

Conflict, Civil Wars and Human Development ^{*}

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Abstract

Abstract. Conflicts such as civil wars have manifold negative consequences on human development. In this survey article the existing literature is reviewed on the impact of conflict on educational attainment, health outcomes, inter-group trust and generalized social capital, as well as economic outcomes. It is stressed that four dimensions of adverse consequences from war exposure can give birth to four corresponding vicious cycles and war traps. Finally, a series of policies for peace are discussed, including policies that boost productivity and human capital accumulation, that foster inter-group trust and interaction, and that strengthen democratic institutions and governance.

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1 Introduction

Armed conflict is among the main existential threats to humanity. [Anderton and Brauer \(2021\)](#), for example, estimate that there have been 100 million mass atrocity-related deaths since 1900. Focusing more narrowly on two-sided violence, the fatalities in 127 civil wars between 1945 and 1999 have amounted to an estimated 16.2 million people ([Fearon and Laitin \(2003\)](#)).

Beyond death toll figures, war profoundly destroys societies and human lives in a variety of ways. This handbook chapter focuses on the impact of armed conflict on human development, with a special focus on human and social capital. The emphasis will lie not just on the short-run direct effect of conflict exposure, but also on the long-run, dynamic effect arising through a series of specific vicious cycles giving birth to war traps. Our analysis will not stop at quantifying the effects of armed conflict on a series of human development outcomes, but will instead sketch avenues for policies that can help to break the dynamic vicious cycles and war traps.

The recent years have seen a booming literature in economics and other social sciences on the drivers and consequences of armed conflict, which has also given birth to a number of literature surveys. Following the earlier synthesis of [Blattman and Miguel \(2010\)](#), a series of survey articles have focused on specific aspects such as on the natural resource curse ([Ross \(2015\)](#)), on climate and conflict ([Burke et al. \(2015\)](#)), on explaining mass atrocities ([Anderton and Brauer \(2021\)](#)), or on the impact of third-party outside interventions in conflict ([Rohner \(2021\)](#)).

The existing surveys that are maybe closest related to our current handbook chapter are the meta-analysis on the impact of conflict on trust by [Bauer et al. \(2016\)](#) and the survey piece by [Rohner and Thoenig \(2021\)](#) focusing on the role of macro-policies for tackling war traps by addressing jointly poverty and conflict. One major difference with respect to these two pieces is that the current contribution focuses on an in-depth review of the literature on the impact of conflict on educational outcomes and on short- and long-run physical and mental health, which is largely absent from [Bauer et al. \(2016\)](#) and [Rohner and Thoenig \(2021\)](#). Further, compared to [Bauer et al. \(2016\)](#), the current discussion on the impact of conflict on social capital will be able to draw on half a dozen more years of progress in this fast-evolving literature.

The remainder of the paper is organized as follows: Section 2 surveys the literature on the impact of conflict on education, while Section 3 focuses the health consequences of conflict. The societal and economic effects are investigated in the Sections 4 and 5, respectively. Section 6 goes a step further and studies dynamic, long-run effects of conflict on human development by taking into account vicious cycles leading to war traps. This is followed by Section 7 where key policy implications are formulated. Finally, Section 8 is devoted to a summary/conclusion of the main insights of the current contribution.

2 The Detrimental Effect of Conflict on Education

There is ample evidence that armed conflict reduces schooling and human capital accumulation. The bulk of studies has focused on an identification strategy exploiting exogenous within-country variation. For example for Peru, [Leon \(2012\)](#) finds that violence exposure leads to on average a third of a year less of education as an adult. Further, [Islam et al. \(2016\)](#) conclude that the disruption to primary education during the Cambodian civil war has decreased educational attainment, while for Guatemala a strong negative effect of the civil war on the education of members of the disadvantaged Maya group has been detected ([Chamarbagwala and Morán \(2011\)](#)). The Boko Haram conflict in North-East Nigeria has also been found to lead to a reduction in school enrollment and years of education completed ([Bertoni et al. \(2019\)](#)), and [Justino et al. \(2014\)](#) showed for Timor Leste an education-depressing effect of war exposure that was aggravated over time. Moreover, children exposed to the Rwandan genocide have been found to have experienced a drop in educational attainment of one-half year of completed schooling ([Akresh \(2008\)](#)). The impact of armed fighting is also not confined to civil wars: A greater region-by-cohort intensity of World War II destruction has been found to result in a drop in education ([Akbulut-Yuksel \(2014\)](#)).

