

# The Political Economy of Terrorism: A Selective Overview of Recent Work

Ethan Bueno de Mesquita\*

February 8, 2008

While a small political economy literature on terrorism and counterterrorism dates back over two decades, there has been an explosion of such research since the attacks of September 11, 2001. This literature has attacked critical questions about terrorism and its consequences—including the structural determinants of terrorism, who becomes a terrorist, optimal counterterrorism policy, terrorism and radical mobilization, government-terrorist negotiations, and the internal politics of terrorist organizations (among others)—in a variety of creative ways. This work, by economists and political scientists alike, offers important new insights into how terrorism works and the issues governments face in trying to protect themselves from political violence.

In this brief essay, I provide a selective (and somewhat idiosyncratic) overview of the recent political economy literature on terrorism, focusing almost exclusively on articles written in the last decade. It is worth noting, at the outset, that my use of political economy here is at once both fairly broad and fairly narrow. It is broad in the sense that I do not focus exclusively on issues that involve both politics and economics—my discussion will not be limited to the interaction of political violence and the economy. It is narrow in the sense that I in fact ignore large parts of the literature on the interactions between terrorism and the economy. Instead I adopt, for lack of a better term, a ‘methodological’ interpretation of political economy, focusing my discussion on scholarship that addresses questions related to terrorism using either formal models or quantitative empirics. This should not be viewed as a judgement regarding the merits of these literatures relative to others, but rather as an accommodation to my comparative advantage (such as it is) in writing such a review.

The essay is organized around several large themes that I take to be critical to understanding the politics of terrorism. In each section I attempt to provide the reader with a sense of the questions that have motivated research and to summarize some of the best work on the topic. My hope is that, in so doing, I will alert readers to open research questions and thereby spur others to contribute to the research agenda.

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\*Associate Professor, Harris School of Public Policy Studies, University of Chicago, e-mail: bdm@uchicago.edu.

# 1 Terror and the Economy

Many key intuitions about how government policy might relate to terrorism (and political violence more broadly) concerns terrorism's relationship to the economy. In discussions of the root causes of terror, it is frequently argued that poverty and lack of access to opportunity are likely critical determinants of terrorist mobilization. Moreover, our concern with terrorism as a policy issue flows as much from the number of people killed by terrorists (which, compared to other types of political violence, is very low) as from concerns that the persistent fear of attack might damage both our politics and our economies. Political economy scholarship has attempted to address both of these relationships and, in some cases, have come to surprising conclusions.

## 1.1 The Effect of the Economy on Terrorism

A central question in trying to understand the root causes of terror is whether economic deprivation leads to radical mobilization. Among recent political economy work, the first wave of studies to address this question attempted to do so by exploiting both cross-country and over-time variation in the state of the economy and in the level of terrorism. These studies report different findings, depending on choices regarding model specification, covariates, and the operationalization of the level of terrorism. Both Blomberg, Hess and Weerapana (2004) and Drakos and Gofas (2006*b*) report a statistically significant negative correlation between measures of economic performance and the level of terrorist violence. Krueger and Laitin (Forthcoming) study both the country in which an attack occurred and the home country of the terrorists who carried out the attack. They find that wealthy countries are more likely to suffer terrorist attacks and that economic performance is not a statistically significant predictor of which countries terrorists emerge from. Li and Schaub (2004) find no relationship between terrorism and foreign direct investment (FDI) or portfolio investment, but do find that economic development in a country, or in its top trading partners, reduces terrorism in that country.

Concerns have been expressed about the reliability of the studies discussed above on two dimensions: the quality of the data and the persuasiveness of the causal identification. The literature has gone about addressing these concerns in two ways. Abadie (2006) attempts to address both of these issues within a cross-country setting. On the data side, rather than using the standard data sources that provide counts of terrorist attacks or fatalities, Abadie bases his dependent variable on the World Market Research Center's Global Terrorism Index, which he writes, "encompasses five factors forecasting motivation, presence, scale, efficacy, and prevention of terrorism." More importantly, Abadie uses an instrumental variables approach to address the potential endogeneity between economic performance and the level of terrorism risk—i.e., poor economic performance may cause terrorism but terrorism (or the anticipation of terrorism) may also depress economic performance. Abadie's instrument for national GDP is whether or not a country is landlocked. The identification assumption is that landlocked status directly affects GDP but does not affect the risk of terrorism through any mechanism other than its effect on GDP. Abadie finds that, con-

trolling for other factors (including level of political freedom), there is no statistically significant relationship between per capita GDP and terrorism risk in the instrumental variables estimates.

