

# Civil Conflict and Development\*

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## 1 Conflict as development in reverse

Civil conflicts are among the most devastating social phenomena in the modern world. They often have staggering death tolls – in Lebanon 1975–1990, for instance, about 145,000 out of the country’s population of 2.8 million were killed in battle (Lacina and Gleditsch, 2005). On top of direct battle deaths come numerous other adverse consequences, such as displacement of large populations, economic distortions and capital flight, the erosion of public health systems, and undermining of social trust. Civil war is ‘development in reverse’ (Collier et al., 2003, 13). At the same time, civil conflicts occur disproportionately often in poor countries.

This chapter reviews the literature on the relationship between civil conflict and development. First, I sketch definitions of the two concepts. I then discuss the empirical relationship between the two, and review a number of explanations of why they are associated. I then briefly visit the likely future of the conflict-development relationship, and development’s role in what some observers see as a global decline in armed conflict (Gat, 2006; Pinker, 2011).

### 1.1 Definition of development and conflict

Development is a multi-faceted concept (Przeworski et al., 2000; Lipset, 1959; Dahl, 1971, 1–4). The literature on the relationship between conflict and development is equally multi-faceted, and considering what development is helps discussing the explanations of the relationship.

Developed societies typically have an economy predominantly based on manufacturing and service production, whereas non-developed ones derive most of its income from agriculture and other forms of natural resource extraction. Extensive manufacturing and service production necessitate deep economic diversification – various sectors of the economy specialize and exchange goods and services with each other. Associated with this widespread specialization is a population and work force that is skilled and educated – developed economies cannot function unless it can draw on extensive human capital. This skilled labor is relatively

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well paid – development, in most cases, means there is considerably less poverty and a sizeable middle class. Manufacturing, in particular, also requires easy access to financial capital, and banking is typically an important part of the service sector of a developed country. Non-developed countries, on the other hand, rely on capital in the form of land that yield agricultural produce or other natural resources.

Development is also associated with demographic changes. High education levels lead to lower fertility rates, and the absence of poverty to high life expectancy. When the demographic transition is complete, developed societies have modern demographic profiles with a large elderly and a relatively small young population.

Development also requires some specific forms of political organization. Most importantly, adequate property rights protection and a legal system that protects economic actors is necessary to stimulate investments and protect the economic transactions essential to a diversified economy. Moreover, governments are required to invest in essential infrastructure such as ports, roads, and telecommunications. There is also a strong tendency that this political organization takes the form of democratic government (Lipset, 1959; Przeworski et al., 2000, 1–4).

All these aspects of development tend to go together. When the population is educated, financial capital is likely to be important, and infant mortality rates low. Some sources of income, however (in particular, oil extraction), can produce wealth and other societal changes that is less widely diffused throughout society. As the review below shows, it is the widely diffused aspects of ‘development’ which is important here, not the presence of isolated pockets of highly wealthy and developed activities.

*Civil conflict* is here taken to mean organized armed conflict between collective actors within a sovereign state. The Uppsala Conflict Data Program provides a precise and widely used definition of ‘armed conflict’ (Themnér and Wallensteen, 2011, 532):<sup>1</sup>

An armed conflict is a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths in one calendar year.

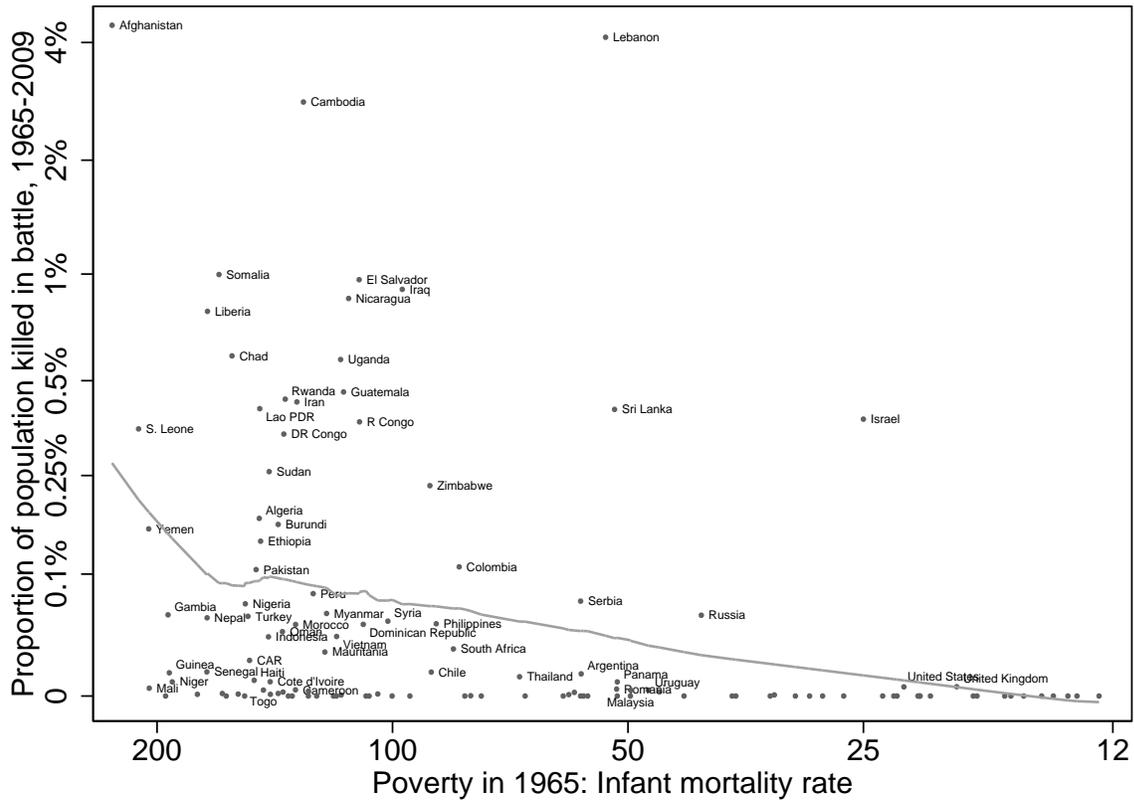
Important aspects of this definition are the ‘contested incompatibility’ which implies that both parties have a stated political aim that motivates their fighting – governments fighting organized criminality falls outside this definition; ‘the use of armed force’ which rules out non-violent conflicts even if they occasionally lead to unorganized violence; and a threshold in terms of the intensity of the use of violence – here, ‘25 deaths per year’.

In some cases, civil conflicts do not involve the government – either because the government has ceased to function as was the case in Somalia in the late 1990s, or conflicts over territorial rights between ethnic groups such as Dinka-Nuer conflicts in South Sudan or Afar-Issa conflicts in Ethiopia. The UCDP project calls such conflicts non-state conflicts. Although non-state conflicts naturally fall within the concept of civil conflict,

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<sup>1</sup>See <http://www.pcr.uu.se/research/ucdp/definitions/> for further details concerning this definition.

Figure 1: Deaths in internal conflicts 1965–2009 vs. poverty in 1965



Sources: Battle deaths: Lacina and Gleditsch (2005). Infant mortality rates: UN Population Division (United Nations, 2007).

the conflict literature has predominantly focused on armed conflicts involving the government. This is partly because good data have been available for several years through the Correlates of War project (Sarkees, 2000) or the UCDP/PRIO data (Gleditsch et al., 2002) for this type of conflict, but not for others. Reflecting the distribution of relevant studies, I will mainly focus on state-based conflicts below but also note a few patterns regarding other types of violence.

## 2 The development-conflict correlation

Figure 1 demonstrates the strength of the relationship between development and armed conflict.<sup>2</sup> It shows the log infant mortality rate (IMR) in 1965 for all countries along the  $x$ -axis, and the number of battle deaths in internal conflicts over the 1965–2009 period divided by the population in 1965 along the  $y$ -axis. The line is the average proportion killed as a smoothed function of IMR. Most conflict countries are marked with country names in the figure, whereas countries with no or very minor conflicts appear only with non-marked

<sup>2</sup>The figure is taken from Hegre and Holtermann (2012). Battle-deaths data are from Lacina and Gleditsch (2005), and IMR data from United Nations (2007).

dots.

The figure shows that conflicts have disproportionately occurred in countries that had high infant mortality rates in 1965. The main exceptions are the conflicts in Northern Ireland, in the Basque countries, the attacks in New York of 9/11 2001, and the Israel-Palestine conflict.<sup>3</sup> The remainder of the 50 or so conflict countries are almost all in the poorer half of the world's countries. The figure also shows that conflicts typically were most lethal in the poorest countries.

