Don't Bite the Hand that Feeds:

Rebel Funding Sources and the Use of Terrorism in Civil Wars

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Abstract

Why do some rebel groups resort to terrorism tactics, while others refrain from doing so? How rebel organizations finance their rebellion creates variation in the extent to which terrorism undermines their legitimacy. Rebel organizations pay attention to the legitimacy costs associated with terrorism. Organizations that rely primarily on civilian support, and to a lesser extent on foreign support, exercise more restraint in their use of terrorism. Rebels who finance their fight with lootable resources such as gems or drugs are least vulnerable to the costs of alienating domestic supporters. Thus, they are more likely to resort to terrorism and to employ more of it. The article elaborates this legitimacy-cost theory and tests it using new data on Terrorism in Armed Conflict from 1970 to 2007. We find robust support for the hypothesis that groups who finance their fight with natural resources are significantly more likely to employ terrorism (though not necessarily to conduct more deadly attacks) relative to those who rely on local civilian support. Groups with external sources of financing, such as foreign state support, may be more likely to engage in terrorism than those who rely on local civilians, but not significantly so.

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Introduction

Why do some rebel groups resort to terrorist tactics, while others refrain from doing so? Does the decision to use terrorism depend on the way in which rebel organizations finance their rebellion? Scholars have argued that rebels' source of financing affects their behavior, including treatment of civilians (Salehyan, Siroky, and Wood 2014; Weinstein 2007; Lujala 2009). This article develops a theory to explain how reliance on various funding sources might affect the extent to which rebel groups employ terrorism as part of their fight against the government. In general, rebel groups' use of terrorism undermines their legitimacy with domestic audiences. Rebels that rely on sources of funding other than domestic popular support—especially lootable resources such as gems and drugs, and to a lesser extent, foreign sponsorship—can more easily afford the legitimacy costs that come from using terrorist tactics. They are therefore more likely to employ terrorism than those constrained by domestic supporters.

We test the theory using a new data set of terrorism in civil wars from 1970 through 2007. Theories abound about why actors employ terrorism. However, until recently, existing datasets were ill-suited to test these theories because they include only groups that use terrorism and not similar groups that eschew terrorism. Studying terrorism in the context of civil wars offers a solution to this problem. Rebel groups provide a universe of comparable groups over which the use of terrorism varies. Recent studies have begun to explore more systematically variation in actors' use of terrorism in civil wars (Findley and Young 2012; Fortna 2015; Sambanis 2008; Stanton 2013; Thomas 2014; Wood 2014; Wood and Kathman 2014), but the difficulty of connecting the most comprehensive data sources on civil conflicts with those on terrorism has limited their efforts. The data developed here integrate UCDP/PRIO data on non-state actors in civil wars with the Global Terrorism Database's (GTD) information on incidents of terrorism in a more systematic and comprehensive way than has been done in the past.

We find consistent support for our hypothesis that rebel groups financing their fight with lootable resources are more likely to employ terrorism during civil war than are those relying on popular support. The data provide weaker support for the hypothesis that rebels with external support from foreign states are more likely to use terrorism relative to groups that rely primarily on popular support. These findings are consistent with our argument about legitimacy costs. Rebels dependent on local civilians find themselves constrained by the fact that terrorism undermines their domestic legitimacy. To a perhaps lesser extent, those who rely on foreign states may be constrained by concerns about their international legitimacy .

The Literature on Rebel Financing

Scholars have found a relationship between rebel group funding sources and several conflict outcomes, including: the duration of civil war (Buhaug, Gates, and Lujala 2009; Collier and Hoeffler 2004; Fearon and Laitin 2003; Koubi, Spilker, Böhmelt, and Bernauer 2013; Lujala 2009; 2010; Ross 2004; Testerman 2012), post-conflict peace (Rustad and Binningsbø 2012), and post-war democratization (Huang 2012, 119, 221). Natural resource financing may also influence rebels' choice over strategy and tactics, especially the use of violence. Weinstein (2007, Ch. 3) argues persuasively that easily extractable resources increase the likelihood of violence against civilians by affecting the recruitment process. In these resource-rich environments, rebel organizations attract a pool of more opportunistic, less disciplined recruits who often victimize civilians. In conflict zones without natural resources, organizations are forced to compete based on social endowments, such that the recruitment pool is more cohesive and disciplined. In his account, indiscriminate abuse by rank and file soldiers happens 'naturally' if rebel leaders cannot prevent it, but rebel leaders would prefer to target civilians selectively, for this is a much more effective way to control civilians. As he puts it: "Groups commit high levels of abuse not because of ethnic hatred or because it benefits them strategically but instead because their membership renders group leaders unable to discipline and restrain the use of force" (Weinstein 2007, 20). By contrast, we are concerned with explaining the central

leadership's deliberate choice to target civilians indiscriminately. To explain variation in the use of terrorism, we therefore focus our theory on the organization's incentives.

Salehyan et al. (2014) examine the effects of external sponsorship on rebels' treatment of civilians. They propose two mechanisms: groups that enjoy the support of outside sponsors may be less beholden to locals,[3] and foreign sponsors may actively encourage abuse of civilians. They suggest the latter may be less true of democratic sponsors, which adhere to strong human rights norms, than of autocratic sponsors. Our argument builds on and further tests some of their insights, but comes to rather different conclusions. Both Weinstein (2007) and Salehyan et al. (2014) examine civilian targeting writ large, while we focus on deliberately indiscriminate terrorism as a specific form of violence against civilians, as detailed below. Our theory also places greater emphasis on rebel leaders' agency in the choice of terrorism.

Finally, Brown (2015, 6, 43-51) argues that militant groups' dependence on local and international, especially diaspora, support influences the political costs associated with harming civilians. He applies this theory to explain the puzzling phenomenon of bombers who provide advance warning of their attacks to limit civilian casualties. Similarly, in their study of Islamist and nationalist rebels in the North Caucasus, Toft and Zhukov (2015, 233) argue that insurgents with external support are less concerned about the cost of fighting to the local population than are those who rely on local sources of support.[4]

Defining Terrorism

We define terrorism as the systematic use of intentionally indiscriminate violence against public civilian targets to influence a wider audience.[5] This definition is narrower than many in the literature that arguably

[3] Following the same logic, Fazal (2018, 201-04) includes contraband financing as a control variable, but finds it has no effect on civilian targeting.
[4] For an analysis of a similar logic on the government side, see Zhukov (2017, 59-62).
[5] While we focus here on terrorism by rebel groups, the definition can apply equally to deliberately indiscriminate attacks by government forces.

encompass all attacks by all rebel groups in all civil wars.[6] but broader than those that draw a mutually exclusive distinction between terrorism and guerrilla warfare or insurgency (Schmid and Jongman 1988, 13-18; Silke 1996, 24-26). Like many definitions of terrorism, ours focuses on deliberate attacks on civilians. This distinguishes terrorism, which only some groups engage in some of the time, from the normal attacks on military targets that all rebels engage in by definition.

Almost all rebel groups (and almost all governments involved in civil wars) attack civilians in some way or another (Stanton 2016, 30). However, not all forms of violence against civilians fit our definition of terrorism. We exclude the most common strategy of civilian targeting – what Stanton (2016, 44-45) refers to as "control" and Kydd and Walter (2006, 66-67) refer to as "intimidation." That is, we exclude targeted attacks on individuals that are used to ensure civilian cooperation with one's own side or to deter collaboration with the enemy. Much of the literature on the treatment of civilians in civil war focuses primarily on this type of violence (for example, Kalyvas 2006; Weinstein 2007; and others). Targeting civilians in this fashion is ubiquitous. But this is not what we normally think of as "terrorism," since the victims are targeted because they are perceived to be directly and materially aiding the enemy.[7] Focusing instead on deliberately indiscriminate violence, we seek to capture that which makes terrorism so terrifying – its arbitrary nature. Anyone going about his or her daily business, riding public transportation or doing the shopping, could be a victim of such attacks. The costs of terrorism to a group's legitimacy are particularly high because the targets are seen as (relatively) innocent. Distinguishing between terrorism and more ubiquitous forms of civilian targeting also helps us tease out the different causes of distinct types of violence. For example, we might expect reliance on the civilian population to have the opposite effect on discriminate violence to control the population as it does on terrorism. If rebels require greater collaboration

[6] Indeed, a surprising amount of the terrorism literature uses the terms terrorism and rebellion or insurgency interchangeably (e.g., Berman 2009, 158-59), or could do so with no loss of meaning (e.g., Hoffman 2006, 40).

[7] This is not to condone the targeting of civilians for the purposes of control, only to distinguish it from deliberately indiscriminate violence against civilians.

to survive, they have greater incentive to use violence to achieve it, making discriminate violence more likely and deliberately indiscriminate violence less likely (as argued below).

Our definition of terrorism also captures what the literature often refers to as the “symbolic" nature of terrorism – that it aims not to influence the victims of the violence but to send a political message to a wider audience (Crenshaw 1981, 379; McCormick 2003, 474; Cronin 2009, 7; Hoffman 2006, 40). An attack on a public market, for example, is not ultimately intended to influence shoppers, but rather the government. Note that this definition focuses on the tactics used by an organization – the types of attacks it carries out – not on the cause for which it fights. Rebel groups may be “terrorists" and “freedom fighters" simultaneously. And while we can condemn terrorism as a tactic, it is important that we not let our judgments of the morality of a group’s cause influence our measurement of whether it used terrorism.

Legitimacy Costs of Terrorism and Rebel Financing

Rebel groups might employ terrorism for several reasons. It is a relatively cheap and easy way to inflict pain on the enemy in a war of attrition, it draws attention to a cause, and can be used to provoke the government into over-reacting in ways that increase support for rebels. However, it also has significant drawbacks, not least that it entails very high legitimacy costs (Fortna 2015, 31).[8] We argue that a rebel group’s source of financing influences the group’s sensitivity to legitimacy costs associated with the use of terrorism.

