Inducing Vendettas: The Impact of Government Atrocities on Rebel Participation During Civil War[*]

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Abstract

Anecdotal evidence suggests that government atrocities during civil conflicts are counterproductive. By instilling security concerns and evoking grievances, such atrocities may increase the likelihood that civilians choose to take up arms and fight for the rebels. Using cross-national data on conflicts that took place between 1989 and 2005, this paper finds overwhelming support for this idea: higher levels of government atrocities are associated with larger rebel groups. This finding is robust across different model specifications and measures of government atrocities. In short, governments that violently assault their citizens during civil conflicts quite literally shoot themselves in the foot by aiding the recruitment process of their enemies. The finding is a powerful policy tool: to wage successful counterinsurgencies, governments must respect fundamental human rights. It also should be of interest to students of civil warfare who wish to understand the underlying processes that affect conflict intensity, duration, and outcome.

Introduction

[Punishment] should be used with moderation, so as to avoid cause for hatred; for no ruler benefits by making himself odious.

Niccolò Machiavelli (*The Prince*, III, 19)

We didn't even have to act. People came to us and said, "Give me a gun. How can I kill the man who killed my mother?"

Charles Taylor, Liberian rebel leader (in Kalyvas 2007, 154)

During civil conflicts, civilians find themselves in a unique position: they are able to shift their allegiance between at least two actors who enjoy monopolies on the use of violence.[1] Most civilians, of course, will want to refrain from having to actively choose between these actors; if possible, they will want to carry on with their lives—harvest their crops, go to work, or take care of their families—as usual (Mason and Krane 1989). If the state can guarantee a fundamental sense of physical and economic security, civilians are likely to be able to do just this.

But what happens when the government and its agents become the perpetrators of atrocities and, hence, the very source of insecurity and peril among the citizenry? Anecdotal evidence suggests that such atrocities are counterproductive. It may be that they instill security concerns and evoke grievances among citizens, and in turn diminish the collective action problem associated with rebel organization (Kalyvas and Kocher 2007). Put differently, when government agents perpetrate atrocities during civil conflicts, civilians are more likely to become rebels.

Examples illustrating this claim abound. Drawing on case studies of civil wars in Central America, Goodwin (2001, 177) concludes that arbitrary violence "encourages ordinary workers

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[1] The government still enjoys what Weber ([1925] 1964, 154) termed "the monopoly of the *legitimate* use of violence." However, what differentiates civil wars from peacetime affairs, argues Kalyvas (2006), is that at least one more actor with a monopoly on violence has emerged: the rebel group.

to support revolutionary parties and organizations." Similar patterns have been observed in conflicts that span time and space, from the American Civil War (Joes 2004) to conflicts in Sudan (Johnson 2003). An example that is both contemporary and highly relevant is the current conflict in Afghanistan, in which killings of innocent people by the Afghani government and the Allied Forces have deteriorated civilian support and served as a source of propaganda for the Taliban (see, e.g., Chivers et al. 2010).

Yet no systematic cross-national study has analyzed the relationship between government atrocities and rebel participation. This paper attempts to do this. Using recently collected data on the size of rebel groups, it finds overwhelming support for the idea that high levels of government atrocities spur rebel participation. This finding is robust across different model specifications and measures of government atrocities. In short, governments that engage in atrocities during civil conflicts inadvertently help the recruitment process of their enemies.

This finding should be of significant interest to scholars and policy experts alike. For example, it has been argued that a rebel group's strength in relation to the government shapes the intensity, duration, and outcome of civil warfare (Buhaug 2010; Buhaug, Gates, and Lujala 2009; Cunningham, Gleditsch, and Salehyan 2009; Gurr 1970; Hultquist 2010; Mason and Fett 1996). Because government atrocities make rebel groups stronger (by increasing their numbers), scholars need to pay closer attention to the effects of such atrocities when conducting cross-national studies of civil conflict. The finding also is a powerful policy tool: in order to wage successful counterinsurgencies, governments must, as Joes (2004) notes, practice rectitude.

The paper proceeds as follows. I first present a theory that delineates the causal mechanisms by which government atrocities spur rebel participation. The theory draws on works that highlight the counterproductive effects of indiscriminate violence, although it holds that

even selective (or discriminate) violence spur rebel participation so long as it targets civilians. I then present the data and research design, after which regression estimates of conflicts that took place between 1989 and 2005 are reported. The paper concludes with a discussion that addresses both the broader implications of the results and future avenues for research.

Theory

The purpose of this section is to explain why, in general, we would expect atrocities committed by government forces during a civil conflict to spur rebel participation. In order to do so, I first define the most important theoretical concepts used here: civil conflict, civilians, rebel participants, and government atrocities. The causal mechanisms by which government atrocities lead to higher levels of rebel participation are then described. I conclude with a brief discussion of the difference between government atrocities and indiscriminate violence, and why making such a distinction is important.

Civil Conflict, Civilians, Rebel Participants, and Government Atrocities

Civil conflict is conceptualized as *armed combat within the boundaries of a recognized sovereign entity between at least two parties, one of which is the government* (see, e.g., Kalyvas 2006, 17). The government's adversary during the conflict is referred to as the rebel group.

In addition to these parties, civilians play a critical role during civil conflicts. Civilians are thought of as *individuals who are not full-time members of any armed group*. Hence, individuals who support a rebel group, e.g., by providing food or shelter, but do not participate full-time in the rebel group's activities, are viewed as civilians. Rebel participants, then, are

individuals who are full-time members of a rebel group.[2] If a rebel is captured and moved to a state detention facility, he or she is considered to be a civilian.

