Counterterrorism Killings and Provisional IRA Bombings, 1970-1998

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Abstract

Counterterrorism strategies involving the killing of terrorists are a prominently used but controversial practice. Proponents argue that such strategies are useful tools for reducing terrorist activity, while critics question their effectiveness. This paper provides empirical insight into this strategy by conducting a series of negative binomial regression and Tobit estimations of the impact of killing Provisional Irish Republican Army (PIRA) terrorists as well as members of the Catholic community on counts of PIRA bombings and targeting activity in Northern Ireland for the period 1970-1998. We consider the impact of discriminate and indiscriminate killings (where only PIRA militants are killed versus those in which both militants and civilians are also killed) on subsequent PIRA IED attacks. Our findings illustrate that while total and discriminate counterterrorism killings have little to no effect on PIRA IED attacks, indiscriminate counterterrorism killings increased PIRA bombings overall and prompted the Provisional IRA to specifically target civilians in IED events. We conclude by discussing the scholarly and policy implications of these findings.

Keywords: Terrorism, Provisional IRA, Counterterrorism, Northern Ireland

Running Title: Counterterrorism Killings and Provisional IRA Bombings

Do counterterrorism actions that kill terrorist group members, or members of the community these groups claim to represent, reduce the volume of terrorist activity? Do these strategies change the types of terrorist attacks committed in response? These are salient questions given the use of such strategies in contemporary high profile counterterrorism campaigns. For example, in November 2012, Israeli Defence Forces launched a surgical rocket strike against a vehicle carrying Ahmed Jabari, the head of Hamas's military wing in Gaza. The event marked the beginning of Operation "Pillar of Defense". The killing of Jabari is only the most recent in a long history of Israeli use of targeted killings of Palestinian terrorist movement leaders and rank-and-file members as a counterterrorism instrument.[1] Other countries have used similar counterterrorism tactics. Both the Turkish military and the Sri Lankan defense and counterterrorism forces used both discriminate and indiscriminate killings of Kurdish and Tamil separatists and the communities these groups claimed to represent in the 1990s and the 2000s. The Spanish government, facing an upsurge of Basque terrorism in the 1980s, formed clandestine death squads that assassinated suspected Basque Freedom and Fatherland (ETA) terrorists.[2] Finally, the United States has made significant use of violent elimination of terrorists and terror suspects since September 11th. These include the use of armed aerial drone attacks on suspected terrorist locations in Pakistan, Afghanistan, Yemen, Jordan, Syria and, increasingly, East Africa, and the Navy Seal assassination of Osama Bin Laden in Pakistan in 2011.

Proponents of counterterrorism strategies involving assassinations of terrorist leaders, terrorist group members or the communities from which they emerge frequently argue that such measures promise to reduce subsequent terrorism by degrading terrorist movement capacity, by reducing the pool of cadres and recruits, and by imposing costs on those who provide financial and other support for terrorists. Proponents also argue that assassinations of terrorists

demonstrates counterterrorism potency and determination in the face of terrorist threats, and serves as a deterrent for would-be terrorists and supporters.[3] However, such strategies are highly controversial and are often met with counterarguments.[4] Critics charge that assassination of terrorists, in addition to violating basic democratic and human rights, may actually prompt more terrorist activity, erode public support for state counterterrorism officials, enhance sympathy for terrorists and provide the targeted terrorist movements with propaganda fodder.[5] Still others argue for the use of more discriminate and limited assassination of terrorists, in which confirmed terrorists are targeted with minimal civilian or collateral damage, to degrade terrorist group capacity while minimizing the public relations "costs" of such policies.[6]

During the Northern Ireland conflict (1970-1998) British military and police forces engaged in both discriminate and indiscriminate lethal violence – via an unspoken policy popularly titled "Shoot to Kill" – against Provisional Irish Republican Army (PIRA) members, and members of the wider Catholic community from which the PIRA drew support. "Shoot to Kill" involved unofficial tolerance by British counterterrorism and police officials for the extrajudicial killing of suspected Irish Republican militants in lieu of formal arrest and often resulted in civilian or bystander casualties.[7] The argument in favour of such strategies was identical to those articulated today in counterterrorism circles: eliminating PIRA cadres and their potential supporters would damage PIRA capacity to commit terrorist attacks and would deter support for PIRA activities. Likewise, critics of "Shoot to Kill" launched similar objections to contemporary critics, alleging that such heavy-handed counterterrorism strategies would generate sympathy among Northern Ireland's Catholics for armed resistance. In this study we address several research questions. First, did the practice of discriminately killing PIRA members and indiscriminately killing members of Northern Ireland's Catholic community reduce

PIRA bombing activities from 1970 to 1998? Or, rather, did such counterterrorism strategies spur PIRA to redouble bombings? Second, did the type of killings launched against PIRA members specifically [discriminate] and Northern Ireland Catholics in general [indiscriminate] affect the types of targets selected for bombings?

In the next section, we examine the literature and theory informing discussion of the effects of counterterrorism killings on terrorist activity and targeting behaviour. The subsequent sections present our hypotheses, the empirical tests, results and the conclusions we reach regarding the implications of our findings.

Theory

Many studies that theoretically model the inter-relationship between terrorist activities and counterterrorist operations suggest a 'boomerang' or 'backlash' effect. In other words, harsh counterterrorism measures are likely to radicalize the targeted community further, thereby increasing the likelihood of revenge being sought, and as a consequence ultimately lead to more terrorist attacks.[8] Other theoretical models, however, account for the fact that not all counterterrorism policies have this radicalizing effect and this is largely due to the amount of damage caused by these policies.[9] Empirical approaches have typically developed in two stages. First, studies analysed the relationship between counterterrorism killings and subsequent terrorist attacks at a national level. Second, studies disaggregated the nature of counterterrorism killings and looked at the impact of discriminate and indiscriminate killings on subsequent terrorist activity on a national level. Our study marks a new departure in two ways. It disaggregates counterterrorism killings as well as terrorist target types on a national level. It does this at a local rather than national level.

