of the remaining 39 countries in SSA are projected to reach the demographic window before 2050 (Cincotta, 2017). Consequently, SSA is still a long way off from entering the window of opportunity.

The opportunity might be further delayed if conflicts persist. Rustad et al. (2017) predict that the window of opportunity for a demographic dividend is not likely to emerge until 2030 in SSA (a little earlier than Cincotta's predictions), but for conflict countries this might come as late as 2045. They also find that decrease in youth bulges is much slower in conflict countries than in non-conflict countries, signalling more challenges in decades to come (Rustad et al., 2017, p. 487).

In addition, the progress towards the window has been not only highly uneven but also non-linear, with some countries (Mali, Niger, Nigeria, and Uganda) moving further away from realising their dividend in the period 2005–2015 as their populations grew even more youthful. This is said to reflect progress in reducing childhood mortality, but not in reducing fertility rates (Cincotta, 2017).

Importantly, for most countries the demographic window is a one-time opportunity, even if it can be extended by events such as a baby boom, by fertility remaining near replacement levels, with very low child mortality, or by an influx of a young immigrant population (Cincotta, 2017).

For those countries that are able to enter the demographic window, the security rewards can be significant, as it has been said to have a positive impact on civil conflicts – which are likely to disappear during that period (Cincotta, 2018b). However, territorial conflicts are less likely than civil conflicts to disappear during the demographic window (Cincotta, 2018b). Cincotta points to examples of several states that entered the demographic window with territorial conflicts – including Myanmar, India, Turkey, Israel, and Thailand – that have seen territorial insurgencies drag on or periodically re-emerge.

Figure 5. Population by age and dependency ratios (per 100) in Sub-Saharan Africa, 1950–2050

	1950	1970	1990	2000	2005	2010	2015	2020	2030	2050
Population										
Total population (thousands)	179007	280908	490605	639661	729733	836364	958577	1094366	1399888	2117731
Median age (years) (a)	19.1	17.9	17.2	17.6	17.8	17.9	18.2	18.7	20.1	23.9
Population under age 15 (thousands)	74701	123882	223190	283507	321079	365969	413860	460344	546359	702977
Population aged 15-24 (thousands)	33806	51931	93664	127994	146648	165903	189020	217653	282939	398921
Population aged 25-64 (thousands)	64706	96684	158905	208922	240676	280264	327707	383484	524056	914438
Population aged 65+ (thousands)	5793	8411	14846	19239	21330	24227	27991	32885	46535	101395
Percentage of population under age 15	41.7	44.1	45.5	44.3	44	43.8	43.2	42.1	39	33.2
Percentage of population aged 15-24	18.9	18.5	19.1	20	20.1	19.8	19.7	19.9	20.2	18.8
Percentage of population aged 25-64	36.2	34.4	32.4	32.7	33	33.5	34.2	35	37.4	43.2
Percentage of population aged 65+	3.2	3	3	3	2.9	2.9	2.9	3	3.3	4.8
Dependency ratios (per 100)										
Total dependency ratio (b)	176.7	190.5	208.7	206.2	203.2	198.4	192.5	185.4	167.1	131.6
Child dependency ratio (c)	167.7	181.8	199.4	197	194.3	189.8	184	176.8	158.3	120.5
Potential support ratio (d)	11.2	11.5	10.7	10.9	11.3	11.6	11.7	11.7	11.3	9

Source: UNDESA, Population Division, 2019.⁵

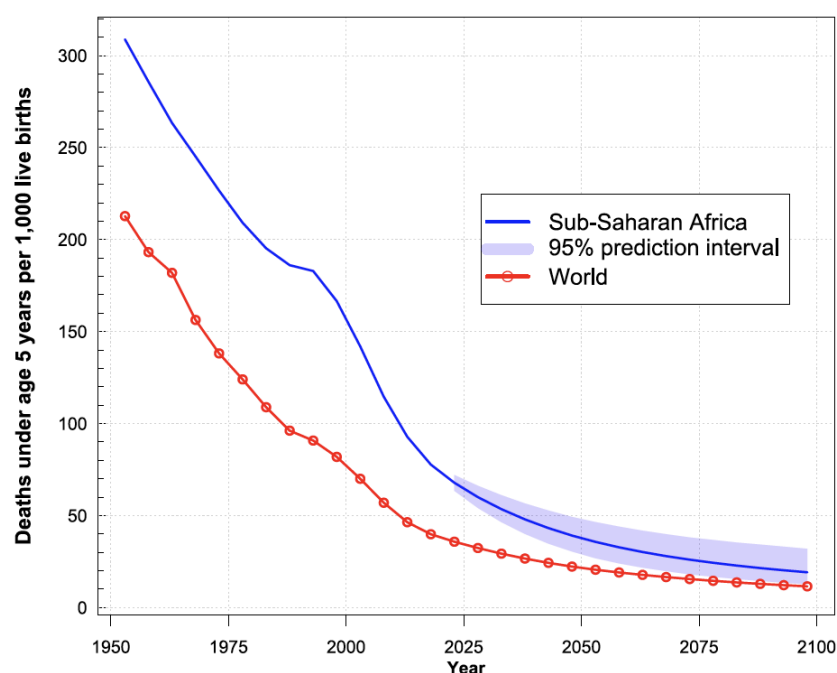
To recap, the demographic window of opportunity encompasses the period when the proportions of children and seniors are low; this means fewer people depend on the income of the working population. Dependency ratios are an important measure in signalling the progress towards a more favourable age structure and arguably greater stability in the region. In Africa, dependency ratios have started to decline, resulting in an increasing relative number of young people in the workforce (Rustad et al., 2017, p. 485). However, as seen in Figure 5, the total dependency ratio – a measure of the number of dependents aged 0–14 and over the age of 65, compared with the total population aged 15–64 – remains high.

Malmberg (2008) gives a comparative example of Ghana and South Korea that captures the importance of dependency ratio decline for economic growth: “In the early 1960s, Ghana and South Korea both had a child dependency rate close to one”, implying that the 0–14-year-old population was almost as large as the 15–64-year-old population. “This similarity in demographic structure was mirrored in a similar economic structure... From the mid-1960s, as fertility started to decline rapidly in South Korea, the child dependency rates began to fall and at the same time growth rates in per capita income accelerated. By 2005, the child dependency rate in South Korea approached 0.25”, meaning that the working age population is now four times larger than the child population. “In Ghana, however, the fertility rate, and hence the child dependency rate, remained high into the 1990s, and Ghana did not experience the explosive growth that characterised South Korea at the time” (Malmberg, 2008. p. 21).

Moreover, high dependency rates have been found to correlate with conflict. Rustad et al. (2017) show that in Africa almost all countries with a high dependency ratio have experienced conflict in the period 2000–2013, while fewer of those with a low dependency rate have done so. In addition, Urdal’s findings (2006) indicate that the effect of youth bulges (discussed in more detail in Section 5) on political violence may decline along with reduced dependency ratios.

⁵ Adapted from “World population prospects 2019.,” UNDESA, Population Division, 2019. (<https://population.un.org/wpp/>). © 2019 United Nations, DESA, Population Division. Licensed under Creative Commons license CC BY 3.0 IGO. Colours adapted for style.

Figure 6. Infant mortality under age 5 in SSA, 1950 –2100



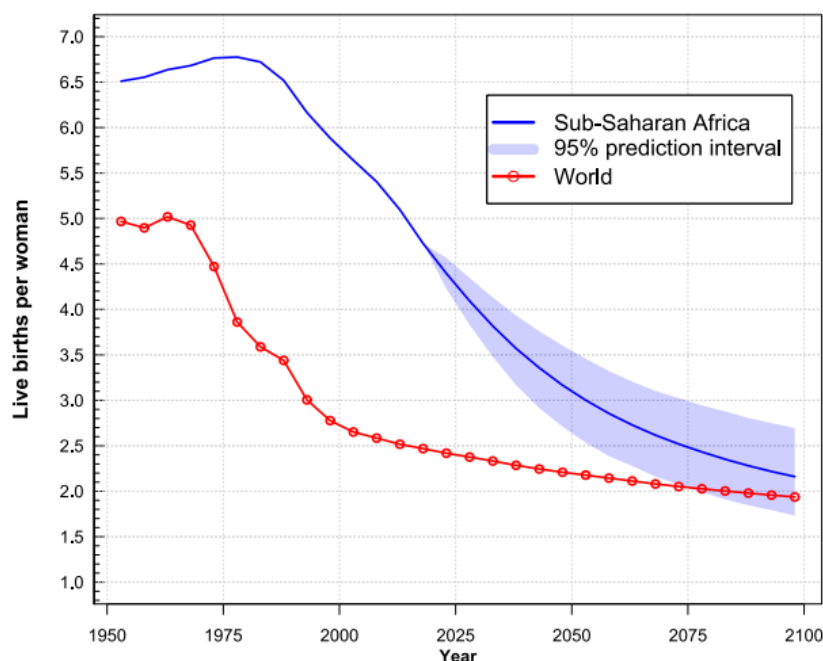
Source: UNDESA, Population Division, 2019.⁶

According to Goldstone (2002, p. 17), “infant mortality is the best single tool for assessing the wide variety of factors... that affect the overall quality of life for individuals in a society”. Figure 6 illustrates infant mortality in SSA, showing the continuously high levels of infant mortality in the region. High levels of infant mortality relative to world averages indicate higher risks of political crises. While the relationship can also work the other way around, that is, higher conflict levels lead to higher mortality rates, the key lies within the relationship that conflict has to fertility levels. In poor countries high-intensity violent conflict is associated with higher fertility rates. This means that conflict and post-conflict countries often experience greater challenges in reducing their fertility levels and thus a delayed fertility transition (Rustad et al., 2017, p. 492).

