

The Propaganda of the Deed: Terrorism, Counterterrorism, and Mobilization*

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Abstract

Many terrorist factions care about the level of popular support they enjoy within a population they claim to represent. Empirically, this level of support can either rise or fall in the aftermath of a campaign of terrorist violence. Under what circumstances is the use of terror an effective tactic for mobilizing political support for an extremist group? This paper models a scenario in which an extremist faction considers attacking a government in the hopes of provoking a counterterror response that will radicalize the population, increasing the extremists' support at the expense of a more moderate faction. In our scenario, such radicalization can result either from the economic damage caused by counterterror operations or by the way in which such operations change the population's assessment of the government's motivations. We demonstrate that such attempts at mobilizing public support can be, but need not be, successful, discuss factors that make both the initiation of a terror campaign and successful mobilization more or less likely, and relate our results to several empirical cases.

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It is often argued, by scholars and “practitioners” alike, that terrorism is a powerful tool for generating support for a violent extremist movement.¹ A central intuition underlying this idea is that terrorists use violence to provoke governments into harsh and indiscriminate counterterrorism responses in order to radicalize and mobilize a population whose interests the terrorists claim to represent. Examples abound both from history and the current day.

Bell (1971) argues that the first successful use of guerrilla tactics in the twentieth century was by Irish Catholics during the “Rising” in Dublin in 1916. The British responded with harsh countermeasures. Several scholars, however, argue that the British response ultimately strengthened the republican cause. English writes, “the British response to republican subversion frequently involved punishing the wider population for IRA activities: this had the unintended—indeed, counterproductive—effect of strengthening the IRA that it was intended to undermine” (2003, page 17). And Bell notes,

The Irish people, as the rebels had planned, were vitalized by the Rising and angered by the British repression. . . . Although the Easter Republic of 1916 had been apparently buried in the smoking ruins of central Dublin, by 1918 the idea had been resurrected as 75 of the 103 newly elected members of the Westminster parliament pronounced themselves in Dublin the new Dáil of an independent Irish Republic” (1971, page 64).

Early Basque separatist members of ETA adopted similar tactics in the 1960s, attacking Spanish targets with the goal of provoking government repression. Zirakzadeh describes this strategy:

The militants reasoned that selective attacks against government bullies would provoke the government into excessive and nondiscriminatory retaliation against all Basque residents. . . . the escalating spiral of government repression and civilian resistance would culminate with a Spanish government no longer able to afford an extensive, expensive and permanent occupation of the Basque country” (2002, page 73).

¹Pape (2003) provides a detailed discussion of the strategic uses of terrorism.

In the 1940s, the militant Zionist Irgun engaged in a campaign of violence with the explicit goal of forcing the British into a level of repression they would find unpalatable. Menachem Begin, the Irgun's leader, believed inflicting sufficient casualties would compel the British to either withdraw or adopt repressive counterterrorism measures that would radicalize the Jewish population in Mandate Palestine, with either response constituting a victory for the Irgun (Bell, 1977). As Bell explains,

The key to Begin's strategy was...his analysis of the British response...The British...overreacted, condemning the Zionist community at large, who in turn gave the Irgun growing toleration if not admiration. (1971, page 71)

In the event, the British were unwilling to engage in the sort of repression that would have been necessary to put down the Zionist revolt. As Bell reports, "[t]he British could wound but not kill, insult but not eliminate" (1971, pages 71–72). Instead, the British adopted a rather conciliatory stance, negotiating with the more moderate Labor Zionists, and eventually withdrawing from Palestine.

Current events in the Middle East reveal related dynamics. Hamas and other Islamic groups have been locked in competition with the PLO for leadership of the Palestinian people (Bloom, 2004). Part of the motivation for terrorist attacks is to provoke repressive Israeli responses, radicalizing the population and bolstering support for extremists (Mishal and Sela, 2000). And, indeed, this strategy, along with the corruption of the Fatah leadership, seems to have worked. In the recent 2006 elections for the Palestinian Legislative Council, Hamas won an absolute majority of the seats and therefore leadership of the Palestinian Authority. Similarly, the recent kidnapping of Israeli soldiers by Hezbollah provoked Israeli military reprisals against Lebanon. The effects of these attacks on Lebanese public opinion remain uncertain as of this writing in July 2006.

The United States faces the same dilemma in Iraq. U.S. forces fear that military countermeasures against terrorists may be the spark that ignites mass mobilization, rather than quelling violence. This trade-off between security and mobilization was perhaps most evident in the debate over tactics leading up to the assault on Fallujah in November of 2004.

Cases like these raise important puzzles. By what mechanisms do government crackdowns

radicalize populations and increase mobilization? If government counterterrorism is likely to backfire in this way, why are terrorists able to provoke governments into pursuing repressive strategies? When will governments, faced with a campaign of violence, engage in repression? Is it ever possible for a government to engage in military counterterrorism without mobilizing the opposition?

In this paper we present a formal model to explore the intuition that terrorists sometimes perpetrate acts of political violence with the goal of mobilizing an aggrieved population that they claim to represent. We concentrate on two causal mechanisms that contribute to this dynamic. First, the aggrieved public learns about the nature of the government by observing whether the government, when confronted with terror, responds in a way that imposes suffering not only on the terrorists but on the aggrieved population as a whole. Second, armed conflict imposes economic externalities that make the aggrieved public more inclined toward extremism because the opportunity costs of violence are lower in a crippled economy.

The possibility that government counterterror increases support for terrorists raises the question of why governments engage in repressive crackdowns in the first place. We argue that governments face trade-offs that inform their counterterror choices. On the one hand, governments need to engage in some form of counterterrorism to preserve their security. Doing so in a non-repressive way may simply be technologically infeasible or too costly from government's perspective. On the other hand, governments also bear costs for repressive counterterror. When counterterror imposes hardship on an aggrieved population, support for continued violence is likely to increase both because the opportunity costs of violence decrease and because the people conclude that the government is not concerned with their welfare.

The model we propose generates a number of findings. It demonstrates how, in equilibrium, terrorist violence can provoke government counterterror responses that increase support for the terrorist movement. However, it is also consistent with the empirical fact that, sometimes, government counterterrorism does not radicalize support for the terrorists. Further, we demonstrate how concerns over public responses shape government counterterror

policies. Finally, the paper has implications for when terrorist conflict is likely to occur, the conditions under which conflict between the terrorists and the government increases or decreases radicalism among the aggrieved population, and when governments are likely either to show restraint or to react particularly harshly when confronting terrorism.

The Extant Literature

Our work builds on a variety of models in the game theoretic literature on the relationship between government counterterrorism policy and militant response. Perhaps the most closely related paper is Sandler and Siqueira (2005), which models a conflict between terrorists and governments where a major concern of both parties is public opinion. In that model, governments face a trade-off between counterterror spending, which increases security, and the provision of public goods, which bolsters moderation in public opinion.

Both de Figueiredo and Weingast (2001) and Rosendorff and Sandler (2004) suggest that government crackdowns radicalize moderates, leading to an increase in violence. Ginkel and Smith (1999) demonstrate that a revolutionary vanguard that has private information regarding the strength of the government can, under certain conditions, engage in costly violence that will signal to the population that the government is likely to be weak and, therefore, susceptible to revolution. DeNardo (1985) argues that one of the three purposes of terrorism is to serve as a “spur to mobilization,” either by directly reducing the state’s repressive capacity or by demeaning the forces of repression. Lichbach (1987) focuses on the consistency of government policies over time to explain variance in mobilization responses. When government policies are inconsistent, he claims, government counterterror increases violence. Bueno de Mesquita (2005*a*) argues that government crackdowns can lead to an increase or decrease in support for terrorism, depending on the relative effect of counterterror on economic opportunity, ideology, and the success of the terrorist organization.

Other papers examine the role of signaling and learning in terrorist conflict without focusing on mobilization. Kydd and Walter (2002) and Bueno de Mesquita (2005*b*) suggest that governments may conclude, as a result of extremist violence, that moderates with whom

the government is negotiating are unable or unwilling to prevent future terrorism. Lapan and Sandler (1993) and Overgaard (1994) argue, further, that terrorist violence may signal the strength of the terrorist organization to the government. Lapan and Sandler (1988) show that government actions other than counterterror, such as granting concessions, can signal lack of resolve on the government's part. Blomberg, Hess and Weerapana (2004) model a situation in which terrorists employ differing degrees of violence as a strategic response to information about the government's willingness to expand economic or political freedom.

This paper differs from these earlier works in a variety of ways. Sandler and Siqueira (2005) also focuses on public opinion. However, they model competition between the terrorists and the government for public support. We, alternatively, model competition between moderate and extreme factions, both of whom want to represent the aggrieved population in opposition to the government. Moreover, the causal mechanism that Sandler and Siqueira (2005) consider differs from ours. In their model, public opinion becomes more moderate (i.e., support for the government increases) when the government spends more on public goods. Hence, terrorist attacks can increase radicalism by diverting government money toward counterterrorism and away from public goods. In our model, the causal mechanisms by which terror and counterterror alter public opinion are through the level of economic damage inflicted on the aggrieved population through counterterror and what this may reveal about the government's motivations and, thus, expected future actions. The two papers, then, explore related phenomena from different, but complementary, perspectives.