The theory rests on two key premises: 1) rebel leaders are rational, making decisions regarding the use of terrorism strategically based on its costs and benefits; 2) because they use terrorism to influence a wider audience, rebel leaders weigh the costs and benefits of terrorism by anticipating responses from particular

[8] For in-depth definition and discussion of legitimacy, see Levi and Sacks (2009, 313-314), Levi, Sacks, and Tyler (2009, 354-356), Gilley (2009, 3-16), and Caspersen (2015, 186-188).

audiences. These audiences include the government from whom the rebels hope to coerce concessions, the domestic population, and international audiences. The domestic population includes an “aggrieved" population (in whose name rebels ostensibly fight), and a “mainstream" population (Fortna 2015, 7). International audiences include potential foreign sponsors (especially states, but also diasporas, and other non-state actors), as well as the international community writ large. The legitimacy effects of rebel financing sources run primarily through the “aggrieved" domestic population and potential external supporters. We therefore focus on those audiences here.

How rebels support and fund their fight will have important implications for whether and (to a lesser extent) how much they use terrorism. Rebels can finance their campaign through a number of different sources, or a combination thereof: local civilian support, foreign support, and/or easily “lootable" natural resources such as gems or drugs. The extent to which groups rely on each of these sources, we hypothesize, affects the extent to which terrorism is costly in terms of legitimacy. We also expect legitimacy costs to have stronger effects on whether a group uses terrorism at all than on the amount of terrorism if it chooses to employ this tactic. Groups arguably pay much higher legitimacy costs for the decision to use terrorism in the first place than they do for killing a few more people once they have already been branded as terrorists by relevant domestic and international audiences.

Groups that rely most heavily on local civilians for their material survival must worry the most about alienating potential supporters among the aggrieved population. Deliberate and indiscriminate attacks on civilians are a particularly poor way to win the “hearts and minds" of the civilian population. Terrorist attacks that kill members of the population on whose behalf the group ostensibly fights will be the most costly in terms of popular support.[9] However, even if attacks are directed largely against communities other

[9] See Goodwin (2006, 2031) on “categorical" terrorism.

than its own, this aggrieved population may be opposed to the use of terrorism for several reasons.[10] First, the indiscriminate nature of terrorism means that unless the populations are highly segregated, members of the aggrieved population may be caught in an attack. Second, the aggrieved population may worry that terrorism in their name will invite the state to respond with violence against their own communities. Indeed, Fortna (2015, 9-11) argues that terrorism is ineffective in part because it helps to legitimate a harsh and often indiscriminate response by the government, and makes the other side less likely to negotiate. Third, they may worry that terrorism undermines the legitimacy of their own struggle. Finally, they may simply believe terrorism is morally wrong. The legitimacy costs of terrorism are thus particularly high for rebels who rely on domestic support. We expect these rebels are least likely to employ terrorism. Rebels relying on civilian support should be loath to "bite the hand that feeds them."

Financial support from foreign sponsors frees rebels from these domestic legitimacy costs, but comes with its own legitimacy considerations. Rebels with external support are subject to international legitimacy costs; they must worry about alienating their foreign sponsors. We hypothesize that these international costs are somewhat less intense than the domestic costs for several reasons. First, we suspect that some foreign sponsors will be more concerned than others about their client's use of terrorism (see below). Second, because the domestic population bears the brunt of violence and harsh reprisals by the state, we expect the intensity of preferences against terrorism are higher for local supporters of a rebel group than for external supporters. Finally, we expect that the information available to the domestic audience is much better than the information available to foreign audiences. It is therefore harder for external sponsors to distinguish between deliberately indiscriminate attacks on civilians and the "normal" horrors of civil war.

[10] Existing data, unfortunately, do not allow us to distinguish between attacks on the "other" and attacks that target or unintentionally kill a group's own community. In auxiliary work, reported in the supplementary files, we test a hypothesis that the domestic legitimacy costs of terrorism are lower in ethnic conflicts where "us vs. them" dynamics might be stronger. We find only weak support for this idea; the effect of natural resources may be marginally stronger in ethnic than in non-conflicts, but not dramatically so.

Groups that rely heavily on easily extractable, "lootable" natural resources such as gems, drugs, illegal timber sales, etc. to finance the rebellion should pay the lowest legitimacy costs for terrorism. These organizations are not beholden to others with the power of the purse to cut off the flow of money and resources. Indeed, the extraction of lootable resources may be easiest for groups with a brutal and ruthless reputation, making terrorism an asset rather than a liability. Therefore, groups that rely on lootable natural resources are least constrained in their use of deliberately indiscriminate attacks on civilians.[11] In other words, we expect terrorism is used most by groups with lootable natural resource financing, and least by groups who rely primarily on the local civilian population for support, with those relying on external support somewhere in between.

Hypothesis 1. Rebel groups financed by the extraction of "lootable" natural resources are most likely to use terrorism, relative to those who rely on foreign sponsors, or those who rely on local civilians.

Hypothesis 2. Rebel groups supported by foreign sponsors are more likely to use terrorism than those who rely on local civilian support alone, but less so than those financed by natural resources.

Among foreign supported rebels, the legitimacy costs of terrorism may vary if some patrons care more about the norm against terrorism than others. Following Salehyan et al. (2014, 640-43, 648), we expect the legitimacy costs of terrorism are higher for groups funded by democratic sponsors than by non-democratic ones.[12] For example, we might expect the Kurdish Democratic Party in Iraq, which was financed in part by

[11] Outsiders who are willing to trade with rebels running drugs, conflict gems, or illegal timber are unlikely to disapprove of their trading partners' engaging in terrorism, as they have already proven willing to violate norms against illegal trade with militants.

[12] San-Akca (2014, 14) finds that democracies sometimes provide support for groups that use terrorism, but this is usually what she terms"passive support" – that is, they unwittingly allow (or fail to prevent) groups to operate in their territory. She finds democracies are less likely to provide active support for groups that use terrorism.

the US, to be more constrained by international legitimacy concerns than the Kurdish Workers' Party (PKK) in Turkey which has received funding from Syria and Iran, among others.[13]

Hypothesis 3. Rebels funded by foreign democracies will be less likely to employ terrorism than those funded by foreign non-democracies.

An additional testable hypothesis follows from the notion that concerns about the cost of terrorism to a group's legitimacy affect its decision to use terrorism in the first place more than its decision about how much terrorism to engage in once it has paid the initial legitimacy costs of turning to terrorism:

Hypothesis 4. Access to natural resource financing and external support, relative to reliance on civilian support, is more strongly related to a rebel group's decision to use terrorism at all than to the scale of terrorism used once adopted.

Note that there is an important degree of endogeneity baked into our theory. We argue that groups who rely on particular forms of financing are constrained in the present from using terrorism precisely because they anticipate that the use of terrorism might affect their access to these sources of financing in the future. There is a chicken-and-egg nature to the relationship between rebel funding and terrorism; it is circular, though

[13] Rebels who are supported financially by diaspora communities may also face different incentives than those funded by foreign states. On the one hand, diasporas are sometimes thought more hard-line than domestic supporters of a rebel group because they don't pay the costs of living with the conflict on a daily basis. This would lower the legitimacy costs of terrorism for diaspora-supported rebels. On the other hand, diaspora are civilians, likely with loved ones among the civilian population at home, and may be less cynical or less prone to realpolitik calculations than the leaders of states who sponsor rebels. This would increase the legitimacy costs of terrorism for diaspora-supported rebels relative to state-sponsored rebels. Unfortunately, we do not have sufficient data on diaspora funding for rebels to test these competing hypotheses. The external support data used in the main analyses below does not include support from non-state actors. The UCDP external support (examined below in robustness checks) includes a coding of support from non-state actors, but apparently uses a very high threshold for support such that very few (only 12) groups are coded as enjoying diaspora support. This does not give us enough empirical leverage for statistical testing.

not tautological. We thus do not argue that rebel financing drives terrorism in a 'causally identified' sense; rather we expect that, in equilibrium, there is a relationship between the two.

Examples

Before turning to the quantitative analysis, we provide some qualitative examples. Full process tracing case studies are beyond the scope and space constraints of this article. However, anecdotal evidence from a number of case comparisons, as well as evidence from existing detailed case studies of some of the rebel groups examined here, suggest the plausibility of our theory.

The rebel groups responsible for the most terrorism, in terms of average numbers killed in terrorist attacks, are those with access to resources other than local political support. Seven of the eight groups at the highest end of the scale, those responsible for over 80 fatalities a year on average, are coded as relying on natural resource financing (Sendero Luminoso), external support (the Lord's Resistance Army in Uganda, the GIA in Algeria, the FMLN in El Salvador, or the LTTE in Sri Lanka) or both (RENAMO in Mozambique or the Contras in Nicaragua). The one exception, AQI/ISIS (with an outlier average of 314 killed/year), is the exception that proves the rule.[14] AQI, as the organization was known until 2006, relied on stolen goods and spoils of war for revenue. Only about 5% of their revenue came from uncoerced support from the population (Johnston, Shapiro, Shatz, Bahney, Jung, Ryan, and Wallace 2016, 191, 196; Bahney, Shatz, Ganier, McPherson, and Sude 2010, 34-39).

[14] In the UCDP data we draw on here, "ISIS" refers throughout the conflict to the group that was known by various names, including the al-Zarqawi group and al-Qaida in Iraq (AQI), until 2006, when it became the Islamic State, even though "ISIS" was not used in the early years of the conflict. Note that the natural resource coding for AQI/ISIS covers only through 2006, so is based on AQI's financing. Were we to have more accurate up-to-date data, this group would be coded as having natural resource financing as ISIS relied heavily on oil, and other spoils (Johnston et al. 2016, 202).

