

# Live and Let Die: Terrorist Group Lethality, Survival, and Success

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## ABSTRACT

The terrorism field has long been embroiled in a debate over whether terrorism is an effective coercive tactic. Some argue that terrorism is effective because groups choose the best method available to achieve their goals, while others argue that terrorists do not achieve their long-term goals. Missing from this debate is the distinction between key organizational attributes that may benefit or hinder success. I explore organizational lethality as one such attribute and examine the impact that it has on group success. I show that there is a nonlinear relationship between lethality, success, and failure. Moderate levels of lethality are where groups are most likely to see success, but this is also when they are most likely to be forcibly eliminated.

## 1. Introduction

Scholars have long debated whether terrorism is effective. Many scholars argue that it is a profitable tactic because groups are so weak relative to the government that terrorism is a way for them to send a costly signal. In other words, terrorists are utility maximizers, choosing the best option available to them given their resources and strength (e.g. Bueno de Mesquita, 2007; Caplan, 2006; Gaibullov and Sandler, 2014; Lapan and Sandler, 1993; Sandler, 2018; Sandler et al., 1983). In contrast, some scholars point out that arguments of success are flawed, based on formal modeling with little empirical evidence outside of narrow case studies (Abrahms, 2006, 2012; Acosta, 2014). Much of the debate stems from differing conceptualizations of success. There is a distinction between process goals, which are short term strategic or tactical goals, and outcome goals, which refer to a terrorist group's overarching aim (Acosta, 2014; Abrahms, 2012; Cronin, 2009; Merari, 2016). In this study, I focus on the latter

— outcome goals — when exploring the success of terrorist groups.

A second reason for conflicting findings about the effectiveness of terrorism is that terrorist groups differ from one another, and when studying their success or lack thereof, internal organizational factors should be considered. I add to the literature by examining the lethality of terrorist groups, asking whether the number of fatalities that a group causes impacts whether the group is able to achieve its goals. I study organizational lethality's relationship to success by examining the ways that groups end. This is appropriate because my argument is about success in overall goals as opposed to success in the form of intermediate strategies. Ending by victory is a clear sign that a group has achieved its goals, while ending prematurely implies that a group was unable to meet its goals through the use of terrorism.

Some point out that higher lethality may help a group survive, but that survival does not denote overall success (Acosta, 2014; Fortna, 2015). Building on this, I argue that there exists a tradeoff between lethality and legitimacy. On one hand, killing in high numbers can increase recruitment and resources, which are essential to extending group longevity and capacity, and killing in high numbers also signals that a group is willing to cause death and destruction until it achieves its goals. On the other hand, as groups become more lethal, doubt will be cast upon their ability to commit to restraint in the future, and additionally will increase target resolve to eliminate the group. I therefore theorize an inverted U-shaped relationship between both organizational lethality and success and organizational lethality and failure. At low levels of lethality, groups have not proven themselves a threat, so governments have little reason to negotiate or cede to them, but also may not be as motivated to eliminate them. Thus, at low lethality, groups may survive, but will not necessarily be successful. At high levels of lethality, governments will be motivated to eliminate groups rather than negotiate, but groups may be strong enough to evade attempts at elimination.

This article's contribution to the literature is twofold. First, it adds to the growing literature on the effectiveness of terrorism. While many pieces have examined specific modes of attack such as suicide attacks, or terrorism in specific situations such as civil wars, little work has been done to examine the way that lethality as an organizational characteristic affects success. Second, this paper contributes to the literature on ter-

rorist group survival and failure. Some studies examine the different ways that groups end (e.g. Carter, 2012; Gaibullov and Sandler, 2014; Gaibullov et al., 2020; Olzak, 2022; Piazza and Piazza, 2020), but the majority of studies of group survival focus on whether groups end rather than how they end. This is an important distinction because the processes leading to different ways of endings may be distinct from one another.

This article continues with a review of the debate over the effectiveness of terrorism. I then theorize about the ways that organizational lethality affects group success and failure, specifically theorizing about the ways that terrorist groups end because the way that a group ends indicates whether its goals were achieved. This is followed by the research design and analysis. I end by discussing the implications of the results.

## **2. Terrorism and Effectiveness**

Many terrorism scholars agree that terrorism is rational: organizations believe terrorism is the best way for them to achieve their goals, given the constraints that they face (e.g. Caplan, 2006; Crenshaw, 1981; Kydd and Walter, 2006; Sandler et al., 1983; Sandler, 2018). Groups turn to terrorism as a tactic when they are too weak relative to the government to be able launch conventional warfare; terrorism sends a signal at little cost to the group (Crenshaw, 1981; Kydd and Walter, 2006). Terrorism is therefore considered to be a costly signal that demonstrates the ability and commitment to cause destruction until achieving a desired goal (Kydd and Walter, 2006).

With a foundation in the literature agreeing that terrorism is rational, research has turned to theorizing about what makes terrorist organizations successful. For example, Overgaard (1994) uses a formal model to show that due to governments having incomplete information about the capacity of terrorist groups, the initial attacks that terrorist groups commit should be destructive enough for the group to signal that they have high resource levels — regardless of their actual resource levels. Lake (2002) builds upon Fearon (1995) in order to present a theory that terrorism is used to provoke the target to respond disproportionately or to gain support for goals. These are some of the strategies detailed by Kydd and Walter (2006), and Kydd and Walter

(2002) use both formal modeling and a case study of the Israel-Palestine peace process to show the conditions in which terrorists are able to spoil peace. In the context of civil wars in Africa, Thomas (2014) finds that rebel groups that commit more terrorist attacks are more likely to be included in negotiations and acquire concessions. Merari (2016) points out that even if terrorists have been unable to achieve their full goals, they have occasionally been able to achieve smaller successes, such as gaining support and international legitimacy, drawing attention to grievances, and acquiring partial concessions.

However, some scholars contend that terrorism is ineffective and argue that many studies about the success of terrorism use exclusively formal modeling or case studies limited to few countries. A study of 28 terrorist organizations finds that they are rarely able to achieve their policy goals, and moreover, that targeting civilians makes governments less likely to grant concessions (Abrahms, 2006). These findings are reiterated in a later study of 125 violent groups (Abrahms, 2012). Furthermore, Jones and Libicki (2008) argue that few groups end due to achieving their goals, and the ones that do tend to have narrow, policy-oriented goals. Even research on militant groups overall — i.e. violent, subnational organizations including but not limited to organizations that use terrorism — finds that violent groups are able to coerce partial concessions but rarely achieve broader goals (Acosta, 2014). Moreover, extant research examines the use of terrorism compared to other tactics, such as conventional military attacks. In contrast to Thomas (2014), Fortna (2015) finds that in the context of civil wars, rebel groups that use terrorism are less likely to achieve their goals, and in fact, because terrorism is traditionally thought of as a weapon of the weak, the use of terrorism in civil wars signals weakness.

Much of the debate over whether terrorism is effective comes from differing conceptualizations of success. Militant organizations have end goals such as regime change, political change, self-determination, or maintaining the status quo. Sometimes called ultimate goals (Kydd and Walter, 2006) or outcome goals (Abrahms, 2012; Acosta, 2014), these are the overall, long-term aims of militant groups. Some argue that terrorism is not successful given that groups rarely achieve their ultimate aims (e.g. Abrahms, 2006, 2012; Acosta, 2014). Others conceptualize success or partial success

as achieving intermediate goals, such as extending longevity or expanding capacity. Crenshaw (1981), for instance, agrees that that groups have ultimate goals but also discusses achieving short-term objectives, including increasing support for the cause, disrupting the government, or provoking the target into a disproportionate response. Merari (2016) discusses partial success, including support from a constituency, gaining legitimacy, and achieving partial concessions. Others contend that survival is a process goal but that the factors leading to survival do not necessarily lead to overall or even partial success (Acosta, 2014; Fortna, 2015; Gaibullov et al., 2020).

### **3. Lethality and Effectiveness**

Missing from the debate over the effectiveness of terrorism are organizational distinctions between groups. These differences may lead some groups to be more successful than others. In this paper I examine lethality — fatalities caused by terrorist organizations — as a distinguishing organizational aspect. Extant studies focus on lethality as a key dependent variable, studying which organizational aspects make some terrorist groups deadlier than others (Alakoc et al., 2023; Asal et al., 2015; Asal and Rethemeyer, 2008; Carson and Turner, 2022; Levy, 2021; Piazza, 2009; Piazza and LaFree, 2019), whether having allies increases lethality (Asal et al., 2022; Horowitz and Potter, 2014), and whether groups are deadlier than lone wolf actors (Phillips, 2017; Turner et al., 2023). Other studies examine the effect of high-casualty modes of attack (Acosta, 2014, 2016; Fortna, 2015; Mroszczyk, 2019; Pape, 2003; Thomas, 2021) but have not examined overall organizational lethality. Lethality has been a characteristic important enough to explore in its own right as a dependent variable, so it should also be explored as an important explanatory variable when examining group success.

This study explores lethality regardless of attack mode or target. A single highly fatal attack can send a strong signal, but I depart from examining individual attacks. Instead, I theorize that the fatalities that a group has caused overall, regardless of the fatality of each individual attack, will also send a strong signal. However, such a signal is not necessarily advantageous. Just as studies of different types of high-lethality

attacks have found that high casualties do not always work in favor of the group, I expect overall organizational lethality to have similar effects on group success.

I draw from studies that examine various modes of high-lethality attacks. One of the most lethal strategies that groups can use is suicide attacks (Mroszczyk, 2019; Nilsson, 2018; Rosendorff and Sandler, 2010). Suicide attacks aim to send an extremely costly signal by killing in high numbers (Hoffman and McCormick, 2004; Pape, 2003). However, the effectiveness of this tactic is ambiguous. Pape (2003), for example, claims that half of suicide attacks are successful in achieving goals, but (Moghadam, 2006) refutes this, arguing that the success rate is much lower. Suicide attacks aid terrorist organizations in achieving intermediate goals, such as gaining new recruits or support from a base via demonstrating dedication to a cause, ultimately increasing survival (Acosta, 2016; Bloom, 2005; Hoffman and McCormick, 2004; Rosendorff and Sandler, 2010), but success with long-term goals is rarer. Even the suicide attack campaigns that achieved outcome goals saw only limited policy changes or removal of troops from areas of low importance to the target (Pape, 2003). Moreover, the use of suicide attacks can cause a backlash effect in which the government becomes even more resolved to eliminate the group and withstand its demands (Acosta, 2014). Such high levels of violence also bring about a credible commitment problem, in which a group may not be able to credibly commit to end violence if given a compromise (Acosta, 2014).

A large amount of literature in interstate conflict is devoted to the commitment problem, which is the idea that violence is a strong coercive signal but at the same time leads opponents to doubt an adversary state's commitment to restraint in the future. States use threats in order to coerce an adversary, but states must also be able to commit to restraint if the adversary complies, and moreover, the adversary has to believe this commitment to restraint in order to comply. However, states have reasons to renege in the future, such as the advantage gained by striking first or changes in the distribution of power (Debs and Monteiro, 2014; Fearon, 1995; Powell, 2006). This leads to difficulties committing to restraint in the future, and targets, in turn, are less likely to give in to coercion if they expect that the current adversary will challenge them in the future (Sechser, 2018). Moreover, states are more likely to expect a future challenge from an opponent and reject coercive attempts if the opponent has a history

of aggression and the ability to project military power (Sechser, 2018), which further contributes to the idea that sending a stronger signal does not always work in favor of the sender. In short, states with greater power are better able to signal that their threats are credible, but at the same time, greater power diminishes the ability to credibly assure their restraint if the adversary complies (Debs and Monteiro, 2014; Cebul et al., 2021).

The commitment problem is not unique to interstate conflict. Unlike with interstate conflict, negotiations in civil wars require demobilization, which leaves a side vulnerable and unable to enforce a peace treaty (Walter, 1997, 2002). When the state is left stronger, it cannot credibly commit to abiding by a peace treaty with a more vulnerable rebel group (Fearon, 2004; Walter, 1997, 2002). In ethnic conflicts, changes to the ethnic balance of power create a commitment problem because one side is left unable to enforce a treaty and may choose to fight rather than wait while the other side gains more power (Lake and Rothchild, 1996). Similar to interstate conflict and civil wars, the costly signal sent by terror attacks can be less than effective. By committing attacks that are highly lethal, terrorist groups strengthen their signal of resolve, but they also cast doubt upon their commitment to restraint if they were to be given concessions (Abrahms, 2013). Insurgents embroiled in civil wars have even targeted civilians, and the effects of this type of violence are not straightforward, with negotiations achieved from moderate levels of civilian killing (Wood and Kathman, 2014), but a decrease in the likelihood of negotiations or concessions when committing high-casualty attacks on civilians (Fortna, 2015; Wood and Kathman, 2014).

To evaluate the effect that the organizational lethality has on terrorist group success, I theorize about the way that groups end in order to capture success. Definitive endings such as ending by military or police force or ending by splintering show that a group ended prematurely without achieving its overall goals, while ending by victory or by joining the political process indicates success or partial success. In using group endings to denote success, I remain indifferent with regard to intermediate goals, accepting that organizations may act rationally in the short term in order to achieve intermediate goals even if such actions do not lead to success in outcome goals. Studying success by examining the way that groups end has precedent in Jones and Libicki (2008), who

argue that terrorism is not an efficient coercive tactic because groups rarely end in victory.

