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**Disaggregated Perspectives on Civil War and Ethnic Conflict:
Prospects of an Emerging Research Agenda⁺**

Tim Dertwinkel*

I. INTRODUCTION

Academic conflict research, deeply rooted in Cold War thinking, has traditionally focused on the causes of war between states, with an analytical focus on the role of military alliances, joint land borders, arms races, nuclear deterrence, trade relations, democracy levels, balances and imbalances of power, and the like.¹ Control over disputed territory has been the most frequent issue of international violent dissent among states.² After the end of the Cold War, international relations scholars studying violent conflict noticed that since 1945, the most common and lethal form of organized violence was

⁺ Paper prepared for the interdisciplinary conference on “The Roots of Civil War and Conflicts and their Influence on Transformations of State and Civil Society Institutions” at the Department of Border Region Studies, University of Southern Denmark, 14-15 November 2008.

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¹ For reviews of this literature see, for example, J.A Vasquez, *What do We Know about War?* (Rowman and Littlefield, New York, 2000); and M. Midlarsky (ed.), *Handbook of War Studies II* (University of Michigan Press, Ann Arbor, 2000).

² K.J. Holsti, *Peace and War: Armed Conflicts and International Order 1648-1989* (Cambridge University Press, Cambridge, 1991).

intra- rather than interstate war. Although in general less severe than interstate conflicts, 90% of all battle deaths since the end of the Cold War have been due to civil wars.

The early 1990s have seen a wave of civil wars in the Balkans, on the territory of the former Soviet Union, in large parts of Asia and in Western, Central and Eastern Africa. By the high water mark of 1994, more than a quarter of the states in the world were experiencing civil war, waging on average for six years.³ According to some scholars, this prevalence of civil wars should be treated as an entirely new phenomenon.⁴

From 1945 to 1999, about 130 civil wars have killed up to 20 million and displaced up to 70 million people in more than 70 countries worldwide.⁵ In the same time period, ‘only’ 25 interstate wars with roughly 3 million battle related deaths were counted. Civil wars tend to last longer than interstate conflicts, are less likely to end by formal settlement, and often tend to recur.⁶ In addition, two thirds of these intrastate conflicts are fought along

³ The higher numbers of civil wars in the 1990s result from a gradual accumulation of conflicts since World War II, not because the rate of civil war outbreak increased with the end of the Cold War. The rate of outbreak of civil conflict is, on average, about 2.31 per year since 1945. Civil conflicts break out at a faster rate than they die. J. Fearon and D. Laitin, “Ethnicity, Insurgency, and Civil War”, 97 *American Political Science Review* (2003), 75-90; H. Hegre, “The Duration and Termination of Civil War”, 41 *Journal of Peace Research* (2004), 243–252.

⁴ M. Kaldor, *New and Old Wars: Organized Violence in a Global Era* (Cambridge, Polity Press, 2001).

⁵ J. Fearon and D. Laitin, “Ethnicity, Insurgency, and Civil War”, above note 3; and N. Sambanis, “Using Case Studies to Expand Economic Models of Civil War”, 2 *Perspectives on Politics* (2004), 259-279.

Fearon states that “a civil war is a violent conflict within a country fought by organized groups that aim to take power at the center or in a region, or to change government policies”. J. Fearon, “Iraq's Civil War”, 86 *Foreign Affairs* (2007). The exact number of civil wars and related deaths very much depend on the data set employed. Most civil war lists rely on the updated Correlates of War (COW) project, a database widely used by quantitative scholars of conflict. J.D. Singer and M. Small, *The Wages of War, 1816-1965: A Statistical Handbook* (John Wiley, New York, 1972). COW classifies civil wars as having over 1,000 war-related casualties per year of conflict. Other data sets use lower death thresholds to code a civil war onset in a given year, such as the Uppsala/PRIO Armed Conflict Dataset. See N.P. Gleditsch, P. Wallensteen, M. Eriksson, M. Sollenberg and S. Havard, “Armed Conflict 1946-2001: A New Dataset”, 39 *Journal of Peace Research* (2002), 615-637.

⁶ H. Hegre, “The Duration and Termination of Civil War”, above note 3.

ethnic lines⁷, meaning that the resulting violence is not indiscriminate in nature, but targeted against (non-)members of certain identity groups, defined for example by language, religion, appearance or territorial attachment.

This development has led to a rapidly growing quantitative literature on civil war to identify correlates of onset, duration and termination in general and globally, both from an International Relations (IR) and a Comparative Politics (CP) perspective in political science. In addition, scholars from the fields of development economics and international political economy have started to systematically research causes and consequences of civil wars, and important empirical patterns have been uncovered.

At least 50 systematic studies on factors related to civil war onset, duration, termination or recurrence have appeared in the last five to ten years⁸, far outnumbering the output of former decades.⁹ While agreeing that civil war is mainly a result of poverty and less economically developed countries¹⁰, other factors possibly correlated with the outbreak of violence within states, such as ethnicity, remain highly disputed.

Despite the growing academic awareness, civil wars in general and ethnic conflicts in particular are still a poorly understood phenomenon.¹¹ Although ethnic civil wars could

⁷ N. Sambanis, “Do Ethnic and Nonethnic Civil Wars Have the Same Causes? A Theoretical and Empirical Inquiry (Part 1)”, 45 *Journal of Conflict Resolution* (2001), 259-282.

⁸ With “systematic” I refer to studies applying quantitative research designs in the form of multivariate statistics and regression analysis, aiming to uncover empirical regularities across a large sample of cases of civil war, usually all civil wars since 1945.

⁹ Sambanis provides a detailed review of the quantitative literature. N. Sambanis, “A Review of Recent Advances and Future Directions in the Literature on Civil War”, 13 *Defense and Peace Economics* (2002), 215–243.

¹⁰ P. Collier and A. Hoeffler, “Greed and Grievance in Civil Wars”, 56 *Oxford Economic Papers* (2004), 563-595; J. Fearon and D. Laitin, “Ethnicity, Insurgency, and Civil War”, above note 3.

¹¹ An ethnic conflict is a civil war where the recruitment of fighters and the resulting kind of violence is structured along ethnic lines, according to Sambanis. See N. Sambanis, *What is an Ethnic War? Organization and Interests in Insurgencies* (Unpublished Paper, Yale University, 2006). This does not mean that the root cause of the conflict is ethnicity or ethnic heterogeneity. Quite the contrary, once the

be regarded as following a fundamentally different logic to that of non-ethnic ones¹², and as complex power struggles between identity groups embedded in a deep historic and geographic context¹³, conventional quantitative research continues to treat them either as non-existent¹⁴ or as country-specific events that can be studied in isolation from each other¹⁵.

Most large-N statistical studies of (ethnic) civil war have focused on country-level characteristics to predict the onset of a conflict in a given year¹⁶, or have focused on duration as the dependent variable¹⁷. This literature has produced insightful empirical patterns on factors related to the outbreak of conflict. However, the global statistical approach to explaining civil wars has met with criticism recently, mainly because of concerns over theoretical and methodological shortcomings. Quantitative studies have been frequently criticized for their failure to capture the internal dynamics of civil wars by aggregating at too high a level of analysis, which has led to the emergence of a second

conflict has started, it becomes important to which real or imagined ethnic group people belong. For a review of the literature on ethnic conflict and nationalism, see R. Brubaker and D. Laitin, "Ethnic and Nationalist Violence", 4 *Annual Review of Sociology* (1998), 423-452.

¹² N. Sambanis, *What is an Ethnic War?*, above note 11; See also N. Sambanis, "Do Ethnic and Nonethnic Civil Wars Have the Same Causes?", above note 7; T.R. Gurr, *Peoples Versus States: Minorities at Risk in the New Century* (United States Institute of Peace Press, Washington, DC, 2000); T.R. Gurr, *Minorities at Risk: A Global View of Ethnopolitical Conflicts* (United States Institute of Peace Press, Washington, DC, 1993).

¹³ L.-E. Cederman and L. Girardin, "Beyond Fractionalization: Mapping Ethnicity onto Nationalist Insurgencies", 101 *American Political Science Review* (2007), 173-185; N. Sambanis, "Using Case Studies to Expand Economic Models of Civil War", above note 5; N. Sambanis, "Do Ethnic and Nonethnic Civil Wars Have the Same Causes?", above note 7.

¹⁴ J. Mueller, "The Banality of Ethnic War", 25 *International Security* (2000), 42-70.

¹⁵ J. Fearon and D. Laitin, "Ethnicity, Insurgency, and Civil War", above note 3; P. Collier and A. Hoeffler, "Greed and Grievance in Civil Wars", above note 10.

¹⁶ P. Collier and A. Hoeffler, "Greed and Grievance in Civil Wars", above note 10; J. Fearon and D. Laitin, "Ethnicity, Insurgency, and Civil War", above note 3.

¹⁷ P. Collier, A. Hoeffler and M. Söderbom, "On the Duration of Civil War", 41 *Journal of Peace Research* (2004), 253-273; H. Hegre, "The Duration and Termination of Civil War", above note 3; J. Fearon, "Why do Some Civil Wars Last So Much Longer than Others?" 41 *Journal of Peace Research* (2004), 275-301.

generation of empirically downscaled civil war studies. This second generation uses new disaggregated data on exact conflict location, and disaggregates key variables within states to overcome previous shortcomings. The aim of this paper is to review some of the methodological problems of the conventional quantitative literature on civil war, and to highlight heuristically promising new research avenues that share a joint logic of disaggregating theory, research design and data on civil war.

