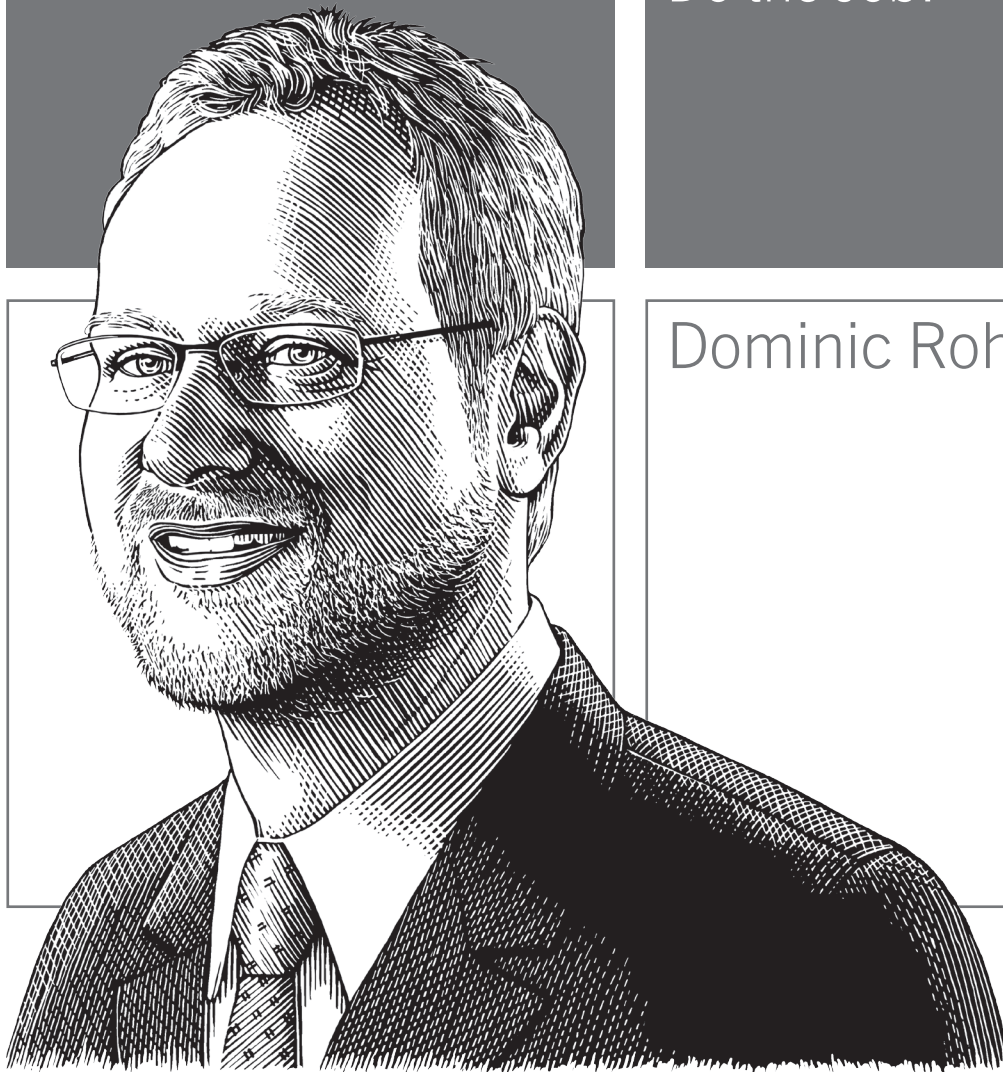


UBS Center
Public Paper #5

The Economics of Peace

Can “Swiss” Institutions
Do the Job?



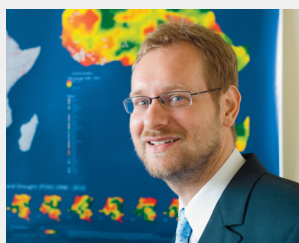
Dominic Rohner

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Dominic Rohner is a Professor of Economics at the University of Lausanne. Having obtained his PhD in Economics from the University of Cambridge in 2008, Dominic Rohner held faculty positions at the Universities of York and Zurich.

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He has won several prizes and grants, including a 2015 European Research Council (ERC) starting grant for the project “Policies for Peace” amounting to over 1 million Euros.

Abstract

Much of the economics and political science literature on wars and conflict has focused on things that policymakers have difficulties changing. While this essay will also touch upon these, the focus clearly lies on the items that policymakers *can* affect. Reading the following pages will make you realize that getting the institutions and policies right *can* bring peace and prosperity, while getting them wrong can bring war and destruction.

The author begins with a historic overview of the evolution of conflicts around the world. How have different types of conflicts been distributed between regions? How has their frequency evolved and how has the prevailing typology been changing over time? Next, the author focuses on the costs of wars and their impact on human lives, explaining why wars are a major obstacle to growth and development.

A major part of this essay is dedicated to defining the main drivers for conflict. The economic and political science literature on conflict has been booming in the last decades, and a series of important drivers of conflict have been identified. The factors that have been found to matter substantially for political violence range from asymmetries in recourse holdings to ethnic and religious diversity, as well as to income levels and demographics.

Having outlined the different factors of risk, the author consequently presents a number of institutions and policies that have the potential to reduce the risk of conflict. Using the “Swiss model” as a template, for instance, could well inspire political reforms in divided and war-torn societies.

Introduction

When it comes to peace and understanding, the 20th century was a mixed basket. On the dark side, politically motivated violence led to two World Wars, mass killings, and purges carried out by a series of totalitarian regimes, as well as of dozens of recurrent ethnic civil wars that took place mostly in poor countries. Furthermore, the resurgence of terrorism has become a major problem. Overall, conflict-related violence has led to unimaginable human suffering and to a death toll of over 100 million human lives.¹

But there is also a bright side: For the first time for centuries, much of Europe has been at peace since 1946, and the creation of the European Union has brought many traditional foes and enemies closer together. There has also been an impressive spread of democracy around the world, which can be one of the strongest warrants against political violence under some circumstances. There has also been a massive increase in prosperity around the world, which is also one of the pillars of peace.

Much of the economics and political science literature on wars and conflict has focused on things that are hard for policymakers to change (natural resources, ethnic composition, weather shocks), and this essay will also touch on them. However, I will devote much attention to things that policymakers *can* affect. Getting the institutions and policies right *can* bring peace and prosperity, while getting it wrong can bring war and destruction.