A key difference from de Figueiredo and Weingast (2001) and Rosendorff and Sandler (2004) is that they argue that moderates will always respond to government crackdowns by becoming more radical. We treat the population members' decisions of whether to radicalize endogenously and find that government crackdowns can lead to an increase or a decrease in extremism depending on the level of damage inflicted and the inferences the aggrieved population draws from the government's behavior. In this sense, our results are similar to those in Bueno de Mesquita (2005*a*). However, in that model there is no signaling and so the population does not learn about the government's type. As such, while counterterror policy can increase or decrease mobilization, the terrorists are not engaged in terrorism for

the purpose of mobilizing the population. Thus, these two models address fundamentally different aspects of the dynamics of terrorist conflict.

Ginkel and Smith (1999) model the use of violence as a device to signal information about the government's type and, thereby, affect mobilization. However, Ginkel and Smith are concerned with private information that a revolutionary vanguard has regarding the ability of the government to withstand a campaign of violence. We concentrate, instead, on the *government's* private information regarding the extent to which it is willing to trade-off the welfare of the aggrieved population in exchange for greater security from terrorism.

Clearly a complete model of the relationship between terrorism and mobilization would incorporate all of the dynamics discussed above and many others. We have chosen, however, to focus on two factors that we believe are important and have received relatively little attention in the literature—externalities associated with counterterrorism and signaling about the government's level of concern for the welfare of the aggrieved public. Restricting our attention in this way allows us to generate insights into the behavior of governments, terrorists, and mass publics within a tractable theoretical framework. Throughout, we discuss examples and illustrations from the empirical literature.

The Model

Consider a model with three kinds of strategic actors: a government (G), a population of individuals who are in some way at odds with the government (we will refer to this population as the *aggrieved*)², and an extremist faction (E). We will also make reference to a moderate faction (M) with whom the extremists compete for leadership of the aggrieved population,

²We want to be clear that we intend no normative judgement, either in the abstract or in the specific motivating examples discussed below, by referring to the population in question as “aggrieved.” Aggrieved is meant to represent the population's subjective assessment of itself. Moreover, there may be more than one aggrieved population in any given context. For instance, while we discuss the Jewish population in British Mandate Palestine, there was also an Arab aggrieved population in conflict with the British colonials.

although the moderates are not strategic actors in our model.

In referring to terrorism in the Basque country, for example, we would take the Spanish government to be the government in question, the Basque people to be the aggrieved population, moderate Basque parties to be the moderate faction, and ETA to be the extremist faction. In the dispute between Israel and the Palestinians, the Israeli government is the government in question, the Palestinian people are the aggrieved population, Fatah is the moderate faction, and Hamas, Islamic Jihad, or other militants represent the extremist faction. In Northern Ireland, the British are the government, the Irish Catholics are the aggrieved, various moderate Republican political organizations are the moderate faction, and the Irish Republican Army (and various splinter groups) constitute the extremist faction. In British-mandate Palestine, the British colonials were the relevant government, Jews living in Palestine were an aggrieved population, the Labor Zionists and Haganah were the moderate faction, and the Irgun represented an extremist faction. In each of these cases, the nature of the tension between the aggrieved population and the government involved national aspirations present within the population.³

The game is played as follows. In the beginning the extremists decide whether or not to launch a violent terrorist campaign. If they do so, the government decides how to respond. In particular, the government chooses whether to invest in developing a counterterror campaign that inflicts as little damage as possible on the aggrieved population or whether to engage in a less discriminating form of counterterror that causes more damage. Finally, whether or not there has been a terrorist conflict, each member of the aggrieved population decides whether to support the moderates or extremists. If the moderates gain control, they will pursue a strategy of negotiation and compromise. If the extremists gain control, they will

³We do not model the behavior of or public opinion among any *other* population that is represented by the government (eg, the Spanish people in the Basque conflict, the Israeli people in the Israeli-Palestinian case, or the Arabs living in British Mandate Palestine). As such, whenever we refer to “the aggrieved population” in the course of the paper, it is the aggrieved population that the terrorists claim to represent (eg, the Basque people, the Palestinian people, the Irish Catholics) to which we refer.

pursue a strategy of violent conflict.

The extremist faction's objective is to maximize the probability that it becomes the leader of the aggrieved population. Different government types have different preferences over the relative value of negotiation versus an ongoing conflict. The government also bears costs for resources spent on counterterrorism, and it may, or may not, also be concerned with the welfare of the aggrieved population. Finally, the reaction of each member of the aggrieved population to events reflects that member's concerns about her political and economic welfare.

With this general framework in place, we now turn to the detailed structure and assumptions of the model.

Extremist Faction

The extremist faction seeks to become the leader of the aggrieved population. The extremists face a binary choice: to engage in terrorism (t) or to decide not to engage in terrorism (nt). Thus, a strategy for the extremists is $\sigma_E \in \{t, nt\}$. We have assumed that if the extremists gain control, they will pursue armed conflict. Thus, this initial decision ought not be viewed as a choice over whether or not to embrace violence. Rather, it is a decision about whether it is instrumentally useful, in the cause of armed struggle, to serve as a terrorist vanguard.

The probability that the extremists win enough support in the population to gain control is denoted $\Pr(E)$. Without loss of generality, we normalize the benefit of gaining control to one. Thus, the extremists' expected utility for strategy σ_E is:⁴

$$EU_E(\sigma_E) = \Pr(E|\sigma_E).$$

⁴Note that terrorism is taken to be costless for the extremists. However, the equilibria of the model that we describe later remain intact if terrorism becomes costly. After we demonstrate the equilibria of our model, another footnote below describes how a cost to terrorism affects the details of the conditions under which different equilibria exist.

Government

We model two possible types of government. The government's type is labeled Θ . With (commonly-held) prior probability p , the government is of type $\Theta = \theta > 0$, and with complementary probability $1 - p$ the government is of type $\Theta = 0$. The government knows its own type, but this is private information; the extremists and the aggrieved population know only the common prior probabilities.

We use type to parameterize how much governments are concerned with the welfare of the aggrieved population. In particular, the welfare of the population factors positively into the preferences only of governments of type $\Theta = \theta$. Governments of type $\Theta = 0$ are indifferent to the welfare of the population. Because of this distinction, we will frequently refer to governments of type $\Theta = 0$ as “hard-line” and governments of type $\Theta = \theta$ as “soft-line.”⁵

A government of type Θ receives a payoff $u_{\Theta}(E)$ if the extremists win control and pursue a campaign of violence. It receives a payoff of $u_{\Theta}(M)$ if the moderates gain control and pursue a strategy of negotiation. We do not make any assumptions on whether governments prefer

⁵Some readers may find it strange that the government's type is taken to be uncertain here, particularly given that many of the governments targeted by terrorists have been democratically elected and that debate over the appropriate posture towards terrorism was an important component of the campaigns resulting in the election of those governments. Indeed, in democracies which have been confronted by terrorists over a long time period, such as Israel and Spain, different political parties can develop differentiated reputations when it comes to their likely bargaining and counterterrorism strategies. However, such reputations are only partial reputations, and it is not uncommon for governments to take actions that were not widely anticipated in advance or at the time of their election, such as Likud Prime Minister Ariel Sharon's initiative to withdraw Israeli settlers from Gaza in 2005 or the talks with ETA held by the administration of Popular Party Prime Minister Jose Maria Aznar in 1999. Uncertainty about the government's type is likely to be even greater in situations where the conflict is not long-standing and the ruling authority is a geographically distant power—witness the uncertainty of the Iraqi population about the intentions of the US occupation that began in 2003.

negotiation or to fight the extremists. We do assume that $u_\theta(M) - u_\theta(E) \geq u_o(M) - u_o(E)$. All else equal, negotiation is weakly more palatable to the soft-line government than the hard-line government (but, note, both types of government might still prefer not to negotiate).

We allow the government to choose alternative counterterror campaign strategies that differ in their cost and the degree of collateral damage they inflict on the aggrieved population. The government can choose a counterterror campaign that goes out of its way to minimize the amount of damage inflicted on the aggrieved population; we will refer to such a campaign as *discriminating*. Or the government can choose a counterterror campaign that is less costly, but which does not concern itself with the welfare of the population; we will refer to such a campaign as *undiscriminating*.⁶ The idea is that a given security objective can be achieved through different means; different government types may experience different tradeoffs between the costs of a campaign and the collateral damage it may inflict.⁷

Thus, the government's strategy comes down to one of two choices. The government can engage in discriminating counterterror (*dc*) or indiscriminating counterterror (*uc*). Call the government's strategy $\sigma_G \in \{dc, uc\}$. As discussed above, this choice implies a level of costs the government bears (K) and a level of damage inflicted on the population (D). The levels of cost and damage implied by the different counterterror possibilities are given as follows:

$$K = \begin{cases} \bar{k} & \text{if } \sigma_G = dc \\ \underline{k} & \text{if } \sigma_G = uc \end{cases}$$

where $\bar{k} > \underline{k} > 0$.