The other approach that has been taken to trying to shore up our empirical understanding of the links between the economy and terrorism is to abandon cross-country studies, focusing on micro-level details in important terrorist conflicts. For instance, Krueger and Maleckova (2003) and Berrebi (2003) study the individual characteristics of terrorist operatives from *Hezbollah* and *Hamas*, respectively. They find that that terrorist operatives are, themselves, neither poor nor poorly educated. Rather, their economic and educational statuses tend to lie around, or even slightly exceed, the averages in their societies. Krueger and Maleckova (2003) argue that, since terrorists are neither poor nor poorly educated, the economy and education must not be important determinants of terrorism. Indeed, in a recent book, Krueger argues, based on this evidence, “there is not much question that poverty has little to do with terrorism” (Krueger 2007).

Bueno de Mesquita (2005*b*) presents a formal model to argue that, although the evidence regarding the socio-economic status of individual terrorists is of considerable interest, it does not entail the conclusion that poverty is not an important determinant of terrorist mobilization. The key assumption in Bueno de Mesquita’s (2005*b*) model is that terrorist organizations screen potential recruits on a “terrorist ability” dimension that is positively correlated with socio-economic status (i.e., better educated people make better terrorists). Benmelech and Berrebi (2006) present empirical evidence showing that better educated terrorist are indeed more effective in carrying out difficult tasks. To see the problem this creates for the argument that the relatively high socio-economic status of terrorist operatives implies that the economy is not an important determinant of terrorism, suppose that terrorist organizations accept recruits only over some competence threshold and that, as suggested by the data, competence is positively correlated with income or education. Suppose, further, that economic downturns increase mobilization (perhaps by decreasing opportunity costs). In such a world, because of screening, the terrorist operatives actually observed will be neither poor nor poorly educated, just as in the data described above. Yet, the conclusion will not be true: the supply of acceptable operatives and, therefore, the expected level of violence will be affected by economic factors. Of course, this theoretical argument does not establish that poverty causes terrorism. But it does suggest that the data presented thus far do not settle the question.

Berman (2003) and Iannaccone and Berman (2006) take a somewhat different approach, embedding a model of terrorism and mobilization within a club model inspired by the literature on the economics of religion (e.g., Iannaccone 1992). They argue that religions are likely to succeed at creating violent factions because their organizational structure is well suited to solving the fundamental problem that terrorists face—mobilizing supporters while weeding out low-commitment types. Successful religions do this by providing public goods to their members while imposing significant barriers to entry that exclude all but the most committed. Berman and Laitin (2008) provide empirical evidence that terrorist groups organized along these lines are more deadly and effective. Thus, the argument goes, the economy matters to the extent that a failed economy and failed government produce demand for social services not provided by the government, creating a

niche for extremist factions to fill. In these models, governments can curtail religious extremists by increasing religious competition and by providing public goods to substitute for those offered by violent groups.

## 1.2 The Effect of Terrorism on the Economy

The endogeneity described above between terrorism and the economy naturally raises another question that political economists have attempted to answer empirically: what is the effect of terrorism on a country's economy? This literature is reviewed in considerable detail in Enders and Sandler (2006), so I touch on it only briefly here. One key observation that comes out of this literature is that it is very difficult to give a full accounting of the macro-economic effects of large scale terrorist attacks. Consider, for example, the attacks of September 11th, 2001. In calculating the costs, one has to consider a variety of direct effects: productive lives lost, infrastructure destroyed, work stoppages, and so on. Even if one can form reasonable estimates of these direct effects, there are indirect effects as well—time and efficiency lost to increased airport security, deadweight loss from the taxation needed to make payouts to victims of the attacks, short-term (and perhaps long-term) devaluation in the stock market due to changes in expected performance and risk, and so on—that are considerably more difficult to measure.

More precise estimates of the impact of terrorism on the economy are to be had from studies of longer-run (though less intense) terrorist conflicts. Such studies have taken two forms: focusing either on specific types of economic activity or on the economy of a specific country. With regard to the former, Abadie and Gardeazabal (2005) argue that terrorism affects the allocation of investment capital by increasing risk and decreasing expected returns. Their estimates indicate that increased terrorism risk in a country significantly decreases foreign direct investment in that country. Enders and Sandler (1996) also find large negative effects of terrorism on foreign direct investment in Greece and Spain. Similarly, Enders, Sandler and Parise (1992) find that terrorism significantly reduces tourism in Greece, Italy, and Austria.