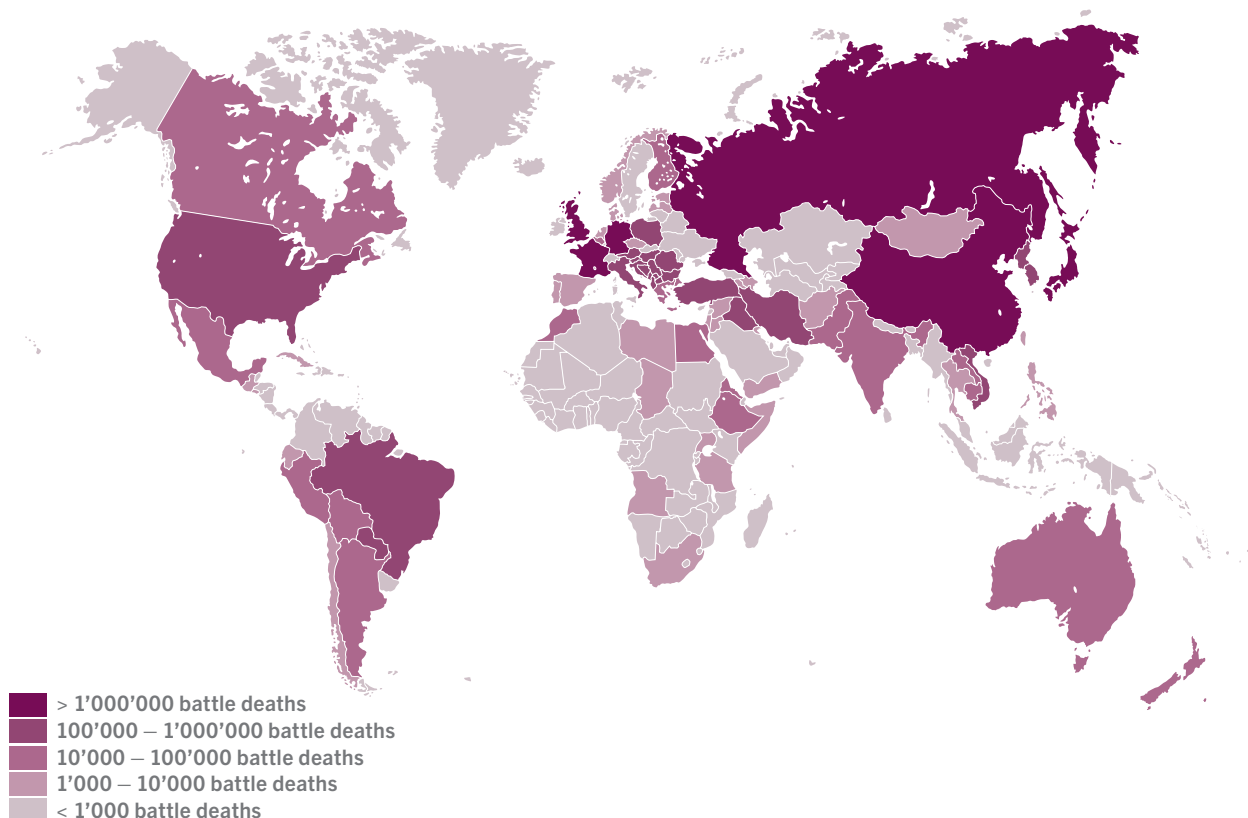
History of Wars

When being asked about wars, most people today spontaneously think of civil conflict between opposing ethnic or religious groups in Africa or the Middle East. While there have indeed been several recent, heavily mediatised instances of internal political violence in these regions of the world, the patterns of conflict have evolved over time; countries where fighting seems unthinkable today were at the forefront of bloody wars in the past.

Figure 1 displays the cumulated number of battle-related combat deaths from inter-state wars for each country during the period 1816 to 2007. Without surprise, the protagonist powers during World War I and World War II suffer from a particularly large death toll. This is the case for much of Western Europe, the Balkans, the United States of America, Russia (resp. the Soviet Union), Turkey (resp. the Ottoman Empire), Japan, and China. Moreover, a series of regional

Fig. 1 Inter-State War Battle Deaths from 1816 to 2007

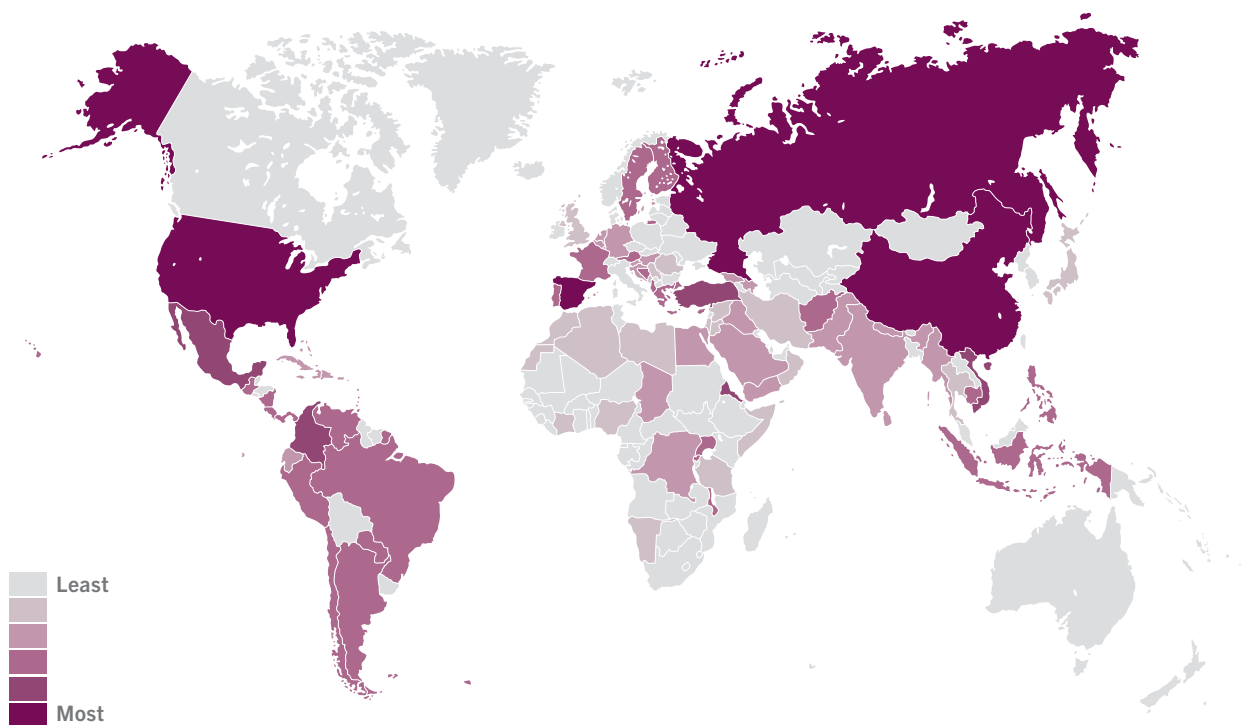
Cumulated number of battle-related combatant fatalities per country



Source: Correlates of War

Fig. 2 Civil War Battle Deaths from 1816 to 2007

Total number of battle deaths per country



Source: Correlates of War

conflicts are reflected by high fatality numbers, such as the several wars involving Brazil in the 19th century, the Iran-Iraq wars, or the India-Pakistan conflict in Kashmir. When it comes to combat deaths in inter-state wars in the last two centuries, Africa has been relatively less heavily affected than other parts of the world.

The picture is somewhat different, however, when focusing on civil wars. Especially in recent years, Africa (and among others the Great Lakes Region) has suffered from an important death toll from civil conflict. Figure 2 displays the number of fatalities occurring in civil wars in different countries around the world between 1816 and 2007. Strikingly, the death toll of the American Civil War from 1861 to 1865 and the battle deaths

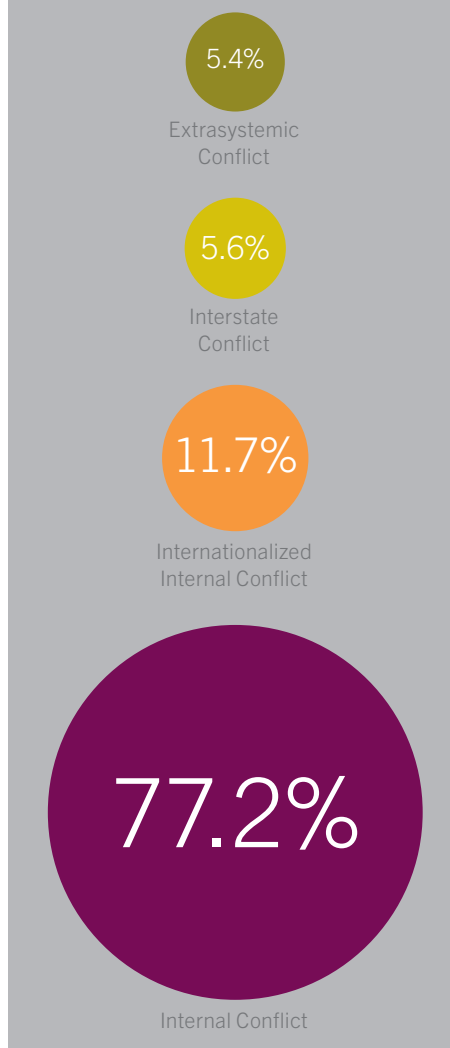
of the Spanish Civil War from 1936 to 1939 are both important. Also, the Russian revolution, as well as various episodes of civil fighting in China, have weighted heavily.