Mechanisms highlighted include the household trade-offs between human capital accumulation and economic welfare. For the Israel-Palestine conflict, it has been shown that the number of border closure days increases child labor while (weakly) reducing school attendance in the West Bank ([Di Maio and Nandi \(2013\)](#)). Another channel of transmission goes through the infrastructure. In particular, [Brück et al. \(2019\)](#) find, exploiting within-school variation for Palestinian high school students in the West Bank during the Second Intifada (2000–2006), that conflict exposure has reduced the probability of passing the final exam, the total test score, and the probability of being admitted to university, where conflict-induced deterioration of school infrastructures and the worsening in the student’s psychological well-being have been pinpointed as key mechanisms. School destruction also played a key role when it comes to estimating the impact of World War II fighting on education ([Akbulut-Yuksel \(2014\)](#)). Beyond general conflict exposure, [Blattman and Annan \(2010\)](#) zoom in on the impact of child soldiering. Drawing on data from Uganda, they highlight a widespread and persistent negative impact: Schooling falls by almost a year, there is a drop in skilled employment by half, and earnings decrease by a third. Conversely, when hostilities end, peace boosts educational outcomes. Drawing on data from Colombia, [Prem et al. \(2021\)](#) uncover that the permanent ceasefire led to an improvement of a range of educational outcomes, with as channels of transmission a drop in victimization and the presence of new economic opportunities.

Gender differences have also been investigated. In particular, [Shemyakina \(2011\)](#) finds for Tajikistan that exposure to violent conflict had a large and statistically significant negative

impact on the school enrollment of girls (while no effect on boys was detected). In Burundi, [Verwimp and Van Bavel \(2013\)](#) have found that the probability of completing primary schooling for a boy exposed to violent conflict declined by between 7 and 17 percentage points (partly due to forced displacement), and that the gender gap for girls from non-poor households became somewhat smaller. Various studies have not detected differential effects across gender (see e.g. [Chamarbagwala and Morán \(2011\)](#) for Guatemala, or [Bertoni et al. \(2019\)](#) for Nigeria). Examining more generally the gender dimension of the conflict-education nexus across different contexts, it has been found that it varies considerably and is context-specific ([Buvinić et al. \(2014\)](#)).

Beyond fighting in wars, other forms of violence have been found to matter as well. When it comes to organized crime, very telling results have been found for drug battles in Rio de Janeiro. As shown in [Monteiro and Rocha \(2017\)](#), drug battles are associated with lower math scores, higher teacher absenteeism, principal turnover, and temporary school closings. Related to this, [Brown and Velásquez \(2017\)](#) find that young adults exposed to increased drug-related violence in Mexico have attained significantly fewer years of education and were less likely to complete compulsory schooling. Conflict-induced financial hardship has been identified as a key channel at work.

One important caveat is that there can be forms of political tensions that –maybe surprisingly– actually boost education. Drawing on panel dataset from the last 150 years in European countries and from the postwar period in a large set of countries, [Aghion et al. \(2019\)](#) have shown the presence of military threat is associated with an increase in mass education.

3 The Detrimental Effect of Conflict on Health

There is also a booming literature on the health impact of conflict, both in economics as well as in public health and other fields.¹ Overall, [Wagner et al. \(2018\)](#) show that armed conflict substantially and persistently increases infant mortality in Africa, with effect sizes on a scale with malnutrition and several times greater than existing estimates of the mortality burden of conflict. Zooming in on Burundi and Eritrea, respectively, [Bundervoet et al. \(2009\)](#) have detected for Burundi a conflict-induced drop in children’s height, while [Akresh et al. \(2012\)](#) have found for Eritrea that war-exposed children have lower height-for-age Z-scores, with similar effects for children born before or during the war. Further, for the conflict in Côte d’Ivoire in 2002-2007, [Minoiu and Shemyakina \(2012, 2014\)](#) have found significant health setbacks caused by conflict exposure, with as major mechanisms conflict-related household victimization, and in particular economic losses and displacements, while [Dupas and Robinson \(2012\)](#) document for the post-election surge in political violence in Kenya that the drop in income during the

¹See the systematic literature review of [Betancourt et al. \(2013\)](#); [Kadir et al. \(2019\)](#).

ensuing economic crisis pushed women who supplied transactional sex to engaged in higher risk sex both during and after the crisis.