The article proceeds as follows. Part II reviews of the most important statistical models employed in the quantitative literature on civil war and ethnic conflict to date, while Part III highlights methodological and theoretical problems with this ‘first generation’ of quantitative studies. The need for empirically and theoretically disaggregated studies and data sets in terms of different actor constellations and conflict types, especially secessionist conflicts, is discussed. Next, I illustrate my arguments about the promises of disaggregated studies with the example of the Bosnian conflict of 1992-1995, and show preliminary data on (i) variation in regional victimization patterns within Bosnia, (ii) local-level differences between different types of violence that have occurred and (iii) temporal variation in the severity of the conflict. Section V offers some conclusions.

II. CONVENTIONAL MACRO-QUANTITATIVE STUDIES OF CIVIL WAR AND ETHNIC CONFLICT: EMPIRICAL FINDINGS AND METHODOLOGICAL PROBLEMS

In the following, I limit myself to the studies that model the onset of a conflict. However, one should keep in mind that we are in the rather remarkable situation now that regression models that try to explain the onset of a conflict cannot explain its duration or its termination, and vice versa.¹⁸

¹⁸ This might be one additional reason why quantitative studies of civil war are not taken very seriously by policymakers and the policy community, and why large-N statistical work on conflict issues has a rather low reputation outside the academic world. See Andrew Mack, “Civil War: Academic Research and the Policy Community”, 39 *Journal of Peace Research* (2002), 515-525 for the original argument and further reasons.

Macro-level variables that are identified as being correlated with the onset of a civil war have been theoretically subsumed as either ‘greed’ or ‘grievance’ related.¹⁹ Scholarly analysis supports the conclusion that individual economic opportunity, where rebellion is modelled as an industry that generates profits from looting of valuable resources (‘greed’), are more important for the occurrence of a conflict than political repression or exclusion of ethnic groups from state power (‘grievances’). This means that a rebellion is not explained by motive but by the atypical circumstances of war and weak states that generate profitable opportunities for some individuals, who are in sum little more than thugs or quasi-criminals “doing well out of war”.²⁰

A. *The Collier-Hoeffler (CH) Model*

The CH model, which has become the standard econometric model for predicting civil war outbreak, uses a data set of 78 civil wars over the period 1960–99 and estimates the risk of onset in 750 five-year episodes via logit regression.²¹ In general, it is found that a model that focuses on the opportunities for rebellion (‘greed’) performs well, whereas objective indicators of repression or group inequality (‘grievances’) have little explanatory power. Factors that were shown to have statistically significant effects on the opportunity for rebellion in any given five-year period were the availability of finance, low opportunity costs of rebellion, military advantage through rough terrain, population size and time elapsed since the previous conflict.

¹⁹ See, for example, P. Collier and A. Hoeffler, “Greed and Grievance in Civil Wars”, above note 10; J. Fearon and D. Laitin, “Ethnicity, Insurgency, and Civil War”, above note 3.

²⁰ P. Collier, “Rebellion as a Quasi-Criminal Activity”, 44 *Journal of Conflict Resolution* (2000), 839–53.

²¹ For a more detailed review of the CH model and its different versions, see P. Collier, A. Hoeffler and N. Sambanis, “The Collier-Hoeffler Model of Civil War Onset and the Case Study Project Research Design”, in P. Collier and N. Sambanis (eds.), *Understanding Civil War, Vol. I* (The World Bank, Washington, DC, 2005).

A high proportion of primary commodities in national exports significantly increases the risk of a conflict. A country with commodities comprising 32% of gross domestic product has a 22% higher chance of falling into civil war than a country with no primary commodity exports. Another source of finance is diasporas which can fund rebellions and insurgencies from abroad, and which substantially increase the risk of conflict renewal. In terms of the low opportunity costs argument of rebellion, male secondary education enrolment, per capita income, and the economic growth rate all have statistically significant and substantial effects that reduce the risk of conflict. Phrased another way, young males who make up the vast majority of combatants in civil wars are less likely to join a rebellion if they are receiving an education or have a comfortable salary, and can reasonably assume that they will prosper in the future. Finally, the risk of conflict is proportional to a country's population. A geographically dispersed population increases the risk of conflict and there is weak evidence to suggest that mountainous or rough terrain might be advantageous to rebels. A population dispersed outward towards the borders is harder to control than one concentrated in a central region, while mountains offer terrain where rebels can find sanctuary.

Both opportunities and grievances increase with population size, so this result is compatible with both the opportunity and grievance accounts. Grievances may increase with population because of rising heterogeneity. However, most proxies for grievance such as economic inequality measured by the GINI coefficient, political rights, ethnic polarization and religious fractionalization are insignificant. Only ethnic dominance, the case where the largest ethnic group comprises a majority of the population, increases the risk of civil war. Societies characterized by ethnic and religious diversity seem to be safer than homogeneous societies as long as they avoid clear dominance by one group over the others. Diversity makes rebellion harder because it makes rebel cohesion more costly.

B. The Fearon and Laitin (FL) Model

The second econometric study that appears prominent in the literature is the FL model, where much of the theorizing is influenced by thoughts of insurgency tactics and ‘classic’ guerilla warfare in poor or weakened states. Here, the importance of rural or peripheral locations and rough terrain for fighting and hiding of the rebels is stressed. According to the authors, conflicts in populous countries last longer because larger countries contain larger peripheral areas that are harder to control. Geography and the type of territory is crucial for the ‘technology’ of insurgency, in the sense that geographic conditions like rough terrain facilitate the operations of a rebel movement. Poor states tend to have low military strength or state capacity to deter and fight potential insurgents. Poverty can also be interpreted as direct motivation for violence, because economically underdeveloped states are likely to have poorer public goods provision than richer ones.

Fearon and Laitin find oil abundance to be positively correlated with the onset of civil war, and explain their findings with a ‘weak states effect’.²² They measure that weakness by national GDP per capita. Per capita income signals the available tax rate for a state to buy off and repress opposition. Thus, richer states are good at counterinsurgencies, mainly because of better infrastructure. Fearon and Laitin find no support for the argument by Collier and Hoeffler²³ that primary commodity exports provide the motive and finance for rebellion, but argue instead that it is oil abundance that matters. Oil weakens states because it dampens state capacity, as oil provides easy money for governments which in turn fail to develop effective institutions for taxation. In addition, large populations make counterinsurgency difficult, weakening state capacity. To sum up, Fearon and Laitin point out that “most important for the prospects of a nascent insurgency, however, are *the government’s police and military capabilities and the reach of government institutions into rural areas*”.²⁴

²² J. Fearon and D. Laitin, “Ethnicity, Insurgency, and Civil War”, above note 3.

²³ P. Collier and A. Hoeffler, “Greed and Grievance in Civil Wars”, above note 10.

²⁴ J. Fearon and D. Laitin, “Ethnicity, Insurgency, and Civil War”, above note 3, at 80. Emphasis in the original.

FL use pooled logit analysis of time-series cross-sectional data covering 127 civil war onsets from 1945 to 1999 on 161 countries, according to their own civil war list.²⁵ The results, however, do not seem very robust when compared to e.g. Collier and Hoeffler.²⁶ The FL model shares much of the logic of Collier and Hoeffler's 'greed' or 'opportunity' argument as a reason for taking up arms. Also rejecting 'grievance'-based explanations for the onset of civil war, the FL model explains upcoming intrastate violence mainly as a function of declining state strength, proxied by low levels of GDP per capita and by the availability of the technology of insurgency. The resource-predation argument and the role of lootable resources as primary commodity exports, so dominant in CH, are dismissed by FL. Instead, the oil or petroleum dependency of a government as a possible weak states effect is highlighted. Although the FL model seems overly state-centric, it shares a lot of its independent variables with previous versions of the CH model. Thus, many of the key findings of FL seem more or less to reinterpret the exact meaning of previous identified variables in the regression tables, as Sambanis²⁷ points out.

C. Problems with the 'First Generation' of Quantitative Studies

I have already mentioned above that a direct comparison of the results obtained by large-N quantitative work on civil war and ethnic conflict should be treated with due caution. The underlying data sets use different thresholds for what counts as civil war, different

²⁵ See the Appendix for the full list. Sambanis makes the point that the data set used in FL already reflects a strong assumption of unit homogeneity which might not be adequate concerning civil wars. Sambanis, "Using Case Studies to Expand Economic Models of Civil War", above note 5. The FL list of civil wars uses a threshold value of at least 1,000 battle-related deaths to qualify as war onset, similar to the Correlates of War (COW) criteria (M.W. Doyle and N. Sambanis, "International Peacebuilding: A Theoretical and Quantitative Analysis", 94 *American Political Science Review* (2000), 779–801; P. Collier and A. Hoeffler, "Greed and Grievance in Civil Wars", above note 10; and others). Other lists with different codings of start and end dates were also tested by FL, resulting in no substantial differences. Yet, all tests are based on the relative high threshold of 1,000 battle deaths.

²⁶ Collier and Hoeffler, "Greed and Grievance in Civil Wars", above note 10.

²⁷ Sambanis, "Using Case Studies to Expand Economic Models of Civil War", above note 5.

start and end dates of single conflicts and cover different overall time periods in their analysis. This might also be interpreted as a lack of theoretical clarity on the very concept of civil war itself, and on the theoretical problem of how to disentangle civil war from other forms of political violence such as military coups or large scale ethnic riots. As long as no standard data set of all civil wars since 1945 has established itself in the literature, the policy impact of quantitative studies of mass level violence will continue to be rather limited.