## 2.1 The extent to which conflict is due to development

A string of recent studies have identified the 'correlates' of civil conflict by means of time-series cross-national statistical studies designed to assess the effect of variables on the risk of civil conflict onset controlling for other variables. All these studies find a strong link between development and internal conflict, measured as GDP per capita (Collier and Hoeffler, 1998; Fearon and Laitin, 2003), energy consumption per capita (Hibbs, 1973; Hegre et al., 2001), or infant mortality rates (Urdal, 2005). The pattern apparent in Figure 1 cannot simply be attributed to other factors such as political system, former colonial power, geographical location, or a pre-existing history of conflict. Hibbs (1973) and Hegre et al. (2001) indicate that the relationship between development indicators and political violence or the risk of armed conflict may be curvilinear, with the highest amount of violence in middle-income countries. At least, it seems that the difference between the poorest countries and lower-middle income countries is smaller than between lower- and upper-middle income countries.

The strong relationship between development and conflict applies to governmental conflicts as much as to territorial or secessionist ones (Buhaug, 2006). Similarly, clear negative correlations have been found between development (typically measured as GDP per capita) and the risk of military coups (Belkin and Schofer, 2003; Rød, 2012), and the risk of violence against civilians perpetrated by insurgents (Wood, 2010) as well as governments (Sundberg, 2009, 21). Harff (2003) find trade openness – at least partly an aspect of development as defined – to be associated with a lower risk of genocides among failed states.

It seems that what matters is primarily the poverty of the country as a unit. Indicators of individual-level economic inequality have not been found to have a robust association with the risk of civil conflict (Collier and Hoeffler, 2004; Hegre and Sambanis, 2006). This conclusion has recently been challenged, however. Boix (2008) find countries with a large proportion of small family farms (in contrast to large land-owner estates) have a lower risk of political violence. Moreover, studies such as Stewart (2002), Østby (2008), and Cederman, Weidmann and Gleditsch (2011) indicate that ethnic groups that are relatively disadvantaged have a higher propensity for involvement in conflict. Reflecting the group nature of conflict, group-level measures are more relevant to assess the importance of more localized patterns of violence. Possibly contradicting this conclusion, a couple of studies indicate that conflict events tend to occur in relatively centralized and well-to-do parts of conflict countries (Raleigh and Hegre, 2009; Hegre, Østby and Raleigh, 2009), but these

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<sup>3</sup>In the latter case, IMR is probably under-estimated as the IMR figures exclude mortality in the Palestine territories that were occupied in 1967 and are at the core of the conflict.

studies only capture the targets of violent events, not the poverty of the perpetrators. Moreover, several studies indicate that oil dependence increases the risk of conflict controlling for GDP per capita and other factors (e.g., Fearon and Laitin, 2003). This may not be so much because oil in itself is conducive to conflict as the fact that a country that is rich due to oil may be less developed as defined above than one whose wealth primarily relies on labor-intensive services and manufacturing.

Most internal conflicts have taken place in countries that were poor in the 1960s. Figure 1 suggests the most lethal conflicts predominantly have occurred in the poorest countries – examples are those in Afghanistan, Cambodia, Liberia, and El Salvador, all with direct death tolls exceeding one percent of the population. There are several exceptions, however, most notably the conflicts in Lebanon, Sri Lanka, and Israel. Lacina (2006) do not identify any correlation between poverty and the number of battle deaths per capita per year. What she finds is that wars are particularly severe in non-democracies and when they last long.

The relationship between conflict and poverty is robust to alternative model specifications. Poverty is a more robust predictor than political institutions, for instance, and virtually all published studies find it to be significant, even when controlling for the cold war, neighborhood conflicts, regional variables, and other predictors.<sup>4</sup>

As in all cross-national studies of development, data quality is an issue. GDP estimates are uncertain in poor countries (Jerven, 2010), and several countries are missing data. However, the statistical relationship between GDP per capita and risk of armed conflict seems to hold up in studies that deals with bias from systematic differences in data availability in conflict-ridden countries (Honaker and King, 2010). Moreover, the relationship holds using different indicators for poverty, such as infant mortality or energy consumption per capita.<sup>5</sup>

## 2.2 How conflict affects development

The studies cited so far simply assume that variations in development is causally prior to conflict, but this is not necessarily the case. Conflicts might be development in reverse: ‘In such condition, there is no place for Industry, because the fruit thereof is uncertain’, as recognized by Hobbes (1651/1968, 186) hundreds of years ago. Several studies find a strong, adverse effect of conflict on GDP. Figure 1 plots deaths in internal conflicts for the 1965–2009 period as a function of the development level at the beginning in this period, but it is possible that conflicts before 1965 both increased the subsequent risk of conflict and undermined development.

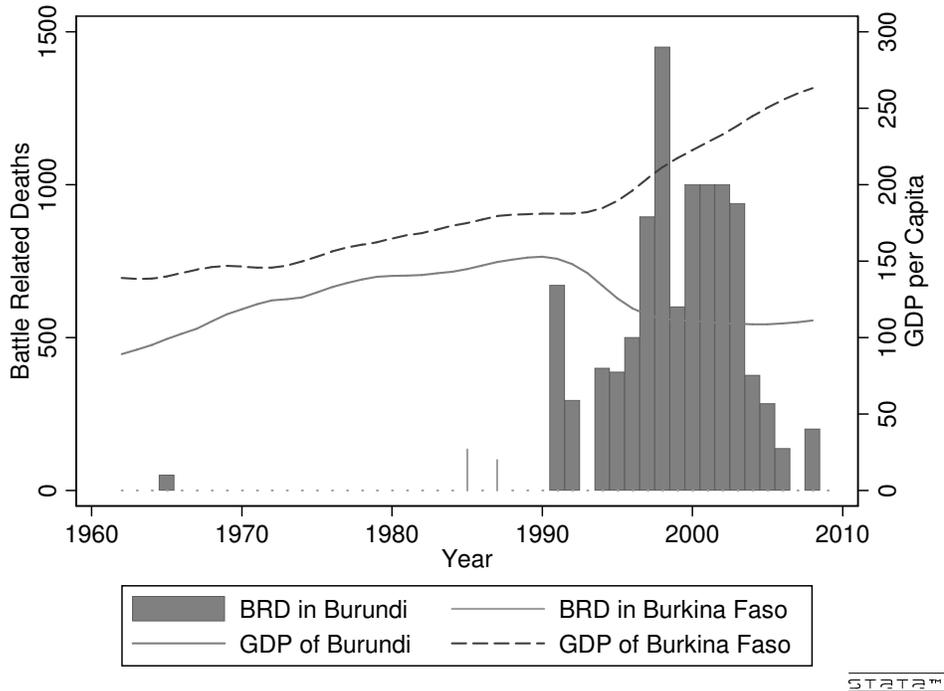
Figure 2 illustrates how detrimental conflicts often are. The two lines show that GDP per capita for Burundi (solid line) and Burkina Faso (dashed line) were roughly similar from independence up to 1990. The bars represent the conflicts that occurred in the two countries. The narrow bars show the very minor conflict in Burkina Faso in the mid-1980s, and the wide bars the severe Burundian conflicts from 1991 and onwards.

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<sup>4</sup>See Hegre and Sambanis (2006) for an extensive study of the robustness of civil war predictors.

<sup>5</sup>The coverage for infant mortality rate is quite complete, see for instance United Nations (2011).

Figure 2: Effect of conflict on GDP per capita: Burundi vs. Burkina Faso



Source: Gates et al. (2012)

After 1990, Burkina Faso increased its growth rate along with several other African countries. Burundi, on the other hand, saw a severe depression in income during the first years of the conflict and a subsequent economic stagnation.

Burundi's trajectory is typical. Collier (1999) and Gates et al. (2012) estimate that civil wars on average reduce GDP growth by more than 2% for each year of the war duration. Murdoch and Sandler (2002; 2004) find effects of a similar magnitude and also demonstrate that civil wars have adverse growth effects in neighboring countries. Blomberg and Hess (2002) show that recessions may increase the risk of both internal and external conflict, which in turn raise the probability of new economic downturns. Blomberg and Hess (2006); Bayer and Rupert (2004); Long (2008) and Magee and Massoud (2011) find that political violence reduces international trade, which in turn depresses growth.

Koubi (2005) studies the effect of both inter- and intranational wars on average growth in per capita real output. She finds that a war's severity, measured in battle deaths, has a significant negative impact on growth. When she conducts the analysis for interstate wars only, the statistical significance disappears, indicating that the 'association between war and economic growth is due to civil wars' (Koubi, 2005, 76–77).

Collier (1999) also examined the differential effects of war duration. He finds that while short wars 'cause continued post-war [GDP] decline, [...] sufficiently long wars give rise to a phase of rapid growth' (Collier, 1999, p. 175–176), reflecting a 'Phoenix effect' (Organski and Kugler, 1980). Collier attributes the continued

decline in GDP after short wars to post-war environments being less capital-friendly than before the war. Indeed, capital flight is a big problem in post-conflict economies (Davies, 2008). Koubi (2005, 78) and Chen, Loayza and Reynal-Querol (2008, p. 71) corroborate Collier's findings. After 'the destruction from war, recovery is achieved through above average growth' but this growth follows the pattern of 'an inverted U, with the strongest results achieved in the fourth or fifth year after the onset of peace' (Chen, Loayza and Reynal-Querol, 2008, p. 72, 79). Likewise, Blomberg and Hess (2002) find a strong negative effect of both external and internal conflict on growth. Flores and Nooruddin (2009) examine the special problems democracies face when trying to implement economic policy reforms in a post-conflict environment.

