**On-line Appendix to**

**“Legitimacy and Compliance with International Law:**

**Access to Detainees in Civil Conflicts 1991-2006”**

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This on-line appendix contains materials that have not been reported in the article. Specifically, this document presents additional descriptive statistics, reports extra robustness checks, and considers alternative explanations.

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**Part I. ACCESS PATTERNS OVER TIME**

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In this section, we present the general temporal trends in the data and use examples to illustrate patterns over time in ICRC visits.

**General Trend** We first plot the time variation for governments’ and rebel groups’ visitation records in Supplementary Figures 1 and 2. Note that the records for each country appear uneven because the graph shows visitation records only for the years a country was experiencing a conflict. For instance, Sierra Leone had civil conflicts between 1991 and 2000, so visitation records from 2000 onwards are not shown in the graph. Israel, by contrast, is in the dataset for the full time period (from 1991 to 2006), so the graph looks relatively complete.

**Supplementary Figure 1**

**Temporal Variation in Governments’ Visitation Records**



Most governments varied their access patterns in the time span we analyze. Examples include Algeria, Angola, Cambodia, Chad, Colombia, Eritrea, Peru, Indonesia, Iraq, Mozambique, Rwanda, Senegal and Sri Lanka. Some governments, however, show consistent visitation patterns. For instance Azerbaijan always allowed partial visits and Israel almost always allowed partial visits (except for 2005 in which they grant full visits). Governments that consistently granted full visits include the Central African Republic, Cote D’ Ivoire, Croatia, the Democratic Republic of Congo (Zaire), and Guinea-Bissau.

On the rebel group side, given the large amount of missing data we present graphs showing the time variation in visitation records for some example groups in Supplementary Figure 2. Additionally, in Supplementary Table 1 we offer a detailed example to illustrate how our dependent variable tends to vary across time for the conflict in Sri Lanka.

**Supplementary Figure 2**

**Temporal Variation in Rebel Groups’ Visitation Records: Examples**



**Supplementary Table 1**

**Variation in ICRC Visits for the Sri Lankan Government and the LTTE**

|  |  |  |
| --- | --- | --- |
| Year | ICRC visits to Government Detainees | ICRC visits to LTTE Detainees |
| 1991 | Full access was granted | Partial access was granted |
| 1992 | Full access was granted | Partial access was granted |
| 1993 | Partial access was granted | Full access was granted |
| 1994 | Full access was granted | Full access was granted |
| 1995 | Full access was granted | Partial access was granted |
| 1996 | Full access was granted | Partial access was granted |
| 1997 | Full access was granted | Partial access was granted |
| 1998 | Full access was granted | Full access was granted |
| 1999 | Full access was granted | Full access was granted |
| 2000 | Full access was granted | Full access was granted |
| 2001 | Full access was granted | Full access was granted |
| 2003 | Full access was granted | Partial access was granted |
| 2005 | Full access was granted | Partial access was granted |
| 2006 | Full access was granted | Partial access was granted |

In our dataset, armed opposition groups that consistently granted full visitation rights to the ICRC include the Military Junta for the Consolidation of Democracy, Peace and Justice in Guinea-Bissau; the INPFL and NPFL in Liberia; and the UCK in Yugoslavia. Rebel groups that consistently granted partial visits include the UTO in Tajikistan (although unfortunately we have a couple of missing data points for this particular rebel group). Rebel groups that varied their access behavior include UNITA in Angola, the Serbian Republic of Krajina in Yugoslavia, SPLM/A in Sudan, and the LTTE in Sri Lanka.

**Transition Probabilities** Additionally, we report transition probabilities – the likelihood of changing from one category to another over time – for governments and rebel groups. Overall, a significant number of warring parties show changes in their access behavior over time. In Supplementary Table 2, we report transition probabilities for government access behavior. In many cases, governments made no change in their access behavior. Governments granting no visits continued to deny access 68% of the time, governments that granted partial visits continued to do so 51% of the time, and governments that granted full access continued to do so 79% of the time. Examining instances in which a transition did occur, governments granting no access changed their behavior to allow full access in 22% of the time. For those governments granting partial access, they had a 40% chance of granting full access the next year. Some governments also changed their behavior in an undesirable fashion. Governments that granted full access the previous year denied visits 2% of the time and granted only partial access 18% of the time.

**Supplementary Table 2**

**Transition Probabilities of Governments Access Behavior**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Transition Probabilities in Visits Granted to the ICRC Granted by Governments | | | |
| Probability of granting no visits the following year | Probability of granting partial visits the following year | Probability of granting full visits the following year | Total |
| No Visits | 68.66% | 8.96% | 22.39% | 100% |
| Partial Visits | 8.42% | 51.58% | 40.00% | 100% |
| Full Visits | 1.94% | 18.45% | 79.61% | 100% |
| Total | 15.76% | 25.27% | 58.97% | 100% |

Supplementary Table 8 shows similar transition probabilities for rebel groups. Groups granting no visits continued to do so 66% of the time, groups granting partial visits continued to do so 38% of the time, and groups granting full access continued to do so 69% of the time. In 25% of the cases, groups granting no access the previous year then granted full access, and groups granting only partial access gave full access the next year 55% of the time. However, 7% of rebel groups granting full access restricted access completely the next year, and granted only partial access 23% of the time.

**Supplementary Table 3**

**Transition Probabilities of Rebels Access Behavior**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Transition Probabilities in Visits Granted to the ICRC Granted by Rebel Organizations | | | |
| Probability of granting no visits the following year | Probability of granting partial visits the following year | Probability of granting full visits the following year | Total |
| No Visits | 66.67% | 8.33% | 25.00% | 100% |
| Partial Visits | 5.56% | 38.89% | 55.56% | 100% |
| Full Visits | 7.14% | 23.81% | 69.05% | 100% |
| Total | 16.67% | 25.00% | 58.33% | 100% |

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**Part II. ALTERNATIVE EXPLANATIONS**

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Our legitimacy-based explanation for non-state actor compliance differs from existing explanations of compliance in international relations research.[[2]](#footnote-2) We consider six alternative explanations: power of legal commitment, reciprocity, norm diffusion, signaling/screening argument, reputation, and the logic of interstate wars. We address each alternative explanation here. There is some additional empirical evidence in the manuscript.

**Power of Legal Commitment** Literature on compliance finds that international agreements and treaties operate as mechanisms through which actors can ‘tie their hands,’ generating reputational costs for defectors (Simmons 2000). The power of legal commitment is not easily transferrable to the case of armed opposition groups. Rebel groups rarely participate in international legal processes and they seldom manifest a willingness to abide by humanitarian law. This “legal commitment” mechanism cannot be easily testable even in the case of state actors because 98% of national governments in our dataset have signed the Geneva Convention. This means that the legal commitment argument does not have the power to distinguish compliers from non-compliers.

**Reciprocity** We think reciprocity operates weakly in the context of detention visits for two reasons. First, detention visits and how detainees are treated cannot be easily observed. Civil wars tend to be very noisy environments. This is particularly the case in civil conflicts where fighting takes the form of guerilla warfare. This unobservability makes it difficult for reciprocity to operate. Second, violations can occur at the level of lower ranking soldiers. Although access is authorized at the leadership level, lower ranking soldiers might not comply. We elaborate further on why we think reciprocity does not travel well to civil conflicts in the manuscript.

**Norm Diffusion** We want to address the relationship between our theory and the literature on international norm diffusion – how international norms emerge, develop and diffuse. Previous research has studied the issue of norm diffusion in the context of the spread of liberal democratic norms (Simmons and Elkins 2004), human rights norms (Kelley 2007), and the norm of international election monitoring (Hyde 2011).

For the issue of access to detention centers, we expect moderate levels of norm diffusion for governments and low levels for rebels. We expect higher levels of norm diffusion for governments because they have commitment mechanisms such as signature and ratification (Simmons 2010), have traditionally accepted the role of being norm entrepreneurs (Finnemore and Sikkink 1998), and exhibit concern for international benefits (Hyde 2011). In contrast, rebel groups do not have commitment mechanisms, the interaction between armed opposition groups and norm entrepreneurs has a shorter history than that with national governments,[[3]](#footnote-3) and the recognition of international benefits occurs to a lesser extent because rebel groups are not established sovereign entities and usually are less concerned with international audiences than national governments.

We find empirical support for these conjectures regarding norm diffusion in our data. We examine the pattern of norm diffusion by plotting the average visitation records over time in Supplementary Figures 1 and 2. If norm diffusion occurs, we would expect monotonically increasing trends in visits. While there is a relatively steady norm diffusion trend for government behavior, rebel groups’ access behavior is more volatile. The figures show that the humanitarian norm we study – access to the ICRC – is diffused and developed at the national level but not at the rebel group level. While the level of visits by governments tends to gradually increase (until 2002), the pattern of access by rebel groups fluctuates, indicating the possibility that rebel visits to the ICRC have not yet reached a ‘diffusion’ stage.

**Supplementary Figure 3**

**Average Government Visitation Records by Year**



**Supplementary Figure 4**

**Average Rebel Group Visitation Records by Year**



We provide further systematic evaluation of diffusion. Specifically, we investigated whether previous year’s access behavior at a global level impacts next year’s access behavior at the national level. We tested this by including “average access level of previous year” as an explanatory variable in the government and rebel models. The results in Supplementary Table 4 and 5 show that yearly diffusion is not significant for rebels but significant for governmental actors. That is, norms seem to diffuse among governmental actors but not among non-state actors. The result is consistent with the temporal pattern we presented above.

**Supplementary Table 4. Evidence of Diffusion (Governments)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Political regime type | 0.026\* | 0.012 | 0.040\*\*\* | 0.039\*\* | 0.041\*\*\* | 0.027\* |
|  | (0.014) | (0.011) | (0.015) | (0.016) | (0.016) | (0.014) |
| Rebel group strength |  | 0.332\*\*\* |  |  |  |  |
|  |  | (0.087) |  |  |  |  |
| Number of rebel groups |  | -0.029 |  |  |  |  |
|  |  | (0.019) |  |  |  |  |
| (Duration of Conflict) | 0.045 | 0.082 | 0.043 | -0.211 | -0.088 | -0.028 |
|  | (0.158) | (0.149) | (0.171) | (0.198) | (0.173) | (0.171) |
|  | 0.005 | 0.002 | 0.006 | 0.038 | 0.018 | 0.015 |
|  | (0.026) | (0.025) | (0.027) | (0.030) | (0.027) | (0.027) |
|  | -0.000 | -0.000 | -0.001 | -0.002 | -0.001 | -0.001 |
|  | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| **Diffusion among governments** | **1.733\*\*\*** | **1.978\*\*\*** | **1.551\*\*** | **1.757\*\*** | **1.742\*\*** | **1.622\*\*** |
|  | **(0.624)** | **(0.596)** | **(0.748)** | **(0.811)** | **(0.760)** | **(0.667)** |
| Aid dependency | 0.033\*\*\* |  | 0.034\*\*\* | 0.031\*\*\* | 0.054\*\*\* | 0.032\*\*\* |
|  | (0.009) |  | (0.010) | (0.010) | (0.012) | (0.010) |
| Intensity of conflict |  |  | -0.352\*\* | -0.413\*\* |  |  |
|  |  |  | (0.155) | (0.168) |  |  |
| Mountainous terrain |  |  | -0.153\*\* | -0.162\*\* |  |  |
|  |  |  | (0.073) | (0.081) |  |  |
| Rebel access behavior (lagged) |  |  |  | 0.293 |  |  |
|  |  |  |  | (0.225) |  |  |
| Ethic conflict |  |  |  |  | -0.399\*\*\* |  |
|  |  |  |  |  | (0.090) |  |
| Physical integrity index |  |  |  |  |  | 0.018 |
|  |  |  |  |  |  | (0.049) |
| Observations | 320 | 382 | 280 | 255 | 277 | 278 |

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Supplementary Table 5. Evidence of Diffusion (Rebel Groups)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Legal political wing | 0.277\*\*\* | 0.316\*\*\* | 0.347\*\*\* | 0.289\*\* | 0.354\*\* | 0.312\*\* |
|  | (0.084) | (0.105) | (0.110) | (0.124) | (0.152) | (0.130) |
| Political regime type | -0.074\*\*\* | -0.070\*\*\* | -0.067\*\*\* | -0.064\*\*\* | -0.058\*\* | -0.053\*\*\* |
|  | (0.013) | (0.017) | (0.017) | (0.018) | (0.023) | (0.021) |
| Territorial control | 1.265\*\*\* | 1.022\*\*\* | 1.180\*\*\* | 1.065\*\*\* | 1.112\*\*\* | 0.893\*\*\* |
|  | (0.216) | (0.219) | (0.247) | (0.254) | (0.293) | (0.285) |
| Transnational support |  |  | 0.389\*\*\* | 0.400\*\*\* | 0.308\*\* | 0.526\*\*\* |
|  |  |  | (0.094) | (0.103) | (0.125) | (0.119) |
| Rebel group strength |  | 0.797\*\*\* | 0.706\*\*\* | 0.619\*\*\* | 0.652\*\*\* | 0.726\*\*\* |
|  |  | (0.140) | (0.136) | (0.142) | (0.155) | (0.156) |
| Strength of central command |  | 0.392\*\* | 0.359\*\* | 0.369\*\* | 0.508\*\*\* | 0.375\*\* |
|  |  | (0.163) | (0.157) | (0.165) | (0.186) | (0.180) |
| Mobilization capacity | 1.028\*\*\* | 0.789\*\*\* | 0.637\*\*\* | 0.657\*\*\* | 0.854\*\*\* | 0.513\*\* |
|  | (0.178) | (0.193) | (0.218) | (0.232) | (0.269) | (0.251) |
| Mountainous terrain |  |  |  | -0.154\* | -0.093 | -0.131 |
|  |  |  |  | (0.093) | (0.118) | (0.108) |
| Intensity of conflict |  |  |  | 0.078 | 0.145 | 0.095 |
|  |  |  |  | (0.189) | (0.221) | (0.235) |
| Government access behavior (lagged) |  |  |  |  | 0.284 |  |
|  |  |  |  |  | (0.303) |  |
| (Duration of Conflict) | 0.311\* | 0.075 | 0.146 | 0.215 | 0.191 | 0.183 |
|  | (0.174) | (0.199) | (0.207) | (0.214) | (0.255) | (0.291) |
|  | -0.043 | -0.002 | -0.009 | -0.021 | -0.018 | -0.011 |
|  | (0.028) | (0.032) | (0.034) | (0.034) | (0.039) | (0.051) |
|  | 0.002 | 0.000 | 0.000 | 0.001 | 0.001 | 0.000 |
|  | (0.001) | (0.001) | (0.002) | (0.002) | (0.002) | (0.003) |
| **Diffusion among rebels** | **0.655** | **0.004** | **-0.497** | **-0.565** | **-0.355** | **-0.798** |
|  | **(1.163)** | **(1.293)** | **(1.369)** | **(1.371)** | **(1.745)** | **(1.536)** |
| Civilian killing |  |  |  |  |  | -0.002\* |
|  |  |  |  |  |  | (0.001) |
| Observations | 477 | 476 | 466 | 415 | 277 | 352 |

Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Signaling/Screening Mechanism** Do warring parties *signal* their good human rights behavior by granting access to the ICRC? Do they *screen* ICRC visits based on their human rights or humanitarian behavior, such as whether they are treating detainees humanely? It is possible that warring parties might screen ICRC visits based on their human rights violations. That is, warring parties that routinely engage in human rights abuses might be systematically less likely to grant visitation rights to ICRC delegates by screening out the organization’s access. Our knowledge about how the ICRC operates tells us that warring parties are not likely to be screening ICRC visits based on how they run their detention centers. We expect that a signaling mechanism would operate quite weakly in the cases we examine.[[4]](#footnote-4) The ICRC usually works with relevant authorities to correct any measures inconsistent with the Geneva Convention and generally refrains from publicizing violations (Aeschlimann 2007). Naming and shaming is not the organizational strategy of the ICRC, thus we do not expect that warring parties might feel the need to conceal violations occurring in detention places. Furthermore, warring parties do not necessarily signal their good human rights behavior by granting access, as the ICRC rarely publicizes recorded violations except in a few egregious cases. Therefore, the value of signaling through the ICRC is going to be weak. This means, from the perspective of outside actors, that monitoring by the ICRC does not allow them to clearly distinguish good guys from bad guys in terms of their human rights behavior.

