

MAPPING AND EXPLAINING CIVIL WAR: WHAT TO DO ABOUT CONTESTED DATASETS AND FINDINGS?

Workshop Report

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Incidence of Civil War and Definitions

The conference began with a discussion of the ways in which civil wars are defined and counted by political scientists, a process that requires the researcher to make decisions about who the relevant actors in a civil war are, whether civil wars imply a certain threshold of fatalities, what degree of organization must be present on different sides of the conflict, when the war can be said to have begun and ended, and how to classify cases with significant amounts of international involvement. Nicholas Sambanis of Yale University catalyzed the discussion with a presentation on the diversity of the datasets currently being used to study civil war and provided illustrations of the dilemmas coders face (Sambanis, 2003b).¹ For example, civil wars are usually assumed to occur between relatively organized groups. But most coders do not include the Dhofar Rebellion, which began in 1964 in Oman, in their datasets because, although it was a highly organized uprising, it did not reach the commonly used threshold of 1000 battle deaths. On the other hand, most datasets include the rebellion in Somalia in 1991 as a civil war, despite the lack of both a recognized government and a highly organized rebel force, because levels of violence were so great. Or, consider the cross-border actions among Rwandan rebels in 1998, which seem related to civil conflict but are difficult to distinguish from international terrorism, such as the Hezbollah campaign against Israel. Politicide and genocide can also defy straightforward coding: about 30,000 people died in massacres in Nigeria in 1966, and coders record a civil war beginning in 1967. But, had those deaths occurred at the end of the war, they may well have been included in the course of events considered part of the conflict and, thus, have been included in the count of total deaths.

Many of the civil war datasets, Sambanis argued, have been compiled based on vague definitions and error-prone processes, and the datasets researchers use are now quite divergent. These differences matter in explaining differences in findings, but it is not clear how much: regressions run to predict civil war onset that use the same model but different datasets remain relatively consistent in their results. However, Sambanis argued that the relative consensus of findings among datasets was not a reason for complacency, but rather only signifies that researchers have succeeded in

¹ For the datasets and models of civil war onset on which the conference primarily focused see Collier & Hoeffler, 2001; Elbadawi & Sambanis, 2002; Fearon & Laitin, 2001; Hegre et al., 2001.



identifying a few variables which do not change much over time (such as GDP/capita or population) and providing insight into structural correlations with civil war, but are not able to capture country-by-country variations or the trigger variables that might predict the onset of violence in particular cases.

Many participants took some exception to this characterization of the various civil war datasets. James Fearon of Stanford University stressed that the diversity in coders' approaches may not matter much when regression results are so similar, while agreeing that the strength of the models based on these datasets is their ability to provide robust identification of long term risk factors for civil war as opposed to explaining why violence happens in a certain time and place. In terms of general approach to the subject, many discussants felt that, while precision in coding is necessary, individual judgment remains inevitable. The robustness of results across datasets that use differing but plausible definitions of civil conflict provides a good check on research findings, given the reality that the available data is often of poor quality.

Participants agreed that further study of diverse types of political violence is necessary in order to better understand escalation into civil war and what defines civil war. One major step towards doing this is the expansion of the Uppsala University/PRIODATASET, which uses a lower threshold of twenty-five fatalities for coding the incidence of civil war and has now begun tracking non-state violence and genocides/politicides (Eriksson, Wallensteen & Sollenberg, 2003; Gleditsch et al., 2002; Strand, Wilhelmsen & Gleditsch, 2003). Wolfgang Schreiber of the AKUF group at Hamburg University works on a dataset that uses no threshold number of deaths but rather estimates the sustainability of violence (Schreiber, 2003). Other coders have moved towards datasets that attempt to categorize prevailing levels of political violence in a nation along a continuum. The State Failure Project (Marshall & Gurr, 2003) and the Political Terror Scale (Cornett & Gibney, 2003; Poe, Tate & Keith, 1999) are examples of datasets that rank states within a range based on a holistic analysis of levels of political violence.