One major shortcoming of the CH model and other country-level studies is the inherent problem of an ‘ecological fallacy’, meaning that inferring individual characteristics from group characteristics based on aggregate data can lead to very wrong conclusions. When inferences about the nature of specific individual behaviour are based solely upon population-level or ‘ecological’ data, the danger of falling short to an ecological fallacy is high. Country-level econometric studies on civil war onset all assume that national level averages are also representative for individuals that participate in insurgencies. This is unlikely to be correct, and seems more misleading the more internal variation of key variables there is in a state. To give an example, the conclusion that poor and uneducated young men are more likely to join a rebel group from observing that most armed conflicts take place in poor countries with low education standards is a prime case for the danger of an ecological fallacy.²⁸ In order to draw the right conclusions for the right reasons,

²⁸ The classic example of an ecological inference problem is W.S. Robinson, “Ecological Correlations and the Behavior of Individuals”, 15 *American Sociological Review* (1950), 351–357. For several geographic districts in the US in 1930, the literacy rate and the proportion of immigrants was computed, based on census data. When correlated, the two variables showed a positive sign, meaning that the greater the proportion of immigrants in a unit, the higher its average literacy rate. However, when individuals instead of aggregates were considered, the effect was much lower and the correlation turned negative – immigrants were on average less literate. The positive correlation at the aggregate level was because immigrants tended to settle in areas where the population was already more literate. In *Human Geography*, the related Modifiable Areal Unit Problem (MAUP) is a well-known source of error that can affect spatial studies which use aggregate data (e.g. D.J. Unwin, “GIS, Spatial Analysis and Spatial Statistics”, 20 *Progress in Human Geography* (1996), 540-551). Geographical data is often aggregated to “higher” units such as districts in order to present the results of a study in a more useful context. These units are often arbitrary in

individual level data on these independent variables is needed here. One study that follows this approach is Humphreys and Weinstein, who look for determinants of recruitment patterns and the organizational capacity of rebel groups in Sierra Leone and Liberia, by using individual level survey data of ex-combatant.²⁹ Interestingly, recruitment there often had no economic logic at all, but followed lines of coercion, group pressure, ideology and the like.

However, there are further problems with the ‘first generation’ of systematic civil war research. Sambanis argues that this type of quantitative literature has produced a number of spurious correlations at the macro-level and several non-replicable results.³⁰ The interpretation of exactly the same explanatory proxies used in the CH and FL models remains unclear.³¹ Robust empirical findings across different model specifications are also rare. A sensitivity analysis carried out by Hegre and Sambanis has systematically explored how sensitive 93 variables used in the literature are to variation in the set of control variables, definitions of civil war, model specification or data sets used.³² Only the variables average income per capita (lower levels increase the risk of conflict onset) and population size (larger populations increase the risk of conflict) turned out to be robust. Table 1 below gives an overview of the standard variables that turned out to be significant in the FL and CH models, together with the signs of their coefficients. Income and population size are shown in bold to indicate that only these two variables turned out to be robust against different model specifications.

nature and different areal units can be just as meaningful in displaying the same information – they are “modifiable”.

²⁹ M. Humphreys and J. Weinstein, “Handling and Manhandling Civilians in Civil War”, 100 *American Political Science Review* (2006), 429-447.

³⁰ N. Sambanis, “Using Case Studies to Expand Economic Models of Civil War”, above note 5.

³¹ The exact interpretation of the variable “GDP per capita” varies from a proxy measure for state strength (FL) to a proxy for income or poverty (CH).

³² H. Hegre and N. Sambanis, “Sensitivity Analysis of the Empirical Literature on Civil War Onset”, 50 *Journal of Conflict Resolution* (2006), 508-535.

Table 1: Explanatory variables used in CH and FL models and signs of the respective correlation coefficients.

Explanatory Variables, CH & FL Models	Relationship to Civil War Onset
Income (poverty or state strength)	-
Population size	+
Prior war/peace duration	-
Economic growth	-
Natural resource dependence	+
Ethnic dominance	+
Political freedom	-
Other: Political Instability; New State; Terrain; Population Dispersion; Diasporas	mixed

+/-: positive/negative relationship to civil war onset

But if only income level and population size really matter, we cannot explain why we observe a civil war in the first place but no other forms of mass level violence – where income matters to some degree, too.

Missing data is another problem, especially when we treat the occurrence of civil wars as a rare event over the whole period under study. This implies that single conflicts can have a huge impact on the statistical regression results, once they are included or excluded from the analysis. To give an example, the Bosnian civil war from 1992-1995 was included in neither the CH nor the FL model, because of a lack of income data. Kalyvas and Sambanis report that by filling in that missing data for Bosnia, the income coefficient

drops by 13% in the CH model. This makes the Bosnian case a very influential observation with a high leverage effect on the slope of the estimated regression line.³³

Further on, case studies show that there is a severe mismatch between macro-level indicators and proposed micro-level mechanisms of conflict participation.³⁴ Often, detailed case narratives guided by the theoretical framework of the CH model tell very different stories about causal mechanisms ‘on the ground’ in different sets of country cases.³⁵ The macro-level correlation between lootable resources and the occurrence of civil war in particular has received attention, and is compatible with at least six rival families of very different causal mechanisms that could explain the relationship, rebel greed being just one of them.³⁶

These non-findings cast serious doubts about the validity of inferences drawn from conventional econometric studies of civil war, once highly aggregated data and cross-country data sets are used. As Kalyvas has put it, it is overly optimistic to hope that we could ever explain or predict how or when civil wars will start from a macro-perspective.³⁷ In a similar vein, Atlas and Licklider point out that “the interesting theoretical question about civil war in general is not why it begins (the possible reasons are surely too many to enumerate) or why it stops (all sorts of contingent explanations

³³ S.N. Kalyvas and N. Sambanis, “Bosnia’s Civil War: Origins and Violence Dynamics”, in P. Collier and N. Sambanis (eds), *Understanding Civil War: Evidence and Analysis. Volume II* (The World Bank, Washington, DC, 2005), 191-122.

³⁴ P. Collier and N. Sambanis (eds.), *Understanding Civil War: Evidence and Analysis* (The World Bank: Washington, DC, 2005); N. Sambanis, “Using Case Studies to Expand Economic Models of Civil War”, above note 5.

³⁵ P. Collier and N. Sambanis, *Understanding Civil War: Evidence and Analysis*, above note 34.

³⁶ M. Humphreys, “Natural Resources, Conflict, and Conflict Resolution: Uncovering the Mechanisms”, 49 *Journal of Conflict Resolution* (2005), 508-537; M. Ross, “A Closer Look at Oil, Diamonds, and Civil War”, 9 *Annual Review of Political Science* (2006), 265-300; M. Ross, “How Does Natural Resource Wealth Influence Civil War?”, 58 *International Organization* (2004a), 35-67; M. Ross, “What Do We Know About Natural Resources and Civil War”, 43 *Journal of Peace Research* (2004b), 337-356.

³⁷ S.N. Kalyvas, *The Logic of Violence in Civil War* (Cambridge University Press: Cambridge, 2006).

from simple fatigue to outside force may apply) but why it so often does not resume when it might”.³⁸

III. DISAGGREGATING THE STUDY OF CIVIL WAR AND ETHNIC CONFLICT

Recently, a ‘second generation’ of quantitative literature concerned with more finely tuned measures of the correlates of civil war has established itself, which is primarily the result of an increasing dissatisfaction with research on civil war aggregated at the cross-national level.

To further evaluate popular explanations for the onset of civil war such as poverty, inequality, rough terrain or ethnic composition of a country, researchers are now adopting disaggregated research designs, e.g. with the help of Geographic Information Software (GIS).³⁹ Almost by definition, civil war is a sub-state phenomenon driven by an amalgam of local, national and transnational processes. Geographical differences in key variables such as natural resources cannot be covered by crude proxies and country-level data. Countries are seldom geographically uniform, and the areas where conflict occurs are rarely typical or representative for the whole country. Take the example of lootable resources and conflict onset or duration. If wars ostensibly due to resource abundance occur in the resource-poor part of the country, we face a spurious correlation at the macro-level of analysis. Thus, geographically disaggregated analysis allows us to test spatial correlation between smaller conflict events within countries and the location of resources e.g. conflict diamonds.

³⁸ P.M. Atlas and R. Licklider, “Conflict among Former Allies After Civil War Settlement: Sudan, Zimbabwe, Chad, and Lebanon”, 36 *Journal of Peace Research* (1999), 35-54, at 35.

³⁹ GIS is a coherent software system that can be used to manage, represent, transform and analyse qualitative as well as quantitative data. This data is geo-referenced: it includes spatial or positional information, such as, e.g. longitude or latitude coordinates. GIS offers the researcher the possibility to manipulate and easily visualize certain or all aspects of that geo-referenced data – most commonly in the form of a geographic map as visual output. In addition, statistical output can be analysed inside the GIS or exported to other standard statistical software packages.

Researchers have created geographic or spatially disaggregated data sets to examine the impact of different factors on civil war locally. For example, Buhaug and Gates⁴⁰ and Raleigh and Hegre⁴¹ provide information about the precise location of conflicts, whereas Gilmore, Lujala, Gleditsch, and Rød⁴² focus on the location of diamonds and gemstones, Lujala, Rød and Thieme⁴³ on the location of petroleum fields and Weidmann, Rød and Cederman⁴⁴ on geographic settlement patterns of ethnic groups. In the following section, I will give a more detailed overview of these new data sets.

A. *Disaggregated Data on the Geographic Location of Conflict Events*

Using data for the location of conflict centres and their radius, Buhaug and Gates⁴⁵ and Buhaug and Lujala⁴⁶ show that conflicts tend to be longer the further they are from the capital. Buhaug and Gates⁴⁷ construct a relative location indicator by using GIS to measure that distance. Raleigh and Hegre have introduced an armed conflict location and events data set ACLED.⁴⁸ The ACLED data set – which is a spatial refinement of the

⁴⁰ H. Buhaug and S. Gates, “The Geography of Civil War”, 39 *Journal of Peace Research* (2002), 417-433.

⁴¹ C. Raleigh and H. Hegre, “Introducing ACLED: An Armed Conflict Location and Event Dataset”. Paper presented to the conference on ‘Disaggregating the Study of Civil War and Transnational Violence’, University of California Institute of Global Conflict and Cooperation, San Diego, CA, 7–8 March 2005.