Among those who have eschewed terrorism altogether, there are numerous groups who relied primarily on local political support. Examples include the Tigray People's Liberation Front in Ethiopia (Young 2006, 33-35), and the Free Papua Movement fighting against Indonesia (Osborne 1986). We see similar patterns if we look at variation among rebel groups fighting against the same government or in the same region. For example, in India, many of the groups that have been funded by external states, including both nationalist insurgents in Kashmir, Sikh insurgents, the All Tripura Tiger Force, the National Liberation Front of Tripura, the United Liberation Front of Assam, as well as Communist insurgent groups such as the People's War Group and the Maoist Communist Center, have engaged in deliberately indiscriminate attacks. Meanwhile, many of those who have neither external state financing nor natural resource financing, who rely instead on local support, have refrained from such attacks.[15] Examples include the All Bodo Students Union, the United National Liberation Front of Manipur, and the Communist Party of India (Marxist–Leninist).

Within Africa, terrorism has been relatively rare until quite recently (Boulden 2009, 13; Fortna 2015, 19-20). But the African rebel groups associated with the highest use of deliberately indiscriminate attacks have been those who fund their fight through external state support (Union of Forces for Democracy and Development in Chad, Uganda People's Army and Lord's Resistance Army in Uganda, and Front for the Restoration of Unity and Democracy (FRUD) in Djibouti), or external support and natural resources (Revolutionary United Front in Sierra Leone, Movement of Democratic Forces of Casamance in Senegal, National Union for the Total Independence (UNITA) of Angola, and RENAMO in Mozambique). The exceptions, the Ninjas in Congo-Brazzaville and the Allied Democratic Forces (ADF) in Uganda, are again exceptions that prove the rule. The Ninjas, like other militias in Congo financed their rebellion and "paid" their soldiers largely through looting (known variously as 'tuer le cochon [to kill the pig]' or 'N'Kossa [after

[15] There are a few exceptions however, both those with external support but no terrorism (the Issak-Muivah faction of the National Socialist Council of Nagaland & People's Liberation Army of Manipur) and those with no external support who nonetheless engage in terrorism (National Democratic Front of Bodoland, Tripura National Volunteers, Communist Party of India [Maoist]).

prominent oil fields in Congo], chacun aura sa part [everyone gets his share]' (Bazenguissa-Ganga 1999, 47). The ADF financed its fight and recruited soldiers through looting and abductions, but also (despite its coding in the data used here) "from a number of external sources, including Mobutu's Zaire, the Sudan government, Al Qaeda, and other radical Islamists," (Hovil and Werker 2005, 13). Indeed, Hovil and Werker argue that it was precisely the relationship with outside "financiers" that led the ADF to attack civilians.[16] In this case, early attacks undermined civilian support and caused civilians to flee the area en masse (Hovil and Werker 2005, 16-19), ultimately undercutting the ability of rebels to rely on the local population for resources and information. While not all of these attacks were the deliberately indiscriminate attacks we focus on here, this dynamic is consistent with the causal mechanisms of our theory.

Another case from Uganda, the Lord's Resistance Army (LRA), provides further suggestive evidence for our argument. As Stanton (2016) notes, the LRA began by attacking mostly government rather than civilian targets. It was '''among the population' at this point in the insurgency, receiving support from civilians and largely refraining from violence against civilians" (249). However, the group lost its base of civilian support over time, for two reasons: failure to articulate a coherent political ideology; and in response to brutal violence against civilians meant to deter collaboration with government militias (251-54). Meanwhile, the LRA began to receive support from Sudan. While the precise date of the start of this support is murky, it seems to have begun in late 1993 or 1994 by which time the LRA was receiving material supplies, including financing, training, weapons, and a safe haven in southern Sudan (255). The LRA continued to attack military targets after this point, but added to them a "strategy of extreme terrorism after 1994" (256-57).[17] Our data (described in more detail below) are consistent with this account. The LRA are responsible for no deliberately indiscriminate terrorist incidents from the start of the conflict in 1998 through at least 1992. In

[16] Note however, that despite fieldwork, they provide no direct evidence of this claim. They infer it from the fact that external financing existed, and other rationalist explanations cannot account for the violence.

[17] These attacks cannot be accounted for with Weinstein's argument about lack of centralized control as they were deliberate and strategic on the part of the leadership, nor by an argument that terrorism was driven by military weakness (Stanton 2016, 265-66).

1994, we see one or two incidents, killing 8–9 people (depending on which version of the measure is used). The data reveal an increase in the number of incidents, and especially the lethality of terrorism, in 1995 and continuing (with some year to year fluctuation) throughout the 2000s. Many of these were mass attacks (for example, 25 civilians killed in Apok in June 2004)[18] or attacks targeting public transportation. A typical example is the four civilians killed and twelve injured in an attack on a bus in August 2001 in Gulu district.[19]

Contrast this with the case the National Resistance Army (NRA) in Uganda, which relied much more heavily on local political support. Like almost all rebel groups, the NRA killed civilians (as well as the armed forces and police), but "targeted assassinations were the dominant form of NRA violence against noncombatants." (Weinstein 2007, 220). It refrained from the types of deliberately indiscriminate violence against civilians that are the focus of this study. Indeed, the number of people killed by the NRA in attacks that fit our definition of terrorism is zero.

Quantitative Research Design

Our data cover rebel groups in civil conflicts from 1970 to 2007 in the Uppsala-PRIO Armed Conflict Dataset v.1-2014 (UCDP).[20] The unit of analysis is the group-year.

Following Cunningham, Gleditsch, and Salehyan (2009, 588), we exclude wars that began as coups d'état or coup attempts.[21] These cases are arguably unlike the others, both in the way that opposition groups are

[18] GTD incident 200406090007.
[19] GTD incident 200108270006.
[20] We exclude the case of al-Qaida vs. the US as it is not a civil war. This case is an extreme outlier in fatalities from terrorist attacks (the 2,793 killed on 9/11 is more than double the next highest fatality count for a group year). Inclusion of this case would bias findings toward supporting our hypothesis that those relying on civilian support are most likely to refrain from terrorism.
[21] Following Fortna (2017, 20), we define coups as wars for which two out of three of the following sources indicated a coup or coup attempt: Cunningham et al.'s (2009, 2013) coding of conflict type, which provides a non-exhaustive list of coups; Powell and Thyne (2011); and Polity IV's data on coups (Marshall and Marshall 2010).

financed and in the use of terrorism. Coups tend to result in very short-lived wars (Ibid, 587) Because the rebels in these cases consist of military personnel, they begin with arms and military training and are therefore less reliant on the civilian population, external support, or natural resources. The financing constraints that drive our theory are thus not particularly applicable to these cases. Their inclusion would bias our results toward finding a positive relationship between natural resource or external financing and terrorism.[22]

Dependent Variable

The dependent variable is the use of terrorism, as defined above. We employ a new dataset on Terrorism in Armed Conflict (TAC) (Fortna, Lotito, and Rubin 2018). These data draw on information in the Global Terrorism Database (GTD) (LaFree and Dugan 2007). TAC employs a much more systematic and flexible system of identifying potential matches between GTD incidents and UCDP rebel organizations than has been used in the existing literature.[23] It is based on hand-coded matching of rebel groups, examining all perpetrators of all incidents in or targeting the country in question as potential matches. Notably, it provides a flexible system to allow for the option of including incidents for which the perpetrator is listed in GTD as a faction or umbrella group of the UCDP group, or by a "generic descriptor" (e.g "Kurdish separatists" vis-à-vis the PKK). The main analyses in this article measure a group's use of terrorism based only on incidents with direct actor matches across the datasets (version A): this measure attributes an attack to a rebel group only if the perpetrator in GTD and in the UCDP group are the same, including the group's armed wing, acronyms, translations, and groups identified by a leader's name. However, in robustness checks, we also

[22] Because our measures of rebel financing code only external support and natural resource financing, with civilian support the default option (see below), rebels involved in coups may erroneously be treated as relying on local civilian support. As they engage in very little terrorism (Fortna 2017, 20), this measurement error would strengthen the results reported here.

[23] For example, TAC codes direct matches for 98 UCDP groups that are missed by the TORG crosswalk data (Cousins 2014).

analyze version B, which also includes umbrella groups and factions, and version E, which includes, inter alia, applicable attacks assigned to generic descriptors of the perpetrator.

The GTD definition of terrorism is deliberately very broad. TAC uses GTD filtering criteria, attack type, and target type in an attempt to capture only attacks that fall under the narrower definition of deliberately indiscriminate terrorism used here.[24] Because intent is hard to ascertain, and because GTD includes no measure of the discriminate or indiscriminate nature of an attack, this attempt is necessarily imperfect. The main analysis uses TAC's "more restrictive" version which includes a smaller set of target and attack types, erring on the side of excluding incidents that are unlikely to be deliberately indiscriminate attacks on civilians. In robustness tests, we also estimate the models using a "less restrictive" definition, including a broader set of attack and target types, and thus erring on the side of inclusion. Details on the creation of the TAC data set, including its multiple levels of UCDP group–GTD perpetrator matching, and the attack type and target types included in the more and less restrictive versions of the counts, may be found in Fortna, Lotito, and Rubin (2018).