The economic effects of civil war also tend to spill over into neighboring countries (Buhaug and Gleditsch, 2008; Salehyan and Gleditsch, 2006). Murdoch and Sandler (2002; 2004) focus on the spillover effects from conflicts in neighboring countries and the magnified costs of being located near conflicts in the same region or sub-continent. Murdoch and Sandler (2002, p. 96) show that a neighboring civil war affects GDP directly and indirectly. The direct effect is from the collateral damage whereby battles close to the border destroy infrastructure and capital. The indirect effect occurs by increasing the 'perceived risk to would-be investors and divert foreign direct investment away from neighbors at peace'. They further find that a civil war creates 'significant negative influence on short-run growth within the country and its neighbors' (Murdoch and Sandler, 2002, p. 106–107). In Murdoch and Sandler (2004) they argue that 'owing to regional economic integration and regional multiplier effects', the spillover effects may go beyond a country's immediate neighbors. For neighbors within a radius of 800 km they find that 'a civil war at home is associated with a decline in economic growth of 0.1648, while an additional civil war in a neighbor is associated with a decline of approximately 0.05 or about 30 % of the home-country effect' (Murdoch and Sandler, 2004, 145). This implies that 'a country in a region with three or more civil wars may be equally impacted as a country experiencing a civil war' (Murdoch and Sandler, 2004, 150).

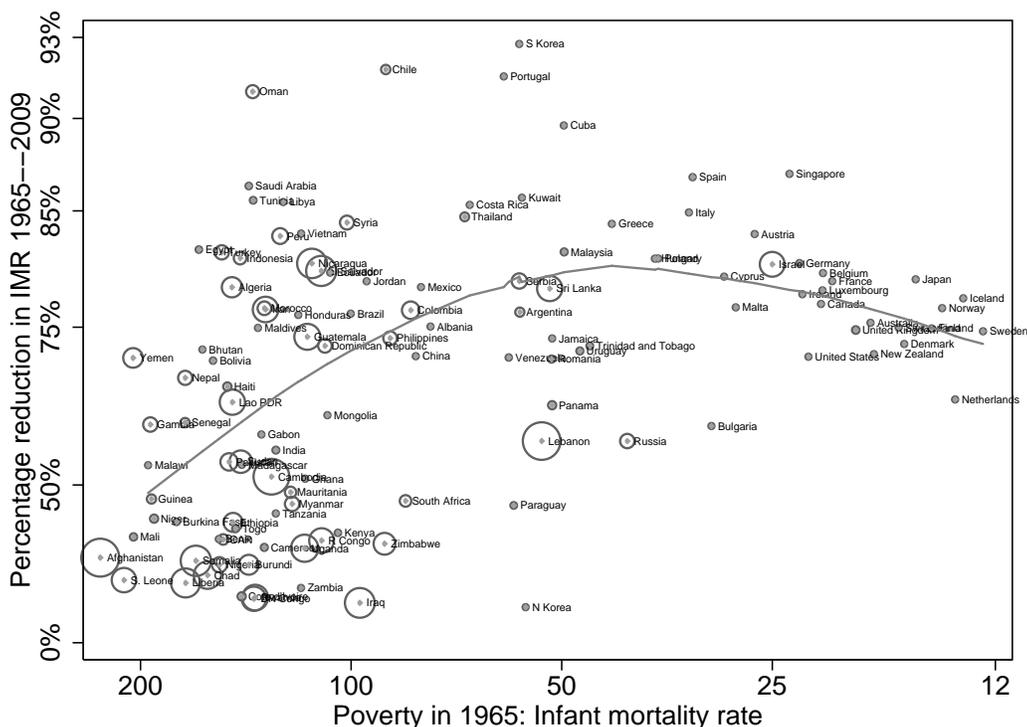
Figure 3 indicates that the adverse effects of conflict are by no means limited to the merely economic sphere.<sup>6</sup> The figure places the countries of the world according to their infant mortality rate in 1965 along the horizontal axis and the proportional decrease in IMR over the 1965–2009 period along the vertical. Some poor countries, such as Oman, Chile, and South Korea have experienced dramatic reductions in poverty according to this measure. The conflict histories of countries are represented by circles with area proportional to the number of battle-related deaths in percent. Several war countries have also seen considerable improvements in IMR, e.g. the countries in Central America, Algeria, and Sri Lanka. But a disproportionate number of the countries that were poor in 1965 and remain poor today have had long and destructive civil wars. Afghanistan, Somalia, Burundi, and Cambodia are evident examples.

The direct death tolls of civil wars are typically a few thousand fatalities. These deaths are nearly always accompanied with a large amount of indirect deaths. In the most comprehensive study of the health consequences of war, Iqbal (2010) shows that fertility rates increase and life expectancies decrease as a result

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<sup>6</sup>This figure is also taken from Hegre and Holtermann (2012).

Figure 3: Poverty reduction 1965–2009 vs. deaths in internal conflicts 1965–2009



Size of circles proportional to proportion of population killed in internal war. Sources: Battle deaths: Lacina and Gleditsch (2005). Infant mortality rates: UN Population Division (United Nations, 2007)

of conflict. Gates et al. (2012) demonstrate that conflict increases undernourishment, infant mortality rates, and access to safe water, in addition to depressing income. Lai and Thyne (2007) find civil wars to reduce educational expenditures, and by an amount sufficiently large to reduce enrollment in all educational levels. Ghobarah, Huth and Russett (2003) show that the adverse health effects linger on for several years after the conflict has ended. Both Plümpner and Neumayer (2006) and Ghobarah, Huth and Russett (2003) report that the health consequences of conflict are more severe for women than for men, despite that fewer women are killed directly in battle.

### 3 Explanatory mechanisms

#### 3.1 Why conflict reduces development

Collier (1999) classifies the routes through which conflict reduces development into destruction, disruption, diversion, and dis-saving. War actions destroy production and health facilities, war-related deaths and maiming reduces the workforce, destruction of roads hinders economic exchange and increase transportation costs. Disruption occurs through the insecurity created by violence and a general breakdown of the social order, as well as the effect of large population groups that flee their homes and thereby their jobs. Particularly

devastating for public health is the increased difficulty of obtaining safe drinking water in conflict zones (Gates et al., 2012). In many instances, large refugee populations are exposed to epidemic diseases through crowding, bad water, poor sanitation, and malnourishment (Ghobarah, Huth and Russett, 2003, 192).

Civil wars lead to massive diversion of public funds. Increased military spending shifts public resources from expenditures that promote growth and public health (Ghobarah, Huth and Russett, 2003, 192). Finally, war economies suffer from dis-saving and massive capital flight. The effects on capital is due to the destruction of infrastructure as well as the increases in transaction costs. ‘The ability to enforce contracts is reduced as the institutions of civil society is weakened, trust declines, time horizons shorten due to uncertainty, and opportunism becomes more profitable’ (Collier, 1999, 178). In an analysis focusing specifically on capital flight, Davies (2008) shows that capital flight is high in conflict and post-conflict countries, in particular in combination with high inflation.

Armed conflict also adversely affects the *structure* of the economy. Since land-specific capital such as agriculture and other primary commodities is less mobile, the flight of mobile capital means that conflict transforms economies into more primary-commodity dependent economies (Collier et al., 2003, 84). In a study of the national accounts of Uganda 1971–1986, Collier (1999) shows that arable subsistence agriculture, a relatively war-invulnerable sector, increased from 20.5 to 36% of GDP, and that war-vulnerable sectors (construction, transport, distribution, finance, manufacturing) decreased from 42.5 to 24%. The erosion of incentives to invest in the conflict country applies at all levels of the economy. Skilled labor migrates, middle-class citizens with savings move them abroad, foreign companies close down all activities if the costs of protecting investments become too high, and governments become short-sighted and opportunistic – in the terms of Olson (1993), if conflict countries were lucky enough to have a ‘stationary bandit’ before, war tends to reinstall the roving ones. The income losses due to war are typically of the kind that increases the future risk of new conflicts. Supplies of financial and human capital contract relative to land, natural resource extraction, and unskilled labor. The breakdown of government control opens up for production of illegal drugs as happened in Colombia and Afghanistan.

### **3.2 Why development reduces the risk of conflict**

Just as armed conflict hurts economic activity and public health through several pathways, there are several mechanisms through which development reduces the risk of conflict. Internal armed conflicts, moreover, are complex processes and are likely to have a complex pattern of explanations. As discussed above, development is a multi-faceted concept, and societal changes that are theoretically distinct often occur together. Hence, scholars often disagree about the relative importance of these mechanisms. Currently, sufficiently detailed data are not available to allow cross-national studies to distinguish clearly between them.