Related to the discussion of differing types of political violence, participants debated the role of fatality thresholds in defining civil war. This tends to bias datasets against finding conflict in small countries. Some researchers have proposed using a measure of deaths/total population to better gauge the intensity of conflict. Most participants felt that this measure could only be used a supplemental variable, as it presented a number of conceptual and practical problems. First, accurate population figures can be very difficult to obtain. Second, in regionally based conflicts, is the relevant total population the region or the nation? Third, the measure is biased against finding important conflicts in very large countries such as India and China. Researchers agreed that weighting deaths by total population is a difficult theoretical issue. In a large nation, simply dividing fatalities by total



population can dilute the conflict into insignificance, while the reality may be that violence is concentrated in one area where its intensity is thus quite high, as in Kashmir. On the other hand, that dilution does reflect the reality that millions of people within a large country with ongoing localized violence may have no immediate experience of living in a nation in conflict. Scott Gates of the International Peace Research Institute (PRIO) in Oslo pointed out other problems that can occur because of the use of thresholds of violence in coding civil war, especially in designing studies of duration. If conflicts tend to be just below thresholds, or to go through periods of inactivity, this may result in them being coded as multiple wars or wars of very different duration between datasets. Thresholds of violence also create an inherent bias in the study of coup d'état because datasets miss the incidence of successful coups that result in few deaths and mark those with a great deal of violence (Gates, 2003a).

The University of Maryland's Jonathan Wilkenfeld and others who create datasets related to international wars pointed out that these projects are somewhat ahead of those that monitor civil war. They have developed several ways to study escalation and to study conflict situations that may or may not lead to deaths. The International Crisis Behavior Project does such monitoring, for example (2003). The Correlates of War dataset on militarized international disputes provides another tool for studying escalation of international conflict. Glenn Palmer of Pennsylvania State University noted that the database on militarized international disputes also tracks a distinction between conflicts that seek territorial versus policy revisions, and finds significant divergence between types of conflicts; for example, territorial disputes are far more likely to become fatal and lead to high levels of fatality than policy disputes (Ghosn & Palmer, 2003). Researchers of civil violence face challenges in duplicating such measures. Monitoring situations that may develop into conflict is more challenging because, unlike international conflicts, which take place between a known set of possible state actors, there are many actors within every state who may resort to violence, especially if non-state conflicts are also of interest. Second, participants were unsure as to whether the issues involved in civil wars would be as readily observable as those between states, especially because territory plays a complicated role in civil conflict.

Levels of Violence

A number of conference participants pointed out that a major limitation in creating more nuanced definitions of civil war and other types of political violence is the limited availability of raw data, even on basic variables such as the number of deaths occurring and basic economic and population indicators. Many of the most contentious cases, such as Somalia, drop out when regressions are run because no figures are available for any of the independent variables, like population, that models generally include. This is a major limitation on deepening those findings and verifying their reliability.



An extremely important data challenge is obtaining better information on how many people are dying in civil wars. Most codings of civil war rely on observing some threshold level of fatalities. At the same time, accurate information on who dies in civil conflict and how, where, and when they die is important to better understandings of types and causes of political violence, the escalation of political violence, the course of events during the conflict, the long term and differential impacts of conflict, the degree of organization on all sides of the conflict, and knowledge of trends in violence by non-state actors.

Unfortunately, the availability even of figures for deaths directly resulting from civil violence is limited. Uppsala has recently begun collecting that data, but back dating such information for conflicts since the end of World War II may simply be impossible. Niels Tomijima introduced the conference to his work at the World Health Organization (WHO) to improve that organization's reporting of deaths due to civil wars. Unfortunately, war deaths are usually not picked up by a nation's vital registration, the source of most of the WHO data on causes of death, or war deaths may be purposely obscured by classification as homicides or accidents. Echoing remarks made by a variety of conference participants, Tomijima noted that the feasibility of augmenting the official data with journalistic sources is frustrated by the global unevenness and, at times, alarmist nature of media coverage.