⁶We have in mind that a discriminating campaign might involve intelligence work to infiltrate cells, targeted assassinations that do not kill innocent bystanders, or other such tactics, while indiscriminating counterterror would involve border closings, bombings which cause collateral damage and destroy infrastructure, or imposition of curfews.

⁷We therefore do not model a government's choice between different security objectives; such a model of optimal counterterrorism policy can be found in Powell (2005).

$$D = \begin{cases} \bar{d} & \text{if } \sigma_G = uc \\ \underline{d} & \text{if } \sigma_G = dc \end{cases}$$

where $\bar{d} > \underline{d} > 0$.

That is, a discriminating counterterror campaign costs the government more than an indiscriminating campaign, but it inflicts less damage on the aggrieved population.

The overall expected utility of the government is

$$EU_G(\sigma_G, \Theta) = \Pr(E) [u_\Theta(E) + \Theta\beta f(D(\sigma_G))] + \Pr(M) [u_\Theta(M) + \Theta f(D(\sigma_G))] - K(\sigma_G),$$

where $f(D(\sigma_G))$ represents the economic opportunities for the aggrieved population, and $f'(D) < 0$ —damage from government counterterror diminishes economic opportunity. The parameter β represents the portion of the economy that is expected not to be destroyed should the extremists gain control and engage in further violence. This is described in more detail below. Sometimes we will write the expected utility of a government of type Θ as $EU_\Theta(\sigma_G)$.

The Aggrieved Population

The members of the aggrieved population must choose whom to support to represent their interests in the ongoing dispute with the government: the extremists or the moderates. For instance, each Palestinian must choose whether to support the Palestinian Authority or a faction such as Hamas or Islamic Jihad. Competition between the moderates and the extremists does not necessarily involve democratic elections in which the faction that wins a majority gains power; it might, for instance, also take the form of direct conflict between the factions. As such, we leave the level of support needed by the extremists (conversely, the moderates) general. In particular, the extremists gain power if they achieve the support of a share $x \in (0, 1)$ of the population. If $x = \frac{1}{2}$ the extremists simply need majority control, if $x < \frac{1}{2}$ the extremists can gain control with less than majority support, and if $x > \frac{1}{2}$ the extremists need more than a majority to gain power. We refer to the group that achieves leadership as the *aggrieved regime* or sometimes, just the *regime*.

Several factors affect the population members' choices: the state of the economy, the expected outcome of the conflict with the government under each regime, and heterogeneous individual ideological views.

If the extremists gain control, they pursue armed conflict, which they win with probability π . Such a victory confers a benefit v on the population. However, violence is also costly, causing significant damage to the economy. Thus, should the extremists win control, the level of economic opportunity is diminished by a factor of $\beta \in (0, 1)$.⁸

Finally, members of the aggrieved population also have idiosyncratic preferences over whether they support the extremists or the moderates, given by ϕ_i , where i is a generic member of the aggrieved population. These can be thought of as ideological in nature. Some individuals, based on their personal ideals or temperament, may be naturally inclined toward supporting the goals of those who are engaged in armed conflict against a government perceived as repressive. Others, however, may have an opposite inclination because they personally abhor the use of violence. We assume that the ϕ_i s are distributed according to some continuous, increasing distribution Φ .

Putting these together, the payoff to a member of the aggrieved population if the extremist faction gains control are:

$$U_i(E) = \pi v + \phi_i + (1 - \beta)f(D).$$

If the moderate faction gains control, they pursue a strategy of negotiation. The government's type affects the expected outcome of negotiation. The expected payoff to a member of the aggrieved population from negotiation with a government of type Θ is $u_i(M|\Theta)$, where $u(M|\theta) > u(M|0)$. That is, it is better to negotiate with a soft-line government than a hard-line government. Negotiation, unlike terrorist conflict, does not inflict economic externalities. Thus, the payoffs associated with the moderates gaining control are:

$$U_i(M) = \Pr(\Theta = \theta)u(M|\theta) + \Pr(\Theta = 0)u(M|0) + f(D).$$

⁸See, Abadie and Gardeazabal (2003), Enders and Sandler (1996), and Sandler and Enders (2005) for empirical estimates of the economic costs of terrorism.

Finally, we assume that there is some uncertainty about the distribution of ideological preferences in the population. In particular, prior to deciding whether to support the extremist or moderate faction, the ideological preferences (ϕ_i) of all population members experience a random shock ϵ , with distribution G . This represents the idea that the government cannot be perfectly certain of the public opinion outcomes associated with its counterterrorism policies.

Equilibria

Having described the model in the previous section, we now proceed to analyze the equilibrium behavior of actors, and the way in which that behavior can be expected to change as features of the strategic situation vary. As our solution concept, we employ Perfect Bayesian Equilibrium, along with two refinements. First, we assume that actors do not play weakly dominated strategies.⁹ And second, we assume that off-the-equilibrium path beliefs are “intuitive,” in the sense that an unexpected observation of discriminating (undiscriminating) counterterror leads the aggrieved population to believe that the government is soft-line (hard-line).¹⁰

The section proceeds according to the logic of backward induction. We first consider the incentives faced by members of the aggrieved population as they decide whom to support; then proceed to the strategic incentives faced by a government who must decide how to respond to a campaign of violence by the extremist faction; and finally classify the types of equilibrium which can be observed in the game as a whole. We then derive comparative

⁹This assumption is relevant only to the equilibrium analysis of the aggrieved population, and is meant to eliminate counterintuitive equilibria in which actors support the faction which would leave them strictly worse off were they to be in power. In strategic terms, our assumption is that members of the aggrieved population will support their most-preferred faction regardless of whether or not they are pivotal in determining who comes to power.

¹⁰By unexpected, we mean a government behavior that is not chosen by either government type in a pooling equilibrium of the game.

statics describing the way in which changes in particular features of the interaction affect the likelihood that different equilibria will be observed.

The Aggrieved Population

When deciding whether to support the moderate or extremist faction, members of the aggrieved population simply compare the expected outcomes associated with each faction, given their beliefs about the type of the government against which they have a grievance. Suppose that the population's posterior probability that the government is soft-line (once any campaign of violence has been launched or not launched, and any counterterror response has been observed) is represented by \bar{p} . Then the following Lemma indicates that the level of support for the extremist faction is decreasing in \bar{p} .

Lemma 1 *The level of support for the extremist faction ($\Pr(E)$) is decreasing in \bar{p} .*

The proofs of this and all other results are in the Appendix.

The intuition behind this result is simple. Because the aggrieved population is more confident that a soft-line government will strike a favorable deal with the more moderate faction, a heightened belief that the government is soft line (higher \bar{p}) reduces the attractiveness of violent conflict and, therefore, of the extremist faction. This result will play a key role in affecting the strategic incentives of governments; shaping the way in which they are perceived by the aggrieved population will have an impact on who the government's counterpart will be at the bargaining table or in conflict. As such, specific governments may have a strong incentive to attempt to conceal, or to make clear, their underlying type.

The next Lemma examines how the level of support for the extremist faction is affected by economic damage caused by government counterterror operations.

Lemma 2 *The level of support for the extremist faction ($\Pr(E)$) is increasing in the level of damage inflicted on the aggrieved population by counterterrorism (D).*

As damage increases, overall economic opportunity is reduced. This diminishes the marginal opportunity costs of conflict. That is, the population reasons that the amount

they sacrifice economically by supporting the extremists and, consequently, further violence, is smaller when counterterror has already significantly damaged the economy. Thus, the greater the level of damage, the more support there is for the extremists. This fact will also influence governments' tradeoffs between alternative counterterror tactics.

These two endogenous determinants of support for violence suggest reasons that an extremist faction might expect to gain support from launching an attack: by provoking a counterterror response, damage will be inflicted on the aggrieved population, and information about the government's type may also be revealed. The first of these factors will always tend to increase support for the extremists; sometimes the second will as well, depending on the nature of the information revealed.

Of course, we have not yet discussed how the population's posterior beliefs about the government's type are formed. In any equilibrium, these beliefs will depend on the strategies played by different government types. To address this, we must turn to the consideration of the different equilibria of the model.

The Government

When attention is restricted to the subgame following the initiation of a campaign of extremist violence, three different configurations of government behavior can be sustained in equilibrium.

Lemma 3 *In the subgame in which governments must choose how to respond to a campaign of violence by the extremist faction, there are three types of equilibrium in pure strategies. Either (1) both government types choose discriminating counterterror; (2) both government types choose indiscriminating counterterror; or (3) soft-line governments choose discriminating counterterror but hard-line governments choose indiscriminating counterterror.*

In the next subsection, when we describe the equilibria of the overall game, we provide a discussion of the intuitions underlying governments' incentives in each of these cases. However, it is important to note here that the Lemma rules out any equilibria in which government types behave differently from one another in counter-stereotypical ways. That

is, there are no equilibria in which soft-line governments choose an indiscriminating counterterror strategy while hard-line governments choose a discriminating one. The intuition is simple. If conditions were such that a soft-line government wished to play an indiscriminating counterterror strategy, it would certainly be the case that a hard-line government would wish to do so as well. This is true for two reasons. First, hard-line governments bear a lower relative cost for pursuing an indiscriminating counterterror strategy because, unlike soft-line governments, they do not care about the damage caused by such operations. Second, a hard-line government would prefer, if possible, not to reveal its type; as demonstrated in Lemma 1, an increased belief that the government is hard-line increases support for the extremist faction. As such, when a soft-line government would choose indiscriminating counterterror, a hard-line government would prefer to match it, thereby concealing its type while choosing its genuinely preferred tactic.