As far as international warfare is concerned, World War II destruction has also been found to deteriorate health outcomes, with malnutrition being a major channel of transmission ([Akbulut-Yuksel \(2014\)](#)). [Edwards \(2015\)](#) finds for US army veterans that combat exposure in Iraq and Afghanistan appears to reduce self-reported health.

In terms of mental health, [Singhal \(2019\)](#) has found for the Vietnam war that a one percent increase in bombing intensity during 1965–75 led to a rise of the severe mental distress likelihood in adulthood by 16 percentage points. Further, former child soldiers in Nepal have been found to suffer from greater severity of mental health problems such as depression and post-traumatic stress disorder compared with children never conscripted by armed groups ([Kohrt et al. \(2008\)](#)). Related to this, [Di Maio and Leone Sciabolazza \(2021\)](#) find for the Gaza Strip that higher conflict exposure is associated with greater physical impairments and chronic diseases such as high blood pressure. In terms of mechanisms, the difficulty of reaching health facilities, a drop in income, and the development of Post-Traumatic Stress Disorder (PTSD) are highlighted. There can also be spillovers to other countries: [Metcalf et al. \(2011\)](#) show that the 9/11 terror attacks have resulted in a surge in mental distress in the United Kingdom. Related to this, there is also large-scale evidence from Africa that exposure to terrorism makes people more pessimistic ([Guo and An \(2022\)](#)).

4 The Effects of Conflict on Social Capital

If the impact of conflict on human capital is quite clear-cut, as discussed above, this is less the case for social capital. There is some controversy in the literature on the impact of conflict on trust.

On the one hand, a strand of the literature has found that conflict can increase (within-group) social capital. In particular, [Bellows and Miguel \(2009\)](#) find for Sierra Leone that individual exposure to more intense war violence is associated with a higher likelihood of attending community meetings, join local political and community groups and voting. Related to this, [Blattman \(2009\)](#) and [Bauer et al. \(2018\)](#) find that the experience of soldiering in Uganda has increased voting, individual trustworthiness and community engagement. Further, lab-in-field experiments by [Gilligan et al. \(2014\)](#) in Nepal reveal that violence-affected communities exhibit greater altruistic giving, public good contributions, investment in trust-based transactions, and willingness to reciprocate trust-based investments. [Voors et al. \(2012\)](#) find for Burundi that violence-exposed individuals display more altruistic behavior towards their neighbors, have greater discount rates and are more risk-seeking.

On the other hand, it has been found that conflict exposure depletes generalized (between-group) social capital. Rohner et al. (2013a) show for Uganda that conflict exposure reduces generalized trust and fosters ethnic identity. Cassar et al. (2013)'s lab-in-field study in Tajikistan has found that conflict exposure has driven down trusting and fair behavior, especially when interacting with other subjects from the same area. They explain this by the fact that the Tajik war did not feature clear frontlines, leading to much within-village fighting. Besley and Reynal-Querol (2014) examine the legacy of conflicts between 1400 and 1700 in Africa, finding that historical fighting correlates with lower levels of trust, a stronger sense of ethnic identity, and a weaker sense of national identity today. Whitt and Wilson (2007) investigate fairness norms in post-conflict Bosnia with the help of dictator games, finding (small) preferential treatments for people belonging to the same ethnic group. Further, Shayo and Zussman (2017) measure ethnic bias from decisions made by Israeli Arab and Jewish judges, and find that co-ethnic biases are positively associated with past intensity of violence in different localities. As far as the impact of riots is concerned, Hager et al. (2019) draw on data from Kyrgyzstan and show that victimized neighborhoods display substantially lower levels of pro-social behavior, both within and across groups. Moving beyond single-country contexts, Conzo and Salustri (2019) study conflict exposure during World War II, finding that individuals exposed to combats in the first six years of life display lower trust and social engagement well into adulthood. Related to this, French individuals conscripted by force into the Wehrmacht during World War II and their descendants display reduced levels of political trust (Vlachos (2022)).