Infant mortality decline stalled in SSA during the last two decades of the last century. Given the close correlation between infant mortality and fertility (compare Figure 6 with Figure 7), it is plausible that this stalling has contributed to a slower fertility decline. Kenya and Tanzania serve as examples: fertility began to decline around 1980 following two decades of infant mortality decline, but when infant mortality decline levelled off in the late 1980s, so did fertility decline (Malmberg, 2008, p. 18).

⁶ From “World population prospects 2019,” UNDESA, Population Division, 2019. (<https://population.un.org/wpp/>). © 2019 United Nations, DESA, Population Division. Licensed under Creative Commons license CC BY 3.0 IGO

Figure 7. Fertility rates in SSA, 1950 –2100



Source: UNDESA, Population Division, 2019.⁷

Note: see Appendix C for country-specific data.

Intra-state differences

The demographic transition can occur at variable rates within countries themselves, when different groups have significantly different fertility rates and thus grow and age at different rates. The “political volatility” and fast population growth of youthful minorities are key features in the demographic security dilemma (Cincotta, 2011). The demographic security dilemma occurs when a state allows or fosters the political, economic, and social marginalisation of an ethno-religious minority group. Under conditions “where education, economic opportunity, and quality services are denied, poorly developed, or poorly accessed, ethno-religious minorities are likely to retain traditional gender relationships and local institutions that support high levels of marital fertility” (Cincotta, 2011).

In effect, the more privileged, educated, and often urban majority will experience the transition to lower fertility more rapidly, while high-fertility minority groups typically found in neglected rural regions and impoverished urban neighbourhoods usually maintain a young age structure and their population grows faster than the majority. Lack of policies aimed at integrating youth from these marginalised groups into the economic, social, and political mainstream tends to strengthen radical and traditionalist, or religious political organisations that can fill in gaps in local services and governance. This might limit girls’ access to education, reassert traditional gender roles that undermine gender equality, restrict speech, and campaign against progressive social change. The dilemma stems from the outcome of the state’s wilful marginalisation of these groups, as this tends to lead to these minorities becoming more youthful in comparison to the rest of the population

⁷ From “World population prospects 2019,” UNDESA, Population Division, 2019. (<https://population.un.org/wpp/>). © 2019 United Nations, DESA, Population Division. Licensed under [Creative Commons license CC By 3.0 IGO](https://creativecommons.org/licenses/by/3.0/).

(Cincotta, 2011). Tensions between state and minority tend to emerge when the ethno-religious minority is youthful, and the majority is not (see Figure 8).

Figure 8. The demographic security dilemma

		Majority	
		Youthful	Intermediate/Mature
Ethno-religious minority	Youthful	Elevated risk of: Various types of intra-state civil & ethno-religious conflict	Elevated risk of: Demographic security dilemma (leading to ethno-religious conflict)
	Intermediate/Mature	Elevated risk of: Victimisation of privileged minorities	Depressed risk of: Intra-state civil or ethno-religious conflict

	Youthful country-level age structure (median age ≤25.0 years)
	Intermediate or mature country-level age structure (median age >25.0 years)

Source: Cincotta, 2011.⁸

This is important, as the general relationship between age structure and conflict is weakened as countries experience declining fertility rates and become positioned to take advantage of their young age structures and demographic dividends (Urdal, 2012). However, with countries that continue to experience high fertility levels and large youth cohorts for decades to come, the potential for conflict will continue to be a cause for concern (Urdal, 2012, p. 9). Intra-state differences might slow down the state's overall progress through its demographic transition as well as increasing the risk of ethno-religious conflict.

Older people in SSA

While SSA will remain youthful for decades to come, the number of older people will naturally increase as a result of the expanding population, improved life expectancy, and decreased mortality rates. The number of older people (60 years old and over) in SSA has doubled since 1990 and is projected to more than triple between 2015 and 2050 (UNDESA, 2016). Notably, the growth rate of the older population of SSA that is projected for the 2040s is faster than that experienced by any other region since the 1950s (UNDESA, 2016). The growing number of older people will present its own pressures for policymakers in the region.

Retirement pensions and adequate support at older ages are critical to the social protection of older people. Alarmingly, just under 17% of people of pensionable age in the region receive any pension, meaning that the overwhelming majority of older people in SSA are reliant on their own

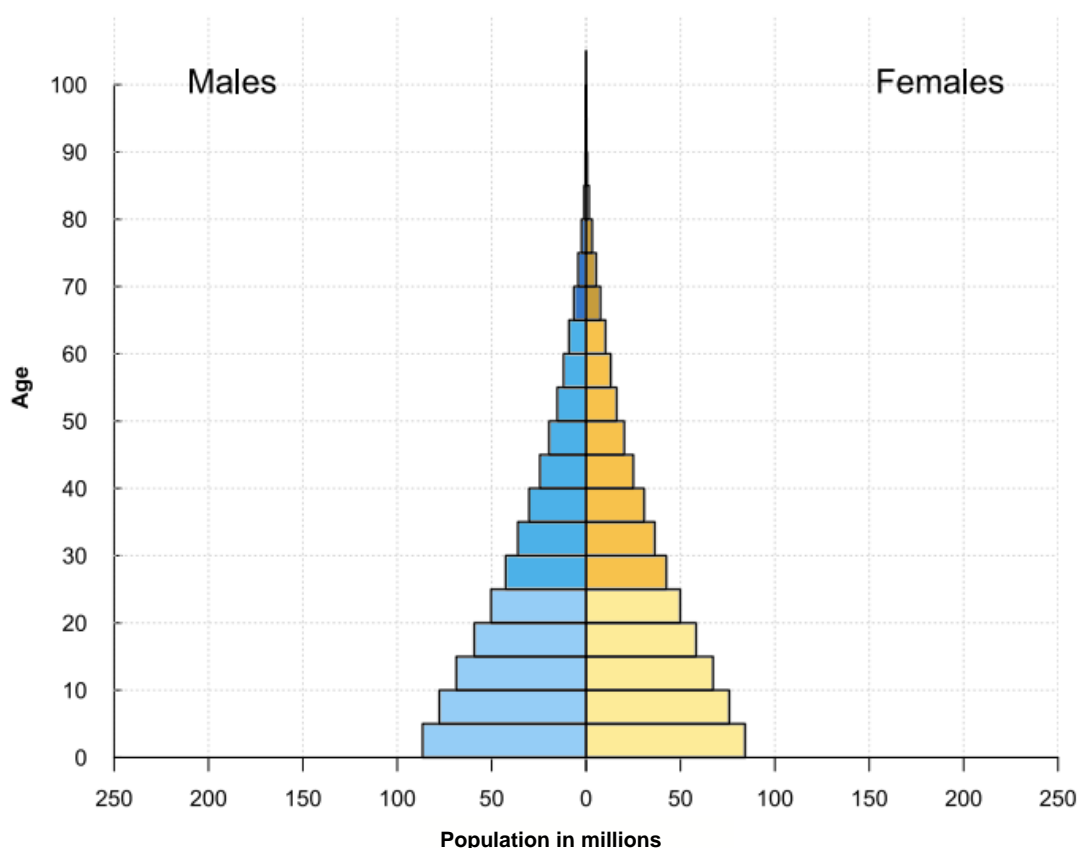
⁸ Adapted from "Minority youth bulges and the future of intrastate conflict," by R. Cincotta, 2011. (<https://www.newsecuritybeat.org/2011/10/minority-youth-bulges-and-the-future-of-intrastate-conflict/>). © 2011 New Security Beat. Licensed under Creative Commons license CC By 3.0 IGO.

labour earnings or savings, help from relatives, or charity for support (UNDESA, 2016). In addition, a growing older population means that health systems in SSA are faced with an increased burden of illness due to non-communicable diseases (NCDs) that are associated with old age. The UN warns that since the prevalence of NCD-related disability tends to increase with age, a growing population of older people implies an increase in the demand on health systems for the prevention and treatment of NCDs and their associated complications (UNDESA, 2016).

Moreover, while the maturing of the SSA population and increase in life expectancy are positive developments, if not matched by reduced fertility the growth of the older population might contribute to further increases in the total dependency ratios in the region. Still, in relation to conflict it is a young age structure rather than the older population that may increase the risk of conflict. The relationship between youth bulges and conflict has received much attention in the literature on population age structure and conflict, as the next section demonstrates.