Two recent studies estimate the effect of terrorism on economic growth in particular conflict zones. Abadie and Gardeazabal (2003) consider how ETA terrorism has diminished economic growth in the Basque Country of Spain. They are able to do so because ETA terrorism has been overwhelmingly concentrated in this one region. Given this, they statistically construct a “synthetic” Basque Country based on other Spanish regions and compare its growth (free from terrorism) to the growth of the actual Basque Country. Their analysis suggests that ETA terrorism has decreased per capita GDP in the Basque Country by 10 percentage points since the onset of Basque terrorism in the 1960s. Eckstein and Tsiddon (2004) employ an intervention-style time series methodology to study the effects of terrorist attacks on the Israeli economy. They find that terrorism depresses growth, but that the effects of any given attack are relatively short lived.

## 2 Counterterrorism

The threat of terrorism, of course, raises important policy questions. And for a government facing an imminent threat, perhaps the most pressing is how to allocate counterterror resources. Below, I begin by surveying recent work on how to think about the problems of designing an optimal counterterrorism program in the face of a strategic terrorist adversary. I then consider how various other strategic considerations may lead to suboptimal counterterrorism outcomes in equilibrium. Finally, I discuss a central counterterrorism dilemma for government's facing a separatist terrorist group: how to engage in counterterrorism while avoiding the counterproductive outcome of inflaming anti-government sentiments.

### 2.1 Optimal Counterterrorism

The key political economy insight into the problem of optimal counterterrorism comes from Enders and Sandler's (1993) argument that terrorists respond strategically to counterterrorism measures, thereby generating "substitution effects." That is, terrorists, on observing an increase in a particular government counterterrorism program, can switch tactics, pursuing attacks less affected by the government's efforts. A variety of empirical studies find that counterterrorism generates such effects (Enders and Sandler 1993, 2002; Enders, Sandler and Cauley 1990; Im, Cauley and Sandler 1987). For instance, Enders and Sandler (1993) demonstrate that when the United States installed metal detectors in airports in the 1970s, hijackings decreased but other forms of terrorism increased.

Both Bueno de Mesquita (2007) and Powell (2007*a,c*) build on this insight in order to characterize the optimal division of counterterrorism resources in game theoretic models. Bueno de Mesquita's (2007) analysis (which is primarily focused on why we observe suboptimal counterterrorism) is restricted to a zero-sum games between the terrorists and the government where the government allocates resources prior to the terrorists attacking. Powell (2007*a*) and Powell (2007*c*) allow for more generality, encompassing games that are simultaneous or sequential move (respectively) and that need not be zero sum. Interestingly, as the Powell papers demonstrate, the optimal allocation of counterterror resources is not sensitive to dynamics nor is it sensitive to being zero sum. In all three papers, the optimal counterterrorism strategy involves minimizing the expected value of attacking the targets that are most valuable to the terrorists. Powell (2007*c*) describes the following algorithm for achieving this goal. The government first allocates resources to defending the target with highest expected value to the terrorists (where expected value is a function of underlying value to the terrorists and vulnerability to attack). Doing so decreases that target's vulnerability and, therefore, its expected value to the terrorists. The government does this until that target has the same expected value to the terrorists as the target with the next highest expected value. It then spends counterterror resources on these two targets until they have the same expected value as the target with the next highest expected value. It continues this procedure until it runs out counterterror resources.

Bueno de Mesquita (2007) and Powell (2007*c*) also both consider the possibility that the govern-

ment can invest in counterterrorism that is not target-specific (e.g., border security or intelligence). One advantage of such counterterror tactics is that it is more difficult for terrorists to substitute away from them. Thus, as the number of targets that need to be defended increases, counterterrorism that is not target specific becomes more attractive. Powell (2007*c*) argues that another advantage of some such measures is that they may provide protection against events other than terrorist attacks. For instance, increased investment in emergency response is of value when there are natural disasters as well as when there are terrorist attacks.

## 2.2 Suboptimal Counterterrorism

Of course, while understanding the optimal counterterrorism policy is critical, a variety of political and strategic considerations may lead to equilibrium counterterrorism strategies that are far from optimal.