Perfect Bayesian Equilibria of the Overall Game

The following Proposition describes the pure strategy Perfect Bayesian equilibria of our overall game, in which an extremist faction decides whether or not to launch a campaign of violence; the government must decide how to respond to any campaign that is launched; and members of the aggrieved population must decide which potential leadership faction they wish to support.

Proposition 1 *The game has four types of Perfect Bayesian equilibrium in pure strategies. On the equilibrium path, either (1) the extremist faction mounts a campaign of violence and both government types choose discriminating counterterror; (2) the extremist faction mounts a campaign of violence and both government types choose indiscriminating counterterror; (3) the extremist faction mounts a campaign of violence and soft-line governments choose discriminating counterterror but hard-line governments choose indiscriminating counterterror; or (4) the extremist faction does not mount a terror campaign, but had it done so the soft-line government would have chosen discriminating counterterror and the hard-line government would have chosen indiscriminating counterterror.*

The model predicts that several distinct configurations of behavior may be observed, depending on the circumstances. Perhaps the most fundamental thing to note is that the extremist faction may or may not choose to launch a campaign of violence in equilibrium. In three of the four types of Perfect Bayesian equilibrium, the extremist faction does choose to resort to terrorist tactics. In the first two of these equilibria (i.e., the pooling equilibria), the expected government counterterror practices will cause damage but not inform members of the aggrieved population about the government's type. Consistent with the intuitions in Lemmata 1 and 2, this will lead to increased support for the extremist faction, making the initial strike worth their while.¹¹ In the third of these equilibria with violence, the aggrieved population *will* learn the government's type, but the risk to the extremist faction that this new knowledge will increase the population's appetite for peaceful negotiations and a moderate leadership is outweighed by the economic damage that ensues and the alternative possibility that the government will be revealed to be hard-line and an unappealing negotiating partner.

It is interesting to note how public opinion changes in the equilibria with violence. Whereas in the first two equilibria, public support for the extremist faction always increases, the popularity of the extremists may either increase or decrease in the third equilibrium. *Ex ante*, the expected gain in support for the extremist faction is positive—making them willing to launch the attack in the first place—but *ex post*, the level of support may increase or decrease, depending on the way in which the government chooses to respond to terrorism (and the information about its type that this reveals). This intuition underlines the fact that a soft-line government's greater inherent willingness to bear the costs of discriminating counterterror operations can, in certain circumstances, be a strategic asset. In the context of a separating equilibrium, it can lead to a decrease in support for the extremist faction.

Finally, there is a fourth equilibrium in which the extremist faction chooses not to launch a campaign of violence because the expected effect on its popularity would be negative. This is the case when government's expected counterterror responses are informative about their

¹¹If we added to the model a cost to extremists for engaging in violence, and the cost were sufficiently high, pooling equilibria with no terrorism would also be possible.

type, but the balance of considerations for the extremists runs in the opposite direction to that described for the third equilibrium above. That is, *ex ante*, support for the extremists is expected to diminish if they engage in terrorism.

In order to build intuition, it is useful to devise a graphical depiction of the circumstances under which different equilibria exist. While the model has many parameters, we organize the following discussion around a series of graphs along which the relative cost of different counterterror strategies, $\bar{k} - \underline{k}$, varies while other parameters of the model are held fixed.¹² The graphs contained in Figure 1 present a schematic diagram describing the three different ways in which equilibrium regions can be related to one another as $\bar{k} - \underline{k}$ varies, depending on the specific details of the situation.¹³

While the details vary, certain regularities are evident. First, for the lowest values of $\bar{k} - \underline{k}$, there is a unique equilibrium, in which the extremist faction acts violently and both government types respond in a discriminating way. Second, for the highest values of $\bar{k} - \underline{k}$, there is also a unique equilibrium, in which the extremists again resort to terrorism but both government types now respond in an undiscriminating fashion. And third, for intermediate values of $\bar{k} - \underline{k}$, a separating equilibrium exists—either one with or one without violence. Further details of equilibrium existence or uniqueness vary depending on the precise form of the ideological distribution Φ of the aggrieved population and on other factors; for example, there may or may not be a range in which the separating equilibrium is unique (although it is never the case that both separating equilibria and equilibria pooling on discriminating counterterror simultaneously exist), and there may or may not be a range in which no pure strategy equilibria exist.¹⁴

¹²Similar intuitions could be obtained if another quantity were varied instead. We choose this one because the differing costs of different counterterror strategies are fundamental to governments' incentives in the model, as well as for analytical convenience.

¹³Readers interested in the technical details of how these graphs were devised can consult section A.5 of the Appendix.

¹⁴It can be shown that mixed-strategy equilibria exist when this is true. Note also that if we added a cost to extremists for engaging in violence, the cutpoint for when the extremists engage in violence in a separating equilibrium would shift (terrorism would be less likely

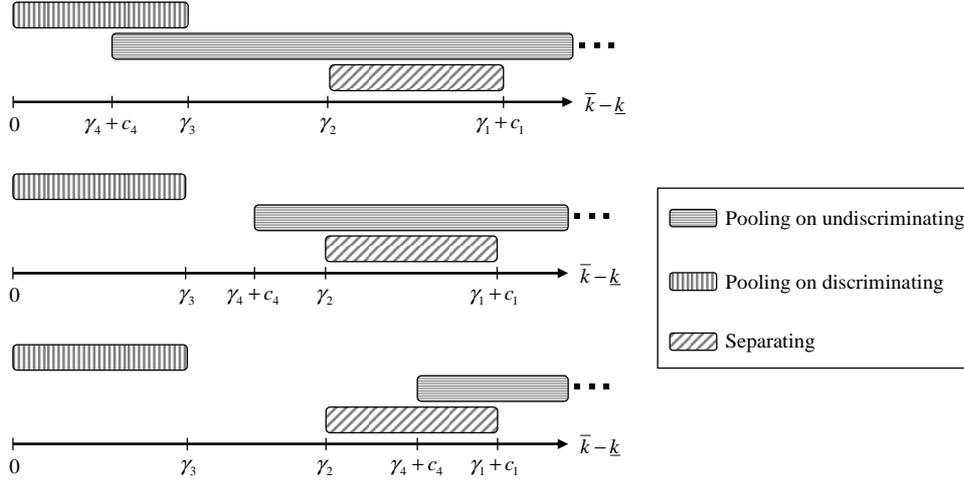


Figure 1: There are three possible configurations (the three figures) of ranges (in $\bar{k} - \underline{k}$ space) for the existence of the three types of pure strategy equilibria (shown as different shaded bars in each figure). Which configuration holds is a function of underlying parameter values and distributional assumptions. The values of the γ s and c s are defined in the Appendix A.5.

Implications of the Equilibria

Having shown the intuition for the existence of a variety of equilibria of the model, we now wish to discuss some substantive implications of particular equilibria. We begin by focusing on the separating equilibrium in which both types of governments engage in counterterrorism, but where hard-line governments do so in a way that inflicts greater damage on the population than do soft-line governments. We then proceed to the pooling equilibria.

Separating Equilibria

In the model, soft-line and hard-line governments differ in the extent to which they internalize damage inflicted on the aggrieved population. This difference implies that the two government types face different tradeoffs between the two possible counterterrorism strategies. ¹ (as the cost of terrorism increased), but the existence of the equilibria we discuss remains unchanged.

Specifically, it is relatively less costly for soft-line governments to engage in a discriminating counterterror campaign because they internalize benefits from reducing damage to the population that are not internalized by hard-line governments. As a result, the population is sometimes able to learn about the government's type by observing its behavior.

In the separating equilibria, if the population observes a heavy level of damage, more of them will support the extremist faction. Two factors drive this result. First, the high level of damage reduces the opportunity costs of ongoing conflict, bolstering support for the extremists. Second, in this separating equilibrium, the observed high level of damage allows the members of the population to infer that the government is hard-line, which makes them more inclined to support violence.

These features of mobilization behavior have implications for the incentives facing the two types of governments. Both types know that if they engage in an indiscriminating campaign, they will face a higher level of mobilization. However, two other factors enter into their calculations: the costs of a discriminating campaign and the damage inflicted on the aggrieved population. Because the hard-liners are indifferent to damage inflicted on the population, they are less inclined to bear the costs of running a discriminating campaign. Thus, if those costs are sufficiently high, the hard-liners are willing to face greater mobilization to avoid them, while soft-liners will pursue a discriminating campaign in order to avoid imposing damage on the aggrieved population.

Of course, the extremists, in choosing whether or not to attack, are uncertain whether they are facing a hard-line or a soft-line government. Depending on a variety of factors, which we explore below, the extremists might or might not want to initiate a terrorist conflict. Thus, there are two kinds of separating equilibria—one where the extremists attack and the government's type is actually revealed and another in which the extremists do not attack and the government's type is not revealed.