The WHO is also interested in tracking deaths by age and sex. In order to estimate distributions of civil war deaths among demographic groups, researchers have looked into the potential of extrapolating from cases where civil war deaths were relatively consistently tracked by vital registration or from terminated conflicts for which NGOs have done extensive work documenting war deaths, for example Guatemala (Ball, Kobrak & Spirer, 1999). There are significant policy implications in being able to better describe the differential impacts of civil war: many policymakers have long assumed that women bear the most significant civilian costs of civil war, but human rights organizations such as Gendercide are increasingly challenging that perception, pointing out that battle age male non-combatants are often specially targeted in violence against civilians. Researchers also know that battle deaths in civil war are often not the most important impact on human health as the result of the civil war, especially over time. War-driven disease may be especially important for understanding the importance of war in terms of the magnitude of the threat it poses to global health (Ghobarah, Huth & Russett, 2003).

The Problem of Sources

A persistent frustration expressed by researchers, in tracking both the incidence of political violence and fatality levels, was the limitations and biases of the news sources from which they draw their data. For instance, Uppsala University's Armed Conflict Dataset, which tracks civil violence

down to a threshold of 25 deaths, and includes non-state conflicts and genocides in its analysis, relies on extensive monitoring of world news (including automated software searches of Reuters reports, Factiva searches of international and local news services, and human cross-checks with news magazines, and reports of local and international NGOs) to compile its list of conflicts and fatalities. Kristine Eck, of Uppsala University, summarized a number of the problems the researchers face when dealing with journalistic sources: coders must be urged to read critically, as many sources are advocacy-oriented; reporters use vague words such as 'many' or 'scores' to refer to casualty levels and make unspecific references to times, duration, locations, and causes of events; reporters may reference past or anticipated events on which the coder can find no direct news coverage; and, most critically, conflicts and countries not on the Western media agenda are difficult to monitor. For this reason, dataset measures of fatalities may be skewed by full death counts in areas with good media coverage, like Israel and India, and partial counts in less high profile conflicts, such as the Cabinda region in Angola or in the Democratic Republic of Congo. On the other hand, Mark Gibney, whose work draws extensively on reports by Amnesty International and the State Department, believes there may be a systematic bias towards underreporting of political violence in the past, as coverage of human rights issues and minor conflicts has grown both broader and deeper since the end of the Cold War.

The correction available to researchers is to use many sources and cross-check their results with annual reports by various media sources and NGOs. Also, because no codebook can exhaustively clarify all the decision rules that are needed to sort through media sources, the Uppsala dataset includes summaries of major coding decisions, so that the data will be transparent, even if it is not perfect. This provides another check on the accuracy of lists, by allowing researchers to track the conflicts themselves and modify codings where this is appropriate to the research questions they are pursuing. Tomijima suggested that a further research direction is the possibility of evaluating the accuracy of press reporting in past conflicts by comparing, for example, what we now know about the incidence and levels of violence in the Balkans in the 1990s versus what was recorded in daily press reports at the time.

Oxford University's Anke Hoeffler pointed out that one avenue for gathering reliable data and cross-checking the accuracy of data gathered from news sources that is notably *not* available to researchers is that of international institutions. No international institution gathers and produces data on the incidence and impact of violent conflict in the way that the World Bank and International Monetary Fund gather economic figures. This is, no doubt, in large part because of the controversy reporting such numbers would generate and the sensitivity of dealing with civil war: the United Nations has avoided such a project; the Bank has dealt with conflict only by dealing with

civil war as a development issue. At the WHO researching deaths through civil violence has historically slipped between the institutional cracks.

Areas of Consensus and Controversy

Scott Gates provided the conference with an overview of the empirical findings around which a high degree of agreement exists between major models of civil war onset; given the significant differences between the datasets that have provided support to these findings, the consensus is often remarkable (Gates, 2003b). Widely replicated findings suggest the following factors are associated with higher risk of civil war: conflict history and recent involvement in a previous civil war, a finding which reflects the very real difficulties in settling these conflicts (Hegre et al., 2001) and the fact that the impacts of past civil war augment other risk factors (Collier et al., 2003); a low level of economic development; ethnic diasporas, which can provide funding to rebel groups; total population; thinly dispersed population; political instability; and state strength, which is probably the variable around which there is the most theoretical agreement, but which can only be measured by proxies like GDP/capita, energy consumption, or constructed measures of state extractive capacity. By contrast, researchers maintain more diverse theories and findings regarding the role of democracy and democratization, the importance of natural resource dependency, and the role of inequality and ethnicity.