How we conceptualize the "amount" of terrorism, as incidents or as fatalities, can affect results (Young 2014, 10-12, 18). Indeed, a large proportion of incidents in GTD produce no fatalities. Our analysis here focuses primarily on fatalities, rather than the number of incidents that attempt or threaten to kill civilians or damage property, because fatalities should be the most important for driving the legitimacy constraints mechanism. In robustness checks, we also consider fatal incidents (in which non-perpetrator fatalities are greater than zero), mass terrorist incidents (non-perpetrator fatalities of 5 or more), and total incidents, although we expect weaker results particularly for the latter. TAC includes yearly measures of terrorism for

[24] By definition or by GTD coding rules, any deliberate attack by a rebel group involved in a civil war meets the three basic criteria for inclusion in GTD, as well as its first filtering criterion (political, social, etc. goal). We include only incidents that meet both of the other filtering criteria (influence a wider audience and attacks on non-combatants) as well. We use information on attack type and target to exclude attacks on military, government, police, assassinations of specific civilians, and other discriminate attacks.

each group; not only for active conflict years (> 25 battle deaths) but also years in between active conflict years, which we call a "lull" in the conflict.[25]

Figure 1: Terrorism Fatalities

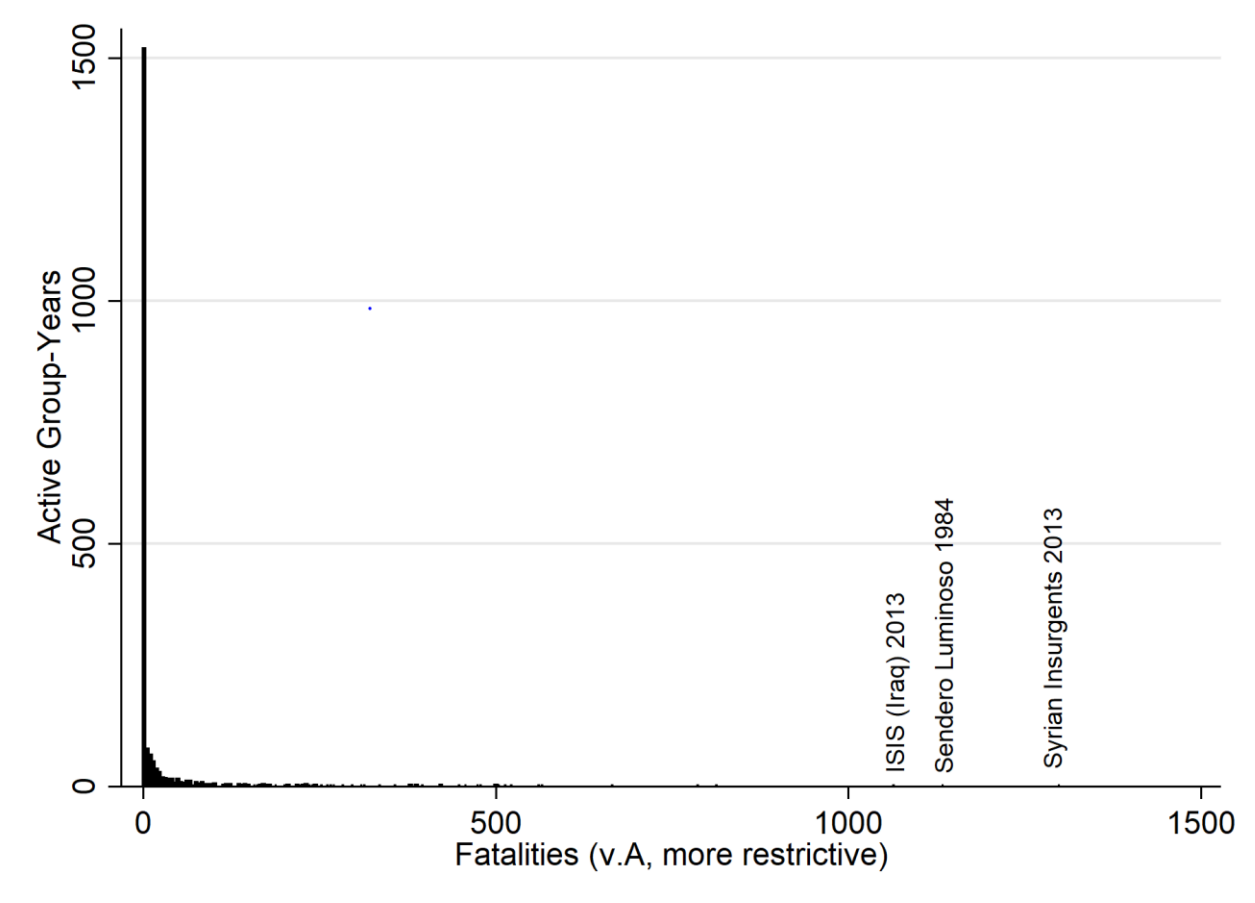

Figure 1 shows the distribution of the dependent variable: annual fatalities from acts of terrorism attributed to a rebel group. Most rebel groups refrain from using terrorism most of the time. The majority of group-years in the final sample, 85%, see no fatal terrorist attacks. And even when there are attacks, the

[25] In robustness checks, we analyze active conflict years only to ensure that data interpolation issues for these observations (see below) are not driving results.

number killed is often quite low, with 10 or fewer fatalities in 92% of group-years.[26] But the tail of the distribution is quite long, with over 1,000 killed by Sendero Luminoso in Peru in 1984, and over 500 in a single year by the LTTE in Sri Lanka, the LRA in Uganda, ISIS in Iraq, and the FMLN in El Salvador.

Independent Variables

The key independent variables for this study are rebels' funding sources, including access to natural resources and support from external patrons. Unfortunately, we lack direct data on the extent to which rebels rely on local civilian financial support. In the absence of better data, we assume, by process of elimination, that rebels with no access to external sponsors or natural resources are those who rely most heavily on domestic support. But we know that rebel sources of financing are not mutually exclusive, making this an imperfect proxy.[27] This measurement error should bias against finding support for our theory's predictions.

To measure whether a rebel group financed its fight with natural resources, we use data from Rustad and Binningsbø (2012) (hereafter R & B), who code whether "natural resources provided income for the opposition side" in the conflict (536).[28] This includes income from precious gems, drugs, timber, crude oil, and other natural resources. This measure is coded at the conflict level, unfortunately, not at the level of the individual rebel group.[29] However, unlike data commonly used in the literature on natural resources and

[26] These numbers are lower, of course, for the less restrictive measure (83% with 0 fatalities and 90% with 10 or fewer) or when matching includes wider categories of perpetrators. For the more restrictive measure, version B, 83% of group-years see 0 fatalities, and 91% see 10 or fewer. For version E, which includes "generic descriptor" perpetrators from GTD, only 76% see 0 fatalities, and 86% see 10 or fewer. Even with this very inclusive counting of terrorism, however, most groups refrain from its use most of the time.

[27] To our knowledge only two data sources (Huang 2012; Testerman 2012) code reliance on civilian support. Unfortunately these data cover only large-scale wars (meeting the Correlates of War 1000 battle deaths threshold).

[28] R & B data are available only for conflicts which started prior to 2007. Because R & B data are collected for conflict episodes and do not change over time, we fill in all lull years with the value on finance coded for the conflict as a whole.

[29] This introduces measurement error because not all groups involved in the same war fund themselves the same way.

conflict (for example, Lujala 2009), this variable measures whether a rebel group actually used these resources to finance its fight, not just whether they were present in the conflict area. For example, both the PKK in Turkey, and Armed Forces of Cabinda (FLEC-FAC) and Liberation of the Enclave of Cabinda-Renewal (FLEC-R), two rebel groups in the Cabinda region in Angola, fight in areas that contain lootable natural resources, including gold and petroleum (according to Lujala's data), but do not finance their fight with these resources (according to R & B). While the location of lootable resources (Lujala 2009, 2010) is appropriate for many studies investigating incentives to control territory and institutions of power (state-as-prize mechanisms) and conflict onset and duration, it is insufficient for capturing how rebel groups actually finance their fighting. R & B also include additional types of natural resources, including timber, an important source of revenue for rebels, for example, in the Casamance region in Senegal and in a number of conflicts in Myanmar.

We measure foreign support for rebel groups using the Dangerous Dyads (DD) data (San-Akca 2016), which build upon the UCDP External Support Data (Högbladh, Pettersson, and Themnér 2011). Both of these datasets include information on each supporter and the form of support provided for every rebel group involved in a UCDP-defined civil conflict in each particular year.[30] Among other reasons to prefer San-Akca's data over UCDP's external support data is that DD covers all years beginning with the rebel group's inception until a decisive termination of conflict, not just active conflict years (> 25 battle deaths). This is important to our analysis for two reasons. First, rebel groups may use terrorism even in years in which fewer than 25 battle deaths occur, and excluding these years would truncate the sample of conflict-years in a systematic way that might bias the results. Second, it allows us to lag the measure of external support, which we do partly because access to financing may have a delayed effect on strategic and tactical decisions, and

[30] Types of support include: sending troops, access to military or intelligence infrastructure or joint operations, access to territory (for example, for bases or sanctuary), supply of weapons, materiel or logistics support, training and expertise, funding and economic support, supply of intelligence, other or unknown forms of support. Not all of these types of support constitute funding per se, but the legitimacy-cost argument should apply to all of them because they directly increase the rebel group's capacity to challenge the state. We include only direct (intentional) support, not de facto support.

partly to help us isolate temporally the effect of state sponsorship on terrorism from the subsequent effect of terrorism on external support.[31] This is difficult because, as noted above, how rebel groups finance their fight is not entirely exogenous. Our legitimacy-cost argument implies that rebels may be more likely to finance their fight through alternative sources if prior terrorism has alienated the civilian population. We lag the measure of external support to test whether external support in the previous year is related to the use of terrorism in the current year; that is, to examine one part of the causal circle.[32]

Table 1: Rebel Natural Resources and External Support

By Rebel Group-Year

		External Support		
		0	1	Total
Natural Resources	0	1323 (23%)	**1462 (26%)**	2785 (71%)
	1	**484 (9%)**	**630 (11%)**	1114 (29%)
	Total	1807 (46%)	2092 (54%)	3899

By Rebel Group

		External Support		
		0	1	Total
Natural Resources	0	88 (30%)	**130 (45%)**	218 (75%)
	1	**25 (9%)**	**47 (16%)**	72 (25%)
	Total	113 (39%)	177 (61%)	290

Unfortunately, because available data on natural resource financing are time-invariant we cannot meaningfully lag this measure to ensure temporal precedence. However, we have reason to suspect that, relative to external support, reliance on natural resources to finance rebellion may be somewhat less affected by prior use of terrorism. Natural resoure funding depends on the availability of easily lootable resources in the conflict zone. That is, it is determined at least in part by exogenous geographic factors. We also control for the use of terrorism in the previous year (lagged dependent variable) and for the cumulative use of

[31] We also investigate the robustness of the results to using the UCDP data.