To make sense of these countervailing results of wars driving up inter-group tensions while fostering within-group cooperation, Jennings and Sanchez-Pages (2017) have built a game-theoretic model that shows how conflicted inter-group interactions can help to resolve intra-group social dilemmas, whereby these potential gains must be weighed against the insecurity of hostile relations with an out-group. When the threat is severe, overall social capital and welfare are likely to fall.

Beyond political engagement and trust, conflict exposure affects attitudes and beliefs. In particular, conflict exposure has been found to increase religiosity (Henrich et al. (2019)), and to result in more hawkish political attitudes (Grossman et al. (2015)). Kenya's post-election crisis has also been found to result in greater risk aversion (Jakiela and Ozier (2019)). The meta-analysis by Godefroidt (2021) on the impact of terrorism on political attitudes highlights a small but significant effect on greater outgroup hostility, political conservatism and rally-'round-the-flag attitudes.

There is also an impact of conflict exposure on violent behavior, with war experience leading to a greater future propensity for domestic violence (Cesur and Sabia (2016)), for violent behavior on the football pitch (Miguel et al. (2011)) and for criminal behavior (Couttenier et al. (2019)).

5 The Detrimental Effect of Conflict on Economic Outcomes

At the macro-level, [Collier \(2008\)](#) has estimated an average civil war to lower GDP by about 15 percent, while more recent estimates by [Mueller and Tobias \(2016\)](#) have indicated an average post-civil war drop in GDP by 18 percent with only a very slow economic recovery. The effects can be long-lasting: [Besley and Reynal-Querol \(2014\)](#) find that historical pre-colonial conflict is negatively correlated with subsequent patterns of development. Beyond wars, [Brodeur \(2018\)](#) studies the impact of terrorism by exploiting the potential randomness of successful versus failed attacks. It is found that successful attacks, relative to failed attacks, decrease jobs and total earnings in targeted counties by about 2 percent in the years following the attack, and that consumer pessimism increases.

A series of articles have focused on an in-depth analysis of specific countries. In particular, [Abadie and Gardeazabal \(2003\)](#) find that after the outbreak of terrorism in the late 1960's, the Basque Country's GDP per capita dropped by about 10 percentage points relative to a synthetic control region without terrorism. [Miguel and Roland \(2011\)](#) show that U.S. bombing during the Vietnam war has led to persistent poverty traps, with lower consumption levels, infrastructure development, literacy and population density through 2002. [Pinotti \(2015\)](#) performs a comparison of actual versus counterfactual development in Italy, and concludes that the presence of mafia reduces GDP per capita by 16 percent. [Besley and Mueller \(2012\)](#) also show for Northern Ireland that there is a large peace dividend manifesting itself in rising housing prices.

Of course, there are also various economic spillovers of conflicts on other countries, which hence indirectly suffer economically from the war. In particular, the war-induced economic contraction may spillover to neighboring countries, and depress economic growth there as well ([Murdoch and Sandler \(2002\)](#)). Further, as shown by [Glick and Taylor \(2010\)](#), wars have a substantial trade-disruptive impact, and there are spillover effects of conflict in neighboring states on trade ([Qureshi \(2013\)](#)).

At the firm level, a series of studies have investigated the impact of conflict-related distortions. [Amodio and Di Maio \(2018\)](#) have found that a large share of the drop in output value of war exposed firms in Palestine can be attributed to a distortion in input used, while [Cook \(2014\)](#) has found that patents among African American inventors declined in response to major riots and segregation laws. [Ksoll et al. \(2021\)](#) investigate the heterogeneous impacts of electoral violence of flower producers in Kenya, and focusing on the 2014 Russia-Ukraine crisis, [Korovkin and Makarin \(2021\)](#) find that economic damage even occurs for firms located far away from combat areas, among others through a depletion of inter-group trust. Analogous spillover effects from

far-away conflict to firms in peaceful areas have also been found in [Couttenier et al. \(2022\)](#). They show that the Maoist insurgency in Eastern India from 2000 to 2009 has resulted in an average aggregate output drop of 3.8 billion USD per year, whereby almost three quarters of it are due to network propagation.