### *3.1. Success and Partial Success*

Some terrorist organizations voluntarily end when they achieve their ultimate goals, signifying a clear success. The African National Congress, for example, achieved its explicit goal of ending apartheid in South Africa (Cronin, 2009). I theorize that victory is most likely to happen when organizations cause a moderate level of lethality. As demonstrated by Overgaard (1994), when governments have little information about a group, the group's attacks should be destructive enough to signal that they will attack again. Following this logic, I theorize that terrorist organizations that cause few overall fatalities send a signal that they are unable to cause a great deal of destruction, making them less likely to be able to coerce target governments. The coercive signal becomes stronger as the number of fatalities caused by a terrorist organization increases. Just as moderate levels of civilian killing in civil wars can lead to concessions (Wood and Kathman, 2014), I theorize that a moderate level of overall organizational lethality should increase the likelihood of victory.

The coercive effectiveness, however, will not necessarily hold at high levels of lethality. Different types of high-lethality attacks have caused a backlash, with greater destruction leading to greater resolve to forcefully terminate a group and a lower likelihood of concessions (Acosta, 2014; Fortna, 2015; Wood and Kathman, 2014), and I expect overall organizational lethality to function in a similar manner to individual high-lethality attacks. Additionally, the commitment problem appears because high organizational lethality can undermine a terrorist organization's ability to commit to future restraint if granted concessions. In interstate conflict, targets expect future challenges from militarily strong states with a history of aggression and will be less likely to give in to coercion from these states (Sechser, 2018). In civil wars, insurgents have similar issues attaining their goals because their commitment to a peace agreement is less than credible (Walter, 1997). Likewise, I expect terrorist organizations to face the same challenges as their lethality grows. A visualization of this theory is shown in Figure 1.



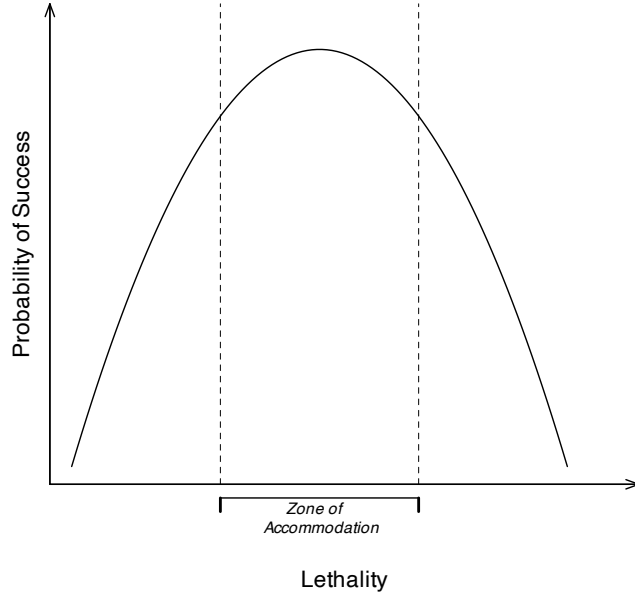


Figure 1.: H1 Visualization

Terrorist groups can also end by voluntarily joining the political process, which involves demobilizing and adopting nonviolent means. This includes cooperation with the government through negotiations and agreeing to concessions or a peace treaty (Crenshaw, 1996; Jones and Libicki, 2008). I consider this to be a partial victory because within this process, groups do gain concessions and moreover end voluntarily instead of continuing the conflict or being policed out of existence. The Free Aceh Movement (GAM), a separatist movement in Indonesia, is an example of a group achieving partial victory. Between 1975 and 2005, the conflict killed over thirty thousand people while the people of Aceh faced major human rights violations (Jeffery, 2021). Several attempts at negotiations were unsuccessful but by the end of 2004, circumstances had changed and after several rounds of negotiations, GAM and the government signed the Helsinki Memorandum of Understanding in 2005 (Jeffery, 2021; Stange and Patock, 2010). With this memorandum, GAM was able to establish Aceh as an autonomous region and secure voting rights for the people of Aceh (Stange and Patock, 2010). This is distinct from the African National Congress, which joined the political process only after achieving their goal of ending apartheid, whereas although GAM achieved rights for the people of Aceh, they did not achieve their goal of becoming an independent state.

I expect that joining the political process will function similarly to ending by victory. Governments will have little reason to negotiate with a group that is unable to cause large amounts of destruction, while groups that cause a great deal of destruction and loss of life delegitimize themselves by becoming unable to credibly commit to future restraint. The problem of legitimacy is especially apparent when considering joining the political process, because as lethality increases, it becomes more likely that groups alienate political allies and erode support from would-be constituents. Thus, it is at moderate levels of lethality that governments should be most likely to offer negotiations that lead to a group renouncing violence and adopting legitimate means. I therefore expect a curvilinear, inverted U-shaped relationship between organizational lethality and ending by victory or politics, leading to the following hypothesis:

*H1 : Terrorist groups that exhibit moderate levels of lethality are more likely to end by achieving victory or joining the political process.*

### **3.2. Failure**

The most overt way that a terrorist organization can fail is if it is terminated by force. This can happen through police or military action. Police gather intelligence about group activities, infiltrate groups, and arrest members. The state can even cut off a terrorist group from its base of support by enacting laws that make it difficult to raise funds or recruit members (Jones and Libicki, 2008). The military can arrest or kill strategically important members of terrorist groups, and constant pursuit of a group — even if that pursuit is initially unsuccessful — forces a group to drain its resources while trying to evade capture (Cronin, 2009; Jones and Libicki, 2008). For example, Aum Shinrikyo in Japan, was defeated as Japanese police and intelligence conducted surveillance, infiltrated the group, arrested hundreds of members, and created laws that made the group unable to maintain funding (Jones and Libicki, 2008).

I expect that states will be more likely to use force against groups that are capable of causing great loss of life. Targeting civilians as opposed to combatants can bolster a state's resolve to eliminate a group (Abrahms, 2013), and high lethality attacks such as suicide attacks further strengthen this resolve (Acosta, 2014). As lethality increases,

the threat posed by a group increases, leading to intensified state response.

At the same time, however, although highly lethal attacks have been found to increased target resolve, they have also led to increased survival of groups (Acosta, 2014, 2016; Blomberg et al., 2010) or a lower likelihood of being forcefully eliminated (Carter, 2012). Suicide attacks have been used to gain or maintain relevance and make connections with other groups using the same tactic, leading to increased support and resources (Acosta, 2016). The willingness to die for a cause also shows commitment to the cause and can bring increased support from a constituency (Acosta, 2016). Furthermore, civil wars in which groups use indiscriminate high-casualty attacks against civilians last longer than those in which groups do not use this type of tactic (Fortna, 2015), further suggesting that high lethality serves to increase survival.

Thus, there are two processes at play in determining group termination by force. First, low lethality poses less of a threat, rendering the necessity of elimination less urgent. As lethality increases, the threat becomes more destructive and more imminent, leading states to intensify efforts to eliminate the group. Second, as group lethality increases, even though target resolve increases, the group's ability to survive also increases, and I theorize that at the highest lethality, the group will have the capacity to withstand target efforts to eliminate it. Therefore, I expect groups to be most likely to be terminated by force at intermediate levels of lethality. This is where I expect that a state's repressive response has increased but the group has not yet attained the capacity to evade state response. I expect a curvilinear, inverted U-shaped relationship between organizational lethality and ending by force, leading to the following hypothesis:

*H2 : Terrorist groups that exhibit moderate levels of lethality are more likely to end by being forcibly terminated.*

Terrorist groups can also end due to splintering, or internal dissolution. Groups splinter when members defect in order to join an existing group, create a new faction, or leave violence altogether (Jones and Libicki, 2008; Carter, 2012). If enough members defect, the original group ceases to exist.<sup>1</sup> I consider ending due to splintering to be a type

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<sup>1</sup>This study is specifically concerned with splintering that leads to the dissolution of the original group, and not with splintering in which a faction breaks off but the original group continues to exist.

of failure, as it indicates failure to pursue a common goal (Gaibullov and Sandler, 2014).

Infighting is one reason that groups splinter; members of a terrorist organization may disagree about targets, tactics, or ideology (Cronin, 2009; Perkoski, 2019). The 1920 Revolution Brigades, for example, ceased to exist when it split into two separate groups, Hamas of Iraq and Twentieth Revolution Brigades. Robinson and Malone (2024) find that splinter groups are less violent than the original group. They theorize that this is because, due to the risk involved in creating a new group, dissatisfied factions of a violent group will exhaust other options for addressing grievances before splintering off into a new group, and alternate options are least likely to be available to them when the original group is high-capacity and more lethal.

Beyond internal dynamics that can lead to dissolution, the group also may take actions that cause it to lose support from a constituency. Whereas groups in some cases commit high lethality attacks in order to gain popular support (Acosta, 2016), in other circumstances high lethality attacks can have the opposite effect of alienating the broader base of support. For example, German and Italian left-wing groups engaged in violence in order to maintain cohesion internally, but they lost external support because the broader constituencies did not approve of such high levels of violence (Cronin, 2009). As the support base dissolves, the group dissolves. The discussion on splintering leads to the following hypothesis:

*H3 : As organizational lethality increases, the likelihood of ending by splintering increases.*

#### **4. Research Design**

I use a group-year panel dataset of 760 terrorist organizations from 1970 to 2016. The data come from the Extended Data on Terrorist Groups (EDTG; Hou et al., 2020), which is based on the Global Terrorism Database (GTD; START, 2020). Because I am theorizing about the hazard of alternative events taking place, I use competing risks models. This method has been used by others who examine the factors leading to different ways of terrorist group failure (Carter, 2012; Gaibullov and Sandler, 2014;

Piazza and Piazza, 2020). Due to the time varying nature of the data, I use cause-specific hazard models in which I estimate a separate Cox proportional hazards model for each type of ending, and ending in a way other than the event of interest is treated as censored. With time-varying data, this is preferred over the Fine-Gray competing risks method (Bonneville et al., 2024; Poguntke et al., 2018).

#### ***4.1. Dependent variable***

The dependent variable is the way that groups end. This variable comes from EDTG. Within the data, groups can end by outright victory/joining the political process, force, splintering, merging, or going inactive. Merging is when a group merges with another group. I do not theorize about this form of ending but groups that end in this way are still included in the data and are treated as censored. Groups that end by going inactive are coded with this end type in EDTG after five years of inactivity when no information on the way of ending is found elsewhere. The end category of inactive poses a problem for this research because it is defined by the lack of attacks, and without committing attacks, a group will not cause fatalities. In other words, this category of the dependent variable is defined by the independent variable of interest. I therefore run two separate sets of analyses. The main set of analyses drops all groups that ended by going inactive from the sample. In the appendix, the main models are re-estimated with this category included.

Figure 2 shows the number of groups ending in each way. There are 419 groups that remain active in 2016 when the data ends. Figure 3 shows the distribution of survival durations for groups that end via one of the three types of ending that I analyze.

#### ***4.2. Explanatory Variables***

The main explanatory variable is group lethality, conceptualized as fatalities caused by the group, similar to Asal and Rethemeyer (2008); Horowitz and Potter (2014); Olzak (2022). EDTG provides the total number of fatalities caused by each group in a given year. I use this variable to construct two more fatality measures. One measure is a cumulative sum of fatalities, so that for each group, the amount of fatalities each year

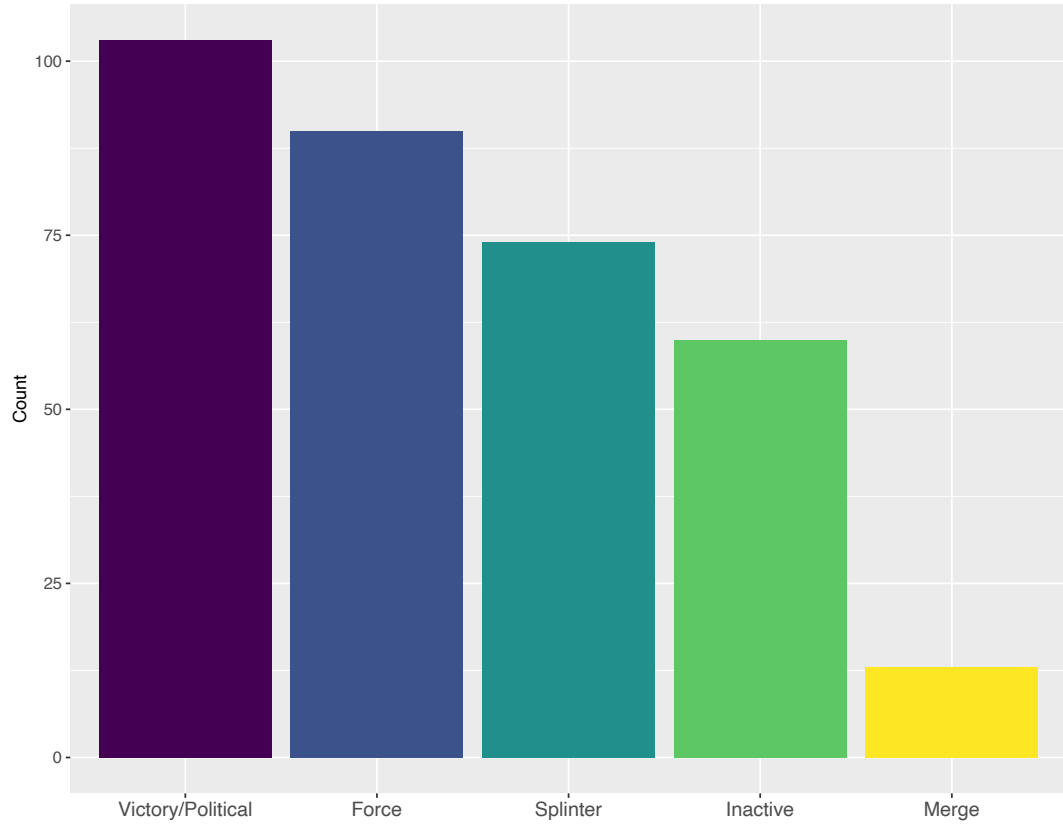


Figure 2.: Ways of Ending

is added into the amount of fatalities the next year and this number is carried forward for each year that the group exists. Within the EDTG data, when some fatalities are unknown but others are known for a group in a given year, the known values are summed. If all values are unknown, the variable is missing for that group-year (Hou et al., 2020). Similarly, with the cumulative fatality variable, if the fatalities for some years are missing but others are known, the cumulative fatalities include the known fatalities.