The Role of Democracy

Håvard Hegre of PRIO presented the conference with an overview of studies of democracy and civil violence. Results have differed widely, but there is a modest pool of evidence for an inverted U-curve relationship, in which consolidated autocracies and consolidated democracies are least prone to war. A number of empirical models have found high risks of conflict associated with instability (a large change in a regime's Polity score) and with anocracy (a middle-range Polity score, which results when coders observe significant autocratic and democratic characteristics). Hegre argued that the cases in which we observe democracies with civil wars are mostly poor countries, so that there may be reason to believe that the benefits of democracy are enjoyed only above a certain income threshold (Hegre, 2003). Participants agreed that wealthy, fully consolidated democracies seem to have little risk of civil war, but that civil violence, although less frequent than in anocracies, continues to be observed in countries at the extreme end of the autocracy scale.

The researchers' discussion revealed that although regimes with a middle-range Polity score seem to be at higher risk for civil war, it is unclear what that really means. It is difficult to differentiate the dynamics of partial democracy from the effects of political instability and a weak state. Part of the dilemma arises from the way in which the Polity score is compiled (Marshall & Jaggers, 2000). Polity coders note incidents of political violence

and factionalism within a nation and assign lower democracy scores accordingly, suggesting that the middle of the Polity scale may be capturing the violence that leads up to civil war. Many researchers also transform special Polity codes given for cases of rapid regime change and loss of regime control to 0s, the median score. Thus, the middle of the Polity scale is difficult to unpack, because it signifies both characteristics that exist along a continuum of regime characteristics in which there is something called 'anocracy' between democracy and autocracy, but also includes cases in which the signal characteristic is tenuous or absent regime control.

Beyond these dilemmas, there is uncertainty as to which mechanisms of democracy offer protection against civil conflict. Codings of democracy that focus too narrowly on elections may fail to measure mechanisms that are possibly more important in preventing conflict, such as political protections and civil liberties, or the ability to change the distribution of resources among groups. Also, it may be impossible to observe the positive impacts of democracy in channeling broad popular grievance, because conflict can also be undertaken by predatory fringe groups, which democracy inadvertently protects from repression. Also needed is a better understanding of the ways in which other forms of political contestation, such as protest movements, relate to civil violence under various regimes (Sambanis & Zinn, 2002). The search for mechanisms through which regime type impacts civil violence is of great importance for policymakers, especially because international post-conflict interventions are increasingly looking for ways to strengthen institutions in post-conflict settings before holding elections.

Also, a number of theorists have claimed that the spread of democratic transitions worldwide since the end of the Cold War may be a significant culprit in civil violence (Snyder, 2000). However, conference participants felt there was mixed evidence for this empirically, in part because it is difficult to determine whether mixed-type regimes should really be called 'democratizing' or whether conflict in these nations is being driven by the fact that the regimes are simply unstable, factional, or have lost the repressive capacities of full autocracies. Some models suggest that moves towards autocracy may be associated with similar or even worse risks of conflict. Also, political openness has generally increased since the end of the Cold War, but most political scientists, in some contrast to the prevailing conventional wisdom, believe that rates of civil conflict have fallen since that time.

Natural Resource Dependency: Incentives versus Opportunities

Participants in the conference agreed that there are diverse theoretical arguments regarding the role of natural resource dependence in both motivating and creating the opportunity for civil wars, and that imprecise measures and the paucity of data available have made it difficult to use empirical work to distinguish among these mechanisms (Ross, 2004).



Resource dependence may play a role in conflict onset, by strengthening the incentive to contest the center or by changing the characteristics of the central regime, especially its taxation and rent-seeking behavior and its degree of political openness (Bates & Lien, 1985; Ross, 2001). Also, concentrated natural resources may provide an incentive for regional separatism. But the availability of resources may also play a role as a source of finance for the conflict, both by the state and the rebels, especially if combatants can sell not just actual resources but future rights to resources of which they expect to take control, as was observed in Sierra Leone. Many participants felt that the role of natural resources in providing funding for conflict was probably more important than its role in motivating conflict, but this theory is difficult to test due to the problems of measuring the financing available to governments and rebels. However, such work could be highly interesting in testing popular assumptions about the effect of the end of the Cold War in changing the sources and availability of combatants' funds.