The data from the Correlates of War (a leading conflict data platform founded by academics) used in Figures 1 and 2 had the advantage of containing long time series, which was ideal for getting the big picture. It is important to also bear in mind some downsides of this type of death toll data: In more developed countries, casualties are more likely to be recorded, making them appear relatively more violent than they are compared to less developed areas. Further, countries that are older also accumulate more fatalities in this data than recently founded countries.²

Fig. 3

Relative Importance of Conflict Types, 1946–2014

In percent of total conflict



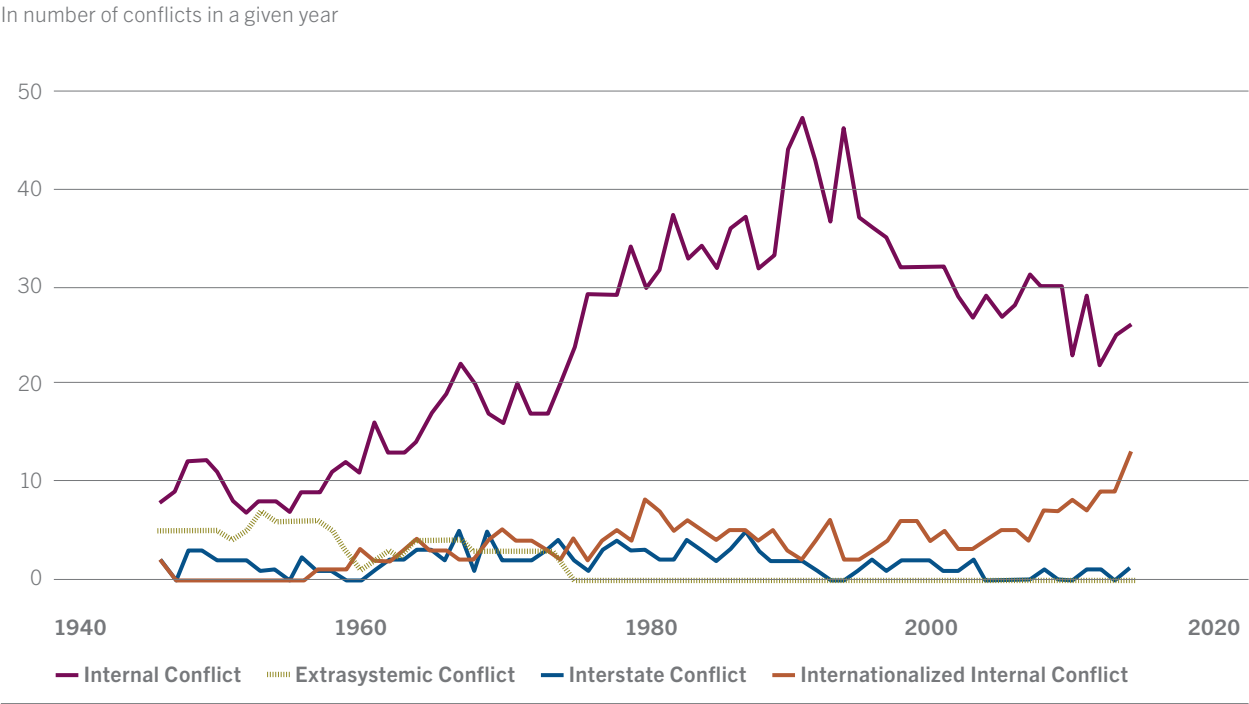
Source: UCDP-PRIO

In order to capture more recent evolutions and for having more details on war types, we need to make use of another major source of civil war data, the data collected by Uppsala University and the Peace Research Institute Oslo (UCDP-PRIO), covering the time period from 1946 to 2014.

Figure 3 first shows the relative importance of different types of conflict over 1946–2014, defining as conflict an event with at least 25 battle deaths. While “Internal Conflict” corresponds to classic civil wars without outside intervention, such as the notorious Rwandan genocide and civil war of 1994, “Internationalized Internal Conflict” captures civil wars that escalate into international wars, such as the Second Congo War that broke out in 1998 and was later referred to as the “Great War of Africa” or “Africa’s World War” due to the involvement of a whole series of neighboring states. “Interstate Conflict” refers to fighting between states, such as the Iran-Iraq wars, while the notion of “Extrasystemic Conflict” stands for colonial liberation wars, such as the Algerian War of Independence against France between 1954 and 1962. As becomes clear from Figure 3, civil wars make up the lion’s share of conflicts in this period.

Furthermore, the evolution over time of the numbers of conflicts taking place around the world in a given year is important. Figure 4 on page 8 draws on the same data source as Figure 3, but displays the evolution of different types of conflicts over time. We can easily see that many extrasystemic (colonial) wars were fought right after World War II, when decolonization was in full motion. Since then, the importance of this category of conflict has sharply declined. While interstate wars have been relatively rare events throughout the post-WW II period, civil wars have become more and more important, peaking after the fall of the Berlin Wall, where violent wars were fought out in many nascent democracies of the former Eastern

Fig. 4 Evolution of Conflict Types over Time



Source: UCDP-PRIO

Bloc and the Balkans. Since then, the number of civil wars has somewhat declined, but is still at a shockingly high level. Many of the current conflicts take place in Africa and the Middle East. There has also been a trend towards a larger risk of escalation into internationalized civil wars.

Cost of Wars

The impact of war on human lives is deep and takes on various forms: War kills, war favors diseases, war destroys social structures, and war impoverishes, to name a few.

First and foremost, there is a huge direct cost of various forms of conflict in terms of human lives: As mentioned above, the total death toll from different forms of conflict during the 20th century lies above 100 million human lives. An estimated 15 million military and 35 million civilian fatalities were recorded in World War II alone.³ Violence has also been omnipresent since 1945. Between 1945 and the end of the 20th century, an estimated 3.3 million people lost their lives in 25 inter-state wars, while an estimated 16.2 million people perished in 127 civil wars. Much violence also occurs away from the battlefield, when armed troops turn their weapons against defenseless civilians. Since World War II, some 50 episodes of mass killings have led to between 12 and 25 million civilian casualties,⁴ in many cases involving governments attacking political or ethnic minority groups among the population, as for example during the infamous Stalinist purges, the massacres committed by the Red Khmer in Cambodia, and, more recently, the ethnic cleansing in Sudan's Darfur region.

And even when the shooting of the guns finally gives way to silence, the dying continues, as epidemics and diseases hitting the weakened populations during post-war reconstruction cause at least as many fatalities as direct casualties.⁵

The casualties from conflict, however, are only one part of the story. Conflicts also cause lifelong injuries, create large refugee flows, and inflict fear and psychological suffering. Terrorism, for example,

results in fewer fatalities than inter-state or civil wars, but creates an atmosphere of fear that strongly affects the way people live their lives.

While wars may be “good business” for a small number of firms (such as weapon manufacturers), they cause an important loss of economic welfare for the society as a whole. The renowned Oxford-economist Sir Paul Collier estimates that civil wars slow down economic growth by 2.3 percentage points per year, implying that a typical seven-year long civil war would leave a country 15 percent poorer at the end of the war. Taking the direct and indirect costs of a civil war into account, as well as spillovers to neighboring states, Collier estimates the cost of a typical civil war at around \$ 64 billion.⁶

Not only major internationalized civil wars, such as the Second Congo War breaking out in 1998 in the Democratic Republic of Congo (DRC) and killing millions since then, have a major impact on the economy (see box on page 10). Even comparatively mild forms of civil wars and terrorism, such as the conflicts in the Basque Country and in Northern Ireland leave crucial footprints on the local economy. When estimating the costs of terrorism in the Basque country between 1955 and 1995 by comparing it to a weighted average of comparable Spanish regions, one finds that Basque GDP would be 10% higher today if ETA's armed struggle had not occurred.⁷

Given these very substantial economic costs of armed violence, it is not surprising that wars are a major obstacle to growth and development: According to the OECD,⁸ 20 of the world's 34 poorest countries are affected by armed conflict. In contrast, civil wars are extremely rare events in the richest countries of the

world, and even when conflicts occasionally break out in developed regions, like in the Basque Country or Northern Ireland, the death toll is substantially lower than for full-blown civil wars like the Second Congo War. One of course has to bear in mind that causality runs both ways – wars make countries poorer and poorer countries are more likely to be dragged into a war.