With the other fatality measure, I allow the fatality count to decay. This is done in order to capture the idea that the “meaning” or public memory of the fatalities may lessen as time passes but does not disappear completely by the next year. I therefore constructed a variable in which the first year that a specific number of fatalities are caused, the value is the full number and each year after that, the number decays by another  $1/4$ . In other words, the number of fatalities has its full “meaning” in the year that the fatalities happen and then the meaning of the fatalities decreases by one

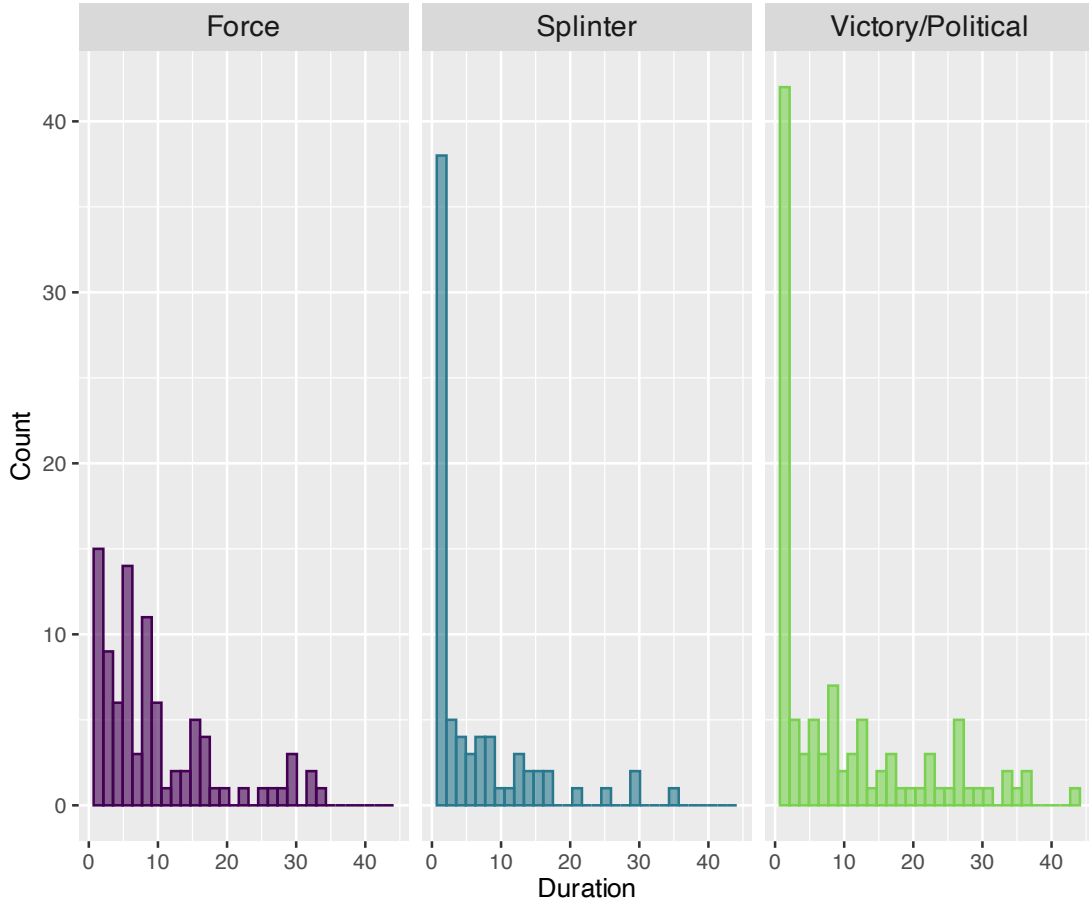


Figure 3.: Duration by End Type

fourth each year. If a group causes fatalities in multiple years, the new count is added to the decayed count for its first year and then begins to decay in the same way. The lethality measures are logged due to extreme outliers. The distribution of the fatalities logged in base 2 is shown in in Figure 4. Most groups in the sample kill few or none in a given year.

#### 4.3. Control Variables

I control for a number of internal factors. Organizations can change tactics to evade detection (Blomberg et al., 2011; Gaibullov and Sandler, 2013, 2014). I account for this with a measure of attack diversity given in EDTG. I also account for the share of attacks that are transnational. Group orientation and the broad goal categories have been shown to affect group longevity (Carter, 2012; Gaibullov and Sandler, 2014;

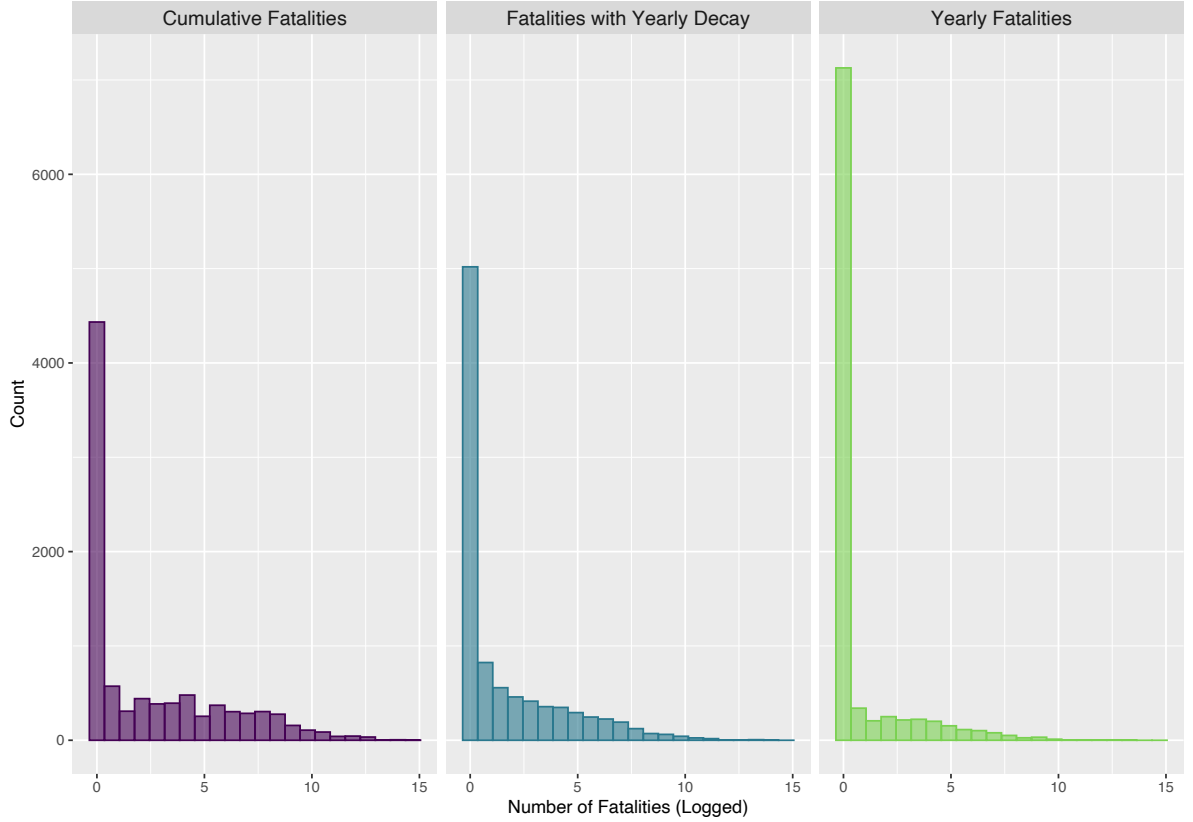


Figure 4.: Fatalities

Piazza and Piazza, 2020), and it is especially important to control for goals, because the difficulty in achieving different goals may directly affect how groups fare. Group orientation is categorized as left-wing, right-wing, nationalist/separatist, and religious fundamentalist, with religious fundamentalist as the reference category. Group goals are categorized as policy change, territorial change, status quo, and one category indicating an empire, regime-change, or social-revolution goal, with status quo as the reference category. Data for these variables come from EDTG.

I also control for external factors associated with the country that serves as a group's base. Population and GDP per capita are taken from the World Bank. GDP per capita accounts in part for a country's counterterrorism capabilities (Piazza and Piazza, 2020). Another measure to account for this ability is government spending. This measure is not included in the main models because it contains many missing values, but the appendix contains the models re-estimated with this variable. I also use V-Dem's electoral democracy index to account for how democratic a country is



(Coppedge et al., 2024). When a group has multiple bases, these variables are averaged. Finally, I account for each group’s main region, with the MENA region as the reference category.

## 5. Results

The first set of cause-specific competing risk models measures lethality as cumulative fatalities. The results are reported in Table 1. The second set of models uses the count of fatalities with decay, reported in Table 2. The third set of models measure lethality as the straightforward yearly count of fatalities, reported in Table 3. The first three models reported in each table include only group-level covariates, while the second three models in each table include both group and country covariates. Both fatalities and fatalities squared are logged in base 2 so that the effect can be interpreted as the effect that a twofold increase in the predictor has on the hazard. The tables report coefficients transformed to a percent change to the hazard with standard errors transformed accordingly. Tables 4, 5, and 6 in the appendix present results for models that include government spending as a way of accounting for base country counterterrorism efforts. Tables 7, 8, and 9 in the appendix include the groups that ended by going inactive and treat them as censored.

When lethality is measured as cumulative fatalities, the effect of the linear term on the hazard of ending by victory/political process is positive and significant in models 1 and 4 of Table 1 and the quadratic term is negative and significant. Looking to model 4, which includes country characteristics, the effect of the linear and quadratic terms taken together is that a twofold increase in fatalities leads to a 36% increase in the hazard of ending by victory/political process at first, but that this increase sees a diminishing effect that starts out as 2.25% and grows quadratically with each twofold increase in fatalities until the relationship between fatalities and the hazard of ending in victory/political process reaches an inflection point. The results for cumulative fatalities hold for different specifications seen in the appendix.

When lethality is measured as fatalities with decay, seen in Table 2, the effect of the fatality variable on the hazard of ending by victory/political process is in the expected

direction but is insignificant and substantially much smaller than with cumulative fatalities. When lethality is measured as yearly fatalities, seen in Table 3, the effect is substantially small, in the wrong direction, and insignificant. These null results hold in different model specifications seen in the appendix.

The results suggest that for a group to achieve victory or join the political process, it is an accumulation of its lethality over time that matters more so than the lethality that the group causes each year. In the case of the former, increased lethality does increase the risk of victory, but the relationship eventually flips at higher levels of lethality, which is in line with H1. The nonlinear relationship is discussed further below. One possible explanation for the discrepancy in results between cumulative fatalities and other measures is that causing a moderate amount of fatalities within one year as opposed to over the course of many years amplifies the effect of these fatalities and leads a state to be less likely to give into a group's demands. The results lend some support to H1.