Empirical results bear weak evidence of the signaling/screening mechanism. If the signaling mechanism operates strongly,[[5]](#footnote-5) we would find that warring parties with good human rights practices would be more likely to grant full access than their counterparts with bad good human rights practices. However, this is not the case. We first present evidence of this for governments, and then for rebel groups.

Supplementary Figure 5 shows that every type of government tends to grant full access regardless of their respect for human rights. The measure we use for human rights violations is the physical integrity index from the Cingranelli-Richards (CIRI) Human Rights Dataset. This index includes four components: 1) if governments engage in extrajudicial killing, 2) if governments engage in political imprisonment, 3) if governments engage in torture, and 4) if disappearances are frequent. Each component variable takes a value of 0, 1, or 2 for any given year. A score of 2 indicates that no violations took place, a score of 1 implies they occurred occasionally, and a score of 0 indicates that violations were widespread. The composite physical integrity index thus fluctuates between 0 (highest violations of human rights) and 8 (highest respect for human rights). We note that our sample does not have governments with scores of 7 or 8, and that there are some governments for which physical integrity scores are missing.

**Supplementary Figure 5**

**Visitation Records by Physical Integrity Scale**



Supplementary Table 6 conveys similar evidence of weak signaling. It shows the relationship between physical integrity scores and government access behavior. Seventy six percent of governments with bad human rights practices (i.e. low physical integrity scores) grant full visits. The percent of governments with similar human rights records that denied the ICRC visitation rights or allowed delegates only partial access to detainees are comparable (88% denied visits, 82% granted partial visits). These figures indicate that governments with bad human rights practices *do* accept ICRC visits, and that a government’s human rights record is not a reliable predictor for access behavior. That is, governments do not screen ICRC visits based on their human rights behavior, and granting ICRC visits is not determined by whether or not actual violations are taking place.

**Supplementary Table 6**

**Physical Integrity Scores and ICRC Visits**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | High Physical Integrity Score (5-8) | Low Physical Integrity Score (0-4) | Missing Data | Total |
| Granted Full Visits | 10 (3.91%) | 195 (76.17%) | 51 (19.92%) | 256 (100%) |
| Granted Partial Visits | 5 (4.24%) | 97 (82.2%) | 16 (13.56%) | 118 (100%) |
| Denied Visits | 3 (3.23%) | 82 (88.17%) | 8 (8.6%) | 93 (100%) |
| Missing Data | 6 (4%) | 137 (91.33%) | 7 (4.67%) | 150 (100%) |
| Total | 24 | 511 | 82 | 617 |

Source: CIRI (Cingranelli and Richards 2010)

Among the four components of the physical integrity scale, torture is the most relevant in the context of detention center visits. We therefore examine whether governments that engage in torture granted visits to ICRC delegates in Supplementary Table 7. The percentages for governments that frequently torture are quite consistent across access behaviors. A similar pattern can be seen for governments that occasionally tortured and those that did not torture. We can safely say we do not find any evidence screening behavior by governments. Governments that torture detainees are not keeping the ICRC out of their detention centers any more than governments that do not torture detainees.

**Supplementary Table 7**

**Torture Records and ICRC Visits**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Torture did not occur | Torture was practiced occasionally | Torture was frequently used | Periods of governmental interregnum or interruption | Missing Data | Total |
| Granted Full Visits | 0 (0%) | 33 (12.89%) | 173 (67.58%) | 35 (13.67%) | 15 (5.86%) | 256 (100%) |
| Granted Partial Visits | 3 (2.54%) | 21 (17.80%) | 78 (66.10%) | 4 (3.39%) | 12 (10.17%) | 118 (100%) |
| Denied Visits | 1 (1.08%) | 11 (11.83%) | 73 (78.49%) | 5 (5.38%) | 3 (3.23%) | 93 (100%) |
| Missing Data | 2 (1.33%) | 13 (8.67%) | 129 (86%) | 4 (2.67%) | 2 (1.33%) | 150 (100%) |
| Total | 6 | 78 | 453 | 48 | 32 | 617 |

Source: CIRI (Cingranelli and Richards 2010)

Next, we assess whether rebel organizations screen ICRC visits depending on their human rights violations. Unfortunately we do not have data on rebel group behavior in their detention centers. As a result, we use data on civilian killings as a proxy measure and make an assumption that the rate at which rebel organizations kill civilians can inform us about their propensity to violate other human rights. Civilian killing is one of the most egregious violations of humanitarian norms, and the behavior could be representative of the rebel groups’ human rights behavior.[[6]](#footnote-6) The civilian killing count variable comes from the One-Sided Violence Dataset (Eck and Hultman 2009).

We specifically examine whether rebels that kill more civilians are less likely to grant visits. If this was the case, we could conclude that rebel groups are screening the ICRC out of their prisons. The data is inconclusive as to whether such screening is occurring. At a first glance, Supplementary Table 8 shows that, unlike governments, rebel organizations might be screening ICRC visits based on their human rights violations. That is, rebel respect for the human rights of civilians might be influencing whether they grant or deny access to the ICRC. We can see that 76% of groups with the best human rights practices allow the ICRC full access to their detainees. However, contrary evidence also exists. Among the missing data, 70% of the observations are attributed to groups that kill a relatively low number of civilians (less than 100). This goes against a signaling/screening argument. If the role of screening/signaling were to be strong, we would expect to see that those rebel groups who kill fewer civilians would enthusiastically admit the ICRC.

**Supplementary Table 8**

**Instances of Civilian Killing by Rebel Groups and ICRC Visits**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Civilian Killing less than 100 | Civilian Killing between 101 and 200 | Civilian Killing between 201 and 300 | Civilian Killing between 301 and 400 | Civilian Killing more than 401 | Missing Data | Total |
| Granted Full Visits | 54 (76.06%) | 1 (1.41%) | 1 (1.41%) | 1 (1.41%) | 1 (1.41%) | 13 (18.31%) | 71 (100%) |
| Granted Partial Visits | 15 (51.72%) | 3 (10.34%) | 1 (3.45%) | 1 (3.45%) | 0 (0%) | 9 (31.03%) | 29 (100%) |
| Denied Visits | 12 (36.36%) | 6 (18.18%) | 3 (9.09%) | 0 (0%) | 3 (9.09%) | 9 (27.27%) | 33 (100%) |
| Missing Data | 340 (70.25%) | 17 (3.51%) | 9 (1.86%) | 4 (0.83%) | 11 (2.27%) | 103 (21.28%) | 484 (100%) |
| Total | 421 | 27 | 14 | 6 | 15 | 134 | 617 |

Based on the above theoretical and empirical investigation, we conclude that warring parties do not necessarily signal their human rights behavior through granting ICRC access. We therefore rule out the signaling/screening argument as an alternative explanation for detention visits.

**Reputation** Do warring parties care about having a reputation for being compliant with human rights or humanitarian rules? Is that why they grant access to the ICRC? We think not. If warring parties care about a reputation to be law-abiding, they would behave consistently across various issues of human rights or humanitarian behaviors. However, as we showed in the previous section on signaling human rights behavior, there are many cases of false positives and false negatives when we cross-examine two or more issue areas. For instance, it is quite possible that some rebel groups may grant access but still kill civilians. Also, depending on the security situations, warring parties’ compliance behavior may change over time, which indicates that warring parties do not necessarily have an incentive to build a reputation. Given this evidence, we conclude that warring parties do not necessarily care about long-term reputation per se. Rather, we contend that warring parties’ political motivation to comply and their capacity constraints and surrounding environments are better explanatory factors of detention access.

We think that reputation cannot be fully equated with political aims of legitimacy. A rebel group can pursue legitimacy and grant access, but it may not care about its reputation as a human rights abider. The decision to grant access is motivated by a combination of material and political interests, not necessarily by a normative necessity to establish a good reputation. We think that legitimacy and reputation are related but conceptually separable. More specifically, we think that legitimacy is a necessary condition for reputation. To build reputation for respecting human rights, rebel groups have to establish their political aims for seeking legitimacy. However, legitimacy itself does not buy a rebel group reputation. Reputation is something a rebel group develops by showing consistent behavior. On the other hand, legitimacy-seeking behavior need not be consistent with human rights norms. We do not find that rebel groups actually care about reputation.

**Logic of Compliance in Interstate Wars** We consider three logics of inter-state wars that might be applicable to intra-state conflicts.

The first of these is whether both sides detain. If both warring parties detain, then the threat of retaliation may make both parties grant full visits. The logic is that the threat of  
retaliation by the opponent against one's own prisoners would contribute to deterrence, which may motivate warring parties to grant access to the ICRC. Unfortunately, we do not have systematic data as to whether each side detains or not, and therefore, cannot directly test the logic of deterrence. We can, however, conduct an indirect test by using a proxy variable that influences the possibility of detention. On the government side, a factor that affects government detention is the number of groups a government is fighting. On the rebel side, one of the factors that affect detention possibility is the size of the rebel group, as smaller rebel groups are in general less likely to detain than larger groups.

The second explanation for humanitarian violations in interstate wars is a racial/ideological division. According to sociological explanations, warring parties with different identities (race, ethnicity, ideology) are more likely to abuse each other, [[7]](#footnote-7) which may have spillover effects regarding access behavior. We check whether ethnic wars (Fearon 2004) result in less visits being granted by warring parties. The expectation here is that ethnic wars will decrease the probability of full visits.[[8]](#footnote-8)

The third explanation for humanitarian violations in interstate wars is that wars of annexation or wars of attrition will lead to more civilian abuse (Downes and Cochran 2010). A war of annexation in an interstate context would be analogous to a secessionist war in a civil conflict context, in the sense that both annexation wars and secessionist wars are conflicts with territorial aims. On the government side, we use a secessionist war variable; on the rebel group side we employ a ‘sons of soil’ variable from Fearon (2004).[[9]](#footnote-9) On the rebel group side, we control for wars of attrition by employing a duration variable (i.e. how long the conflict lasted).

Supplementary Tables 9 and 10 present the results of the statistical analysis incorporating these variables. All three variables significantly affect whether governments will grant the ICRC access to their detainees in the expected direction. The logic of interstate wars travels less well to the rebel side. That is, the factors that explain government behavior do not explain rebel group behavior. Such an observation is the key issue that initially motivated us to write this paper – that understanding non-state actor compliance may need a different perspective that focuses on their political incentives to be recognized.

**Supplementary Table 9**

**Logic of Interstate Wars and Access to Detainees Granted by Governments**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
|  | Number of Groups | Ethnic War | Secessionist War | War of Attrition |
|  |  |  |  |  |
| Number of opposition groups | -.051\*\*\*  (.015) |  |  |  |
| Ethnic war |  | -0.230\*\*\* |  |  |
|  |  | (0.069) |  |  |
| Secessionist war |  |  | -0.580\*\*\* |  |
|  |  |  | (0.136) |  |
| War of attrition |  |  |  | 0.0448\*\* |
|  |  |  |  | (0.016) |
|  |  |  |  |  |
| Cut 1 |  | -1.033 | -0.937 | -0.652 |
|  |  | (0.109) | (0.079) | 0.094) |
| Cut 2 |  | -0.473 | -0.369 | 0.082 |
|  |  | (0.105) | (0.073) | (0.090) |
|  |  |  |  |  |
|  |  |  |  |  |
| Total number of observations | 467 | 396 | 400 | 467 |

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1; Constants are suppressed

**Supplementary Table 10**

**Logic of Interstate Wars and Access to Detainees Granted by Rebel Groups**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 |
|  | Group Size | Ethnic War | Sons of Soil | Duration |
|  |  |  |  |  |
| Size of Rebel Group | 2.07e-05\*\*\* |  |  |  |
|  | (5.53e-06) |  |  |  |
| Ethnic war |  | -0.0883 |  |  |
|  |  | (0.0717) |  |  |
| Sons of Soil |  |  | 0.0558 |  |
|  |  |  | (0.150) |  |
| Duration of Conflict |  |  |  | 0.0201 |
|  |  |  |  | (0.0160) |
|  |  |  |  |  |
| Cut 1 | 1.214\*\*\* | 0.831\*\*\* | 0.966\*\*\* | 1.072\*\*\* |
|  | (0.0826) | (0.112) | (0.0732) | (0.0914) |
|  |  |  |  |  |
| Cut 2 | 1.462\*\*\* | 1.055\*\*\* | 1.189\*\*\* | 1.287\*\*\* |
|  | (0.0942) | (0.109) | (0.0784) | (0.0933) |
|  |  |  |  |  |
| Total number of observations | 543 | 530 | 534 | 617 |

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1; Constants are suppressed

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**Part III. MISSING DATA**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

In the manuscript, we set aside the missing data problem for governments and focus only on the problem of missing data for rebel groups. On the government side, 24% of the data is missing and our analysis in the manuscript includes only available data. On the rebel side however, 78% of the data is missing. The missingness can be explained by several different factors.

We identify three assumptions that can be made about the missing data, which in turn imply three different research designs, each based on one of these assumptions. First, we can assume that the missing data do not exist and analyze available data only. Second, we can assume that the missing data have the same pattern as the available data, and use the method of multiple imputation to fill in these data points. Third, we can assume that cases of missing data are cases in which no visits occurred, and therefore treat them as no visit cases. We advocate the use of the third strategy. We address the viability of these three assumptions and subsequent research designs in the following sub-sections. In Supplementary Table 11, we summarize our assumptions and research design choices.

**Supplementary Table 11**

**Research Design Choices about Missing Data**

|  |  |  |  |
| --- | --- | --- | --- |
| **Assumption** | **Research Design/Implementation** | **Strength** | **Weakness** |
| A1:Assume missing data do not exist | Test with available data only | Assumption about missing data not necessary | Potential selection effect ignored |
| A2: Assume that missing data are generated by the same process as the non-missing data | Multiple imputation | Model based on an assumption about the missing data | Possibility of non-randomness in missing data is ignored |
| A3: Assume that missing cases are “no-visit” cases | Assign zero for missing cases and then check the assumption using Heckman selection models | Assumption based on substantive knowledge about humanitarian actions | Possibility that missing cases might have been full or partial visits instead of no visits |

**Assumption #1: Assume that Missing Data Do Not Exist**

**Research Design #1: Test with Available Data Only**

Our first option is to ignore the presence of missing data and conduct our analyses with available data only. We report these results in Supplementary Table 12. The results fail to provide consistent support for our hypotheses. There are several possible reasons for this. First, due to the limited sample size, we cannot make proper inferences about the effects of our independent variables. Limiting our sample to only available data leaves us with 133 observations for our dependent variable out of a total of 617. Taking into account some missing values on the independent variable side, sometimes the observation count is reduced to 52, which dramatically limits our inferential power. Second, analyzing only available data assumes that there are three times more groups granting access than those who deny it (15% vs. 5%), which is unlikely to be true. Based on our knowledge about how humanitarian operations are conducted, cases of denied visits should be a much larger portion than a mere 5%. Third, if we conduct statistical analyses with only available data, we have no way of knowing what political processes generated the missing data. Given that we have a theory of what generated the missingness, we have decided to report the results that take into account these causes and processes in our manuscript.