At the household or individual level, [Islam et al. \(2016\)](#) have detected a decrease not only in human capital accumulation but also in earnings due to exposure to the Cambodian civil war, while [Kondylis \(2010\)](#) finds that conflict displacement in Bosnia and Herzegovina has caused adverse labor market outcomes for the displaced.

Let us end this section by stressing that while overall for the whole economy the economic effects of conflict are catastrophic, firms in particular lines of business may benefit from the war. As show in [Guidolin and La Ferrara \(2007\)](#), a sudden end of the conflict in Angola resulted in a decline by 4 percentage points of the abnormal results of companies holding diamond mining concessions in Angola.

6 The Dynamic Long-Run Effects: Various Vicious Cycles and War Traps

Conflict breeds future conflict. It has been documented that 68 percent of all conflict outbreaks occurred in countries with multiple conflicts recorded ([Collier and Hoeffler \(2004\)](#)), and over three quarters of all civil wars stem from enduring rivalries between ethnic groups entering repeatedly into conflicts with each other ([DeRouen Jr and Bercovitch \(2008\)](#)). Further, [Besley and Reynal-Querol \(2014\)](#) show that pre-colonial conflict in Africa correlate with conflict incidence in the post-colonial period, and [Rohner et al. \(2013b\)](#) find that past civil wars increase the risk of future ones, even when filtering out time-invariant risk factors.

Further, some of the consequences of political violence can be very persistent over an extremely long period. For example, drawing on data on the Spanish Inquisition, [Drelichman et al. \(2021\)](#) find that in municipalities where the Spanish Inquisition persecuted more citizens, there are still lower incomes, trust and education today.

This pattern of recurrent, persistent conflicts can be accounted for by the presence of so-called "war traps" (see [Rohner and Thoenig \(2021\)](#)). One can distinguish a series of different vicious cycles leading to war traps, related to (i) education, (ii) health, (iii) social capital, and (iv) poverty.

A first type of vicious cycle is related to *education*. As discussed above, conflict reduces schooling and educational attainment, whereas lower exposure to schooling and education has been stressed to be a factor fuelling conflict ([Thyne \(2006\)](#); [De la Brière et al. \(2017\)](#); [Rohner and Saia \(2019\)](#)).

The virtues of education include both a greater opportunity cost of fighting, as well as the fact that human capital is less appropriable than other forms of capital (De la Brière et al. (2017)).

Second, *health*-related vicious cycles can play an important role. Conflict entails manifold negative consequences on various aspects of health, as discussed above. At the same time, various papers have made the point that ill health is a potent driver of conflict (Cervellati et al. (2017, 2021); Berlanda et al. (2022)).

Another type of vicious cycle fuelling persistent conflict is the fact that conflict depletes *inter-group trust and trade* (see discussion above) and that lower trust and trade results in a greater likelihood of future conflict (Martin et al. (2008); Rohner et al. (2013b); Gallea and Rohner (2021)).

Finally, wars drag down the economy, as discussed above, and the resulting surge in *poverty* leads to a lower opportunity cost of engaging in fighting and appropriative activities (see the literature on adverse income shocks fuelling fighting, such as e.g. Miguel et al. (2004); Dell et al. (2014); König et al. (2017)). Consistent with this logic, Amodio et al. (2021) also find that there was a surge in political violence in West Bank localities in which the economy has been hit hardest by security-motivated trade restrictions.

In the next section we shall ask the policy-centered question of what policies can break these conflict traps.

7 Breaking War Traps: Policies for Peace

We shall start with discussing policies that can break the education, health and poverty-related war traps under the heading "Investing in human capital and productivity". Next, policies are discussed that are able to address the war trap related to social capital, under the heading "Reconciliation and trust building". Finally, we shall discuss a set of factors that jointly address all war traps, by putting in place institutions that get the incentives right for peace. These policies will be discussed under the heading "Institutions for peace".

7.1 Investing in human capital and productivity

When thinking in terms of simple workhorse models of conflict, factors increasing the rents from contest and appropriation increase the risk of conflict, while factors leading to a higher work productivity raise the opportunity costs of conflict, thereby deterring the scope for fighting. These standard results have been obtained in models of contest (see Hirshleifer (2001)), as well as in bargaining settings (see discussion in Rohner (ming)).