One impediment to implementing an optimal counterterrorism policy is that counterterrorism may impose externalities across countries. For instance, Sandler and Siqueira (2006) draw a distinction between proactive and defensive counterterrorism. They argue that proactive counterterrorism (such as driving terrorists out of safe havens or investing in intelligence prior to attacks) is a public good among countries and, consequently, may be undersupplied. Sandler and Lapan (1988) and Rosendorff and Sandler (2004) suggest that one country's proactive counterterrorism may impose negative externalities on other countries by diverting attacks toward foreign targets. Thus, they argue, in some circumstances proactive measures may be oversupplied from the global perspective. Siqueira and Sandler (2007) embed these concerns in a model of domestic politics. They argue that voters will demand that politicians under-invest in proactive counterterrorism for two reasons: to free ride on other countries' counterterrorism investments and to avoid reprisal attacks from terrorists. In a related argument, Azam and Delacroix (2006) find a positive correlation between the level of foreign aid a country receives and the number of terrorist attacks originating from that country. They argue that this relationship is caused by donors delegating counterterrorism responsibilities to government's whose countries are hosts to terrorist groups.

Bueno de Mesquita (2007) also embeds the choice of counterterrorism policy in a model of electoral accountability. He divides counterterrorism policy into those measures that are tactic-specific and observable by voters and terrorists (e.g., hardening targets) and those measures that are neither tactic-specific nor observable by voters and terrorists (e.g., intelligence). The analysis suggests that strategic substitution among different modes of attack by terrorists and agency problems between the voters and government create a situation in which the politically optimal counterterrorism strategy pursued by the government in response to electoral and institutional incentives is quite different from the security maximizing counterterrorism strategy. In particular, the government allocates resources to observable counterterror in excess of the social optimum. This problem is particularly severe when terrorists have a large set of tactics from which to choose.

Powell (2007*b*) considers a different source of inefficiency in counterterrorism policy: informational asymmetries. In Powell's (2007*b*) model, governments have private information about the

vulnerability of various targets that the terrorists might like to attack. Consequently, if the government follows the optimal policy described above—defending those targets where the expected value of an attack (i.e., vulnerability times value) is highest for the terrorists—it will reveal information about which sites the terrorists ought to attack. The government, then, has competing interests. On the one hand, it wants to defend vulnerable targets. On the other hand, it wants to maintain secrecy. Powell (2007*b*) shows that if, independent of these signalling concerns, the marginal security return to resources devoted to defending more vulnerable targets is smaller than the marginal return to resources devoted to defending less vulnerable targets (i.e., if, on the margin, vulnerable targets are harder to defend), then secrecy dominates security. The government allocates resources by “pooling” on a common allocation for all targets (thereby revealing no information to the terrorists). The allocation chosen is the one that is optimal against the average level of target vulnerability—thus, it devotes too little to highly vulnerable targets and too much to safe targets, relative to the complete information optimal allocation. It is worth noting, however, that the existence of private information benefits the government (in this sense, then, this paper is not really about ‘suboptimal’ counterterrorism). If this were not the case, the government would play the equilibrium from Powell (2007*a*), revealing all of its private information and allocating counterterrorism resources optimally given this revelation.

### **2.3 The Counterterrorism Dilemma: Political Freedom, Security, and Mobilization**

A major problem for governments, in setting counterterrorism policy, is not where to allocate of resources, but how to use those resources without creating adverse indirect effects. The dilemma is that counterterrorism tactics that increase short-run security may diminish long-run security by fanning the flames of conflict (e.g., border closings, bombings that kill innocent bystanders and destroy infrastructure, curfews, etc.). Both empirical and theoretical political economists have made efforts to understand this problem and its implications for the politics of terrorism.

Several game theoretic models study this problem under the assumption that counterterrorism measures always radicalize terrorist supporter. Rosendorff and Sandler (2004) argue that, because harsh government crackdowns increase support for terrorists, they also increase the risk that the terrorists will have the capacity to engage in large scale attacks that do significant damage. Of course, they argue, such crackdowns also increase the probability that the government prevents terrorist attacks more generally, creating a trade-off for the government. de Figueiredo and Weingast (2001) also assume that counterterrorism radicalizes moderates, making negotiation more difficult. They then show how this assumption can give rise to cycles of violence between terrorists and a government in equilibrium.

Other theoretical models attempt to endogenize the effects of counterterrorism on terrorist mobilization, allowing for competing effects. 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*b*) also

argues that government crackdowns can lead to an increase or decrease in support for terrorism. In his model, counterterrorism can increase terrorism by diminishing economic opportunities for potential terrorists (e.g., by destroying infrastructure) and thereby lowering the opportunity costs of mobilization and by ideologically inflaming the population of terrorist supporters. It can decrease terrorism by decreasing the likelihood that the terrorist organization succeeds at achieving its goals (conditional on a level of mobilization), thereby making mobilization less attractive. In the model, whether crackdowns increase or decrease terrorist violence depends on their relative impact on these competing margins.