5. Youth bulges and conflict

Figure 9. Population by age and gender in Sub-Saharan Africa in 2019



Source: UNDESA, *Population Division*, 2019.⁹

Figure 9 shows SSA age structure in 2019. Based on these data, it is clear that the region is experiencing a youth bulge. A youth bulge – a high proportion of youths aged 15 to 24 relative to the total adult population – in many SSA countries (see Appendix B for country specific data) stems from high fertility and improvements in child health and infant mortality rates as discussed in the

⁹ From “World population prospects 2019.,” UNDESA, Population Division, 2019. (<https://population.un.org/wpp/>). © 2019 United Nations, DESA, Population Division. Licensed under [Creative Commons license CC BY 3.0 IGO](https://creativecommons.org/licenses/by/3.0/).

previous section. Youth bulges have been associated with increased risk of conflict. In his 2004 study, Urdal concludes that “youth bulges increase the risk that a country will experience domestic armed conflict. This finding is extremely robust, the youth bulge variable is positive and significantly related to conflict under all model specifications” (Urdal, 2004, p. 16). The statistical relationship holds when controlled for a number of other factors such as level of development, democracy, and conflict history (Urdal, 2006).

Young people have played a key role in political violence throughout human history, and the existence of a “youth bulge... has historically been associated with times of political crisis” (Goldstone, 2002, p. 11). Using a data set on internal armed conflicts from 1950 to 2000, Urdal (2006) demonstrates that as the share of the 15–24 age group in the adult population increases, the risk of internal armed conflict, and also of terrorism and rioting, grows. In another analysis Urdal (2011, p. 9) confirms his previous findings and argues that for each percentage point increase in youth bulges, the risk of conflict increases by more than 4%; “when youth make up more than 35% of the adult population... the risk of armed conflict is 150% higher than in countries with an age structure similar to most developed countries”.

Many studies demonstrate that youth bulge increases the likelihood of low-intensity intra-state armed conflicts (Cincotta et al., 2003, pp. 44–49; Urdal, 2004, 2006). Others have found that youth bulge does not increase the risk of civil wars, defined as high-intensity internal conflicts (Collier and Hoeffler, 2004, p. 587; Fearon, 2011, p. 14; Urdal, 2006). Some of these results seem to be at odds with evidence suggesting that youth bulges are linked not only to some forms of conflict onset but also to conflict intensity (Mesquida and Wiener, 1999). For example, Hegre et al. (2013, p. 260) argue that youth bulges have little impact on onset of conflict but do seem to impact the likelihood of conflicts to continue and escalate. To address this conceptual divide, other experts have proposed more nuanced approaches that disaggregate broad categories to both youth bulges and conflict.

Yair and Miodownik (2016, p. 27) propose that some supposedly conflicting results could be due to the aggregation of high-intensity armed conflicts of various types into “one civil war category”. They argue that there are valid reasons to think of ethnic and non-ethnic wars as quite different phenomena and point to the different origins of ethnic vs non-ethnic civil conflict. They argue that ethnic conflicts and wars involve violent mobilisation along ethnic lines and mostly aim to improve the conditions of an aggrieved ethnic group. In their analysis, they demonstrate that economic indicators correlate strongly with the onset of non-ethnic civil wars and that ethnic civil wars are mostly driven by political and other collective grievances and much less by economic factors. Cincotta (2018c) found evidence that points to the impact of youthful age structure on the likelihood of revolutionary conflict (violent, non-territorial intra-state wars such as political revolutions) but not separatist conflict (aimed at gaining independence). His argument is that with separatist conflict ideas of nationhood “can endure for generations, unifying people across borders” (Cincotta, 2018c).

The main argument for why youth bulges create risks for violent conflict lies in the sheer number of individuals that make up the bulge. Relative to previous generations, the pool of possible rebel recruits increases. Existence of an extraordinarily large pool of youth is a factor that lowers the cost of recruitment, while also lowering the opportunities for youths in the cohort (Urdal, 2011, p. 8). In addition, large youth cohorts stretch the limits of social institutions such as the labour, education, and healthcare systems. In short, youth bulges are likely to produce a more dissatisfied young population. The idea is that a large youth cohort leads to relative deprivation among young adults, pushing them to rebel in order to improve their social position (Urdal, 2006).

However, as Urdal (2004, p. 5) observes, “the existence of serious grievances is not sufficient for collective violent action to erupt”. He argues that a strong collective identity is a more robust precondition for people to act violently in response to experienced grievances. For Urdal (2004, p. 5) generational consciousness in itself is “insufficient as a strong identity marker” and thus “other forms of social segmentation need to be present for youth grievances to increase the risk of violent conflict”. While Urdal suggests ethnicity might be the form of social segmentation that is most likely to be transformed into violent conflict as a result of the existence of youth bulges, work by other scholars demonstrates that youth bulges do not increase the risk of ethnic conflict (Yair & Miodownik, 2016).

Assessing possible interaction effects with other factors, Yair & Miodownik argue 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 (Yair & Miodownik, 2016). This finding is at odds with work by other scholars, who emphasise the socioeconomic and structural conditioning of youth bulges as key to conflict risk. For example, studying the Mexican “drug wars”, which resemble conflicts over the control of natural resources in SSA, Juárez et al. (2020) found that, while regional youth bulges are not associated with patterns of violent youth crime, high youth unemployment in low-education strata is, particularly in the context of large male youth bulges.

Similarly, Urdal’s (2008) study, which addressed the relationships between demography, environment, and political violence in 27 states of India between 1956 and 2002, found that a young age structure was the only demographic factor in that case to be statistically associated with increased risks of all three forms of political violence: armed conflict, political violent events and Hindu–Muslim riots. He also stressed that the impact of youth bulges on the risk of armed conflict was more pronounced in Indian states where men formed the majority of the population (Urdal, 2008, p. 9).

However, youth bulge is not synonymous with armed conflict, and the definite link between youth bulges and armed intra-state conflicts has not yet been proven. While the failure of policymakers to deliver opportunities to young people *can* lead to heightened risk of conflict, young age structure alone does not make countries destined for violence (Urdal, 2011). In addition, a statistical connection cannot be taken uncritically as a predictor of armed conflict because many countries with youth bulges have not experienced bouts of war (Feseha, 2018). Malawi, Zambia, and Botswana are examples of states with relatively high youth bulges that are free from violent conflict. Youth bulge *by itself* is thus not the main factor that encourages youth to turn to violence; rather, it is lack of the structural conditioning that makes the transition from childhood to adulthood, marked by lack of opportunities (Feseha, 2018).

Youth bulges are associated with increased risk of conflict when opportunities for young people are dramatically restricted (Urdal, 2011). Thus, demography alone is not the major challenge; rather, it is the availability of opportunities to complete education, get a job, and participate in governance that is of concern for countries with large youth cohorts. Therefore, and as discussed in the following section, if the above opportunities are realised, large youth bulges can actually be beneficial (Urdal, 2011, pp. 1–2). It is therefore “not the absolute rate of population growth but the imbalance between growth in specific sectors of the population and growth of the economy that is crucial to the creation of conflict” (Goldstone, 2002, p. 15).

From youth bulge to demographic dividend

While other low-income countries may experience a decline in the proportion of their youth populations, SSA will continue to have large youthful populations and even experience an increase. This results in a situation where children and youth make up a large portion of the population. Youth bulge can be both advantageous and disadvantageous. Demographic dividends are achieved when a country can enjoy the benefits of a young population being successfully absorbed into the labour market, contributing to its socioeconomic development. Youth bulges present a “demographic window of opportunity” if backed by economic opportunities, something that has been observed in countries such as China, South Korea, and Japan (Feseha, 2018).

A demographic dividend requires the right labour market conditions as well as other conditions such as access to education and healthcare. Without these conditions, a youth bulge may have negative effects. Lack or maldistribution of resources such as education and employment may lead to dissatisfaction and frustration among youth and ultimately contribute to violent conflict. Although not assumed to be a direct cause of conflict, youth bulges interact with socioeconomic conditions and in the context of lacking opportunities might contribute to an increased risk of conflict (Menashe Oren, 2020, p. 58). Feseha (2018) writes about the five fundamental transitions between childhood and adulthood – education, employment, new lifestyle, family formation, and exercising citizenship – as essential elements for the wellbeing of young people. Failures to provide opportunities for these might motivate young people to engage in armed violence (Feseha, 2018). In the context of SSA, youth bulges in combination with poor governance, increasing inequalities, and failing economic growth present a considerable security challenge (Urdal, 2011, p. 10).

While the demographic transition is under way in SSA, it is highly uneven. Rustad et al. (2017, p. 487) observe that in a number of ongoing and recent major conflict countries, such as Burundi, the DRC, Mali, Nigeria, Somalia, South Sudan, Sudan, and Uganda, youth bulges are still high. In these countries around 30% of the population is in the age group 15–24. While support ratios are in decline in all of the countries, gradually opening up the possibility of a demographic dividend, changes are slow. In particular, Mali, Somalia, and Uganda are expected to have large youth bulges for decades to come. In the absence of expanded economic opportunities, the youthful age structures will continue to represent a structural condition that could fuel dissatisfaction and instability and contribute to the onset of violent conflict (Rustad et al., 2017, p. 487). Therefore, for the region to take advantage of its youthful population and the demographic dividend, governments in SSA must ensure that young people have adequate opportunities and skills to engage meaningfully in the social and economic sectors.