Table 1.: Lethality: Cumulative

	<i>Dependent variable:</i>					
	Victory/Pol.	Force	Splinter	Victory/Pol.	Force	Splinter
	(1)	(2)	(3)	(4)	(5)	(6)
Fatalities (log)	35.401*** (15.268)	43.917*** (16.825)	28.343* (19.321)	36.001** (16.652)	44.077*** (18.257)	31.701 (22.765)
Fatalities Sq. (log)	-2.017* (1.197)	-3.720*** (1.391)	-2.505 (1.957)	-2.253* (1.268)	-3.251** (1.441)	-3.625 (2.325)
Left	646.034*** (358.853)	282.056*** (131.600)	101.629* (73.016)	358.504*** (266.249)	239.318*** (151.292)	24.677 (60.210)
Right	1,143.973*** (702.589)	478.205*** (297.959)	42.023 (97.464)	769.407*** (583.320)	279.542** (219.109)	-11.986 (68.045)
Nationalist	434.640*** (263.009)	75.832 (68.459)	67.056 (63.313)	450.232*** (308.438)	159.833** (117.426)	21.234 (57.995)
Regime	-23.035 (33.389)	122.214 (142.945)	23.235 (70.178)	-37.558 (30.610)	161.431 (172.682)	29.900 (79.752)
Policy	117.619* (58.324)	251.585* (125.792)	-17.025 (10.123)	86.324 (43.162)	201.578 (100.789)	-42.789 (21.401)

	(93.331)	(229.989)	(51.935)	(88.498)	(210.623)	(39.902)
Territory	−65.226** (16.545)	0.581 (68.343)	−20.052 (48.168)	−73.731** (13.980)	10.582 (75.521)	−4.180 (61.337)
Attack Diversity	−1.903*** (0.686)	−0.261 (0.598)	−3.252*** (1.055)	−2.365*** (0.757)	−0.516 (0.630)	−3.134*** (1.125)
Share Trans. Terr.	1.729*** (0.249)	0.503 (0.348)	2.067*** (0.273)	1.904*** (0.269)	0.362 (0.368)	1.872*** (0.308)
Multiple Bases	35.416 (32.738)	40.117 (35.898)	28.667 (36.205)	20.747 (32.917)	32.305 (41.311)	71.132 (57.413)
Pop (log)				−20.016*** (6.080)	8.665 (9.857)	2.464 (10.063)
GDP/Pop (log)				−1.822 (11.503)	15.753 (17.248)	−5.868 (15.456)
Democracy				−0.262 (0.608)	−0.212 (0.729)	2.537*** (0.957)
Ethnic Frac.				−0.088 (0.759)	0.891 (0.878)	1.293 (0.972)
Tropics				0.134 (0.496)	−0.934* (0.546)	0.589 (0.828)
Elevation (log)				23.465 (18.735)	−14.479 (13.280)	28.690 (24.437)
East Asia & Pacific				142.541 (137.481)	5.199 (60.003)	−82.004* (16.874)
Europe & Central Asia				165.270** (125.232)	−12.711 (33.507)	42.960 (70.474)
Latin Am. & Caribbean				218.805** (172.324)	89.195 (96.546)	−55.510 (35.076)
North America				98.841 (125.456)	52.387 (74.984)	−87.655* (14.027)
South Asia				163.377 (164.154)	−51.328 (35.588)	−82.460* (16.121)

Sub-Saharan Africa	106.697 (122.173)	−34.395 (44.487)	−86.592** (13.327)
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Observations	8,557	8,557	8,557	7,954	7,954	7,954
Log Likelihood	−477.393	−472.663	−398.797	−412.836	−415.242	−324.120
Score (Logrank) Test	184.700***	65.206***	108.068***	238.005***	100.945***	142.875***

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

The effect of cumulative fatalities on ending by force, seen in models 2 and 5 of Table 1, is positive and significant and the squared term is negative and significant. Taken together, these results suggest that a twofold increase in fatalities leads to a 44% increase on the hazard of ending by force at first, but this increase is diminished with each twofold increase in fatalities until the relationship changes direction. The substantive impact is even larger when lethality is measured as fatalities with a decay. In model 5 of Table 2, a twofold increase in fatalities leads to over a 66% increase on the hazard of ending by force at first, but this effect is diminished by around 5.7% with a twofold increase in fatalities, and the diminishing effect increases quadratically with each twofold increase in fatalities. For yearly fatalities, the effect holds in model 5 of Table 3, which includes the group level and country level covariates. In model 2, which includes only the country covariates, the linear term is insignificant, but the quadratic term is still significant and in the expected direction, providing support for the nonlinear relationship between lethality and the hazard of ending by force.

These results provide strong support for H2, with the lowest and highest levels of lethality decreasing the risk of ending by force and moderate values increasing the risk of ending by force. The results also hold for different model specifications as seen in the appendix, with an exception for yearly fatalities when government spending is included as a covariate. The results suggest that both accumulated fatalities over time and fatalities caused each year affect a group's hazard of ending by force.

Table 2.: Lethality: Decay

<i>Dependent variable:</i>					
Victory/Pol.	Force	Splinter	Victory/Pol.	Force	Splinter
(1)	(2)	(3)	(4)	(5)	(6)

Fatalities (log)	18.053 (16.150)	60.966*** (24.436)	31.838 (23.582)	12.918 (16.813)	66.103*** (26.654)	48.049* (32.858)
Fatalities Sq. (log)	-0.443 (1.826)	-6.363*** (2.240)	-2.978 (2.812)	-0.180 (2.009)	-5.725** (2.283)	-6.131 (3.855)
Left	628.513*** (351.411)	275.790*** (129.848)	104.738** (74.735)	347.783** (262.008)	250.733*** (156.993)	23.984 (60.240)
Right	1,145.662*** (707.418)	498.720*** (309.679)	45.897 (100.497)	788.069*** (600.207)	305.232** (233.948)	-12.714 (67.779)
Nationalist	463.514*** (279.048)	73.404 (67.580)	69.302 (64.503)	494.625*** (338.086)	158.538** (117.051)	17.251 (56.411)
Regime	-25.981 (32.128)	132.269 (149.705)	23.947 (70.689)	-41.563 (28.605)	176.068 (182.373)	32.415 (81.483)
Policy	99.402 (85.244)	257.059* (233.493)	-16.323 (52.376)	68.291 (79.064)	211.001 (217.062)	-40.180 (41.727)
Territory	-67.115** (15.614)	3.816 (70.531)	-18.770 (48.899)	-76.217*** (12.651)	16.059 (79.461)	2.006 (65.340)
Attack Diversity	-2.020*** (0.733)	-0.167 (0.619)	-3.342*** (1.073)	-2.414*** (0.805)	-0.596 (0.655)	-3.203*** (1.146)
Share Trans. Terr.	1.779*** (0.251)	0.457 (0.350)	2.051*** (0.273)	1.928*** (0.272)	0.305 (0.368)	1.856*** (0.308)
Multiple Bases	39.687 (33.508)	41.032 (36.109)	27.733 (35.898)	26.215 (34.166)	31.121 (40.763)	66.100 (55.801)
Pop (log)				-20.781*** (6.146)	8.782 (9.904)	2.132 (10.051)
GDP/Pop (log)				-2.450 (11.365)	16.195 (17.279)	-5.365 (15.590)
Democracy				-0.270 (0.602)	-0.191 (0.726)	2.532*** (0.959)
Ethnic Frac.				-0.262 (0.757)	0.845 (0.878)	1.242 (0.967)
Tropics				0.028 (0.485)	-1.056* (0.546)	0.553 (0.827)

Elevation (log)				23.408 (18.620)	−14.160 (13.392)	29.448 (24.430)
East Asia & Pacific				141.238 (138.211)	13.979 (64.646)	−80.742* (18.013)
Europe & Central Asia				140.523* (114.279)	−20.048 (30.613)	43.244 (70.513)
Latin Am. & Caribbean				236.475** (181.657)	92.493 (97.647)	−55.185 (35.301)
North America				80.180 (112.690)	47.603 (72.025)	−87.587* (14.083)
South Asia				147.048 (153.493)	−52.002 (35.085)	−81.626* (16.888)
Sub-Saharan Africa				117.961 (128.604)	−29.901 (47.081)	−85.588* (14.316)
<hr/>						
Observations	8,557	8,557	8,557	7,954	7,954	7,954
Log Likelihood	−480.001	−472.426	−398.793	−415.332	−414.331	−323.894
Score (Logrank) Test	180.206***	64.462***	108.678***	232.619***	101.767***	142.701***

The effect of lethality on the hazard of ending by splintering is ambiguous. When fatalities are cumulative, a twofold increase in fatalities leads to a 28% increase in the hazard of splintering. The quadratic term is insignificant, which is what was expected in H3. However, in model 6 of Table 1, which includes the group and country level covariates, both the linear and quadratic terms for fatalities are insignificant. When lethality is measured as fatalities with a decay, the results are similar, although it is model 6 with both group and country level covariates that has a significant linear term and insignificant quadratic term for fatalities, and model 3 with only group level covariates that has insignificant effects. When fatalities are measured by year, both the linear and quadratic terms are significant and have a very large impact.

Taken together, the results for splintering provide little support for H3. As the accumulation of fatalities over a group's duration increases, higher counts of fatalities lead to a higher risk of splintering, although this is not robust across different model

specifications. When considering fatalities per year, a higher fatality count leads to a higher risk of splintering, but only to an extent; the significant and negative quadratic term suggests that this relationship eventually flips. There is also more robust support for the effect of yearly fatalities than for the effect of cumulative fatalities or fatalities with a decay. The results for both splintering and force considered together suggest that failure in general is less likely at the lowest and highest values of lethality, and that there is a moderate level of lethality at which the risk of failure is highest.

Table 3.: Lethality: Yearly

	<i>Dependent variable:</i>					
	Victory/Pol.	Force	Splinter	Victory/Pol.	Force	Splinter
	(1)	(2)	(3)	(4)	(5)	(6)
Fatalities (log)	-1.007 (18.595)	40.595 (33.107)	122.344*** (57.646)	-2.555 (19.567)	53.927* (36.889)	188.898*** (98.661)
Fatalities Sq. (log)	1.029 (2.737)	-6.856* (3.939)	-13.021** (5.299)	1.333 (2.947)	-6.952* (3.962)	-22.281** (8.175)
Left	526.238*** (303.237)	243.743*** (118.349)	119.674** (80.006)	300.229** (236.526)	195.880** (132.438)	29.319 (62.405)
Right	1,076.496*** (665.396)	455.048*** (283.836)	49.313 (103.453)	794.799*** (608.165)	253.386** (203.516)	-15.311 (66.672)
Nationalist	451.669*** (273.392)	76.215 (68.662)	62.500 (62.497)	478.986*** (330.898)	158.660** (117.169)	13.793 (54.751)
Regime	-27.001 (31.572)	119.125 (140.241)	22.812 (70.619)	-43.481 (27.619)	164.454 (174.300)	28.223 (79.940)
Policy	80.845 (77.312)	206.989* (200.322)	-21.638 (50.016)	49.139 (70.187)	166.499 (185.899)	-38.458 (43.150)
Territory	-68.483** (14.914)	-5.291 (64.063)	-17.143 (50.200)	-77.053*** (12.166)	1.481 (69.059)	2.159 (66.177)
Attack Diversity	-1.461* (0.788)	0.083 (0.717)	-3.708*** (1.089)	-2.016** (0.890)	-0.424 (0.746)	-3.596*** (1.175)
Share Trans. Terr.	1.840*** (0.258)	0.604* (0.351)	1.957*** (0.281)	1.949*** (0.279)	0.415 (0.371)	1.809*** (0.311)

Multiple Bases	39.638 (33.908)	43.081 (36.453)	28.892 (36.295)	25.155 (34.157)	43.451 (44.024)	67.881 (56.350)
Pop (log)				-20.075*** (6.375)	10.290 (10.153)	2.544 (10.080)
GDP/Pop (log)				-1.919 (11.621)	17.161 (17.355)	-5.696 (15.624)
Democracy				-0.333 (0.612)	-0.273 (0.727)	2.645*** (0.971)
Ethnic Frac.				-0.329 (0.768)	0.822 (0.899)	1.117 (0.966)
Tropics				0.234 (0.501)	-1.053* (0.546)	0.589 (0.824)
Elevation (log)				26.155 (19.551)	-13.975 (13.549)	30.564 (24.308)
East Asia & Pacific				80.030 (111.425)	11.972 (64.110)	-82.147* (16.941)
Europe & Central Asia				130.692* (110.805)	-20.437 (30.950)	29.559 (64.209)
Latin Am. & Caribbean				193.279* (164.454)	126.082 (114.605)	-57.177 (33.165)
North America				72.481 (108.211)	23.356 (60.894)	-89.296* (12.204)
South Asia				123.062 (141.781)	-51.900 (34.953)	-82.759* (15.984)
Sub-Saharan Africa				87.274 (114.577)	-27.708 (48.576)	-86.018** (13.793)
Observations	8,518	8,518	8,518	7,920	7,920	7,920
Log Likelihood	-467.643	-469.809	-388.285	-403.261	-413.049	-319.217
Score (Logrank) Test	160.652***	57.388***	115.040***	212.852***	90.397***	148.968***

*Note:*

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Various control variables are significant. Left, right, and nationalist groups are more



likely to end by victory/political process and by force as compared to religious groups. Having a territory change goal decreases the hazard of ending by victory compared to groups that seek to keep the status quo. Greater attack diversity decreases the hazard of ending by victory or splintering. This is likely due to the fact that higher attack diversity captures higher capacity, which can help a group survive while not necessarily contributing to success. A higher proportion of transnational attacks out of a group's total attacks increases the hazard of ending by victory/political process or by splintering but there is no evidence that it affects ending by force. Interestingly, the results show no evidence that having multiple bases affects group termination, which suggests that multiple bases may not capture group capacity as well as attack diversity or share of transnational attacks. Groups are more likely to splinter as countries become more democratic, but the effect is small. Finally, regional variables matter, with groups more likely to end in victory or political process in Latin America/Caribbean and Europe/Central Asia compared to the reference region of Middle East/North Africa. Groups are less likely to end by splintering in North America, South Asia, Sub-Saharan Africa, and East Asia/Pacific as compared to the MENA region, and there is little evidence that region has an effect on ending by force.