There is a strong perceived relationship between civil conflicts and atrocities (Kalyvas 2006, 52). Atrocities can be thought of as "extremely wicked or cruel act[s], typically involving physical violence or injury" (New Oxford American Dictionary 2005). In the human rights literature, such acts are often viewed as belonging to a subset of human rights abuses referred to as physical integrity abuses (Walsh and Piazza 2010). This set of abuses includes the broad categories of extrajudicial killings, disappearances, torture, and political imprisonments (Walsh and Piazza 2010), as well as acts such as kidnapping, forcible displacement, mutilation, rape, and desecration of dead bodies (e.g., Kalyvas 2006, 20). However, atrocities in this paper do not just refer to physical integrity abuses, but also to *violent* acts that cause damage to individuals' economic assets: houses, land, utensils, cattle, or livestock (Justino 2009, 320). Examples of acts that cause this type of damage include pillaging, vandalism, and arson.

Atrocities can be, and often are, committed by both government forces and rebel groups during civil conflicts, but the focus here is on the effects of government atrocities.[3] Such atrocities occur when carried out by government-sanctioned forces, whether those forces consist of the official state military or of paramilitary groups that receive monetary or military support from the government (e.g., the Janjaweed in Sudan). It is important to differentiate between legitimate government violence and government atrocities. Because governments by definition enjoy a monopoly on the legitimate use of violence (Weber [1925] 1964), they arguably have the

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[2] This conceptualization differs slightly from Justino's (2009, 317) view of rebel participants as individuals who participate in fighting, provide material support, or offer intelligence to the rebel group, but is in line with Kalyvas' (2006, 19) definition.
[3] An emerging body of the civil conflict literature focuses instead on violence carried out by rebel groups (e.g., Weinstein 2007) or by both rebel groups and government forces (e.g., Humphreys and Weinstein 2008; Justino 2009; Kalyvas 2006).
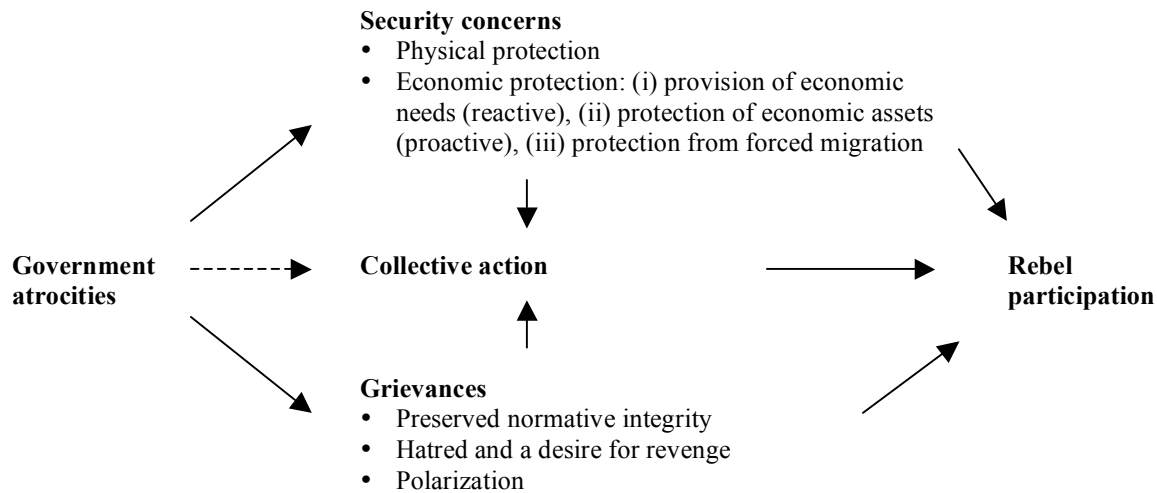
right to respond to violent uprisings that threaten their existence by using violence. However, to be legitimate (and effective), such violence has to be selective, or targeted only at those who engage in violent acts that threaten the government (Joes 2004, 156-65; Kalyvas 2006, 141-72). Herein lies the distinction between legitimate government violence and government atrocities during a civil conflict: whereas the former targets only rebel participants, the latter targets civilians. A working definition of government atrocities hence can be formulated as *violent acts carried out by government-sanctioned forces that violate civilians' physical integrity rights or damage their economic assets.*

Why Government Atrocities Spur Rebel Participation

There are many causal mechanisms by which government atrocities during civil conflicts may increase rebel participation. These mechanisms can be divided into two main categories: (1) security concerns, and (2) grievances. The first category includes mechanisms that are related to individuals' interest in protecting their physical or economic wellbeing during the conflict. The second category includes mechanisms that are related to individuals' moral or emotional responses to what they may perceive as government wrongdoings. Collectively, security concerns and grievances are expected to diminish the collective action problem associated with individual participation in groups or organizations.[4] All this, then, will increase the likelihood that civilians choose to join a rebel group. See figure 1 for an overview.

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[4] See Olson (1965) for a demonstration of the collective action problem. Olson's basic idea is that individuals will not participate in groups that provide public goods unless they have a private or "selective" incentive to do so.

Figure 1: Overview of causal mechanisms

Security concerns
- Physical protection
- Economic protection: (i) provision of economic needs (reactive), (ii) protection of economic assets (proactive), (iii) protection from forced migration

Government atrocities

Collective action

Rebel participation

Grievances
- Preserved normative integrity
- Hatred and a desire for revenge
- Polarization

Note: Direct effects represented by full lines; indirect effects by dotted lines.