6. Type and duration of conflict

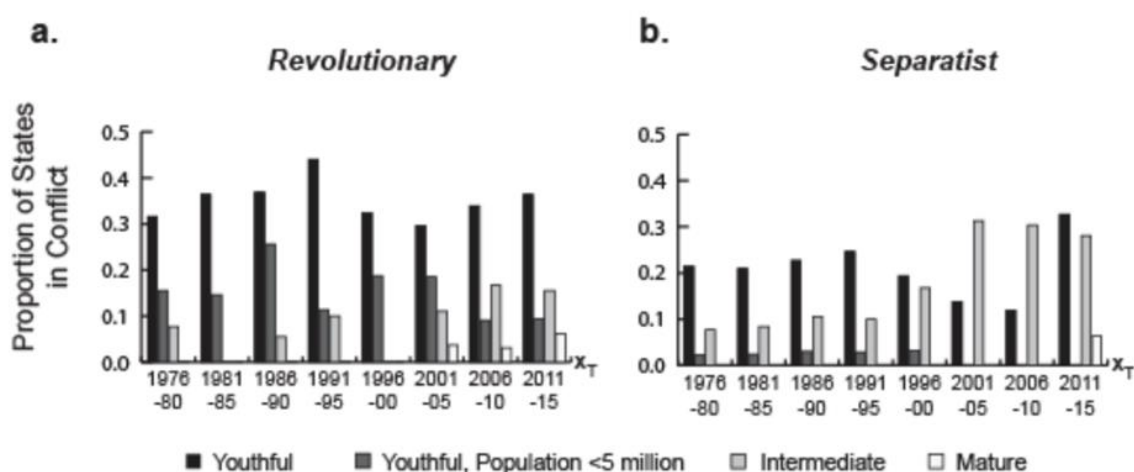
In 2002, Goldstone wrote that most population changes do not directly increase the risks of international conflict between domestically stable states, but where population changes produce domestic political crises, the risk of international conflict is also heightened. Understanding how demographics influence intra-state conflict is thus key both locally and internationally. Countries around “contiguous clusters of youthful states” are at risk of the spread of insurgents, which can in turn escalate political violence (Cincotta, 2018b). Cincotta (2018b) calls it the “spillover effect”. He points to today’s most volatile youthful population clusters: the Sahel, the Horn of Africa–Yemen, the Tigris–Euphrates Basin (Iraq and Syria), southern Central Asia (Pakistan, Afghanistan, Tajikistan), East Africa’s Great Lakes Region, and the Congo Basin (Cincotta, 2018b).

At the same time, population pressure may have different effects on different types of political violence, and risks of violence may be affected by other factors such as inter-group dynamics

(Rustad et al., 2017). For example, Yair and Miodownik (2016) conclude that, while the risk of the eruption of civil conflict was statistically related to a country's youthful age structure, there is no evidence that would support a similar relationship with ethnic conflict. In addition, Cincotta (2018b) points to a weak link between country-level age structure and the risk of territorial conflict. Disaggregating the types of conflict is useful in understanding the links that have been made both empirically and theoretically between demographic trends and changes, and conflict.

For example, analysing data collected annually across 163 countries from 1950 to 2005, Yair and Miodownik (2016) found that whereas youth bulge is significantly associated with non-ethnic war onset, youth bulge is not associated with ethnic war onset. They reason that youth bulge affects only the mobilisation patterns leading to a non-ethnic war. Youth bulge puts pressure on state and society by increasing economic, educational, and other demands where the availability of opportunities may be limited. The risk of non-ethnic wars, which are much more likely than ethnic conflicts to be driven by national economic and social changes and challenges, may thus be higher in countries with large cohorts of young people. In the case of non-ethnic war, it is not the population size but rather the youthfulness of the population that provides rebel groups with opportunities to rebel (Yair & Miodownik, 2016, pp. 39–40). On the other hand, youth bulge need not be linked to ethnic wars, which are driven more directly by group-specific political, economic, and cultural aspects pertaining to the conditions of specific ethnic groups.

Figure 10. Proportions of revolutionary conflict (a) and separatist conflict (b) among countries in the various phases of the age-structural transition, 1976 to 2015



Source: Cincotta, 2018c.¹⁰

Cincotta's (2018c) work highlights a similar need to view separatist and revolutionary conflicts as distinct phenomena that are affected differently by demographic trends (see Figure 10). He demonstrates that measures of country-level age structure are not useful risk indicators to predict separatist conflicts, as separatist conflicts are largely insensitive to changes in country-level measures of age structure. However, measures of country-level age structure are useful for predicting revolutionary conflicts.

¹⁰ From "Separatist conflicts persist, while revolutions just "age away", by R. Cincotta, 2018c. (<https://www.newsecuritybeat.org/2018/09/separatist-conflicts-persist-revolutions-age-away/>). © 2018 New Security Beat. Licensed under Creative Commons license CC By 3.0 IGO.

Regardless of their recent conflict history, youthful countries have been more prone to revolutionary conflict than countries with a more mature population, or countries that have reached the intermediate phase of the age-structural transition. In addition, a recent intra-state conflict dramatically amplifies the risk of recurrence. At the same time, the future risk of continued revolutionary conflict significantly declines as the population ages, but the risk of a future separatist conflict is barely affected by the ageing of the population. Finally, when conflict has been absent for four years, the risk of recurrence is typically low with the exception of very youthful countries, which face heightened risks of revolutionary conflict. Population size was found to also matter somewhat: smaller countries (with population under five million) with youthful populations face an elevated risk of revolution, but not as high as their larger neighbours (Cincotta, 2018c). Thus, larger states appear to be at a higher risk of conflict when experiencing a youth bulge.

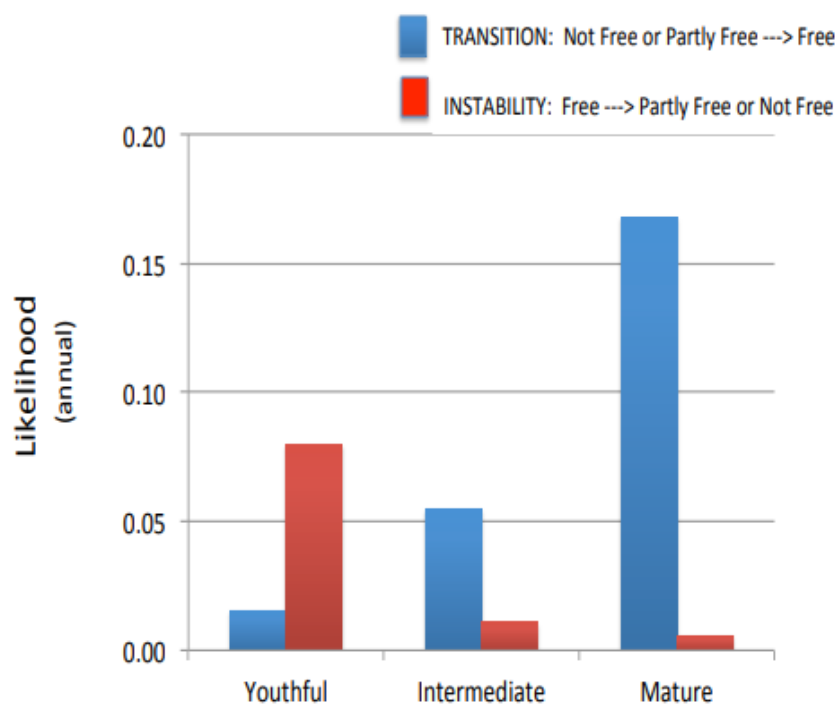
While countries with a recent history of intra-state conflict have a tendency to experience conflict re-emergence and persistence, according to Cincotta (2018b), states in civil conflicts experience a decline in risk as they approach and pass through the demographic window of opportunity.

If indeed the relationship between youthful age structures and violent conflicts is as strong as some have argued (e.g. Cincotta et al., 2003; Urdal, 2006), future demographic trends should result in fewer armed conflicts and civil wars in these countries (see also Hegre et al., 2013, p. 260). While this may be true for non-ethnic conflicts, ethnic conflicts may continue to erupt, driven, *inter alia*, by political marginalisation and economic inequalities that breed perceptions of relative deprivation (e.g. Cederman et al., 2010, 2011; Wimmer et al., 2009), regardless of a country's age structure (Yair & Miodownik, 2016).

7. Age structure and democracy

While little research has been done on the relationship between demographic and democratic transitions, existing analyses point to some important links. Some earlier work suggests that in particular when large young cohorts aspiring to political positions are prevented from participating in the political processes, they may turn to violent conflict to force democratic reform (Goldstone, 2001). However, Cincotta (2013, p. 3) argues that the probability of democratic transition increases with increasing median age (see Figure 11), while the likelihood of democratic decline decreases with increasing median age.

Figure 11. Likelihood of democratic transition in states in three categories of age-structural maturity: youthful, (median age <25.0 years); intermediate (25.1 to 35.0); mature (35.1 to 45.0).