Conflict and Radicalism

An important question in the study of terrorism, and one which we can address in the context of our separating equilibria, concerns how the aggrieved population responds to violent

conflict between terrorists and the government. The empirical record contains examples of different types of reactions. Israeli crackdowns in the West Bank and Gaza Strip have, by and large, increased Palestinian support for violence in general and the extremist militant groups in particular (Bloom, 2004). Palestinians blame Israel for its counterterror activities. Conversely, counterterror efforts against Basque separatists in the 1980s by the French and Spanish governments were accompanied by a decline in support for ETA (Funes, 1998).

The separating equilibria suggest a framework in which to understand such variation. How conflict affects the militancy of the aggrieved population is determined endogenously in our model. As such, we can explore when conflict leads to increased radicalization by examining when support for the extremists increases as a result of conflict (relative to what it would have been had the extremists decided not to launch a terrorist campaign) and when it decreases as a result of conflict. This will allow us to derive substantive hypotheses about when terror can in fact be successfully used to increase mobilization through the propaganda of the deed.

In order to explore this question, we focus on the separating equilibrium in which the extremists initiate a terrorist campaign. First note that in this equilibrium, if the population observes a high level of damage (\bar{d}), then it learns that the government is hard-line. This will, for certain, lead to an increase in support for the extremists because both an increased belief in the hard-line nature of the government and high levels of damage make an extremist leadership relatively more attractive, as shown in Lemmata 1 and 2. If the government reacts in a particularly harsh way, the population is certain to radicalize, increasing support for the extremists.¹⁵

The situation is not as immediately clear if the population observes a low level of damage (\underline{d}), thereby learning that the government is soft-line. On the one hand, an increased belief in the soft-line nature of the government makes a moderate regime relatively more attractive because moderates negotiate more effectively with soft-line governments. On the other hand,

¹⁵See Abadie (2004) and Krueger and Laitin (2004) for evidence linking terrorism to measures of how hard-line the government is, such as level of political repression and absence of civil rights.

the damage inflicted, though less severe than would have been the case under a hard-line government, does decrease the opportunity costs of continued conflict, relative to when the government is not forced to engage in any counterterror because the extremists do not attack. As such, the two effects cut in opposite directions, and a more explicit comparison between potential levels of support for the extremists is necessary to determine the overall effect on mobilization.

Suppose the aggrieved population believes that the government is soft-line with probability p' . Then by comparing the expected payoff from supporting the extremists versus the moderates, we find that a member of the aggrieved population supports the extremists if and only if:

$$\phi_i \geq \frac{p'u(M|\theta) + (1-p')u(M|0) + \beta f(D)}{\pi v}.$$

Thus, in the absence of conflict, the expected level of support for the extremists is given by:

$$N^{nt} = 1 - \Phi \left(\frac{pu(M|\theta) + (1-p)u(M|0) + \beta f(0)}{\pi v} \right),$$

where p is the prior belief.

If there is conflict, and the government reveals itself to be soft-line by choosing a discriminating counterterror strategy, then support for the extremists is:

$$N_{\underline{d}}^{uc,dc} = 1 - \Phi \left(\frac{u(M|\theta) + \beta f(\underline{d})}{\pi v} \right).$$

Because Φ is monotone increasing in its argument, the condition for decreased radicalization in the aggrieved population following conflict can be expressed as:

$$\beta [f(0) - f(\underline{d})] < (1-p)(u(M|\theta) - u_i(M|0)). \quad (1)$$

The left-hand side of equation (1) represents the impact on the opportunity costs of ongoing violence from discriminating counterterror relative to no counterterror. All else equal, the marginal increase in support for the extremists associated with initiating a terrorist campaign will be smaller when the damage from a discriminating campaign is relatively low.

The right-hand side of equation (1) represents the relative benefit of negotiating with a soft-line rather than a hard-line government. When soft-line governments are much more

amenable to negotiation than are hard-line governments, learning that the government is soft-line significantly decreases support for the extremists. Thus, the expected level of extremist support, given conflict, is decreasing in the difference in attitude toward negotiation between the hard-line and soft-line governments.

These results have several implications for the patterns of mobilization and radicalization we expect to see empirically. First, counterterror campaigns in which a government appears insensitive to the suffering of the aggrieved population will result in increased mobilization in support of the extremists. Second, governments that are concerned with the welfare of the population, but which either lack the technology, or find themselves in situations where it is impossible, to engage in even discriminating counterterror without nonetheless imposing serious damage on the population (high d) are also likely to face an increasingly radical aggrieved population. Conversely, when governments are concerned with the welfare of the aggrieved population *and* can engage in counterterror that imposes relatively low levels of damage, then conflict can backfire on an extremist terrorist vanguard, decreasing radicalization and increasing support for the moderates.

Finally, when both hard-line and soft-line governments find negotiation unpalatable, learning that the government is soft-line does not particularly sway the aggrieved population. Consequently, the negative effects on the economy of counterterror are likely to outweigh the positive effects of learning that the government is soft-line, leading to an increase in support for the extremists.

The Likelihood of Terrorism

From the above results, one can also gain some insight into the kinds of societies that are likely to experience terrorist conflict. If terrorism is likely to backfire, all other things being equal, failing to increase support for the extremists, then the extremists will be less likely to initiate a campaign of violence in the first place. Thus, the model predicts that terrorist conflicts will be most common in places where even soft-line governments are unable to engage in counterterror without imposing heavy negative externalities and in societies where all types of governments more or less agree on the value of negotiated settlements.

The problem of even discriminating counterterrorism causing significant damage might arise, for instance, when the aggrieved population lives in enclaves, such that, in order to pursue the terrorists, the government is forced to target the entire enclave. This is consistent with the frequent use of terrorism as a tool by ethnic minorities engaged in separatist conflicts (e.g., Basques in Spain, Palestinians, Tamils in Sri Lanka, Kurds in Turkey, etc.).

All types of governments might share similar positions vis-à-vis negotiation in situations where domestic pressure has hardened against negotiation. In such situations, the aggrieved population will perceive that there is little advantage to dealing with a soft-line government over a hard-line government and will, thus, be more inclined to support extremist violence.

Proposition 2 *Conditional on being in the separating equilibrium, the extremists are more likely to initiate a terrorist conflict when conditions make it difficult to engage in discriminating counterterrorism without imposing negative externalities on the aggrieved population (high \underline{d}) and when the value of negotiating with hard-line and soft-line governments is similar (small $u(M|\Theta) - u(M|0)$).*

Proof The result follows from the argument in the text and inspection of equation (1). \square

The predictions regarding the effect of negative externalities discussed above seem consistent with the two examples with which we began this discussion. In the case of the Israeli/Palestinian conflict, the damage from Israeli crackdowns has been large. And this has had a significant impact on the state of the Palestinian economy. Thus, within the context of our model, it is not surprising that the Palestinians have mobilized and increased support for extremists groups such as Islamic Jihad and Hamas. The level of damage has both increased the Palestinians' beliefs that the Israeli government is relatively hard-line and eroded economic opportunities for Palestinians. Both of these effects mitigate in favor of support for Hamas and other extremist groups.

The case of the Spanish and French crackdowns on Basque separatists in the 1980s provides a counter-example. In this case, Basque public opinion turned sharply against the ETA during the counterterror campaign (Clark, 1990; Funes, 1998). And, consistent with the model, this was a counterterror campaign that inflicted very low externalities on the

population at large. Indeed, the height of the counterterror campaign in 1987 coincided with the fastest growth in Basque GDP in modern Spanish history.

The second prediction of the proposition has implications for how public opinion within a society affects the likelihood of terrorism occurring. In particular, societies that are unified in their view of the right way to deal with radicals, so there is relatively little difference between negotiating with a hard- and a soft-line government, are more likely to experience terrorism. Highly polarized societies, alternatively, are less likely to be victims of terrorism. The reason is that, in polarized societies, terrorism carries significant risk for the extremists—if the population learns that the government is soft-line, the extremists will lose a significant amount of support.

Finally, it is worth discussing the effect of the prior beliefs that the government is soft- or hard-line on the likelihood of the extremists initiating a conflict. Recall that when the government is hard-line terrorism is sure to help the extremists. Hence, one might have expected that an increased belief that the government is hard-line would unequivocally increase the likelihood of a terrorist campaign beginning. Surprisingly, this turns out not to be the case.

There are two effects of an increased belief in the government being hard-line on the extremists' decision of whether to engage in terrorism. On the one hand, when it is likely that the government is hard-line, it is likely that terrorism will provoke indiscriminating counterterror and a consequent increase in support for the extremists. This effect makes the extremists more likely to engage in terrorism. On the other hand, when it is likely the government is hard-line, support for the extremists in the absence of a terrorist conflict is already likely to be high. This is because, independent of the state of the economy, members of the aggrieved population prefer an extremist regime that will pursue a militant strategy if they believe they are facing a hard-line government. Since this implies that the extremists will have strong support even without a terrorist campaign (i.e., the people will support extremism without a “terrorist vanguard” leading the way), they are less inclined to engage in terrorism, which carries the risk that the government will surprise everyone and turn out to be soft-line, reducing support for the extremists. Thus, whether the extremists are more

likely to attack when they believe the government is hard-line or soft-line is ambiguous. It depends on a complicated relationship of parameter values and the shape of the distribution of preferences in the aggrieved population.