The Impact of Counterterrorism Killings on Terrorist Activity

The effectiveness of counterterrorism killings can be measured in many different ways.[10] While the discriminate killing of terrorists is rarely effective in completely halting a campaign of violence,[11] the results are somewhat mixed when we analyse the number of subsequent terrorist attacks by a terrorist organization. Hafez and Hatfield[12] illustrate that targeted assassinations had no significant impact on the level of Palestinian violence. Mannes' comparative study of leadership decapitation in 81 terrorist organizations showed that this policy rarely leads to a decrease in subsequent attacks in the following five-year period.[13] Mannes, however, also shows that in the case of religious terrorist organizations, attacks are likely to significantly increase following the targeted killing of its leader. LaFree et al. found that three of the six high-profile British counterterrorist operations employed by the British government against PIRA resulted in a significant increase in subsequent terrorist attacks.[14] Dugan and Chenoweth's study shows that repressive actions by the Israeli state sometimes led to increases in Palestinian terrorism.[15] Fielding and Shortland came to a similar conclusion in their analysis of insurgency in Egypt.[16]

Maoz's findings indicate the temporal nature of terrorist group retaliation.[17] Maoz illustrates that while violent actions by Israel often led to a short-term decrease in Palestinian terrorist activity, there is a corresponding long-term increase in terrorism. Johnston's study stands alone in illustrating that counterterrorism violence (in this case leadership decapitation) reduces the intensity and scale of insurgent attacks.[18] This finding may be related to the fact that it was leaders who were targeted. In our study, the highest-ranking members to have been killed were mid-level managers. Given the weight of studies that suggest a tit-for-tat phenomenon, we hypothesize the following:

H1. An increase in killings attributable to British Security Forces increase subsequent PIRA bombings

The Impact of Disaggregated Counterterrorism Killings on Terrorist Activity

A growing number of studies recognize the need to disaggregate the target of counterterrorism measures. For example, Benmelech, Berrebi and Klor examined the effectiveness of house demolitions on attempts to reduce Palestinian suicide terrorism. House demolitions targeting the dwellings of Palestinian terrorists were deemed to cause "an immediate, significant decrease in the number of suicide attacks".[19] On the other hand, house demolitions that were indiscriminately targeted against the Palestinian community at large caused a significant increase in subsequent suicide attacks. While Dugan and Chenoweth found some support for the backlash effect of repression on terrorism, the results were stronger when this repression was directed indiscriminately toward Palestinian civilians.[20] Condra and Shapiro found that Iraqi insurgent attacks significantly increased following civilian deaths attributed to coalition forces but decreased following coalition force activities that killed insurgents.[21] Braithwaite and Johnson analysed the sequential relationship between Iraqi insurgent attacks and Coalition counterinsurgency (COIN) operations.[22] Whilst indiscriminate COIN operations in a particular geographic area elevated the likelihood of subsequent insurgent attacks in the same area in the medium- to long-term, the opposite was true for discriminatory and capacity-reducing COIN operations. Focusing on the same case, Linke et al. also found a reciprocal relationship between these two actors' activities at the local level (although the levels of reciprocity differed dependent upon the socio-economic and ethnic make-up of the region).[23] While the 'tit-for-tat' nature of conflicts has long been hypothesized, these recent studies have illustrated that these dynamics are largely played out at the local level.

Collectively the above studies typically show that the propensity for a terrorist organization to increase or decrease their attacks in the wake of fatal counterterrorist operations depends upon whether these government operations were indiscriminate against the community at large or discriminate against the terrorist organization itself. Not all studies agree however. Kaplan et al. illustrates that Israel's discriminate killings of terrorists led to a subsequent increase in suicide bombings.[24] The same pattern was not apparent for attacks on Palestinian civilians. Lyall's study of Chechen attacks showed that indiscriminate artillery fire by Russian forces reduced the subsequent number of insurgent attacks by close to a quarter.[25]

In terms of indiscriminate targeting, terrorist organizations are reliant upon the social, political, operational and financial patronage of the constituency of individuals they claim to represent.[26] This patronage constrains the ability of the terrorist organization in terms of the volume and lethality of attacks it can afford to engage in. Different levels and forms of constituency support are distinguishable. Sanchez-Cuenca outlines three levels of support.[27] First, there are those who disagree with the necessity of armed conflict but remain sympathetic with the goals of the organization. Second, there are those who vote for political parties attached to the militant group and engage in associated social movements. The third level encapsulates those providing logistical support to the violence and also includes those who provide information, safe houses and financial patronage. Sanchez-Cuenca asserts that individuals within level three are probably the most insensitive to the tactics used and number of victims created by the violence because of the steadfastness of their beliefs. However, in the case of this constituency being attacked indiscriminately by state forces, individuals within levels one and two are likely to increase their support for the terrorist group. Subsequently, the terrorist

organization may receive an increase in material aid (including volunteers) and be generally less constrained in the violence it aims to commit.

Turning toward discriminate targeting of terrorist operatives, the literature suggests a number of explanations that account for why terrorist attacks should lesson in the wake of repressive counterterror actions. First, these initiatives may dis-incentivize terrorist organizations and cause a deterrent effect. This is a long-standing argument from the study of social movements.[28] Second, they may deprive terrorist organizations of valued recruits and increases co-ordination costs. Third, they force members to concentrate upon personal security rather than attack planning. Finally, by discriminately targeting terrorist group members, it decreases the possibility of level one and two supporters becoming mobilized and active recruits.