Security Concerns

Being able to establish physical security for oneself and one's family arguably constitute

a fundamental motivation for any human being. When governments engage in high levels of

atrocities, civilians are more likely to believe that their physical security no longer can be

guaranteed (Joes 2004, 105-121; Justino 2009; Kalyvas 2006, 157-8; Mason and Krane 1989).

During civil conflicts, rebel groups have the ability, as armed actors, to provide security for their

members. This ability may be viewed as a selective incentive: it pays to join a rebel group when

the risk of being subjected to government atrocities is high. As Joes (2004, 105) puts it, "Without

security, the civilians will have no choice but to support the guerillas." This resonates with the

statement of a Honduran rebel when asked why he joined: "[I] had no choice. … It was a matter

of survival" (in Kalyvas 2006, 157). Feeling safer inside an armed group also served as a

motivating factor during the Sierra Leone civil war (Humphreys and Weinstein 2008). All this

suggests that government atrocities spur rebel participation because rebel groups are able to offer

their members physical protection.

In addition to providing physical protection, rebel groups may also be able to protect their members' economic status when the government engages in high levels of atrocities. There are at least three ways in which this may happen. First, government atrocities may cause damage to economic assets, such as houses, land and livestock (Justino 2009). They may also cause death or incapacitation to family members and, hence, a loss of human capital. Under such circumstances, civilians may join a rebel group *reactively* (having already been subjected to atrocities) in hopes of ensuring protection from extreme poverty and destitution. Second, it is possible that civilians who anticipate government atrocities join a rebel group *proactively* to prevent losses of economic assets. Finally, there is a strong association between a household's vulnerability to violence and the risk of forced displacement. Forced displacement, in turn, causes severe losses in economic productivity (Ibáñez and Vélez 2008; Justino 2009). If rebel groups are able to provide for their members' basic economic needs, joining them may constitute an attractive alternative to forced displacement.

Grievances

Government atrocities by definition victimize civilians, oftentimes for no apparent reason. Among the victims, their families, and others, such atrocities are likely to be viewed as highly unfair and evoke strong emotional responses. In her study of the civil war in El Salvador, Wood (2003, 18) finds that many rebels felt that "… to act righteously was to participate." "As government violence deepened, some *campesinos* [i.e., peasants] supported the armed insurgency. They did so as an act of defiance of long-resented authorities and a repudiation of perceived injustices (particularly the brutal and arbitrary violence by security forces)." Participating in a rebel group thus becomes a matter of preserving a sense of normative integrity.

Participation may also be facilitated by strong emotional responses to government atrocities, such as hatred and a desire for revenge. The words of a Lebanese woman are illustrative:

> I am Lebanese, Moslem and Palestinian and it concerns me when three hundred and sixty-five Lebanese Moslems are murdered. I feel the seeds of hatred and the desire for revenge taking root in my very depths. At this moment I want the [Moslem militia] or anybody else to give the Phalangists back twice as good as we got. I would like them to go into offices and kill the first seven hundred and thirty defenseless Christians they can lay their hands on. (In Kalyvas 2006, 59.)

Similar emotions may be produced when prisoners are treated wrongfully in incumbent detention facilities, not only among the prisoners themselves but also among members of their home village who hear their stories (Joes 2004, 161). Rebel groups have the means—i.e., weapons and an organizational structure that enables the use of such weapons—to convert emotions of hatred and revenge into action. This, then, may spur rebel participation.

In addition to inducing individual normative and emotional responses, government atrocities during civil conflicts may have societal consequences that eventually affect rebel participation. In particular, atrocities may increase polarization—"the intensity of divisions between groups" (Kalyvas 2006, 64)—by creating or reinforcing the idea of the government and its supporters as an out-group, a "common enemy," in Goodwin's (2001, 177) formulation, that needs to be defeated. As Kalyvas (2006, 79) notes, violence during civil conflicts often "politicizes innocuous or nonviolent prewar cleavages." Under circumstances of high government atrocities, movements that promise a new political order (which some rebel groups do) may therefore gain support among civilians (Goodwin 2001, 177).

Government Atrocities versus Indiscriminate Violence

In the civil conflict literature, the type of violence referred to as government atrocities here is usually termed "indiscriminate" (or "random") violence, and is contrasted with "selective" (or "discriminate" or "targeted") violence (Goodwin 2001; Kalyvas 2006; Kalyvas and Kocher 2007; Lyall 2009; Mason and Krane 1989).

The distinction between indiscriminate violence and government atrocities is fine. Kalyvas (2006, 142) holds that violence is selective (i.e., *not* indiscriminate) "when there is an intention to ascertain individual guilt." For example, government violence targeted at a person who occasionally provides food to a rebel group may be viewed as selective since that person is "guilty" of collaborating with the rebel group. In Mason and Krane's (1989) formulation, this person constitutes a "rank and file supporter" (i.e., a person who is a part-time collaborator with the rebel group) and is contrasted with the "politically inactive" (i.e., an individual who provides no support to either camp). Violence that targets a rank and file supporter is expected to have a deterrent effect on rebel participation (Mason and Krane 1989, 181). However, because the person of concern by definition is a civilian in this paper, this type of violence constitutes government atrocities and is expected to spur (rather than deter) rebel participation.