[32] Note that we do not intend this as a strategy of causal identification, which as Bellemare, Masaki, and Pepinsky (2017, 959-61) explain it cannot accomplish, but merely to ensure that the explanatory variable is measured temporally prior to the dependent variable.

terrorism to date in robustness checks, to further isolate the effects of financing on terrorism from the effects of prior terrorism on financing.

For ease of interpretation, we construct three dummy variables to capture groups with natural resource financing but no external support, external support but no natural resource financing, and both external support and natural resource financing. Each of these can be compared to the omitted baseline category (neither natural resources nor external support) that we assume relies on civilian support. Table 1 describes the distribution of the main independent variables. Consistent with the literature on rebel financing and conflict onset, conflicts tend to occur in places where alternative sources of financing are available; 70% of rebel groups finance their fight, at some point in the conflict, through natural resources, external support, or both, while only 30% rely exclusively on the civilian population.

To test Hypothesis 3, we coded the regime type of each state supporter using the X-Polity dataset (Vreeland 2008) and disaggregated external support by the regime type of the sponsor(s) with dummy variables capturing whether supporters were democratic, non-democratic, or included both democratic and non-democratic states.

Control Variables

We include control variables plausibly related both to rebel funding sources and terrorism. We control for the incompatibility at stake in the conflict, using UCDP's measure of whether the war was over territorial issues (including secession, autonomy, and other territorial issues), or over control of the central government. While some suggest that territorial issues, particularly separatist conflicts, will be more prone to terrorism (Pape 2005, Ch. 6; Stanton 2013, 1015), Fazal (2018, Ch. 8) suggests secessionist conflicts will

be less prone to terrorism. The measure of territorial conflict does not overlap perfectly with secessionist goals, but is likely highly correlated.[33]

We include the regime type of the government side in the civil war, which might affect other states' willingness to sponsor rebellions, and which has been found a robust predictor of terrorism in civil wars.[34] Our measure of regime type fixes two limitations with the commonly used Polity scores: 1) we follow the method used in the X-Polity dataset (Vreeland 2008, 407-408) to remove the components of Polity "contaminated" by the presence of a civil war; 2) we use a method to code "interregnum" years rather than arbitrarily setting them to 0 as does Polity2 (Plümper and Neumayer 2010, 214-216).[35] This interpolated X-Polity score ranges from -6 to 7. Because terrorism might affect democracy as well as the other way around, we lag this measure by one year. As a robustness check, we also measure regime type using the V-Dem Polyarchy measure (Lindberg, Coppedge, Gerring, and Teorell. 2014).

The strength of rebels relative to the government they fight might also be related to funding sources. Conventional wisdom holds that rebel strength is a predictor of terrorism because terrorism is a "weapon of the weak," though empirical support for the relationship is surprisingly thin (Fortna 2017; Hendrix and Young 2012). Here we use the measure of rebels' military capabilities relative to the government from the Cunningham et al. (2013) Non-State Actor data. We lag this measure by one year to account for the fact that the use of terrorism may affect strength as well as the other way around.

For similar reasons we also lag the control for economic development (real GDP per capita, data from Gleditsch 2002) which serves as a proxy for state capacity (Fearon and Laitin 2003, 80; Hendrix and Young

[33] Note that rebel group ideology (rightist, leftist, or theocratic) is surprisingly uncorrelated with state sponsorship (correlation < .06) alleviating concerns that its omission might lead to spurious findings.
[34] For a review see Chenoweth (2013).
[35] We set "interregnum" years to the lower of the non-missing X-Polity observations before and after the missing period, and then interpolate "transition" years (following the Polity2 method).

2014, 331). We are somewhat agnostic as to the direction of this effect. On the one hand, we expect that countries with greater capabilities will have the resources to invest in counter-terrorism measures, which will lead to more effective interdiction of planned acts of terrorism. On the other hand, state capacity is also a measure of the relative weakness of rebels, so this variable provides an additional control for "weapon of the weak" arguments. Since economic development is related to the natural resources available in the country, we must control for it in the statistical model to avoid potentially spurious results.

Levels of terrorist violence may simply be driven by the overall level of fighting in the conflict. We therefore control for the intensity of the conflict using an ordered categorical variable: 0 for lull years (< 25 battle deaths); 1 for years of "minor war" (25–999 battle deaths); 2 for "major war" years (> 1000 battle deaths). We include a control for the Cold War period because the rivalry between the superpowers affected patterns of external support in civil wars, and because studies of terrorism have found it decreased after the Cold War (Chenoweth 2010, 23; Enders and Sandler 1999). Finally, we control for potential changes in the way the data were generated as GTD moved institutions.[36] We thus distinguish between incidents prior to 1998 from those after that date.

Our measure of indiscriminate terrorism as a deliberate strategic choice made by rebel leaders is not perfect. It may pick up a fair amount of the type of violence that Weinstein (2007) and others study – that is, indiscriminate violence against civilians carried out by rank and file members of a rebel group because leaders are unable to control their actions. This 'soldiers will be soldiers' violence should, following Weinstein's logic, be inversely proportional to the strength of centralized control exercised by rebel leadership. To test the quality of our dependent variable's measurement, we therefore include a measure of the strength of rebels' centralized control (none, low, or high) derived from the Cunningham et al. (2013) Non-State Actor data. If our data are accidentally picking up violence that is not deliberately indiscriminate,

[36] Data from 1993 were lost in one of these moves.

then the stronger rebels' centralized control, the less 'terrorism' we should observe. If we do not observe this relationship, we can have greater confidence that our dependent variable represents intentionally indiscriminate terrorism.

Statistical Model

Our main data analysis covers 280 distinct rebel groups and 3,126 group-years.[37] The main dependent variable, terrorism fatalities, is a count variable with two important distributional characteristics: 1) its variance is greater than its mean, with severe right-skewness and 2) a high proportion of zeros (see Figure 1). Therefore, we use a zero-inflated negative binomial (ZINB) model to estimate the effect of key predictors on terrorism.[38] ZINB models include two components: a point mass at zero and a count model for non-zero values. The first (zero-inflation) models eligibility for non-zero values. Some observations have a count of zero predicted by the point mass, suggesting that the rebel group perpetrated no acts of terrorism because they are unwilling or unable to use terrorism at all. Other observations have a count of zero because even though a group may be willing and able to use terrorism, it did not do so in the specific year. The mixture model is designed to separate the data into these two distinct processes. If theoretical intuition suggests the outcome is produced, at least approximately, by these two processes, then the ZINB model is appropriate.

We believe this is the case here: a rebel group may never engage in terrorism, or may do so sometimes but not in a given year. Groups may not see terrorism as viable if the government is not vulnerable to pressures from citizens to change policy, for example, or because the normative costs of terrorism are so high that the

[37] TAC covers 409 groups in total, but dropping coups, US–al-Qaida, cases that begin after 2006, and cases for which our independent variables are missing because the Rustad and Binningsbø (2012) data are based on an earlier version of UCDP, leads to a lower N. Of the 290 groups in Table 1, a further 10 are dropped from the multivariate analysis because of missingness on key control variables.

[38] A comparison of Bayesian information criteria indicates a zero-inflated negative binomial (7451.896) is preferred over an ordinary negative binomial regression model (8103.575).

group does not even contemplate this tactic. Importantly, the ZINB model allows us to distinguish the effect of factors on whether terrorism is used at all from effects on how much it is used, allowing us to test Hypothesis 4.

ZINB results must be interpreted with care across the two models, however, because the substantive interpretation of the sign of the coefficients flips between the two models. Positive coefficient estimates in the count model indicate the predictor increases the count ("amount") of terrorism, conditional on the decision to use terrorism in the first place. But, in the zero-inflation model, positive coefficient estimates indicate that the predictor increases the probability of zero fatalities, that is, the probability the group has decided to eschew the use of terrorism altogether. In other words, a positive coefficient in the inflation model suggests the predictor decreases the use of terrorism. Standard error estimates are adjusted for clustering by conflict.