In sum, these studies support the assertion that the target of state repression matters when we attempt to account for the level of subsequent terrorist activity. Hafez and Hatfield[29] outline this logic very neatly:

> States that selectively target known militants for suppression and avoid indiscriminate application of repression are likely to reduce the likelihood of mobilization because ordinary people are not drawn into the conflict unwillingly…Selective repression against core militants signals to potential recruits that only 'troublemakers' will be punished and, therefore, those who keep their distance will not become victims of repression. Indiscriminate repression…intensifies anger among the public and does not provide guarantees that non-violent activism will not be repressed. Under these circumstances, supporters and sympathizers may be inclined toward greater risk to mitigate their losses, seek security in militant groups, or inflict revenge.

This leads us to the following hypotheses:

H2. The discriminate killing of PIRA members by British Security Forces decreases subsequent PIRA bombings

H3. The indiscriminate killing of Catholic civilians increases subsequent PIRA bombings

The Impact of Disaggregated Counterterrorism Killings on Disaggregated Terrorist Group Attacks

Assuming that hypothesis 1 (above) is true and that counterterrorism killings increase subsequent PIRA bombing attacks, we expect that these attacks will be more likely to target civilians rather than high-value targets. Assuming that there is a compulsion within the organization to strike back quickly, a civilian target may be more desirable for a number of reasons. They are easier targets to strike (meaning less planning, and deliberation) and there are far more opportunities afforded by them because they are greater in number also. While attacks against high-value targets may possess a higher payload, they are also more likely to be unsuccessful on average.[30] A militant group, seeking to gain an upper hand in the public relations war may seize the opportunity of a quick backlash in order to gain the trust of a community of people recently targeted. This is, of course, if the counterterrorism violence is indiscriminate. A discriminate act of violence may still downgrade the terrorist group's capacity to act. This leads us to our final set of hypotheses:

H4. An increase in killings attributable to British Security Forces increase subsequent PIRA bombings against civilian targets

H5. The discriminate killing of PIRA members by British Security Forces decreases subsequent PIRA bombings against civilian targets

H6. The indiscriminate killing of Catholic civilians increases subsequent PIRA bombings against civilian targets

Research Design

To test these hypotheses, we employ a series of negative binomial regression and Tobit estimations on counts of IED bombing attacks launched by brigades of the Provisional Irish Republican Army in the six counties of Northern Ireland – Antrim, Armagh, Down, Fermanagh,

Londonderry, Tyrone – and for the Belfast municipality for the period 1970-1998. The dependent variable is a county indicator and the structure of the data is a panel. Data for the project was derived from an original database of PIRA IED attacks aggregated to the county-year level constructed from news accounts from the *Irish Times*. The data are county-year panel data while the dependent variables are raw counts of IED attacks for each county-year observation. Data collection efforts are outlined elsewhere.[31]

Moreover, all estimations use county-fixed effects to help minimize omitted variable bias. PIRA bombings began after episodes of civil violence in Derry in 1969 that prompted British deployment of troops in Northern Ireland and ended with the 1998 Good Friday Accords through which the Provisional IRA entered into a formal peace process in which it terminated its military struggle.

The county-year unit of the database is constructed as such for several reasons. First, PIRA adopted a "brigade" structure of distinct segments of militants that mostly conform to the six counties and Belfast municipality of Northern Ireland. Moreover, these county brigades had different responses, and capacities to respond, to British counterterrorism efforts. An aggregated, county-year format, rather than an event format, allows us to take into account the unique structure the PIRA used when planning bombing campaigns. Second, nearly all of the variables of interest in our analysis are measured at the aggregate, rather than the event, level. Our choice of unit of analysis produces between 191 and 203 observations for the variables in our analysis.

There are five dependent variables in the analysis. The first is a count of IED events per observation executed in a county-year. This variable includes both successful and unsuccessful

detonations – successful meaning that the device detonated as planned while unsuccessful means that the device failed to detonate due to mechanical or human failure or was detected and defused or eliminated by a controlled disposal by authorities – by PIRA brigades against any target. The analysis also constructs count variables for the number of PIRA bombings against civilian and non-civilian targets, the latter being IED events directed against British military, police and governmental targets. Because these three variables are measured in terms of counts that do not conform to a standard distribution, the estimation method we use is a negative binomial distribution.[32] Unlike other empirical studies of terrorism, our count dependent variables have relatively few observations with zero-values – 5.4% for total IED attacks; 16.2% for IED attacks against civilians and 13.3% for IED attacks against non-civilians – and we lack a theoretical reason to suspect that there are two "types" of zero values in the data – certain and non-certain zeroes – or that there are two separate processes producing zero values. This further justifies our use of negative binomial, as opposed to a zero-inflated negative binomial technique. The last two dependent variables we examine are the proportion of total IED attacks launched by the PIRA per observation that target civilians and non-civilian targets respectively. Because these two variables are proportions, we use a Tobit estimation censored on 1 for the upper-level and 0 for the lower-level.

We operationalize counterterrorism assassination of terrorists and supporters with three indicators. The first is a count of the aggregate number of counterterrorism assassinations conducted by British security forces against PIRA members and their supporters. The second independent variable, disaggregated from the first, counts the number of PIRA members only – meaning active militants in the Provisional IRA movement – killed by British authorities. We designate this independent variable as "Discriminate Counterterror Killings" because civilians

and nonmilitant supporters were not assassinated. The third independent variable, also disaggregated from the first, is a count of civilian Catholics killed by British security forces per county-year. We designate this independent variable as "Indiscriminate Counterterror Killings." For the purposes of this research, the British security forces encompasses the Royal Ulster Constabulary (RUC) and the British Army including special forces units like FRU (Force Research Unit) and SAS. Killings attributed to Loyalist terrorist groups are not included in these counts, nor were UDA attacks conducted with the help of intelligence files provided by RUC Special Branch.[33] These individual events were collected through McKittrick et al's definitive and exhaustive list of the war dead from the Northern Ireland conflict. This list attributes groups/individuals as being responsible for each listed death. Counterterrorism killing indicators are, furthermore, lagged one period to help parse out the causal relationship.