⁴² E. Gilmore, P. Lujala, N.P. Gleditsch and J.K. Rød, “Conflict Diamonds: A New Dataset”, 22 *Conflict Management and Peace Science* (2005), 257–272.

⁴³ P. Lujala, J.K. Rod and N. Thieme, “Fighting over Oil: Introducing a New Dataset”, 24 *Conflict Management and Peace Science* (2007), 239–256.

⁴⁴ N.B. Weidmann, J.K. Rød and L.-E. Cederman, “Representing Ethnic Groups in Space: A New Dataset”, *Journal of Peace Research* (2010), forthcoming.

⁴⁵ Buhaug and Gates, “The Geography of Civil War”, above note 40.

⁴⁶ H. Buhaug and P. Lujala, “Accounting for Scale: Measuring Geography in Quantitative Studies of Civil War”, 24 *Political Geography* (2005), 399–418.

⁴⁷ Buhaug and Gates, “The Geography of Civil War”, above note 40.

⁴⁸ Raleigh and Hegre, “Introducing ACLED: An Armed Conflict Location and Event Dataset”, above note 41.

established Uppsala/PRIO conflict data set – lists reported confrontations between the fighting parties in a civil war, along with the date and the spatial coordinates of the event. ACLED codes the exact location and specific information on individual battle events, the transfer of military control from the government to the rebel groups and vice versa and the location of rebel group strongholds, among other information. In the current version, it covers mainly conflict countries in Western and Central Africa from 1960 through 2004.

In a pilot study using these data, Hegre and Raleigh focus on the links between population size, location, concentration and civil war onset, covering Central Africa.⁴⁹ The conflict event data are correlated with geographically disaggregated data on populations, distance to capitals, borders, and road networks. The authors conclude that their study should be enriched by future research regarding the location of lootable resources and the spatial distribution of ethnic groups.

Buhaug and Rød have constructed a civil conflict data set in GIS format, consisting of conflict polygons.⁵⁰ It contains precise information on conflict zones. The geographic scope of a conflict is operationalized as the smallest possible circle that encompasses all reported locations of battle events and all known rebel-held areas. Countries are disaggregated into smaller grid cells via GIS. For each grid cell, GIS is used to identify whether or not the cell represents a location affected by conflict. A grid structure of three different resolutions is proposed. For a study on African civil war between 1970 and 2001, Buhaug and Rød found no support for the rough terrain proposition using local measures. In addition, the Peacekeeping Operations Locations and Event Data Set

⁴⁹ H. Hegre and C. Raleigh, “Population Size, Concentration and Civil War: A Geographically Disaggregated Analysis”. Paper presented at the Annual Meeting of the International Studies Association, San Diego, 22-25 March 2006.

⁵⁰ H. Buhaug and J.K. Rød, “Local Determinants of African Civil Wars, 1970-2001”, 25 *Political Geography* (2006), 315-335.

PKOLED⁵¹ provide geographically disaggregated data on interventions in civil war. However, it has not been officially released yet.

B. Disaggregated Data on the Location of Natural Resources

PETRODATA includes the locations of hydrocarbons (oil, gas and condensates) for the entire globe, covering the period between 1946 and 2003.⁵² Both onshore and offshore fields are listed, along with the type of reserve. DIADATA comprises a global list of diamond deposits, distinguishing between primary and secondary diamonds.⁵³ Like PETRODATA, the data set also lists the year of discovery and the first year of production, if available. For all other kinds of gemstones, a separate data set is available.

C. Disaggregated Data on Settlement Patterns of Ethnic Groups

Toft stresses the problem of geographically concentrated ethnic groups in peripheries and their potential to mobilize against the centre.⁵⁴ The Geo-Referencing of Ethnic Groups (GREG) data set is a global ethnic map.⁵⁵ It maps settlement patterns of ethnic groups worldwide, based on a Soviet Atlas from the 1960s, which is problematic in terms of changing ethnic boundaries. GREG data has been used in Buhaug, Cederman, and Rød to

⁵¹ H. Dorussen, “Introducing PKOLED: A Peacekeeping Operations Location and Event Dataset”. Paper prepared for the Conference on Disaggregating the Study of Civil War and Transnational Violence, University of Essex, UK, November 24–25, 2007.

⁵² P. Lujala *et al*, “Fighting over Oil: Introducing a New Dataset”, above note 43.

⁵³ E. Gilmore *et al*, “Conflict Diamonds: A New Dataset”, above note 42.

⁵⁴ M.D. Toft, *The Geography of Ethnic Violence: Identity, Interests, and the Indivisibility of Territory* (Princeton University Press, Princeton, 2003).

⁵⁵ N.B. Weidmann *et al*, “Representing Ethnic Groups in Space: A New Dataset”, above note 44.

compute population estimates for ethnic groups, the distance of groups from the capital, and for an indicator of the roughness of terrain where a group settles.⁵⁶

D. Disaggregated Economic Output Data

Nordhaus has developed a geographically based data set on local economic activity.⁵⁷ This is called the G-Econ project which stands for geographically based economic data. G-Econ provides gross output at a 1-degree longitude by 1-degree latitude resolution at a global scale for all terrestrial cells. The resolution is approximately 100km by 100km which roughly equals the size of most third-level administrative units (e.g. counties in the US), producing ‘gridded’ output data or gross cell product, GCP on value added for 1990. The basic measure of output is gross value added in a specific geographical region. This is conceptually similar to gross domestic product on a national level. In the next subsection below, I will deal with theoretical disaggregation in the sense of different actor constellations during the process of civil war, as well as distinct conflict types that are normally pooled under one data set.

E. Theoretical Disaggregation: Different Actor Constellations in Ethnic Civil Wars

Disaggregation can be undertaken in a number of ways. Above, geographic or spatial disaggregation of key variables that figure prominently as factors related to the onset of civil war were addressed. Further disaggregation should focus more on agency and the actors involved in civil wars themselves, as well as on different types of civil wars. Take the following example: instead of measuring ethnicity with state-level population shares,

⁵⁶ H. Buhaug, L.-E. Cederman and J. K. Rød, “Disaggregating Ethno-Nationalist Civil Wars: A Dyadic Test of Exclusion Theory”, 62 *International Organization* (2008), 531-551.

⁵⁷ W.D. Nordhaus, “Geography and Macroeconomics: New Data and New Findings”, 103 *Proceedings of the National Academy of Sciences* (2006), 3510-3517.

Cederman, Girardin, and Wimmer⁵⁸ and Buhaug, Cederman and Rød⁵⁹ focus on the relationship between ethnicity and conflict by identifying the ethnic groups involved and their dyadic political power relations. Assuming that a state consists of a number of different ethnic groups, a basic centre-periphery logic is introduced, in line with the FL model of insurgency. Cederman and Girardin map a governmental ethnic group – or a coalition – at the centre (usually the capital), the so-called ‘ethnic group in power’, against excluded peripheral groups.⁶⁰ The marginalized ethnic groups at the periphery can be interpreted as challengers to the status quo and to state sovereignty in general. That way, ethnic conflicts are seen as nationalistic power struggles unfolding around the ultimate question of ‘who owns the state’. Conflict becomes more likely when excluded groups are larger in demographic size and are located in spatially peripheral areas.

However, the idea that one ethnic group at a time fights the government in a given country-year could be unrealistic. Therefore, one has to find out in how many instances more than one ethnic group is involved in the actual fighting against the government in the same time period. In order to do so, I rely on the data set compiled by Buhaug et al., which is limited to Eurasia and Northern Africa for the time period 1946-2003.⁶¹ This data is a dyadic extension of the well established Uppsala/PRIO Armed Conflict Dataset⁶², based on ethnic conflicts only. The dyadic data set uses geo-coded centre-periphery dyads of ethnic groups, which for example allows for the measure of the power balance between these pairs, data on ethnic groups access to power, on the location of

⁵⁸ L.-E. Cederman, L. Girardin and A. Wimmer, “Getting Ethnicity Right: An Expert Survey on Power Distributions among Ethnic Groups”. Paper prepared for the Annual Meeting of the American Political Science Association, Philadelphia, PA, 2006.

⁵⁹ H. Buhaug, L.-E. Cederman and J. K. Rød, “Disaggregating Ethno-Nationalist Civil Wars”, above note 56.

⁶⁰ L.-E. Cederman and L. Girardin, “Beyond Fractionalization”, above note 13.

⁶¹ H. Buhaug, L.-E. Cederman and J. K. Rød, “Disaggregating Ethno-Nationalist Civil Wars”, above note 56. Missing conflicts (both ethnic and non-ethnic) are: Angola, Burundi, Chad, Colombia, Congo DR, Dominican Rep, El Salvador, Ethiopia, Guatemala, Guinea-Bissau, Liberia, Mozambique, Nicaragua, Nigeria, Peru, Rwanda, Sierra Leone, Somalia, Sudan, Uganda, Zaire, Zimbabwe

⁶² N.P. Gleditsch et al, “Armed Conflict 1946-2001”, above note 5.

ethnic groups and on distances and terrain. The selection criteria for the cases were as follows: first, an onset between centre and periphery in any given year since 1946 must be present. In addition, only cases in which the centre is challenged by *more than one ethnic group in the same year* were reported. Then, I compared the number of onsets and incidences where only one group challenges the centre with the number for multiple challengers in the same year. Table 2 below shows the result of this.

Table 2: Original data set versus data set with multiple onsets and incidents of ethnic war

	# of conflict onsets	# of conflict incidences
Original data (Buhaug et al. 2008)	118	889
More than 1 group fights in the same year	71 (61%)	595 (67%)

The table shows that in 61% of all onsets of ethnic conflict, more than one ethnic group is involved in the actual fighting against the government. If incidents (country years in which the conflict was active) of ethnic civil wars are taken instead of onset, in more than two thirds of all cases more than one group is involved in armed civil strife at the same time. Next, based on the reduced data with multiple groups in conflict in the same year, Table 3 presents the relevant countries and ethnic groups.