Source: Cincotta, 2013.¹¹

Population’s progress through the demographic transition can be expected to promote a movement to democratic politics (Dyson, 2013). Dyson runs several quantitative analyses, comparing the democracy scores and median ages of Europe and the United States between years 1850 and 2005. His findings show a general rise in democracy along with median age that is supported by a statistically significant relationship. Dyson argues that more mature populations are more likely to want a voice in political affairs, and, with greater proportional numbers, they have greater leverage and capacity to achieve this (Dyson, 2013, p. 86). Dyson also postulates that the slowing of population growth should increase the chances for socio-political stability, which may benefit democratisation (2013, p. 87).

Drawing on historical data from Europe and the United States, Dyson shows that demographic and democratic developments were associated with each other. His argument is that historical research can shed light on factors that help determine whether budding democracies will succeed. In terms of demographic trends that matter, he proposes that some degree of mortality decline is required for stable democratic conditions. At the same time, the population growth that decline in mortality generates raises challenges for autocratic regimes. Dyson’s analysis mirrors demographers’ insights on other economic measures, as he argues that fertility decline is crucial: “It causes population aging, brings about major alterations in the lives of women, and produces a fall in the rate of natural increase – gradually enhancing the conditions required for socio-political stability” (2013, p. 99). Similar to Cincotta (2019), Dyson takes the median age to be a good measure of

¹¹ From “Is the age-structural transition responsible for the third wave of democratization? Partitioning demography’s effects between the transition to, and the instability of, a liberal regime,” by R. Cincotta, 2013. National Intelligence Council (U.S.), reprinted under [Public Domain Mark 1.0](#).

cumulative demographic progress and argues that countries with a low median age are seldom firmly democratic (Dyson, 2013, p. 99).

Yet, as history shows, progress in demographic transition does not guarantee transition to democracy in a linear way. In particular, political processes can intervene, with the rise of fascism in Europe in the 1930s serving as an example of such intervention (Dyson, 2013, p. 99).

Notably, the same example is used by Weber (2013), whose work sheds further light on the need to disaggregate demographic youth bulges. Weber argues that pre-World War II, in 1925, young men aged 15–29 made up around 20% of the total adult population of Germany. This proportion decreased to 13.3% in 1973 and 10.4% in 2008 (Weber, 2013, p. 337). Weber's hypothesis, which he tests using data for 110 countries in the period from 1972 to 2009, is that a high proportion of young men increases the risk of the collapse of democracy (Weber, 2013).

The results of Weber's longitudinal analyses (2013) provide strong evidence in favour of his hypothesis. He finds that "the probability of the collapse of a democracy is five to seven times higher in countries with a high proportion of young men (15-29), if all other factors are held constant". Within the analysed period he finds that full or partial democracies with a share of young men exceeding 19.9% of the total adult population have a risk of 23.1% of becoming a dictatorship within the next five years, whereas this risk is under 5% for democracies with fewer young men. The results were unchanged after also controlling for economic and religious factors (Weber, 2013, pp. 344–345). However, here, not unlike the insights on youth bulge in general, it is useful to note that it is not the proportion of young men *per se* that constitute the problem. Rather, we need to consider how patriarchal gender norms and masculinity contribute to violence and conflict and how policies aimed at increasing gender equality can address the issue.

Finally, the type of political regime matters for armed conflict, but the interaction between regime type, youthful age structure, and conflict is less clear, with only limited evidence available. The opportunity literature indicates that the opportunity for political violence is greater the less autocratic a regime is, while the motive-focused literature argues that the greater the political oppression, the greater the motive for political conflict (Urdal, 2011). There appears to be "an inversed U-shaped relationship between regime type and conflict, where intermediary regimes are at a higher risk of conflict than democracies and autocracies". The U-shape is not "perfectly symmetric" and "full-fledged democracies do have a slightly higher risk of conflict than stark autocracies". Thus, "compared to the most conflict-exposed regimes, fully developed democracies are almost 40% less likely to experience a conflict, while consistent autocracies are 60% less exposed" (Urdal, 2004, pp. 10–11). Urdal (2011, p. 9) finds that "the effect of youth bulges is greater in the most autocratic regimes as well as in the most democratic states".

8. Other factors

Demographic factors interact with social, structural, environmental, and other conditions, and these interactions influence the likelihood of conflict arising and continuing. While it is not possible to capture all factors that contribute, alongside demographic conditions, to the onset of violent conflict, this section offers insights from research on education, employment, globalisation, urbanisation, migration, climate change, and competition for resources.

Education

Education is key in facilitating demographic transition and could be the factor that opens up the window of opportunity to harvest the demographic dividend (Østby and Urdal, 2014). Higher levels

of education are said to foster peace. According to Østby and Urdal (2014) at least three different explanations exist for this relationship:

1. Higher government spending in education can directly and indirectly reduce people's grievances through fostering economic development and social equality.
2. Increased education opportunities might make the labour market more attractive than becoming a soldier.
3. Higher education attainment can facilitate peace through encouraging political participation and engagement with political institutions.

Similar to point 2 above, Urdal (2011, p. 8) observes that increasing education increases the income-earning opportunities of an individual, thus lowering the chance of rebel recruitment. However, education only decreases conflict risk if the newly educated population can be accommodated within the existing labour market. Otherwise, problems might arise when employment prospects do not match the nature of the labour force, as an educated population that does not have the opportunities that are relevant to their education are likely to become politically discontent (Goldstone, 2002, p. 10).

This is important, as research shows that when countries respond to a youth bulge by expanding opportunities for higher education in particular, this may produce a significantly bigger group of highly educated young adults than can be accommodated in the normal economy. As a result, raising expectations among large youth cohorts and failing to provide employment opportunities can carry a risk of radicalising and mobilising them (Urdal, 2011, p. 8). Hence the demographic dividend is also highly dependent on an active job market and healthy business environment (Østby and Urdal, 2014).

Importantly, in SSA women's education has been cited to be the most important driver of change in birth intervals and a strong direct factor in reducing family size — thus driving the demographic transition and creating the opportunity for a demographic dividend. Women who complete secondary education have on average fewer children. In Niger in 1998, women who completed secondary education had 31% fewer children (on average, 4.6 per lifetime) than those who completed only primary education (6.7), while in Yemen, in 1997, women who completed primary school had 4.6 children on average whereas women who completed secondary school had 3.1 children on average (Goldstone, 2019).

Employment

What is typical for young adulthood is the need to find a livelihood that will allow young people to support themselves financially. However, growth of the young adult population increases surplus labour and might present an issue in the form of labour markets experiencing a bottleneck effect. As a result, large young cohorts might not be able to find a decent livelihood within the existing labour market (Gerling, 2018; Flückiger & Ludwig, 2018; Malmberg, 2008). At the same time, the labour market's absorption capacity depends significantly on the degree of diversification and flexibility in the economy (Urdal, 2004, p. 3). For large youth cohorts, the overall economic situation at the time they enter the labour market is particularly important. To the degree that income opportunities are determined by general economic performance, youth bulges are likely to be met with lower income opportunities when economic conditions deteriorate, which in turn might also reduce the income they forgo by signing up as rebels and participating in violent conflict (Urdal, 2012). Unsurprisingly, for smaller cohorts, competition in the job market is reduced and tends to increase the share of fully employed (Cincotta, 2018a).

Consequently, existing research points to the connection between youth bulges, lack of employment opportunities, and conflict (Gerling, 2018; Flückiger & Ludwig, 2018). Gerling (2018) argues that youth bulges constitute the demographic conditions in which rising unemployment and underemployment are more likely to trigger social tensions and violent conflicts. The study also shows that the degree to which youth bulges raise the possibility of a conflict onset also depends on the quality of labour and business regulation and political institutions, as well as ethnic tensions (Gerling, 2018). Flückiger and Ludwig's (2018) argument is that the rigid labour markets in SSA are not well equipped to be able to absorb the supply-side shock. The resulting bottleneck effect is characterised by high unemployment and underemployment among the cohort entering the labour market, raising the proportion of marginalised young people. In effect, the average opportunity cost of participating in conflicts is lowered among the youth aged 15–19. Such bottleneck effect and the resulting boost in labour supply can also worsen the labour market opportunities for older cohorts, reducing their opportunity costs of participating in civil conflict. Thus, together, a youth bulge is likely to worsen labour market opportunities and in effect lead to a higher number of people for whom taking part in conflicts becomes an option (Flückiger & Ludwig, 2018, p. 1,937).

These findings pose serious concerns for SSA. While official youth unemployment in SSA remains fairly low at 11.7%, the low figure masks other worrying labour market trends linked to informal sector employment, underemployment, and working poverty. Moreover, some countries in SSA have extraordinarily high rates of youth unemployment. In South Africa, for example, nearly 57.4% of economically active youth are unemployed. Youth unemployment rates for Lesotho, Mozambique, and Namibia are estimated at 38.5%, 42.7% and 45.5% respectively (UNDESA, 2018, p. 39). UN data for 2016 indicate that the share of the working poor among economically active youth is extremely high in SSA, where nearly 70% of employed youth are living in poverty (UNDESA, 2018, p. 43). High youth unemployment and underemployment in SSA is noted as a significant driver of voluntary migration, as well as a threat to peace and security (High-Level Expert Group Meeting, 2015, p. 7).