Examples of pacifying policies that can raise productivity include school construction (see

Rohner and Saia (2019) on a school construction program in Indonesia), health interventions (see Berlanda et al. (2022) on antiretroviral treatment in Africa), or labor-market policies (see Fetzer (2020) on a public employment program in India). Importantly, policies that result in potentially greater rents from appropriation may back-fire (see, for example, Nunn and Qian (2014) on the impact of US food aid). Along these lines, one can also consider policies that deliberately limit appropriable rents. Generally speaking, policies fostering green energy transition may promote peace by driving down appropriable rents from fossil fuel. Transparency and traceability, together with norms of corporate social responsibility, can also play a key role to limit the risk of mineral rents fuelling rebel activities (Berman et al. (2017)).

7.2 Reconciliation and trust building

A growing literature studies the scope for mending a lack of inter-group trust in the aftermath of conflict. As discussed above, and modelled in Rohner et al. (2013b), greater inter-group trust champions inter-group business and interdependency, thereby raising the cost of conflict.

Cilliers et al. (2016) have carried out a randomized control trial of a reconciliation process in Sierra Leone, finding that village-level reconciliation ceremonies may have the potential to foster inter-personal forgiveness of perpetrators and strengthened social capital, yet at the price of worsened psychological health, anxiety, depression and posttraumatic stress disorder.

Related, Mousa (2020) studies to what extent inter-group interaction may be able to rebuild inter-group social capital, by randomly assigning Iraqi Christians displaced by the Islamic State of Iraq and Syria (ISIS) to either an all-Christian soccer team or to a mixed team with Muslims. She uncovers that Christians with Muslim teammates were more likely to vote for a Muslim (from another team) to obtain a sportsmanship award, register for a mixed team in the next season, and train with Muslims half a year after the intervention. However, the intervention did not deploy effects beyond the soccer pitch, measured by patronizing a restaurant in Muslim-dominated Mosul or attending a mixed social event, nor did it yield consistent effects on intergroup attitudes.

7.3 Institutions for peace

Beyond specific policies addressing particular types of war traps, there are also sets of policies that can help to curb the scope for conflict *generally*. Democratic institutions have been found to play a key role. One mechanism at work is that in a functioning democracy where all groups are represented and have access to power, the incentives to rebel against the state are smaller. While a discriminated and excluded group in autocracy may get a very low payoff in the status quo and have incentives to rebel, in a democracy with checks and balances and where all groups

are properly represented, the status quo may be more attractive relative to rebellion.²

Earlier cross-national studies on the nexus between democracy and conflict have found a non-monotonic effect, with intermediate regimes suffering from greatest political instability (Hegre (2001)), and democracy having more pacifying effects in richer countries (Collier and Rohner (2008)). More recent within-country evidence points at clear-cut pacifying effects of cohesive institutions (Fetzer and Kyburz (2018)), of extending the franchise (Rohner and Saia (2020)), and of territorial autonomy and sharing power (Cederman et al. (2015); Mueller and Rohner (2018)).

8 Summary

To take stock, the booming recent literature on conflict has produced extensive empirical evidence on the detrimental impact of war exposure on educational attainment, physical and mental health, inter-group trust and generalized social capital, and economic outcomes. As stressed in the current contribution, these four dimensions of war destruction can give birth to several types of vicious cycles and war traps, where e.g. low education and poor health result in lower economic productivity and hence a lower opportunity cost of fighting. Analogously, lack of inter-group trust depresses inter-group trade and business, and this reduced interdependence makes conflict relatively cheaper. Finally, economic destruction and mounting poverty can be among the root causes favoring future unrest.

Thankfully, recent papers have highlighted a set of policies and approaches that can help to attenuate these risks of persistent war traps. Policies that boost economic productivity include school construction programs, medical interventions and active labor-market policies. Cutting-edge research has also focused on policy experiments resulting in a reconstruction of inter-group links and inter-group trust. Finally, the building of powerful democratic institutions can have a general conflict-reducing effect that complements and reinforces the other aforementioned policies for peace.

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²See the formal model and evidence in Morelli and Rohner (2015).

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