Expecting *only* indiscriminate violence to spur rebel participation is problematic for two reasons. First, de facto selective violence may be perceived as indiscriminate violence in the eye of the beholder. It is unreasonable to presume, as Mason and Krane (1989) implicitly do, that the general population always can tell the difference between rank and file supporters and individuals who are completely politically inactive. Indeed, an individual who provides some support (e.g., food) to a rebel group has an incentive to conceal this support from most people (who could be or become government informants). Most people, then, will not know whether or

not the individual supports the rebel group. The likelihood of holding such knowledge, moreover, should decrease with geographical distance (people in a nearby village are less likely to know than are neighbors; people residing in another region even less so, etc). If government forces torture and murder this individual, the vast majority of the population therefore will be unable to tell whether these acts represent selective or indiscriminate violence. Instances like these are likely to spur rebel participation through the same causal mechanisms (increased security concerns and grievances) as described above.

Second, even if the general population always were able to ascertain whether or not a person is a part-time collaborator (rank and file supporter) of a rebel group, selective violence that targets such a person may spur rebel participation. This is likely to be the case when there are many part-time collaborators and when the government, despite targeted attacks, is unable to eliminate these individuals. As probable targets of government violence, part-time collaborators may choose to become rebels (Mason and Krane 1989, 181).

While notable differences exist, the concepts of government atrocities and indiscriminate violence are far from mutually exclusive. In fact, if acts carried out by the government constitute indiscriminate violence, then those acts constitute government atrocities as well (although government atrocities do not always constitute indiscriminate violence). The primary advantage of using the concept of government atrocities when delineating the relationship between government violence and rebel participation is that there is no need to ascertain the intentions underlying the use of violence (i.e., whether the violence is selective or indiscriminate). Another advantage is methodological: there are readily available measures of government atrocities (but not of indiscriminate violence per se). This, then, allows us to formulate a simple and testable hypothesis: *higher levels of government atrocities will lead to bigger rebel groups.*

Data and Research Design

To test whether the theoretical argument is supported by empirical data, civil conflicts that occurred between 1989 and 2005 are studied. These conflicts are taken from the UCDP/PRIO Armed Conflict Dataset version 4-2006 (Gleditsch et al. 2002). Only "internal armed conflicts" and "internationalized internal armed conflicts" (see Harbom and Högbladh 2006, 11) are included. Coups d'état, by definition, "constitute a fight between two parts of government" (Buhaug, Gates, and Lujala 2009, 556) and are therefore dropped. Because UCDP/PRIO allow for multiple civil conflicts within the same country as long as one of the belligerents is the government, the unit of analysis is conflict-year (as oppose to country-year).

To be included in the original dataset, a conflict has to result in at least 25 battle-related deaths each year. However, a conflict that fails to reach this threshold is not necessarily over (Buhaug, Gates, and Lujala 2009; Hultquist 2010). Following Hultquist (2010), observations that have the same actors but are separated by a period of inactivity are therefore merged (and the lapses treated as part of the ongoing conflict).[5] Also, some conflicts that are treated by UCDP/PRIO as one conflict (having a unitary conflict ID) are split (resulting in two different conflict IDs). This is the case if either (1) the war becomes inactive and resurges with new parties, or (2) the rebel group overthrows the government but the conflict remains active (see Hultquist 2010, 11).

The final dataset consists of 717 conflict-year observations regarding 86 conflicts in 57 countries (although data availability, mainly on the dependent variable, limits these numbers in the analyses).

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[5] Approximately 19% of the observations in the final dataset do not reach the threshold of 25 battle-related deaths. The results stand if these observations are excluded from the estimations (see footnote 14).

Dependent Variable

The size of rebel groups constitutes the dependent variable. Data on rebel group size have long been scarce, limiting systematic large-N studies of the determinants of rebel participation. This study hence represents a unique attempt to directly examine these determinants across several conflicts and countries.

Data on rebel group size were originally collected by the Uppsala Conflict Data Program (UCDP), and are provided by Hultquist (2010). The data are best estimates; belligerents of a conflict have an incentive to misrepresent their troop numbers. However, as Hultquist (2010) notes, errors in the data are assumed to be normally distributed, as we have little reason to expect the numbers to be biased differently across conflicts. The data are available for 591 (or 82%) of the total observations, and are log-transformed for normality. Because this variable is interval-level, the appropriate estimation technique (to be used later) is linear regression.

Independent Variable

The independent variable of interest is government atrocities. Data on government atrocities are from two different sources: the Political Terror Scale (PTS) (Gibney, Cornett, and Wood 2010), and the Cingranelli-Richards Human Rights Data Project (CIRI) (Cingranelli and Richards 2010).

The PTS measures "violations of physical and personal integrity rights carried out by a state (or its agents)" (Wood and Gibney 2010, 369). Importantly, it does not code violence ascribed to actions of insurgent groups, and is meant to capture violence against civilians (and not violence against rebel combatants). The measure ranges from 1, indicating high respects for physical integrity rights, to 5, indicating that state violations have extended to the whole

population, making political imprisonments, extrajudicial killings, disappearances, and torture (or similar physical abuse) a part of life.

The PTS measure fits well with my conceptualization of government atrocities: the higher the PTS score, the higher is the level of violations against civilians. The PTS differs from the conceptualization of government atrocities to the extent that it does not explicitly account for violations that cause damage to economic assets. It is reasonable to assume, however, that these violations are highly correlated with physical integrity violations. For example, government forces that notoriously enter villages and torture, murder, or abduct the locals (hence making it likely that the country of concern receives a high PTS score) are also likely to loot, kill cattle, or set houses on fire. Additionally, physical integrity abuses often lead to a loss of human capital, which in turn impacts individuals' economic status negatively (Justino 2009).

The PTS provides two sets of scores based on country reports compiled by the US Department of State and Amnesty International, respectively. I use the set based on the US Department of State for consistency. To reduce the problem of reverse causality, the measure is lagged one year. Four dummy variables are then created: one each for levels 2, 3, 4, and 5, leaving 1 as the base category. This makes it possible to delineate the effect of each PTS level as compared to the base category. For my theoretical argument to be supported, the effect of each level on the dependent variable should, as we move from 1 to 5, get increasingly larger.