Moreover, many young people in SSA join the labour force without adequate educational and professional training (Kabiru et al., 2013). Many young people in SSA have few or no skills, or skills that do not match the needs of employers, and are therefore excluded from productive economic and social life; those that have some education “often exhibit skills irrelevant to current demand in the labour market, in a situation where educational and skill requirements are increasing, resulting in millions of unemployed and underemployed youth” (High-Level Expert Group Meeting, 2015, p. 7).

Of more concern, however, is underemployment and the quality of jobs available. Therefore, although training and education are important, as noted in the previous subsection, if the labour market does not change and offer the types of jobs that educated youth seek, it is likely to cause frustration, which in turn can lead to political upheaval. Thus, in SSA, more higher quality jobs are urgently needed (Quak & Flynn, 2019).

Inequality

Socioeconomic inequality has been found to correlate with violent conflict in SSA and elsewhere. In their 2014 study, Fjelde and Østby examine the impact of economic inequality on the risk of armed conflict between communal groups in SSA. They find that in SSA, regions with high levels of socioeconomic inequalities (both vertical and horizontal) are considerably more exposed to violent communal conflicts. (Fjelde & Østby, 2014, p. 737). The study identifies the unequal access to socioeconomic welfare between groups to be an important factor in subnational communal

violence (Fjelde & Østby, 2014. p. 757). Even more specifically, they find regions in which the largest ethnic group is severely disadvantaged compared to other groups to be particularly prone to experiencing communal conflict (Fjelde & Østby, 2014. p. 737). This links back to the concerns raised by the security dilemma (Cincotta, 2011) discussed earlier.

As also discussed above, Yair and Miodownik (2016) argue that while non-ethnic conflicts are likely to diminish as SSA progresses through the demographic transition, ethnic conflicts may continue to erupt driven by political marginalisation and economic inequalities that foster perceptions of relative deprivation, regardless of a country's age structure (Yair & Miodownik, 2016). A case in point might be Urdal's (2008) study on Hindu–Muslim riots in India, which concludes that “Hindu-Muslim riots were found to be more likely in states where youth bulges *coincided* with greater levels of urban inequality” (Urdal, 2008, p. 9; emphasis added).

Resource scarcity and climate change

Resource scarcity is the result of three different factors interacting: population growth, resource degradation, and the distribution of resources between individuals and groups (Urdal, 2011, p. 3). Thus, intuitively, resource scarcity appears to be linked to increased risk of conflict. This is true to some extent. Raleigh and Urdal (2007) found there was a robust effect on conflict of the interactions between population growth and density, as well as population growth and water scarcity. They found that increasing levels of land degradation heightened the risk of conflict from a base of 1% to between 2% and 4%, while the scarcity of water had a greater impact, with very high levels of scarcity increasing the risk of conflict to 6% (Raleigh and Urdal, 2007. p. 691). However, they also argue that environmental and demographic factors may be second to other drivers of armed conflict, such as political instability (Raleigh and Urdal, 2007). Urdal's study (2008) of India's Hindu–Muslim riots found that scarcity of productive rural land was associated with increased risks of political violence, especially when it interacted with high rural population growth and low agricultural yield.

These insights matter for SSA, as the region is said to be vulnerable to environmental and climate change because a large portion of its population is poor and relies on rain-fed agriculture (Witmer et al., 2017). The variability in rainfall has been identified as an important factor. The negative effects of interannual variability in rainfall could be mitigated if the agricultural dependence on rainfall is broken (Hendrix & Glaser, 2007, p. 711). In addition, Witmer et al. (2017) found statistically significant relationships between the prevalence of violent conflict and political rights, population size, and rising temperatures. They conclude that existing forecasts indicate that a growing population and rising temperatures will lead to higher levels of violence in SSA if political rights do not improve. This points to the importance of other, non-environmental factors. For example, it has been shown that while climate change increases the probability of civil war, economic growth reduces the probability of civil war and the vulnerability to climate change (Devitt et al., 2012).

Indeed, wider socioeconomic and political context appears much more important than environmental ones in explaining violent conflict in SSA (Buhaug et al., 2015). Comparing half a century of country-level data on climate variability, food production, and political violence in the region, Buhaug et al. (2015) found that agricultural production output and violent conflict are connected only weakly and inconsistently. They argue that claims that adverse weather and harvest failure drive contemporary violence in Africa are not supported. Rather, social protest and rebellion during times of food price spikes may be better understood as reactions to failure in government policies, corruption, repression, and market failure (Buhaug et al., 2015). While future climate change, coupled with demographic growth and socioeconomic development, is expected

to worsen environmental and ecological conditions and negatively impact agricultural productivity improvements across Africa, “there is little reason to fear that this development by itself should result in higher rates of social disturbances” and instead, African peace is likely to be influenced “by the trajectories of social, political, and economic contexts within which food security threats emerge and are dealt with” (Buhaug et al., 2015, pp. 9–10).

Globalisation

Economic globalisation has been found to coincide with decrease in conflict (Hegre et al., 2010; Choi, 2010) and in the context of SSA, social globalisation has been found to reduce conflict (Chisadza & Bittencourt, 2018). Choi (2010) conducted a cross-sectional, time-series dyadic data analysis for 114 countries for the years 1970–2001 and found that socioeconomic and political globalisation has a dampening effect on militarised interstate conflict. In addition, findings by Hegre et al. (2013, 2010) demonstrate that economic openness reduces intra-state conflict through its beneficial effects on growth and political stability. Using panel data from 46 SSA countries, Chisadza and Bittencourt (2018) show that social globalisation – through increased migration, commerce, and access to information – is of particular importance, as it encourages tolerance and raises costs of conflict. The same study found that intra-state conflict is significantly reduced by globalisation processes as compared to interstate conflict.

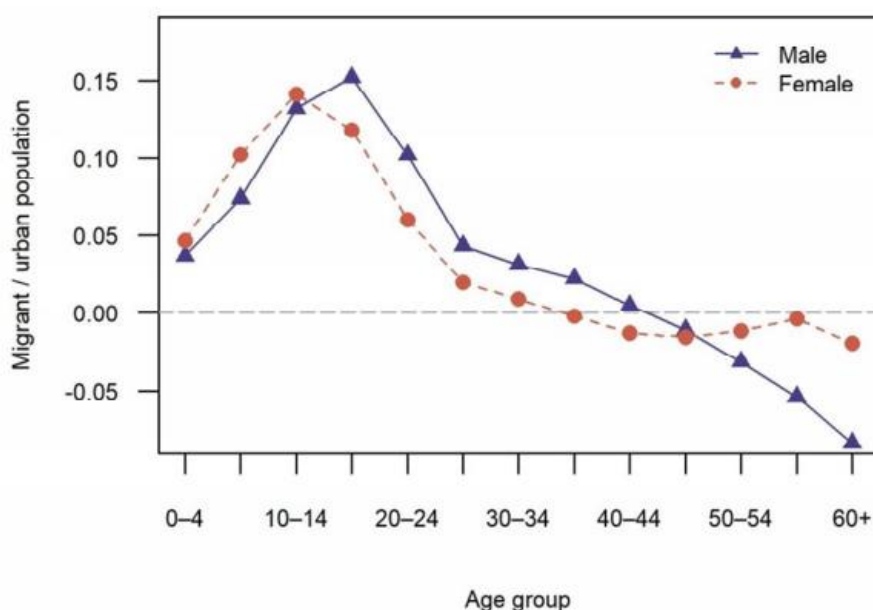
Urbanisation

SSA is seen as the world’s fastest urbanising region. This relates to demographic trends in the region. Increases in the number of young people lead to an increased demand for arable land and an increase in the demand for migration to areas where job opportunities are good (Malmberg, 2008, p. 28). Mortality declines first in the urban sector, primarily among children, which results in a young and fast-growing urban population. When mortality starts to decline in the rural sector, the young rural population also grows, expanding the pool of potential rural-to-urban migrants (Menashe Oren, 2020).

If youth are abundant in urban areas, this may increase the likelihood of grievances caused by crowding in the labour market or educational institutions (Goldstone, 1991, 2001). Urdal (2011) argues that since youth often constitute a disproportionately large part of rural-to-urban migrants, strong urbanisation may be expected to lead to an extraordinary crowding of youth in urban centres, which might potentially increase the risk of political violence (Urdal, 2011, pp. 8–9).

However, the relationship between urbanisation, population age structure, and conflict is not a straightforward one. Youth bulges are often an urban phenomenon in developing countries; this is seen as an outcome of both faster demographic transitions and urbanisation. The “age selectivity” of rural-to-urban migration, which takes place disproportionately among the young, enhances an urban youth bulge (see Figure 12) (Menashe Oren, 2020). While urbanisation has slowed down in SSA since the 1980s, rural–urban migration has persisted, despite high levels of urban unemployment, with the increasing informal sector absorbing surplus labour (Menashe Oren, 2020, p. 60).