Remark 1 *Within the separating equilibria, an increased belief that the government is hard-line can increase or decrease the probability that the extremists engage in terrorism.*

Pooling Equilibria

As stated in Proposition 1, two kinds of pooling equilibria are possible—both government types can engage in indiscriminating counterterrorism or both government types can engage in discriminating counterterrorism. Because the government types play the same strategies in either of these equilibria, in some sense they do not lend themselves as well to the kind of analysis done for the separating equilibria. However, there are several facts worth noting.

First, in either pooling equilibrium, terrorism always increases support for the extremists. The reason is as follows. In either type of pooling equilibrium, the government engages in some counterterrorism, which does some damage to the economy. This, as we have already seen, increases support for the extremists by decreasing the opportunity costs of conflict. Further, since it is a pooling equilibrium, the aggrieved population learns nothing about the government's type. Thus, the aggrieved population's beliefs about the government are the same regardless of whether or not there is conflict. Consequently, in a pooling equilibrium, the overall effect of terrorism on support for the extremists is positive, regardless of whether the government pools on discriminating or indiscriminating counterterrorism. This is true despite the fact that these equilibria have poor welfare consequences from the aggrieved population's point of view—the terrorist violence has made their living conditions worse while bringing no informational benefit.

Remark 2 *Terrorism always increases support for the extremists in a pooling equilibrium.*

From a particular point of view, this result may seem counterintuitive. By engaging in terrorism, the extremists have taken actions which leave the aggrieved population strictly

worse off (due to the economic damage), and yet the extremists' popularity increases within that population. Why should members of the population put up with this state of affairs rather than blaming the extremists and bolstering support for the moderate faction instead? The answer lies in a commitment problem that the population faces. It would be in the population's interest if individuals could commit to punishing the extremists for sparking a cycle of violence that had a deleterious impact on the population's welfare. But they lack the means to make such a commitment. Consequently, when the time comes to decide whom to support, the diminished economic opportunities caused by the counterterrorism response make the members of the population inclined toward direct struggle against the government, leading them to support the extremist faction, even though this faction's earlier actions diminished the aggrieved population's welfare. Thus, the model is consistent with the sort of perverse outcomes we may sometimes see in the world whereby a people support a violent faction that is continuously diminishing their quality of life.

Comparative Statics

Now that we have seen what equilibria exist, and what the implications of those equilibria are, it is informative to consider how changes in some of the relevant features of the situation affect which equilibria are likely to be observed in practice. The first comparative statics result is intuitive given the discussion surrounding Figure 1.

Proposition 3 *As discriminating counterterror operations become more costly relative to indiscriminating ones (the quantity $\bar{k} - \underline{k}$ increases), the set of pure strategy equilibria changes in the following way. Initially, it is a unique pure strategy Perfect Bayesian equilibrium for the extremist faction to strike and for the government types to pool on discriminating counterterror; ultimately, it is a unique pure strategy Perfect Bayesian equilibrium for the extremist faction to strike and for the government types to pool on indiscriminating counterterror. An equilibrium in which government types separate exists for intermediate values of $\bar{k} - \underline{k}$.*

At one level, the basic thrust of Proposition 3 is fairly obvious. As discriminating counterterror becomes relatively more expensive, behavior shifts in the direction of undiscriminating counterterror. At the extremes, only the relevant pooling equilibria are possible, while a mix of behaviors takes place in the intermediate ranges.

However, what is more interesting is to consider the interaction between the incentives of the government types and the incentives of the extremist faction. As we saw earlier, in the range of parameter values for which a separating equilibrium exists, the extremists may or may not choose to engage in violence. In situations where the extremists do not wish to resort to terrorism when governments separate, there is the potential for an important non-monotonicity in extremist strategies. Because it is, as discussed above, always in the interests of the extremist faction to launch a terror campaign when governments pool, it may be the case that terror campaigns will be launched for high and low, but not for some intermediate, values of $\bar{k} - \underline{k}$.

The idea is as follows. When the additional cost of discriminating counterterror is very high, there will be a pooling equilibrium on non-discriminating counterterror. The extremists always want to engage in violence when there is a pooling equilibrium, thus costly discrimination will lead to a terrorist conflict. If the separating equilibrium is of the sort where the extremists choose not to attack, then as the cost of discriminating counterterrorism decreases there will no longer be terrorism. When the government types are willing to separate the extremists do not engage in terrorism because they do not want to risk the government revealing itself to be soft-line. As the costs of discriminating counterterror diminish even further, there will once again be terrorism.

This is the surprising part of the non-monotonicity. Because the cost of discriminating counterterror is low, both government types are willing to minimize the economic damage their counterterror inflicts on the aggrieved population. However, the very fact that they are *both* willing to do this can trigger a terror attack. The terrorists cease to be concerned that the population will learn any information about the government from its counterterror strategy. As a result, they are once again tempted to provoke the government through counterterrorism. Thus, an increase in the willingness of governments to engage in discrim-

inating counterterror that protects the interests of the aggrieved population can, ironically, sometimes increase the risk of terrorism occurring.

As a final comparative static, we consider the impact of variation in the prior belief p that the government is soft-line.

Proposition 4 *As the prior belief p that the government is of the soft-line type increases, both of the pooling equilibria become more likely.*

Consider the equilibrium in which the extremist faction launches a terror campaign and the government types pool on indiscriminating counterterror. The soft-line type is less comfortable with this equilibrium than its hard-line counterpart; as p increases, the pooling equilibrium becomes more palatable to nearly indifferent soft-line types because the posterior level of support for the extremist faction will be lower. The incentive to switch to a discriminating campaign therefore decreases. Similarly, consider the equilibrium in which the extremist faction launches a terror campaign and the government types pool on discriminating counterterror. It is the hard-line type that is less comfortable with this equilibrium. As p increases, the pooling equilibrium becomes more palatable to nearly indifferent hard-line types, because the posterior level of support for the extremist faction will again be lower in the equilibrium. Switching to an indiscriminating campaign becomes less appealing because the relative increase in mobilization for the extremists is larger.

While an increase in p increases the likelihood of the pooling equilibria (in which there is always terrorism), we cannot conclude from that that an increase in p increases the overall risk of terrorism. The range over which a separating equilibrium exists is unchanged as p varies. And, as discussed in Remark 1, given that we are in a separating equilibrium, p has an ambiguous effect on the likelihood of terrorism being employed.

Conclusion

This paper has explored the strategic logic underlying the use of terrorist violence for a specific political end—increasing support for a terrorist movement among an aggrieved population. A central challenge in understanding the root causes of terrorism is comprehending

the mechanisms by which practitioners of violence hope to achieve their objectives. Such an understanding is essential for explaining patterns of terrorist violence and variations in the effectiveness of terror campaigns, as well as for formulating public policies intended to curb the dangers of terrorism.

Our model explores only one of several plausible motivations for the deployment of terror. However, we believe the mechanism we describe plays an important role in many terrorist conflicts, not least some of those that fill our newspapers in the present day. In our view, terrorist organizations often attempt to increase their political support—sometimes succeeding—by provoking governments into counterterror responses that inflict damage (economic and otherwise) on a population of people who already perceive themselves to have reason to support the terrorists. Such responses can, moreover, leave the population with the impression that the government is unconcerned with their welfare, increasing the appeal of armed conflict.

Of course, if the mobilization dynamics we have modeled are correct, then governments engaged in counterterrorism face a profound dilemma. They may be aware that crackdowns are counterproductive, in the sense of increasing mobilization, but may have no other reasonable option for increasing security. This is especially likely for governments facing a terrorist vanguard that lives and operates in the midst of the aggrieved population, in isolation from the non-aggrieved population. Our model highlights the trade-offs in question and clarifies the mechanisms by which the counterterrorism dilemma operates, but offers no pat public policy remedies for governments confronted with this dilemma.

The closest we come to a clear policy implication is the idea that perceptions, not just physical facts, matter. In the model, two endogenous mechanisms affect mobilization decisions by the aggrieved population: the actual damage inflicted by the counterterror campaign and the populations' perceptions of the government's intentions. Governments trapped in conflicts with terrorists living in the midst of a general population may be unable to avoid the former but can, perhaps, adopt policies outside of their direct counterterror tactics that positively affect the latter.

A Appendix

A.1 Proof of Lemma 1.

A member of the aggrieved population supports the extremist faction if and only if

$$\phi_i \geq \frac{\bar{p}u(M|\theta) + (1-\bar{p})u(M|0) + \beta f(D)}{\pi v} \equiv \hat{\phi}.$$

The probability that the extremists gain control is the probability that $\hat{\phi} + \epsilon < \Phi^{-1}(x)$. This is given by $\Pr(E) = G\left(\Phi^{-1}(x) - \hat{\phi}\right)$.

$\frac{\partial \Pr(E)}{\partial \bar{p}} = -g\left(\Phi^{-1}(x) - \hat{\phi}\right) \frac{u(M|\theta) - u(M|0)}{\pi v} < 0$, where the inequality follows from $u(M|\theta) - u(M|0) > 0$. ■

A.2 Proof of Lemma 2.