In addition to the PTS measure, I use CIRI's Physical Integrity Rights Index (hereinafter "the CIRI index" or just "the index") to measure levels of government atrocities. Like the PTS, the index focuses on physical integrity violations carried out by government-sanctioned forces (Cingranelli and Richards 2008). It adds up the individual scores of four separate indicators of physical integrity violations (each ranging from 0 to 2): torture, extrajudicial killings, political

imprisonments, and disappearances. The index thus ranges from 0 to 8. In the original dataset, 0

indicates no government respect for physical integrity rights (and 8 high respect for those rights).

To enable a more intuitive interpretation of the results, I recode the index so that 8 instead

indicates no respect for these rights (and 0 high respect). Again, to address the problem of

reverse causality, the measure is lagged one year.

For practical purposes, it is awkward to create eight dummy variables in order to interpret

the effect of each level of the index on the dependent variable. The need to do so, however, is

diminished by the fact that the construction of the PTS dummies already enables similar

interpretations. Thus, the primary role of the CIRI index is to provide a robustness check of the

models in which the PTS is the main explanatory variable. For the theory to be supported, the

CIRI index coefficient should be positive and statistically significant.

Control Variables

Economic Factors

Civilians may join rebel groups where the costs of doing so are atypically low (Collier

and Hoeffler 2004; Collier, Hoeffler, and Söderbom 2004). The extent to which people

experience conditions of poverty may be an especially good indicator of low costs. Poor people

may join a rebel group during civil conflicts to increase their socio-economic opportunities.

Alternatively, poor people become rebels to express their dissatisfaction with their economic

position in society and to achieve positive post-conflict change (Humphreys and Weinstein

2008).

To account for these views, I control for per capita income, measured as real GDP per

capita in 2005 dollars. The data are from Penn World Table 6.3 (Heston, Summers, and Aten

2009). Figures for Myanmar and Yugoslavia are not available, and are taken from the US

Department of Agriculture (International Macroeconomic Dataset 2010).[6] I lag the measure one

year to reduce the issue of reverse causality.

Atypically high economic benefits from participating in rebellion may also motivate

individuals to join a rebel group during civil conflicts. In particular, where it is possible for rebel

groups to extort "lootable" resources—drugs and precious gemstones, in particular—rebellion

may become profitable (Fearon 2004; see also Ross 2004 for an overview). Individuals may

therefore join rebel groups in hopes of taking part of the profits. Alternatively, as Herbst (2000)

and Humphreys and Weinstein (2008) note, rebel participation may constitute a way to express

anger and frustration with the government's misuse of a country's resources. Lootable resources

have been a conspicuous part of conflicts in Sierra Leone and Angola (diamonds), Colombia

(cocaine), and Burma (opium) (Fearon 2004; Herbst 2000; Ross 2004).

The measure of lootable resources is a dummy variable (for which 1 indicates the

presence of such resources) taken from Fearon (2004).[7]

Military Capacity

Herbst (2000; 2004) argues that states' military capacity influences the sustenance of

rebel groups. He notes that most rebellions start small, and that a swift initial mobilization by

government forces is most likely to suppress them. However, many states, especially in Africa,

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[6] These figures are also GDP per capita in 2005 dollars. The data on Yugoslavia concerns the Yugoslavia-Slovenia civil war; figures for Slovenia are used.

[7] Alternatives to Fearon's measure exist. Buhaug, Gates, and Lujala (2009), for example, use two separate dummy variables for gemstones and drugs, respectively. Because Fearon's measure was found to have a strong effect on civil war duration, it may provide a tougher test of the explanatory power of the key independent variable, and is therefore used here.

are too weak to accomplish this. Not fearing any immediate repercussions, individuals may be encouraged (or at least not discouraged) to join a rebel group.

However, the selection effect inherent in studying countries that already experience civil conflict may be especially strong when it comes to states' military capacity, since the inability to suppress rebellions before they cause outright warfare is indicative of low capacity (see, e.g., Cunningham, Gleditsch, and Salehyan 2009, 576). It may instead be that states with a relatively strong coercive ability produce larger rebel groups *once the conflict is underway*. First, relatively large military forces have the ability to carry out higher levels of government atrocities, and may experience more difficulties controlling their agents' behavior (Butler, Gluch, and Mitchell 2007, 675). If my theory is correct, this will increase rebel participation.[8] Second, rebels that face a relatively large state military may recognize the need to grow in order to sustain and effectively challenge the government, and in turn expand their recruitment efforts.

Following Herbst (2004), I measure a state's military capacity by calculating the number of soldiers per 1000 citizens. Population figures are from Penn World Table 6.3 (Heston, Summers, and Aten 2009).[9] State military troop figures are from the same source (Hultquist 2010) as the data on rebel group size.

Geography

Some scholars have argued that the geographical features of a country influence rebel participation. As Gates (2002, 126) notes, "Sanctuary within a country … plays an instrumental role in giving the rebel movement a chance to develop and grow. Typically, such sanctuaries are

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[8] While suggesting an endogenous relationship between government atrocities and military strength, this should not be of concern with regards to the statistical analyses: the two variables are not related by definition, and the correlation between them is low (0.13 using the PTS as the measure of government atrocities and -0.09 using the CIRI index as the measure).