**Supplementary Table 12**

**Model of Access to Detainees Granted by Armed Opposition Groups with Available Data**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 |
|  | Baseline model | Baseline model without high civilian support | Mobilization capacity |
| Legal political wing | 0.844\*\*\* | 0.382\*\* | 0.473\*\* |
|  | (0.311) | (0.166) | (0.190) |
| High civilian support | 6.45 |  |  |
|  | (0.419) |  |  |
| Territorial control | 2.211\*\*\* | 0.535 | 0.098 |
|  | (0.759) | (0.373) | (0.408) |
| Transnational support | -0.074 | 0.009 | -0.005 |
|  | (0.206) | (0.140) | (0.136) |
| Rebel group strength | 0.751\*\* | 0.465\*\* | 0.340\*\* |
|  | (0.318) | (0.188) | (0.168) |
| Strength of central command | 0.404 | 0.501\*\* | 0.083 |
|  | (0.266) | (0.212) | (0.214)\*\*\* |
| Mobilization capacity |  |  | 1.044 |
|  |  |  | (0.324) |
| Lagged dependent variable | 0.114 | 0.619\* | 0.363 |
|  | (0.442) | (0.322) | (0.286) |
| Access by other party, lagged |  | -0.078 |  |
|  |  | (0.377) |  |
| Cut1 | 5.622 | 2.871 | 3.179 |
|  | (1.898) | (0.899) | (1.014) |
| Cut2 | 6.615 | 3.680 | 4.052 |
|  | (1.966) | (0.928) | (1.055) |
| Total number of observations | 52 | 97 | 107 |

Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Assumption #2: Assume that Missing Data Have Been Generated**

**by the Same Processes as the Available Data**

**Research Design #2: Conduct Multiple Imputation**

Instead of ignoring missing access records, one can alternatively assume that the missing data have been generated by the same processes as the available data. In making such an assumption, one can attempt to use a method of multiple imputation to fill in missing values. In multiple imputation, one conducts multivariate analysis using the available data and then predicts what values would be adequate for missing values, thereby ‘imputing’ those values.

We chose not to do multiple imputation for several reasons. First, multiple imputation is not recommended in cases where the data is more than 70% missing because it is carried out relying only on the analysis of available data. In our case, 78% of the data are missing. If we do perform multiple imputation, we would end up creating a dataset of 484 observations based on 133 observations. That would not be an adequate research strategy, as such a method often creates more problems than it solves. It can distort estimates, standard errors and hypothesis tests, as documented by [Little and Rubin (2002)](http://sites.stat.psu.edu/%7Ejls/mifaq.html#ref). Second, most of the techniques presently available for performing multiple imputation assume that the missing values are missing at random. That is, they assume that missing data values carry no information about the probability of missingness. In our case, however, our knowledge about humanitarian access also tells us that missingness can be explained by certain factors. Also, a series of difference of means tests (t-test) and variance comparison tests (F-tests) in Supplementary Table 13 show that missing cases are systematically different from non-missing ones depending on some covariates. For these two major reasons, we opt not to adopt a multiple imputation strategy.

**Supplementary Table 13**

**Descriptive Statistics of Missing Data**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Missing | Non-missing | T-test (difference of means) | F-test  (variance comparison) |
| National Governments | | | | |
| Political Regime Type | 5.422 | .302 | t= -8.794  p= 0.000, 0.000, 1.000 | f= 1.085  p=0.708, 0.584, 0.292 |
| Rebel Group Strength | 1.331 | 1.862 | t=7.382  p=1.000, 0.000, 0.000 | f= 1.994  p=1.000, 0.000. 0.000 |
| Number of Opposition Groups | 10.493 | 5.246 | t=-13.140  p=0.000, 0.000, 1.000 | f= 0.367  p=0.000, 0.000, 1.000 |
| Mountainous Terrain | 2.791 | 2.830 | t= 0.360  p=0.640, 0.719, 0.359 | f= 2.364  p=1.000, 0.000, 0.000 |
| Intensity of the Conflict | .073 | .289 | t=5.533  p=1.000, 0.000, 0.000 | f=3.011  p= 1.000, 0.000, 0.000 |
| Duration of the Conflict | 14.747 | 14.460 | t= -0.234  p=0.408, 0.815, 0.593 | f=1.042  p=0.611, 0.779, 0.389 |
| Rebel Groups | | | | |
| Legal Political Wing | 2.128 | 2.175 | t= 0.504  p=0.693, 0.615, 0.307 | f= 0.702  p=0.012, 0.024, 0.988 |
| Rebel Group Strength | 1.56 | 2.404 | t=12.021  p=1.000, 0.000, 0.000 | f= 1.688  p=0.999, 0.0002, 0.0001 |
| Territorial Control | .324 | .789 | t=9.673  p=1.000, 0.000. 0.000 | f=0.764  p=0.042, 0.085, 0.958 |
| Transnational Support | 1.641 | 2 | t=3.929  p=1.000, 0.0001, 0.000 | f=1.273  p= 0.951, 0.098, 0.049 |
| High Civilian Support | .471 | .610 | t=1.654  p=0.9498, 0.1003, 0.0502 | f= 0.959  p=0.439, 0.878, 0.561 |
| Strength of Central Command | 1.731 | 2.289 | t= 6.310  p=1.000, 0.000, 0.000 | f= 0.589  p=0.0004, 0.0009, 0.9996 |
| Mountainous Terrain | 2.909 | 2.526 | t= -3.411  p=0.0003, 0.0007, 0.9997 | f= 1.304  p=0.970, 0.059, 0.029 |
| Intensity of the Conflict | .159 | .519 | t=9.206  p=1.000, 0.000, 0.000 | f= 1.876  p=1.000, 0.000, 0.000 |
| Duration of the Conflict | 14.624 | 14.188 | t= -0.342  p=0.3663, 0.7325, 0.6337 | f= 0.914  p=0.269, 0.539, 0.731 |

Note: For both t- and f-tests, three p-values are shown. For t-tests, the first p-value corresponds to the test of Difference <0, where Difference = (Non-missing Group mean) - (Missing Group Mean), the second p-value corresponds to the test Difference 0, and the third p-value corresponds to the test Difference > 0. For f-tests, the first p-value corresponds to the test of Ratio<1 where Ratio = standard deviation (Non-missing Group)/ standard deviation (Missing Group), the second p-value corresponds to the test of Ratio1, and the third test corresponds to the test of Ratio>1.



**Assumption #3: Assume the Missing Data are “No-Visit” Cases**

**Research Design #3: Model the Process of Missingness**

To deal with missing data, we assume that missing values are equivalent to no visits. We think this assumption is the best for our context because it is substantively the most plausible assumption. While not all missing cases can be explicitly considered instances where the ICRC was denied access, the majority of them can. Our discussion with humanitarian agencies[[10]](#footnote-10) as well as the literature on humanitarian actions (McHugh and Bessler 2006, for instance) indicate that most of the missing cases are instances of failed negotiations or instances when visit attempts have not been made by the ICRC.

We retain the assumption that missing data are instances of no visits in our analyses of rebel group access and model the process of missingness and check the validity of this assumption using Heckman selection models. We proceed as follows. We first provide the rationale for using Heckman selection models to deal with missing data problems. We then explain the requirements of selection models. Specifically, we consider the factors such as the possibility of detention, and we also provide an explanation as to why we use duration to fulfill the requirement of exclusion restriction in Heckman models.

**Ins and Outs of Heckman Selection Models** Heckman selection models are useful in that they help us understand the process of missingness in our data. Heckman selection models have selection and outcome equations as follows.

(outcome equation)



(selection equation)



Our outcome of interest, , is only observed when . The outcome equation therefore is estimated with available data only. The dependent variable in the selection equation represents whether data is missing or not, the dichotomous variable being denoted as . The dependent variable of the selection equation in the context of our research is whether access records exist () or not (). Essentially, the method provides estimates of the outcome equation, which only analyzes available data. It can also lay bare the process of missingness and account for selection processes. Using a Heckman Selection Model thus encompasses Research Design #1, and therefore, we claim, is a better strategy than Research Design #1. This research design is also better than Research Design #2 because the models of selection processes are theoretically motivated rather than extrapolated from existing information.



In what follows, we first explain the process by which observations can be selected into our sample (i.e. non-missingness). We consider three categories of factors that could shape selection into the sample (i.e. non-missing visit records). The first category includes structural factors, such as terrain and conflict intensity. The second category includes factors that affect the act of detention and takes into account the possibility that some rebel groups may not detain in the first place. In this category, we also take into account the possibility that rebel groups that commit human rights violations may screen out the ICRC. The third category includes factors that affect the type of access as well as selection into the sample, considering that some factors, such as rebel strength, may affect both processes. Gathering these factors, we build a selection model using a Heckman selection equation. We then introduce the Heckman selection model to check whether selection bias exists. We do not find evidence that our assumption creates a selection bias. Therefore, we conclude that our missing-as-no-visit assumption is a tenable one, both substantively and methodologically.

**Selection Process into Missingness** We provide a more systematic and detailed discussion of how the data is selected into the sample of available data in the manuscript. We start by noting that humanitarian access is a negotiated outcome between warring parties and international humanitarian agencies, and that the ICRC and both warring parties select themselves into missing data. Therefore, the selection process can be characterized as a three-party decision among national governments, rebel groups, and the ICRC. We specifically consider both the supply and demand of aspects of access behavior. On the supply side of access behavior, the ICRC attempts to visit all warring parties in a conflict as a matter of policy. However, humanitarian realities are such that the ICRC may not be able to visit all rebel groups. The ICRC is more likely to be present in conflicts of high intensity[[11]](#footnote-11) and longer duration,[[12]](#footnote-12) and less likely to be present in conflicts with harsh terrain.[[13]](#footnote-13) On the demand side, rebel groups of small sizes that are engaged in lower-level conflicts do not detain as often as larger rebel organizations fighting in larger-scale conflicts. Also, weak groups with unclear command structures may lack the capabilities to negotiate access. All these factors influence selection into the sample.

**Selection Variables** Taking into account the structural and strategic/tactical factors of access behavior by all three parties involved – governments, rebel groups, and the ICRC, we include the following variables in the selection equation: structural factors such as conflict duration, and conflict intensity, as well as strategic/tactical factors such as size of rebel groups, guerilla warfare, and the structure of command/control of rebel groups. Also, it might be feasible to think that some rebel groups are more likely to detain and that some warring parties are screening the ICRC out of their prisons if human rights are being violated. Thus, we reconsider the specification of the Heckman selection model by including battle-death counts and civilian killing counts in the selection equation.

**Selection Variables #1: Structural Factors**

Here we examine the structural factors that may select observations into our sample. The predictors for missingness include such structural factors as conflict duration, conflict intensity, and terrain, as these factors can affect the ICRC’s operations. Conflicts that are more intense, that is, conflicts with a higher battle death count, are less likely to be missing because the ICRC will be attracted to them for humanitarian reasons. Oftentimes rebel detention centers are located in challenging terrain, such as rural or mountainous areas, making access more difficult for the ICRC. The duration of a conflict affects missing visitation records on the rebel side because the ICRC is less likely to visit newer groups, since negotiation to visit detainees usually takes one to two years.[[14]](#footnote-14) Therefore, we are less likely to have access data in conflicts of a short duration, whereas rebel groups that have been around for longer periods of time are more likely to be contacted by the ICRC.

**Selection Variables #2: Common Factors to Selection and Outcome**

Some factors may determine the process of selection into our sample as well as determine the type of visits. The mobilization capacity of a rebel group, for instance, would influence both processes. Groups that rely on their capacity to mobilize domestic support are more likely to have detention centers (as they will prefer to detain rather than exterminate local populations). This means they are more likely to be in the available data category. They are also more likely to grant full visits to the ICRC, as they can distribute the materials they obtain among local supporters.

**Selection Variables #3: Detention Possibility**

It is possible that the visitation records are missing because some rebel groups simply did not hold detainees. If groups are small in size or fight in small-scale conflicts, the ICRC may not contact them. Additionally, if groups employ guerilla tactics, they may not take prisoners for tactical reasons. We investigate these possibilities one by one and then incorporate them into the missing data analysis.

We examined the possibility of detention in four steps. First, we looked at the cases where rebels had detainees but were small in size (in terms of size of their fighting force and also in terms of their mobilization capacity), were involved in lower-level conflicts (in terms of their battle death threshold), or employed mobile guerilla tactics. If a rebel group has *any* type of visitation record – be it full, partial, or denied visits – then we know they had detainees. We find that there *are* instances where groups that are small in size, involved in small-scale conflicts, or conduct guerilla warfare actually detain. Second, we provide the general missingness pattern by comparing the rebel group characteristics mentioned above between missing and non-missing categories. We discovered that rebel groups that are small in size, fight in lower-level conflicts, or employ guerilla tactics, are indeed more likely to be in the missing category. Third, we conduct a logit analysis of missing data, identifying the cause of missingness. Forth, we incorporate some of the variables associated with rebel groups that were involved in lower-level conflicts, were small in size, and are mobile (size of rebel fighting force, battle-deaths, guerilla warfare) into a selection equation.

**Do Small Groups Detain?** To assess whether relatively small rebel groups kept detainees and could therefore grant or deny visitation rights to the ICRC, we look at the best estimate of the size of rebel armed forces (Cunningham et al. 2009) and examine whether relatively small rebel organizations (with 5,000 or less members)[[15]](#footnote-15) had any type of visitation record (either no visits, partial visits, or full visits). The idea here is that if a group has a visitation record, then it must have held some detainees. Supplementary Table 14 provides the list of relatively small rebel group clusters that had visitation records in our dataset. The table demonstrates that some small groups with a fighting force of less than 5,000 *do* have detainees. Small groups that granted visits include SCIRI in Iraq, FRUD in Djibouti, CPN/M in Nepal, and UCK in Macedonia. Small groups that had detainees but did not allow ICRC access include the Dniester Republic in Moldova and the ASG in the Philippines.

**Supplementary Table 14**

**List of Rebel Groups with a Fighting Force of 5,000 or Less that Held Detainees**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rebel group | | Location | Year | Estimated number of fighting forces |
| Granted full visits to the ICRC | Jamaat-i-Islami, Jumbish-i-Milli-ye Islami, Taleban, UIFSA | Afghanistan | 1996 | 1500 |
| ELN, FARC | Colombia | 1996 | 3250 |
| MLC, RCD | Democratic Republic of Congo (Zaire) | 1998, 1999, 2000, 2001 | 2500 |
| FRUD | Djibouti | 1992 | 4500 |
| Republic of Abkhazia | Georgia | 1992 | 5000 |
| Military Junta for the Consolidation of Democracy, Peace and Justice | Guinea-Bissau | 1998, 1999 | 4500 |
| SCIRI | Iraq | 1994 | 4000 |
| INPFL, NPFL | Liberia | 1991, 1992 | 2200 |
| CPN/M | Nepal | 2004, 2005 | 5000 |
| ASG, MILF | Philippines | 1998 | 650 |
| AFRC, Kamajors, RUF | Sierra Leone | 1997 | 5000 |
| Granted partial visits to the ICRC | Republic of Abkhazia | Georgia | 1993 | 5000 |
| UCK | Macedonia | 2001 | 1150 |
| CPN/M | Nepal | 2006 | 5000 |
| Denied the ICRC visits | ELN, FARC | Colombia | 1997, 1998, 1999, 2000, 2001, 2003, 2004, 2006 | 3250 |
| FRUD | Djibouti | 1991, 1993 | 4500 |
| Dniester Republic | Moldova | 1992 | 4000 |
| CPN/M | Nepal | 2001, 2002 | 5000 |
| ASG | Philippines | 2006 | 650 |
| UDCA/LRA | Uganda | 1995 | 4000 |

Supplementary Table 15 illustrates the differences between relatively small and large rebel groups in terms of missing data. The ratio of non-missing to missing cases for larger groups is approximately 1:2, while that for smaller groups is 1:8. The table shows that rebel groups with a small fighting force are more likely to be missing by a factor of 4 (compared to those with a large fighting force). In other words, we have more missing access data for smaller rebel groups. This supports our theoretical expectation that ICRC delegates would be less able to locate and contact these smaller groups, and also that smaller groups may be less likely to keep detainees in the first place.