The mechanisms underlying these models suggest a further question about terrorist tactics. In particular, it is often argued, by scholars and practitioners alike, that terrorists can exploit the government's counterterrorism dilemma by using 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. That is, as suggested by the 19th century anarchists, terrorism is powerful in part because it is "propaganda of the deed." English (2003), for instance, writing about the Troubles in Northern Ireland, argues that "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." Similarly, describing the early tactics of the Basque separatist group ETA, Zirakzadeh (2002) writes, "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." Of course, such examples raise the question, why do governments engage in counterterrorism if and when it might be counterproductive?

Bueno de Mesquita and Dickson (2007) model 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 their signaling model, 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—i.e., whether the government is in fact interested in the aggrieved population's welfare and how willing the government is to compromise. They find that terrorism is likely to be useful as a tool for mobilization when the population the terrorists claim to represent live in ethnic enclaves, making it difficult for the government to engage in counterterrorism without inflicting negative externalities on the population. They also argue that terrorist vanguards are likely to emerge in situations where radicals have some, but not overwhelming, support and some, but not overwhelming, reason to believe the government will crack down, since it is in these situations that radicals need to mobilize support and have some hope of successfully doing so.

Siqueira and Sandler (2007) model a conflict between terrorists and governments in which governments face a trade-off between counterterror spending, which increases security, and the

provision of public goods, which bolsters moderation in public opinion. Terrorist attacks can increase radicalism by diverting government money toward counterterrorism and away from public goods. Two scenarios can occur in equilibrium in their model. In the first, the terrorist group's grass roots support is "fickle" in the sense of diminishing if the government cracks down. As a result, terrorists take the initiative to diminish violence in order to avoid being crushed by the government and losing popular support. In the second scenario, government countermeasures increase support for the terrorists by diminishing social programs that would have benefited the population. Here, terrorist violence is valuable because it forces the government to engage in countermeasures that further fan the flames of conflict.

Empirical scholars have also invested considerable effort into assessing the relationship between political freedom, counterterrorism policy, and terrorist violence.

The foundational studies in this literature investigate whether democracy increases or decreases terrorism (for example, see Eubank and Weinberg 1994, 1998; Sandler 1995; Eyerman 1998). In an attempt to reconcile competing claims in this literature, Li (2005), using two different measures of democracy, finds two competing effects of democratic governance on terrorism. On the one hand, he argues, democratic participation seems to reduce the number of terrorist incidents in a country. On the other hand, increased constraints on the government increase terrorism. Drakos and Gofas (2006*a*) argue that all such estimates may be unreliable because autocracies systematically under-report terrorist incidents. Moving away from measures of democracy, Abadie (2006) and Krueger and Laitin (Forthcoming) find in cross-country studies that measures of terrorism are negatively correlated with measures of political freedom.

There are, of course, reasons to be concerned about the validity of inferring a causal relationship from the results above—repression may increase terrorism, but terrorism (or its threat) may also increase repression. In an attempt to avoid such problems, several scholars have turned to more micro-level data.

Zussman and Zussman (2006) study the reaction of Israel's stock market to targeted assassinations of Palestinian militant leaders. They find that the market responds positively when Israel kills a Palestinian leader who is associated with the military wing of an extremist faction. However, the market responds negatively when Israel kills a Palestinian leader who is associated with the political wing of an extremist faction and when civilians are killed in the process of a targeted assassination.

Lyll (2007) uses a random source of indiscriminate government violence in the Chechen civil war—inebriation of Russian soldiers who fire artillery at random—to assess its effects on Chechen mobilization. Surprisingly, he finds that randomly shelled villages and their home districts are less likely to be the source of future violence. Moreover, neither the lethality nor the duration of indiscriminate violence are significant positive predictors of future violence.

In two complementary papers, Jaeger and Paserman (2006, 2007) use a time series of daily attacks to assess the impact of Israeli government violence on Palestinian violence and vice-versa. They find that violence associated with the Palestinian faction Fatah "Granger causes" Israeli

government violence. However, they do not find this relationship for violence associated with Hamas or Palestinian Islamic Jihad, nor do they find that Israeli government violence “Granger causes” Palestinian violence. They interpret the latter finding as evidence against the claim that government violence spurs terrorism. However, using data on the geographic distribution of attacks and on public opinion, Jaeger et al. (2007) find that Palestinian deaths from Israeli government violence do increase support for radical factions among the Palestinian population.