We also include a set of controls in the models. These include a measure of the size of the membership body of the PIRA brigade in question, the percentage of the brigade as a ratio to the whole of PIRA for that year, the average age of members in the brigade and the percentage of the brigade that we assessed to have had technical training or technical education. These measures are an aggregation of a database of 1240 individuals who were either convicted of PIRA-related activities (including membership) or died on 'active service', a term used by PIRA to describe a member's involvement in PIRA-related activities. For the purposes of the data collection, being engaged in 'active service' included both violent activities (e.g. bombing attacks), and non-violent activities (e.g. training accidents). The individuals were identified from a number of open-sources (1) Statements by PIRA including their annual Roll of Honour which commemorates their war dead (2) The Belfast Graves publication that offers and account of Republicans killed in combat (3) McKittrick et al (mentioned above) (4) Historical accounts of

PIRA from academic sources. These names were subsequently coded along a number of socio-demographic, operational and network variables using the Irish Times archives.[34]

The above indicators help to measure PIRA brigade capacity to commit IED attacks. The aggregate measures for the IED related variables stem from a unique dataset of 5462 PIRA IED events. The data were collected through a mixture of Lexis Nexis and Irish Times archival stories. Our expectation is that brigades with high membership levels and composed of older and trained cadres are better able to launch IED attacks. We therefore expect these variables to be positive predictors of counts of IED incidents. Such brigades might also have the capacity to launch attacks against hard rather than soft – civilian – targets, and in particular brigades characterized by larger sizes, and older and better trained members might be better disciplined and more strategic in their behaviours and therefore better able to focus on specific types of targets. This leads us to the expectation that these variables will also be negative predictors of attacks against civilians.

We also include variables measuring environmental factors that may affect Provisional IRA bombing behaviour. First, we include two variables operationalizing counts of all terrorist attacks – shootings, bombings, kidnappings, etc. – committed by Loyalist terrorist movements each county-year. These are derived from the Global Terrorism Database (GTD) of the National Consortium for the Study of Terrorism and Responses to Terrorism (START) and include attacks by all identified Loyalist movements, such as the Ulster Volunteer Force, and generically-identified "Loyalist" or "Protestant" extremists. We include this variable for a couple of reasons. We want to examine PIRA bombings and targeting decisions within the context of high and low levels of overall terrorist violence within Northern Ireland. Periods of high terrorist activity might naturally boost PIRA bombing attacks because counterterrorism officials are overtaxed,

state security resources are stretched and terrorist movements presented with larger pools of angry potential recruits. Furthermore, controlling for terrorist activity by other groups per observation helps to lend robustness to the main findings of the study.

Second, we include four dummy variables measuring what we argue are four distinct phases of Provisional IRA terrorist activity from 1970 to 1998. The first phase covers 1970-1976. During this period, PIRA structured themselves like an army with various brigades, battalions and companies. Indiscriminate violence by both sides of the conflict marked this period. The second phase encompasses 1977-1980. During this phase, PIRA engaged in a large-scale re-organization of its structure toward a tighter cellular based network in which cells acted independently of one another. This change placed far less emphasis on the quantity of volunteers and far more emphasis on secrecy and discipline. The third phase includes the period 1981-1989. It is noticeable for the growing politicization of the Republican movement that occurred after the Hunger Strikes. Sympathy for PIRA began to rise again and this was largely channelled toward electoral support for PIRA's political wing, Sinn Fein. The fourth phase spans 1990-1998 and includes the negotiations and final ceasefire that symbolized, for many, the end of the Northern Ireland conflict. Depicted in this way, we might expect that the nature of who is targeted may change over the course of these phases with targeting becoming more discriminate across time. Because these indicators operationalize nominal values and are collectively exhaustive in terms of the total time period examined in the study, we exclude one as a reference category in the analysis, as indicated in the results tables. In robustness checks, we reorder the phases and find that this does not change the main results.

To help address the possibility of endogeneity in the relationship between counterterrorism killings by British authorities and Provisional IRA bombings, we take two

steps. First, in all of the main models, we lag by one period the main independent variables and include on the right-hand-side a lagged version of the dependent variables. The latter design element both helps to provide some confidence about direction of causation of the relationship between the independent and dependent variables while also controlling for pre-existing IED events for each county-year. Second, we conduct robustness models using Arellano-Bond Generalized Method of Moments (GMM) estimations. These two-stage models develop instruments that are used to clarify direction of causation in the analysis. The results of these tests confirm to those in the main analysis and are reported in Appendix Table 1.[35]

Table 1 presents the descriptive statistics for all variables included in the analysis.

(insert Table 1 here)

Results

The results are presented in Tables 2 through 5. The goals of our study, as illustrated by our hypotheses, is to determine: 1) whether or not counterterrorism killings by British officials prompted the Provisional IRA to respond with IED attacks; 2) what types of counterterrorism killings – discriminate or indiscriminate – prompted PIRA IED attacks; 3) whether or not discriminate or indiscriminate killings affected the types of targets the PIRA selected for IED attacks.