[9] Figures for Myanmar and Yugoslavia are again not available; they are taken from Gleditsch (2002).

in remote territories well away from the center of government." In other words, the farther the rebel stronghold is located from the center of government, the less dangerous it may be to participate in rebellion. Rugged terrain—the presence of mountains or forest—may favor insurgency in a similar fashion (Buhaug, Gates, and Lujala 2009).

To account for these views, I include conflict-specific measures of (1) the distance between the conflict center and the capital, (2) the percentage of the conflict area covered by mountains, and (3) the percentage of the conflict area covered by forest. All these measures are from Buhaug, Gates, and Lujala (2009).

Separatist (Ethnic) Conflict

Ethnic factors may impact the likelihood that individuals participate in rebellion. These factors are especially likely to play a role where groups that hope to form their own nation-state are prevented from doing so (Cederman and Girardin 2007), or where groups without explicit nationalist demands are marginalized politically or economically by a dominant group (Humphreys and Weinstein 2008, 440). Members of such groups may participate in rebellion to the extent that they sympathize with the struggle of their ethnic kin and want to remedy what they perceive to be government wrongdoings (see Cederman, Wimmer, and Min [2010] for a comprehensive theory).

Measures of ethnic cleavages have suffered from poor operationalizations.[10] Here, I control for whether the conflict of concern is separatist; many such conflicts arguably stem from ethno-nationalist demands. The measure is a dummy variable (1 if the conflict is over territory) from UCDP/PRIO (Gleditsch et al. 2002).

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[10] Cederman and Girardin (2007) provide an extensive critique of measures of ethnic cleavages based on fractionalization indices.

Population Size

Lastly, I control for population size, as big recruitment pools for rebel groups or difficulties managing large populations may spur rebel participation. The figures are from Penn World Table 6.3 (Heston, Summers, and Aten 2009).[11]

A Note on the Selection Effect

As already noted with regards to military capacity, studying only countries that already experience civil conflict comes with a selection effect. This is so because the general characteristics of countries that end up with civil conflicts are likely to differ from those of other countries in the world; countries with civil conflicts may be poorer, weaker, or not open enough to be responsive to popular demands yet not repressive enough to deter insurrection (Cunningham, Gleditsch, and Salehyan 2009). It is important to keep this in mind when interpreting the results, which are presented next.

Results and Discussion

Before introducing the main explanatory variable (government atrocities) into any models, I decided to try to narrow down the number of control variables. As Ray (2003) points out, it is important to exclude control variables with potentially confounding effects.[12] I was able to go from a model that includes all eight control variables to a model that includes only six control variables without giving up significant explanatory power (see Table A1 in the

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[11] Figures for Myanmar and Yugoslavia are again not available; they are taken from Gleditsch (2002).
[12] I am particularly concerned about the high pairwise correlations between population size and the conflict–capital distance (0.62), and population size and soldiers per 1000 citizens (-0.46).

appendix).[13] The control variables included in the more parsimonious model (Model A2) are used in subsequent models, which introduce the main explanatory variable.

Table 1 presents linear regression estimates (with the observations clustered on conflicts) for four models. The interpretation of the coefficients is straightforward: positive values denote larger rebel groups, while negative values mean smaller rebel groups. Model 1 uses the PTS as the measure of government atrocities. Model 2 then introduces a variable that applies a one-year lag to the dependent variable. If government atrocities really spur rebel participation, then this effect should remain significant even when controlling for how big the rebel group was in the previous year. Models 3 and 4 use CIRI's physical integrity index as the measure of government atrocities, with Model 4 introducing the lagged rebel size variable.

The models overwhelmingly support the central claim of this paper: higher levels of government atrocities during civil conflicts are associated with bigger rebel groups. The PTS coefficients in Model 1 are positive, highly significant, and get larger the higher is the level of atrocities, as expected. This result stands even when introducing the lagged rebel size variable, meaning that the effect of government atrocities is significant irrespective of how big (or small) the rebel group was in the previous year. Models 3 and 4 solidify these findings: the CIRI index coefficient is positive and highly significant for both models, as expected.[14]

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[13] The narrowing-down process was executed through a series of likelihood-ratio tests until there was no statistically significant difference between the unrestricted model and the restricted model. The highest pairwise correlation between the control variables in the restricted model is -0.35 (between soldiers per 1000 citizens and the conflict-capital distance).

[14] The PTS and CIRI measures of government atrocities both remain highly statistically significant in the expected direction when I rerun the four models and exclude conflict-year observations that did not reach 25 battle-related deaths (and hence are considered inactive by UCDP/PRIO). (The control variables also retain their level of significance and direction.)