Figure 12. Mean proportion of (net) migrants of urban population by age for Sub-Saharan Africa, 2015



Source: Menashe Oren, 2020, p. 72.¹²

Goldstone (2002) argues that where urban growth is not matched by an increase in economic growth, risks of political turbulence are elevated. Yet, Buhaug and Urdal (2013) find no support for what they refer to as the “urbanization bomb” referring to the idea that urban population growth should lead to an increase in conflict. Similarly, in his analysis of city-level data from India, Urdal (2008) found that high urbanisation rates did not increase the risk of political violence. He concluded that in India, Hindu–Muslim riots, a predominantly urban occurrence, did not appear to be related to population pressure, nor to rapid urbanisation. Studying rural–urban migration, Østby (2016) concluded that urbanisation does not seem to lead to social urban disturbance in itself.

Disaggregating the urban population growth might explain some of the differences in the observed relationship between urbanisation and conflict. Menashe Oren (2020) makes a distinction between natural growth and migration, an analytical move that offers key insights into the composition of urban youth bulges, and argues that “the selectivity and characteristics of migrants in SSA – as young, seeking employment, and relied upon by sending households – suggest that within an urban youth bulge they may behave differently”. She proposes that the proportion of young migrants in the urban population may be key to understanding the effect of an urban youth bulge on social conflict (Menashe Oren, 2020, p. 61). Her analysis demonstrates that migrants are not a threat to urban stability in SSA. She finds a non-migrant youth bulge to have a larger and statistically significant effect on social conflict, while a migrant-based youth bulge has little impact; migrants were also not found to increase the likelihood of conflicts related to economic issues or increase the risk of ethno-religious conflicts (Menashe Oren, 2020). The relationship uncovered is optimistic and suggests that governments in SSA should not fear high rates of young rural-to-urban migration. In the words of Menashe Oren, it appears that “even with constrained resources, and

¹² From “Migrant-based youth bulges and social conflict in urban Sub-Saharan Africa,” by A. Menashe Oren, 2020 (<https://www.demographic-research.org/volumes/vol42/3/default.htm>). © 2020 Ashira Menashe-Oren. Licensed under [Creative Commons Attribution 3.0 Germany](https://creativecommons.org/licenses/by/3.0/).

rising poverty in cities in SSA, migrants will tend to work harder rather than turn to conflict” (2020, p. 81).

Migration

Migration, beyond rural-to-urban migration that is covered in the previous section, is an important factor that interacts with conflict in at least two distinct ways. On the one hand, opportunity for migration is of great importance for determining the conflict potential of youth bulges. Put simply, migration works as a “safety valve” (Urdal, 2004, p. 17). Consequently, if migration opportunities are significantly restricted this can cause an increased pressure from youth bulges accompanied by a higher risk of political disturbance and violence (Urdal, 2004). Net migration is positively correlated to cohort growth for the 20–24 age group, as young adults are the most mobile of all age groups (Malmberg, 2008, p.30).

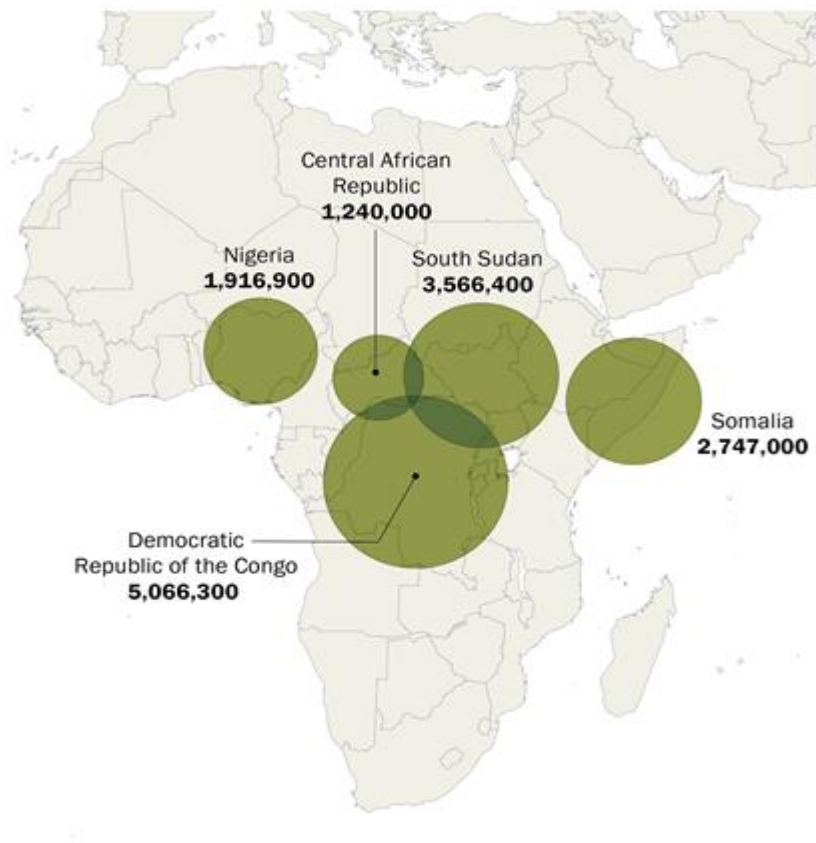
On the other hand, population movements across, or within, political borders can lead to violence. Mass refugee migration might lead to tensions in neighbouring and/or receiving states by imposing an economic burden and causing political instability. Refugees can also expand rebel social networks. Based on a statistical analysis of refugees from neighbouring countries and civil war onset during the period 1951–2001, Salehyan and Gleditsch (2006) found that countries that experience an influx of refugees from neighbouring states are significantly more likely to experience violent conflict themselves. This has implications for SSA, which hosted some 30% of forcibly displaced people globally in 2017, up from 23% in 2015; this share has increased in recent years and is at its highest level since records on displaced persons began in 1993 (Connor & Krogstad, 2018).

Most of the increase in SSA has come from a wave of internally displaced persons (IDPs) – those forced from their communities by conflict and who stay within their home country. In SSA, this population grew to 12.5 million in 2017, a 40% increase from the previous year, when the population was 8.9 million (Connor & Krogstad, 2018).

In 2017, the DRC had the largest population of IDPs within the region, reaching 4.4 million, almost double the number reported the previous year. In Ethiopia, ethnic conflict pushed the country’s IDPs from almost zero in 2016 to more than a million people in 2017 (Connor & Krogstad, 2018).

The number of refugees has grown more slowly within SSA. In 2017, 79% of displaced persons living in SSA came from just five nations: DRC, South Sudan, Somalia, Nigeria, and Central African Republic (see Figure 13). The region’s number of refugees reached 5.4 million in 2017, up 16% from the previous year. Uganda was host to the highest number of the region’s refugees (almost 1.4 million) in 2017, mostly from South Sudan. Nearly 900,000 refugees lived in Ethiopia, mainly from South Sudan, Somalia and Eritrea. The DRC had more than 500,000 refugees from various neighbouring states, including Rwanda, Central African Republic and South Sudan (Connor & Krogstad, 2018).

Figure 13. Number of persons displaced due to conflict living in SSA, 2017, by top five countries of origin



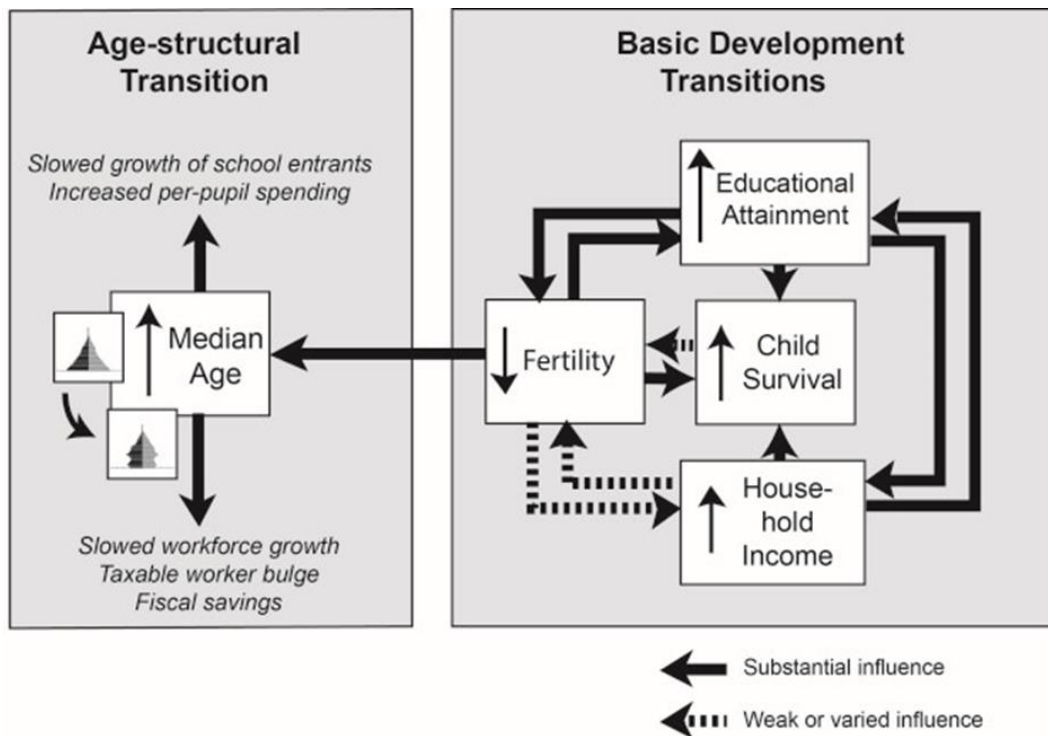
Source: Connor & Krogstad, 2018.¹³

¹³ From "Record number of forcibly displaced people lived in sub-Saharan Africa in 2017.," by P. Connor and J. M. Krogstad, 2018 (<https://www.pewresearch.org/fact-tank/2018/08/09/record-number-of-forcibly-displaced-people-lived-in-sub-saharan-africa-in-2017/>). © 2018 Pew Research Center. Reprinted under the following terms: <https://www.pewresearch.org/about/terms-and-conditions/>

9. Overview of policy recommendations and responses to mitigate the risk of conflict linked to age structure

“Demography – the demand side of development – is as essential as the infrastructure that constitutes development’s supply side” and international development agencies are “long overdue in acknowledging the role that shifts in population age structure play in social, economic, and political development” (Cincotta, 2018a). Figure 14 illustrates these dependencies.