Taking the expression for $\Pr(E)$ from the proof of Lemma 1,

$$\frac{\partial \Pr(E)}{\partial D} = -g\left(\Phi^{-1}(x) - \hat{\phi}\right) \frac{\beta f'(D)}{\pi v} > 0,$$

where the inequality follows from $f'(D) < 0$. ■

A.3 Proof of Lemma 3.

There are four possible pure strategy profiles for the two government types. We denote a strategy profile according to $(\sigma_0, \sigma_\theta)$ where σ_0 is the strategy chosen by the hard-line government ($\Theta = 0$) and σ_θ is the strategy chosen by the soft-line government ($\Theta = \theta$).

(uc,dc). Under this separating strategy profile, strategies fully reveal type; so the population forms posterior belief $\bar{p} = 1$ upon observing dc but $\bar{p} = 0$ upon observing uc .

For a soft-line government, the payoff from choosing dc is

$$\begin{aligned} U_\theta(dc|(uc, dc)) &= \Pr(E|\bar{p} = 1, \underline{d}) (u_\theta(E) + \theta(1 - \beta) f(\underline{d})) + \\ &+ (1 - \Pr(E|\bar{p} = 1, \underline{d})) (u_\theta(M) + \theta f(\underline{d})) - \bar{k} \end{aligned}$$

while the payoff from deviating to uc is

$$\begin{aligned} U_\theta(uc|(uc, dc)) &= \Pr(E|\bar{p} = 0, \bar{d}) (u_\theta(E) + \theta(1 - \beta) f(\bar{d})) + \\ &+ (1 - \Pr(E|\bar{p} = 0, \bar{d})) (u_\theta(M) + \theta f(\bar{d})) - \underline{k}. \end{aligned}$$

Thus, the soft-line government will choose dc so long as

$$\begin{aligned} & [\Pr(E|\bar{p} = 0, \bar{d}) - \Pr(E|\bar{p} = 1, \underline{d})] [u_\theta(M) - u_\theta(E)] + \theta [f(\underline{d}) - f(\bar{d})] + \\ & + \beta\theta [f(\bar{d}) \Pr(E|\bar{p} = 0, \bar{d}) - f(\underline{d}) \Pr(E|\bar{p} = 1, \underline{d})] \geq \bar{k} - \underline{k}. \end{aligned} \quad (2)$$

Similarly a hard-line government choosing uc will receive payoff

$$U_0(uc|(uc, dc)) = \Pr(E|\bar{p} = 0, \bar{d})u_0(E) + (1 - \Pr(E|\bar{p} = 0, \bar{d}))u_0(M) - \underline{k}$$

Deviating to dc yields payoff

$$U_0(dc|(uc, dc)) = \Pr(E|\bar{p} = 1, \underline{d})u_0(E) + (1 - \Pr(E|\bar{p} = 1, \underline{d}))u_0(M) - \bar{k}.$$

Thus, the hardline government may choose uc so long as

$$[\Pr(E|\bar{p} = 0, \bar{d}) - \Pr(E|\bar{p} = 1, \underline{d})] [u_0(M) - u_0(E)] \leq \bar{k} - \underline{k}. \quad (3)$$

As such the condition for equilibrium existence is

$$\begin{aligned} & [\Pr(E|\bar{p} = 0, \bar{d}) - \Pr(E|\bar{p} = 1, \underline{d})] [u_\theta(M) - u_\theta(E)] + c_1 \geq \bar{k} - \underline{k} \geq \\ & [\Pr(E|\bar{p} = 0, \bar{d}) - \Pr(E|\bar{p} = 1, \underline{d})] [u_0(M) - u_0(E)] \end{aligned} \quad (4)$$

where $c_1 \equiv \theta [f(\underline{d}) - f(\bar{d})] + \beta\theta [f(\bar{d}) \Pr(E|\bar{p} = 0, \bar{d}) - f(\underline{d}) \Pr(E|\bar{p} = 1, \underline{d})]$. Note that $c_1 > 0$, because $\beta \in (0, 1)$ and $\Pr(E|\bar{p} = 0, \bar{d}) \geq \Pr(E|\bar{p} = 1, \underline{d})$ (by Propositions 1 and 2) imply that the absolute value of the second term cannot exceed that of the first. This along with $u_\theta(M) - u_\theta(E) > u_0(M) - u_0(E)$ and $\bar{k} > \underline{k}$ imply that the equilibrium exists for a non-empty set of conditions.

(dc, uc). Under this separating strategy profile, strategies fully reveal type; so the population forms posterior belief $\bar{p} = 0$ upon observing dc but $\bar{p} = 1$ upon observing uc . Using similar calculations to those done above, we find that the soft-line government will; choose uc so long as

$$\begin{aligned} & [\Pr(E|\bar{p} = 1, \bar{d}) - \Pr(E|\bar{p} = 0, \underline{d})] [u_\theta(M) - u_\theta(E)] + \theta [f(\underline{d}) - f(\bar{d})] - \\ & - \beta\theta [f(\underline{d}) \Pr(E|\bar{p} = 0, \underline{d}) - f(\bar{d}) \Pr(E|\bar{p} = 1, \bar{d})] \leq \bar{k} - \underline{k}, \end{aligned} \quad (5)$$

and that the hardline government will choose dc so long as

$$[\Pr(E|\bar{p} = 1, \bar{d}) - \Pr(E|\bar{p} = 0, \underline{d})] [u_0(M) - u_0(E)] \geq \bar{k} - \underline{k}. \quad (6)$$

Because $\bar{k} - \underline{k} > 0$ and $u_0(M) - u_0(E) > 0$, equation (6) implies $\Pr(E|\bar{p} = 1, \bar{d}) > \Pr(E|\bar{p} = 0, \underline{d})$. But then $\theta [f(\underline{d}) - f(\bar{d})] - \beta\theta [f(\underline{d}) \Pr(E|\bar{p} = 0, \underline{d}) - f(\bar{d}) \Pr(E|\bar{p} = 1, \bar{d})] > 0$, implying that equations (5) and (6) cannot be simultaneously satisfied (because $u_\theta(M) - u_\theta(E) > u_0(M) - u_0(E)$). So there can be no equilibria of the type (dc, uc) .

(dc,dc). Under this pooling strategy profile, strategies do not fully reveal type; the population maintains posterior belief $\bar{p} = p$ upon observing dc but updates to posterior belief $\bar{p} = 0$ upon observing uc (as this is the intuitive off-equilibrium-path belief).

For a hard-line government, the payoff from choosing dc is

$$U_\theta(dc|(dc, dc)) = \Pr(E|\bar{p} = p, \underline{d})u_\theta(E) + (1 - \Pr(E|\bar{p} = p, \underline{d}))u_\theta(M) - \bar{k}$$

while the payoff from deviating to uc is

$$U_\theta(uc|(dc, dc)) = \Pr(E|\bar{p} = 0, \bar{d})u_\theta(E) + (1 - \Pr(E|\bar{p} = 0, \bar{d}))u_\theta(M) - \underline{k}$$

Thus, the hard-line government may choose dc so long as

$$[\Pr(E|\bar{p} = 0, \bar{d}) - \Pr(E|\bar{p} = p, \underline{d})] [u_0(M) - u_0(E)] \geq \bar{k} - \underline{k}. \quad (7)$$

A similar calculation shows that a soft-line government will choose dc so long as

$$\begin{aligned} & [\Pr(E|\bar{p} = 0, \bar{d}) - \Pr(E|\bar{p} = p, \underline{d})] [u_\theta(M) - u_\theta(E)] + \theta [f(\underline{d}) - f(\bar{d})] - \\ & - \beta\theta [f(\underline{d}) \Pr(E|\bar{p} = p, \underline{d}) - f(\bar{d}) \Pr(E|\bar{p} = 0, \bar{d})] \geq \bar{k} - \underline{k}. \end{aligned}$$

Because

$$\theta [f(\underline{d}) - f(\bar{d})] - \beta\theta [f(\underline{d}) \Pr(E|\bar{p} = p, \underline{d}) - f(\bar{d}) \Pr(E|\bar{p} = 0, \bar{d})] > 0$$

and $u_\theta(M) - u_\theta(E) > u_0(M) - u_0(E)$, only the constraint on the hard-line government binds. So equation (7) gives the conditions for the existence of this discriminating pooling equilibrium.

(uc,uc). Under this pooling strategy profile, strategies do not fully reveal type; the population maintains posterior belief $\bar{p} = p$ upon observing uc but updates to posterior belief $\bar{p} = 1$ upon observing dc (as this is the intuitive off-equilibrium-path belief). Calculations similar to those above indicate that the soft-line government may choose uc so long as

$$\begin{aligned} & [\Pr(E|\bar{p} = p, \bar{d}) - \Pr(E|\bar{p} = 1, \underline{d})] [u_\theta(M) - u_\theta(E)] + \theta [f(\underline{d}) - f(\bar{d})] - \\ & - \beta\theta [f(\underline{d}) \Pr(E|\bar{p} = 1, \underline{d}) - f(\bar{d}) \Pr(E|\bar{p} = p, \bar{d})] \leq \bar{k} - \underline{k} \end{aligned} \quad (8)$$

while the hard-line government will choose uc so long as

$$[\Pr(E|\bar{p} = p, \bar{d}) - \Pr(E|\bar{p} = 1, \underline{d})] [u_0(M) - u_0(E)] \leq \bar{k} - \underline{k}.$$

Because

$$\theta [f(\underline{d}) - f(\bar{d})] - \beta\theta [f(\underline{d}) \Pr(E|\bar{p} = 1, \underline{d}) - f(\bar{d}) \Pr(E|\bar{p} = p, \bar{d})] > 0$$

and $u_\theta(M) - u_\theta(E) > u_0(M) - u_0(E)$ only the constraint on the soft-line government binds. So equation (8) gives the conditions for the existence of this undiscriminating pooling equilibrium. ■

A.4 Proof of Proposition 1.