Table 1: Effects on Rebel Group Size

		Model 1		Model 2		Model 3		Model 4	
		Coeff.	Signif.	Coeff.	Signif.	Coeff.	Signif.	Coeff.	Signif.
PTS (base = level 1)	Level 2	2.292 (0.759)	0.003 **	1.065 (0.430)	0.017 *				
	Level 3	2.654 (0.675)	0.000 ***	1.330 (0.384)	0.001 **				
	Level 4	2.781 (0.644)	0.000 ***	1.478 (0.367)	0.000 ***				
	Level 5	3.163 (0.657)	0.000 ***	1.517 (0.377)	0.000 ***				
CIRI physical integrity index (8 = worst)						0.157 (0.055)	0.006 **	0.074 (0.027)	0.008 **
Lagged rebel group size (ln)				0.680 (0.053)	0.000 ***			0.689 (0.051)	0.000 ***
GDP per capita (ln)		-0.047 (0.134)	0.727	-0.033 (0.063)	0.601	-0.079 (0.136)	0.563	-0.063 (0.059)	0.291
Lootable resources		0.459 (0.271)	0.094	0.161 (0.108)	0.141	0.454 (0.266)	0.093	0.140 (0.103)	0.176
Soldiers per 1000 citizens (ln)		0.254 (0.106)	0.019 *	0.115 (0.048)	0.021 *	0.321 (0.110)	0.005 **	0.140 (0.047)	0.004 **
Distance to capital (ln)		0.129 (0.102)	0.207	0.036 (0.041)	0.384	0.109 (0.106)	0.308	0.024 (0.039)	0.547
Forest in conflict zone (%)		-0.009 (0.005)	0.062	-0.003 (0.002)	0.155	-0.011 (0.005)	0.016 *	-0.004 (0.002)	0.033 *
Separatist		-0.490 (0.280)	0.084	-0.147 (0.121)	0.227	-0.532 (0.292)	0.073	-0.153 (0.120)	0.208
Constant		5.482 (1.477)	0.000 ***	1.345 (0.769)	0.085	7.651 (1.327)	0.000 ***	2.531 (0.682)	0.000 ***
Probability > F		0.000		0.000		0.000		0.000	
R^2		0.247		0.601		0.238		0.605	
Conflict-years		553		511		521		482	
Conflicts		74		69		69		64	

Note: $*p < 0.05$, $**p < 0.01$, $***p < 0.001$. Standard errors clustered on conflicts in parentheses. The dependent variable is the size of rebel groups (logged).

Soldiers per 1000 citizens is the only control variable that has a significant impact on rebel group size in all models. The coefficient is positive, indicating that larger militaries relative to population size are associated with bigger rebel groups. As discussed earlier, larger militaries

logically have the ability to engage in more atrocities, and the leaders of these militaries may have difficulties controlling the behavior of the soldiers on the ground. This, then, is likely to spur rebel participation. Alternatively (or complimentarily), rebels facing larger militaries may expand their recruitment efforts (including the use of coercive methods) to be able to sustain and mount an effective insurgency.

The poor performance of the control variables may be attributed in part to the selection effect mentioned before. The effect of GDP per capita, for example, may not be significant because most countries that experience conflict are poor. (Being poor among the poor may not be that different from being slightly less poor among the poor.)[15] It may come as a surprise to some researchers, however, that neither the conflict distance to the capital nor the presence of lootable resources increase rebel participation. And while the percentage of forest in the conflict zone is significant in two models, the coefficient is—against expectations—negative, suggesting that it is hard to sustain large rebel groups in forested (and perhaps difficult) terrains. Lastly, whether or not the conflict is separatist is insignificant, although it would be interesting to test operationalizations that more directly capture ethnic cleavages.

Figure 2 reports the substantive effect of government atrocities on rebel group size (based on Model 1), holding interval control variables at their mean value and dummy control variables at their modal category.[16] The figure provides a lucid account of just how bad government forces that engage in atrocities shoot themselves in the foot: each incremental escalation of atrocities is associated with a significant predicted increase in rebel group size, and going from no atrocities (level 1) to widespread atrocities (level 5) increases the size about 24 times.

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[15] The mean and median GDP per capita for the countries in the dataset are $3555 and $2424, respectively.
[16] See Appendix 2 for the calculation.

Figure 2: Predicted rebel group size for different levels of government atrocities
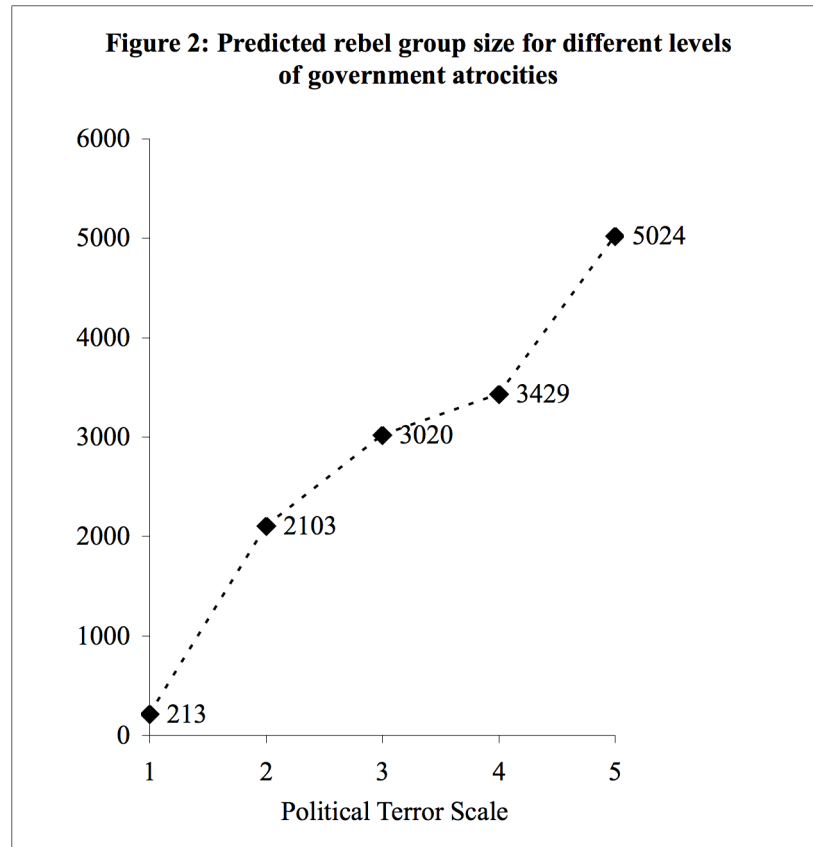
The largest absolute incremental increase in rebel size (1890 units) occurs from PTS level 1 to level 2, suggesting that even a relatively limited number of government atrocities (as compared to no atrocities) can have a large effect on rebel participation.[17] The next largest increase (1595 units) occurs from level 4 to level 5.[18] According to Wood and Gibney (2010, 273), level 5 represents a state by which atrocities have "expanded to the whole population," whereas on level 4, "in spite of its generality … terror affects those who interest themselves in politics or ideas." The difference between these levels, then, may be the extent to which the violence is indiscriminate. Thus, if Figure 2 is correct, governments that engage in truly

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[17] We should be careful interpreting this increase, however, due to a limited number of observations for these low levels of atrocities; in Model 1 only seven conflict-year observations have a PTS score of 1 and 18 observations a PTS score of 2.