It is of course important to bear in mind that the costs of conflict are not just limited to death tolls and economic losses. In addition, conflict can drive down trust between ethnic groups (as discussed further below), limit access to education, imperil civic norms and political institutions, and have long-run detrimental effects on physical and mental health. While there are few reliable numbers on the effects of conflict on things like social norms and political institutions, case studies for particular countries find shockingly large negative impacts on education and health. For mental health, for example, the estimates vary widely between studies and the severity of the war context. Traumatization rates reported by major studies range between a fifth and over 90 percent, which is extremely worrying by any standards.⁹

Coming Home from Zambia



© UNHCR/Christa Barnes

Major internationalized civil wars, such as the Second Congo War starting in 1998 in the Democratic Republic of Congo (DRC), where millions have been killed since, have a major impact on the economy. The picture above shows Congolese refugees returning home from neighboring Zambia in 2009 aboard the ferry Liemba. Because of political violence in parts of the Democratic Republic of Congo, tens of thousands of refugees fled to neighboring countries in the last few decades.

Many went to Zambia, but as conditions stabilized in the southern part of DRC, UNHCR launched a major repatriation project, helping at least 40,000 Congolese to return home.

Some of them travelled across Lake Tanganyika aboard the Liemba ferry, a very famous ship built in 1913 by then German forces in their Tanganyika colony. The ship, renamed *the Luisa*, became the star of a famous Hollywood movie, *The African Queen*.

Source: UNHCR – The UN Refugee Agency

Factors of Risk: Ethnicity, Natural Resources, and Poverty

Ethnic Turmoil

The economic and political science literature on conflict has been booming in the last decades and a series of important drivers of conflict have been identified. First of all, ethnic and religious diversity has been found to be a main driver of conflict. Clashes between ethnic groups fueled a series of recent African conflicts. Most prominently, the Hutu-Tutsi hostilities peaked in the horrors of the Rwandan genocide, where Hutu Interahamwe fighters slaughtered almost a million of ordinary Tutsi co-citizens within 100 days. The Hutu-Tutsi rivalry has also led to an explosion of violence in neighboring states, such as the Congo Wars and several episodes of fighting and massacres in Burundi. Ethnic and religious divisions have also been fueling the fighting in Uganda, Sudan, and Nigeria, just to name a few.

Similarly, the Sunni-Shia clashes have kept violence high in the Arabic peninsula and the entire Middle East. The Iran-Iraq wars, the various civil wars in Yemen, the wars in Lebanon and more recently in Syria have all had a Sunni-Shia dimension, with both the Shia major power Iran and the major power from the Sunni side, Saudi Arabia, at various times being accused of meddling in the regional wars.

Long ago, economists started to look for a synthetic measure allowing the capture of ethnic diversity. The obvious starting point was the catchall measure of ethnic fractionalization, very popular in development economics. Roughly speaking, the more ethnic groups there are in a given country, the larger its ethnic fractionalization score becomes. A country like Norway or Portugal that is ethnically

very homogenous would have low values, while a country like Benin or Tanzania, with a large number of ethnic groups, would have large ethnic fractionalization scores. These first studies, however, failed to detect a strong correlation between this measure and conflict.¹⁰ It turned out, in fact, that countries with many ethnic groups were much less at risk of unrest than those with fewer, but larger groups, such as Rwanda, Burundi, Somalia, or Guatemala. There was thus a need to come up with a novel synthetic measure tailored to capture conflict-relevant cleavages: A series of Barcelona-based economists have developed a very simple, yet powerful measure of relevant ethnic diversity, labelled “ethnic polarization.” This indicator also ranges between 0 and 1, but is largest for countries with very few groups of similar size, while both ethnically homogenous countries and countries with a large number of tiny groups receive small scores. This measure has proven to be a powerful predictor of conflict, with ethnically polarized countries being at much larger conflict risk.¹¹

The Resource Curse

Some decades ago, economists noticed that many resource-rich countries are poor. The initial explanations at hand were of macroeconomic type, notably the “Dutch disease” argument, according to which resource windfalls increase domestic prices to such an extent that the local industry loses competitiveness and the country ultimately impoverishes. The evidence for this has been mixed, and hence the literature has turned its attention to natural resources destroying government and leading to “rentier” societies or petro-states. While this is surely part of the explanation for the relatively weak track record of many countries with

abundant natural resources, it has been increasingly recognized that a higher risk of conflict explains a big part of the “resource curse.” There is now substantial evidence that some resources are particularly conducive to political instability, namely oil, diamonds, precious metals, and coca. Another piece of bad news is that the resource manna not only fuels civil wars between armed groups; we also observe that the government’s likelihood to massacre its own civilians and interstate wars are more likely in the presence of important resource deposits.

The channels that fuel the conflict-inducing impact of Mother Nature’s riches are manifold as well. First, and most obviously, it becomes more lucrative to conquer a place with more valuable stuff to grab. It is not by accident that Iraq’s Saddam Hussein decided to invade Kuwait, which has huge oil reserves per capita, rather than some poorer neighbor state. Moreover, the desire to control valuable mineral deposits has arguably fueled the various wars in the Democratic Republic of Congo and the corresponding international interventions.

This rent-grabbing mechanism, however, is not the only story. Another important reason why oil and other resources can be dangerous for peace is that they are often not evenly distributed in a given country. It is hence not only the total amount of natural resources that matters, but how they are distributed over the territory.¹²

The most dangerous situation is when most natural resource fields are concentrated in the ethnic homelands of ethnic minority groups that would be economically better off if they were to split from the rest of the country.

The most harmless example of oil wealth of minority regions driving secessionist movements is Scotland, where the independence cause became significantly more powerful after large oil deposits were found. Unfortunately, separatist tensions are not always as peacefully resolved as in Scotland’s case. In contrast, separatist movements in Aceh (Indonesia), Timor-Leste (ex-Indonesia), the Niger-Delta (Nigeria), South Sudan, Yemen, Kurdistan (Iraq), among many others, have paid a high price for aspiring independence. The national governments have been keen to maintain their grip on their “crown jewels.” and bloody repression and fighting were often the consequence.

Asymmetries in resource holdings have also been drivers of various militarized interstate disputes in the past decades.¹³ It turns out that situations where both countries in a country pair have important oil holdings entail a similarly small risk of conflict as situations where nobody holds oil. The reason is simple: If both countries are very oil rich, both can grab something in case of victory but also have much to lose in case of defeat. In contrast, if only one country in the country pair has important oil deposits while the other one is oil poor, the incentives of the oil-poor country to invade its rich neighbor are relatively large. As shown in recent research, this effect is magnified if the oil holdings of the oil-rich nation are close to the bilateral border. In this case, conquering relatively little territory provides the resource-poor state with control of valuable resources, while it has very little to lose after defeat. In fact, even a resource-rich country can have incentives to attack another resource-rich state, provided that the target has its oil close to the bilateral border and hence in closer reach. This logic is consistent with Saddam Hussein’s move on Kuwait, as Kuwait’s oil was very close to the Iraqi border, while an Iraqi defeat was first of all improbable and second, much of Iraq’s oil is in the Northern Kurdistan

region, far away from the Southern border with Kuwait.

Besides fueling the risk of civil and interstate wars between armed groups, oil has also been found to make massacres of civilians more lucrative for cynical governments.¹⁴ The underlying channel is as follows: By killing part of its own people, a ruthless group in power is able to foster its grip on power and hence able to capture a larger share of the economic output of a country. At the same time, the total production of a country falls after massacres, given that the workforce is decimated. It has been shown in recent research that in a productive country without many natural resources, such as Switzerland, this trade-off is clear-cut, and it is never worthwhile for a population group to kill co-citizens of other ethnicities, as the “pie” to grab shrinks faster than their appropriated share of it increases. However, the situation is very different in petro-states and other economies relying mostly on natural resource rents. It has been found that the horrible logic outlined above can apply in these situations, and ruthless groups in power can increase their per capita rents by killing other ethnic groups. The reason is that the economic output – mostly made up by natural resources – does not depend very much on the population size, and resource wells are only rarely destroyed in combat. Hence, while the total size of the “pie” to grab changes only little, the cynical group in power can substantially increase its share. Natural resources, unfortunately, do not only fuel wars between armed groups but can also trigger more massacres of helpless civilians. A very sad example of this has been the ethnic cleansing in resource-rich Sudan, or Saddam Hussein’s attacks on civilians living in oil-rich Kurdistan.

The bad news continues, as natural resource rents not only increase the likelihood of political violence, but also its diffusion and length. According to the

“feasibility hypothesis,” resource money not only constitutes the “prize” or “pie” to appropriate, but also helps pay for the fighting while it happens. In the absence of perfect capital markets, looting of resource rents allows rebels to fund their cause, expand their zone of activity, and spread violence over a greater area and for a longer time.