**Supplementary Table 15**

**Fighting Force and Missing Data Ratio**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Number of observations for which we have access data | Number of observations for which we have missing data | Ratio of available access records: missing access data |
| Rebels with fighting force of > 5,000 | 82 | 151 | 1:1.84 |
| Rebels with fighting force of < 5,000 | 43 | 348 | 1:8.09 |

**Do Rebel Groups Involved in Low-level Conflicts Detain?** We provide the list of rebel groups in conflicts with low battle death counts (with 1,000 or less battlefield deaths)[[16]](#footnote-16) that have visitation records, using the UCDP’s most recent Battle-deaths Dataset[[17]](#footnote-17) in Supplementary Table 16. The table shows that various rebel groups engaged in low-level conflicts do hold detainees. Rebel groups involved in conflicts with less than 1,000 battlefield deaths that have detainees include the Republic of Nagorno-Karabakh in Azerbaijan, the Forces Nouvelles in Cote D’Ivoire, the Serbian Republic of Krajina in Croatia, FRUD in Djibouti, Republic of Abkhazia in Georgia, GAM in Indonesia, SCIRI in Iraq, PUK in Iraq, Republic of Chechnya in Russia, a USC faction in Somalia, SPLM/A in Sudan, CPN/M in Nepal, UTO in Tajikistan, the Mujahideen-e-Khalq in Iran, and the Ninjas in Congo, just to name a few.[[18]](#footnote-18)

**Supplementary Table 16**

**List of Rebel Groups in Low Battle-death Conflicts that Held Detainees**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rebel group | | Location | Year | Estimated battlefield deaths |
| Granted full visits to the ICRC | UNITA | Angola | 1995 | 162 |
| Republic of Nagorno-Karabakh | Azerbaijan | 2005 | 26 |
| MJP, MPCI, MPIGO | Cote D’Ivoire | 2002 | 594 |
| Forces Nouvelles | Cote D’Ivoire | 2004 | 49 |
| Serbian Republic of Krajina | Croatia | 1993, 1995 | 345 |
| MLC, RCD, RDC-ML | Democratic Republic of Congo (Zaire) | 2001 | 590 |
| FRUD | Djibouti | 1992 | 129 |
| Republic of Abkhazia | Georgia | 1992 | 566 |
| Military Junta for the Consolidation of Democracy, Peace and Justice | Guinea-Bissau | 1998 | 505 |
| Military Junta for the Consolidation of Democracy, Peace and Justice | Guinea-Bissau | 1999 | 199 |
| GAM | Indonesia | 2002 | 112 |
| GAM | Indonesia | 2005 | 213 |
| SCIRI | Iraq | 1994 | 25 |
| KDP, PUK | Iraq | 1991 | 1000 |
| KDP, PUK | Iraq | 1992 | 26 |
| KDP, PUK | Iraq | 1993 | 262 |
| PUK | Iraq | 1996 | 356 |
| ASG, MILF | Philippines | 1998 | 93 |
| Republic of Chechnya (Ichkeria) | Russia | 1994 | 229 |
| AFRC, Kamajors, RUF | Sierra Leone | 1997 | 318 |
| USC-faction | Somalia | 1995 | 104 |
| USC-faction | Somalia | 1996 | 256 |
| SPLM/A | Sudan | 1993 | 943 |
| SPLM/A | Sudan | 1994 | 337 |
| SLM/A | Sudan | 2005 | 161 |
| Republic of Slovenia | Yugoslavia (Serbia) | 1991 | 64 |
| Granted partial visits to the ICRC | UNITA | Angola | 1991 | 491 |
| KR | Cambodia | 1994 | 464 |
| Serbian Irregulars, Serbian Republic of Krajina | Croatia | 1992 | 126 |
| Autonomous Province of Western Bosnia | Croatian Republic of Bosnia and Herzegovina | 1995 | 116 |
| UCK | Macedonia | 2001 | 72 |
| CPN/M | Nepal | 2006 | 457 |
| LTTE | Sri Lanka (Ceylon) | 2003 | 25 |
| LTTE | Sri Lanka (Ceylon) | 2005 | 85 |
| UTO | Tajikistan | 1994 | 369 |
| UTO | Tajikistan | 1995 | 594 |
| UTO | Tajikistan | 1996 | 736 |
| Denied the ICRC visits | KR | Cambodia | 1993 | 268 |
| KR | Cambodia | 1995 | 698 |
| ELN, FARC | Colombia | 1997 | 554 |
| ELN, FARC | Colombia | 1998 | 938 |
| ELN, FARC | Colombia | 1999 | 933 |
| ELN, FARC | Colombia | 2003 | 500 |
| ELN, FARC | Colombia | 2006 | 502 |
| Ninjas | Congo | 1994 | 25 |
| FRUD | Djibouti | 1991 | 59 |
| FRUD | Djibouti | 1993 | 33 |
| Mujahideen e Khalq | Iran | 1997 | 38 |
| Renamo | Mozambique | 1992 | 309 |
| CPN/M | Nepal | 2001 | 429 |
| Baluch Ittehad, BLA | Pakistan | 2006 | 198 |
| CPP | Philippines | 2006 | 306 |
| ASG | Philippines | 2006 | 50 |
| FPR | Rwanda | 1991 | 153 |
| SICS | Somalia | 2006 | 547 |
| SPLM/A | Sudan | 1995 | 1000 |
| UDCA/LRA | Uganda | 1995 | 295 |

Supplementary Table 17 complements the previous table by showing the differences across low intensity and high intensity conflicts in terms of having missing data on rebel groups’ access behavior. For rebels involved in higher intensity conflicts, the ratio of available to missing data is approximately 1 to 1. The ratio for rebels involved in lower intensity conflicts is 1 to 6. The table shows that rebel groups in conflicts with low battle-death counts are more likely to be missing by a factor of 6 compared to those in conflicts with high battle-death counts.

**Supplementary Table 17**

**Battle-death Counts and Missing Data Ratio**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Number of observations for which we have access data | Number of observations for which we have missing data | Ratio of available access records: missing access data |
| Rebels with > 1,000 battlefield deaths | 64 | 77 | 1:1.20 |
| Rebels with < 1,000 battlefield deaths | 62 | 398 | 1:6.42 |

**Do Rebel Groups that Employ Guerilla Tactics Detain?** Mobile rebel groups might lack the capacity to hold detainees, therefore making it impossible for the ICRC to negotiate access rights. In Supplementary Table 18, we provide the list of groups classified as employing guerilla tactics[[19]](#footnote-19) that have a visitation record. Groups that employ guerilla tactics are likely to be mobile since they do not have a home base. Examples of groups that hold detainees and grant full access among those that use guerilla tactics include the UIFSA in Afghanistan, Republic of Chechnya in Russia, SPLM/A in Sudan, PKK in Turkey and the UCK in Yugoslavia/Serbia. Mobile groups that granted partial access to ICRC include UNITA in Angola and UTO in Tajikistan. Mobile groups that had detainees but explicitly denied ICRC delegates visitation rights include Renamo in Mozambique and UDCA/LRA in Uganda.

**Supplementary Table 18**

**List of Guerilla Rebel Groups that Held Detainees**

|  |  |  |  |
| --- | --- | --- | --- |
| Rebel group | | Location | Year |
| Granted full visits to the ICRC | Jamaat-i-Islami, Jumbish-i-Milli-ye Islami, Taleban, UIFSA | Afghanistan | 1996 |
| UIFSA | Afghanistan | 1998 |
| ELN, FARC | Colombia | 1996 |
| MLC, RCD | Democratic Republic of Congo (Zaire) | 1998 |
| MLC, RCD, RCD-ML | Democratic Republic of Congo (Zaire) | 1999 |
| Republic of Chechnya (Ichkeria) | Russia | 1994 |
| SNM, SPM, SSDF, USC, USC-faction | Somalia | 1991 |
| AFRC, Kamajors, RUF | Sierra Leone | 1997 |
| LTTE | Sri Lanka | 1993, 1994, 1998, 1999 |
| SPLM/A | Sudan | 1992, 1993, 1994, 1996, 1997, 1999 |
| PKK | Turkey | 1996 |
| UCK | Yugoslavia (Serbia) | 1998 |
| Granted partial visits to the ICRC | UNITA | Angola | 1991 |
| Republic of Chechnya (Ichkeria) | Russia | 1996 |
| LTTE | Sri Lanka | 1991, 1992, 1995, 1996, 1997 |
| SPLM/A | Sudan | 1991, 1998 |
| UTO | Tajikistan | 1994, 1995, 1996 |
| PKK | Turkey | 1992 |
| Denied the ICRC visits | ELN, FARC | Colombia | 1997, 1998, 1999 |
| Renamo | Mozambique | 1991, 1992 |
| SPLM/A | Sudan | 1995 |
| PKK | Turkey | 1994 |
| UDCA/LRA | Uganda | 1995 |

Supplementary Table 19 complements the information from Supplementary Table 18 by providing a comparison of missing data records for guerilla groups as compared to non-guerilla groups. When rebel groups employ guerilla tactics and are thus more mobile, the ratio of available to missing access data is approximately 1 to 1. The ratio when groups do not employ such tactics is approximately 1 to 2. The table shows that rebel groups that employ guerilla tactics are slightly more likely to be missing, compared to those that do not employ such tactics.

**Supplementary Table 19**

**Guerilla Rebel Groups and Missing Data Ratio**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Number of observations for which we have access data | Number of observations for which we have missing data | Ratio of available access records: missing access data |
| Rebels that do not employ guerilla tactics | 22 | 15 | 1:1.47 |
| Rebels that employ guerilla tactics | 41 | 72 | 1:1.76 |

**Logit Analysis of Missingness** In Supplementary Table 20, we report logit analyses to ascertain how the missing data was generated. Since we now have a clearer idea of the situations in which rebel groups hold detainees, we next look at the systematic influence these variables have on missingness. In this analysis, the dependent variable is whether access data is missing or not. The results show that the best predictors of missing data are three structural variables (mountainous terrain, intensity of conflict, and duration of conflict), four variables related to the possibility of detention occurring (rebel size, scale of conflict, and use of guerilla tactics), and two variables that may affect both the selection and outcome equations (rebel strength, and central command and control). These variables will be used in the selection equation in the following subsection.

**Supplementary Table 20.**

**Logit Analyses of Missingness in Visitation Records**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 | Model 7 | Model 8 | Model 9 | Model 10 | Model 11 |
|  | Battle deaths | Terrain | Duration | Group Strength | Territorial Control | Mobilization Capacity | Group Size | Central Command | Transnational Support | Legal Wing | Baseline Model |
| Battle deaths Count | -0.00063\*\*\*  (0.00011) |  |  |  |  |  |  |  |  |  | -0.00029\*\*  (0.00011) |
| Mountainous Terrain |  | 0.303\*\*\*  (0.0966) |  |  |  |  |  |  |  |  | 0.466\*\*  (0.181) |
| Duration |  |  | -0.0515\*\* |  |  |  |  |  |  |  | -0.162\*\*\* |
|  |  |  | (0.0256) |  |  |  |  |  |  |  | (0.0450) |
| Rebel Strength |  |  |  | -1.712\*\*\* |  |  |  |  |  |  | -1.120\*\*\* |
|  |  |  |  | (0.200) |  |  |  |  |  |  | (0.243) |
| Territorial Control |  |  |  |  | -2.057\*\*\*  (0.252) |  |  |  |  |  | -1.982\*\*\*  (0.402) |
| Mobilization Capacity |  |  |  |  |  | -0.941\*\*\* |  |  |  |  | 0.140  (0.309) |
|  |  |  |  |  |  | (0.187) |  |  |  |  |  |
| Estimate of Rebel Size |  |  |  |  |  |  | -4.32e-05\*\*\* |  |  |  | -1.37e-05\* |
|  |  |  |  |  |  |  | (1.23e-05) |  |  |  | (8.26e-06) |
| Strength of Central Command |  |  |  |  |  |  |  | -0.957\*\*\*  (0.165) |  |  | -0.590\*\*\*  (0.204) |
| Transnational Support |  |  |  |  |  |  |  |  | -0.461\*\*\*  (0.123) |  | -0.689\*\*\*  (0.197) |
| Legal Rebel Political Wing |  |  |  |  |  |  |  |  |  | -0.0590  (0.104) | 0.0192  (0.291) |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Constant | 1.905\*\*\* | 0.370 | 1.516\*\*\* | 4.633\*\*\* | 2.499\*\*\* | 2.882\*\*\* | 1.918\*\*\* | 3.289\*\*\* | 2.191\*\*\* | 1.468\*\*\* | 6.744\*\*\* |
|  | (0.140) | (0.274) | (0.152) | (0.394) | (0.213) | (0.334) | (0.177) | (0.380) | (0.261) | (0.248) | (1.117) |
| Observations | 601 | 534 | 617 | 548 | 546 | 543 | 543 | 549 | 536 | 550 | 446 |

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Dependent variable is a binary indicator that takes a value of 1 if the access record is missing and 0 if it is non-missing.

**Exclusion Restriction** In this section, we explain why we use conflict duration as an identifying variable in our selection models. Sovey and Green (2011) suggest two criteria for choosing an instrumental variable: having a substantive reason and an empirical reason.

Substantively, we believe that conflict duration is an adequate identifying variable because it is closely related to the selection of cases into missigness, but not to the selection of particular values for our main dependent variable. Humanitarian negotiation usually takes one to two years, and it is entirely possible that the ICRC has not even established an initial contact with warring parties in a conflict that has just begun. Therefore, shorter conflicts are more likely to generate missingness in the data. However, there is no theoretical basis to suppose that duration affects the type of visits granted by a rebel group. Rebel groups fighting in conflicts of longer duration are not necessarily more likely to grant full visits than those in conflicts of short duration. The access-granting decisions by rebel groups are instead determined by their political aims and organizational characteristics, as we propose in our theory.

Empirically, we find supporting evidence for our use of conflict duration as a selection variable. Supplementary Table 21 compares access behavior of rebel organizations fighting in conflicts of short and long duration. It shows that rebel groups involved in short and long conflicts do not behave very differently when it comes to their access behavior.[[20]](#footnote-20) The ratio of full to no access and the ratio of full to partial access is similar for both types of rebel groups. This means that groups in conflicts of three or less years behave similarly to those in conflicts that last more than three years. That is, we find no evidence that the duration of a conflict affects rebel groups’ propensity to grant full visits to the ICRC, grant partial visits to the ICRC, or to deny visits to the ICRC.

**Supplementary Table 21**

**Conflict Duration and Selection into the Sample:**

**Comparison of Access Behavior of Rebel Groups in Conflicts of Short and Long Duration**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Number of observations when access was denied | Number of observations when partial access was granted | Number of observations when full access was granted | Number of observations when access behavior is unknown | Ratio of full access to access denied | Ratio of full access to partial access |
| Rebels involved in conflict of 3 years or less | 15 | 17 | 37 | 333 | 1:2.47 | 1:2.18 |
| Rebels involved in conflict of 4 years or more | 19 | 13 | 46 | 220 | 1:2.42 | 1:3.54 |

In dealing with the issue of the exclusion restriction in selecting an instrumental variable, Sovey and Green recommend that one explain “why it is plausible to believe the instrumental variable has no direct effect on the outcome (p.198).” The authors also recommend that we consider “backdoor paths from the instrumental variable to the dependent variable (p.198).” For the sake of presentation, we drew a diagram for Sovey and Green’s claim in Figure 6. Although the two suggested criteria of “indirect effects” and “backdoor paths” are closely related in terms of inspecting for exclusion restriction, the second criterion provides more argumentation and evidence. For this reason and for analytical clarity, we provide a separate discussion for each below and in the revised manuscript.