## Poverty as motivation for conflict

Poverty may itself lead to conflict. In the words of Marx and Engels (2010/1848, 34), the ends of poor workers ‘can be attained only by the forcible overthrow of all existing social conditions ... The proletarians have nothing to lose but their chains’. A large gap between people’s actual ‘need satisfaction’ and what they expect can lead to frustration, a strong sense of injustice, and a revolutionary ‘mood’ (Davies, 1962). However, partly based on another Marx argument, Davies explicitly argues that ‘absolute need satisfaction’ is not what drives revolutions. What is crucial is *relative* satisfaction. Davies introduces the ‘J-curve’, reflecting that revolutions occur when the gap between actual and expected need satisfaction increases, either due to economic crises or to increasing inequalities. An early empirical assessment of this claim is Gurr (1968), who finds a positive correlation between social strife and economic discrimination, political discrimination, and short-term deprivation. Gurr’s ‘persisting deprivation’ measure is also positively correlated with civil strife. This to some extent captures absolute poverty such as the proportion of the population that lacks education.

Up to recently, no studies found a clear link between ‘relative deprivation’ due to within-country economic inequality and internal armed conflict. More recent work supports to a larger degree deprivation-based arguments, showing associations between conflict and specific forms of inequality (Boix, 2008; Østby, 2008; Cederman, Weidmann and Gleditsch, 2011). Consistent with this idea, most rebel groups do indeed state revolution, democratization, or poverty reduction as their goal. The relationship between poverty and rebellion is complex, however. For one thing, rebel group *leaders* are often from more well-to-do segments of the population. Che Guevara was a middle-class medical student, John Garang of the SPLA had a PhD in Agricultural economics, and Prachandra of the Nepalese Maoist insurrection was from a Brahmin landlord family.

Foreshadowing the curvilinear relationship found by Hibbs (1973), Davies (1962, 7) adds another qualification to the idea that poverty leads to conflict. Revolutions do not occur when a society is generally impoverished. Evils ‘are endured in the extreme case because the physical and mental energies of people are totally employed in the process of merely staying alive. ... When it is a choice between losing their chains or their lives, people will mostly choose to keep their chains’.

Empirical studies such as Collier and Hoeffler (2004) and Fearon and Laitin (2003) find little relation between conflict and ‘grievance-related’ measures such as inequality, ethnic diversity, dictatorship, religious discrimination. Consequently, they argue that the explanation for the correlation between average income and risk of armed conflict must be sought outside how the absence of development affects motivation for conflict.

## Opportunities for violence entrepreneurs

The lack of a clear relationship between ‘extent of grievance’ and armed conflict is likely due to the ‘rebel’s dilemma’ (Lichbach, 1995): A civil war must be fought before justice is achieved, the rebel army must be sufficiently strong to defeat the government, and must be hierarchally organized to be militarily successful

(Collier, 2000). This gives rise to a collective action problem (Olson, 1965), since any potential rebel group recruit knows he or she will be better off if someone else fights to bring about the revolution – fighting is costly and the revolution is a public good.

Partly echoing the arguments of Lichbach (1995), Collier dismisses the explanatory power of *motivation* for conflict.<sup>7</sup> Even if the collective action problem somehow could be solved, Collier (2000) also point to a commitment problem. Since it is necessary to organize a rebel army hierarchically, a rebel leader that successfully overturns a dictator will be in a position to merely replace him upon victory, and maintain the unjust political system since it now benefits him. Being aware of this incentive, the potential recruit must be skeptical to the expected utility of revolution. Based on this logic and the weak statistical relationship between conflict and ‘grievance’ indicators such as political system or economic inequality, Collier (2000); Collier and Hoeffler (2004) indicated that *greed* is a more powerful motivator for conflict, referring to cases such as the so-called ‘Revolutionary United Front’ in Sierra Leone that soon seemed more interested in diamond extraction than in revolution (also see Berdal and Malone, 2000).

The argument that greed should be the sole or even dominant motivation for armed conflicts has been contested effectively (e.g., Regan and Norton, 2005; Stewart, 2008; Cederman, Wimmer and Min, 2010; Cederman, Weidmann and Gleditsch, 2011). In his more recent account of the development-conflict relationship, Paul Collier primarily stress how aspects of development affects the *feasibility* of internal conflict. Given the problems of recruiting merely on the basis of a revolutionary agenda, Collier argues, rebel leaders have to rely on private incentives to be able to recruit rather than appealing to lofty motives of justice-seeking. A regularly salary or ‘bonus payment’ in the form of opportunities for looting are among such incentives.<sup>8</sup> This links rebellion to development since salary costs for rebel groups are low where there is an abundance of poor, unemployed, young males (Lichbach, 1995, 44).<sup>9</sup> Indeed, studies find conflict onset to be more frequent where populations have large ‘youth bulges’ (Urdal, 2006), and where education levels are low (Thyne, 2006), controlling for other development indicators. Several studies find economic incentives to be important. Studies using systematic data on rebel combatant backgrounds suggest that the poor tend to be over-represented among rebel as well as government forces (Arjona and Kalyvas, 2006; Humphreys and Weinstein, 2008; Viterna, 2006, 10).

Obviously, an evaluation of the financial sustainability of a rebellion must compare salary costs with the potential gain from fighting. Collier and Hoeffler (2004) list three sources of revenue that all can be linked to a relative absence of economic development. The first is to use violence to enable extraction of natural resources. In low-income countries, primary commodities are relatively important to the economy. Many primary commodities make up useful sources of finance for rebel groups. Exports of alluvial diamonds fueled and prolonged the conflicts in Sierra Leone and Angola, opium in Burma, and coca in Colombia (Fearon,

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<sup>7</sup>See Collier (2000); Collier et al. (2003); Collier and Hoeffler (2004); Collier, Hoeffler and Rohner (2009).

<sup>8</sup>See Lichbach (1994; 1995, 228–) for a detailed and nuanced discussion of the importance of selective incentives. Relatedly, many rebel groups rely on forced recruitment, and some may recruit individuals that value violent behavior for its own sake.

<sup>9</sup>Opportunity costs of becoming a government soldier, are also lower, of course. However, this may be of relative advantage to the rebels, since the governments usually face less recruitment constraints due to their greater resources and opportunity to conscript soldiers (Collier, 2000).

2004; Lujala, Gleditsch and Gilmore, 2005). A second source is donations from migrants. Remittances from migrant workers make up an important proportion of international capital flows of many economies – more than 5% is not uncommon (Giuliano and Ruiz-Arranz, 2005, 5). An unknown proportion of such remittances flow to rebel groups – such flows seem to have been important in Eritrea, Sri Lanka, and Kosovo. A third source is support from other governments. All of these sources of revenue are particularly promising in low-income countries where they typically are large relative to the total economy.

### **Poor state capacity**

Hobbes (1651/1968) saw anarchy as the main explanation for war, and called for a ‘leviathan’ to keep citizens from killing each other. Gat (2006) and Pinker (2011) review accounts of how the emergence of early states substantially reduced the propensity for humans to kill each other. Translated into the domain of modern (although poor) states, the feasibility of rebellion obviously depends not on the absolute amount of soldiers and resources available to a rebel group, but on the resources available relative to what the government can invest in the contest. In line with Collier and Hoeffler (2004), Fearon and Laitin (2003) stress the conditions that favor insurgency. They, however, place somewhat more emphasis on the strength of the governments opposing the insurgents.

At least four aspects of state capacity are relevant, and all are partly linked to socio-economic development. The first concerns physical access to the territory of the state, the second the military capabilities of the government and the intelligence required for effective counter-insurgency activities, and the fourth the state’s ability to implement policies designed to reduce support for the opposition.<sup>10</sup>

Guerillas can operate more easily if governments have problems accessing physically parts of the territory they govern. Both Fearon and Laitin (2003) and Collier and Hoeffler (2004) stress the importance of ‘safe havens’ – rural regions where the terrain is mountainous or forested or poorly served by roads. Development as defined above remove such havens through the development of infrastructure and migration into cities. Governments of poor countries, in particular in Africa, tend to control core areas but have weak presence in the ‘hinterlands’ (Herbst, 2000). In many countries, and particularly in those that inherited their borders from former colonial powers, the population is very unevenly distributed geographically. The Democratic Republic of Congo is a prime example, with a large population concentration in the East separated from the capital by thousands of kilometers of inaccessible jungle. Such physical-demographic features add to the challenges posed by poor governments (Herbst, 2000; Kocher, 2004; Buhaug, Gates and Lujala, 2009; Holtermann, 2012).

In addition to accessibility, governments must have sufficient military capabilities to put down rebellions. Governments of poor countries also often command relatively small armies that are lightly armed and often poorly trained and organized. States with large armies relative to their populations tend to have shorter wars if they break out (Mason and Fett, 1996; DeRouen and Sobek, 2004). Obviously, armies are also more

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<sup>10</sup>See Sobek (2010) and Hendrix (2010) for a discussion of state capacity in relation to civil conflict.

effective the better equipped and organized they are. Relatedly, government armies faced with insurgents relying on elusive guerilla tactics depend on an ability to obtain information about who the insurgents are and where they can be attacked. In the absence of adequate information, governments are often compelled to make use of indiscriminate force against local populations. Such violence often strengthens insurgencies since young males consider themselves more safe as soldiers in the rebel army than as civilians in their home villages.