Table 3: Countries and number of ethnic groups in conflict

Country and year of conflict onset	Number of ethnic groups in conflict in first year	Overall number of ethnic groups in country	Ethnic group name
Georgia 1992	2	16	Abkhaz, Ossetes
India 1982	2	60	Manipuris, Tippera
Iran 1946	2	27	Azerbaijanians, Kurds

Iran 1966	2	27	Azerbaijanians, Kurds
Moldova 1992	2	6	Russians, Ukrainians
Myanmar 1948	2	20	Mon (Talaing), Karen
Myanmar 1949	2	20	Mon (Talaing), Karen
Myanmar 1961	3	20	Shan, Mon (Talaing), Kachins
Myanmar 1995	2	20	Karen, Kachis
Myanmar 1996	2	20	Karen, Mon (Talaing)
USSR 1990	2	110	Armenians, Azerbaijanians
Yugoslavia 1991	2	16	Croats, Slovenes
Iran 1993	3	27	Azerbaijanians, Iran Arabs, Kurds
Iran 1996	3	27	Azerbaijanians, Iran Arabs, Kurds
Russia 1999	3	83	Avars, Chechens, Kumuk
Afghanistan 1989	4	22	Hazara-Berberi, Hazara-Deh-i-Zainat, Tajiks, Uzbeks
USSR 1946	4	110	Estonians, Letts, Lithuanians, Ukrainians
Indonesia 1950	3	97	Amboinese, Buru, Seran Islanders
Indonesia 1975	5	97	Dagada, Macassai, Mambai, Tetum, Tokode
Indonesia 1992	6	97	Achinese, Dagada, Macassai, Mambai, Tetum, Tokode
Indonesia 1997	6	97	Achinese, Dagada, Macassai, Mambai, Tetum, Tokode
Philippines 1970	10-13	35	Bagobo, Bilaan, Lanao, Magindanao, Mandaya, Subanon, Sulu-Samal, Tagakoolo, Tagbanuwa and Palawan, Tirurai/Dulangan/Tagabili
Philippines 1993	10-13	35	Bagobo, Bilaan, Lanao, Magindanao, Mandaya, Subanon,

			Sulu-Samal, Tagakoolo, Tagbanuwa and Palawan, Tirurai/Dulangan/ Tagabili
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The table indicates that much more research is needed on the question of whether more than one ethnic civil war can go on within a country at the same time, when different ethnic groups fight the same government simultaneously (probably via formal or informal military alliances), especially in cases such as Afghanistan, Indonesia and the Philippines.

F. Theoretical Disaggregation: Different Types of Civil War

40% of the world’s independent states have more than five sizable ethnic populations, one or more of which faces serious economic, political and social discrimination.⁶³ As mentioned above, Sambanis reports that two third of all civil conflicts can be considered ethnic conflicts.⁶⁴ Most of these take the form of secessions or are fought over territorial autonomy.

Fearon codes five different classes of civil wars.⁶⁵ He finds that separatist wars usually last longer than other forms of rebellion like coups, revolutions or anti-colonial wars. This is so because secessionist conflicts tend to appear far away from the capital, as illustrated for example by the conflict in Indonesia over the province of Aceh. Case studies suggest that unequal distribution of income and resources at the sub-national level contribute to secessionist civil war especially.⁶⁶ Thus, for further disaggregated research on different types of civil conflicts, one could hypothesize that the importance of self-determination and sovereignty for a *group* should imply a different mapping of micro-level cleavages onto macro-level cleavages than in other types of civil war that are primarily about *individual* or private motives.

⁶³ T. Gurr, *Peoples Versus States*, above note 12; Gurr, *Minorities at Risk*, above note 12.

⁶⁴ N. Sambanis, “Do Ethnic and Nonethnic Civil Wars Have the Same Causes?”, above note 7.

⁶⁵ J. Fearon, “Why do Some Civil Wars Last So Much Longer than Others?”, above note 17.

⁶⁶ E.g., P. Collier and N. Sambanis, *Understanding Civil War: Evidence and Analysis*, above note 34.

Figure 1 below gives a suggestion for how civil conflicts can be further theoretically disaggregated, according to the commonly applied dimensions of ethnic versus non-ethnic civil wars and conflicts over territory versus conflicts over governance or state power.⁶⁷

Figure 1: Typology of civil wars according to role of ethnicity and incompatibilities

	conflict over territory	conflict over governance
ethnic conflict (language, religion)	“self-determination” (secession, territorial autonomy)	“state ownership” (ethnic group in power)
non-ethnic conflict (economic or private motives)	“opportunity” (new wars, resource wars)	“coup d’état” (military overthrow)

Consider the following examples for each cell of the matrix. Between Albanians and Serbs, at least since 1997, the Kosovar Albanian struggle for self-determination and thus greater territorial autonomy for Kosovo turned violent. Wars of self-determination

⁶⁷ The two incompatibilities mentioned here, territory or governance, are based upon the coding logic of the Uppsala/PRIO Armed Conflict Dataset (N.P. Gleditsch *et al*, “Armed Conflict 1946-2001”, above note 5). The coding reflects the two most basic and mutually exclusive grievance structures that may exist in or between countries, and that often play key roles for conflict resolution. An intrastate conflict over governance (or ‘government’ as in the original coding) is about control of the *whole* state (who should control it and how), whereas a conflict over territory is about control of *part* of the same state. There can only be one incompatibility over governance in a given year, but there can be several territorial conflicts at the same time.

include those in the secessionist province of Aceh in Indonesia, Sri Lanka, southern Sudan and Nagorno-Karabakh. Their protagonists claim the right to their own nation-state or demand unification with their ethnic kin across state borders. These types of wars are among the most deadly and protracted of all conflict types.

Rebellions or insurgencies against a government by internal forces of distinct ethnic groups form the second type, an ethnic conflict over the control of state power. Current fighting in Iraq between Sunni and Shiite Muslims after the end of Saddam Hussein's exclusionary Sunni-led minority rule serves as prime example.

Conflicts that have no clear ethnic dimension and that are fought primarily for economic or private motives are, for example, the Columbian drug war that started in 1964 or the war in Sierra Leone between 1991 and 2002, as well as the war in Liberia over control of the diamond industry and lootable resources, and many more conflicts in west, central and the Horn of Africa.

Military coups or overthrows form the last type. They are on average much shorter and produce fewer victims than other civil war types, and often appear together with class-based popular revolutions.⁶⁸ Coups related to class cleavages that lasted for under a year took place in Argentina in 1955, Costa Rica in 1948, Bolivia in 1952, the Dominican Republic in 1965, Paraguay in 1947 and Cuba in 1958. There are similar cases outside Latin/South America, e.g. Iraq 1959, Yemen Arab Republic 1948 and Iran 1978.

If we focus on secessionist conflicts as the most common type, then the question of what factors cause a sub-national *region* to want to fight a war becomes relevant. Variables previously identified at the national macro-level then work differently, as it seems plausible to assume that, for example, in the case of income or poverty, richer regions might want to secede more. Inter-regional inequality and ethnic homogeneity of the region, not just ethnic fractionalization or polarization of the country as a whole, might support secessionism, as well as territorial concentration of natural resources and their

⁶⁸ J. Fearon, "Why do Some Civil Wars Last So Much Longer than Others?", above note 17.

significance for the national economy. A sub-national region's demand for sovereignty should increase with its geographic distance from the centre, and a history of regional autonomy or previous conflict with the centre. Ethnic violence then would be the response to indiscriminate state repression such as taking away minority group rights, because repression makes non-violence costlier and can generate ethnic fear and resentment.

It may be plausible to assume that insurgencies that start with separatist aims may become more ambitious over time, especially if the central government is very weak, and seek to take over the state if they face realistic prospects of doing so, or when earlier attempts at secession failed or were suppressed by the centre. Ethiopia and Zaire might fit this story, but more empirical evidence is needed here. The opposite seems equally plausible: most recent wars of self-determination started with demands for complete independence, but ended up with the negotiated or de facto autonomy status of the respective ethnic group within existing state borders (East Timor and Chechnya are exceptions here).

Irredentist conflicts, as often mentioned in the literature, are secessions 'in reverse'. Irredentism is any position advocating annexation of territories administered by another state on the grounds of common ethnicity or prior historical possession, actual or alleged. It is the attempt by an ethnic group or country to include geographic regions of 'ethnic kin' outside its country borders to its main territory, and would lead to an interstate war.⁶⁹ A nationalizing state, a national movement representing an ethnic minority within that state, and an external national homeland, to which that minority is construed as ethnically belonging is needed for a situation of irredentism. The civil war in the Balkans, where one third of the Serbs were settling outside the Serbian 'homeland' but were mobilized by a nationalizing government to rejoin, is an example of this conflict triggering mechanism. Serbs in Bosnia went from being part of Yugoslavia's dominant community to members of a minority when the federal state collapsed. As such, they eagerly supported efforts by Belgrade to reclaim much of Bosnia-Herzegovina.

⁶⁹ D. Horowitz, *Ethnic Groups in Conflict* (University of California Press: Berkeley, 1985).

To sum up, there are different possibilities for how the study of civil war can be enriched by the logic of disaggregation. Below, I illustrate this logic further with the case study of the Bosnian civil war 1992-1995.