**Figure 6. Criteria for Instrumental Variable:**

**Indirect Effects and Backdoor Paths**

**Instrumental Variable (i.e. Duration)**

**Outcome Variable**

**(i.e. Access)**

Selection into Data

O

X

Criteria #1: No direct effect on outcome

Criteria #2: Consideration of Backdoor Path

X

Criteria #1: no direct effect on the outcome: As for the direct effect, we think it is plausible to believe that our instrumental variable (i.e. duration) has no direct effect on the outcome of access. In our case, fulfilling Criteria #1 means finding a variable that affects whether a rebel group’s access data will be missing but that does *not* affect whether rebels are more likely to grant or deny the ICRC visits. A conflict’s duration influences the selection process because shorter conflicts are more likely to generate missing access behavior data mostly due to structural reasons. Longer wars are going to attract humanitarian actors, such as the International Committee of the Red Cross, because the organization needs time to make a decision whether to devote resources to the conflict in question, to contact the rebel leadership, and to initiate access negotiations. This process sometimes takes a year or two. Duration therefore will change the probability of the observation being in the sample. However, there is no theoretical basis to suppose that duration affects the access decision of a rebel group. Rebel groups fighting in conflicts of longer duration are not necessarily more likely to grant visits than those in conflicts of short duration. We think duration does not figure into the calculation of granting access because the decision to grant access is heavily influenced by military and strategic situations that are not going to vary with duration. Empirical evidence presented in our selection models supports this claim. We would expect to see that once the baseline probability to be contacted by the ICRC is controlled for, duration would not impact the likelihood of access being granted or denied. The statistical insignificance of the *Duration* variable in the outcome equations in our selection models corroborates that insurgents grant access not because they have been around for a long time, but because of their legitimacy-seeking characteristics.

Criteria #2: consideration of backdoor paths: As for the backdoor paths from the instrumental variable to the dependent variable, the instrumental variable (i.e. duration) should once again affect the selection process but not the outcome process. In the context of our paper, this means that the effect of duration on access works only through selection into the sample. Duration ought to only affect the probability that a case is selected into our sample (i.e., that it is missing or not). And after taking this possibility into account, duration should not affect the probability of visits being granted or denied. We think this is the case both theoretically and empirically. The probability of a rebel group being a non-missing value (that is, of a group having any access records) depends heavily on whether the group is around for a while or not in the conflict. However, once we take this into account, the decision to grant access is not influenced by a group’s longevity in a conflict. Being present in a conflict for longer periods of time does not necessarily lead to a full access decision. Likewise, a shorter stay in a conflict does not necessarily discourage groups to grant access. Long-standing groups may be consistently opposed to granting access, as is the case of Sendero Luminoso in Peru. The opposite is also true, as rebels involved in shorter conflicts may allow the access, as is the case of the United Tajik Opposition ([UTO](http://en.wikipedia.org/wiki/UTO)) in Tajikstan.

We admit that duration is not a perfect instrument. However, considering the possibility of direct effects and of backdoor paths, we believe duration is an appropriate identifying variable for the selection models we present in the manuscript.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**Part IV. ROBUSTNESS CHECKS**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**Robustness Check #1: Legitimacy Indicators** Rebel group characteristics – our key independent variables – are conceptually inter-related. Multicollinearity is of course a concern in making correct inferences. We report Spearman rank correlations for the key explanatory variables (legal political wing, high civilian support, territorial control, transnational support, military strength, and strength of command and control structure) in Supplementary Table 22. Among the fifteen correlations, eight relationships pose some concern for multicollinearity, and are denoted with star signs. Having territorial control correlates with both a rebel group’s military strength and their strength of central command and control. Rebel group strength and strength of central command and control are also significantly correlated with each other. Additionally, we find that civilian support and transnational support are correlated. These significant correlations suggest that we sometimes may face inconsistent results in running multivariate analyses (Achen 1986). We take this fact into account when we run our statistical analyses by diligently checking the robustness of the effects.

**Supplementary Table 22**

**Spearman Rank Correlations among Legitimacy Indicators**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Legal political wing | High civilian support | Territorial control | Transnational support | Rebel group strength | Strength of central command | Mobilization capacity |
| Legal political wing | 1.00 |  |  |  |  |  |  |
| High civilian support | -0.088 | 1.00 |  |  |  |  |  |
| Territorial control | -0.051 | -0.084 | 1.00 |  |  |  |  |
| Transnational support | 0.151 | 0.190\* | -0.107 | 1.00 |  |  |  |
| Rebel group strength | 0.089 | -0.092 | 0.341\* | -0.053 | 1.00 |  |  |
| Strength of central command | -0.029 | 0.199\* | 0.193\* | -0.145 | 0.345\* | 1.00 |  |
| Mobilization capacity | 0.012 | 0.254\* | 0.171 | 0.376\* | 0.215\* | 0.0423 | 1.00 |

Note: \* denotes significance level at .05.

We report the results of the models run with each independent variable separately in Supplementary Table 23. We find that individually all explanatory variables are statistically significant. Note that when assessing the effects of legal political wings we control for the political regime type of the corresponding government.

**Supplementary Table 23**

**Independent Effects of Legitimacy Indicators**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|  | Legal Wing | Civilian Support | Territorial Control | Transnational Support | Group Strength | Central Command |
|  |  |  |  |  |  |  |
| Legal political wing | 0.101\* |  |  |  |  |  |
|  | (0.056) |  |  |  |  |  |
| Political regime type † | -0.043\*\*\* |  |  |  |  |  |
|  | (0.009) |  |  |  |  |  |
| High civilian support |  | 0.445\*\* |  |  |  |  |
|  |  | (0.218) |  |  |  |  |
| Territorial control |  |  | 1.128\*\*\* |  |  |  |
|  |  |  | (0.143) |  |  |  |
| Transnational support |  |  |  | 0.305\*\*\* |  |  |
|  |  |  |  | (0.073) |  |  |
| Rebel group strength |  |  |  |  | 0.910\*\*\* |  |
|  |  |  |  |  | (0.096) |  |
| Strength of central command |  |  |  |  |  | 0.662\*\*\* |
|  |  |  |  |  |  | (0.114) |
| Cut 1 | 1.201 | 0.658 | 1.612 | 1.563 | 2.750 | 2.362 |
|  | (0.139) | (0.717) | (0.115) | (0.157) | 0.194 | (0.263) |
| Cut 2 | 1.427 | 0.989 | 1.885 | 1.806 | 3.043 | 2.622 |
|  | (0.144) | (0.190) | (0.121) | (0.170) | (0.202) | (0.274) |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Total number of observations | 621 | 146 | 546 | 536 | 548 | 549 |

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

† Dependent variable in all models is the access record by armed opposition groups.

To cross-check the robustness of legitimacy indicators, we created an index measure of legitimacy, an overarching concept that classifies rebel groups into meaningful categories. The legitimacy index was created in the following manner. We first collected information on seven indicators of legitimacy – territorial control, legal political wing, transnational support, high civilian support, mobilization capacity, military strength, and strength of command and control. We then created a binary variable that represents the presence or absence of each characteristic. Finally, we created five different index measures, L3, L4, L5, L6 and L7, to capture different components of legitimacy. The five indicators were created based on the conceptual similarity among variables. For instance, organizational variables such as military strength and central command are clustered together in creating the index measures. L3 is the index of three indicators (territorial control, legal political wing, transnational support). L4 is the index of four indicators (territorial control, legal political wing, transnational support, high civilian support). L5 is an index of five indicators (territorial control, legal political wing, transnational support, military strength, and strength of command and control). L6 is an index of six indicators (territorial control, legal political wing, transnational support, high civilian support, military strength, and strength of command and control). L7 is an index of all seven indicators (territorial control, legal political wing, transnational support, high civilian support, mobilization capacity, military strength, and strength of command and control).

**Supplementary Table 24**

**Components of Legitimacy Index Measures**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Index | Components | | | | | | |
|  | Territorial Control | Legal Political Wing | Transnational Support | High Civilian Support | Mobilization Capacity | Military Strength | Strength of Command and Control |
| L3 | x | x | x |  |  |  |  |
| L4 | x | x | x | x |  |  |  |
| L5 | x | x | x | x | x |  |  |
| L6 | x | x | x | x |  | x | x |
| L7 | x | x | x | x | x | x | x |

Using an index measure has both conceptual and empirical advantages compared to employing individual legitimacy indicators. Conceptually, the index measure produces a meaningful classification of rebel groups. As can be seen in Supplementary Table 25, the index measure nicely classifies rebel groups from least to most legitimacy-seeking types. Although analyzing the separate constitutive elements of the legitimacy indicators allows us to identify individual, micro-causal mechanisms, employing an index measure provides a nice classification of rebel groups according to our theoretical argument.

**Supplementary Table 25**

**Examples of Rebel Groups with a Low, Medium, and High Legitimacy Index**

|  |  |  |
| --- | --- | --- |
| Rebel Groups with LOW Legitimacy Index (less than two characteristics) | Rebel Groups with MEDIUM Legitimacy Index (more than two and less than four characteristics) | Rebel Groups with HIGH Legitimacy Index (more than four characteristics) |
| ABSDF (Myanmar)  ELN (Colombia)  LRA (Liberia)  Sikh insurgents (India) | MILF (Philippines)  RUF (Sierra Leone) | SPLM/A (Sudan)  LTTE (Sri Lanka)  FRUD (Djibouti)  BRA (Papua New Guinea)  PKK (Turkey)  RENAMO (Mozambique) |

An empirical advantage associated with this index measure is that it resolves potential inconsistency problems in statistical analyses. Due to the multicollinearity among the legitimacy indicators (see the Spearman correlations in Supplementary Table 22), we have inconsistent statistical results in some specifications (Achen 1989). For instance, mobilization capacity and territorial control are independently significant, but together one tends to absorb the significance of the other. Analyses conducted using different mixes of legitimacy indicators return robust results, as presented in the Supplementary Table 26.

**Supplementary Table 26**

**Ordered Probit Analyses of Visits Granted by Rebel Groups**

**using Legitimacy Indices**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Model 1  L3 | Model 2  L4 | Model 3  L5 | Model 4  L6 | Model 5  L7 |
| L3 | 0.922\*\*\* |  |  |  |  |
|  | (0.134) |  |  |  |  |
| L4 |  | 0.884\*\*\* |  |  |  |
|  |  | (0.168) |  |  |  |
| L5 |  |  | 0.917\*\*\* |  |  |
|  |  |  | (0.100) |  |  |
| L6 |  |  |  | 0.920\*\*\* |  |
|  |  |  |  | (0.170) |  |
| L7 |  |  |  |  | 0.746\*\*\* |
|  |  |  |  |  | (0.0912) |
| Time | 0.0588 | -0.0535 | -0.0594 | -0.212 | 0.0107 |
|  | (0.173) | (0.581) | (0.194) | (0.607) | (0.191) |
| Time squared | 0.0135 | 0.0763 | 0.0356 | 0.0980 | 0.0185 |
|  | (0.0292) | (0.140) | (0.0333) | (0.150) | (0.0326) |
| Time cubed | -0.00134 | -0.00723 | -0.00231 | -0.00767 | -0.00140 |
|  | (0.00136) | (0.00954) | (0.00157) | (0.0104) | (0.00154) |
|  |  |  |  |  |  |
| Cut1 | 2.403\*\*\* | 2.531\*\*\* | 3.221\*\*\* | 3.300\*\*\* | 3.303\*\*\* |
|  | (0.340) | (0.730) | (0.340) | (0.928) | (0.353) |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Cut2 | 2.682\*\*\* | 2.937\*\*\* | 3.539\*\*\* | 3.754\*\*\* | 3.620\*\*\* |
|  | (0.350) | (0.756) | (0.348) | (0.963) | (0.363) |
|  |  |  |  |  |  |
| Observations | 517 | 126 | 517 | 126 | 517 |

Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Robustness Check #2: Comparison of ‘Legal Political Wing’ & ‘Political Wing’** We conduct a robustness check using ‘political wing’ in place of the ‘legal political wing’ variable. In our dataset, rebel groups with legal political wings correspond to 15% of the total observations, whereas groups with an explicit or alleged linked political wing are about 33% of the total observations. In Supplementary Table 27, we compare the effect of a ‘legally allowed political wing’ and the ‘presence of a political wing’ by replacing the ‘legally allowed political wing’ variable with the ‘political wing’ variable in our baseline model.[[21]](#footnote-21) The models show that the mere presence of a political wing does not have a significant impact on access behavior, while having a legally allowed political wing does.

The coefficient for the ‘political regime type’ variable is negative in both cases, indicating that rebel groups in democracies are less likely to grant visits, while groups in autocracies are more likely to do so. This result is broadly in line with Stanton (2009)’s conjecture that rebels in autocracies are more likely to abide by humanitarian norms. She argues that rebel groups in autocracies are less likely to work through normal political processes than groups in democracies, which is one of the reasons why rebels in autocracies reach out to external actors.

**Supplementary Table 27**

**Comparison of Results between ‘Legal Political Wing’ and ‘Presence of Political Wing’**

|  |  |  |
| --- | --- | --- |
|  | Model 1 | Model 2 |
|  | Legal political wing | Presence of political wing |
| Legal political wing | 0.307\*\*\* |  |
|  | (0.093) |  |
| Presence of political wing |  | 0.008 |
|  |  | (0.0466) |
| Political regime type † | -0.036\*\* | -0.034\*\* |
|  | (0.015) | (0.015 |
| Territorial control | 0.992\*\*\* | 0.816\*\*\* |
|  | (0.196) | (0.186) |
| Transnational support | 0.341\*\*\* | 0.357\*\*\* |
|  | (0.090) | (0.766) |
| Rebel group strength | 0.597\*\*\* | 0.570\*\*\* |
|  | (0.108) | (0.113) |
| Strength of central command | 0.296\*\*\* | 0.325\*\* |
|  | (0.118) | (0.123) |
| Lagged dependent variable | 0.743\*\*\* | 0.766\*\*\* |
|  | (0.202) | (0.197) |
| Cut 1 | 4.821 | 4.096 |
|  | (0.539) | (0.511) |
| Cut 2 | 5.236 | 4.501 |
|  | (0.564) | (0.533) |
| Total number of observations | 509 | 445 |

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

We also examine the role of the state in creating the legality of political wing. It may be that democracies are more likely to allow legal political wing than autocracies do. In order to see this, so we ran interaction models to examine whether the effect of legally allowed political wings is modified by the political regime type of the opposing government. The results in Supplementary Table 28 show that the legal political wing variable is not necessarily mediated by political regime type. This coincides with recent evidence in the literature on authoritarian politics showing that some authoritarian states do in fact hold multiparty elections. Using the National Elections across Democracy and Autocracy (NELDA) dataset (Hyde and Marinov 2011), Kim (2012) shows that 35 out of 68 authoritarian countries held multiparty elections between 1960 and 2006 out of the fear of domestic coup attempts.