### ***5.1. Visualizing the Effect of Lethality***

To better understand the nonlinear effect on the hazard of an event, a hazard curve or cumulative incidence curve is typically presented for each level of a categorical variable. However, with a continuous variable, there are too many values of the variable to show a curve at each value. I therefore present heat maps that show the cumulative incidence function of the event of interest based on time and fatalities. Figure 5 shows the risk of ending due to achieving victory or joining the political process. The turning point in the effect of cumulative fatalities is 6.75 when logged in base 2, or about 128 fatalities. This is seen in the figure; looking at  $t = 40$  years, for example, at the lowest levels of fatalities, the probability of ending by victory is around 20%. As fatalities increase, the probability of ending by victory increases until 6.75 logged fatalities, when the probability of ending by victory is over 35%. After this point, the probability of ending by victory begins to decrease as fatalities increases, and at the highest values

of fatalities, the probability of ending by victory is closer to 15%.

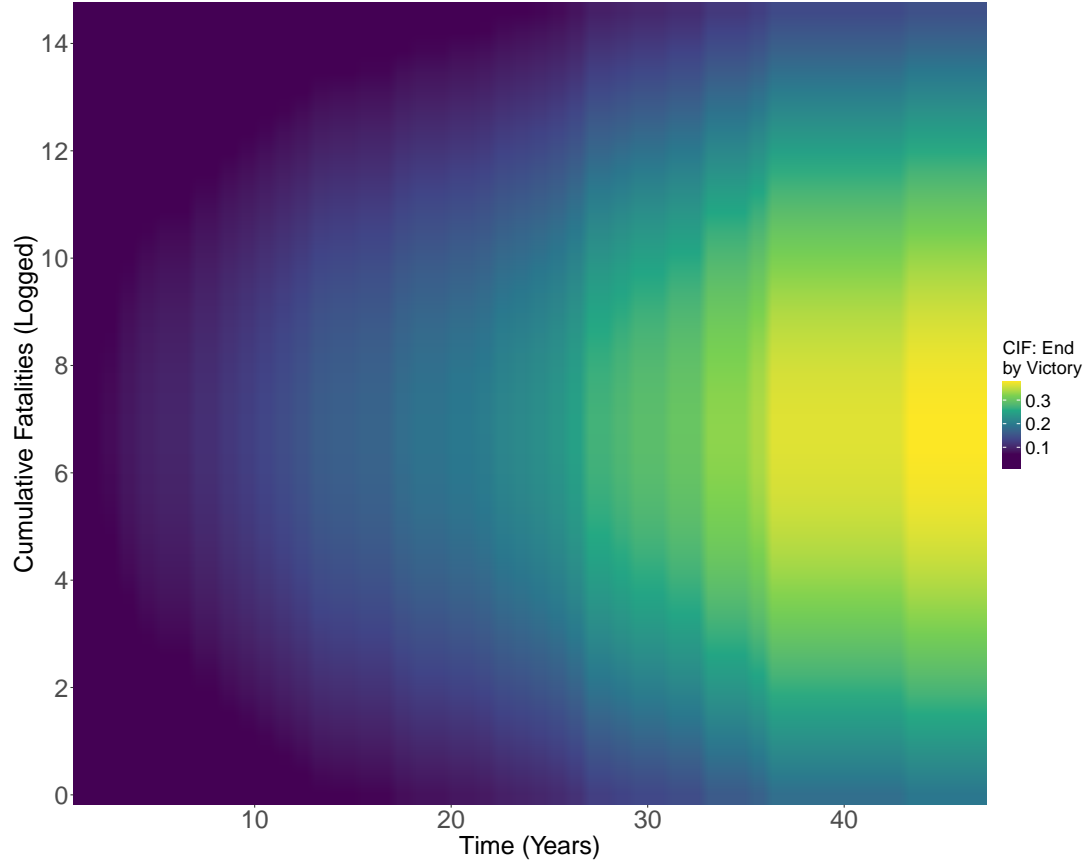


Figure 5.: Cumulative Incidence Function for Fatality (Cumulative) Effect on Ending by Victory/Political Process

Another way to view the relationship is shown on the left side of Figure 7, which plots the cumulative incidence function at arbitrarily chosen fatality values. Starting with the curve for *fatalities* = 0, the probability of ending by victory increases as fatalities increases up through the curve for *fatalities* = 6, after which, as fatalities grow, the probability of ending by victory decreases.

Figure 6 and the right side of Figure 7 present the relationship between cumulative fatalities and ending by force. The relationship between fatalities and ending by force flips direction at 5.52 fatalities when logged in base 2, or 46 fatalities. The heat map also shows that at 6.75 logged fatalities, the risk of ending by force is still quite high. This suggests that when a group is most likely to end in victory, it also has a relatively large risk of being forcibly terminated.

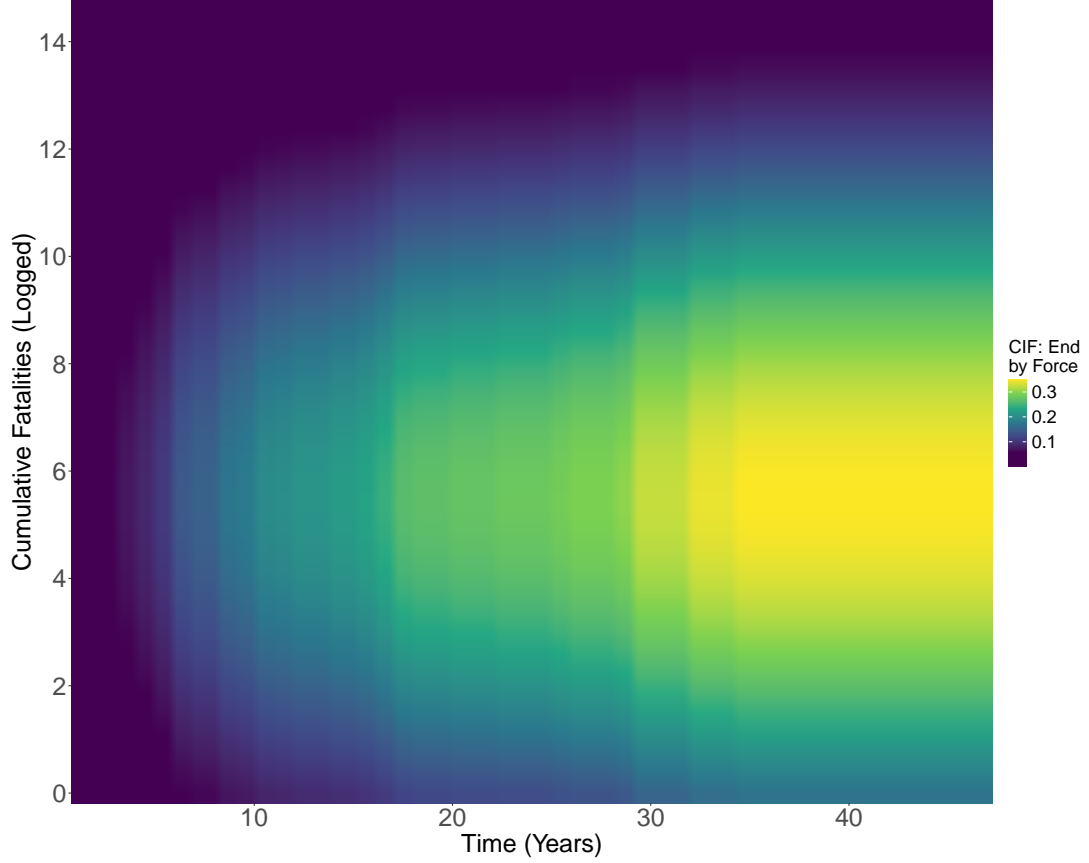


Figure 6.: Cumulative Incidence Function for Fatality (Cumulative) Effect on Ending by Force

### 5.2. Proportional Hazards Assumption

The Cox proportional hazards model rests on the assumption that the hazard does not change over time for any of the covariates. I test the proportional hazards (PH) assumption using *cox.zph* from the survival package in R (Therneau, 2024). This tests the null hypothesis that the effect of the variables on the hazard do not vary with time, so small p-values suggest that there are violations of the PH assumption. The p-values for the main models with group-level and country-level covariates are reported in Table 10 in the appendix. The models for ending by force and splintering have sufficiently high p-values that suggest that there is no violation of the PH assumption. When fatalities are measured yearly, the primary explanatory variables have p-values that suggest a potential violation of the PH assumption. However, because I have a large number of observations, rendering this test overly-sensitive, I examine scaled

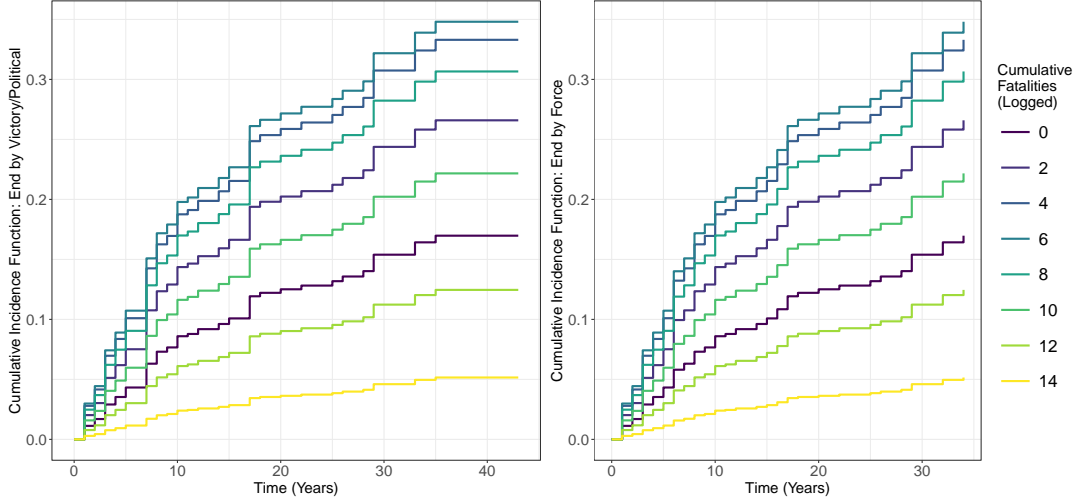


Figure 7.: CIF Plots

Schoenfeld residual plots, shown in Figure 8 in the appendix and this reveals that there is little deviation for these covariates.

With larger datasets, the proportional hazards test is very sensitive and may report nonproportionality that is not real or does not affect interpretation (Therneau and Grambsch, 2000). Nevertheless, because various control variables in the models with victory/politics as the dependent variable potentially violate this assumption, I run models for this dependent variable that account for variables that violate the PH assumption based on both the p-values and the scaled Schoenfeld residuals for these covariates. These models make two changes from the original models. First, categorical predictors that violate the PH assumption are stratified, which allows a different baseline hazard for each category or stratum while the effects of the other variables on the hazard of ending are assumed to remain the same across all strata. The stratified covariates are not estimated; instead, the remaining covariates are estimated with a partial likelihood function that multiplies the likelihood functions for each stratum (Kleinbaum and Klein, 2012). Second, I allow the continuous variables that violate the PH assumption to vary by time by applying a natural spline time transformation to these variables.

The results for these models, reported in Table 11 in the appendix, show only minor changes from the main models. When lethality is measured as fatalities with a decay, the linear effect of lethality on the hazard of ending by victory/politics becomes

substantively larger and picks up significance, although the squared term remains insignificant. When lethality is measured as yearly fatalities, the linear and quadratic effects of lethality on the hazard of ending by victory/politics are in the hypothesized directions but remain insignificant. When lethality is measured as cumulative fatalities, the results are robust.

## **6. Conclusion**

In this study, I theorize about how lethality affects group success. Whereas various pieces in the literature have researched different types of high-lethality attacks, this paper examines lethality as an organizational characteristic. Rather than exploring whether this key variable contributes to group longevity, I research its effect on different types of group termination and I argue that the different ways of ending speak to the success or failure of terrorist organizations.

Ending by victory or by joining the political process is considered to be success. In line with previous literature, I hypothesized a nonlinear relationship in which moderate levels of lethality lead to the greatest chance of success. The results provide support for this theory only when lethality is considered to be cumulative over all the years of a group's existence. Ending by splintering or via repressive force are both considered to be failures. I hypothesized different relationships between lethality and these two types of failure. The results support the hypothesis that moderate levels of lethality lead to the greatest chance of being forcibly terminated. This is in line with the idea that increased lethality increases government resolve, but also increases group capacity, so that at the highest levels of lethality, groups are able to evade government attempts at forcibly terminating the group.

Taken together, the findings show that increased lethality will not necessarily increase success. At the highest levels of lethality, groups have a decreased risk of failing by being forcibly terminated by military or police, but they also have a decreased risk of victory. This means that at high levels of fatalities, groups might survive, but they will not necessarily achieve their goals. It is moderate levels of lethality that bring about the highest chance of success, but this is a risk for groups because it also

increases the chance of failure.

This paper contributes to the literature on the effectiveness of terrorism by focusing explicitly on success in long-term goals and by showing that survival does not necessarily lead to success. Furthermore, I show the importance of considering lethality as an organizational attribute and that fatalities caused over a group's existence affect success differently than fatalities caused in one year. Future work can parse out the effects of lethality caused domestically and lethality caused transnationally. Additionally, not all groups have the intention of causing deaths, and future work can investigate the number or type of attacks and how these characteristics influence group success and failure.