State capacity is not limited to governments' coercive capacity, but also on their abilities to implement conflict-reducing policies. In many cases, an important component of the struggle between the government and an insurgency is a contest over the 'hearts and minds' of local populations. A well-organized government with adequate government budgets is able to provide basic services to populations in order to strengthen their support for the government relative to potential insurgents. Such basic services include health services, infrastructure that develop economic opportunities, and security against crime and natural disasters. Many rebel groups rely on a combination of persuasion and public-goods provision (c.f., Popkin, 1988; Viterna, 2006; Wood, 2003; Young, 1998) for eliciting part-time collaboration.

### **Decreased lootability in diversified economies**

Another aspect of development is the importance of 'lootability'. In the context of interstate conflict, Rosecrance (1986) argues that commerce is gradually replacing conquest as a means of advancing the 'national interest'. When land is the major factor in both production and power, a territory can be seized and made profitable by means of physical force – 'labor, capital, and information is mobile and cannot be definitely seized' (Rosecrance, 1996, 48). Conquest used to be the major cause of interstate war since states could improve their position by building empires or invading other nations to seize territory. When mobile factors of production – capital and labor – surpass land in importance for productive strength, land becomes relatively less valuable, and states are better off trading with other states than attempting to conquer them. According to Gat (2006, 658), '[r]ather than the cost of war becoming prohibitive [...], it was mainly the benefits of peace that increased dramatically once the Malthusian trap was broken, tilting the overall balance between war and peace for [...] industrializing and industrial societies, regardless of their regime, for which wealth acquisition ceased to be a zero-sum game.'

This development-related change has an analogy in internal conflicts. When land-based assets, such as most primary commodities, are economically dominant, states have strong incentives to use physical force to retain control, and potential insurgents have similar incentives to try to seize control over the central power or to obtain larger autonomy for a region. This argument reflects the importance placed on primary commodity exports by Collier and Hoeffler (2004) and Fearon and Laitin (2003). Several rebel economic activities require high rebel territorial control, such as taxation of natural resource production, rich landowners, or household incomes (Fearon and Laitin, 2003).

Boix (2008, 432) expands this to a much more complete explanation:

Modern political violence (particularly violence of an organized nature) occurs in states in which assets are immobile and unequally distributed. In relatively equal societies, peaceful, democratic means of solving conflict are advantageous to all parties and violence happens with little probability. In economies where wealth is either mobile or hard to tax or confiscate, sustained political violence to grab those assets does not pay off since their owners can either leave in response to the threat of confiscation or are indispensable to the optimal exploitation of assets.

Boix (2008) finds strong empirical evidence for this account. Theoretically, he builds on a related argument in the literature on democratization, where the models of Boix (2003) and Acemoglu and Robinson (2006) provide an explicit link to civil war. In both accounts, elites agree to democratization because they fear a revolution staged by the poor. Democratization, they argue, is most likely when inequality is moderate, since the tax rate preferred by the median voter would then be lower than if the poor are much worse off than the rich. The implication for internal conflict is that revolutions will be more frequent in inequal societies, since the elites have a stronger incentive to resist democratization.

Boix (2003) adds the concept of ‘asset specificity’ to this. If the assets that the rich control are in the form of land or other resources that cannot be moved out of the country, the poor will be able to impose radical taxes if they get to control the tax rate (either through democratic institutions or through a successful revolution). If most of the wealth is in the form of financial capital, a larger fraction of it is ‘safe’ from taxation, and democratization is less threatening. Revolutions, then, will also be less frequent where capital is mobile, since the poor can more easily obtain the maximum redistribution they can hope for by means of democratization than through revolution. Moreover, where lootable assets are predominant, rebel groups have incentives to stage limited campaigns not to entirely take over the government, but to secure access to profitable natural resources.

### **Higher costs to violence in densely interacting societies**

Interstate conflict has become increasingly rare since the end of World War II. Russett and Oneal (2001) highlight the importance of the expansion of interstate trade for this decline. As noted by Rosecrance (1986), however, the emergent predominance of ‘trading states’ is partly a function of economic development. Just as countries become more dependent on trade with other countries and thereby more reluctant to use violence against them, the incentives to use organized violence against other groups is likely to change when groups engage more frequently in economic exchange. Economic exchange has a dual effect, according to Rosecrance. Trade becomes a more cost-effective way of getting access to resources and reduces the benefit of obtaining political control over territories by means of force. At the same time, trade relationships require a minimum of confidence that trading partners mutually respect property rights, so that considerable ‘reputation costs’ add to the financial and human costs of warfare.

### **Indirect effect through political institutions**

A couple of studies (Hegre, 2003; Collier and Rohner, 2008) find that the relationship between poverty and the risk of armed conflict is contingent on the political system of a country. This runs counter to the argument that development mainly works through its effect on financial sustainability. Hegre (2003) finds that increased economic development only reduces the risk of armed conflict in democracies. In non-democracies, development does not change the risk of conflict. This regularity should be seen in conjunction with the fact that that ‘the more well-to-do a nation, the greater the chances that it will sustain democracy’ (Lipset, 1959, 75). At least up to the last decade or two, very few poor countries have had stable, well-functioning democratic political systems. Perhaps reflecting the limited capacity for political action among impoverished citizens, pressures for political liberalization is typically weak in poor countries. In middle-income countries, on the other hand, autocratic leaders face much more forceful demands for democratization. As recently seen in Syria and Libya, such demands sometimes escalate into large-scale armed conflict. In autocracies, then, the conflict-reducing effect of development through the strengthening of the state apparatus is offset by the conflicts due to political demands. In consolidated democracies where most citizens support the political system, stronger states and more complex economies effectively reduce the opportunities and incentives for armed conflict.

This finding sets some of the previous explanations in a new light. The opportunities for rebellion and military state capacity explanations are somewhat weakened, since they should not be contingent on the design of the political system. Grievance-related explanations, on the other hand, are strengthened if demands for democratization is what drives the contingent relationship. The counter-argument posed by the collective action problem may be less important here, since middle-income populations typically are better educated and networks of interaction are denser, helping the opposition to solve collective action problems.

### **Education and the cognitive ability to maintain peaceful relations**

I noted that Thyne (2006) found education to decrease the risk of civil conflict, controlling for other aspects of socio-economic development. Pinker (2011, 172) argues that education and the wide dissemination of literature following the invention of the printing press helped set off the ‘humanitarian revolution’. With literacy, ‘[t]he pokey little world of village and clan, accessible through the five senses and informed by a single content provider, the church, gave way to a phantasmagoria of people, places, cultures, and ideas.’ This led to a widening of the ‘empathy circle’; the group of people whose interests people value as they value their own. Moreover, Pinker argues that *reason* is another of the ‘better angels of our nature’ (in addition to empathy) that explains the decline in violence. Reason helps individuals to control themselves, but also help ‘integrative complexity’ (Suedfeld and Tetlock, 1977) – the degree to which political discourse acknowledges multiple points of view, tradeoffs or compromises between them, and refer to higher principles or systems. Integrative complexity is negatively related to violence, and positively to education. Moreover, reason is clearly related to education, and a factor that has changed sufficiently quickly and systematically to qualify

as an explanation of declining trends of violence globally as well as differences between various regions of the world.

## 4 Conflict-poverty traps – how bleak is the future?

It is clear from the previous sections that conflict and poverty are endogenous to each other. Poverty is among the most important structural conditions that facilitate internal armed conflict (Collier and Hoeffler, 2004; Fearon and Laitin, 2003; Hegre and Sambanis, 2006). The detrimental effect of conflict on the economy, then, increases the risk of continued or renewed conflict. The changes to the structure of the economy – away from capital-based production to natural resource extraction, further increase the vulnerability to conflict and to more authoritarian politics (Collier and Hoeffler, 2004; Boix, 2003). Collier et al. (2003) argues that about a fifth of the world’s countries are caught in a ‘conflict trap’ where intermittent fighting effectively prevents countries from escaping the poverty that facilitates conflict. Collier et al. (2003, 111) estimates that by 2050, only about 10% of 50 or so ‘marginalized countries’ will have been able to escape the trap.

It is hard to quantify precisely how strong the trap is, but Figure 1 above indicated that it is less impossible to escape the conflict trap than indicated by Collier et al. (2003). Most conflict countries are found in the bottom left in the figure. Conflict countries such as Afghanistan, Liberia, and Burundi were poor in the 1960s and have reduced infant mortality by much less than comparable countries. However, even Afghanistan and Somalia have clearly lower infant mortality rates in 2009 than in 1965. Some war countries, such as Laos, Nicaragua, and Colombia have reduced poverty at a quicker rate than comparable countries.

Figure 4 shows another simulation of future global conflict, drawn from Hegre et al. (2013). The upper line represents the proportion of the world’s countries expected to be in an armed conflict as defined above. Up to 2011, the line reflects observed conflict. From 2012, it shows predicted conflicts. The lower line plots the proportion in major conflicts with at least 1,000 annual battle-related deaths. The simulation is based on a statistical model of the historical relationship between armed conflict incidence and a set of predictors, including development indicators such as infant mortality rate, education levels, and demographic composition. The predictions are obtained by simulating changes into and out of conflict according to the estimates for this model, but using UN and IIASA forecasts (United Nations, 2007; Samir et al., 2010) for these variables as input variables.