**Supplementary Table 28. Legal Political Wing and Political Regimes: Interaction Models**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Legal rebel political wing \* Political regime type | 0.004 | 0.005 | -0.011 | -0.028 | -0.019 | -0.031 |
|  | (0.015) | (0.019) | (0.021) | (0.019) | (0.025) | (0.019) |
| Legal rebel political wing | 0.334\*\*\* | 0.383\*\*\* | 0.357\*\*\* | 0.209\* | 0.290\* | 0.219\* |
|  | (0.082) | (0.111) | (0.118) | (0.122) | (0.153) | (0.126) |
| Political regime type | -0.075\*\* | -0.070\* | -0.033 | -0.004 | -0.022 | 0.014 |
|  | (0.032) | (0.040) | (0.043) | (0.040) | (0.048) | (0.042) |
| Territorial control | 1.172\*\*\* | 0.963\*\*\* | 1.048\*\*\* | 1.049\*\*\* | 1.139\*\*\* | 0.915\*\*\* |
|  | (0.184) | (0.190) | (0.208) | (0.241) | (0.289) | (0.264) |
| Transnational support |  |  | 0.395\*\*\* | 0.398\*\*\* | 0.333\*\*\* | 0.506\*\*\* |
|  |  |  | (0.091) | (0.104) | (0.126) | (0.117) |
| Rebel strength |  | 0.723\*\*\* | 0.682\*\*\* | 0.601\*\*\* | 0.673\*\*\* | 0.705\*\*\* |
|  |  | (0.115) | (0.119) | (0.128) | (0.157) | (0.137) |
| Strength of central command |  | 0.423\*\*\* | 0.391\*\*\* | 0.402\*\* | 0.522\*\*\* | 0.382\*\* |
|  |  | (0.148) | (0.146) | (0.171) | (0.188) | (0.178) |
| Mobilization capacity | 0.851\*\*\* | 0.669\*\*\* | 0.493\*\* | 0.655\*\*\* | 0.815\*\*\* | 0.501\*\* |
|  | (0.180) | (0.173) | (0.197) | (0.215) | (0.263) | (0.232) |
| Mountainous terrain |  |  |  | -0.174\*\* | -0.121 | -0.175\* |
|  |  |  |  | (0.087) | (0.116) | (0.099) |
| Intensity of conflict |  |  |  | 0.090 | 0.097 | 0.155 |
|  |  |  |  | (0.187) | (0.215) | (0.228) |
| Government access behavior (lagged) |  |  |  |  | 0.286 |  |
|  |  |  |  |  | (0.291) |  |
| (Duration of Conflict) | 0.271 | 0.164 | 0.179 | 0.370\* | 0.192 | 0.351 |
|  | (0.172) | (0.186) | (0.198) | (0.198) | (0.244) | (0.269) |
|  | -0.036 | -0.012 | -0.011 | -0.041 | -0.016 | -0.031 |
|  | (0.028) | (0.031) | (0.033) | (0.032) | (0.037) | (0.049) |
|  | 0.002 | 0.000 | 0.000 | 0.002 | 0.001 | 0.001 |
|  | (0.001) | (0.001) | (0.002) | (0.001) | (0.002) | (0.002) |
| Civilian killing |  |  |  |  |  | -0.002\*\* |
|  |  |  |  |  |  | (0.001) |
| Observations | 531 | 530 | 519 | 454 | 288 | 388 |

Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

We further examined the regime type of governments that are fighting rebel groups that have legal political wings. Supplementary Table 29 summarizes the comparison across regime types. Following convention, we considered governments as democratic if their polity scores were equal to or greater than 6, and as autocratic if the scores were equal to or lower than -6. The original code for NSA dataset for Legal Political Wing variable was 1=no, 2=does not apply, 3=unclear, 4=yes. We conservatively consider only 4 to be 'yes', and 1-3 to be 'no' in the following table. As can be expected, rebel groups with legally allowed political wings are more common in democratic states. However, there are some democracies that do not allow legally operating political wings, and some autocracies do allow legal political wings of rebel groups. The percentage of democratic states with rebel organizations that have such political wings in democratic states is 23.48%. The percentage of autocracies with rebel organizations that have legal political wings is 15.2%. The evidence is in line with the literature on terrorism that suggests some democracies do not allow insurgent groups operating as legal political entities due to the concern arising from terrorist threats. For example, Chenoweth (2010) specifically showed that democracies observe more prevalent terrorist activities because of intergroup political competition. This supports the idea that some democracies may not allow rebel groups legally operating in their territories.

**Supplementary Table 29**

**Legal Political Wing and Political Regimes: Distribution**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Legal Political Wing | No Legal Political Wing | Total |
| Democratic State | 54 rebel group clusters in a conflict-year | 176 rebel group clusters in a conflict-year | 230 rebel group clusters in a conflict-year |
| Autocratic State | 19 rebel group clusters in a conflict-year | 106 rebel group clusters in a conflict-year | 125 rebel group clusters in a conflict-year |

In Supplementary Table 30, we also provide the list of rebel groups in authoritarian states with legally allowed political wings.

**Supplementary Table 30**

**Rebel Groups with Legal Political Wings in Authoritarian Regimes**

|  |  |  |
| --- | --- | --- |
| Rebel Group-Cluster | Opposing Government | Year |
| GIA, MIA/FIS/AIS | Algeria | 1993, 1994 |
| OPON forces | Azerbaijan | 1995 |
| Mujahideen e Khalq | Iran | 1991, 1992, 1993 |
| KDP, PUK | Iraq | 1991, 1992, 1993 |
| RUF | Sierra Leone | 1991, 1992, 1993, 1994, 1995 |
| UTO | Tajikistan | 1992, 1993, 1994, 1995, 1996 |

Let us further illustrate our point about the importance of legal political wings with one illuminating example. The PKK (Kurdistan Worker’s Party) is a good case to examine because the group was operating in three states: Iraq, Iran and Turkey – giving us variation to exploit in terms of political regimes and the legality of rebel political wings. The group had a legally allowed political wing both in Iraq (classified as autocracy) and Turkey (classified as democracy), but not in Iran (classified as autocracy). The Kurdish parties in Iraq were the Kurdistan Democratic Party (KDP) and the Patriotic Union of Kurdistan (PUK). The party in Turkey was named Democratic Society Party (DSP). The party in Iran was the Kurdish Democratic Party in Iran (KDPI). KDP and PUK in Iraq held local elections and had a tax base (McDowall 2007), and the DSP in Turkey had a geographical constituency base in southern and eastern Turkey (Yildiz and Breau 2010). According to our dataset, the PKK admitted access to their detention centers in Turkey and Iraq (PKK with legally political wing), but not in Iran (PKK with not legally allowed political wing).

The PKK’s relation with the state, and the state’s response to the group was different across states. Iraq, as an authoritarian state, allowed the Kurdistan Democratic Party (KDP) to flourish (McDowall 2007). The Baath party, the majority party of Saddam Hussein, initially took an amenable approach to the Kurdish question, and the Kurdistan Democratic Party (KDP) also was cooperative with the Iraqi ruling regime. Later when Saddam Hussein strengthened his position by isolating the Kurds after the first Gulf War, ironically enough, KDP and PUK were able to hold their own elections. The Iranian regime repressed the KDPI, killing its leadership. In the 1990s armed clashes continued between KDPI and government forces, including bombing attacks against Iranian Kurds in western Iran (Minorities at Risk, 2012). Iraqi and Iranian experiences tell us that authoritarian states may have different responses to a rebel group’s political party, the former was relatively lenient while the latter was less lenient. The Turkish Government, even though it is considered a democracy, used repressive policies and repeatedly closed down political parties with pro-Kurdish platforms (Yildiz and Breau 2010).

The comparative case of PKK in three states with different regimes debunks our conventional wisdom that authoritarian states do not allow multiparty systems to flourish. This evidence accords with the statistical result presented above that the decision to grant access to detention centers is not necessarily mediated by the role of state or political regime, but rather, at least in the case of PKK, by the characteristics of the group. Having a legal political wing, be it in authoritarian state or democratic ones, appears to have influenced PKK’s decision to grant access. As the grey areas in Supplementary Table 31 show, the explanatory power for access lies more in having a “legally allowed political wing,” than in “political regime.”

**Supplementary Table 31**

**Legality of Rebel Political Wing, Political Regime of the State, and the Case of PKK**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **State** | **Political Regime** | **Name of Political Party** | **Legally Allowed?** | **Did PKK allow access to ICRC?** |
| Turkey | Democratic (Polity Score of 7, 8 or 9, depending on years) | Democratic Society Party (DSP) | Yes | Yes |
| Iraq | Authoritarian (Polity Score of -9 throughout the years) | Kurdistan Democratic Party (KDP) and the Patriotic Union of Kurdistan (PUK) | Yes | Yes |
| Iran | Authoritarian (Polity Score of -6 throughout the years) | Kurdistan Democratic Party – Iran (KDPI) | No | Missing |

**Robustness Check #3: Panel Analysis** In light of the time variation in the dependent variable within each country and each conflict, we also present results from a panel analysis in Supplementary Tables 32-34. Since we are interested in the population of national governments and insurgent groups, we use a random effects model.[[22]](#footnote-22) Additionally, for both governments and rebel groups, in the following models we collapsed full and partial visits into one category. This creates two binary variables for visitations, one on the government side and one on the rebel side, where full and partial visits are coded as 1, no visits are coded as zero, and missing data remains coded as missing.[[23]](#footnote-23)

**Supplementary Table 32**

**Panel Model of Access to Detainees Granted by Governments**

|  |  |
| --- | --- |
|  |  |
|  | Panel Model,  random effects |
|  |  |
| Political regime type | 0.104\*\* |
|  | (0.045) |
| Rebel group strength | 0.303 |
|  | (0.386) |
| Number of opposition groups | -0.163\*\* |
|  | (0.081) |
| Lagged dependent variable | 2.962\*\*\* |
|  | (0.504) |
| Constant | 0.778 |
|  | (1.082) |
|  | 1.186  (.664) |
|  | .299  (.139) |
| Total number of observations | 372 |
| Number of units | 74 |

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Supplementary Table 33**

**Panel Model of Access to Detainees Granted by Armed Opposition Groups**

|  |  |  |
| --- | --- | --- |
|  | | |
|  | Panel Model, Random Effects | |
|  |  | |
| Legal political wing | 0.729\*\* | |
|  | (0.302) | |
| Territorial control | 2.085\*\*\* | |
|  | (0.590) | |
| Transnational support | 0.659\*\* | |
|  | (0.304) | |
| Rebel group strength | 1.345\*\*\* | |
|  | (0.383) | |
| Strength of central command | 0.919\*\* | |
|  | (0.395) | |
| Lagged dependent variable | 0.712 | |
|  | (0.507) | |
| Constant | -11.125\*\*\* | |
|  | (1.650) | |
| 1.539  (.414) | |
| .418  (.131) | |
|  |  | |
| Total number of observations | 529 | |
| Number of units | 92 | |

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Supplementary Table 34**

**Legitimacy Index and**

**Panel Model of Access to Detainees Granted by Armed Opposition Groups**

|  |  |  |
| --- | --- | --- |
|  |  | |
|  | Panel Model, Random Effects | |
|  |  | |
| Legitimacy Index[[24]](#footnote-24) | 1.493\*\*\* | |
|  | (0.292) | |
| Lagged dependent variable | 0.981\*\* | |
|  | (0.504) | |
| Constant | -7.087\*\*\* | |
|  | (1.049) | |
| 2.032  (.494) | |
| .556  (.119) | |
|  |  | |
| Total number of observations | 517 | |

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Robustness Check #4: Re-defining Sample using More Severe Conflicts** We restrict our analyses to only rebel groups that were involved in conflicts with over 1,000 yearly casualties for two reasons. First, our dataset employ variables from various datasets with different definitions about conflicts, so we acknowledge the fact and run the analysis by restricting the sample to severe conflicts. We want to note the differences in definitions of conflict employed across the datasets we borrow our variables from – the PRIO Armed Conflict Dataset, the Non-State Actor (NSA) dataset by Cunningham et al. (2009), Fearon (2004)’s civil war dataset, and Valentino et al.’s (2004) mass killing dataset. The PRIO and NSA datasets define a conflict as the use of armed force among two parties that results in 25 battle-related deaths, whereas the datasets by Valentino et al. (2004) and Fearon (2004) employ higher thresholds. The threshold in Valentino et al. (2004) is at least 1,000 dead per year. Fearon’s dataset consists of at least 1,000 people over its course of a conflict, with a yearly average of at least 100. In what follows, we present the conflict definitions and thresholds employed by the datasets we obtain variables from. The following are excerpts from codebooks or related articles that define conflicts for each dataset (emphasis added by the authors).

**(1) UCDP/PRIO Armed Conflict Dataset (1946-2009)** An armed conflict is a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in ***at least 25 battle-related deaths*** (Harbom et al., 2006). In the Uppsala data, each single conflict is distinguished between side A (government) and side B (a non-state actor). One conflict may have many side B actors.

**(2) Non-State Actor (NSA) Dataset (1946-2003)** The Non-State Actor data provides information on the military capabilities and political opportunities available to non-state actors in on-going civil wars. The NSA data are a direct expansion of the Uppsala armed conflict data, described in greater detail in Cunningham, Gleditsch and Salehyan, 2009.

**(3) Valentino et al. (2004)** A war is defined as a sustained violent conflict between two organized armed groups and may take place in a civil, international, or colonial (“extra-systemic”) environment. As with mass killing itself, we limit wars to those involving at least one group that represents the national government of a state. A war is coded as starting on the first year in which direct military actions result in ***at least 1,000 total battle-related fatalities*** (including both combatants and civilians). If fewer than 200 total annual fatalities are recorded for three or more consecutive years, the war is coded as having ended on the first of those three years, even if fighting continues at very low levels in subsequent years.

**(4) Fearon (2004)** Conflicts (1) involved fighting between agents of (or claimants to) a state and organized, non-state groups who sought either to take control of a government, take power in a region, or use violence to change government policies, (2) killed ***at least 1,000 people over its course, with a yearly average of at least 100***, and (3) at least 100 killed on both sides (including civilians attacked by rebels). The last condition is intended to rule out massacres where there is no organized or effective opposition.

The second reason we do robustness checks by redefining the sample is that missing data may have been generated by low battle-death counts, and the groups in severe conflicts are more likely to have the capacity to actually hold detainees. However, the cut-off point of 1,000 leaves us with only 110 observations, which restricts our inference.[[25]](#footnote-25) Considering this, we restrict the sample to include those dyads that have passed a 200-battledeaths per annum threshold and report the results in Supplementary Table 35. We chose 200 as the cut-off point because it splits our sample in half (leaving us with 240 observations).

**Supplementary Table 35**

**Ordered Probit Analysis of Access by Opposition Groups in**

**Conflicts with More than 200 Battle-death Counts**

|  |  |  |
| --- | --- | --- |
|  | | |
|  | Model with Restricted Sample | |
| Legal political wing | 0.303\* |
|  | (0.178) |
| Territorial control | 1.146\*\*\* |
|  | (0.252) |
| Transnational support | 0.323\*\*\* |
|  | (0.125) |
| Rebel group strength | 0.702\*\*\* |
|  | (0.168) |
| Strength of central command | 0.452\*\*\* |
|  | (0.139) |
| Mobilization capacity | 0.387\* |
|  | (0.230) |
| Intensity of conflict | 0.111 |
|  | (0.259) |
| Duration of conflict | -0.00896 |
|  | (0.0119) |
| Mountainous terrain | -0.132 |
|  | (0.108) |
| Time | 0.0314 |
|  | (0.252) |
| Time squared | 0.0243 |
|  | (0.0401) |
| Time cubed | -0.00166 |
|  | (0.00177) |
| cut1 | 5.743\*\*\* |
|  | (1.040) |
| cut2 | 6.235\*\*\* |
|  | (1.060) |
| Observations | 240 |

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Matching Analysis** We performed a matching analysis as an alternative route to deal with the selection issue present in our study. We hope that this additional test will add confidence to our results, given the fact that Heckman selection models sometimes return inconsistent results and generate worries about the adequacy of the instrumental variable. We include the Heckman selection model in our manuscript because the Heckman-type selection model presents rho parameter that is helpful and informative in the context of our research. The rho parameter indicates whether selection process should or should not be accounted for, and our missing data analysis benefits from the presentation of rho parameter. There is no analogous parameter in matching analysis.