IV. A DISAGGREGATED PERSPECTIVE ON THE BOSNIAN CIVIL WAR 1992-1995

Current theories of civil war onset, duration and termination can hardly tell us what type of violence will occur, how intense that violence will be, who will be most affected by it, whether a conflict will escalate over time, which locations of a country will be most affected by fighting, and who the key actors involved will be. All these factors are important when it comes to actual policy advice on how to deal best with civil wars and ethnic conflict. Nevertheless, until very recently, warfare during civil war and its potential for temporal, geographic and actor-specific variation was not considered to be of much interest to the academic community. The wars of Yugoslav dissolution, and the conflict in Bosnia and Herzegovina from April 1992 to December 1995 in particular, dominated world headlines at the time and generated hundreds of publications on various aspects of the war, concerning subjects ranging from the root causes of the conflict to analyses of international involvement and post-Dayton reconstruction policy.

The Bosnia conflict of 1992-1995 is a prime example of how the local-level dynamics of violence unfold over a certain territory and over time.⁷⁰ The war in Bosnia in 1992 was a spill over from earlier developments in 1991 in Croatia's Krajina region, where the local Serb minority declared its independence from Croatia, following the previous examples of Slovenia and Croatia. In August 1991, localized war broke out between Croatian militias and police forces, local Serb militias and parts of the Yugoslav National Army, which later collapsed. UN peacekeepers were deployed and UN protected areas established. Most of that early fighting was characterized by very local-level, house to

⁷⁰ S.N. Kalyvas and N. Sambanis, "Bosnia's Civil War", above note 33.

house warfare⁷¹ and rapid ethnic polarization between Serbs and Croats in the mixed communities of Krajina and Slavonia.⁷² There were essentially two wars in Bosnia. The first was the war of the Bosnian Muslims and Bosnian Croats against the well-armed and well-organized Bosnian Serbs (and Serb irregulars), as the Bosnian Serbs sought to establish a ‘Serb Republic’, to exist either as an independent state or to create a ‘greater Serbia’. The second was the war between the Bosnian Croats and the Bosnian Muslims from 1992-1994 in Central Bosnia and Herzegovina, as Croat forces sought to create an independent Croat Herceg-Bosna or annex ‘Croat’ areas of Bosnia to Croatia. Kalyvas and Sambanis point out that, so far, our understanding of patterns of violence regarding the Bosnian civil war remains anecdotic, partisan or biased.⁷³

A. *Different Fighting Parties and Shifting Alliances*

As soon as Bosnia declared its independence, the war fully diffused into Bosnia. As Sambanis and Kalyvas note, the presence of the JNA in each region was crucial.⁷⁴ It should have deterred conflict escalation, but the fact that it was Serb-dominated meant that it was used by Bosnian Serbs and Croatian Serbs in their conflict against the regional government. According to most authors, there were no clear armies or internally coherent ethnic groups fighting during the Bosnian civil war. The official armies were a mix of irregular forces, self-help local militias, home guards, police forces, regular forces, parts of the former JNA, foreign mercenaries and criminal or quasi-criminal elements.⁷⁵ Up to

⁷¹ J. Fearon, “Commitment Problems and the Spread of Ethnic Conflict”, in D.A. Lake and D.S. Rothchild, *The International Spread of Ethnic Conflict: Fear, Diffusion, and Escalation* (Princeton University Press: Princeton, 1998: 107-126.

⁷² M. Glenny, *The Balkans: Nationalism, War, and the Great Powers, 1804-1999* (Penguin Books, New York, 1999); S.L. Woodward, *Balkan Tragedy: Chaos and Dissolution after the Cold War* (Brookings Institution: Washington, DC, 1995).

⁷³ S.N. Kalyvas and N. Sambanis, “Bosnia’s Civil War”, above note 33.

⁷⁴ *Ibid.*

⁷⁵ J. Mueller, “The Banality of Ethnic War”, above note 14; S.N. Kalyvas and N. Sambanis, “Bosnia’s Civil War”, above note 33.

18 different groups were fighting each other at the same time, with various shifting alliances between them. Many of these groups started out as small in number and became more organized and cohesive only later in the war. Mobilization of fighters was mainly organized locally by local strongman along ethnic lines. Although the Serbs in Bosnia were a dispersed minority in terms of population share, they were militarily strong at the beginning of the conflict. The war ended in a balance of power between Bosnian Serbs and Bosnian Croats, mainly because the Croats were supported by the US. There were several shifting military alliances among Serbs, Croats and Muslims in between.

B. Different Locations and Victims of the Conflict

Within Bosnia, Croats, Serbs and Bosnian Muslims were widely dispersed geographically, with several small areas of locally concentrated majorities. Another important dimension is the divide along rural and urban areas in Bosnia. A pattern of violence between the less-developed and less-educated rural areas (mostly Serb-dominated) against the more affluent urban areas (Muslim-dominated) has been reported.⁷⁶ Sambanis and Kalyvas point out that violence in Bosnia varied wildly across geographic space.⁷⁷ Most regions of Bosnia remained untouched by the fighting. Violence tended to occur in areas that were of economic or strategic (in terms of connecting conquered territories) importance. Prison camps were often located close to local power centres. Based on secondary sources such as Human Rights Watch and the US Department of State reports, Kalyvas and Sambanis mention that ethnic cleansing and violence against civilians was most frequent in the north-western and north-eastern areas of Bosnia, present to lower degrees in central areas, and almost absent in the south.⁷⁸

Figure 2 below shows a breakdown of the different larger regions within Bosnia and the numbers of civilian and military victims in these regions, which vary considerably. Note

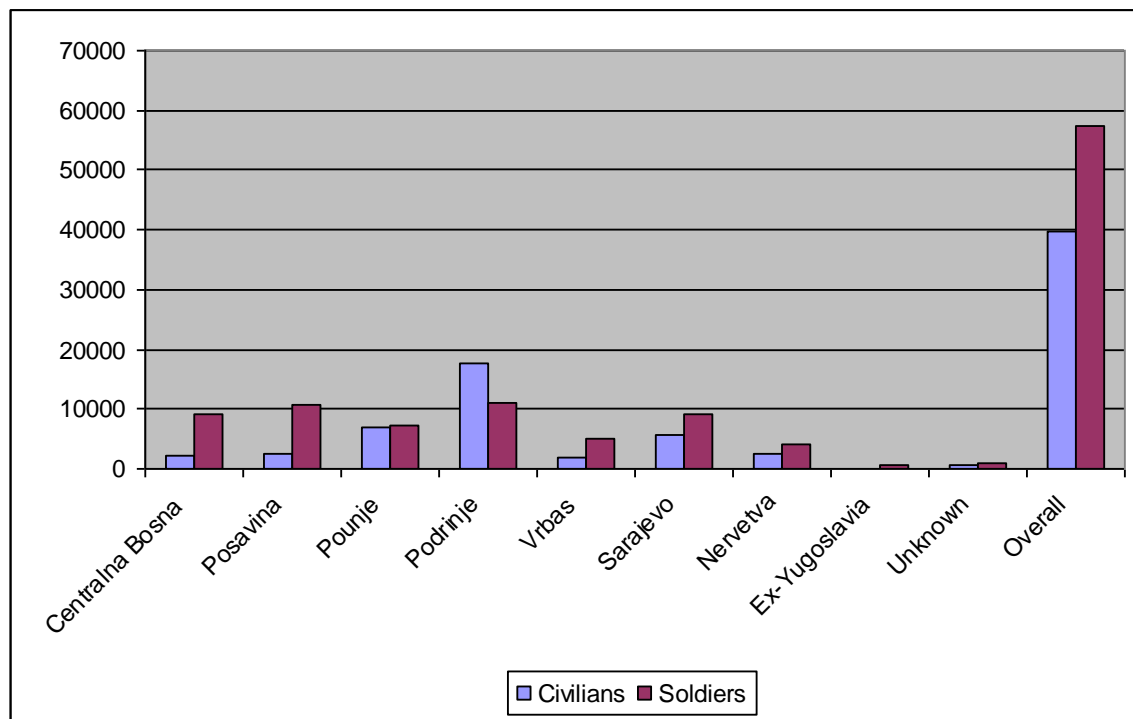
⁷⁶ S.N. Kalyvas and N. Sambanis, "Bosnia's Civil War", above note 33.

⁷⁷ Ibid.

⁷⁸ Ibid.

that the overall number of victims is much lower than previous figures suggested (around 100,000 compared to 250,000-300,000), and that civilians are not the main victims of the conflict, as often reported, but soldiers (except only for one of the seven regions, Podrinje) belonging to a military unit, roughly in an overall ratio of 2:3.⁷⁹

Figure 2. Absolute numbers of killed civilians and soldiers in Bosnia, by region



The Bosnian conflict has seen some of the most severe forms of ethnic cleaning and targeted mass killings of modern times, primarily conducted in the major cities. However, the ‘normal’ war between clashing armies or ‘regular’ military units was mainly fought in the countryside or rural areas. Kalyvas⁸⁰ has characterized the Bosnian civil war as

⁷⁹ Source: Research and Documentation Center Sarajevo. Website at http://www.idc.org.ba/presentation/research_results.htm (accessed 15 July 2009).

⁸⁰ S.N. Kalyvas, “Warfare in Civil Wars”, in I. Duyvesteyn and J. Angstrom (eds.), *Rethinking the Nature of War* (Frank Cass: Abingdon, 2005): 88-108.

‘symmetric non-conventional’ – as compared to irregular⁸¹ and conventional⁸² ones – containing a mix of regular and irregular forces of equal strength fighting over territorial control. These conflicts are defined by stalemated frontlines of the ‘regular’ war and take place in a political context shaped by state collapse. Troops are mainly mobilized locally by local strongmen, often developing into paramilitary groups or self-defence militias on all warring sides. This type of civil war tends to be especially violent. Evidence for this can be found in the tactic of ethnic cleansing and mass deportations of civilians along ethnic lines. This tactic was initiated in Croatia in summer 1991 and by the Serbs in early 1992 in Bosnia, but became common practice by all sides in the war later on, while varying in its degree. It is often mentioned that paramilitary organizations are responsible for most of this type of violence, but clear empirical evidence is lacking. Anecdotal evidence suggests a situation of rapid ethnification of violence once the war had begun.⁸³ When put this way, ethnicity or ethnic polarization was not a key factor in the outbreak of the conflict, but rather the result of violence during the conflict.