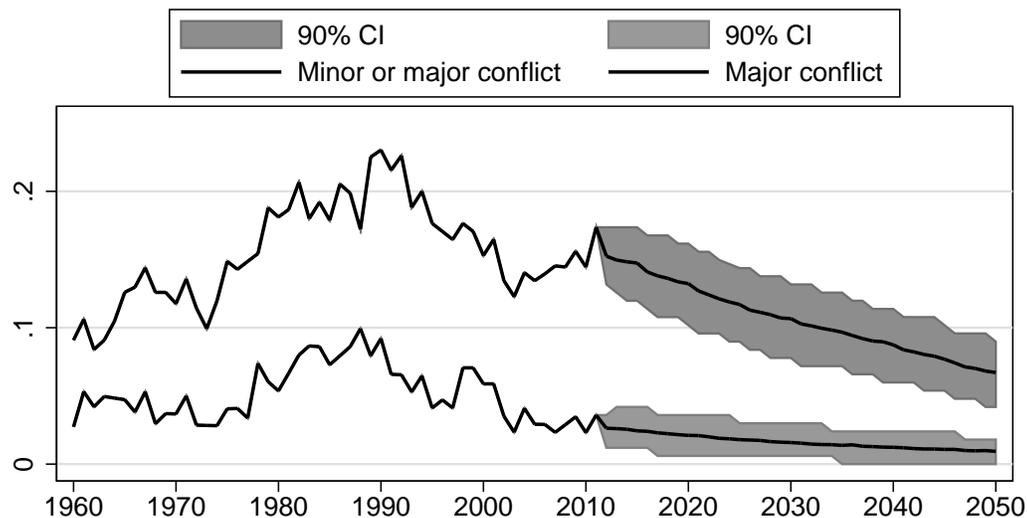
Since the UN and the IIASA project continued improvements to these development variables, the simulations indicate a significant decline in the global incidence of conflict. In 2011, 17% of the countries of the world had a minor or major conflict.<sup>11</sup> In 2050, this proportion will be reduced to less than half of that figure, according to the predictions in Hegre et al. (2013).

The projected decline is particularly strong in the Middle East/North Africa (MENA) and South and Central Asia regions. Over the past couple of decades, these regions have had more conflict than expected

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<sup>11</sup>That is, 17% of the 169 countries for which sufficient data exist.

Figure 4: Past and predicted global proportion of countries in internal armed conflict, 1970–2050



Source: Based on Hegre et al. (2013).

from these predictors. Moreover, all three development variables are projected to decrease in these regions. For instance, in the MENA region, the proportion of population without secondary education was about 30% in 1995 and will be less than 15% in 2050. Given this development, this study suggests that the proportion of countries in conflict will decline from about 20% to about 6% over the next 40 years.

Figures 1 and 4 indicate that the conflict-dampening effect of development on conflict on average is stronger than the effect of conflict on development. Countries will not find themselves in perennial conflict traps if there are sufficiently strong exogenous factors that can pull them out. Such exogenous factors obviously exist, both for the conflict side and the development side of the equation.

Several studies, for instance, find a substantial effect of UN peace-keeping operations on the risk of conflict recurrence (Doyle and Sambanis, 2000; Fortna, 2004; Gilligan and Sergenti, 2008; Hegre, Hultman and Nygård, 2011). Even if UN PKOs are unable to completely prevent fighting, the dampening effect may be strong enough for countries to slowly grow out of the trap. Global and regional hegemony also have the potential to prevent armed conflicts.

Several additional factors affect development independently of domestic conflicts. Global and regional economic growth stimulates investment and affects incentives even in fairly marginalized countries – the growth of China and India is eventually bound to affect Myanmar, for instance. International development assistance is another exogenous source of growth (to the extent that it is effective).

To some degree, conflict propensity and development are both responses to deeper societal changes, such as changes in norms regarding the use of violence, a general increase in the valuation of human lives, and the willingness to invest resources that improve the livelihood of a population. Finally, changes in

international norms affect both the incentives for using physical force for political purposes and the legitimacy of governments that neglect to provide minimal public goods for their populations.

Obviously, some exogenous factors increases the risk of conflict as well as affecting economic development. The steady increase from 1960 up to 1992 in the number of countries with conflict seen in Figure 4 runs counter to the main argument in this review. Almost all countries became less poor over this period. International factors are necessary to explain that the decline in global conflict levels did not start until the 1990s (Hegre et al., 2013, 11). The Cold War accounts for parts of this increase – superpower financing of parties to conflicts helped sustaining them, and global politics prevented the United Nations from engaging in effective peacekeeping operations until the 1990s (Goldstein, 2011, 5). Equally important was the creation of a large number of new states from former colonies. Most of the new states formed after 1945 were poor countries, and their weak and unconsolidated state institutions sooner or later failed to prevent armed conflict. The optimistic projections in 4 presuppose that the current favorable climate continues.

## 5 Conclusion and future research agendas

This chapter has reviewed the existing literature on the reciprocal relationship between conflict and development, broadly defined.

Although the correlation between the two is clear and well-documented, several questions remain unanswered. Reflecting the diverse nature of the development concept, several indicators have been used to capture it – GDP per capita, energy consumption per capita, infant mortality rates, life expectancy, education levels; importance of primary commodities in economy, or urbanization. The various indicators are associated to varying extents with different theoretical mechanisms through which conflict and development affect each other. The availability of several indicators in principle promises an ability for researchers to distinguish statistically between different explanations. In practice, however, this is difficult since indicators are highly correlated, mechanisms rarely operate in isolation from each other, and a multitude of idiosyncratic features of how particular social groups interact ensure that statistical studies always have to live with most of the variance in behavior unexplained. Distinguishing between various explanations should figure high on future research agendas.

A promising avenue may be to continue to supplement the cross-national studies that form the bulk of the empirical studies reviewed here with statistical studies of conflict at a geographically more disaggregated level (as done in Buhaug and Rød, 2006; Hegre, Østby and Raleigh, 2009; Weidmann, 2009; Kalyvas and Kocher, 2009; Do and Iyer, 2010; Cederman, Weidmann and Gleditsch, 2011). For instance, such studies may help distinguishing the importance of state capacity from poverty by comparing within-country variation in poverty levels. Good qualitative case studies that critically address the theoretical mechanisms posited in more general studies will also be helpful, spelling the various incentives and conditions out for the relevant groups.

Another important set of research questions is to identify the factors that helps countries breaking out of conflict traps. For instance, development assistance targeted at education may slowly alter the situation in countries where intense conflict inhibits any short-term, investment-based growth. This review indicates this is the case, but existing studies do not give conclusive answers.

This review allows for cautiously ending on a fairly optimistic note. It is well known that the world lives in a time of unprecedented material abundance. A large minority enjoys luxuries that previously were reserved extremely narrow elites, such as artificial lightning, 40-hour work weeks, and fruit and spices imported from the other side of the globe. Never before have such a large proportion of mankind been free from dire poverty. Only over the last 50 years, infant mortality rates have been reduced by 50–75% in most countries. Less recognized is the argument that the world has seen a equally dramatic decline in armed conflict (and in violence in general). This decline is amply documented in Gat (2006), Pinker (2011), and Goldstein (2011). These two processes are inter-related, and we can continue to expect future trends in conflict that reflect the likely future trends in development. Poverty-conflict traps certainly exist, where conflicts exacerbate the conditions that facilitate continued conflict. This review, however, has noted that the conflict-dampening effect of development on conflict on average is stronger than the poverty-increasing effect of conflict. As long as the world can avoid a new cold war or the break-up of large, poor states into new political units, continued global economic growth is likely to push armed conflicts further back into the more and more remote parts of the world.

## References

- Acemoglu, Daron and James A. Robinson. 2006. *Economic Origins of Dictatorship and Democracy*. New York: Cambridge University Press.
- Arjona, Ana and Stathis Kalyvas. 2006. “Preliminary Results of a Survey of Demobilized Combatants in Colombia.” *Unpublished manuscript, Yale University* .
- Bayer, Resat and Matthew C. Rupert. 2004. “Effects of Civil Wars on International Trade, 1950–92.” *Journal of Peace Research* 41(6):699–713.
- Belkin, Aaron and Evan Schofer. 2003. “Toward a Structural Understanding of Coup Risk.” *Journal of Conflict Resolution* 47(5):594–620.
- Berdal, Mats and David M. Malone. 2000. *Greed and Grievance: Economic Agendas in Civil Wars*. Boulder, CO and London: Lynne Rienner.
- Blomberg, S. Brock and Gregory D. Hess. 2002. “The Temporal Links between Conflict and Economic Activity.” *Journal of Conflict Resolution* 46(1):74–90.
- Blomberg, S. Brock and Gregory D. Hess. 2006. “How much does violence tax trade?” *Review of Economics and Statistics* 88(4):599–612.
- Boix, Carles. 2003. *Democracy and Redistribution*. Cambridge: Cambridge University Press.
- Boix, Carles. 2008. “Economic Roots of Civil Wars and Revolutions in the Contemporary World.” *World Politics* 60:390–437.