## References

- Abrahms M (2006) Why terrorism does not work. *International Security* 31(2): 42–78.
- Abrahms M (2012) The political effectiveness of terrorism revisited. *Comparative Political Studies* 45(3): 366–393.
- Abrahms M (2013) The credibility paradox: Violence as a double-edged sword in international politics. *International Studies Quarterly* 57(4): 660–671.
- Acosta B (2014) Live to win another day: Why many militant organizations survive yet few succeed. *Studies in Conflict & Terrorism* 37(2): 135–161.
- Acosta B (2016) Dying for survival: Why militant organizations continue to conduct suicide attacks. *Journal of Peace Research* 53(2): 180–196.
- Alakoc BP, Werner S and Widmeier M (2023) Violent and nonviolent strategies of terrorist organizations: How do mixed strategies influence terrorist recruitment and lethality? *Studies in Conflict & Terrorism* 46(12): 2598–2621.
- Asal V, Gill P, Rethemeyer RK and Horgan J (2015) Killing range: Explaining lethality variance within a terrorist organization. *Journal of Conflict Resolution* 59(3): 401–427.
- Asal V and Rethemeyer RK (2008) The nature of the beast: Organizational structures and the lethality of terrorist organizations. *The Journal of Politics* 70(2): 437–449.
- Asal VH, Phillips BJ and Rethemeyer RK (2022) *Insurgent Terrorism: Intergroup Relationships and the Killing of Civilians*. Oxford, UK: Oxford University Press.
- Blomberg SB, Engel RC and Sawyer R (2010) On the duration and sustainability of transnational terrorist organizations. *Journal of Conflict Resolution* 54: 303–330.

- Blomberg SB, Gaibullov K and Sandler T (2011) Terrorist group survival: ideology, tactics, and base of operations. *Public Choice* 149: 441–463.
- Bloom M (2005) *Dying to Kill: The Allure of Suicide Terror*. New York: Columbia University Press.
- Bonneville EF, de Wreede LC and Putter H (2024) Why you should avoid using multiple fine-gray models: insights from (attempts at) simulating proportional subdistribution hazards data. *Journal of the Royal Statistical Society Series A: Statistics in Society* 187(3): 580–593.
- Bueno de Mesquita E (2007) Politics and the suboptimal provision of counterterror. *International Organization* 61: 9–36.
- Caplan B (2006) Terrorism: The relevance of the rational choice model. *Public Choice* 128: 91–107.
- Carson JV and Turner ND (2022) The role of ideology in terrorist attack intentions and outcomes. *Terrorism and Political Violence* 36(1): 90–112.
- Carter DB (2012) A blessing or a curse? state support for terrorist groups. *International Organization* 66(1): 129–151.
- Cebul MD, Dafoe A and Monteiro NP (2021) Coercion and the credibility of assurances. *The Journal of Politics* 83(3): 975–991.
- Coppedge M, Gerring J, Knutsen CH, Lindberg SI, Teorell J, Altman D, Angiolillo F, Bernhard M, Borella C, Cornell A et al. (2024) V-dem [country-year/country-date] dataset v14. <https://www.start.umd.edu/gtd>.
- Crenshaw M (1981) The causes of terrorism. *Comparative Politics* 13(4): 379–399.
- Crenshaw M (1996) Why violence is rejected or renounced: A case study of oppositional terrorism. In: Gregor T (ed.) *A Natural History of Peace*. Nashville, TN: Vanderbilt University Press.
- Cronin AK (2009) *How Terrorism Ends*. Princeton, NJ: Princeton University Press.
- Debs A and Monteiro NP (2014) Known unknowns: Power shifts, uncertainty, and war. *International Organization* 68: 1–31.
- Denz R and Timmesfeld N (2023) Visualizing the (causal) effect of a continuous variable on a time-to-event outcome. *Epidemiology* 34(5). URL <https://doi.org/10.1097/EDE.0000000000001630>.
- Fearon JD (1995) Rationalist explanations for war. *International Organization* 49(3): 379–414.
- Fearon JD (2004) Why do some civil wars last so much longer than others? *Journal of Peace*

- Research* 41(3): 215–301.
- Fortna VP (2015) Do terrorists win? rebels’ use of terrorism and civil war outcomes. *International Organization* 69(3): 519–556.
- Gaibullov K, Hou D and Sandler T (2020) How do the factors determining terrorist groups’ longevity differ from those affecting their success? *European Journal of Political Economy* 65.
- Gaibullov K and Sandler T (2013) Determinants of the demise of terrorist organizations. *Southern Economic Journal* 79: 774–792.
- Gaibullov K and Sandler T (2014) An empirical analysis of alternative ways that terrorist groups end. *Public Choice* 160: 25–4.
- Hoffman B and McCormick GH (2004) Terrorism, signaling, and suicide attack. *Studies in Conflict & Terrorism* 27(4): 243–281.
- Horowitz MC and Potter PBK (2014) Allying to kill: Terrorist intergroup cooperation and the consequences for lethality. *Journal of Conflict Resolution* 58(2): 199–225.
- Hou D, Gaibullov K and Sandler T (2020) Introducing extended data on terrorist groups (edtg), 1970 to 2016. *Journal of Conflict Resolution* 64(1): 199–225.
- Jeffery R (2021) *Negotiating Peace: Amnesties, Justice and Human Rights*. Cambridge, UK: Cambridge University Press.
- Jones SG and Libicki MC (2008) *How Terrorist Groups End: Lessons for Countering al Qaeda*. Santa Monica, CA: Rand Corporation.
- Kleinbaum DG and Klein M (2012) *Survival Analysis: A Self-Learning Text*. New York: Springer.
- Kydd AH and Walter BF (2002) Sabotaging the peace: The politics of extremist violence. *International Organization* 56(2): 263–296.
- Kydd AH and Walter BF (2006) The strategies of terrorism. *International Security* 31(1): 49–80.
- Lake DA (2002) Rational extremism: Understanding terrorism in the twenty-first century. *Dialog IO* 1(1): 15–28.
- Lake DA and Rothchild D (1996) The origins and management of ethnic conflict. *International Security* 21(2): 41–75.
- Lapan HE and Sandler T (1993) Terrorism and signalling. *European Journal of Political Economy* 9: 383–397.
- Levy I (2021) Lethal beliefs: Ideology and the lethality of terrorist organizations. *Terrorism*



- and *Political Violence* 35(4): 811—827.
- Merari A (2016) Terrorism as a strategy of insurgency. In: Chaliand G and Blin A (eds.) *The History of Terrorism : From Antiquity to ISIS*. Oakland, CA: University of California Press.
- Moghadam A (2006) Suicide terrorism, occupation, and the globalization of martyrdom: A critique of dying to win. *Studies in Conflict & Terrorism* 29(8): 707–729.
- Mroszczyk J (2019) To die or to kill? an analysis of suicide attack lethality. *Terrorism and Political Violence* 31(2): 346–366.
- Nilsson M (2018) Hard and soft targets: The lethality of suicide terrorism. *Journal of International Relations and Development* 21(1): 101–117.
- Olzak S (2022) The impact of ideological ambiguity on terrorist organizations. *Journal of Conflict Resolution* 66(4–5): 836–866.
- Overgaard PB (1994) The scale of terrorist attacks as a signal of resources. *Journal of Conflict Resolution* 38(3): 452–478.
- Pape RA (2003) The strategic logic of suicide terrorism. *American Political Science Review* 97(3): 343–361.
- Perkoski E (2019) Internal politics and the fragmentation of armed groups. *International Studies Quarterly* 63(4): 876–889.
- Phillips BJ (2017) Deadlier in the u.s.? on lone wolves, terrorist groups, and attack lethality. *Terrorism and Political Violence* 29(3): 533–549.
- Piazza JA (2009) Is islamist terrorism more lethal? an empirical study of group ideology, organization and goal structure. *Terrorism and Political Violence* 21(1): 62–88.
- Piazza JA and LaFree G (2019) Islamist terrorism, diaspora links and casualty rates. *Perspectives on Terrorism* 13(5): 2–21.
- Piazza JA and Piazza S (2020) Crime pays: Terrorist group engagement in crime and survival. *Terrorism and Political Violence* 32(4): 701–723.
- Poguntke I, Schumacher M, Beyersmann J and Wolkewitz M (2018) Simulation shows undesirable results for competing risks analysis with time-dependent covariates for clinical outcomes. *BMC Medical Research Methodology volume* 18(79).
- Powell R (2006) War as a commitment problem. *International Organization* 60(1): 169–203.
- Robinson K and Malone I (2024) Militant splinter groups and the use of violence. *The Journal of Conflict Resolution* 68(2-3): 404–430.
- Rosendorff BP and Sandler T (2010) Suicide terrorism and the backlash effect. *Defence and Peace Economics* 21(5–6): 443–457.

- Sandler T (2018) *Terrorism: What Everyone Needs to Know*. New York: Oxford University Press.
- Sandler T, Tschirhart JT and Cauley J (1983) A theoretical analysis of transnational terrorism. *The American Political Science Review* 77(1): 36–54.
- Sechser TS (2018) Reputations and signaling in coercive bargaining. *Journal of Conflict Resolution* 62(2): 318–345.
- Stange G and Patock R (2010) From rebels to rulers and legislators: The political transformation of the free aceh movement (gam) in indonesia. *Journal of Current Southeast Asian Affairs* 29: 95–120.
- START (2020) Global terrorism database 1970 - 2020. <https://www.start.umd.edu/gtd>.
- Therneau TM (2024) *A Package for Survival Analysis in R*. URL <https://CRAN.R-project.org/package=survival>. R package version 3.7-0.
- Therneau TM and Grambsch PM (2000) *Modeling Survival Data: Extending the Cox Model*. New York: Springer.
- Thomas J (2014) Rewarding bad behavior: How governments respond to terrorism in civil war. *American Journal of Political Science* 58(4): 804–818.
- Thomas JL (2021) Wolves in sheep’s clothing: Assessing the effect of gender norms on the lethality of female suicide terrorism. *International Organization* 75(3): 769–802.
- Turner ND, Chermak SM and Freilich JD (2023) An empirical examination on the severity of lone-actor terrorist attacks. *Crime & Delinquency* 69(5): 915–942.
- Walter B (1997) The critical barrier to civil war settlement. *International Organization* 53(3): 335–364.
- Walter BF (2002) *Committing to Peace: The Successful Settlement of Civil Wars*. Princeton, NJ: Princeton University Press.
- Wood RM and Kathman JD (2014) Too much of a bad thing? civilian victimization and bargaining in civil war. *British Journal of Political Science* 44(3): 685–706.

## 7. Appendix

### 7.1. Government Spending Covariate

Table 4.: Lethality: Cumulative; Government Spending Included

	<i>Dependent variable:</i>					
	Victory/Pol.	Force	Splinter	Victory/Pol.	Force	Splinter
	(1)	(2)	(3)	(4)	(5)	(6)
Fatalities (log)	35.720** (16.386)	42.212*** (18.502)	18.775 (22.700)	39.679** (18.395)	40.481** (19.406)	23.116 (23.609)
Fatalities Sq. (log)	-1.732 (1.206)	-3.452** (1.496)	-2.956 (2.499)	-2.218* (1.291)	-3.072* (1.549)	-3.085 (2.459)
Left	714.108*** (439.585)	198.343*** (110.108)	121.504* (99.327)	404.650*** (297.561)	164.082** (119.065)	9.069 (57.955)
Right	1,066.527*** (735.519)	303.230*** (215.643)	21.993 (91.352)	754.237*** (586.235)	190.637* (169.396)	-25.344 (61.594)
Nationalist	447.491*** (301.885)	34.877 (57.146)	49.287 (72.361)	421.669*** (297.141)	72.297 (83.112)	4.882 (54.995)
Regime	-37.663 (29.737)	88.154 (123.607)	-25.253 (44.621)	-52.957 (24.708)	103.764 (139.429)	-8.994 (58.732)
Policy	112.974* (97.649)	185.837 (191.557)	-71.875* (20.083)	83.072 (92.336)	149.922 (181.603)	-70.492 (22.664)
Territory	-66.282** (17.052)	-13.658 (59.837)	-51.874 (30.367)	-68.793** (17.513)	3.678 (72.202)	-25.233 (50.560)
Attack Diversity	-2.365*** (0.774)	-0.268 (0.658)	-2.292** (1.118)	-2.672*** (0.817)	-0.329 (0.667)	-2.490** (1.160)
Share Trans. Terr.	2.019*** (0.271)	0.519 (0.383)	2.061*** (0.325)	1.981*** (0.289)	0.454 (0.389)	1.886*** (0.345)
Multiple Bases	35.774 (36.173)	24.866 (36.347)	16.652 (39.023)	-8.724 (27.711)	37.967 (44.987)	50.681 (56.516)
Pop (log)				-21.170*** (7.044)	13.959 (11.855)	6.898 (12.091)