Elsewhere, Kalyvas stresses the strategic use of different types of violence in order to shape the behaviour of the civilian population during the Greek civil war.⁸⁴ Other scholars have asked why civilians and non-combatants are the primary targets during fighting⁸⁵, or if one-sided violence against civilians is a function of the military balance between rebels and the government⁸⁶. Recent counterinsurgency case studies do provide a

⁸¹ Or guerilla, insurgency or asymmetric wars without clear frontlines.

⁸² Characterized by clear frontlines, stronger actors and larger battles. There is no such civil war after 1945.

⁸³ S.N. Kalyvas and N. Sambanis, “Bosnia’s Civil War”, above note 33.

⁸⁴ S.N. Kalyvas, “Warfare in Civil Wars”, above note 80.

⁸⁵ J.-P. Azam and A. Hoeffler, “Violence Against Civilians in Civil Wars: Looting or Terror?” 39 *Journal of Peace Research* (2002), 461-485.

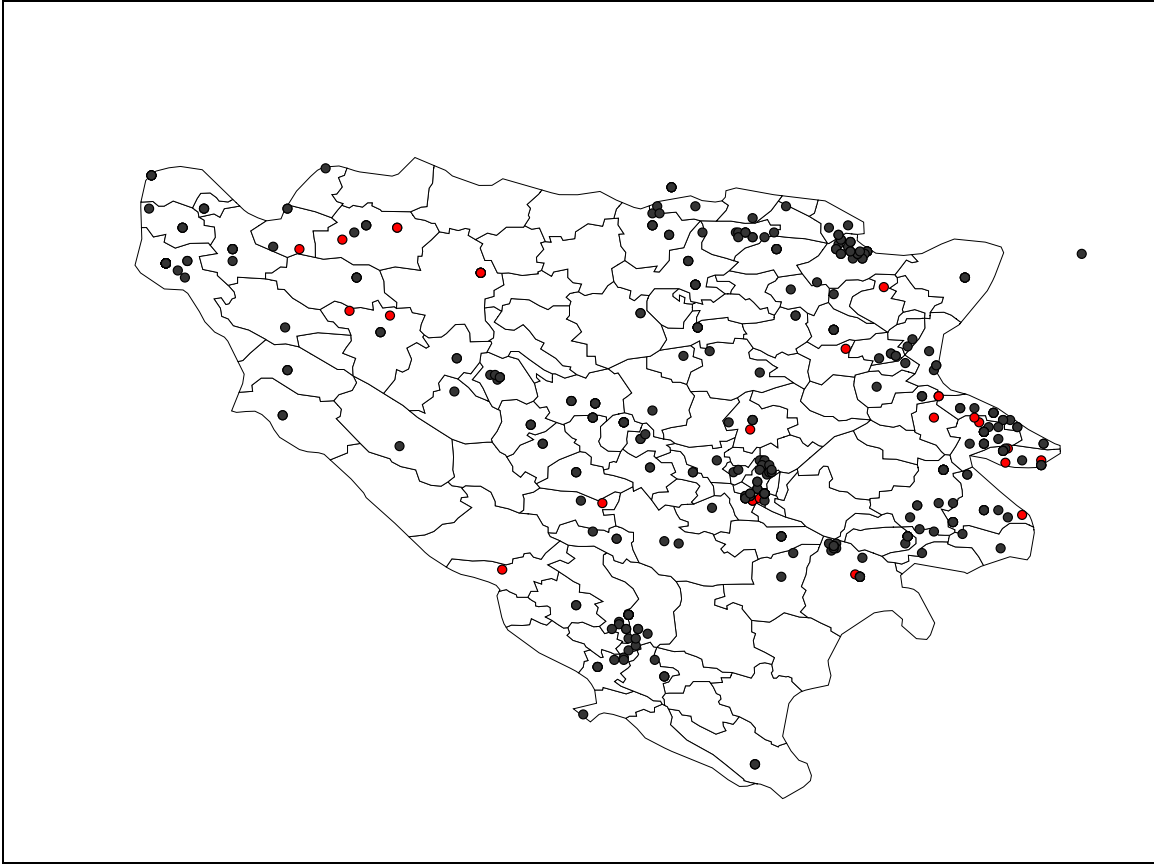
⁸⁶ K. Eck and L. Hultman, “One-sided Violence against Civilians in War: Insights from New Fatality Data”, 44 *Journal of Peace Research* (2007), 233-246.

micro-perspective, but focus exclusively on insurgent violence, downplaying the role of the government.⁸⁷

The ACLED coverage of the Balkan wars has not been released officially; the pre-release for Bosnia that was made available to me contains 540 overall conflict events. 147 out of the 540 events (or 27%) are coded as one-sided violence (or ethnic cleansing against civilians). From the 147 events coded as one-sided, 30 (or 20%) are non-deadly events. Using GIS software, I counted the overall number of violent conflict events per Bosnian municipality. This number ranges from 0 to 60, with a mean of about 5. Figure 3 below shows ACLED Balkan events by type of violence (civilian versus military) and by municipality.

Figure 3. ACLED data for Bosnia, by type and municipality.

⁸⁷ J. Weinstein, *Inside Rebellion: The Politics of Insurgent Violence* (Cambridge University Press: Cambridge, 2007); M. Humphreys and J. Weinstein, "Handling and Manhandling Civilians in Civil War", above note 29.



In Figure 3, the red dots represent the location of one-sided violent events over the whole conflict period. Black dots represent the ‘normal’ military conflict that was ongoing during the conflict period. Dots can include more than one event, and the size of the dots does not represent the severity of the event in terms of related deaths.

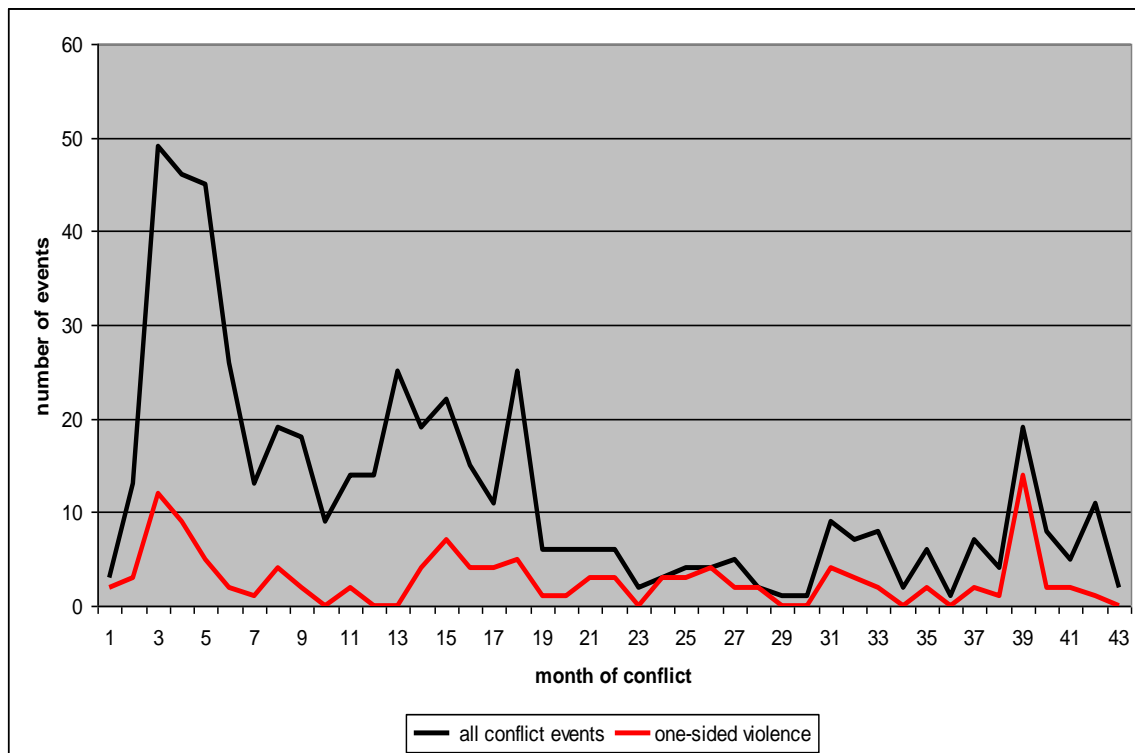
C. Different Phases and Intensity of the Conflict

In terms of temporal variation, most of the violence (both one-sided and military) is concentrated in the first months of the war and to a lesser degree towards the end of the conflict, with several smaller peaks or outbursts of violence in between. This is in line with Kalyvas’ theory⁸⁸, that more violence is likely to occur in phases of the conflict

⁸⁸ Kalyvas, *The Logic of Violence in Civil War*, above note 37.

when control over certain territory has not yet been established by the warring factions. This is shown in Figure 4 below, again using the ACLED data set for Bosnia. The black line represents all conflict events according to month, while the red line indicates one-sided violence against civilians.

Figure 4. Temporal variation of conflict events for Bosnia, all types.



V. CONCLUSION

I have started this article by stressing that research on civil war and ethnic conflict is currently a vibrant area in both political science and economics. A number of important insights about the covariates for the onset of civil war have been uncovered empirically by looking at country-level characteristics of all civil wars since the end of World War Two.