- Buhaug, Halvard. 2006. "Relative Capability and Rebel Objective in Civil War." *Journal of Peace Research* 43(6):691–708.
- Buhaug, Halvard and Jan K. Rød. 2006. "Local Determinants of African Civil Wars, 1970–2001." *Political Geography* 25(3):315–335.
- Buhaug, Halvard and Kristian Skrede Gleditsch. 2008. "Contagion or Confusion? Why Conflicts Cluster in Space." *International Studies Quarterly* 52:215–233.
- Buhaug, Halvard, Scott Gates and Päivi Lujala. 2009. "Geography, Rebel Capability, and the Duration of Civil Conflict." *Journal of Conflict Resolution* 53(4):544–569.
- Cederman, Lars-Erik, Andreas Wimmer and Brian Min. 2010. "Why do ethnic groups rebel? New data and analysis." *World Politics* 62(1):87–119.
- Cederman, Lars-Erik, Nils B. Weidmann and Kristian S. Gleditsch. 2011. "Horizontal Inequalities and Ethnonationalist Civil War: A Global Comparison." *American Political Science Review* 105(3):478–495.
- Chen, Siyan, Norman V. Loayza and Marta Reynal-Querol. 2008. "The Aftermath of Civil War." *The World Bank Economic Review* 22(1):63–85.
- Collier, Paul. 1999. "On the Economic Consequences of Civil War." *Oxford Economic Papers – New Series* 51(1):168–183.
- Collier, Paul. 2000. Doing Well Out of War: An Economic Perspective. In *Greed & Grievance: Economic Agendas in Civil Wars*, ed. Mats Berdal and David M. Malone. Boulder, CO: Lynne Rienner (91–111).
- Collier, Paul and Anke Hoeffler. 1998. "On the Economic Causes of Civil War." *Oxford Economic Papers* 50(4):563–573.
- Collier, Paul and Anke Hoeffler. 2004. "Greed and Grievance in Civil War." *Oxford Economic Papers* 56(4):563–595.
- Collier, Paul, Anke Hoeffler and Dominic Rohner. 2009. "Beyond greed and grievance: feasibility and civil war." *Oxford Economic Papers* 61:1–27.
- Collier, Paul and Dominic Rohner. 2008. "Democracy, Development and Conflict." *Journal of the European Economic Association* 6(1):531–540.
- Collier, Paul, Lani Elliot, Håvard Hegre, Anke Hoeffler, Marta Reynal-Querol and Nicholas Sambanis. 2003. *Breaking the Conflict Trap. Civil War and Development Policy*. Oxford: Oxford University Press.
- Dahl, Robert A. 1971. *Polyarchy: Political Participation and Opposition*. New Haven: Yale University Press.
- Davies, James C. 1962. "Towards a Theory of Revolution." *American Sociological Review* 27(1):5–19.
- Davies, Victor A. B. 2008. "Postwar capital flight and inflation." *Journal of Peace Research* 45(4):519–537.
- DeRouen, Karl and David Sobek. 2004. "The Dynamics of Civil War Duration and Outcome." *Journal of Peace Research* 41(3):303–320.
- Do, Quy-Toan and Lakshmi Iyer. 2010. "Geography, poverty and conflict in Nepal." *Journal of Peace Research* 47(6):735–748.
- Doyle, Michael W. and Nicholas Sambanis. 2000. "International Peacebuilding: A Theoretical and Quantitative Analysis." *American Political Science Review* 94(4):779–801.
- Fearon, James D. 2004. "Why Do Some Civil Wars Last So Much Longer Than Others?" *Journal of Peace Research* 41(3):275–301.
- Fearon, James D. and David D. Laitin. 2003. "Ethnicity, Insurgency, and Civil War." *American Political Science Review* 97(1):75–90.

- Flores, Thomas Edward and Irfan Nooruddin. 2009. "Democracy Under the Gun. Understanding Postconflict Economic Recovery." *Journal of Conflict Resolution* 53(1):3–29.
- Fortna, Virginia Page. 2004. "Does Peacekeeping Keep Peace? International Intervention and the Duration of Peace After Civil War." *International Studies Quarterly* 48:269–292.
- Gat, Azar. 2006. *War in Human Civilization*. Oxford: Oxford University Press.
- Gates, Scott, Håvard Hegre, Håvard Mogleiv Nygård and Håvard Strand. 2012. "Development Consequences of Armed Conflict." *World Development* 40(9):1713–1722.
- Ghobarah, Hazem Adam, Paul K. Huth and Bruce M. Russett. 2003. "Civil Wars Kill and Maim People—Long after the Shooting Stops." *American Political Science Review* 97(2):189–202.
- Gilligan, Michael J and Ernest J Sergenti. 2008. "Do UN Interventions Cause Peace? Using Matching to Improve Causal Inference." *Quarterly Journal of Political Science* 3:89–122.
- Giuliano, Paola and Marta Ruiz-Arranz. 2005. "Remittances, Financial Development, and Growth." IMF Working Paper WP/05/234.  
**URL:** <http://EconPapers.repec.org/RePEc:imf:imfwpa:05/234>
- Gleditsch, Nils Petter, Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg and Håvard Strand. 2002. "Armed Conflict 1946–2001: A New Dataset." *Journal of Peace Research* 39(5):615–637.
- Goldstein, Joshua S. 2011. *Winning the War on War: The Decline of Armed Conflict Worldwide*. New York: Dutton.
- Gurr, Ted. 1968. "A causal model of civil strife: A comparative analysis using new indices." *American Political Science Review* 62(4):1104–1124.
- Harff, Barbara. 2003. "No Lessons Learned from the Holocaust? Assessing Risks of Genocide and Political Mass Murder since 1955." *American Political Science Review* 97(1):57–74.
- Hegre, Håvard. 2003. "Disentangling Democracy and Development as Determinants of Armed Conflict." Working Paper 24637, the World Bank.  
**URL:** <http://go.worldbank.org/4EDBH32FC0>
- Hegre, Håvard, Gudrun Østby and Clionadh Raleigh. 2009. "Poverty and Civil War Events: A Disaggregated Study of Liberia." *Journal of Conflict Resolution* 53(4):598–623.
- Hegre, Håvard and Helge Holtermann. 2012. Poverty and Conflict. In *Elgar Companion to Civil War and Fragile States*, ed. Graham Brown and Arnim Langer. Cheltenham: Elgar pp. 39–58.
- Hegre, Håvard, Joakim Karlsen, Håvard Mogleiv Nygård, Håvard Strand and Henrik Urdal. 2013. "Predicting Armed Conflict 2010–2050." *International Studies Quarterly* 55(2):250–270.  
**URL:** <http://onlinelibrary.wiley.com/doi/10.1111/isqu.12007/pdf>
- Hegre, Håvard and Nicholas Sambanis. 2006. "Sensitivity Analysis of Empirical Results on Civil War Onset." *Journal of Conflict Resolution* 50(4):508–535.
- Hegre, Håvard, Tanja Ellingsen, Scott Gates and Nils Petter Gleditsch. 2001. "Toward a Democratic Civil Peace? Democracy, Political Change, and Civil War, 1816–1992." *American Political Science Review* 95(1):33–48.
- Hegre, Håvard, Lisa Hultman and Håvard Mogleiv Nygård. 2011. Simulating the Effect of Peacekeeping Operations, 2010–2035. In *Social Computing, Behavioral-Cultural Modeling and Prediction*, ed. John Salerno, Shanchieh Jay Yang, Dana Nau and Sun-Ki Chai. Lecture Notes in Computer Science 6589 New York: Springer pp. 325–334.
- Hendrix, Cullen S. 2010. "Measuring State Capacity: Theoretical and Empirical Implication for the Study of Civil Conflict." *Journal of Peace Research* 47:271–285.