Findings

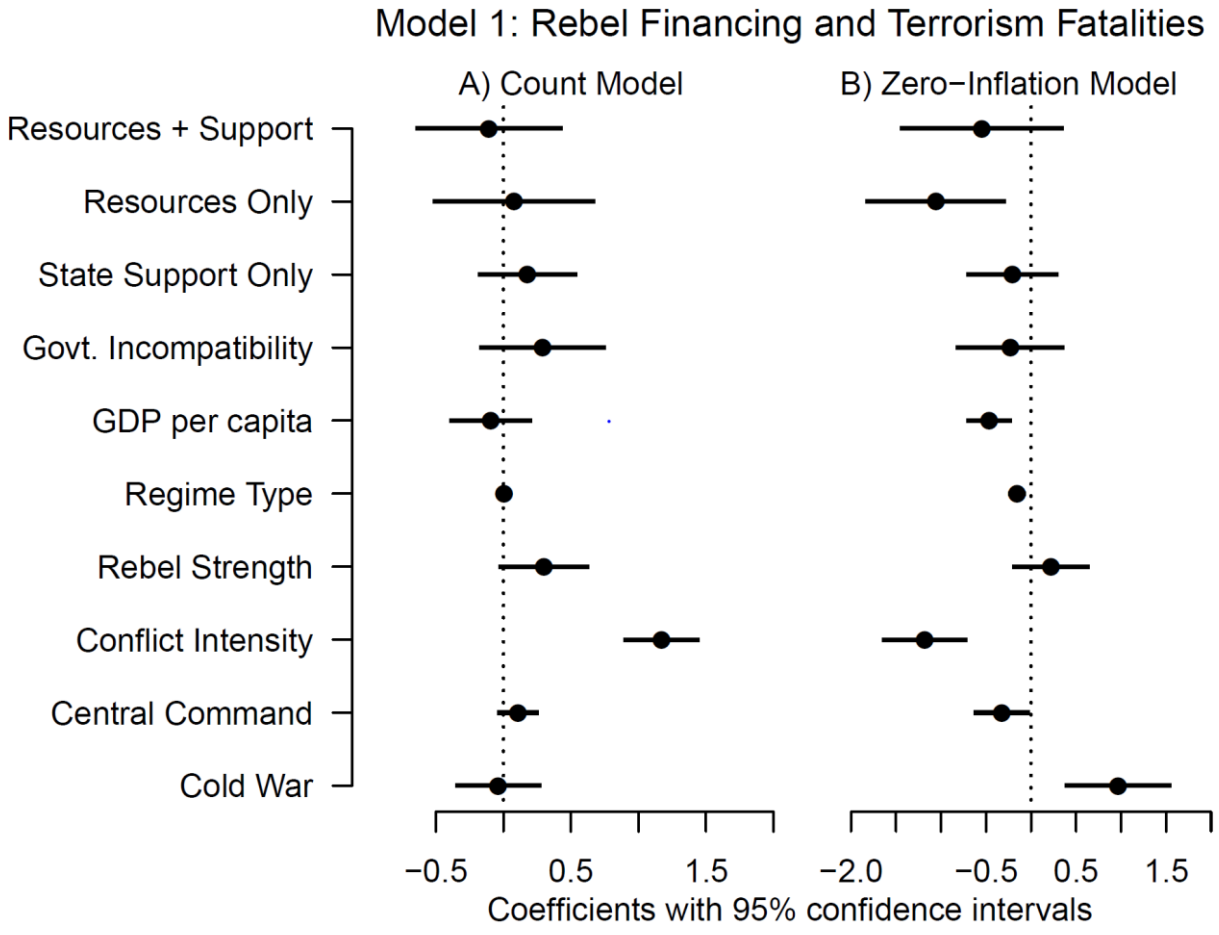

Figure 2. ZINB model. N (Group-Years) = 3,126. Groups = 280.
Dependent Variable: # Fatalities resulting from incidents of terrorism, using the most restrictive definition of terrorism, and including incidents attributed to perpetrator names representing only direct matches and armed wings (Type A). All Predictors are lagged 1 year.
Panels A and B: Dots represent coefficient point estimates and horizontal bars represent the 95% Confidence Interval. Standard Errors are clustered by UCDP ConflictID.

Our findings are consistent with Hypotheses 1, 2, and 4, but not Hypothesis 3. That is, we find that rebel groups with access to natural resource financing are especially likely to use terrorism, groups with access to external support less so but possibly more likely than groups that rely exclusively on civilian support, and that the effect operates primarily through the adoption of terrorism rather than the amount. Figure 2

presents the coefficient estimates and Figure 3 the marginal effects results[39] from the zero-inflated negative binomial model estimation. The dependent variable is the annual number of fatalities from acts of terrorism attributed to the rebel group (from TAC, version A: direct matches and armed wings only; more restrictive measure of deliberately indiscriminate terrorism). Figure 3A presents the change in the predicted number of fatalities associated with a one-unit increase in the respective predictor and Figure 3B presents the change in the probability of 0 fatalities from acts of terrorism in the rebel group-year associated with a one-unit increase in the predictor.

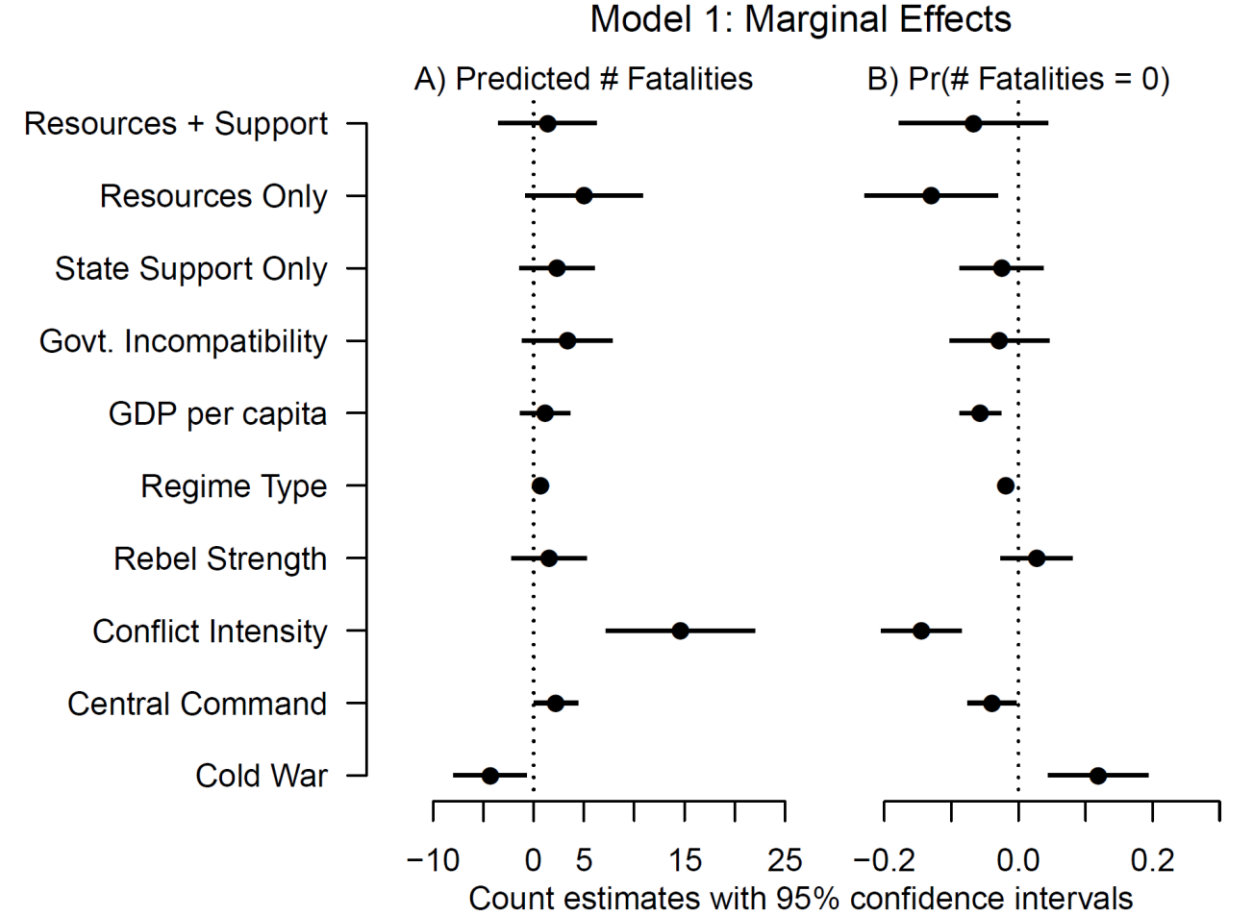

Figure 3. Panel A: Dots represent change in the predicted number of fatalities from a group's incidents of terrorism in the year associated with a one-unit change in the predictor. Horizontal bars represent the 95% confidence interval.

[39] Because both the count and zero-inflation models are non-linear, the coefficient estimates presented in Figure 2 cannot be interpreted substantively.

Panel B: Dots represent the change in the predicted probability the group commits 0 incidents of terrorism in the year associated with a one-unit change in the predictor. Horizontal bars represent the 95% confidence interval.

Groups that finance their rebellion using lootable natural resources, but do not enjoy state support, are more likely than those who rely on civilian support to use terrorism (negative, statistically significant coefficient in the zero-inflation model), which supports Hypothesis 1. Though also negative in the zero-inflation model, the coefficient estimate for rebels who rely on external support is statistically indistinguishable from 0 and the estimated marginal effect is comparatively very close to 0. Among groups with natural resource financing, those who also have external state patrons may be somewhat less likely to engage in terrorism (the coefficient is closer to 0), suggesting that these international legitimacy costs may constrain even those with alternative funding sources. These results suggest that natural resource financing reduces concerns about legitimacy and increases the use of terrorism, but that the effect of external support is weak or mixed. But the confidence intervals of these two coefficients overlap to a considerable degree, so we can have very little confidence in the relative size of these coefficients. The lack of a clear difference between externally supported rebels and those who (by assumption) rely on local civilian support may indicate that international legitimacy costs are (nearly) as important as domestic ones, or that the effect of external support is mixed, with countervailing effects on legitimacy costs depending on the type of external supporter or the supporter's goals. The latter possibility is explored in the test of Hypothesis 3.

Consistent with Hypothesis 4, the effect of natural resource financing is statistically significant in the zero-inflation portion of the model but not the count model, suggesting an effect on decision whether to adopt terrorism as a tactic rather than on the scale of terrorism used. Once legitimacy costs of terrorism have been paid by initial attacks, there is no significant effect of rebel financing on the number of fatalities per year. To put it another way, rebel groups who rely most strongly on the civilian population to finance their fighting are significantly less likely to turn to terrorism in the first place than are groups with access to natural

resource financing. Groups willing to pay the legitimacy costs of initial attacks are not restrained by their financing in how much terrorism they use.

Importantly, note that these findings hold despite controlling for the strength of rebels' centralized control. This suggest that our measure of terrorism is not undly "contaminated" by incidents of civilian abuse perpetrated by rank and file militants not authorized by rebel leadership, that is, by incidents that are indiscriminate, but are not intentionally adopted by rebel leadership as part of a strategy to achieve political goals. If it were, we would expect to see a negative relationship between centralized control and our dependent variable. If anything, we see the opposite. The coefficient for strength of centralized control is positive, though statistically insignificant, in the count model and significantly negative in the zero-inflation model. Rebels with stronger centralized control are more, not less, likely to target civilians indiscriminately. Furthermore, the substantive interpretation of the coefficient estimates on the measures for natural resource financing and external support are unchanged whether this variable is included or excluded from the model. These findings, though far from definitive, greatly reduce the concern that our measure of terrorism is picking up the 'soldiers will be soldiers' violence discussed in Weinstein (2007), and increase confidence in our data and the inferences drawn supporting the legitimacy-cost theory.