While funding a rebel group strong enough to be able to challenge the state is hard in countries with large state capacity and few natural resources, it is the opposite case in weak states with much easily accessible resource money. A very sad example is the Democratic Republic of Congo, where a series of wars have taken place in the last decades. Most notoriously, the Second Congo War started in 1998, and fighting has never fully ceased since then. Several million people have already perished, and the fighting intensity remains shockingly high. The fact that the country is particularly resource rich has been a key factor in allowing several dozens of distinct armed militias to keep up the fight.¹⁵

In addition to these direct effects, there are also several indirect ways in which natural resources boost the conflict risk by undermining the state and the economy. To start with, “rentier states” have less of a need to build up fiscal capacity and a tax collection apparatus than other states, and hence they tend to become weaker states with less state capacity and less efficient bureaucracies.¹⁶ While petro-states may be able to cope and fund the administration and army in the short run while the oil money is still flowing, these states may later – once oil wells have been pumped empty – be left poor and disenfranchised of a strong bureaucracy with tax collection capacity. Of course, this has direct implications on the ability to fight rebels, which becomes a mission impossible when being unable to rely on a well-funded and well-equipped national army. Think for

example of the almost complete absence of state and reigning anarchy in oil-rich Libya post-Ghaddafi.

Another devastating factor frequently strikes the economy of resource-rich states. By their very nature, natural resource exploitation often requires huge amounts of capital. It has been found that price spikes in natural resource and other capital-intensive sectors act like a magnet in attracting capital and workers from more labor-intensive sectors such as agriculture, which then start to shrink. As the booming capital-intensive industries are not able to absorb all labor flowing in, wages start to drop. This, in turn, has a direct impact on conflict and criminal activities, as armed rebellion is typically labor-intensive in most countries (requiring “boots on the ground”). Hence, a drop in wages makes it cheaper to hire rebel soldiers, which can lead to an escalation of political turmoil. This result has been demonstrated both theoretically and empirically in Colombia. A team of NYU-based scholars has shown that price increases in the capital-intensive oil sector fuel fighting activity by the FARC and other armed groups, while price spikes in the labor-intensive coffee production have the inverse conflict-dampening effect.¹⁷

Better Pay, Lower Risk

One striking stylized fact is that conflicts in the past decades have almost exclusively taken place in poor countries, with two rare counter-examples being the untypical religious / ethnic tensions in Northern Ireland and the Basque country. Hence, the natural question arises whether there is something about being rich that acts as rampart against political violence. It turns out that an important factor affecting the conflict risk is indeed the level of income from productive work. The logic is simple: When productive work yields lower incomes, temptation goes up to try making a living from illicit activities. Unemployed factory workers and struggling peasants without savings

or earnings to lose are easier to recruit than those running a thriving farm or benefitting from a well-paid job, and who would face a higher opportunity cost of giving up the plow for the rifle.

For many years, political scientists and economists have documented the positive correlation between poverty and fighting. These results have, however, been hard to interpret, as the causality can run both ways. Poor countries may indeed face a higher risk of conflict, while conflict impoverishes countries at the same time. It is thus not easy to know whether the poverty-conflict nexus comes from poverty breeding war or alternatively from war destroying the economy. To solve this methodological issue, University of Berkeley-based economists wrote a fascinating pioneer contribution on this question.¹⁸ Making use of random variations in rainfall in African countries during the past decades, they were able to isolate random variations in economic growth created by Mother Nature. Put differently, bad rainfall shocks in rural regions, where the bulk of economic activity is still in the primary sector, drive down the productivity and the attractiveness of farming compared to outside options such as enrolling in a rebel army. They found indeed that when lack of rain dried out economic growth, the risk of civil conflict increased substantially. This link between rain and conflict has been studied and used in various sequential contributions.

The Story Does Not End There: The Role of Persistence, Young Men, and Mountains

Some other factors have also been found to matter substantially for political violence.¹⁹ First of all, wars tend to reproduce themselves, where one war often already plants the seeds for the next one. This was most famously the case for World War II, which many view as a kind of follow-up conflict with roots in World War I, or for the Second Congo War, which was directly linked to the previous

First Congo War. Indeed, over two-thirds of conflict outbreaks in the second half of the 20th century took place in countries having experienced multiple wars. Typical cases of countries with a string of wars taking place one after the other include Sudan, Pakistan, Iraq, or the Democratic Republic of Congo (DRC). The underlying reasons include both the persistent presence of risk factors (e.g. past wars fueled by oil, and oil being still present in the country), but also the dynamics of vicious cycles (e.g. wars destroy physical, human, and social capital, and poorer countries with lower education and less social cohesion suffer from a greater conflict risk).

Moreover, demographics and geography matter: The presence of a large proportion of young men (as percentage of total population) has been found to be a risk factor, especially in the absence of well-functioning labor markets and missing prospects for a prosperous future. Further, conflicts have over-proportionally often hit states with a large share of mountainous terrain, with a major reason for this being the opportunities for hiding grounds for rebel groups.

What Government Can Do: Get the Institutions and Policies Right

The risk factors listed above are all things that are hard to change for governments and the international community. This could result in the false impression that we are facing a terrible fatality of wars being unavoidable and hitting mankind periodically like the Beatles’ “Maxwell’s Silver Hammer.” Indeed, in popular culture wars are often portrayed as inescapable phenomena inexorably linked to human existence. Think, for example, of the famous French hit of Nino Ferrer, “Le Sud”, expressing well this fatalist feeling: *“There will have to be a war someday // we know that well // we don’t like it but we don’t know what to do // we say that it is destiny.”* Is war indeed an inevitable destiny? The answer is a clear “no.” Several institutional and policy choices of states can drastically reduce the risk of conflict, as discussed below.

Democracy, Power Sharing, and the Rule of Law

As far as interstate wars are concerned, democracy is a dream weapon against fighting. Drawing on the ideas put forward by Immanuel Kant in his work “Perpetual Peace,” there has been a vibrant literature in the last decades, arguing that democratic states have smaller incentives to engage in wars with rival powers.²⁰ This follows the logic that if those who have to bear the costs (i.e., the citizens) decide on war and peace, they are likely to side against the former and in favor of the latter. This theory has been subject to much empirical scrutiny and statistical tests. It has been found that this argument of universal suffrage doing the job of preventing war can only be part of the story, as democracies are not much less likely to attack autocracies than non-democratic states are. Think for example of the interventions of the US in

Iraq, Afghanistan, and Libya. However, a very strong statistical result is that democracies are much less likely to attack each other. Put differently, if both countries of a given country pair are democracies they are very unlikely to engage in armed confrontation. Indeed, past interstate wars in the very vast majority of cases have included at least one non-democratic state. The fact that democracy only boosts international peace in combination with facing another democracy, points out that the mechanism cannot be solely about universal suffrage, but may also be about democratic norms and culture, or about structural and institutional constraints.

In contrast, the picture is less clear-cut for civil wars, and democracy appears to be a double-edged sword. While democracy indeed goes in hand with prosperity and peace in many countries, such as the OECD member states, the direction of causality is not clear. It is unclear if democracy really causes peace, or if there are underlying factors simultaneously affecting the likelihood of democracy and peace (e.g., good social norms and cohesion favoring both democracy and peace). Furthermore, there are many instances of electoral violence (e.g., in Kenya in 2007, Nigeria in 2007 or Ivory Coast in 2010) or of large-scale massacres breaking out right after the creation of nascent democracy. This was the case not only in Rwanda, where the 1994 genocide followed timid steps towards democratization, but also in Sudan, as well as in the Balkans, where steps towards democratization went hand in hand with ethnic cleansings after the Fall of Berlin Wall at the beginning of the 1990s. Michael Mann, a sociologist from UCLA, has documented many such events and even

refers to the “dark side of democracy.” According to the theory of “Strategic Mass Killings”²¹ this – at first sign paradoxical – nexus between nascent democracy and massacres can be accounted for by the fact that when democratic elections become imminent, people start to realize that the relative size of ethnic groups will matter for the future distribution of power (e.g., group sizes did not play any role under Marshal Tito’s iron rule, as power was concentrated at the top anyway). When ruthless ethnic parties realize that their share of the “cake” depends on the size of rival groups and that democracy will in the medium run rule out discrimination, they may have incentives for substituting discrimination with elimination and killing large numbers of co-citizens from other groups. This grim logic is unfortunately also well documented in the data. Does this mean that democracy is a bad thing, and should be avoided? No, by no means. Democracy always remains a very desirable goal to aspire to. Simply, policy makers and the international community cannot afford the naive view that once elections are run, everything will be fine. Nascent democracy, especially in resource-rich countries with ethnic cleavages, bears some pitfalls and risks, and requires international support and peace-keepers.