GDP/Pop (log)				−3.449 (13.607)	5.949 (18.792)	0.836 (19.871)
Democracy				−0.826 (0.667)	0.146 (0.840)	2.475** (1.064)
Ethnic Frac.				−0.350 (0.832)	1.881* (1.038)	1.724 (1.186)
Tropics				0.460 (0.641)	−1.316** (0.631)	1.329 (1.051)
Elevation (log)				38.422* (23.535)	−27.424* (12.428)	60.361** (38.264)
East Asia & Pacific				160.120 (158.111)	32.020 (77.596)	−75.730 (25.054)
Europe & Central Asia				207.673** (151.919)	−13.284 (35.813)	155.382 (151.344)
Latin Am. & Caribbean				93.182 (118.904)	109.248 (121.857)	−57.168 (43.002)
North America				129.190 (147.408)	24.053 (64.584)	−85.803* (16.470)
South Asia				84.177 (137.522)	−71.683 (24.140)	−72.347 (30.051)
Sub-Saharan Africa				25.147 (84.326)	−43.527 (42.855)	−79.072 (24.334)
Gov. Spending	−95.968* (6.977)	2,114.643** (3,203.276)	4,548.267** (7,418.386)	−80.467 (43.976)	−26.628 (161.050)	1,548.697 (4,155.521)

Observations	6,933	6,933	6,933	6,850	6,850	6,850
Log Likelihood	−381.592	−380.951	−284.069	−358.481	−361.166	−263.110
Score (Logrank) Test	187.098***	50.072***	97.957***	227.371***	86.651***	124.096***

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table 5.: Lethality: Decay; Government Spending Included

	<i>Dependent variable:</i>					
	Victory/Pol.	Force	Splinter	Victory/Pol.	Force	Splinter
	(1)	(2)	(3)	(4)	(5)	(6)
Fatalities (log)	17.555 (17.449)	51.216** (24.675)	23.914 (30.356)	18.469 (19.297)	54.014** (25.993)	29.069 (32.289)
Fatalities Sq. (log)	-0.084 (1.938)	-5.027** (2.286)	-4.316 (4.192)	-0.663 (2.183)	-4.712** (2.312)	-4.430 (4.201)
Left	689.159*** (429.381)	197.891*** (110.560)	119.340* (98.984)	369.300*** (277.294)	172.993** (123.820)	7.455 (57.580)
Right	1,076.366*** (748.979)	321.016*** (226.674)	22.983 (92.451)	734.767*** (575.201)	210.177* (181.134)	-25.482 (61.666)
Nationalist	501.019*** (336.992)	34.501 (57.134)	43.304 (69.800)	451.573*** (318.276)	76.791 (85.663)	0.988 (53.380)
Regime	-39.522 (28.726)	93.681 (127.544)	-24.282 (45.279)	-55.372 (23.348)	113.515 (146.259)	-8.112 (59.310)
Policy	92.467 (87.464)	188.282 (193.214)	-71.049* (20.672)	65.262 (82.116)	158.559 (187.814)	-69.404 (23.442)
Territory	-68.585** (15.836)	-9.594 (62.544)	-48.375 (32.298)	-71.186** (16.081)	8.804 (75.725)	-20.262 (53.778)
Attack Diversity	-2.508*** (0.836)	-0.252 (0.688)	-2.291** (1.139)	-2.680*** (0.869)	-0.427 (0.701)	-2.554** (1.186)
Share Trans. Terr.	2.079*** (0.273)	0.498 (0.384)	2.050*** (0.325)	2.016*** (0.291)	0.424 (0.389)	1.887*** (0.344)
Multiple Bases	40.306 (37.057)	26.493 (36.809)	15.448 (38.788)	-2.789 (29.157)	37.600 (44.602)	48.584 (55.845)
Pop (log)				-20.854*** (7.119)	14.509 (11.975)	6.219 (12.007)
GDP/Pop (log)				-4.591 (13.308)	5.950 (18.835)	0.966 (19.964)
Democracy				-0.828 (0.663)	0.130 (0.837)	2.457** (1.064)

Ethnic Frac.				−0.450 (0.831)	1.844* (1.037)	1.632 (1.180)
Tropics				0.266 (0.623)	−1.496** (0.627)	1.278 (1.047)
Elevation (log)				37.033* (23.078)	−27.573* (12.447)	60.890** (38.342)
East Asia & Pacific				149.920 (153.436)	41.493 (82.782)	−74.568 (26.235)
Europe & Central Asia				169.707** (133.473)	−20.311 (32.772)	153.568 (150.221)
Latin Am. & Caribbean				112.685 (130.415)	116.674 (125.403)	−58.258 (41.932)
North America				92.832 (122.449)	19.602 (61.610)	−85.454* (16.840)
South Asia				58.456 (117.808)	−73.743 (22.423)	−72.087 (30.255)
Sub-Saharan Africa				33.222 (89.048)	−41.219 (44.298)	−78.087 (25.509)
Gov. Spending	−95.286* (8.105)	1,720.815** (2,603.390)	3,611.836** (5,861.559)	−81.563 (40.873)	−48.943 (110.396)	975.464 (2,658.191)
Observations	6,933	6,933	6,933	6,850	6,850	6,850
Log Likelihood	−384.111	−381.422	−284.335	−361.137	−360.921	−263.418
Score (Logrank) Test	182.458***	49.218***	97.873***	222.298***	86.524***	123.582***

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table 6.: Lethality: Yearly; Government Spending Included

	<i>Dependent variable:</i>					
	Victory/Pol.	Force	Splinter	Victory/Pol.	Force	Splinter
	(1)	(2)	(3)	(4)	(5)	(6)
Fatalities (log)	1.961 (21.064)	48.714 (36.428)	204.833*** (119.860)	-3.539 (21.469)	53.274* (38.539)	234.700*** (134.552)
Fatalities Sq. (log)	0.975 (2.932)	-6.713 (3.991)	-25.229** (9.907)	1.270 (3.306)	-6.674 (4.077)	-26.103** (9.908)
Left	586.167*** (373.684)	174.695*** (101.582)	133.460* (104.458)	319.292** (249.325)	135.431* (106.657)	16.611 (62.359)
Right	1,047.898*** (728.911)	304.960*** (216.577)	13.281 (85.356)	739.108*** (582.945)	176.948* (160.944)	-30.182 (59.124)
Nationalist	487.154*** (328.752)	40.899 (60.038)	34.738 (65.575)	445.466*** (316.500)	75.781 (84.966)	-3.175 (51.046)
Regime	-36.806 (29.950)	88.193 (123.245)	-32.246 (40.878)	-53.052 (24.581)	107.300 (141.556)	-11.060 (59.014)
Policy	75.594 (79.904)	153.003 (169.213)	-70.652* (20.989)	53.363 (76.416)	130.984 (167.347)	-67.738 (25.044)
Territory	-69.384** (15.447)	-16.539 (57.521)	-51.094 (30.507)	-71.185** (16.101)	-1.615 (68.151)	-17.588 (57.057)
Attack Diversity	-1.972** (0.903)	-0.152 (0.784)	-2.788** (1.164)	-2.172** (0.957)	-0.306 (0.788)	-3.178** (1.232)
Share Trans. Terr.	2.196*** (0.279)	0.632 (0.386)	1.941*** (0.329)	2.111*** (0.298)	0.514 (0.392)	1.834*** (0.346)
Multiple Bases	38.300 (36.960)	34.592 (38.733)	10.066 (37.075)	-5.505 (28.514)	47.849 (47.488)	47.324 (55.838)
Pop (log)				-19.035** (7.301)	16.806 (12.307)	4.991 (11.735)
GDP/Pop (log)				-2.899 (13.737)	6.258 (18.803)	2.869 (20.646)
Democracy				-1.050 (0.667)	0.091 (0.843)	2.564** (1.079)

Ethnic Frac.				−0.566 (0.845)	1.822* (1.045)	1.395 (1.159)
Tropics				0.477 (0.634)	−1.541** (0.625)	1.317 (1.043)
Elevation (log)				39.642* (24.090)	−27.457* (12.547)	64.628** (38.198)
East Asia & Pacific				78.575 (117.318)	48.159 (87.458)	−75.214 (25.682)
Europe & Central Asia				157.449* (128.263)	−18.562 (33.992)	134.283 (140.115)
Latin Am. & Caribbean				94.434 (121.713)	167.310* (153.619)	−60.199 (39.299)
North America				82.521 (115.923)	2.218 (53.044)	−87.475* (14.627)
South Asia				50.790 (112.869)	−73.325 (22.692)	−69.184 (33.727)
Sub-Saharan Africa				20.877 (82.579)	−35.884 (47.956)	−74.989 (28.900)
Gov. Spending	−96.737* (5.744)	1,228.510* (1,927.298)	3,410.217** (5,619.089)	−80.854 (42.822)	−42.819 (122.926)	782.101 (2,190.825)
Observations	6,904	6,904	6,904	6,821	6,821	6,821
Log Likelihood	−377.114	−377.546	−279.481	−353.383	−358.111	−258.203
Score (Logrank) Test	166.765***	45.145***	103.155***	210.233***	77.992***	129.169***

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01



## 7.2. Ending by Going Inactive Included

Table 7.: Lethality: Cumulative; End By Going Inactive Included

	<i>Dependent variable:</i>					
	Victory/Pol.	Force	Splinter	Victory/Pol.	Force	Splinter
	(1)	(2)	(3)	(4)	(5)	(6)
Fatalities (log)	35.584*** (15.335)	45.025*** (17.003)	28.112* (19.269)	34.905** (16.530)	46.984*** (18.601)	29.207 (22.188)
Fatalities Sq. (log)	-2.008* (1.197)	-3.754*** (1.390)	-2.494 (1.955)	-2.166* (1.272)	-3.407** (1.440)	-3.541 (2.302)
Left	657.777*** (365.424)	280.093*** (131.316)	109.272** (76.003)	360.535*** (268.007)	249.344*** (156.391)	49.559 (71.474)
Right	1,121.852*** (691.422)	449.373*** (282.907)	43.927 (98.709)	771.421*** (582.633)	277.729** (218.183)	4.858 (79.734)
Nationalist	450.538*** (271.198)	79.412 (69.774)	77.344 (67.189)	447.645*** (307.390)	170.044** (121.491)	47.457 (69.475)
Regime	-25.861 (32.132)	115.108 (137.905)	18.186 (67.220)	-41.227 (28.788)	150.188 (165.027)	21.921 (74.902)
Policy	97.087 (84.442)	224.412* (211.927)	-23.848 (47.536)	69.184 (80.114)	170.321 (188.336)	-44.005 (38.918)
Territory	-67.382** (15.491)	-5.838 (63.812)	-25.329 (44.873)	-74.643** (13.518)	1.826 (69.458)	-15.952 (53.452)
Attack Diversity	-1.920*** (0.683)	-0.250 (0.597)	-3.193*** (1.052)	-2.396*** (0.754)	-0.505 (0.628)	-2.937*** (1.117)
Share Trans. Terr.	1.724*** (0.249)	0.495 (0.348)	2.057*** (0.272)	1.887*** (0.268)	0.375 (0.367)	1.844*** (0.307)
Multiple Bases	41.838 (34.439)	44.236 (37.086)	29.437 (36.547)	25.270 (34.189)	37.761 (42.875)	72.352 (57.602)
Pop (log)				-20.183*** (6.058)	8.314 (9.735)	4.135 (10.229)
GDP/Pop (log)				-2.305 (11.375)	11.889 (16.576)	-12.921 (13.647)

Democracy				−0.408 (0.597)	−0.243 (0.731)	2.343** (0.942)
Ethnic Frac.				−0.259 (0.750)	0.870 (0.880)	1.021 (0.977)
Tropics				0.155 (0.499)	−0.904 (0.553)	0.456 (0.836)
Elevation (log)				21.784 (18.269)	−14.551 (13.206)	21.350 (22.887)
East Asia & Pacific				118.183 (123.386)	−11.070 (50.400)	−83.280* (15.769)
Europe & Central Asia				174.662** (128.799)	−8.208 (34.903)	38.992 (68.956)
Latin Am. & Caribbean				233.017** (180.800)	82.311 (94.191)	−55.294 (35.123)
North America				121.336 (139.126)	80.234 (87.874)	−85.264* (16.749)
South Asia				177.445 (172.648)	−53.306 (34.186)	−85.850** (12.922)
Sub-Saharan Africa				117.307 (128.701)	−37.739 (42.781)	−87.749** (12.277)
Observations	8,805	8,805	8,805	8,201	8,201	8,201
Log Likelihood	−481.798	−475.820	−401.979	−416.449	−418.450	−329.351
Score (Logrank) Test	178.584***	63.407***	106.162***	234.418***	100.335***	137.401***
<i>Note:</i>				*p<0.1; **p<0.05; ***p<0.01		