Robustness Checks

We examine the robustness of these results to a number of modeling and measurement choices, summarized in Table 2. Figure 4 presents the zero-inflation model coefficient estimates for each of the main dichotomous variables of interest (natural resources and external support, natural resources without external support, and external support without natural resources, respectively), comparing results for each robustness check to the main results reported in Model 1[40] The results are largely consistent across model

[40] Due to space constraints, we report the count model results in the supplementary materials. We also report the full results of these alternative model specifications.

specifications: groups with natural resources, but without external support (Figure 4B), remain consistently negative in the zero-inflation model and are generally significant, with a few exceptions.

Table 2: Robustness Checks

	Modification	Robust?
1	Least restrictive measure of deliberately indiscriminate attacks.	Yes
2	UCDP–GTD match version B (factions & umbrella groups).	Yes
3	UCDP–GTD match version E (affiliates & generic descriptors).	No
4	Dependent variable: fatal incidents.	Weak
5	Dependent variable: mass incidents.	Weak
6	Dependent variable: total incidents.	Weak
7	UCDP measure of external support.	Weak
8	Include lagged dependent variable.	Yes
9	Include cumulative dependent variable.	No
10	Add control for ethnic conflict.	Yes
11	V-Dem measure of regime type.	Yes
12*	Dropping each rebel group in turn.	Yes
13*	Dropping outliers.	Yes
14*	Negative binomial model with conflict & year random effects.	Yes

*The coefficient estimates and confidence intervals for robustness checks 12–14 are not reported in Figure 4, but the results are reported in the supplementary materials.

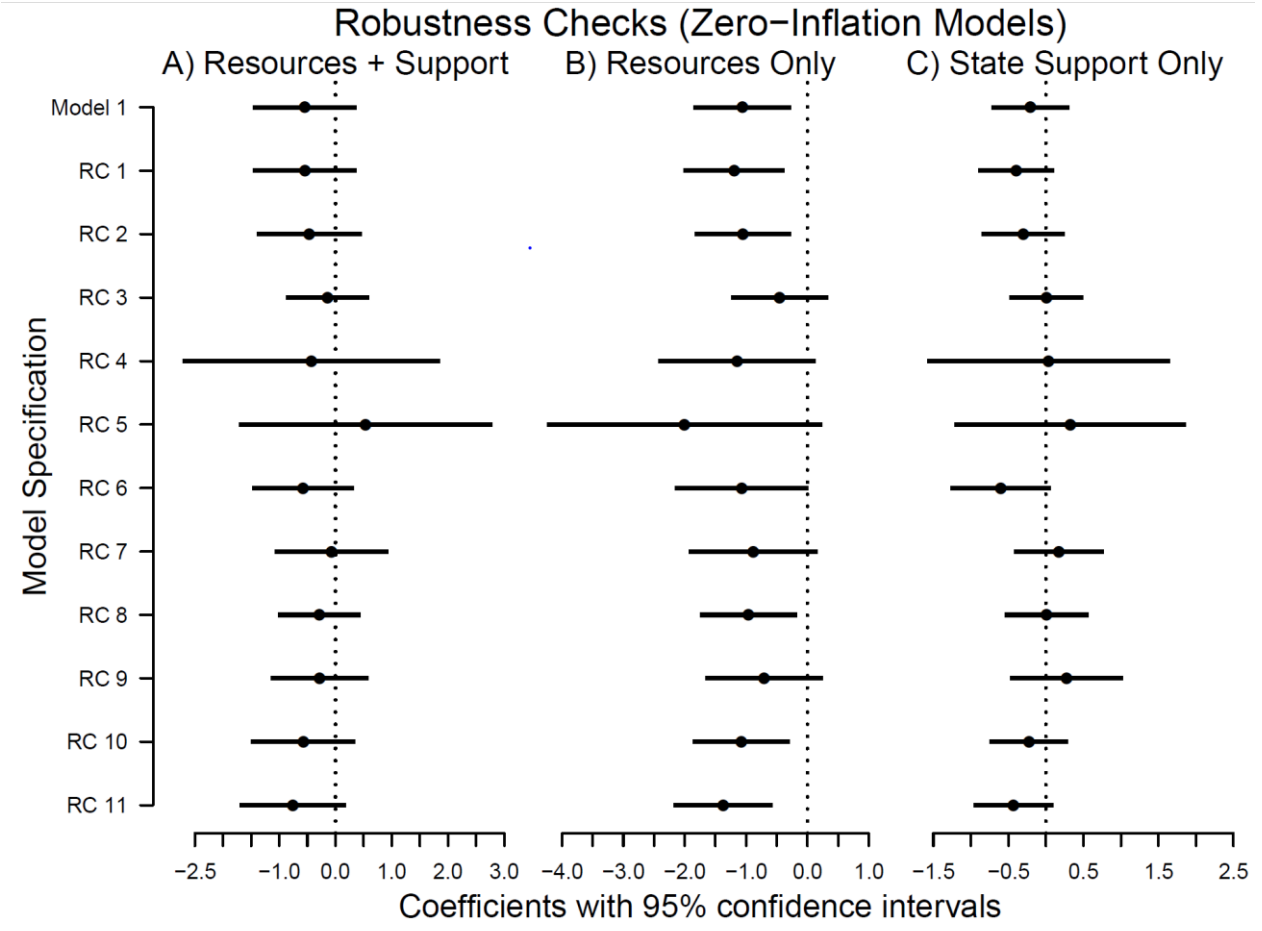

Figure 4: Results across alternative ZINB models for the three main dichotomous indicators representing rebel group access to natural resource financing and external state support. Dots represent coefficient point estimates and horizontal bars represent the 95% Confidence Interval. Standard Errors are clustered by UCDP ConflictID.

Results remain significant when a less restrictive measure of indiscriminate terrorism is used (robustness check [RC] 1), and when we include umbrella groups and factions in our matching of actors across datasets (RC 2). However, the coefficient is smaller and not significant when the measure includes the additional noise of attributing attacks using all applicable generic descriptor perpetrators (for example, "Kurdish separatists" or "insurgents" to a particular rebel group in matching version E). The results are similar and nearly, but not quite, statistically significant when we measure terrorism using the number of fatal incidents (RC 4), mass incidents (RC 5), or total (including many with 0 fatalities) incidents (RC 6). generally consistent with our expectation that our legitimacy-cost theory holds more strongly for groups that actually

kill large numbers of people.[41] When we use UCDP rather than DD data on external support (RC 7), the coefficient remains similar to that in the the main model but the standard error is slightly larger such that it barely misses the .05 level of statistical significance. Results are robust to including a lagged version of the dependent variable to isolate the effects of financing on terrorism from the reverse (RC 8), but not quite significant when including the cumulative (to the previous year) terrorism fatalities (RC 9). The results are robust to adding a control for ethnic conflict (RC 10) and to measuring the government's regime type with V-Dem rather than our modified version of X-Polity (RC 11). The coefficient estimates for rebel access to both natural resources and external support (Figure 4A) and external support but no natural resources (Figure 4C) are statistically indistinguishable from those who rely on civilian support; these findings are consistent across all robustness checks.

We also test whether outliers are driving the results. First, we serially drop each rebel group to see if any one observation is unduly affecting our conclusions. Second, we drop groups with extreme values of the dependent variable (those responsible for over 600 total fatalities). Our results (not shown due to space constraints) remain substantively identical, indicating that no single case, nor the most extreme cases, are driving our results. Finally, the main results account for dependence across observations that may otherwise lead to overconfidence in the results by calculating clustered standard errors by ConflictID. As a first robustness check on this issue, we cluster on country (results remain the same). Second, we fit a Negative Binomial model with random effects for ConflictID and Year (RC 14) to model the clustering in the data-generating process, account for unobserved conflict- and year- specific confounders, and avoid the assumptions required for the zero-inflated model. The substantive conclusions remain the same; natural resources and external support are associated with more terrorism, consistent with our theory.[42] Overall,

[41] In RC 5 (mass incidents) the negative coefficient is quite large as we would expect, but the standard error is also quite large, likely because of the rarity of mass events in the data. Note that in robustness checks 4–6 the dependent variables are measured on a different scale from the others, so the size of the coefficients are not directly comparable to other models.

[42] There are some interesting differences in these results, however: the coefficients for external support become statistically significant, while natural resources on their own are not quite significant. We

while the robustness of the statistical significance of our findings is not ironclad, the coefficient estimates behave consistently across models, and where they fail conventional tests of significance, this is often expected by our theory (as with total incidents).

Does the Effect of External Support Depend on Supporter's Regime Type?