Interestingly, the virtues and risks linked to democracy depend on the level of development in a given country.²² A rationale for democracy, over and above the intrinsic desirability of democracy, is that by making the government more accountable, citizens will have less cause for violent opposition. However, accountability may curtail some government strategies that are effective in maintaining security. For example, unconstrained by accountability, both Stalin and Saddam Hussein were able to maintain (a horrible form of) political stability through intense repression despite manifest reasons for popular grievance. In both societies, more democratic successor

governments have faced more violence because accountability to the law has limited what security services are permitted to do. Democracy hence makes the use of repression much harder, which potentially can more than fully offset accountability, so that democracy increases the risk of violence. While the relative potency of these opposing effects of democracy is ambiguous a priori, empirical research suggests that the accountability effect becomes more potent as income rises. This is for various reasons: First, as income increases, the structure of the economy changes with a rising share of government spending. This is likely to enhance the importance of the positive accountability effect of democracy, since accountability typically increases the efficiency of government spending. A second change in the structure of a booming economy is that the share of primary commodities and natural resources declines. This is important because resource abundance generates – as described above – “looting” opportunities, which are one motivation for rebellion. If “loot-seeking” rather than low accountability is the predominant motivation for rebellion at low levels of income, enhanced accountability due to democracy may have little effect. Finally, as income increases, individual preferences tend to change. The “instrumental” goal of material reward becomes less important relative to the more abstract goals of ideology and identity. Hence, “loot-seeking” opportunities will become less valued relative to accountability: a lack of democracy will be more resented at higher levels of income. An implication of each of the mechanisms described above is that the conflict-reducing accountability effect of democracy becomes more powerful as income rises.

The literature on conflict has also highlighted the specific effects of particular institutions. The basic logic is that institutions that lower the stakes of controlling the government can reduce the risk of conflict: When an institution or policy

makes gaining control of the government less important, then unsurprisingly rebels are less willing to fight hard to win power. Unfortunately, the importance of holding political power has been vital for a group’s survival in many countries with recent civil wars. Think of the Rwandan genocide of 1994. The Hutu Interahamwe troops holding power massacred Tutsi citizens over the period of 100 days, with the UN and international community hesitant to intervene. The genocide was ultimately stopped by the battlefield victory of the Tutsi-backed Rwandan Patriotic Front (RPF) rebel army. In this case, the stakes of holding or lacking power for the Tutsi rebels was life or death. It is not always as blunt, but the stakes of power in many contexts are large indeed. Ethnic favoritism has been found to be very widespread around the world. One example that made the headlines was the case of the Democratic Republic of Congo (DRC)’s dictator Mobutu Sese Seko, whose hometown Gbadolite was literally showered in money and extravagant infrastructure projects. But such famous examples are only the point of the iceberg. There is large-scale systematic evidence that the leader’s home regions and ethnic groups fare best in terms of transfers and public spending, and that having access to political power has in many countries very real implications on prosperity.²³

However, there are a number of institutions and policies that demonstrably lower the differences between being in office and being in opposition. The institutions and policies described below, such as proportional representation, federalism, power-sharing and coalition government, bicameralism, direct democracy, and the Rule of Law, all have the same impact of lowering the welfare difference between those holding electoral majorities and the others. These institutions thereby reduce the stakes of winning elections and hence the incentives for taking up the arms after losing at the polls (see box on page 19).

The first feature of democracy that has received considerable attention is proportional representation. With proportional representation, even ethnic minority groups are assured of obtaining their fair share of parliamentary seats and political power. If the ethnic minority is less disenfranchised, it also has lower incentives to break with the state and aim for secession by the sword. Unsurprisingly, it has been found that proportional representation is a particularly powerful antidote against turmoil in ethnically and religiously polarized societies with few large population groups facing each other.²⁴ The Westminster model of “first past the post” works well in relatively homogeneous countries like Australia or New Zealand, or in countries where ethnic groups have distinct non-overlapping territories – the UK, with Wales and Scotland being distinct regions. However, when there are multiple groups sharing a given territory, it is important to make sure that each group is properly represented. Think of Switzerland, which after the 1847 civil war was deeply divided into Catholics and Protestants, and which contains various cantons that have strong population shares belonging to both religions. In this setting, the choice of proportional representation was a natural one.

Another way of splitting power and empowering ethnic or religious minorities is decentralization and federalism. This is a particularly powerful device when different groups each have separate geographical homelands. The underlying logic is simple: Given that many realms of state prerogatives are shifted to the regional and local level, minority groups are less affected by national policies they might disapprove of. It is less worthwhile for minority groups to bear costs of secessionist conflict when the stakes are lower (i.e., even when not splitting, they can do by and large what they want). Suppose that the Italian-speaking Swiss canton of Ticino had preferences not always in line with the rest of Switzer-

Proportional versus Majoritarian Representation in Democracies

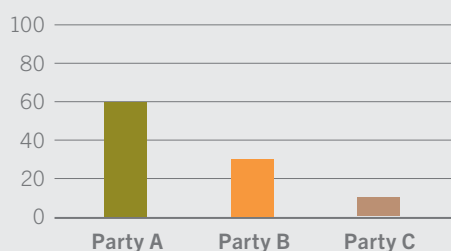
The electoral systems of democracies can be classified into two types. First, there is proportional representation, which allows parties to be represented according to their vote share. In particular, a given number of seats are distributed to competing parties proportionally to the number of votes obtained. In its purest form, for example, if there are 20 seats in a constituency (e.g., a county, or province) and if a party gains 20% of the votes, it is allocated 4 seats. This contrasts sharply with the “Westminster” type of majoritarian representation where the winner takes all. In this case, the 20 seats of a constituency are all attributed to the winning party, leaving no mandates for the runner-ups. A variety of mixed systems also exists.

Proportional representation can indeed be a powerful rampart to the tyranny of the majority, as illustrated by the following example. Think of a country with a majority ethnic

group amounting to 60% of the population that is evenly spread in the territory, and with a second ethnic group corresponding to 40% of the population also evenly present in all districts. Suppose as well that there are two political parties with ethnic base representing the interests of their corresponding ethnic group (think for example of the Flemish parties in Belgium, the Scottish Independence party or the HDP in Turkey). In such a setting, Westminster majoritarian representation may yield in each electoral district a narrow victory of 60% to 40% for the party linked to the ethnic majority and the other one would leave the polls empty handed, having zero parliamentary representation despite being the favored choice of 40% of the population. In contrast, with proportional representation roughly 40% of parliamentary seats would be allocated to the second ethnic group, leading to a much more balanced parliament.

Fig. 5 Impact of Election Outcome in Different Systems (Example)

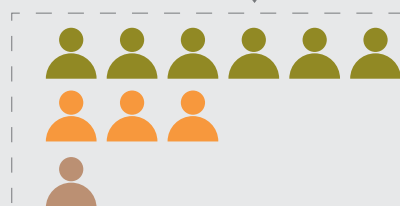
In % Number of votes per party in a particular voting district



In majority electoral systems, the winning candidate is the individual who gets a majority (over 50%) of the votes cast (e.g., one of the 50 states in the USA).



The winner takes it all.