The results in Table 2 address the first goal; the effect of British counterterrorism killings on subsequent PIRA IED attacks overall is examined. In model 1, all counterterrorism killings – killings of PIRA militants and Catholic civilians – by British authorities is a positive predictor of subsequent Provisional IRA bombings, but once controls are added in model 2, this result disappears. In models 3 and 4, discriminate killings are not found to predict PIRA IED events, with or without covariates. We can therefore reject hypotheses 1 and 2. However, in models 5, 6

and 7, indiscriminate counterterror killings by British authorities are a consistent positive predictor of subsequent Provisional IRA bombings. This is the case when covariates are included, as in model 6, and when both discriminate and indiscriminate are included in the same model, as in model 7. Additionally, the relationships found in Table 2 are substantive as well as significant. Hypothesis 3 is therefore confirmed. For each three fatalities due to indiscriminate counterterrorism killings by the British during the period, the Provisional IRA responded with one IED attack in the subsequent year.[36]

(insert Table 2 here)

Table 3 presents results for tests examining the impact of aggregate, undifferentiated British counterterror killings on the types of targets – non-civilian vs. civilian – the PIRA selected for IED attacks. Models 8 and 9 show that counterterrorism killings have no significant effect on counts of bombings of non-civilian (military, government, police) targets. However, counterterrorism killings are found to significantly boost IED events against civilian targets. As was the case in the previous set of estimations, for every three indiscriminate killings by British authorizes, the Provisional IRA responded with around one IED attack against a civilian target.[37] This confirms hypothesis 4.

(insert Table 3 here)

Table 4 examines the impact of discriminate vs. indiscriminate counterterrorism killings on PIRA patterns of selecting non-civilian vs. civilian targets for IED attacks. In these results, discriminate counterterror killings by the British have no significant effect on either non-civilian or civilian IED incidents launched by the Provisional IRA, as shown in models 12, 14, 15 and 17. We can thus reject hypothesis 5. However, indiscriminate assassinations are also not found to

boost subsequent PIRA non-civilian bombings (models 13 and 14). Indiscriminate killings do, however, significantly increase subsequent IED attacks against civilians, both when discriminate attacks are excluded (model 16) and included (model 17) from the estimation.[38] The relationship between indiscriminate targeting and PIRA IED attacks against civilians is highly substantive. For each person killed by British authorities in an indiscriminate counterterror assassination, the PIRA responded by launching one IED attack against a civilian target.[39] These results confirm hypothesis 6.

(insert Table 4 here)

To further assess the impact of indiscriminate counterterrorism assassinations by the British in Northern Ireland on PIRA IED targeting, we conduct one final set of tests using Tobit models. We note that over the course of the time period of our study, the Provisional IRA launched IED events against both civilian and non-civilian targets in every county – though bombings of civilians were more frequently employed as a percentage of total attacks by the Belfast and Antrim brigades – and in every year – though civilian bombings were particularly frequent in 1976, 1977, 1995 and 1998. However, the mix of civilian vs. non-civilian attacks varies across observations, and we wish to test whether discriminate or indiscriminate British counterterrorism killings prompted the PIRA to increase the proportion of civilian attacks relative to total attacks. In Table 5, we regress discriminate and indiscriminate killings to the percentage of civilian and non-civilian-targeted IED attacks using Tobit estimations left-censored at 0 and right-censored at 1. These results demonstrate that indiscriminate counterterror killings by the British reduced the proportion of total PIRA bombings against non-civilian targets (models 19 and 20) between 1.7 and 1.8 percent while increasing the proportion of bombings

launched against civilian targets by 1.2 or 1.3 percent. The results are a bit more complex and conditional for discriminate counterterrorism killings. When included on their own in estimations, discriminate killings seem to also significantly increase the proportion of civilian IED events (model 21), but this effect is found not to be significant when both discriminate and indiscriminate assassinations are placed in the same estimation (model 23). These results further confirm hypothesis six.

In the full specification models,[40] many of the control variables are also significant, affirming that the main results in the study are robust to the inclusion of significant covariates. Size of brigade membership is mostly found to exert a negative effect on PIRA IED events. Larger brigades, in terms of membership, seem to have launched fewer overall IED events (models 2, 4, 6, 7) and fewer bombings against noncivilian targets (models 12-14). This may be a result of PIRA's compartmentalization of roles and functions within these brigades. Bigger brigades do not necessarily mean more IED planters but rather a greater preponderance of other roles and facilitator activities.[41] Brigade membership is not found to have any significant effect on the likelihood of IED attacks against civilian targets. The percentage of the brigade that were members of the Provisional IRA command, similarly, is a significant predictor of all IED and non-civilian IED events. In this case, brigades with a larger percentage of PIRA command militants launched more IED attacks of all types (models 2, 4, 6, 7) and more non-civilian bombings (models 12-14), but were also no more or less likely to launch civilian attacks. This could be the result of greater brigade capacity for strategic behaviour, including strategic restraint; a strategy adopted by the Provisional IRA after the infamous "first phase" of the conflict and during the onset of politicization of the PIRA and beginning of peace negotiations in the late 1980s and throughout the 1990s (known within PIRA as the 'Tactical Use of the Armed

Strategy' (TUAS)). Average age of members in the brigade had a more consistent negative impact on IED events. In all models with the exception of one, model 11, brigades with an "older" membership committed fewer overall bombings, and fewer bombings of civilians. The conflict phase indicators are also significant, and consistently positive, in many of the models. Relative to the period 1990-1998, the excluded reference category in the models, in most cases the phases 1970-1976, 1977-1980 and 1981-1989 were periods of increased overall IED events and IED attacks against civilians. The phase dummies were not, generally, significant predictors of non-civilian bombings, with the exception of Phase III (1981-1989) which, relative to 1990-1998, exhibited a higher level of non-civilian IED events in models 9 and 12-14.