However, there is an urgent need for better integration between theories and different types of civil war on the one hand, and empirical, data-driven research on the other. Too often, empirical research is inductive in nature and follows a trial and error search process for significance. The purpose of this article was to demonstrate that efforts are underway to create new data sets and theories of civil war that allow us to look inside the ‘black box’ of the state and to take micro-level mechanisms of civil war as well as micro-agency more seriously. A local perspective on civil wars starts to establish itself, and scholars now pay increasing attention to within-country variation of key variables such as horizontal inequality⁸⁹, local GDP and the location of lootable resources. This new line of research has to be combined even more with the dynamic relationship between peripheral ethnic groups and the state. The question of how civil wars are actually fought on a local level, and what kind of violence dynamics arise, is next on the agenda.

While the call for disaggregation is certainly warranted, it is important to keep in mind that while dynamics and mechanisms in civil wars are not confined to the macro-level, neither are they concentrated solely at the micro-level. On the contrary; identifying the set of macro-level and micro-level rationales of action is important, but it is equally important to focus on the set of interactions between the macro and the micro level as a way to bridge existing scholarship on civil wars. Some questions pertaining to civil war still call for macro-level analysis while others can be best answered at the micro-level. Methodologically, it comes as a surprise that no empirical study exists that uses the

⁸⁹ Conventional studies of civil war conclude that vertical inequality (e.g. income inequality between individuals) does not increase the risk of internal armed conflict. Systematic social and economic inequalities that may coincide with ethnic cleavages within a country are referred to as horizontal inequalities in more recent literature (e.g. H. Buhaug, K.S. Gleditsch, H. Holtermann and G. Østby, “Poverty, Inequality, and Conflict: Using Within-Country Variation to Evaluate Competing Hypotheses”. Paper presented at 50th Annual Convention of the International Studies Association, New York, NY, 15–18 February 2009). The focus then is on structural or spatial-geographic differences in e.g. economic well-being between regions or ethnic groups, which might increase the likelihood for conflict onset in a country.

technique of multilevel/hierarchical regression models⁹⁰ that can deal with such interdependencies at various levels of analysis and is well established in sociology, for example.

The overwhelming body of theoretical work on civil wars has focused on onset, duration or termination of civil wars. Only recent works have tried to provide general theories on civil war processes such as recruitment patterns of combatants, violence against civilians, and demobilization of former rebels or the use of child soldiers. In this context, the micro-level approach became relevant; however, this does not mean that a quantitative perspective on civil wars has to be abandoned.

⁹⁰ A. Gelman and J. Hill, *Data Analysis Using Regression and Multilevel/Hierarchical Models* (Cambridge University Press, Cambridge, 2007).

Appendix

Civil war list used in Fearon and Laitin, “Ethnicity, Insurgency, and Civil War”, above note 3.

	Country and Region	War years	Case name
	Western Europe		
1	BELGIUM	1956-61	Rwandan revolution
2	FRANCE	1945-54	Vietnam
3	FRANCE	1947-48	Madagascar
4	FRANCE	1952-54	Tunisia
5	FRANCE	1953-56	Morocco
6	FRANCE	1954-61	Algeria
7	FRANCE	1955-60	Cameroon
8	GREECE	1945-49	DSE
9	NETHERLANDS	1945-46	IPA
10	PORTUGAL	1961-75	Angola
11	PORTUGAL	1962-74	Guinea-Bissau
12	PORTUGAL	1964-74	Mozambique
13	UK	1950-56	CPM (Emergency)
14	UK	1952-56	Mau Mau
15	UK	1969-99	IRA
	Eastern Europe		
16	AZERBAIJAN	1992-94	Nagorno-Karabagh

17	BOSNIA	1992-95	Rep. Srpska/Croats
18	CROATIA	1992-95	Krajina
19	GEORGIA	1992-94	Abkhazia
20	MOLDOVA	1992-92	Dniestr Rep.
21	RUSSIA	1946-48	Lithuania/BDPS
22	RUSSIA	1946-50	Ukraine/UPA
23	RUSSIA	1946-47	Latvia/LTSPA, etc.
24	RUSSIA	1946-48	Estonia/Forest Brthers
25	RUSSIA	1994-96	Chechnya
26	RUSSIA	1999-	Chechnya II
27	TAJIKISTAN	1992-97	UTO
28	YUGOSLAVIA	1991-91	Croatia/Krajina
	Asia		
29	AFGHANISTAN	1978-92	Mujahideen
30	AFGHANISTAN	1992-	v. Taliban
31	BANGLADESH	1976-97	Chittagong Hills/Shanti Bahini
32	BURMA	1948-	CPB, Karens, etc.
33	CAMBODIA	1970-75	FUNK
34	CAMBODIA	1978-92	Khmer Rouge, FUNCINPEC, etc
35	CHINA	1946-50	PLA
36	CHINA	1950-51	Tibet
37	CHINA	1956-59	Tibet
38	CHINA	1991-	Xinjiang
39	INDIA	1952-	N.East rebels
40	INDIA	1982-93	Sikhs
41	INDIA	1989-	Kashmir
42	INDONESIA	1950-50	Rep. S. Moluccas
43	INDONESIA	1953-53	Darul Islam
44	INDONESIA	1958-60	Darul Islam, PRRI, Permesta

45	INDONESIA	1965-	OPM (West Papua)
46	INDONESIA	1975-99	E. Timor
47	INDONESIA	1991-	GAM (Aceh)
48	KOREA, S.	1949-50	v. Rhee
49	LAOS	1960-73	Pathet Lao
50	NEPAL	1997-	CPN-M/UPF (Maoists)
51	PAKISTAN	1971-71	Bangladesh
52	PAKISTAN	1973-77	Baluchistan
53	PAKISTAN	1993-99	MQM:Sindh v. Mohajirs
54	PAPUA N.G.	1988-98	BRA (Bougainville)
55	PHILIPPINES	1946-52	Huks
56	PHILIPPINES	1968-	MNLF, MILF
57	PHILIPPINES	1972-94	NPA
58	SRI LANKA	1971-71	JVP
59	SRI LANKA	1983-	LTTE, etc.
60	SRI LANKA	1987-89	JVP II
61	VIETNAM, S.	1960-75	NLF
	North Africa/Middle East		
62	ALGERIA	1962-63	Kabylie
63	ALGERIA	1992-	FIS
64	CYPRUS	1974-74	Cypriots, Turkey
65	IRAN	1978-79	Khomeini
66	IRAN	1979-93	KDPI (Kurds)
67	IRAQ	1959-59	Shammar
68	IRAQ	1961-74	KDP, PUK (Kurds)
69	JORDAN	1970-70	Fedeyeen/Syria v. govt
70	LEBANON	1958-58	Nasserites v. Chamoun
71	LEBANON	1975-90	various militias
72	MOROCCO	1975-88	Polisario

73	TURKEY	1977-80	Militarized party politics
74	TURKEY	1984-99	PKK
75	YEMEN	1994-94	South Yemen
76	YEMEN ARAB REP.	1948-48	Opp. coalition
77	YEMEN ARAB REP.	1962-69	Royalists
78	YEMEN PEOP. REP.	1986-87	Faction of Socialist Party
	Sub-Saharan Africa		
79	ANGOLA	1975-	UNITA
80	ANGOLA	1992-	FLEC (Cabinda)
81	BURUNDI	1972-72	Hutu uprising
82	BURUNDI	1988-88	Org. massacres on both sides
83	BURUNDI	1993-	Hutu groups v. govt
84	CENTRAL AFRICAN REP.	1996-97	Factional fighting
85	CHAD	1965-	FROLINAT, various ...
86	CHAD	1994-98	Rebels in South
87	CONGO	1998-99	Factional fighting
88	DEM. REP. CONGO	1960-65	Katanga, Kasai, CNL
89	DEM. REP. CONGO	1977-78	FLNC
90	DEM. REP. CONGO	1996-97	AFDL (Kabila)
91	DEM. REP. CONGO	1998-	RCD, etc v. govt
92	DJIBOUTI	1993-94	FRUD
93	ETHIOPIA	1974-92	Eritrea, Tigray, etc.
94	ETHIOPIA	1997-	ALF, ARDUF (Afars)
95	GUINEA BISSAU	1998-99	Mil. faction
96	LIBERIA	1989-96	NPFL (Taylor), INPFL (Johnson)
97	MALI	1989-94	Tuaregs
98	MOZAMBIQUE	1976-95	RENAMO
99	NIGERIA	1967-70	Biafra
100	RWANDA	1962-65	Post-rev strife

101	RWANDA	1990-	RPF, genocide
102	SENEGAL	1989-	MFDC (Casamance)
103	SIERRA LEONE	1991-	RUF, AFRC, etc.
104	SOMALIA	1981-91	SSDF, SNM (Isaaqs)
105	SOMALIA	1991-	post-Barre war
106	SOUTH AFRICA	1983-94	ANC, PAC, Azapo
107	SUDAN	1963-72	Anya Nya
108	SUDAN	1983-	SPLA, etc.
109	UGANDA	1981-87	NRA, etc.
110	UGANDA	1993-	LRA, West Nile, etc.
111	ZIMBABWE	1972-79	ZANU, ZAPU
112	ZIMBABWE	1983-87	Ndebele guer's
	Latin America and the Caribbean		
113	ARGENTINA	1955-55	Mil. coup
114	ARGENTINA	1973-77	ERP/Montoneros
115	BOLIVIA	1952-52	MNR
116	COLOMBIA	1948-62	La Violencia
117	COLOMBIA	1963-	FARC, ELN, etc
118	COSTARICA	1948-48	NLA
119	CUBA	1958-59	Castro
120	DOMINICAN REP.	1965-65	Mil. coup
121	EL SALVADOR	1979-92	FMLN
122	GUATEMALA	1968-96	URNG, various
123	HAITI	1991-95	Mil. coup
124	NICARAGUA	1978-79	FSLN
125	NICARAGUA	1981-88	Contras
126	PARAGUAY	1947-47	Febreristas, Libs, Comms
127	PERU	1981-95	Sendero Luminoso