Fearon presented an overview of studies of the role of natural resource dependence in civil war onset, arguing for an approach in which a variety of models and datasets are compared in order to gauge the degree to which the correlation could be shown to be robust. His presentation highlighted a number of the problems that researchers face in trying to gather data to test the role of natural resources in conflict. The most commonly available measure is the World Bank's figure for primary commodity exports as a percentage of GDP, a variable that includes agricultural products, fuel and oil, and other natural resources, but does not include gems, timber, and illegal drugs. Also, the variable is highly related to GDP per capita; most states that are neither primary commodity nor oil export dependent are rich nations, which are also those most likely to be free of civil conflict. Fearon argued that Collier and Hoeffler's conclusion that the risk of civil war versus primary commodity dependence is an inverted U-curve did not fare well when checked within other model specifications, most significantly moving from 5-year to 1-year periods of observation. He argued that civil war onset is more likely to be related to measures of oil and fuel than to primary commodity exports, because the former speaks to the regime pathologies typical of governments in oil dependent states. Other participants stressed the importance of illegal drug production, which is a highly flexible source of financing for prolonging conflict and thrives in weak states. Patrick Regan of Binghamton University has completed work on the correlation of gems and opiate production and civil war and found the latter to be significant (Regan & Aydin, 2003; Regan & Norton, 2003).

Nils Petter Gleditsch of PRIO presented work being done by himself, Päivi Lujala, of the Norwegian University of Science and Technology, and Elisabeth Gilmore of Columbia University on the role of diamond assets in conflict onset (Lujala, Gleditsch & Gilmore, 2003). This work, still in its early stages, has not found a strong relationship between the discovery or production of diamonds (of either the kimberlite or the alluvial type) and the

onset of conflict in cross sectional analysis. The project is currently expanding to examine the location of conflict compared with the location of diamond resources. Both small sample size and limited data present challenges for the project: there are only about 20 countries worldwide with significant diamond endowments and just 10 to 15 more that have smaller deposits. Within that group, the number of conflicts is small and the number of civil wars is even smaller, while most of the available economic data comes from rich, peaceful diamond producers like the United States and Canada.

Participants were quite interested in the potential for microstudies as an important tool for addressing the problems of lack of data and the low number of cases that limit regression analysis of natural resources. Sambanis is currently overseeing a 22 case study project through Yale University and the World Bank on this issue and one of the most important findings is that simply correlating the presence of combat with the presence of natural resources would lead a researcher to mischaracterize a number of these conflicts. For example, civil conflict in Mali has not been based in the regions of the country that are important to the gold industry, and in South Africa diamonds were not an important mechanism in apartheid era insurgencies (Sambanis, 2003).

Relationships Between Groups: Ethnicity and Inequality

Journalists and policymakers have long assumed that ethnic tensions and inequalities are driving factors in civil wars. However, empirical research has not uncovered clear evidence of such a conclusion. Most studies have failed to find a relationship between vertical inequality measures, such as Gini coefficients, and the outbreak of civil war. Models have also differed as to the importance of ethnic diversity. But, as Marta Reynal-Querol of the World Bank pointed out, in the theoretical literature there is increasing agreement that the most dangerous demography for a country is ethnic polarization, in which a large majority faces a large minority (Montalvo & Reynal-Querol, 2003; Reynal-Querol, 2002). Thus, the challenge for empirical research is to find better ways to measure such a social composition in order to test this theory, and to investigate horizontal, or inter-group, inequalities.

Utrecht University's Mansoob Murshed presented two case studies on the role of horizontal inequalities, one of civil war in Nepal and another of separatist violence in Indonesia (Murshed & Gates, 2003; Tadjoeeddin, 2003). Nepal is a society of great horizontal inequality between castes, and this inequality also has ethnic and regional dimensions. Civil war began in 1996 after the Maoists were barred from contesting elections. Using district level data to compare UN human development indicators at a local level to those in the capital, Murshed's study demonstrates that the intensity of violence is highest in areas with greater rates of inequality and landlessness.