A matching analysis adds some confidence to our results because it deals with the selection issue by estimating the effects of key independent variables after controlling for the selection process (Jo 2012). Matching methods deal with selection problems by balancing the covariates that are different before treatment and by pruning the data that are dissimilar (Simmons and Hopkins 2007; Ho et al. 2007). The pre-treatment condition, in this sense, is similar to the selection equation because it accounts for the process by which observations are selected into the sample. By using matching, we intend to show that legitimacy variables remain statistically significant in the predicted directions even after accounting for the pre-treatment condition and the process of missingness.

A matching analysis mimics an experimental design as it separates a treatment and a control group to observe the effect of a specific treatment. Treatment in our context is the legitimacy characteristics. Control and treatment groups are specified using **nnmatch** (Abadie, Drukker, Herr, and Imbens 2004), a STATA suite to conduct near-neighbor matching analysis. Near-neighbor matching produces the matches for treatment-control groups with closeness and proximity based on matching variables.[[26]](#footnote-26) Matching variables in the context of the present research are equivalent to selection variables – variables that influence the selection into the missingness or non-missingness of the access data. The following summarizes the set-up for matching.

* Treatment variable: legitimacy indicators (legal political wing, domestic support, territorial control, transnational support, military strength, and strength of central command & control) as specified in H1-H6. Since **nnmatch** allows binary treatment only, ordinal variables were recoded into binary variables. For example, legal political wing originally is an ordinal variable with categories ranging from ‘no,’ ‘does not apply,’ and ‘unclear’ to ‘yes.’ In our matching analysis, the variable was collapsed into a binary code in which a value of zero contains ‘no’ to ‘unclear cases, whereas ‘yes’ categories were coded as one.
* Outcome variable: Visit records by the ICRC of rebel groups’ detention centers (0=no visit, 1=partial, 2=full)
* Matching variables: territorial control, legal political wing, transnational support, rebel strength, mobilization capacity, strength of central command and control, duration.

Supplementary Table 36 shows the results of the near-neighbor matching analysis. The estimates for Average Treatment Effect (ATE) show that legitimacy related variables remain significant, after controlling for pre-treatment variables, with the exception of transnational support variable. For example, the ATE of .226 for legal political wing variable would mean that on a scale of 0 to 2, the chance that a rebel group grants visits to the ICRC increases by .23 if the group has a legal political wing.

**Supplementary Table 36**

**Results of Near-Neighbor Matching**

|  |  |  |  |
| --- | --- | --- | --- |
| Treatment Variable (indicators for legitimacy-seeking behaviors) | Average Treatment Effect (ATE) | Average Treatment Effect on the Treated (ATT) | Number of observations |
| Legal Political Wing (H1) | .226 (.106)\*\* | .145 (.138) | 519 |
| Domestic Support (H2) | .232 (.064)\*\*\* | .429 (.098)\*\*\* | 529 |
| Territorial Control (H3) | .256 (.067)\*\*\* | .438 (.093)\*\*\* | 529 |
| Transnational Support (H4) | .015 (.066) | .196 (.076)\*\*\* | 518 |
| Military Strength (H5) | .425 (.170)\*\* | .574 (.207)\*\*\* | 518 |
| Central Command and Control (H6) | .206 (.091)\*\* | .254 (.117)\*\* | 518 |

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Often, the Average Treatment Effect on the Treated (ATT) is a central concern to researchers (Imbens 2004; Heckman, Ichimura, and Todd 1998). ATT in our context measures “how much change would legitimacy-seeking characteristics bring about on the groups once they are selected into the sample by being matched based on selection variables?” With the exception of legal political wing, all other variables receive support for the corollary that the treated groups with legitimacy-seeking characteristics would be more likely to grant access than the treated and control groups totaled. In other words, we would expect that ATT would be larger than ATE, and it is indeed the case. R4 was initially (in the first round of reviews) interested in seeing the results only with the observations that were selected into the sample (that is, results obtained by analyzing existing data only) and ATT estimates this. For instance, Supplementary Table 36 shows that ATT regarding transnational support variable is .196. This means that the groups that enter into the sample are likely to increase the chance of visits by about .2 on a scale ranging from zero to two (0=no visit, 1=partial, 2=full), leaning toward full visit. The results of ATT also corroborate our conclusion that selection process does not bias the results.

Matched sets mostly conform to our knowledge of rebel groups. For instance, Angola’s UNITA is matched to the groups in Sierra Leone. UNITA and AFRC-Kamajors-RUF share similar characteristics in terms of other legitimacy indicators (that is, domestic support, territorial control, transnational support, military strength, and strength of central command & control) except for the presence of legal political wing. And we see that UNITA with legal political wing granted full visits while AFRC-Kamajors-RUF without legal political wing did not grant access.

**Supplementary Table 37**

**Example of Matched Cases**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Country | Rebel group cluster | year | Visit record | Legal political wing |
| Angola | UNITA | 1993 | 2 | 1 |
| Sierra Leone | AFRC, Kamajors, RUF | 1998 | 0 | 0 |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**Part V. UNIT OF ANALYSIS**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Our unit of analysis is the decision of warring parties in civil conflicts to grant the ICRC access to their detention centers. Our dataset correspondingly contains the visitation records of a national government and a rebel group cluster for each conflict year from 1991 to 2006. The rebel clusters are grouped according to the definition given in the Uppsala Conflict Data Program/[Peace Research Institute, Oslo](http://www.prio.no/) (UCDP/PRIO) Armed Conflict Dataset (PRIO dataset, hereafter). The PRIO dataset groups rebel organizations together if they have similar aims. For example, in 2003 and 2004, JEM, SLM/A, and SPLM/A are clustered together as rebel groups that are fighting the government of Sudan. In other words, the unit of observation – the unit on which [data](http://www.metagora.org/training/encyclopedia/data.html) are collected – of the PRIO dataset is the rebel group cluster.

Similarly, our unit of observation is the government-rebel-cluster-year primarily due to the nature of our dependent variable. ICRC annual reports usually mention whether their delegates could visit detainees held in either government or rebel group detention centers, without further specification of the particular rebel organization such visitation information refers to.[[27]](#footnote-27) Our choice for the unit of analysis followed the aggregation level of our dependent variable, not that of the independent variables.

Since our unit of observation is rebel clusters at the PRIO-level instead of rebel group at the NSA-level, we have aggregated some of our independent variables related to rebel group characteristics by creating ‘low’ and ‘high’ estimates. A low estimate is the lowest value of a variable for a rebel group cluster, and a high estimate is the highest value that variable takes for a rebel group in that same cluster. For instance, when coding the variable ‘mobilization capacity,’ we created two variables: ‘mobilization capacity low estimate’ and ‘mobilization capacity high estimate.’ Often the values for these two variables are the same, although sometimes they are different. When these values were different, we ran the statistical analyses using both the ‘high’ and the ‘low’ versions as a robustness check.

Below, we present two additional results using different units of observations. One is using “disaggregated” dataset with a government-rebel group-dyad year as the unit of observation. This would mean disaggregating rebel group clusters at the PRIO-level to individual rebel groups, as the Non-State Actor dataset (Cunningham et al. 2009) does. The other is using “aggregated” dataset, thinking that aggregating over conflicts may make sense if there is not temporal variation in the dependent variable.

**Disaggregation at the Government-Rebel-Group Dyad Level** In the following analyses, we disaggregate our data in cases of multiple rebel groups. We change our unit of analysis from ‘conflict-year’ to ‘dyad-year.’ We disaggregated our observations into government-rebel-dyad-year according to the NSA data and ran the same analysis with the disaggregated data. The analysis assumes that a visitation record for one rebel group also applies to each rebel group in the cluster, which may or may not be a tenuous assumption. The results are largely consistent with the analysis of our original dataset, as shown in Supplementary Table 38.[[28]](#footnote-28) In many cases, NSA level disaggregation added 70-130 observations to our dataset. Since the increase in observations adds statistical power, in most cases, the results became more significant. For instance, the presence of a rebel political wing was not significant at the PRIO data level but it became significant at the NSA data level. However, the central command control variable remained inconsistent, in some cases it was significant at the PRIO data level but not at the NSA data level.

**Supplementary Table 38**

**Ordered Probit Analyses of Rebel Group Access**

**for Rebel-Group Dyads (NSA Data Level)**

|  |  |  |
| --- | --- | --- |
|  | Model 1 | Model 2 |
|  | Baseline Model | Baseline Model with Controls |
|  |  |  |
| Legal political wing | .245 \*\*\*  (.079) | .253 \*\*  (.107) |
| Mobilization capacity |  | .398 \*\*  (.164) |
| Territorial control | .971 \*\*\*  (.166) | .856 \*\*\*  (.182) |
| Transnational support | .377 \*\*\*  (.074) | .429 \*\*\*  (.092) |
| Rebel group strength | .654 \*\*\*  (.103) | .547 \*\*\*  (.115) |
| Strength of central command | .198 \*  (.103) | .154  (.117) |
| Intensity of conflict |  | .223  (.179) |
| Duration of Conflict |  | -.002  (.007) |
| Mountainous Terrain |  | -.174 \*\*  (.073) |
| Time |  | .381 \*  (.182) |
| Time squared |  | -.031  (.030) |
| Time cubed |  | .000  (.001) |
| Cut 1 | 4.481  (.458) | 5.278  (.712) |
| Cut 2 | 4.795  (.481) | 5.637  (.730) |
| Total number of observations | 601 | 514 |

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Aggregation at the Conflict-Level** In the following analysis, we aggregate each government-rebel group cluster into a single data-point. Aggregating in this way might be one way to reduce the number of missing observations. Although we admit the merit of such alternative research design, we do have meaningful variations across time which cannot be aggregated easily, which is why we report the results with a more disaggregated dataset.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**Part VI. Results with Version 3.3 Non-state Actor Dataset**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

In the manuscript, we use the version 2.4 of the Non-State Actor (NSA) dataset released in 2009. We would like to note the differences between **NSA v 2.4 and PRIO rebel groups.** The Non-State Actor (NSA) v 2.4 dataset in general is more comprehensive than the PRIO dataset in terms of identifying and classifying rebel groups in civil conflicts. In NSA v 2.4 data, each rebel group is usually a data point in itself, whereas in the PRIO data, rebel groups with similar aims are grouped together, and thus considered as a single observation. The main differences we found when coding the NSA data into the PRIO rebel-group organization are:

* 1. The NSA v 2.4 dataset has more data points, as each rebel organization is considered independently of other rebel organizations fighting against a single government.
  2. Even if the NSA v 2.4 data is usually more comprehensive, sometimes the PRIO dataset will include a conflict-year that is absent in the NSA data. For instance, in Iraq, PRIO includes the PUK for 1996 but NSA does not.
  3. If a rebel group starts acting late in a calendar year (November/December), it appears in the NSA v 2.4 dataset for that year but not usually in PRIO.
  4. The PRIO dataset sometimes has additional information, as their time span includes 2006, whereas the NSA data only covers until 2003.
  5. At times NSA v 2.4 will classify a conflict between a rebel organization and a government as continuous, whereas this will not be the case in the PRIO dataset. For instance, in Angola, NSA includes FLEC from 1991 to ‘ongoing,’ whereas PRIO only includes FLEC-FAC or FLEC-R for the years 1991, 1994, 1996, 1997, 1998, 2002, 2004.
  6. Sometimes certain governments are included in NSA v 2.4 data but not in PRIO. An example of this for the time-span we examine is South Africa. However, the opposite is also true. For instance, the Nigerian and Thai governments are included in the PRIO data but not in the NSA data.

NSA version 3.3 was updated resolving the above differences. We examined whether these differences affected our conclusion. To do so, this section reports the results using the version 3.3 of the Non-State Actor (NSA) dataset released in 2012. The results are based on the same specification of our manuscript. In the following Supplementary Tables 39-41, we present the same models that are in the manuscript (Tables 3, 4, and 5 respectfully), but run with the NSA v 3.3 data. The side by side comparison of the results between v 2.4 and v 3.3 shows that the core results stay the same, only with slight changes in the decimal digits.

**Supplementary Table 39. (with updated NSA data, same specification to Table 3 in manuscript)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Model 3-1 | Model 3-2 | Model 3-3 | Model 3-4 | Model 3-5 | Model 3-6 |
|  | Legitimacy  Indicators | Military Balance | Structural Variables | Test of Reciprocity | Compliance in Interstate Wars | Other Human Rights Violations |
|  |  |  |  |  |  |  |
| Political regime type | 0.036\*\*\* | 0.020\*\* | 0.045\*\*\* | 0.063\*\*\* | 0.047\*\*\* | 0.036\*\*\* |
|  | (0.014) | (0.010) | (0.014) | (0.017) | (0.015) | (0.014) |
| Aid dependency | 0.031\*\*\* |  | 0.033\*\*\* | 0.032\*\*\* | 0.050\*\*\* | 0.031\*\*\* |
|  | (0.009) |  | (0.009) | (0.010) | (0.011) | (0.009) |
| Number of rebel groups |  | -0.035\* |  |  |  |  |
|  |  | (0.018) |  |  |  |  |
| Rebel group military strength |  | 0.284\*\*\* |  |  |  |  |
|  |  | (0.078) |  |  |  |  |
| Rebel access behavior (lagged) |  |  |  | 0.111 |  |  |
|  |  |  |  | (0.117) |  |  |
| Physical integrity index | 0.017 |  |  |  |  | 0.017 |
|  | (0.047) |  |  |  |  | (0.047) |
| Intensity of conflict |  |  | -0.434\*\*\* | -0.343\* |  |  |
|  |  |  | (0.149) | (0.183) |  |  |
| Mountainous terrain |  |  | -0.150\*\* | -0.191\*\* |  |  |
|  |  |  | (0.069) | (0.083) |  |  |
| Ethnic conflict |  |  |  |  | -0.341\*\*\* |  |
|  |  |  |  |  | (0.086) |  |
| (Duration of Conflict) | -0.003 | 0.063 | 0.030 | -0.188 | -0.009 | -0.003 |
|  | (0.157) | (0.136) | (0.161) | (0.218) | (0.162) | (0.157) |
|  | 0.013 | 0.008 | 0.011 | 0.042 | 0.011 | 0.013 |
|  | (0.025) | (0.023) | (0.026) | (0.033) | (0.025) | (0.025) |
|  | -0.001 | -0.001 | -0.001 | -0.002 | -0.001 | -0.001 |
|  | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
|  |  |  |  |  |  |  |
| Observations | 304 | 426 | 306 | 238 | 302 | 304 |