- Herbst, Jeffrey. 2000. *States and Power in Africa: Comparative Lessons in Authority and Control*. States and power in Africa: comparative lessons in authority and control Princeton NJ: Princeton University Press.
- Hibbs, Douglas A. 1973. *Mass Political Violence. A Cross-National Causal Analysis*. New York: Wiley.
- Hobbes, Thomas. 1651/1968. *Leviathan*. London: Penguin.
- Holtermann, Helge. 2012. "Explaining the Development-Civil War Relationship." *Conflict Management and Peace Science* 29(1):56–78.
- Honaker, James and Gary King. 2010. "What to Do about Missing Values in Time-Series Cross-Section Data." *American Journal of Political Science* 54(3):561–581.
- Humphreys, Macarthan and Jeremy M. Weinstein. 2008. "Who fights? The determinants of participation in civil war." *American Journal of Political Science* 52(2):436–455.
- Iqbal, Zaryab. 2010. *War and the Health of Nations*. Stanford, CA: Stanford University Press.
- Jerven, Morten. 2010. "The Relativity of Poverty and Income: How Reliable Are African Economic Statistics?" *African Affairs* 109(3):77–96.
- Kalyvas, Stathis N and Matthew Adam Kocher. 2009. "The Dynamics of Violence in Vietnam: An Analysis of the Hamlet Evaluation System (HES)." *Journal of Peace Research* 49:335–356.
- Kocher, Matthew Adam. 2004. Human Ecology and Civil War PhD thesis Department of Political Science, University of Chicago.
- Koubi, Vally. 2005. "War and Economic Performance." *Journal of Peace Research* 42(1):67–82.
- Lacina, Bethany. 2006. "Explaining the Severity of Civil War." *Journal of Conflict Resolution* 50(2):276–289.
- Lacina, Bethany and Nils Petter Gleditsch. 2005. "Monitoring Trends in Global Combat: A New Dataset of Battle Deaths." *European Journal of Population* 21(2):145–166.
- Lai, Brian and Clayton Thyne. 2007. "The Effect of Civil War on Education." *Journal of Peace Research* 44(3):277–292.
- Lichbach, Mark. 1994. "What Makes Rational Peasants Revolutionary? Dilemma, Paradox, and Irony in Peasant Collective Action." *World Politics* 46(3):383–418.
- Lichbach, Mark Irving. 1995. *The Rebel's Dilemma*. Ann Arbor, MI: University of Michigan Press.
- Lipset, Seymour Martin. 1959. "Some Social Requisites of Democracy: Economic Development and Political Legitimacy." *American Political Science Review* 53(1):69–105.
- Long, Andrew G. 2008. "Bilateral trade in the shadow of conflict." *International Studies Quarterly* 52(1):81–101.
- Lujala, Päivi, Nils Petter Gleditsch and Elisabeth Gilmore. 2005. "A Diamond Curse? Civil War and a Lootable Resource." *Journal of Conflict Resolution* 49(4):538–562.
- Magee, Christopher S. P. and Tansa George Massoud. 2011. "Openness and internal conflict." *Journal of Peace Research* 48(1):59–72.
- Marx, Karl and Frederick Engels. 2010/1848. *Manifesto of the Communist Party*. Marxists Internet Archive. **URL:** <http://www.marxists.org/archive/marx/works/download/pdf/Manifesto.pdf>
- Mason, T. David and Patrick Fett. 1996. "How civil wars end: A rational choice approach." *Journal of Conflict Resolution* 40(4):546–548.
- Murdoch, James C. and Todd Sandler. 2002. "Economic Growth, Civil Wars and Spatial Spillovers." *Journal of Conflict Resolution* 46(1):91–110.

- Murdoch, James C. and Todd Sandler. 2004. "Civil Wars and Economic Growth: Spatial Dispersion." *American Journal of Political Science* 48(1):138–151.
- Olson, Mancur. 1965. *The Logic of Collective Action*. MA: Harvard University Press.
- Olson, Mancur. 1993. "Democracy, Dictatorship and Development." *American Political Science Review* 87(3):567–576.
- Organski, A.F.K. and Jacek Kugler. 1980. *The War Ledger*. Chicago: University of Chicago Press.
- Østby, Gudrun. 2008. "Polarization, Horizontal Inequalities and Violent Civil Conflict." *Journal of Peace Research* 45(2):143–162.
- Pinker, Steven. 2011. *The Better Angels of Our Nature. Why Violence has Declined*. New York: Viking.
- Plümper, Thomas and Eric Neumayer. 2006. "The unequal burden of war: The effect of armed conflict on the gender gap in life expectancy." *International Organization* 60(3):723–754.
- Popkin, Samuel L. 1988. Political Entrepreneurs and Peasant Movements in Vietnam. In *Rationality and Revolution*, ed. Michael Taylor. Cambridge: Cambridge University Press.
- Przeworski, Adam, Michael E. Alvarez, José Antonio Cheibub and Fernando Limongi. 2000. *Democracy and Development. Political Institutions and Well-Being in the World, 1950–1990*. Cambridge: Cambridge University Press.
- Raleigh, Clionadh and Håvard Hegre. 2009. "Population, Size, and Civil War. A Geographically Disaggregated Analysis." *Political Geography* 28(4):224–238.
- Regan, Patrick M. and Daniel Norton. 2005. "Greed, Grievance, and Mobilization in Civil Wars." *Journal of Conflict Resolution* 49(3):319–336.
- Rød, Espen Geelmuyden. 2012. Institutions under authoritarianism and coup attempts: 1950–2008. Master's thesis Department of Political Science, University of Oslo.  
**URL:** <http://folk.uio.no/hahegre/MasterTheses/GeelmuydenRod%20MasterThesis.pdf>
- Rosecrance, Richard. 1986. *The Rise of the Trading State. Commerce and Conquest in the Modern World*. New York: Basic Books.
- Rosecrance, Richard. 1996. "The Rise of the Virtual State." *Foreign Affairs* 75(4):45–61.
- Russett, Bruce and John Oneal. 2001. *Triangulating peace: Democracy, interdependence, and international organizations*. London, New York: W.W. Norton.
- Salehyan, Idean and Kristian S. Gleditsch. 2006. "Refugees and the Spread of Civil War." *International Organization* 60(2):335–366.
- Samir, KC, Bilal Barakat, Anne Goujon, Vegard Skirbekk, Warren Sanderson and Wolfgang Lutz. 2010. "Projection of populations by level of educational attainment, age, and sex for 120 countries for 2005–2050." *Demographic Research* 22:383–472.  
**URL:** <http://www.demographic-research.org/Volumes/Vol22/15/>
- Sarkees, Meredith Reid. 2000. "The Correlates of War Data on War: An Update to 1997." *Conflict Management and Peace Science* 18(1):123–144.
- Sobek, David. 2010. "Masters of their Domains; The Role of State Capacity in Civil Wars." *Journal of Peace Research* 47:267–271.
- Stewart, Frances. 2002. "Horizontal Inequalities: A Neglected Dimension of Development." QEH Working Paper Number 81, Queen Elizabeth House, University of Oxford.  
**URL:** <http://www.qeh.ox.ac.uk/pdf/qehwp/qehwps81.pdf>

- Stewart, Frances, ed. 2008. *Horizontal Inequalities and Conflict Understanding Group Violence in Multiethnic Societies*. Basingstoke: Palgrave Macmillan.
- Suedfeld, Peter and Philip Tetlock. 1977. "Integrative Complexity of Communications in International Crises." *Journal of Conflict Resolution* 21(1):169–184.
- Sundberg, Ralph. 2009. "Revisiting one-sided violence – a global and regional analysis." UCDP Paper no. 3. Uppsala: Department of Peace and Conflict Research, Uppsala University.  
**URL:** [http://www.ibg.uu.se/digitalAssets/17/17951\\_revisiting\\_one-sided\\_violence\\_UCDPno3.pdf](http://www.ibg.uu.se/digitalAssets/17/17951_revisiting_one-sided_violence_UCDPno3.pdf)
- Themnér, Lotta and Peter Wallensteen. 2011. "Armed conflict, 1946–2010." *Journal of Peace Research* 48(4):525–536.
- Thyne, Clayton. 2006. "ABC's, 123's, and the Golden Rule: The Pacifying Effect of Education on Civil War, 1980–1999." *International Studies Quarterly* 50(4):733–754.
- United Nations. 2007. *World Population Prospects. The 2006 Revision*. New York: UN.
- United Nations. 2011. "World Population Prospects: The 2010 Revision." New York: United Nations, Department of Economic and Social Affairs, Population Division.  
**URL:** [http://esa.un.org/unpd/wpp/Sorting-Tables/tab-sorting\\_mortality.htm](http://esa.un.org/unpd/wpp/Sorting-Tables/tab-sorting_mortality.htm)
- Urdal, Henrik. 2005. "People vs. Malthus: Population Pressure, Environmental Degradation and Armed Conflict Revisited." *Journal of Peace Research* 42(4):417–434.
- Urdal, Henrik. 2006. "A Clash of Generations? Youth Bulges and Political Violence." *International Studies Quarterly* 50(3):607–630.
- Viterna, Jocelyn S. 2006. "Pulled, pushed, and persuaded: Explaining women's mobilization into the Salvadoran guerrilla army." *American Journal of Sociology* 112(1):1–45.
- Weidmann, Nils B. 2009. "Geography as Motivation and Opportunity: Group Concentration and Ethnic Concentration." *Journal of Conflict Resolution* 53(4):526–543.
- Wood, Elisabeth Jean. 2003. *Insurgent collective action and civil war in El Salvador*. Cambridge studies in comparative politics Cambridge and New York: Cambridge University Press.
- Wood, Reed. 2010. "Rebel Capability and Strategic Violence Against Civilians." *Journal of Peace Research* 47(3):601–614.
- Young, John. 1998. The Tigray People's Liberation Front. In *African Guerillas*, ed. C. S. Clapham. Indiana: Indiana University Press.