Conclusion

The primary function of this paper was to provide empirical insight into the strategy of killing terrorists in an effort to reduce terrorism. We examined the effects of discriminate and indiscriminate killing of PIRA members and civilians belonging to the Catholic community by British counterterrorism forces on Provisional IRA (PIRA) bombing and targeting activity in Northern Ireland for the period 1970-1998. To summarize our findings: the results indicate that British use of discriminate and indiscriminate killings of Provisional IRA terrorists and their supporters actually increased overall IED attacks in Northern Ireland for the period 1970-1998 and prompted an increase in PIRA targeting of civilians in particular for IED attacks. Overall, we find little evidence that such counterterrorism efforts produced what we assume to be the desired results: a reduction in Provisional IRA bombing activity. Indeed, we find support that it produced

counterproductive results. These results subject the contentious issue of lethal counterterrorism initiatives and their effects to additional empirical testing. Additionally, our results and their implications indicate that the general question of whether they 'reduce terrorism' is likely too simplistic a conceptualization given the secondary and tertiary effects of such practices.

That said, we are aware of potential limitations in the main interpretation of our findings. First and foremost, we examined the effects of counterterrorism killings on the levels of PIRA bombings as the primary measure of 'backlash'. A point that was made at the beginning of this article relates to the growing number of studies that acknowledge the urgent need to disaggregate the target of counterterrorism measures. In that same vein, it would seem prudent to explore how we might meaningfully disaggregate the effects of counterterrorism measures. Though we focus our efforts on rate changes in IED activity, we have yet to explore the rate change of activity in other tactical domains, notably shootings. IED activity in many ways came to be a defining signal of both the efficacy and basic functioning of PIRA, but in times of organizational uncertainty (e.g. ceasefires), escalations in shootings became the primary signal PIRA offered both to the outside world as well as its own community that the organization was functioning and served a purpose. It is fair to say that shootings likely outnumber bombings by an order of magnitude, and this deserves further exploration. What constitutes 'backlash' is likely multi-dimensional, and though particular tactics may be primarily directed at specific audiences (e.g. increase in bombings as a signal to opposing governments), other tactics (e.g. shootings) and their effects (i.e. a signal that the movement is still functioning) may serve to appease multiple audiences.

Additionally, the relationship between different kinds of tactics remains poorly understood – i.e. whether an increase in IED activity would normally be expected to be associated with an increase in shootings, and/or vice versa. As such, a sole focus on increases in the numbers of bombings may not be a wholly reliable or valid indicator of backlash in and of itself.

Second, there are other factors that might contribute to our understanding of why PIRA were prompted to increase its attacks against civilians such as Loyalist violence that led to sectarian 'tit for tat' killings. Such factors might require a far more microscopic view of events, and in particular might require us to consider different phases of the conflict, along with other issues that were going on at the time

Third, while killings committed by British counterterrorism forces are easily measurable because of the publicity they created, other counterterrorism efforts were also likely to also impact upon PIRA's ability to engage in sustained IED attacks yet receive little public acknowledgment. For example, early British efforts to interrupt PIRA's supply line of commercial explosives coincided with an almost immediate downturn in PIRA IED attacks through 1972 and 1973. On a theoretical level, the arrest of key bomb-makers would also likely lead to a fall in IED activity in the short-to-medium turn while others migrate into the role.

Taken together, however, recognition of these issues does not represent tacit acknowledgement of conceptual and other weaknesses in the preceding analysis. Rather, we

believe, it represents the basis for further empirical exploration of what has been, to date, an issue the understanding of which has immense implications for strategic and policy development.

Table 1. Descriptive Statistics

Variable	Obs.	Mean	Std. Deviation	Min.	Max.
IED Incidents (Total)	203	21.76	29.33	0	182
IED Attacks on non-Civilian Targets	203	7.76	9.03	0	51
IED Attacks on Civilian Targets	203	8.29	14.83	0	101
Percent Non-Civilian Targets	191	.426	.255	0	1
Percent Civilian Targets	191	.375	.266	0	1
Discriminate Counterterrorism Killings of PIRA Members	195	1.18	3.10	0	25
Indiscriminate Counterterrorism Killings of Catholics	195	1.33	3.70	0	23
PIRA Brigade Membership	203	20.12	24.26	0	114
% of PIRA Northern Command in Brigade	203	21.72	20.90	0	78.3
PIRA Brigade Member Average Age	203	28.12	5.84	17	50.2
% of Brigade Technically Trained	203	28.04	21.57	4.6	100.0
Terrorist Attacks by All Loyalist Groups (GTD)	196	4.04	10.44	0	82
Phase I Dummy (1970-1976)	203	.24	.42	0	1
Phase II Dummy (1977-1980)	203	.13	.34	0	1
Phase III Dummy (1981-1989)	203	.31	.46	0	1
Phase IV Dummy (1990-1998)	203	.31	.46	0	1