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Supplementary Table 40. (with updated NSA data, same specification to Table 4 in manuscript)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Model 4-1  Domestic Legitimacy Variables | Model 4-2  Organizational Structure Variables | Model 4-3  International Legitimacy Variables | Model 4-4  Control Variables: Structural Civil War Variables | Model 4-5  Test of Reciprocity | Model 4-6  Other Human Rights Violations |
| Legal political wing | 0.327\*\*\* | 0.371\*\*\* | 0.382\*\*\* | 0.280\*\* | 0.338\*\* | 0.311\*\* |
|  | (0.080) | (0.099) | (0.103) | (0.117) | (0.146) | (0.123) |
| Political regime type | -0.067\*\*\* | -0.059\*\*\* | -0.056\*\*\* | -0.060\*\*\* | -0.059\*\*\* | -0.048\*\* |
|  | (0.012) | (0.016) | (0.016) | (0.017) | (0.022) | (0.019) |
| Mobilization capacity | 0.848\*\*\* | 0.665\*\*\* | 0.507\*\*\* | 0.679\*\*\* | 0.824\*\*\* | 0.525\*\* |
|  | (0.175) | (0.172) | (0.195) | (0.213) | (0.261) | (0.227) |
| Territorial control | 1.166\*\*\* | 0.956\*\*\* | 1.061\*\*\* | 1.064\*\*\* | 1.138\*\*\* | 0.929\*\*\* |
|  | (0.180) | (0.191) | (0.208) | (0.238) | (0.284) | (0.261) |
| Transnational support |  |  | 0.383\*\*\* | 0.379\*\*\* | 0.319\*\*\* | 0.492\*\*\* |
|  |  |  | (0.091) | (0.102) | (0.123) | (0.115) |
| Rebel group military strength |  | 0.723\*\*\* | 0.682\*\*\* | 0.591\*\*\* | 0.667\*\*\* | 0.680\*\*\* |
|  |  | (0.116) | (0.117) | (0.125) | (0.155) | (0.132) |
| Strength of command and control |  | 0.424\*\*\* | 0.388\*\*\* | 0.390\*\* | 0.507\*\*\* | 0.384\*\* |
|  |  | (0.149) | (0.144) | (0.162) | (0.178) | (0.172) |
| Mountainous terrain |  |  |  | -0.172\*\* | -0.118 | -0.169\* |
|  |  |  |  | (0.086) | (0.114) | (0.098) |
| Intensity of conflict |  |  |  | 0.083 | 0.083 | 0.139 |
|  |  |  |  | (0.189) | (0.219) | (0.229) |
| Government access behavior (lagged) |  |  |  |  | 0.289  (0.291) |  |
| Civilian killing count |  |  |  |  |  | -0.002\*\* |
|  |  |  |  |  |  | (0.001) |
| (Duration of Conflict) | 0.268 | 0.160 | 0.184 | 0.375\* | 0.191 | 0.371 |
|  | (0.171) | (0.188) | (0.200) | (0.200) | (0.246) | (0.267) |
|  | -0.036 | -0.012 | -0.011 | -0.041 | -0.016 | -0.035 |
|  | (0.028) | (0.031) | (0.034) | (0.033) | (0.038) | (0.049) |
|  | 0.002 | 0.000 | 0.000 | 0.002 | 0.001 | 0.001 |
|  | (0.001) | (0.001) | (0.002) | (0.001) | (0.002) | (0.002) |
| Observations | 531 | 530 | 519 | 454 | 288 | 388 |

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Supplementary Table 41. (with updated NSA data, same specification to Table 5 in manuscript)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Model 5-1 | | Model 5-2 | | Model 5-3 | |
|  | Outcome Equation | Selection Equation | Outcome Equation | Selection Equation | Outcome Equation | Selection Equation |
| Legal political wing | 0.350\* |  | 1.395\*\*\* |  | 0.326 |  |
|  | (0.197) |  | (0.531) |  | (0.198) |  |
| Mobilization capacity |  |  | 2.141\*\*\* | 0.366\*\*\* |  |  |
|  |  |  | (0.763) | (0.127) |  |  |
| Territorial control | 0.640\* |  | -0.436 |  | 0.324 |  |
|  | (0.371) |  | (0.631) |  | (0.285) |  |
| Transnational support | 0.330 |  | 0.219 |  | 0.148 |  |
|  | (0.203) |  | (0.299) |  | (0.121) |  |
| Rebel group military strength | 0.102 |  | 0.003 |  | 0.008 |  |
|  | (0.210) |  | (0.406) |  | (0.148) |  |
| Strength of command and control |  |  | 0.132 |  |  |  |
|  |  |  | (0.370) |  |  |  |
| Civilian killing count |  |  |  |  | -0.003\*\*\* | 0.000 |
|  |  |  |  |  | (0.000) | (0.000) |
| (Duration of Conflict) | 0.086 | 0.040\*\* | 0.266 | 0.050\*\*\* | 0.124 | 0.030\*\*\* |
|  | (0.305) | (0.017) | (0.461) | (0.019) | (0.331) | (0.009) |
|  | -0.011 |  | -0.030 |  | -0.027 |  |
|  | (0.046) |  | (0.066) |  | (0.055) |  |
|  | 0.000 |  | 0.001 |  | 0.001 |  |
|  | (0.002) |  | (0.003) |  | (0.002) |  |
| Mountainous terrain |  | -0.169\*\* |  | -0.242\*\*\* |  | -0.157\*\* |
|  |  | (0.068) |  | (0.068) |  | (0.067) |
| Battlefield deaths (intensity of conflict) |  | 0.000\*\*\*  (0.000) |  | 0.000\*\*\*  (0.000) |  | 0.000\*\*\*  (0.000) |
| Size of rebel armed forces |  |  |  | 0.000\* |  |  |
|  |  |  |  | (0.000) |  |  |
| athrho | -0.673 |  | -0.293 |  | -11.577\*\* |  |
|  | (0.743) |  | (0.603) |  | (4.886) |  |
| Observations | 511 | 511 | 468 | 468 | 416 | 416 |

Robust standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**REFERENCES**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Achen, Christopher. 1986. *Statistical Analysis of Quasi-Experiments.* Berkeley: University of California Press.

Aeschlimann, Alain. 2005. “Protection of Detainees: ICRC Action behind Bars.” *International Review of the Red Cross*. 87(857): 83-122.

Cingranelli, David L. and David L. Richards. “The Cingranelli and Richards (CIRI) Human Rights Data Project.” *Human Rights Quarterly* 32: 401-424 (2010).

Cooley, Alexander, and James Ron. 2002. ‘The NGO Scramble: Organizational Insecurity and the Political Economy of Transnational Action,’ *International Security* 27: 5-39.

Cunningham, David, Kristian Skrede Gleditsch and Idean Salehyan, ‘It Takes Two: A Dyadic Analysis of Civil War Duration and Outcome,’ *Journal of Conflict Resolution*, 53 (2009), 570-97.

Downes, Alexander and Kathryn McNabb Cochran. 2010. “Targeting Civilians to Win? Assessing the Military Effectiveness of Civilian Victimization in Interstate War.” in *Rethinking Violence: States and Non-State Actors in Conflict*, ed. Adria Lawrence and Erica Chenoweth. Cambridge, Mass.: MIT Press.

Eck, Kristine and Lisa Hultman, ‘One-Sided Violence Against Civilians in War: Insights from New Fatality Data,’ *Journal of Peace Research,* 44 (2) (2007), 233-46.

Fearon, James. 2004. Why Do Some Civil Wars Last So Much Longer Than Others? *Journal of Peace Research.*41(3): 275-301.

Finnemore, Martha and Kathryn Sikkink. 1998. “International Norm Dynamics and Political Change,” *International Organization*, 52(4): 887-917

Gleditsch, Nils Petter et al. 2002. “Armed Conflict 1946–2001: A New Dataset,” *Journal of Peace Research*, 39(5): 615–37.

Hyde, Susan. 2011. [“Catch Us if You Can: Election Monitoring and International Norm Creation](http://hyde.research.yale.edu/CatchUs_Hyde.pdf)” *American Journal of Political Science.* 55(2): 356–369

International Committee of the Red Cross. Various Years. *Annual Reports*. ICRC Publications.

Licklider, Roy. 1995. The Consequences of Negotiated Settlements in Civil Wars, 1945–1993. *American Political Science Review*. 89(3): 681–90.

Little, Roderick, and Donald Rubin. 2002. *Statistical Analysis with Missing Data*. (Hoboken: Wiley-Interscience).

Marshall, Monty G. and Keith Jaggers. 2002. *Polity IV Project: Political Regime Characteristics and Transitions, 1800-2002*. Version p4v2002e [Computer File]. College Park, MD: Center for International Development and Conflict Management, University of Maryland. http://www.cidcm.umd.edu/inscr/polity/index.htm. (May 12 2010).

McHugh, Gerard, and Manuel Bessler, *Guidelines on Humanitarian Negotiations with Armed Groups* (New York: United Nations Office for the Coordination of Humanitarian Affairs OCHA, 2006).

Simmons, Beth. 2010.”Treaty Compliance and Violation.” *Annual Review of Political Science*, 13 (2010), 273-96.

Simmons, Beth, Elkins Z.  2004.  “[The Globalization of Liberalization: Policy Diffusion in the International Political Economy](http://scholar.harvard.edu/bsimmons/publications/globalization-liberalization-policy-diffusion-international-political-economy).” *American Political Science Review.* 98(1):171-189.

Sovey, Allison, and Donald Green. 2011. “Instrumental Variables Estimation in Political Science: A Readers’ Guide” American Journal of Political Science. 55(1): 188-200.

Stanton, Jessica.2009. Strategies of Violence and Restraint in Civil War. Ph.D. Dissertation, Columbia University.

Valentino, Benjamin, Paul Huth, and Dylan Balch-Lindsay. 2004. ‘Draining the Sea: Mass Killing and Guerrilla Warfare,’ *International Organization* 58 (1) 375–407.

1. Corresponding Author. [↑](#footnote-ref-1)
2. For the most comprehensive, recent review of the literature, see Simmons (2010). [↑](#footnote-ref-2)
3. See McHugh and Bessler (2006) for examples of the interaction between norm entrepreneurs (primarily humanitarian groups) and armed opposition groups. [↑](#footnote-ref-3)
4. In game theoretic terms, this would mean a large zone of pooling equilibrium where warring parties with bad behavior would mimic the behavior of those with good behavior by accepting the ICRC. [↑](#footnote-ref-4)
5. In game theoretic terms, this would mean the separation of types under a ‘separating equilibrium.’ ‘Types’ refers to the inherent characteristics of the signal sender that may or may not be known to the recipient of the signal. [↑](#footnote-ref-5)
6. Terrorist acts could be another indicator of human rights violations of rebel groups. We looked into the possibility of using the Global Terrorism Database (GTD) but the group lists between the PRIO Armed Conflict Dataset and the GTD datasets only partially match, which led us to use the civilian killing counts instead. [↑](#footnote-ref-6)
7. See Valentino et al. (2004) for a review of such an explanation. [↑](#footnote-ref-7)
8. We also ran the model using the variable “identity based conflicts” defined as, “those driven primarily by ethnic-religious-identity issues,” provided by Licklider (1995) and used by Valentino et al. (2004). The result is marginally significant. However, due to the restrictive temporal coverage of the variable and resulting small sample size, we do not report these results in Supplementary Table 10. [↑](#footnote-ref-8)
9. The variable is defined as, “wars that typically involve land conflict between a peripheral ethnic minority and state-supported migrants of a dominant ethnic group” (Fearon 2004). [↑](#footnote-ref-9)
10. Authors’ interview with a humanitarian worker at Mercy Corps, May 2010; Authors’ interview with a former UNHCR officer; June 2010; Authors’ interview with an ICRC official, August 2011. [↑](#footnote-ref-10)
11. Humanitarian agencies normally consider donors’ interests, as they are dependent on these donors and donors usually prefer to fund visible conflicts (Cooley and Ron 2002). [↑](#footnote-ref-11)
12. Humanitarian negotiations usually take one or two years. Due to this time constraint, conflicts of a shorter duration may not be easily accessed (McHugh & Bessler 2006). [↑](#footnote-ref-12)
13. In many conflicts, detention centers are accessible only by helicopters, making it difficult for the ICRC to carry out its mandate. [↑](#footnote-ref-13)
14. Authors’ interview with a former UNHCR official. [↑](#footnote-ref-14)
15. The mean rebel group size in our sample is 9,496 members, whereas the standard deviation is 16,629. Given this high standard deviation we cannot use the convention of looking at +/- one standard deviation from the mean. Instead, we chose 5,000 rebel group members as the threshold as it is a value around the median value. [↑](#footnote-ref-15)
16. The mean value for battlefield deaths in our dataset is 920, and the standard deviation is 3,167. Given the high value of the standard deviation relative to the mean we cannot use the conventional standard of adding and subtracting one standard deviation from the mean. Instead, we chose 1,000 battlefield deaths as the threshold, as it is a just over the median value. [↑](#footnote-ref-16)
17. UCDP Battle-deaths dataset, Version 5.0, available at <http://www.pcr.uu.se/research/ucdp/datasets/ucdp_battle-related_deaths_dataset/>. [↑](#footnote-ref-17)
18. We note that the Abkhazia forces evolved into a nation as of 2006, having broken away from Georgia; SCIRI (Supreme Council for Islamic Revolution in Iraq) is one of the main Shia parties in Iraq with established political and military wings. [↑](#footnote-ref-18)
19. This variable is from Valentino et al. (2004). [↑](#footnote-ref-19)
20. The mean for conflict duration in our sample is of 4.09 years, with a standard deviation of 3.52 years. In 57.43% of cases, the conflict lasted 3 years or less, which is why we chose 3 years of duration as the cut-off point to distinguish between conflicts of short and long duration. [↑](#footnote-ref-20)
21. We run the baseline model without the civilian support variable due to its limited temporal coverage. [↑](#footnote-ref-21)
22. A fixed effects model takes panel specific errors as fixed parameters, whereas a random effects model takes them as random variables drawn from a population distribution. One of the pitfalls of running a fixed effects model is that the analysis automatically drops the observations in which a covariate does not vary over time. In our case, the main covariates – political regime, rebel strength, number of opposition groups – are time invariant in most cases. Therefore the fixed effects model drops 56 conflicts from the analysis (249 observations out of 617). For this reason, we estimate a random effects model to prevent this loss. [↑](#footnote-ref-22)
23. Using panel data, we also conducted a generalized linear latent and mixed models as well as an ordered probit model, which both yielded similar results. [↑](#footnote-ref-23)
24. The legitimacy index used in this model is a combination of six legitimacy indicators: territorial control, legal rebel political wing, transnational support, mobilization capacity, strength of central command, and rebel military strength. [↑](#footnote-ref-24)
25. We also have five outlier cases where battle death counts are over 10,000. [↑](#footnote-ref-25)
26. Nearest matching in this sense is an optimization problem using the distance metric based on k-dimensional matching variables. One thing to note: since matching was not developed for time series cross-sectional datasets, we just use one-to-one matching not directly accounting for temporal dependence. As a result, sometimes, one group is matched against itself. As a robustness check, we also calculated the population average treatment effect (as opposed to the sample average treatment effect), using 1:4 matches instead of 1:1 matching. [↑](#footnote-ref-26)
27. Very rarely do ICRC annual reports contain detailed information regarding which rebel organization granted visits. For instance, in the 1994 report on Liberia they mention that: “While at the beginning of the year delegates were able to visit several hundred detainees held by ECOMOG (Monitoring Group of the Economic Community of West African States) and the NPFL (National Patriotic Front of Liberia) in eight places of detention, only two of these places in the Monrovia area were accessible by the end of the year and the number of detainees falling within the ICRC mandate dropped to around 30.” Another example of a detailed report was found in the Afghanistan section of the 1996 report: “The ICRC was granted access by the Taliban, and the other parties, to a growing number of detainees being held by them, as a result in particular of the fall of Kabul and the fighting that ensued. These included newly captured combatants. In many places, visits became monthly events. The ICRC was for the first time allowed to visit a number of places of detention in Kabul and to see persons being held by the Hezb-i-Wahdat and Harakat-i-Islami factions.” However, the most common reference to detainee visits are far more general, like for instance in the 1994 report on Iraq the ICRC annual report states that, “Following the clashes in May, delegates also had access to a number of detainees held by the various parties to the conflict.” [↑](#footnote-ref-27)
28. As noted above, there are some discrepancies in the rebel group lists between the PRIO and NSA data. The groups that are not matched between the PRIO and NSA datasets are dropped from the analysis. [↑](#footnote-ref-28)