Figure 14. Links between the age-structural transition and the four basic development transitions



Source: Cincotta, 2018a.¹⁴

The security challenge that growing population and youth bulges represent is considerable and pertinent to the short- and medium-term situation in SSA. Visionary leadership that looks beyond the current election cycle is required to ensure sustainable growth and demographic dividend (Hall, 2020). While “youth bulges, poor governance, failing economic growth and greater inequalities can be explosive... states are not hostages to demographic developments beyond their influence” Urdal (2011, p. 10). According to Urdal (2011, p. 10), governments are to some extent able to lower the risks associated with their youthful populations “through the provision of opportunities for young people, primarily by providing education, employment opportunities and offering political participation”.

¹⁴ From “Does demographic change set the pace of development?” by R. Cincotta, 2018a. (<https://www.newsecuritybeat.org/2018/12/demographic-change-set-pace-development/>). © 2018a New Security Beat. Licensed under Creative Commons license CC By 3.0 IGO.

The following broad policy responses and recommendations are found to mitigate the risk of conflict associated with age structure and the various factors that interact with it:

- As a long-term strategy, the world's developed states are urged to: increase support for the programmes and policies that, in youthful countries, foster the transition to a more mature age structure; encourage greater participation of now-marginalised ethnic and religious minorities; and support those political leaders who show the motivation and political will to implement these policies (Cincotta, 2018b).
- Patriarchal gender norms and masculinity contribute to violence and conflict and thus policies aimed at increasing gender equality can address the issue.
- Far-reaching interventions are urgently needed to accelerate the demographic transition and bring about more favourable dependency ratios (Rustad et al., 2017; Malmberg, 2008; Urdal, 2006).
- The improvement of the dependency ratios will lead to strengthening of the region's human capital provided adequate policies and investments are put into place at the same time (Rustad, et al., 2017; Malmberg, 2008).
- The prediction that youth bulge is associated with the onset of non-ethnic conflict should convince policymakers in countries with high rates of youth bulge to try to address societal and economic grievances and foster greater inclusion of the younger cohorts into society (Yair & Miodownik, 2016, p. 40).
- Youth unemployment and underemployment remain an issue in SSA; bringing about structural changes that facilitate the transition into the labour market is likely to mitigate the negative effects associated with the occurrence of youth bulges (Feseha, 2018).
- In relation to climate change, "policies aimed at improving governance are likely to be effective in achieving the goal of reduction in violent conflict even if efforts to reduce greenhouse gas emissions are tardy or timid... one major pathway for human intervention – institutional – can in fact have powerful effects on future levels of conflict given the expected changes in climatological and environmental conditions" (Witmer et al., 2017, p.189).
- Young people, particularly their education and economic prospects, should be included in COVID-19 recovery responses (Pinet, 2020).

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Key websites

- World Bank Open Data: <http://data.worldbank.org/>
- UN Department of Economic and Social Affairs Population Dynamics Data: <https://population.un.org/wpp/>

Appendices

Appendix A: Percent of the population aged 0–24 in 2019

Country	Percent of population 0–24
Burundi	64.3
Comoros	58.5
Djibouti	47.2
Eritrea	59.7
Ethiopia	61.4
Kenya	59.5
Madagascar	60.6
Malawi	64.0
Mauritius	31.6
Mayotte	59.0
Mozambique	64.7
Réunion	37.4
Rwanda	59.1
Seychelles	36.8
Somalia	67.2
South Sudan	61.6
Uganda	67.0
United Republic of Tanzania	63.1
Zambia	65.1
Zimbabwe	62.2
Angola	65.9
Cameroon	61.9
Central African Republic	65.9
Chad	67.1
Congo	60.3
Democratic Republic of the Congo	65.0
Equatorial Guinea	55.3
Gabon	54.0
Sao Tome and Principe	61.7
Botswana	51.7
Eswatini	58.3

Lesotho	51.9
Namibia	56.1
South Africa	45.4
Benin	61.8
Burkina Faso	64.6
Cabo Verde	45.1
Côte d'Ivoire	62.1
Gambia	64.0
Ghana	56.4
Guinea	64.5
Guinea-Bissau	61.7
Liberia	60.4
Mali	66.9
Mauritania	58.7
Niger	69.2
Nigeria	62.9
Senegal	62.2
Sierra Leone	60.8
Togo	60.4

Data source: UNDESA, Population Division, 2019.¹⁵

¹⁵ Custom data from "World population prospects 2019.," UNDESA, Population Division, 2019. (<https://population.un.org/wpp/>). © 2019 United Nations, DESA, Population Division. Licensed under [Creative Commons license CC BY 3.0 IGO](https://creativecommons.org/licenses/by/3.0/).

Appendix B: Percent of the population aged 15–24 in 2019

Country	Percent of population 15–24
Sub-Saharan Africa	19.9
Burundi	19.0
Comoros	19.5
Djibouti	18.3
Eritrea	18.6
Ethiopia	21.5
Kenya	20.9
Madagascar	20.5
Malawi	21.0
Mauritius	14.8
Mayotte	20.0
Mozambique	20.6
Réunion	15.0
Rwanda	19.6
Seychelles	13.0
Somalia	21.1
South Sudan	20.2
Uganda	21.0
United Republic of Tanzania	19.6
Zambia	21.0
Zimbabwe	20.3
Angola	19.5
Cameroon	19.9
Central African Republic	22.4
Chad	20.6
Congo	19.0
Democratic Republic of the Congo	19.2
Equatorial Guinea	18.5
Gabon	16.7
Sao Tome and Principe	19.9
Botswana	18.3
Eswatini	20.9

Lesotho	19.6
Namibia	19.3
South Africa	16.6
Benin	19.9
Burkina Faso	20.2
Cabo Verde	17.1
Côte d'Ivoire	20.6
Gambia	20.1
Ghana	19.3
Guinea	21.4
Guinea-Bissau	19.7
Liberia	20.1
Mali	19.9
Mauritania	19.1
Niger	19.5
Nigeria	19.4
Senegal	19.6
Sierra Leone	20.4
Togo	19.7

Data source: UNDESA, Population Division, 2019.¹⁶

¹⁶ Custom data from "World population prospects 2019.," UNDESA, Population Division, 2019. (<https://population.un.org/wpp/>). © 2019 United Nations, DESA, Population Division. Licensed under [Creative Commons license CC BY 3.0 IGO](https://creativecommons.org/licenses/by/3.0/).

Appendix C: Total fertility rate 2015–2020

Country	Total fertility rate 2015–2020
Burundi	5.45
Comoros	4.24
Djibouti	2.76
Eritrea	4.10
Ethiopia	4.30
Kenya	3.52
Madagascar	4.11
Malawi	4.25
Mauritius	1.39
Mayotte	3.73
Mozambique	4.89
Réunion	2.27
Rwanda	4.10
Seychelles	2.46
Somalia	6.12
South Sudan	4.74
Uganda	5.01
United Republic of Tanzania	4.92
Zambia	4.66
Zimbabwe	3.63
Angola	5.55
Cameroon	4.60
Central African Republic	4.75
Chad	5.80
Congo	4.45
Democratic Republic of the Congo	5.96
Equatorial Guinea	4.55
Gabon	4.00
Sao Tome and Principe	4.35
Botswana	2.89
Eswatini	3.03
Lesotho	3.16

Namibia	3.42
South Africa	2.41
Benin	4.87
Burkina Faso	5.23
Cabo Verde	2.29
Côte d'Ivoire	4.68
Gambia	5.25
Ghana	3.89
Guinea	4.74
Guinea-Bissau	4.51
Liberia	4.35
Mali	5.92
Mauritania	4.58
Niger	6.95
Nigeria	5.42
Senegal	4.65
Sierra Leone	4.32
Togo	4.35

Data source: UNDESA, Population Division, 2019.¹⁷

¹⁷ Custom data from "World population prospects 2019.," UNDESA, Population Division, 2019. (<https://population.un.org/wpp/>). © 2019 United Nations, DESA, Population Division. Licensed under [Creative Commons license CC BY 3.0 IGO](https://creativecommons.org/licenses/by/3.0/).