### 3 Government-Terrorist Negotiations

The reason that political terrorists engage in violence in the first place is to extract concessions from the government or to change the political order. This brings us to the question of the nature of government-terrorist negotiations. Here, political economists have studied questions such as the following: When should or will governments negotiate with terrorist groups? What are the strategic issues associated with attempting to conciliate a militant adversary? How do the internal politics of terrorist organizations affect the dynamics of peace making? With whom should a government negotiate if it wants to end a terrorist conflict?

A standard intuition, and a policy to which many governments claim to subscribe, is that governments should never negotiate with terrorists. If governments make such a commitment, the argument goes, potential terrorists will be deterred because they will believe that violence will be unlikely to further their goals. Lapan and Sandler (1988), however, argue that such a policy is not credible—once, for example, terrorists have taken hostages, governments will want to negotiate, as long as the benefits of gaining the hostages release outweigh the costs in terms of concessions made as well as any signal of government irresoluteness that increases incentives for future terrorism. Atkinson, Sandler and Tschirhart (1987) present empirical results on how various features of the strategic environment (e.g., terrorist demands, bluff attempts, types of hostages taken) affect the ultimate willingness of governments to make concessions in hostage-taking environments.

As an empirical matter, governments do negotiate with terrorists. The question thus becomes what happens in such negotiations. Lapan and Sandler (1993) and Overgaard (1994) focus on the effects of private information, arguing that the level of violence chosen by terrorists may signal information about how strong or resource-rich the terrorists are. Higher levels of violence, then, may lead to greater concessions by signaling information about expected future violence. Arce and Sandler (2007) consider a model where the government faces a trade-off between target-specific counterterrorism and gathering intelligence, where intelligence does not prevent attacks, but informs the government about the terrorists’ type so the government can more accurately choose when conciliation is likely to be an effective counterterrorism strategy.

Kydd and Walter (2002) and Bueno de Mesquita (2005*c*) also both focus on government uncertainty about the type of terrorist group they are facing. But they do so in the context of a terrorist movement made up of competing factions: one moderate and one extremist. In both of these models, the government is uncertain whether the moderate terrorists with whom they are

negotiating are willing and able to curtail extremist violence following concessions. In Kydd and Walter's (2002) framework, this gives rise to equilibria in which there is "spoiler violence"—the extremist faction attempts to derail peace negotiations by increasing violence in order to convince the government that the moderates are not valuable negotiating partners. Bueno de Mesquita (2005*c*) attempts to identify situations in which the negotiating process is best able to provide incentives for moderates to crackdown on extremists. He finds that both promised future concessions and the threat of replacement with a substitute negotiating partner provide incentives for moderates to exert effort in order to decrease extremist violence. This is particularly true when the potential substitute negotiating partner's expected capacity to curtail violence is moderate (i.e., neither too high nor too low) because in such a circumstance extra effort by the current negotiating partner can actually swing the government's decision about whether to continue with negotiations.

Bueno de Mesquita (2005*a*) also studies a case where the terrorist organization is made up of heterogeneous factions, but focuses on issues other than government uncertainty. In his model, terrorist organizations become more militant following government concessions because only moderate terrorist factions accept concessions, leaving extremist factions in control of the residual terrorist group. Governments nonetheless are willing to make concessions because their counterterrorism capabilities improve because of the collusion of former terrorists. The model also allows the government to choose its level of investment in counterterrorism endogenously and explores how both the expected level of violence and the aid of former terrorists affects this investment decision. The model yields additional hypotheses regarding the terms of negotiated settlements between governments and terrorists, when moderates accept concessions, the effect of concessions on the duration of terrorist conflicts, the incentives for moderate terrorists to radicalize their followers, reasons for governments to encourage radicals within a terrorist organization to challenge the moderate leadership, and changes in moderate control over extremists before and after negotiated settlement.

Berrebi and Klor (2006) present a model in which the public is uncertain whether terrorism is being produced by a moderate or an extremist faction. Hence, the public is uncertain whether or not concessions are likely to be effective at curtailing violence because they are uncertain, after granting concessions, whether the terrorists are likely to keep the peace. Their model yields two key predictions: First, the relative support for concessions is expected to decrease after periods with high levels of terrorism because the population concludes that the terrorists are extremists. Second, the expected level of terrorism is higher when a government inclined to make concessions is in office because the terrorists want to signal that not making concessions will be costly in the long run.