Proportional representation systems seek to closely match a political party's vote share with its seat allocation in the legislature. These systems are not based on single-member constituencies (e.g., a voting district "canton" in Switzerland). Citizens generally vote for more than one candidate or for a political party.

land. In a completely centralized system *à la française*, this canton may have incentives to consider secession, while in the current, very federalist and decentralized Swiss constitution, the largest share of taxes and the most important policies are linked to the regional and local level. While Ticinese may not always agree with Berne, they know that most of their tax money is spent locally and regionally, and that they have control of most key policies such as education, health, and social assistance. This very federalist system allows places with a taste for large Welfare states (e.g., Geneva) to co-exist in the same country with places preferring slim states and limited redistribution (e.g. Zug), yielding a very heterogeneous – yet peaceful country. Federalist devolution and regional autonomy have been widely and successfully used to diffuse tensions in the Basque country, Catalonia, Scotland, Wales, or Flemish Belgium to name a few. Moreover, the Swiss federalist constitution of 1848, born in the ruins of the civil war, has played the federalist card to ensure a large political autonomy for the core Catholic cantons of central Switzerland, reducing their incentives to seek a revenge war later on.

In addition, power sharing in the government through grand coalitions and in the administration are powerful means for limiting the scope for conflict. There is systematic evidence on a large scale for a sizable number of countries that co-opting minorities in the government and making them benefit from a share of political power can deter rebellion and separatism.²⁵ After the turmoils of the Swiss civil war in the 19th century, coalition governments were rapidly formed, integrating first the Catholic minority representatives of the Christian-Democrat party, and later on the socialists. All major parties have been represented in the Swiss government for decades, which has typically always contained representatives from the Catholic homelands and Protestant regions (i.e., which was tradi-

tionally the main source of division), and from French-speaking as well as German-speaking cantons (i.e., the more salient division in recent decades). In such a system, the implications of winning or losing elections are very small for different population groups, as they will be represented in the government anyway, where changes in the share of ministerial posts for different parties occur very slowly.

The “Swiss way” of warranting peace in a very heterogeneous country has recently also been applied to Northern Ireland. This region of the UK has suffered from political violence for many decades, triggered in part by grievances from the Catholic population about underrepresentation and disenfranchisement. Indeed, Protestant Loyalists have traditionally dominated the political elite, the administration, and the police. The Good Friday agreement of 1998 championed large-scale power sharing, not only confined to the parliament, but also to the administration and the police, driving down drastically the number of killings that took place in the “Troubles.”

Other political institutions follow a similar logic of protecting minorities against the risk of a tyranny of the majority and reducing the stakes of winning versus losing elections: For example, bicameralism (making it harder to pass through extreme bills, especially when the two chambers are of different composition), and direct democracy (especially referendums, giving veto power to minority groups).

Another important aspect for preventing conflict is the Rule of Law and a political system with separation of power and checks and balances.²⁶ Executive constraints, contract protection, freedom from expropriation and reliable bureaucracy play key roles. Having constitutionally guaranteed civil rights and liberties protects individuals from arbitrary policies from the state and decreases the costs of having an undesired government. While some citizens may strongly oppose

The Swiss Political System



Photo: © appenzell.ch

In Switzerland, a country with several divisions (Catholics versus Protestants, four language regions, rural versus urban areas), a political system has emerged that puts much weight on giving veto power to a large number of groups. Switzerland is a parliamentary democracy, with the parliament being composed of a lower house with 200 members of parliament representing the Swiss population, while the 46 member strong upper house represents the cantons. Each “full” canton has two seats in the upper house, leading to a strong over-representation of the least populous cantons.

A unique feature of the Swiss government is that it is modelled following the ancient French “*directoire*” system from 1795–1799.

In particular, the executive arm of the Swiss government consists of seven ministers with a rotating presidency where every year another minister takes on the role of president as *primus inter pares*. All major parties are represented in this government and its party composition has been extremely slow moving in the past decades. Importantly, the linguistic minorities are guaranteed a minimum of two or more seats.

Another unique aspect of the Swiss system is the strong role played by direct democracy. A popular referendum can be launched against the introduction of new laws, requiring 50'000 signatures to trigger a popular vote on the matter. In addition, certain enactments of parliament, primarily amendments to the Federal Constitution, must be submitted to a popular vote. This is known as a ‘mandatory referendum’. Similarly, the system includes the instrument of the popular plebiscite proposing a new article to the Constitution (needing 100'000 signatures to come to vote). The Swiss system is also characterized by a very federalist structure and large decentralization (with more than half of the tax revenues going to local and cantonal authorities).

This system implies that political power is diluted to a multitude of groups and that most reforms are – while not always rapidly decided and implemented – broadly supported compromises benefitting from the support of large parts of the population.

some policies an elected government champions, the Rule of Law limits the harm they can personally experience, and hence reduces the benefits of joining a rebel movement to overthrow the government. Well-treated citizens are less likely to take up the arms.

Besides these institutional variables, state policies that reduce the vulnerability of potential rebel recruits can also play an important role. For example, certain social policies may be able to increase the opportunity cost of leaving legality and

joining the armed fight. Education plays a particularly important role.

Education

Empirical evidence exists for a variety of countries showing that higher education is indeed associated with a lower conflict risk.²⁷ The basic underlying logic of linking education to peace is simple:²⁸ Spending a sizeable share of the state budget on education not only has a direct effect of increasing productivity, but in addition has the potential to reduce the risk of harmful conflict that jeopardizes eco-

conomic growth. Intuitively, education spending makes people more productive, and hence on average better paid. This in turn increases the opportunity cost of foregone production in war. A highly paid university graduate has more to lose when quitting the job for joining rebellion than an unemployed person with low education and bad perspectives in the formal economy. While the Nazi party had already filled up some of their ranks with people left out by the society and economically and socially marginalized, this recruitment strategy has also been recently taken on by the Islamic State. By pushing up general education levels and career chances, it makes it harder for rebellion movements and other armed groups to recruit fighters cheaply and easily.

Further, human capital is less easily appropriable than money spent elsewhere. If, for example, a resource-rich country deposits the oil manna in a Sovereign Wealth Fund, or transfers funds to cronies, the windfall money is still present somewhere in liquid form, and the perspective of getting at this honey pot may well incite armed rebellion.

Finally, education may also be able to transmit civic values of peace. If education aims to foster civic understanding, tolerance, and scientific thinking, it can shape the mindset of pupils in a positive way, making them less receptive for hate messages and calls for violence.

Social Capital and Inter-Ethnic Trade

Another crucial rampart against political violence is the building of a society with tolerant social norms and high levels of trust and social capital. In fact, war continues to destroy society even when the guns have ceased shooting and bombs have stopped dropping. The reason is that war unleashes a terrible vicious cycle.²⁹ The first step is that mistrust grows after war. While some wars may arise due to miscoordination – where no one actively pushed for armed conflict –

hawkish attitudes of the parties involved may trigger wars in many cases. While the intentions and attitudes are sometimes hard to discern, it is a fair guess for fighting parties that the opponent, with at least some probability, had a hawkish attitude and bad intentions in the escalation leading to war. And hawks today may well be hawks again tomorrow. Hence, once bitten twice shy; and the different groups involved are reluctant to fully trust past opponents in post-war reconstruction. This has severe consequences, as trade requires trust, and thus trade and business between former adversaries very often collapses after war. This unintended consequence of conflict has been observed at various times in the data, for example in Rwanda, where mutual trust has been recorded to be substantially lower after fighting episodes and where inter-ethnic business associations and cooperation have (unsurprisingly) plummeted after fighting. A sharp decrease in inter-ethnic trust and a substantial surge in ethnic identity have also been recorded in Uganda during the first years of the new millennium in the districts hit hardest by president Museveni’s “Iron Fist” military offensive against the Lord’s Resistance Army (LRA).³⁰

Low trust is very persistent over time; even long-gone wars hall back today: There is systematic evidence that Europe-wide trust between countries correlates very strongly with the past wars in the last centuries, and that there is a big loss in trade after hostilities.³¹ For example, the relatively low Anglo-French trust – persisting even today – is in line with the fact that these countries have fought dozens of battles in the Middle Ages, even though the last major bilateral war ended in 1815 at Waterloo.