Table 8.: Lethality: Decay; End By Going Inactive Included

	<i>Dependent variable:</i>					
	Victory/Pol.	Force	Splinter	Victory/Pol.	Force	Splinter
	(1)	(2)	(3)	(4)	(5)	(6)
Fatalities (log)	18.514 (16.251)	62.998*** (24.835)	32.101 (23.664)	12.215 (16.674)	69.771*** (27.287)	45.990* (31.838)
Fatalities Sq. (log)	-0.469 (1.828)	-6.488*** (2.247)	-3.057 (2.816)	-0.085 (2.002)	-5.980** (2.285)	-6.242 (3.752)
Left	639.287*** (357.697)	273.290*** (129.357)	111.988** (77.642)	347.982** (262.862)	256.841*** (160.455)	46.680 (70.732)
Right	1,118.260*** (693.285)	462.177*** (290.559)	47.322 (101.421)	784.584*** (596.308)	297.937** (229.784)	2.823 (78.625)
Nationalist	482.965*** (289.330)	76.182 (68.584)	79.211 (68.312)	493.783*** (338.170)	167.295** (120.557)	40.472 (66.651)
Regime	-28.851 (30.836)	123.256 (143.367)	18.861 (67.703)	-44.890 (26.933)	164.396 (174.442)	24.693 (76.804)
Policy	80.892 (77.207)	228.763* (214.595)	-23.206 (47.931)	54.060 (72.209)	176.241 (192.283)	-41.320 (40.792)
Territory	-69.359** (14.512)	-3.324 (65.475)	-24.130 (45.549)	-77.128*** (12.176)	7.341 (73.452)	-10.130 (57.206)
Attack Diversity	-2.025*** (0.731)	-0.152 (0.618)	-3.276*** (1.070)	-2.433*** (0.803)	-0.569 (0.653)	-2.987*** (1.137)
Share Trans. Terr.	1.773*** (0.251)	0.448 (0.350)	2.042*** (0.273)	1.916*** (0.271)	0.318 (0.368)	1.829*** (0.307)
Multiple Bases	46.351 (35.245)	45.291 (37.326)	28.548 (36.259)	30.768 (35.454)	36.456 (42.365)	67.752 (56.233)
Pop (log)				-20.941*** (6.119)	8.398 (9.780)	3.798 (10.209)
GDP/Pop (log)				-3.258 (11.210)	12.178 (16.597)	-12.483 (13.755)
Democracy				-0.404 (0.593)	-0.222 (0.729)	2.350** (0.944)

Ethnic Frac.				−0.428 (0.746)	0.820 (0.881)	0.983 (0.972)
Tropics				0.049 (0.489)	−1.023* (0.554)	0.428 (0.834)
Elevation (log)				21.823 (18.194)	−14.186 (13.322)	21.959 (22.861)
East Asia & Pacific				116.193 (123.526)	−5.296 (53.368)	−82.123* (16.820)
Europe & Central Asia				150.904* (118.467)	−15.477 (32.067)	39.677 (69.291)
Latin Am. & Caribbean				250.957** (190.694)	85.702 (95.507)	−54.945 (35.357)
North America				100.259 (124.898)	75.670 (84.880)	−85.180* (16.820)
South Asia				158.575 (160.594)	−54.148 (33.586)	−85.189** (13.518)
Sub-Saharan Africa				127.573 (134.602)	−33.311 (45.423)	−86.849** (13.168)

Observations	8,805	8,805	8,805	8,201	8,201	8,201
Log Likelihood	−484.391	−475.545	−401.968	−418.813	−417.647	−329.036
Score (Logrank) Test	174.151***	62.765***	106.666***	229.135***	101.143***	137.220***

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

Table 9.: Lethality: Yearly; End By Going Inactive Included

	<i>Dependent variable:</i>					
	Victory/Pol.	Force	Splinter	Victory/Pol.	Force	Splinter
	(1)	(2)	(3)	(4)	(5)	(6)
Fatalities (log)	−0.914 (18.675)	40.558 (33.032)	119.927*** (57.135)	−2.633 (19.613)	54.079* (36.800)	189.908*** (104.210)
Fatalities Sq. (log)	1.012 (2.743)	−6.856* (3.942)	−12.943** (5.359)	1.344 (2.961)	−6.981* (3.950)	−23.488** (8.823)
Left	526.348*** (303.996)	239.233*** (117.096)	128.549** (83.638)	298.950** (236.412)	195.768** (133.049)	52.372 (73.308)
Right	1,039.587*** (645.576)	418.544*** (264.920)	52.479 (105.616)	790.852*** (604.293)	243.486** (197.797)	0.192 (77.705)
Nationalist	468.007*** (281.804)	79.873 (69.927)	72.868 (66.569)	476.839*** (329.907)	166.901** (120.138)	36.064 (64.752)
Regime	−29.627 (30.384)	109.980 (133.864)	17.450 (67.470)	−46.490 (26.097)	152.125 (165.947)	20.695 (75.146)
Policy	63.664 (69.854)	180.404 (182.547)	−28.631 (45.414)	37.496 (64.614)	135.198 (163.666)	−39.708 (42.029)
Territory	−70.749*** (13.801)	−12.746 (58.783)	−22.908 (46.572)	−77.971*** (11.678)	−7.018 (63.209)	−9.728 (57.935)
Attack Diversity	−1.447* (0.787)	0.131 (0.713)	−3.621*** (1.087)	−2.017** (0.889)	−0.356 (0.744)	−3.331*** (1.162)
Share Trans. Terr.	1.835*** (0.258)	0.599* (0.351)	1.953*** (0.280)	1.933*** (0.278)	0.433 (0.371)	1.784*** (0.309)
Multiple Bases	46.441 (35.684)	47.491 (37.703)	29.487 (36.570)	29.163 (35.334)	49.346 (45.866)	66.010 (55.459)
Pop (log)				−20.177*** (6.344)	9.798 (10.004)	3.821 (10.185)
GDP/Pop (log)				−2.754 (11.453)	12.645 (16.628)	−12.421 (13.842)
Democracy				−0.465 (0.602)	−0.299 (0.732)	2.443*** (0.950)

Ethnic Frac.				−0.504 (0.756)	0.774 (0.902)	0.893 (0.971)
Tropics				0.254 (0.504)	−1.015* (0.555)	0.478 (0.833)
Elevation (log)				24.506 (19.092)	−14.096 (13.485)	23.030 (22.775)
East Asia & Pacific				60.042 (98.110)	−7.553 (52.489)	−83.022* (16.155)
Europe & Central Asia				138.643* (114.017)	−15.174 (32.656)	27.810 (63.943)
Latin Am. & Caribbean				202.832** (170.856)	118.109 (112.205)	−57.445 (33.004)
North America				91.386 (119.736)	48.388 (72.568)	−87.030* (14.788)
South Asia				132.682 (147.732)	−53.922 (33.633)	−85.809** (13.049)
Sub-Saharan Africa				95.004 (119.354)	−31.067 (47.068)	−87.268** (12.675)

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Observations	8,766	8,766	8,766	8,167	8,167	8,167
Log Likelihood	−471.944	−473.106	−391.588	−406.488	−416.758	−324.530
Score (Logrank) Test	154.966***	55.418***	112.333***	210.045***	89.029***	142.666***

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*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### 7.3. Main Model Diagnostics

Table 10.: P-values for proportional hazards assumption test

	(1) Cumulat. Vic/Pol	(2) Cumulat. Force	(3) Cumulat. Splinter	(4) Decay Vic/Pol	(5) Decay Force	(6) Decay Splinter	(7) Year Vic/Pol	(8) Year Force	(9) Year Splinter
Fatalities (log)	0.400	0.831	0.963	0.168	0.924	0.903	0.038	0.747	0.386
Fatalities Sq. (log)	0.185	0.125	0.455	0.403	0.290	0.219	0.060	0.812	0.197
Left	0.831	0.438	0.054	0.719	0.414	0.059	0.901	0.455	0.067
Right	0.422	0.695	0.569	0.322	0.926	0.543	0.393	0.854	0.495
Nationalist	0.991	0.545	0.061	0.845	0.446	0.061	0.943	0.544	0.056
Regime	0.047	0.262	0.723	0.048	0.176	0.689	0.049	0.165	0.820
Policy	0.038	0.401	0.223	0.029	0.332	0.213	0.029	0.289	0.236
Territory	0.784	0.875	0.323	0.740	0.807	0.376	0.728	0.775	0.281
Attack Diversity	0.316	0.352	0.487	0.159	0.528	0.599	0.170	0.707	0.698
Share Trans. Terr	0.010	0.431	0.888	0.011	0.373	0.890	0.027	0.429	0.883
Multiple Bases	0.001	0.081	0.917	0.001	0.074	0.946	0.000	0.080	0.907
Pop (log)	0.007	0.446	0.954	0.005	0.497	0.921	0.005	0.450	0.902
GDP/Pop (log)	0.019	0.500	0.181	0.024	0.603	0.205	0.017	0.561	0.227
Democracy	0.003	0.914	0.154	0.002	0.916	0.159	0.002	0.856	0.135
Ethnic Frac.	0.319	0.562	0.379	0.527	0.479	0.450	0.446	0.476	0.392
Tropics	0.013	0.072	0.499	0.023	0.161	0.634	0.010	0.153	0.683
Elevation (log)	0.367	0.026	0.939	0.383	0.056	0.938	0.406	0.043	0.962
East Asia & Pacific	0.602	0.788	0.858	0.608	0.671	0.886	0.331	0.786	0.734
Europe & Central Asia	0.033	0.523	0.334	0.033	0.355	0.378	0.029	0.441	0.422
Latin Am. & Caribbean	0.469	0.569	0.866	0.460	0.600	0.980	0.344	0.598	0.880
North America	0.069	0.601	0.128	0.045	0.685	0.105	0.034	0.608	0.095
South Asia	0.690	0.638	0.402	0.593	0.616	0.383	0.482	0.603	0.433
Sub-Saharan Africa	0.003	0.779	0.907	0.003	0.762	0.881	0.002	0.803	0.852
GLOBAL	0.000	0.169	0.227	0.000	0.221	0.085	0.000	0.561	0.279

Figure 8.: Schoenfeld Residuals For Ending by Victory: Yearly Fatalities Covariates

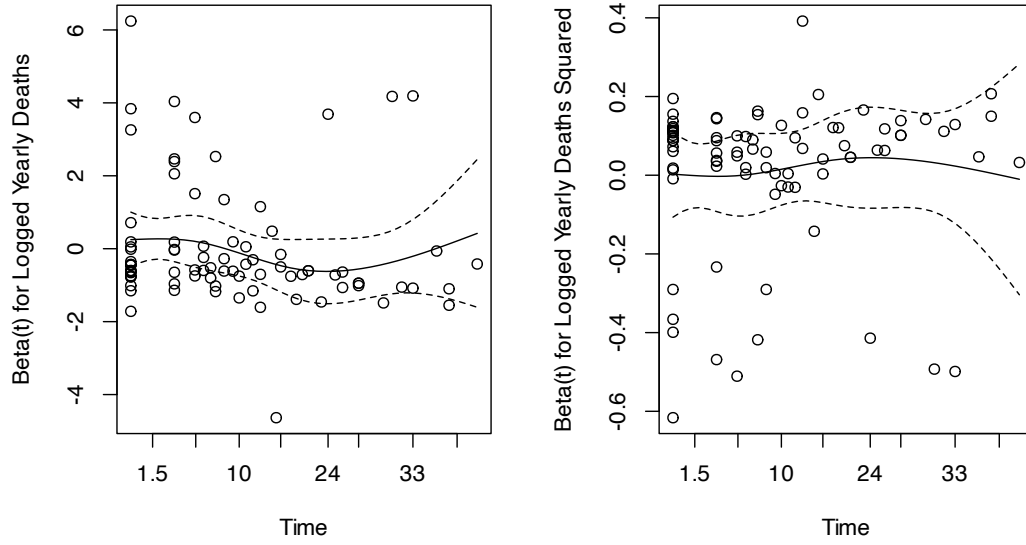


Table 11.: Models for Victory/Politics with Stratification and Time Interactions

	<i>Dependent variable:</i>		
	Cumulative	Decay	Yearly
	(1)	(2)	(3)
Fatalities (log)	44.510*** (19.639)	36.349* (23.315)	23.271 (28.981)
Fatalities Sq. (log)	-2.922** (1.464)	-3.054 (2.325)	-1.428 (3.621)
Left	253.481** (223.882)	236.898* (212.404)	264.562** (225.402)
Right	375.444** (357.603)	375.953** (355.955)	450.855** (392.149)
Nationalist	355.808** (274.531)	336.133** (263.970)	339.980** (261.889)
Territory	-70.276* (19.049)	-68.394* (20.086)	-66.816* (20.303)
Attack Diversity	-1.628** (0.812)	-1.493* (0.823)	-1.496 (0.968)



<b>Share Trans. Terr.</b>	−3.977*** (0.752)	−3.823*** (0.749)	−2.726*** (0.715)
Pop (log)	−21.426*** (6.571)		
<b>Pop (log)</b>		−18.962* (10.022)	−16.447* (8.937)
<b>GDP/Pop (log)</b>	−2.850 (12.177)	−6.209 (13.400)	−10.673 (8.972)
Democracy	−0.505 (0.626)	−0.758 (0.608)	−0.731 (0.592)
Ethnic Frac.	−0.043 (0.814)	0.103 (0.885)	−0.095 (0.883)
Tropics	0.153 (0.491)	0.214 (0.489)	0.311 (0.502)
Elevation (log)	13.403 (18.355)	9.522 (19.422)	12.611 (19.567)
East Asia & Pacific	163.264 (165.577)	120.259 (139.558)	53.388 (100.602)
Europe & Central Asia			306.853** (227.342)
Latin Am. & Caribbean	541.554*** (458.861)	696.380*** (589.262)	514.006*** (406.459)
South Asia	353.224** (292.126)	126.015 (136.598)	64.835 (89.584)
Observations	7,954	7,954	7,920
Log Likelihood	−200.528	−205.476	−245.666
Score (Logrank) Test	96.121***	89.142***	73.946***

*Note:* \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

*Bolded variables indicate time interactions.*

*Stratified variables are modeled but not estimated.*