Interestingly, Kydd and Walter (2002), Bueno de Mesquita (2005*a*), and Berrebi and Klor (2006) all argue that evidence from the Israeli-Palestinian conflict supports the causal mechanisms identified in their models.

Both Bueno de Mesquita (2005*a*) and Bapat (2006) are concerned with the question of how governments and terrorists can credibly commit to honor the terms of a negotiated settlement (for a discussion of such commitment problems in civil wars, see Walter 1997; Fearon 1998). In

Bueno de Mesquita (2005*a*), negotiation is credible because terrorists who accept concessions use their knowledge of the inner workings of the remaining terrorist factions as bargaining leverage by withholding valuable counterterrorism aid if the government reneges on concessions. Similarly, the government can withhold concessions if former terrorists do not aid in counterterror. One implication of this approach is that, since concessions may not be credible in the absence of ongoing violence, it may be difficult for a government to end a conflict by reaching a negotiated settlement with all terrorist factions. In Bapat (2006), concessions are made credible through the efforts of a host country. In particular, if target governments are able to credibly threaten sanctions against hosts of international terror groups that they cannot threaten against the terrorists themselves, the host governments may have an incentive to force the terrorists to honor negotiated settlements. Bapat (2006) presents empirical data to explore several hypotheses regarding the relationship between the international context and government-terrorist negotiations that flow from his model.

## 4 Internal Politics of Terrorist Organizations

Much of the literature discussed above suggests that, in order to understand government-terrorist negotiations and the strategic use of violence, it is critical to understand the inner workings of terrorist organizations. The political economy literature on the internal politics of terrorist groups was pioneered by Chai (1993), who applied some of the basic insights of the new institutional economics to terrorist organizations and teased out a variety of implications for terrorist strategies. A recent literature has begun to refocus on these questions.

Shapiro and Siegel (2007) argue that it is common for terrorist organizations to underfund operatives relative to available resources. This phenomenon, they suggest, is a consequence of principal-agent relationships within terrorist organizations. Terrorist leaders in their model delegate financial and logistical tasks to middlemen, but because security concerns require weak linkages, the leaders cannot perfectly monitor these agents. The middlemen's interests sometimes diverge from the leaders, leading to rent-seeking. Given this, terrorist leaders will sometimes not fund (or will underfund) attacks that they otherwise would have been willing to support. One implication of their model is that the relationship between resources and the level of violence may not be continuous. When an organization is flush with resources, these agency problems do not loom large and small decreases in resources do not dramatically diminish the quality of funding for attacks. However, if resources become sufficiently scarce, cooperation within the terrorist organization begins to break down and suboptimal funding becomes an issue (i.e., funding for attacks diminishes even beyond just the direct effect of having fewer resources). Thus, they argue, restricting terrorists' funds may be an ineffective counterterrorism tactic until a critical threshold is reached, at which point it becomes highly effective.

As already mentioned above, a literature linking terrorism to the economics of religion addresses similar concerns (e.g., Berman 2003; Iannaccone and Berman 2006). This literature argues that religious organizations, with their strong barriers to entry, are well designed to reduce agency

problems, by selecting for members who are likely to be highly committed and willing to contribute to the group's mission without having ulterior motives.

Instead of agency relationships within a terrorist organization, Siqueira (2005) and Bueno de Mesquita (2008) focus on the relationship among terrorist factions. Siqueira (2005) studies the interaction of militant and political wings of a terrorist organization. He shows that the actions of one of these factions can have spillovers on the other, whether or not the factions coordinate with one another. As a result, the existence of competing factions can increase or decrease the overall level of violence. The precise relationship between factionalization and violence depends on how internal divisions affect public (and donor) support for the terrorist movement and the complementarities or substitutabilities between attacks by the various factions. The model, thus, adds nuance to the argument in Bloom (2005) that factional competition is a key force behind escalation in terrorist conflicts.

Bueno de Mesquita (2008) studies the formation of a splinter faction in a model that endogenizes affiliation and mobilization as well as the strategic selection of ideological positions by terrorist leaders. The model highlights that, for strategic reasons, changes in the structural environment (e.g., the economy, the ability of terrorist leaders to provide public goods) often entail important trade-offs: many factors that decrease terrorist mobilization do so at the cost of increasing ideological extremism. For instance, a strong economy is found to decrease terrorist mobilization, increase the extremism of terrorist factions, and decrease the likelihood of a splinter faction forming. He argues that this suggests that economic shocks have competing micro-level effects on the expected level of violence that might not be observed in the type of macro-level data employed in many of the studies of relationship between terrorism and the economy described above. Thus, understanding the internal politics of terrorist organizations is critical, not only for understanding government-terrorist negotiations, but also for assessing the root causes of terror.