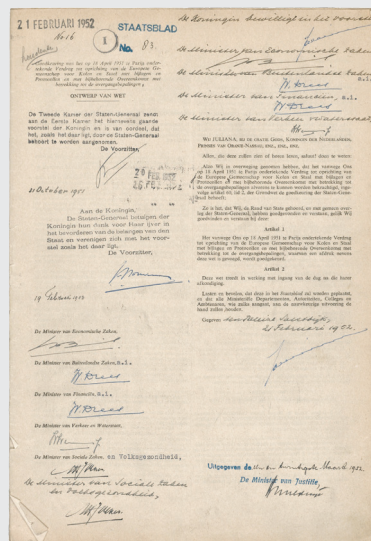
To close the vicious cycle, when bilateral trade with a given group or country is low, the opportunity cost of attacking is much lower compared to a situation where strong business ties exist. Thus, in sum, conflict drives down trust and inter-

Trust Building in Post-War Europe



Picture above: Signing ceremony of the European Coal and Steel Community (ECSC) in Paris, 1952. © European Union, 1952 – Source: European Parliament

Picture on the right: Original contract of the European Coal and Steel Community (ECSC). © Nationaal Archief, Den Haag, Kabinet der Koningin (1946-1975),



One of the most important examples of building of trust and business in the aftermath of a terrible war was the creation of the European Coal and Steel Community in war-torn Europe after World War II.

The French Foreign Minister, Robert Schuman (in the middle of the picture, holding the signed ECSC treaty), in his famous declaration of 9 May 1950, proposed that Franco-German coal and steel production be placed under a common High Authority within the framework of an organisation in which other European countries could participate.

The Treaty establishing the European Coal and Steel Community (ECSC) was signed in Paris on 18 April 1952 by Belgium, France, Italy, the Federal Republic of Germany, Luxembourg, and the Netherlands. It entered into force for a 50-year period. Members of the European Parliamentary Assembly were selected by their national parliaments. The Assembly had the right to dismiss the High Authority (precursor to today's Commission).

group trade, which makes groups less economically dependent on each other and implies that they have less to lose from a renewed attack in the future. Policies abating cultural barriers and fostering inter-ethnic trade can reduce the incidence of conflict, while coercive peace policies, such as peacekeeping forces or externally imposed regime changes, have no enduring effects, as they do not foster positive inter-group interaction, which is the best way to rebuild trust and interdependence. The most important example of building up trust and business in the aftermath of a terrible war was the creation of first the European Coal and

Steel Community and then the European Union in war-torn Europe after World War II. The policy of bottom-up cooperation and small steps led ultimately to refueling depleted trust and making European countries increasingly interdependent, which has led to peace in Western Europe for the past seven decades. As the renowned American sociologist Charles Tilly shows, Europe was a hotspot of violence and conflict during the medieval period (which incidentally favored state formation). The increased interdependence during the last seven decades has led to one of the longest spells of uninterrupted peace in this

region in recent history, and has transformed Europe into an example of peace and prosperity.

Foreign Aid

Can foreign aid help prevent armed conflict, for example by combatting poverty? There is only very limited data evidence available for answering this question. The most recent and detailed study on this was recently written by a team of scholars from the Harvard and Yale Universities.³² They assessed the impact of US food aid on 125 developing countries during the last few decades, exploiting random shocks in the amount of US-produced food available to be shipped as donation to countries in need. In fact, the amounts of US food aid allocated only depend to a limited extent on the actual needs of recipient countries, but are to a large extent driven by the previous year’s excess production in the US. By shifting surplus food abroad, the domestic prices can be kept high. The researcher team finds that these random spikes in aid availability following US overproduction have – if anything – a negative effect on political stability in the recipient countries, increasing the outbreak risk and potential duration of civil wars. This is in line with the same logic as that outlined above for the natural resource curse. When there is stuff to be grabbed, people with bad outside options have incentives to form armed groups of rebels or roaming bandits and to try to engage in rent seeking, appropriating the pie up for grab. The sorry tale of US food aid and conflict should of course not discredit all forms of foreign aid. While indeed dumping valuable stuff without much protection may bear risks (as in the case of US food aid), other forms of aid like technical cooperation or the building of schools and hospitals could have very different effects.

Military Intervention in Complex Conflicts

What about armed intervention? UN or international interventions and peace-keeping efforts do not necessarily mean

“sending the Navy Seals or other special troops”, as done in Somalia, Afghanistan, or Iraq. In many cases, an intervention can also imply weapon embargoes, buying off rebels by offering government jobs, or promoting bilateral reconciliation between two or more rival groups. In a recent research project, a team of Zurich- and Lausanne-based scholars carried out a novel network analysis allowing an answer to these questions.³³ In particular, they have built a new network model of conflict and introduced data from the Second Congo War, one of the most brutal conflicts in recent history, resulting in several million fatalities. They have found taking alliances and rivalries between armed groups into account is crucial, to determine which groups have the most detrimental effects on fueling escalation. These key groups are not necessarily the most active groups in terms of reported battles in the media, but may be relatively discrete – yet well connected. Removing these groups from the war – either by combatting them militarily or “bribing” them into laying down their arms by offering (government) job perspectives – can have a very powerful impact on driving down the conflict intensity. Arms embargoes are hard to enforce and are not found to have a key impact on the fighting. In contrast, using the fine-grained network of group links, one can compute which bilateral rivalries are most worthwhile pacifying. It turns out that these bilateral pacification efforts can be one of the most promising policies to combat conflict.

Conclusions

As soon as wars are seen as a fate that cannot be avoided, this erroneous prophecy becomes self-fulfilling and the combat against conflict is lost. Maybe surprisingly, governments and the international community dispose of a vast array of measures that are able to reduce the risk, intensity, or duration of fighting drastically. Getting the joint economics and politics right makes a huge difference. The worst enemy of peace is poverty. Sound macroeconomic policies that promote economic growth also display a complementarity with democracy. The impact of democracy is strongest and most positive when the economy is thriving. Generally speaking, all institutions that reduce the stakes of gaining power reduce the risk of conflict: Proportional representation, federalism, power sharing, bicameralism, and referenda all protect ethnic and religious minority groups and guarantee them appropriate representation and freedom of choice. They all drive down the gains of seeking to overturn the central government or pursuing secession by the sword. The power sharing and checks and balances applied by the “Swiss model” at all levels (coalition government with rotating presidency, bicameral parliament overrepresenting small regions, federalism, and direct democracy with popular votes) could thus well inspire political reforms in divided and war-torn societies, and the lessons drawn by Switzerland after its civil war in 1847 may well still apply today.

Furthermore, institutions and policies that favor trade and the building of trust are key ingredients in reducing the conflict potential. Further promising policies include promoting public education and putting in place well-organized pacification interventions taking the whole network complexities of a given war into

account. Trying to prevent war is never easy, but the payoffs of peace are so high that it is well worth the effort.

Scientific research can help ease the burden by providing concrete answers to specific questions about policy effectiveness. For example, a direct test of policy interventions has been confined until recently to other fields of economics such as labor or taxation. Very recently, however, several studies championed by scholars from Chicago and Columbia have started evaluating factors that were previously elusive, such as reconciliation in the aftermath of massacres or the reintegration of former child soldiers, with the help of large scale studies where participants are randomly allocated to a group benefitting from the intervention and a comparable control group not treated. In Europe as well, the role of policies and institutions for curbing conflict is receiving increasing attention, with the European Research Council recently funding research on the impact of political institutions, education, and health initiatives on promoting peace.³⁴ For this scientific knowledge to be truly useful for policy, a missing puzzle piece is the diffusion of scientific results to stakeholders in politics, business, and the administration – which is a main challenge for the future and one of the main aims of this paper.

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33. Koenig, Michael, Dominic Rohner, Mathias Thoenig, and Fabrizio Zilibotti, 2016, “Networks in Conflict: Theory and Evidence from the Great War of Africa”, working paper, University of Zurich and University of Lausanne.
34. The randomized field experiments on post-conflict reconciliation and reintegration of child soldiers have been carried out by Oeindrila Dube (<http://odube.net/>) and Christopher Blattman (<http://chrisblattman.com/>), respectively. The European Research Council has recently founded the ERC Starting Grant “Policies for Peace” (Number 677595, from August 2016 to August 2021, Principal investigator: Dominic Rohner, University of Lausanne).

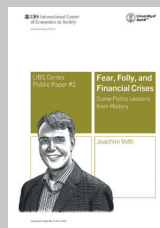
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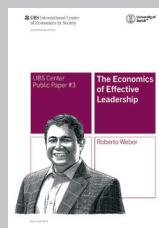
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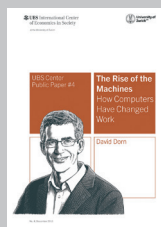
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