Table 2. Counterterrorism Killings and Provisional IRA IED Incidents

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Y:	IED Incidents	IED Incidents	IED Incidents	IED Incidents	IED Incidents	IED Incidents	IED Incidents
All Counterterrorism Killings$_{t-1}$	.013*	.014					
	(.007)	(.008)					
Discriminate Counterterror Killings$_{t-1}$			.016	.007			-.015
			(.013)	(.015)			(.017)
Indiscriminate Counterterror Killings$_{t-1}$					.028*	.037*	.045**
					(.012)	(.014)	(.016)
PIRA Brigade Membership		-.013*		-.010*		-.015**	-.015**
		(.006)		(.005)		(.005)	(.005)
% of PIRA Northern Command		.017**		.016**		.019**	.019**
		(.006)		(.006)		(.006)	(.006)
PIRA Brigade Member Average Age		-.048**		-.047**		-.049**	-.048**
		(.014)		(.015)		(.014)	(.014)
% of Brigade Technically Trained		.005		.006		.005	.005
		(.005)		(.005)		(.005)	(.005)
Attacks by All Loyalist Groups		.002		.004		.002	.003
		(.006)		(.006)		(.006)	(.006)
Phase I Dummy (1970-1976)		.347*		.356*		.358*	.376*
		(.191)		(.191)		(.190)	(.190)
Phase II Dummy (1977-1980)		.497**		.452*		.551**	.559**
		(.191)		(.190)		(.191)	(.191)
Phase III Dummy (1981-1989)		.479**		.464**		.516**	.531**
		(.154)		(.155)		(.155)	(.155)
IED Incidents$_{t-1}$	.006**	.004*	.007***	.005*	.006**	.003*	.004*
	(.001)	(.002)	(.001)	(.002)	(.001)	(.002)	(.002)
Constant	.562***	1.563**	.537***	1.480**	.578***	1.591**	1.551**
	(.127)	(.537)	(.126)	(.536)	(.127)	(.531)	(.530)
n	195	188	195	188	195	188	188
Wald χ^2	48.99***	72.48***	42.48***	66.36***	53.95***	80.83***	83.53***

All models are negative binomial regression estimations with N. Ireland County fixed effects
Standard errors in parentheses
Excluded reference category = Phase IV Dummy (1990-1998)
* $p \leq |z|$ .05; ** $p \leq |z|$ .01; *** $p \leq |z|$ .000

Table 3. Counterterrorism Killings and Provisional IRA IED Attacks against Non-Civilian and Civilian Targets

	(8)	(9)	(10)	(11)
Y:	IED Incidents Non-Civilian	IED Incidents Non-Civilian	IED Incidents Civilian	IED Incidents Civilians
All Counterterrorism Killings$_{t-1}$	.000	.008	.017*	.018*
	(.000)	(.010)	(.007)	(.009)
PIRA Brigade Membership		-.016*		-.006
		(.006)		(.008)
% of PIRA Northern Command		.026***		-.001
		(.006)		(.011)
PIRA Brigade Member Average Age		-.054**		-.050*
		(.016)		(.020)
% of Brigade Technically Trained		.004		-.004
		(.006)		(.006)
Attacks by All Loyalist Groups		-.001		.004
		(.007)		(.007)
Phase I Dummy (1970-1976)		.015		.568*
		(.234)		(.234)
Phase II Dummy (1977-1980)		.104		.887***
		(.226)		(.231)
Phase III Dummy (1981-1989)		.657***		.245
		(.169)		(.194)
IED Incidents$_{t-1}$	.031***	.026***	.015***	.004
	(.005)	(.006)	(.003)	(.004)
Constant	.323*	1.547*	.076	1.872**
	(.153)	(.613)	(.135)	(.727)
n	195	188	195	188
Wald χ^2	32.48***	76.31***	54.61***	91.21***

All models are negative binomial regression estimations with N. Ireland County fixed effects
Standard errors in parentheses
Excluded reference category = Phase IV Dummy (1990-1998)
* $p \leq |z|$ .05; ** $p \leq |z|$ .01; *** $p \leq |z|$ .000

Table 4. Discriminate and Indiscriminate Counterterrorism Killings and Provisional IRA IED Attacks against Non-Civilian and Civilian Targets

	(12)	(13)	(14)	(15)	(16)	(17)
Y:	IED Incidents Non-Civilian	IED Incidents Non-Civilian	IED Incidents Non-Civilian	IED Incidents Civilian	IED Incidents Civilian	IED Incidents Civilian
Discriminate Counterterror Killings$_{t-1}$	.001		-.019	.013		-.013
	(.019)		(.023)	(.017)		(.020)
Indiscriminate Counterterror Killings$_{t-1}$		.026	.037		.043**	.049**
		(.019)	(.022)		(.015)	(.018)
PIRA Brigade Membership	-.014*	-.018**	-.018**	-.002	-.010	-.010
	(.006)	(.006)	(.006)	(.008)	(.008)	(.008)
% of PIRA Northern Command	.026***	.027***	.028***	-.003	.001	.002
	(.006)	(.006)	(.006)	(.011)	(.010)	(.010)
PIRA Brigade Member Average Age	-.053**	-.054**	-.054**	-.048**	-.052**	-.053**
	(.016)	(.015)	(.015)	(.021)	(.020)	(.020)
% of Brigade Technically Trained	.005	.003	.004	-.003	-.004	-.004
	(.006)	(.006)	(.006)	(.006)	(.006)	(.006)
Attacks by All Loyalist Groups	-.000	-.002	-.001	.007	.004	.004
	(.006)	(.006)	(.006)	(.007)	(.007)	(.006)
Phase I Dummy (1970-1976)	.035	.008	.030	.561*	.580*	.588*
	(.234)	(.234)	(.235)	(.234)	(.233)	(.233)
Phase II Dummy (1977-1980)	.092	.132	.149	.825***	.940***	.942***
	(.226)	(.227)	(.228)	(.231)	(.231)	(.231)
Phase III Dummy (1981-1989)	.650***	.681***	.701***	.220	.291	.305
	(.170)	(.171)	(.173)	(.195)	(.195)	(.196)
IED Incidents$_{t-1}$	.027***	.025***	.025***	.005	.004	.004
	(.006)	(.006)	(.006)	(.004)	(.004)	(.004)
Constant	1.474***	1.585**	1.548*	1.736*	1.939**	1.920**
	(.610)	(.610)	(.609)	(.722)	(.721)	(.718)
n	188	188	188	188	188	188
Wald χ^2	75.62***	78.02***	79.41***	83.36***	100.93***	102.97***