## 5 Conclusion

I have attempted to provide an overview of some of the questions currently of interest to political economists studying terrorism. It is my hope that, in so doing, I will encourage others to participate in this research agenda. There are, of course, an enormous number of questions, both the theoretical and empirical, left unanswered. Let me touch on just a few of them.

As discussed above, on both the empirical and theoretical sides, we lack a thorough understanding of the relationship between a variety of structural and strategic features of the political-economic environment (e.g., the economy, democracy, political freedom, counterterrorism) and terrorism. These relationships, plagued as they are by endogeneity, are extremely difficult to identify empirically. The problem on the empirical side is that everything seems to cause everything else—terrorism may cause and be caused by economic change; counterterrorism may cause and be caused by terrorism; counterterrorism may cause economic suffering by destroying infrastructure or may alleviate the same by encouraging investment; counterterror crackdowns may diminish politi-

cal freedom causing an increase in terrorism resulting in more counterterrorism which damages the economy and diminishes political freedom in a seemingly never ending chain. On the theoretical side, a deep question about the nature of blame in terrorist conflict remains poorly understood. How, in equilibrium, do potential terrorist supporters choose whether to blame the government that engaged in repression or the terrorists whose attack provoked the government? Since, in most protracted conflicts, both sides can almost always point to a prior act by the other actor as a precipitant for their action, it is not clear what inferences the population should make. But understanding these dynamics is critical for understanding when and how terrorism is a useful tool for mobilization and for designing an effective counterterrorism policy. While some progress has been on of these issues, through careful theorizing and valiant attempts to locate exogenous sources of empirical variation, much work remains to be done.

The same is true in the other areas I have mentioned. For instance, we have a variety of theories of how informational asymmetries and the structure of terrorist organizations shape patterns of terrorist violence and government-terrorist negotiations. Yet we lack systematic data on the organization of terror groups, government investment in counterterror, concessions made, or long-run patterns of violence (especially for groups not engaged in “transnational terrorism”). As a result, empirical assessments of these models have by-and-large been restricted to sophisticated case studies. In order to make further progress, in addition to additional theorizing and analysis of existing data, a significant investment in theoretically-informed data gathering is essential.

Thinking more broadly, it seems to me that a long-run goal of terrorism studies should be to connect more directly with the enormous literatures on civil wars and other forms of domestic political violence. Terrorism is perhaps best thought of as a particular tactic in the insurgent arsenal. An open research question is when insurgents find terrorism to be a useful tactic and when other forms of insurgency are deemed more likely to be effective. To the extent that insurgents are making this choice endogenously, dividing our data into, for example, those data sets covering terrorism and those covering civil wars may be a serious mistake, introducing important sources of bias if factors that we use to explain various forms of violence also affect what type of violence is employed. To see why this might be the case, suppose there is some factor that affects whether insurgents choose to become urban terrorists or non-urban guerillas. To make the example stark, suppose this factor can take two values, high or low, and that when it is high insurgents choose terrorism and when it is low they choose guerilla warfare. Now suppose we have a data set that reports, for each country, whether there is terrorism and the value of this factor. Studying this, we would find that high values of this factor cause terrorism and might, therefore, argue that good policy involves lowering this factor. Of course, had we studied a data set covering only guerilla warfare, we would have reached the opposite conclusion. A combined data set might reveal that this factor is not in fact a predictor of the occurrence of domestic political violence at all, but rather only a predictor of what tactic is chosen by insurgents. Thus, it is important that both terrorism and civil wars scholars begin to think seriously about the interactions between these two forms of

political violence, both theoretically and in the data.<sup>1</sup>

Let me end by noting that my survey has touched on only one branch of terrorism research. A large body of scholarship, working with methods other than formal models and quantitative empirics, has made important contributions to our understanding of the politics of terrorism that have gone all but unmentioned here. Readers interested in pursuing the study of political terror will, of course, need to find their way to those literatures as well.

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<sup>1</sup>Of course, terrorism and civil war are also not mutually exclusive. Terrorism is a common tactic used in civil wars (e.g., Algeria or Chechnya).

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