By contrast, the Indonesian separatist regions of Aceh, Papua (Irian Jaya), Riau, and East Kalimantan have a higher GDP/capita than the nation as a whole, roughly equal human development indicators, and lower rates of poverty (with the exception of Papua). However, these regions have rates of expenditure/capita roughly conforming to the national average, reflecting nationwide programs of income redistribution. This may suggest that the regions want to secede in part to maintain control of the higher than average wealth being generated in their areas—an 'aspiration to inequality.' (On the other hand, Indonesia has recently undergone a highly disruptive regime transition and is a very weak state, both key risk factors for civil war).

The contrast between patterns of horizontal inequality in Nepal and Indonesia was what Hoeffler called 'the rage of the poor' versus 'the rage of the rich.' Many participants agreed that inequality between social groups plays a role in civil conflict, but that we should not necessarily conclude that this is a consistent role. Both the advantaged and the disadvantaged may have incentives to engage in conflict, and the mechanisms by which inequality causes conflict likely differ significantly by region and by country, according to historical factors in inter-group relationships and broader economic and political structures.

A major challenge to researchers in investigating this phenomenon is that there is little consensus on how to create indicators of horizontal inequality and there is very little data, especially disaggregated by ethnicity, available for some of the most important cases, including most African nations. The conference included a presentation by Gudrun Østby of PRIO, who has just finished a master's thesis using new data sources to partially address this problem. She has identified the Demographic and Health Surveys, which poll women on a variety of economic, social, and health indicators and their ethnicity in a number of developing countries and is seeking to use those indicators to develop measures of horizontal group inequality (Østby, 2003).

Policy Outreach

Conference participants were asked to discuss what role their work might have in informing the policy community. For example, why has the relative academic consensus that levels of civil violence have declined been unable to challenge the popular assumption that the incidence of civil war has jumped dramatically since the end of the Cold War? Recently, the development community has become interested in structural research on causes of civil war, but much of the security community prefers analysis based on agency, trigger events, and case-specific knowledge, and shows little political will for addressing the general factors that drive civil conflict.

Most participants agreed that empirical work revealing correlations can be useful because it points to a number of variables which are general risk factors for civil war and which policymakers have levers available to change. As in public health or epidemiology, it is possible to set guidelines and



targets for 'lower risk' behaviors, even if the exact pathway of the disease of civil violence remains to be described. Also, although academics cannot predict the shocks that would allow them to pinpoint future civil violence, they can point to the shock-cushioning mechanisms that are likely to be important in containing crisis when it comes. Finally, sketching the general characteristics of civil war that seem to apply across many times and places can be a correction for policymakers who at times generalize based on their extensive knowledge of a single case and misapply that experience to another conflict. Being able to play such a role will require, at a minimum, the interpretation and illustration of academic findings for a broader audience, especially efforts to highlight trends in findings and demonstrate with compelling examples. Attention for such work should be more forthcoming than in the past, as policymakers are increasingly focused on international problems that relate to weak states, such as drugs, human trafficking, migration, HIV/AIDS and other pandemics, and, especially, safe havens for terror.

A Dataset Wish List

How do we define and monitor...

The escalation of political violence
 War duration (start and end dates)
 Political violence below the threshold of war (including military interventions and coups)
 Different types of political violence (including non-state violence, genocide and politicide)
 Degrees of internationalization of conflict
 Issues of conflict and aims of civil war participants
 Opportunities to export primary commodities and illegal drugs
 Inter-group inequality

How can we distinguish...

The role of resource dependence as an incentive to conflict, a characteristic of the state, and a source of financing
 The rage of the rich and the rage of the poor
 The role of democratic transition or anocracy versus the role of instability and state weakness

Better data is needed on...

Basic economic and demographic indicators for the poorest countries and most controversial cases
 Fatalities due to civil war, through both direct and indirect causes, distribution of fatalities between combatant sides, civilians, and between demographic groups
 Communal and non-state violence
 Availability and exports of primary commodities, including gems, timber, and illegal drugs
 Financing opportunities available to governments and insurgents
 Disaggregation of data by actors and by geographic regions
 Yearly updates of data, and more transparent methods for tracking coding decision



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