First consider the government pooling strategy profiles (uc, uc) and (dc, dc) which by Lemma 3 can be sustained in equilibria of the subgame in which the extremist faction has launched a campaign of violence. If the extremist faction chooses t and government types pool on (uc, uc) (resp., (dc, dc)), the posterior belief is $\bar{p} = p$ and the level of damage is $D = \bar{d}$ (resp. $D = \underline{d}$), whereas if the extremist faction chooses nt , the posterior belief is also $\bar{p} = p$ but the level of damage is lower, $D = 0$. When government types pool, therefore, by Lemma 2, $\Pr(E)$ is strictly higher when the extremists play t than when they play nt . This combined with the results in Lemma 3 demonstrate both that $(t; uc, uc)$ and $(t; dc, dc)$ support Perfect Bayesian equilibria as stated in the Proposition, and also that $(nt; uc, uc)$ and $(nt; dc, dc)$ cannot support Perfect Bayesian equilibria.

By Lemma 3, the separating strategy profile (dc, uc) cannot support an equilibrium of the relevant subgame, so it cannot form a component of a Perfect Bayesian equilibrium of

the overall game. But consider the separating strategy profile (uc, dc) , which can support an equilibrium of the relevant subgame. If the extremist faction plays nt they have probability of victory $\Pr(E|\bar{p} = p, D = 0)$ whereas if they play t , with probability p the government is revealed to be of the soft-line type and the extremists have probability of victory $\Pr(E|\bar{p} = 1, D = \underline{d})$ whereas with probability $1 - p$ the government is revealed to be of the hard-line type and the extremists have probability of victory $\Pr(E|\bar{p} = 0, D = \bar{d})$. As a result the extremist faction will choose to play t if and only if

$$\Pr(E|\bar{p} = 0, D = \bar{d}) - \Pr(E|\bar{p} = p, D = 0) \geq p [\Pr(E|\bar{p} = 0, D = \bar{d}) - \Pr(E|\bar{p} = 1, D = \underline{d})]. \quad (9)$$

Consider fixed values of all of the parameters of the model. It is clear that equation (9) will be fulfilled for certain distribution functions Φ , depending on their shapes, but not for others. For Perfect Bayesian equilibrium $(t; uc, dc)$, this condition must hold simultaneously with the separating equilibrium conditions found in Equation (4). But note that Equation (4) includes conditions on $\Pr(E|\bar{p} = 0, \bar{d})$ and $\Pr(E|\bar{p} = 1, \underline{d})$ but not on $\Pr(E|\bar{p} = p, D = 0)$, which it leaves as a free parameter. So obviously the two conditions can be simultaneously fulfilled, and therefore Perfect Bayesian equilibria $(t; uc, dc)$ of the model do exist. An identical argument with the inequality of (9) reversed establishes that Perfect Bayesian equilibria $(nt; uc, dc)$ also exist. ■

A.5 Note on Equilibrium Ranges.

It will be useful for the following Propositions to define the following notation:

$$u_\theta^\times \equiv u_\theta(M) - u_\theta(E)$$

$$u_0^\times \equiv u_0(M) - u_0(E)$$

$$\gamma_1 \equiv [\Pr(E|\bar{p} = 0, D = \bar{d}) - \Pr(E|\bar{p} = 1, D = \underline{d})]u_\theta^\times$$

$$\gamma_2 \equiv [\Pr(E|\bar{p} = 0, D = \bar{d}) - \Pr(E|\bar{p} = 1, D = \underline{d})]u_0^\times$$

$$\gamma_3 \equiv [\Pr(E|\bar{p} = 0, D = \bar{d}) - \Pr(E|\bar{p} = p, D = \underline{d})]u_0^\times$$

$$\gamma_4 \equiv [\Pr(E|\bar{p} = p, D = \bar{d}) - \Pr(E|\bar{p} = 1, D = \underline{d})]u_\theta^\times$$

$$c_1 \equiv \theta [f(\underline{d}) - f(\bar{d})] + \beta\theta [f(\bar{d}) \Pr(E|\bar{p} = 0, \bar{d}) - f(\underline{d}) \Pr(E|\bar{p} = 1, \underline{d})]$$

$$c_4 \equiv \theta [f(\underline{d}) - f(\bar{d})] + \beta\theta [f(\bar{d}) \Pr(E|\bar{p} = p, \bar{d}) - f(\underline{d}) \Pr(E|\bar{p} = 1, \underline{d})]$$

We note that $u_0^\times > u_0^\times > 0$ (by assumption); that $c_1 > c_4 > 0$ (because $\beta \in (0, 1)$ and by Propositions 1, 2, and 4); and that $\gamma_i > 0 \forall i$ (the u^\times parts are positive definite as stated above; the difference-of-probability terms are positive definite by Propositions 1 and 2. Further, $\gamma_1 > \gamma_2$ by the ordering of the u^\times terms; $\gamma_2 > \gamma_3$ by Proposition 1; and $\gamma_1 > \gamma_4$ by Proposition 1. As such, $\gamma_1 > \gamma_2 > \gamma_3$ and $\gamma_1 > \gamma_4$ with the ordering of γ_4 ambiguous relative to γ_2 and γ_3 .

These definitions allow us to rewrite the Perfect Bayesian equilibrium conditions as follows:

Pooling: (t;uc,uc): $\gamma_4 + c_4 \leq \bar{k} - \underline{k}$.

Pooling: (t;dc,dc): $\bar{k} - \underline{k} \leq \gamma_3$.

Separating: (t;uc,dc): $\gamma_2 \leq \bar{k} - \underline{k} \leq \gamma_1 + c_1$ and $\Pr(E|\bar{p} = 0, D = \bar{d}) - \Pr(E|\bar{p} = p, D = 0) \geq p [\Pr(E|\bar{p} = 0, D = \bar{d}) - \Pr(E|\bar{p} = 1, D = \underline{d})]$.

Separating: (nt;uc,dc): $\gamma_2 \leq \bar{k} - \underline{k} \leq \gamma_1 + c_1$ and $\Pr(E|\bar{p} = 0, D = \bar{d}) - \Pr(E|\bar{p} = p, D = 0) \leq p [\Pr(E|\bar{p} = 0, D = \bar{d}) - \Pr(E|\bar{p} = 1, D = \underline{d})]$.

Note that the existence conditions for the separating equilibria and for $(t; dc, dc)$ are disjoint as stated in the text because $\gamma_3 < \gamma_2$, and that the conditions for $(t; uc, dc)$ and $(n; tuc, dc)$ are also disjoint (except in the knife-edge case when the extremist faction is indifferent between t and nt). And when $\gamma_4 + c_4 > \gamma_3$, no pure-strategy Perfect Bayesian equilibrium exists when $\bar{k} - \underline{k} \in (\gamma_3, \min(\gamma_2, \gamma_4 + c_4))$. The remaining insights described in the text are derived in the Proof of Proposition 5. ■

A.6 Proof of Proposition 3

Consider the equilibrium conditions as written in the above “Note on Equilibrium Ranges,” and note that none of the γ 's, c 's, or \Pr 's are functions of the k 's. Fix $\gamma_4 + c_4$ and $\gamma_1 + c_1$. Then for all $\bar{k} - \underline{k} \in (0, \min(\gamma_3, \gamma_4 + c_4))$ the unique Perfect Bayesian equilibrium must be $(t; nc, nc)$. And for all $\bar{k} - \underline{k} \in (\gamma_1 + c_1, \infty)$, $(t; uc, uc)$ must be the unique Perfect Bayesian equilibrium. And a separating equilibrium clearly exists for at least some $\bar{k} - \underline{k}$ between these ranges. ■

A.7 Proof of Proposition 4.

Consider the equilibrium conditions as written in the above “Note on Equilibrium Ranges,” and note that none of γ_1 , γ_2 , the k 's, or c_1 are functions of prior belief p . $\frac{\partial \gamma_3}{\partial p} > 0$ and $\frac{\partial \gamma_4}{\partial p} < 0$ and $\frac{\partial c_4}{\partial p} < 0$ by Proposition 1; these relations imply that the equilibrium ranges of $(t; uc, uc)$ and $(t; dc, dc)$ both grow as p increases. The range over which a separating equilibrium exists is unchanged, and the effect of changes in p on which separating equilibrium exists is ambiguous because both sides of the relevant inequality condition increase in p and the ordering depends on the details of the distribution Φ . ■

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