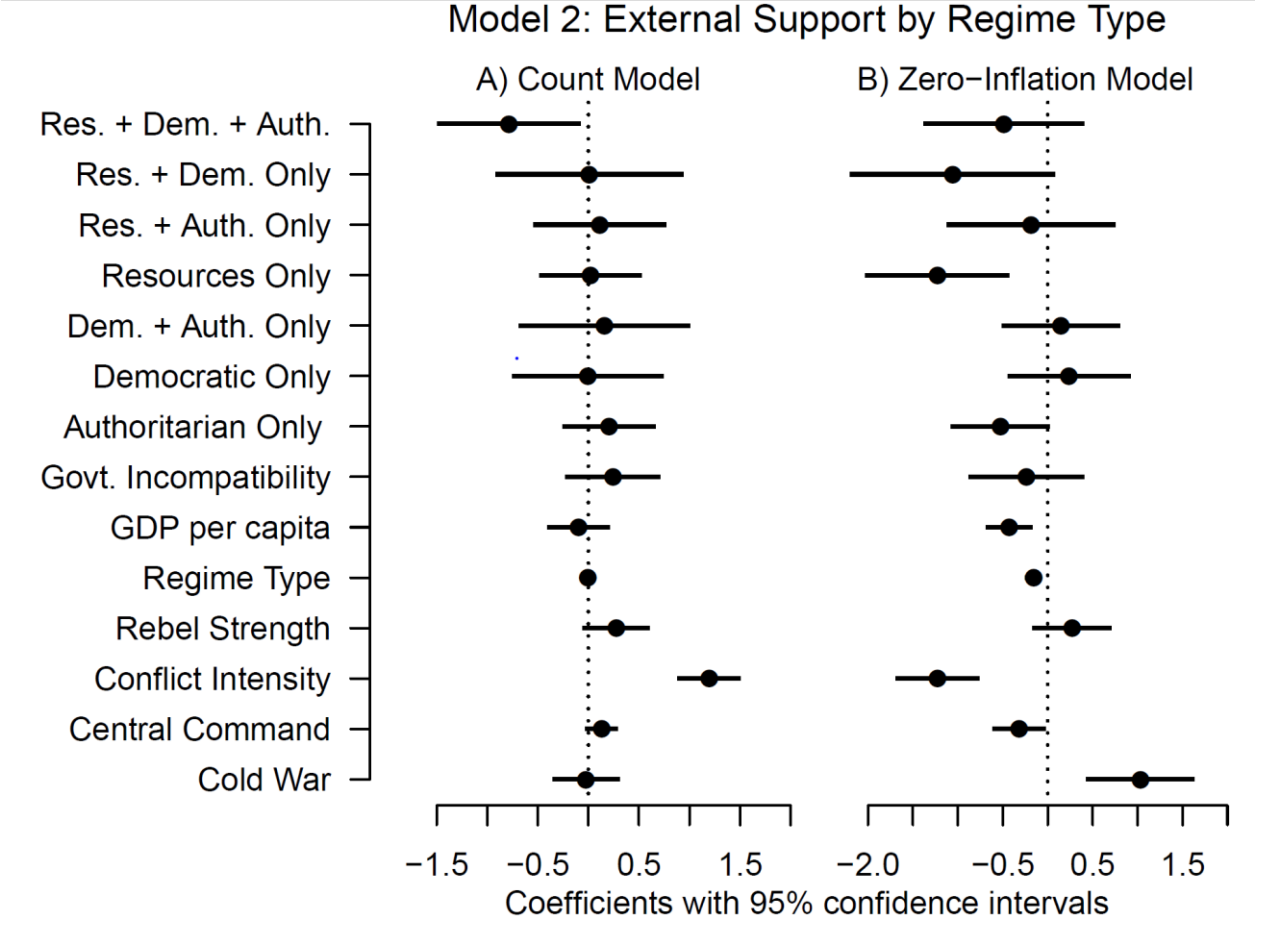

Figure 5. ZINB model. N (Group-Years)=3126. Groups=280.
Dependent Variable: # Fatalities resulting from incidents of terrorism, using the most restrictive definition of terrorism, and including incidents attributed to perpetrator names representing only direct matches and armed wings (Type A). All Predictors are lagged 1 year.
Panels A and B: Dots represent coefficient point estimates and horizontal bars represent the 95% Confidence Interval. Standard Errors are clustered by UCDP ConflictID.

think these differences may be due to collapsing the two processes distinguished in the ZINB model. Please see the supplementary materials for more detailed discussion.

The main results presented above treat all sources of external actor support to the rebel group as identical, grouped into a single category. However, Salehyan et al. (2014, 648) find that rebel groups receiving support from democratic states are less likely to target civilians than are rebel groups supported by authoritarian states. This finding implies that the price of terrorism for international legitimacy may be higher for rebels supported by democracies than for those supported by authoritarian states. Democratic states may be more likely to withdraw support or otherwise discipline their rebel group clients in response to their use of terrorism. More generally, differences across supporting states may explain the inconclusive findings regarding the effect of external support on rebel use of terrorism, via legitimacy costs. Hypothesis 3 thus expects rebels funded by foreign democracies are less likely to use terrorism than those funded by autocracies.

Figure 5 presents the coefficient plots for the count and zero-inflation models when we disaggregate external support by the regime type of the patron state, separating those supported by regimes of both types, by democracies only, or by authoritarian states only. Consistent with the results above, the results seem driven primarily by access to natural resources, but contain some interesting patterns involving the regime type of supporters. Contrary to Hypothesis 3, rebel groups financed by democracies are no less likely to adopt terrorism. Among groups that use natural resources to fund their fight (compare across the top four lines, which represent groups all of whom use natural resource financing but who differ in the regime type of their sponsors, if any), those whose supporters are democratic are no less likely to use terrorism. Among those with no natural resource financing (compare across lines 5 through 7), those with democratic supporters may be somewhat more constrained than those without. But given the overlap among the confidence intervals in both parts of the model, we cannot conclude that we see significant difference by regime type. These findings fail to support Salehyan et al. (2014), and suggest, though tentatively, that regime type may not the most relevant factor driving differences in international legitimacy costs. Future research is necessary to investigate when external sponsors reduce support for groups that emply terrorism and when they do not.

Conclusions and Directions for Future Research

Understanding why some rebel groups sometimes deliberately commit indiscriminate acts of violence against civilians obviously matters, and for policy reasons as well as scholarly ones. We argue that rebels' sensitivity to the legitimacy costs associated with using terrorism may vary substantially across groups. Groups beholden primarily to local civilians for the manpower and resources to support their fight pay the highest price in terms of legitimacy; they therefore generally try to avoid biting the hand that feeds them by indiscriminately targeting civilians. Groups that finance their fight by exploiting access to natural resources—such as gems and drugs—are least concerned about losing local or international support , and therefore face far fewer constraints when it comes to the use of terrorism. We find empirical support for the general contours of the legitimacy-costs theory using the new TAC dataset.

The argument carries implications for the study of armed conflict generally. First, the legitimacy-cost theory proposes that groups refrain from using terrorism when they expect to be held accountable by those on whom they rely for support. Serious consideration of rebel organizations' political accountability to other actors may prove crucial to understanding the conduct and outcomes of armed conflict.[43] We need further study to test this causal mechanism, including analysis to investigate the conditions under which popular support declines, and external state supporters cut funding, in response to groups' use of terrorism. Large-N quantitative analysis of this question is complicated by the fact that it requires studying behavior that is "off the equilibrium path." Groups that expect to lose their financing should not use terrorism in the first place. Survey experiments and qualitative research may help answer these questions.

[43] For related work on when and how civilians hold rebel groups accountable, see Rubin (2018).

Second, this article advances the literature addressing the causes and consequences of terrorism by investigating actor-level variation in the use of terrorism. Until recently, scholars have lacked the data necessary to systematically interrogate plausible explanations for the conditions under which political organizations use terrorism and the implications for conflict termination and outcomes (Fortna 2015, 521). Many empirical studies, therefore, focused on states' exposure to terrorism without incorporating the perpetrator's strategic considerations. Others analyzed variation only among organizations that have used terrorism, without comparing them to similar groups that do not. The actor-level measures of terrorism in the TAC dataset allow researchers to systematically investigate actor-specific empirical implications that were previously difficult to test.

Third, the legitimacy-costs theory informs scholarship addressing the role of natural resources and external support in armed conflict. The empirical evidence suggests rebels financing their fight through drug running or natural resources are more likely to use terrorism, which is consistent with existing research suggesting the presence of natural resources increases the scale of civilian victimization (Humphreys and Weinstein 2006; Lujala 2009; Weinstein 2007). However, the data suggest little difference in the extent to which rebels that rely on support from foreign states use terrorism compared to those that rely on civilians, suggesting that international legitimacy costs may be just as high as domestic ones. Furthermore, we find no difference in the likelihood or amount of terrorism perpetrated by groups supported by democratic state sponsors relative to autocratic state sponsors.

These results appear, at first glance, to contradict Salehyan et al. (2014, 648). They find no significant effect for natural resources on civilian targeting, while external support from autocracies, but not from democracies, is associated with more civilian targeting. Several differences between our study and theirs likely account for these contrasting conclusions. First and foremost, Salehyan et al. (2014) examine one-sided violence, which is a much broader category of violence against civilians than the narrow subset of terrorism. While foreign sponsors may accept or encourage discriminate civilian targeting, they may

discourage terrorism.[44] The difference in our findings on regime type suggests that the norm against terrorism may be shared more equally across the democratic to autocratic spectrum than is the norm against civilian targeting more broadly. The differences in our findings on natural resource financing may also stem from the fact that Salehyan et al. (2014) measure whether these resources were present in the conflict zone, while the data from Rustad and Binningsbø (2012) measures more directly whether the rebels actually financed their fight using these resources.

Further research is needed to understand fully how funding sources affect terrorism. Data that codes explicitly the extent to which rebels rely on civilian support would greatly enhance our ability to test the theory. Rebels' sources of funding are not mutually exclusive. We strongly suspect that better data identifying reliance on domestic civilian support would strengthen the findings presented here, as the effect of access to other funding sources is likely muted by the fact that our measures capture groups who rely both on these other sources and on civilian support.

The legitimacy-cost theory may help policy makers identify and predict when and where terrorism is likely to emerge in the context of civil wars and insurgencies. The findings suggest, at least tentatively, that efforts to constrain the trade in conflict gems, narcotics, and other lootable resources may help prevent terrorism. Furthermore, if rebels are constrained by the cost of terrorism to their international legitimacy, then international pressure on rebels' external patrons may reduce terrorism.

Supplementary Information

Supplementary information, including replication materials (data and Stata code) and additional analyses to check robustness, are available at http://michaelarubin.com/research/ and at the *International Studies Quarterly* data archive.

[44] Of course, the few state sponsors of terrorism represent important exceptions.

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