[18] We can be more confident interpreting this increase because of a substantial number of observations: 266 for level 4 and 164 for level 5.

indiscriminate violence promote rebel participation the most. Lastly, the increases between levels 2, 3 and 4, while less drastic, support the main idea that each incremental escalation of atrocities spurs rebel participation.

Conclusion

This paper started with the simple observation that civil conflicts put civilians in a unique position, as they are able to choose between at least two actors who enjoy monopolies on the use of violence: the government and one (or more) rebel group(s). How governments treat their citizens, then, should be one of the determinants of rebel participation. Governments that engage in atrocities become the very source of insecurity and grievance among the citizenry and inadvertently help the recruitment process of their enemies. This study has found overwhelming support for this idea: higher levels of government atrocities are associated with bigger rebel groups. Put differently, governments that murder, arbitrarily imprison, torture, or abduct their citizens (or do not take adequate steps to prevent such acts) quite literally shoot themselves in the foot. In contrast, governments that practice rectitude—that treat citizens righteously by respecting their physical integrity rights and by not damaging their economic assets—do not spur rebel participation and should be able to wage more successful counterinsurgencies. While anecdotal evidence has put wind in the sails of such a view for centuries, the results presented in this paper can be used as an additional lever to promote human rights.

As for future research avenues, the results give rise to a series of important questions. First, how do government atrocities affect the intensity of civil conflict? Bigger rebel groups should be able to mount more powerful attacks on government forces, increasing the numbers of battle-related deaths. If this is true, higher levels of government atrocities will increase the

likelihood that low-intensity conflicts (that render between 25 and 999 battle deaths per year as measured by UCDP/PRIO) turn into high-intensity civil wars (that render at least 1000 deaths). Second, what are the effects on conflict duration? Many scholars have argued and found that a rebel group's strength relative to the government is a determinant of how long civil conflicts last, with relatively equal strength leading to shorter conflicts and weaker rebel groups making for longer conflicts. Third, what are the implications for conflict outcomes? It is reasonable to presume, given the results, that government atrocities increase the probability of negotiated settlements (for which the state is forced to make considerable concessions) or rebel victory. The likelihood of government victory, on the other hand, may decrease. In conclusion, it is likely that previous models trying to explain the intensity, duration, or outcome of civil conflict have failed to paint a full picture. The key finding of this paper suggests that the effects of government atrocities during civil conflicts no longer can be ignored.

Appendix 1

Table A1: Control Variables

	Model A1		Model A2	
	Coeff.	Signif.	Coeff.	Signif.
GDP per capita (ln)	-0.151	0.019	-0.157	0.015
	(0.064)	*	(0.064)	*
Lootable resources	0.469	0.000	0.489	0.000
	(0.123)	***	(0.123)	***
Soldiers per 1000 citizens (ln)	0.308	0.000	0.355	0.000
	(0.057)	***	(0.053)	***
Distance to capital (ln)	0.224	0.000	0.145	0.004
	(0.060)	***	(0.050)	**
Mountains in conflict zone (%)	0.002	0.219		
	(0.002)			
Forest in conflict zone (%)	-0.008	0.000	-0.008	0.000
	(0.002)	***	(0.002)	***
Separatist	-0.559	0.000	-0.578	0.000
	(0.123)	***	(0.117)	***
Population (in thousands) (ln)	-0.097	0.031		
	(0.045)	*		
Constant	9.473	0.000	8.973	0.000
	(0.653)	***	(0.584)	***
Probability > F	0.000		0.000	
R^2	0.175		0.170	
Conflict-years	560		560	
Conflicts	76		76	

Note: *$p < 0.05$, **$p < 0.01$, *** $p < 0.001$. Standard errors in parentheses. The dependent variable is the size of rebel groups (logged). Unlike the observations of the models presented in Table 1 in the text, the observations here are not clustered on conflicts (to allow for likelihood-ratio tests).

Appendix 2

Calculating the mean effects for Figure 2 (based on Model 1 of Table 1 in the text):

(1) Mean effect$_{PTSi}$ = $\exp[(\alpha + \beta_{PTSi}) + \sum (\beta_{Ci}(\bar{x}_{Ci}))]$

where *PTS* denotes level of atrocities as measure by the PTS and *C* denotes control variable.

(2) Mean effect$_{PTS1}$ = $\exp[(5.482 + 0) + (-0.123)] = 212.5$

(3) Mean effect$_{PTS2}$ = exp[(5.482 + 2.292) + (-0.123)] = 2102.7

(4) Mean effect$_{PTS3}$ = exp[(5.482 + 2.654) + (-0.123)] = 3020.0

(5) Mean effect$_{PTS4}$ = exp[(5.482 + 2.781) + (-0.123)] = 3428.9

(6) Mean effect$_{PTS5}$ = exp[(5.482 + 3.163) + (-0.123)] = 5024.1

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