All models are negative binomial regression estimations with N. Ireland County fixed effects
Standard errors in parentheses
Excluded reference category = Phase IV Dummy (1990-1998)
* $p \leq |z|$ .05; ** $p \leq |z|$ .01; *** $p \leq |z|$ .000

Table 5. Discriminate and Indiscriminate Counterterrorism Killings and the PIRA Shift Towards Targeting Civilians in IED Attacks

	(18)	(19)	(20)	(21)	(22)	(23)
Y:	Percent of IED Incidents Non-Civilian	Percent of IED Incidents Non-Civilian	Percent of IED Incidents Non-Civilian	Percent of IED Incidents Civilian	Percent of IED Incidents Civilian	Percent of IED Incidents Civilian
Discriminate Counterterror Killings$_{t-1}$	-.017*		-.002	.013**		.002
	(.431)		(.008)	(.004)		(.006)
Indiscriminate Counterterror Killings$_{t-1}$		-.018***	-.017**		.013*	.012†
		(.002)	(.005)		(.005)	(.007)
Constant	.431***	.435***	.436***	.357***	.354***	.353***
	(.027)	(.029)	(.027)	(.032)	(.038)	(.032)
n	185	185	185	185	185	185
F	6.62**	40.26***	20.32***	8.20**	6.47*	4.75**
Pseudo r^2	.08	.14	.14	.02	.05	.05
Left-censored observations	15	15	15	17	17	17
Right-censored observations	4	4	4	8	8	8
Uncensored observations	166	166	166	160	160	160

All models are Tobit estimations left-censored at 0 and right-censored at 1
Standard errors in parentheses
† $p \leq |z|$ .1; * $p \leq |z|$ .05; ** $p \leq |z|$ .01; *** $p \leq |z|$ .000

Appendix Table 1. Selected Results using Arellano-Bond GMM Estimators

	(1)	(2)	(3)	(4)	(5)	(6)
Y:	IED Incidents	IED Incidents	IED Incidents Non-Civilian	IED Incidents Civilian	IED Incidents Non-Civilian	IED Incidents Civilian
All Counterterrorism Killings	1.782***		.417***	.593**		
	(.336)		(.112)	(.184)		
Discriminate Counterterror Killings		-.278			-.589*	.052
		(.855)			(.290)	(.472)
Indiscriminate Counterterror Killings		3.868***			1.397***	1.198*
		(.835)			(.290)	(.478)
PIRA Brigade Membership	-.107	-.097	-.122	.111	-.107	.052
	(.204)	(.192)	(.071)	(.111)	(.066)	(.104)
% of PIRA Northern Command	.129	-.005	.110	-.021	.074	-.099
	(.223)	(.221)	(.076)	(.122)	(.076)	(.120)
PIRA Brigade Member Average Age	-.643	-.303	-.100	-.448	.041	-.307
	(.534)	(.549)	(.184)	(.292)	(.189)	(.296)
% of Brigade Technically Trained	-.008	-.013	.036	-.059	.035	-.062
	(.176)	(.178)	(.060)	(.097)	(.061)	(.097)
Attacks by All Loyalist Groups	.270	.657**	.015	.012	.173*	.186
	(.206)	(.219)	(.072)	(.112)	(.079)	(.118)
Phase II Dummy (1977-1980)	9.348	10.329	2.313	7.662*	3.697	6.002
	(6.156)	(6.250)	(2.085)	(3.552)	(2.107)	(3.525)
Phase III Dummy (1981-1989)	-1.236	-3.861	6.192*	-1.032	7.005**	-4.843
	(7.583)	(7.154)	(2.675)	(4.557)	(2.463)	(4.282)
Phase IV Dummy (1990-1998)	6.310	1.698	5.804*	3.793	6.078*	-.547
	(8.850)	(8.157)	(3.106)	(5.449)	(2.886)	(5.113)
n	182	182	182	182	182	182
n groups (obs. per group)	7(26)	7(26)	7(26)	7(26)	7(26)	7(26)
F	6.61***	9.39***	2.46*	4.96***	3.69***	5.79***
AR(1)	-2.04*	-2.06*	-3.61***	-1.88*	-3.98***	-2.01*
AR(2)	-2.82**	-3.55***	-1.68	-2.78**	-1.44	-3.17**
Sargan	143.95***	106.74***	72.64**	97.13***	102.86***	163.13***

All models are Arellano-Bond Generalized Method of Moments estimations with three-year lagged instruments.
Standard errors in parentheses
Excluded reference category = Phase I Dummy (1970-1976)
* $p \leq |z|$ .05; ** $p \leq |z|$ .01; *** $p \leq |z|$ .000

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[35] Note, for brevity we report in Appendix Table 1 only the "core" models in the analysis. This includes models with the fullest specifications. Copies of Arellano-Bond GMM estimates for all models in the study are available from the authors.
[36] Calculated using Monte-Carlo simulations of substantive effects via the Clarify software package for Stata. (Tomz, Wittenberg and King 2003) Every one person killed in indiscriminate

attacks yields .317 IED attacks. Note that reported substantive effects involve estimations with indiscriminate killings isolated in the model with only the lagged DV on the right-hand side.

[37] Every one person killed in an indiscriminate attack yields about .323 IED attacks against civilians on average.

[38] Note, in all models where discriminate and indiscriminate counterterror killings are included in the same estimation, we check for multicollinearity using variance inflation factor diagnostics. The results of VIF tests do not indicate that multicollinearity is a problem. Results available from authors.

[39] Every one person killed in an indiscriminate attack yields about 1.03 IED attacks against civilians on average.

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