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Social Science for Counterterrorism

Putting the Pieces Together

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Prepared for the Office of the Secretary of Defense

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Summary

Objectives

Social science has much to say that should inform strategies for counterterrorism and counterinsurgency. Unfortunately, the relevant literature has been quite fragmented and seemingly inconsistent across sources. Our study was an attempt to do better—not only by surveying the relevant literatures, but by “putting together the pieces.” This meant taking an aggressively interdisciplinary approach. It also meant representing the knowledge analytically in a new way that enhances communication across boundaries of discipline and organization. Analysts will recognize what we did as constructing conceptual models. We sought also to identify points of agreement and disagreement within the social-science community, to suggest priorities for additional policy-relevant research, and to identify improved ways to frame questions for research and analysis.

Approach

We organized our study around the following questions that transcend particular disciplines:

1. When and why does terrorism arise (that is, what are the “root causes”)?
2. Why and how do some individuals become terrorists, and others not?

3. How do terrorists generate and sustain support?
4. What determines terrorists' decisions and behaviors? What are the roles of, for example, ideology, religion, and rational choice?
5. How and why does terrorism decline?
6. Why do individuals disengage or deradicalize?
7. How can "strategic communications" be more or less effective?

For the most part, the monograph's chapter structure follows these questions. However, we added a chapter on the economics of terrorism that reviewed some of the best quantitative empirical research bearing on several of the questions. In addition, we devoted a chapter to thinking about how to represent the relevant social-science knowledge analytically so that it could be readily communicated. Finally, we devoted a chapter that looks across the various papers and highlights particular cross-cutting topics of interest.

Against this background, the following paragraphs summarize our results. The individual papers in the monograph include extensive citations to the original literature and far more nuance than can be captured in a summary.

How Terrorism Arises (Root Causes)

As discussed in the paper by Darcy M.E. Noricks (Chapter Two), "root causes" are not the proximate cause of terrorism. Rather, they are factors that establish an environment in which terrorism may arise. Such factors may be political and economic (that is, "structural"), but may also reflect the pervasive characteristics of culture and relevant sub-groups. The subject is very controversial in the literature.

A basic distinction exists between root-cause factors that are *permissive* and those that are *precipitant*. The former set the stage, whereas the latter are the miscellaneous sparks that trigger such developments as insurgency or the use of terrorism. Table S.1 summarizes primary permissive factors.

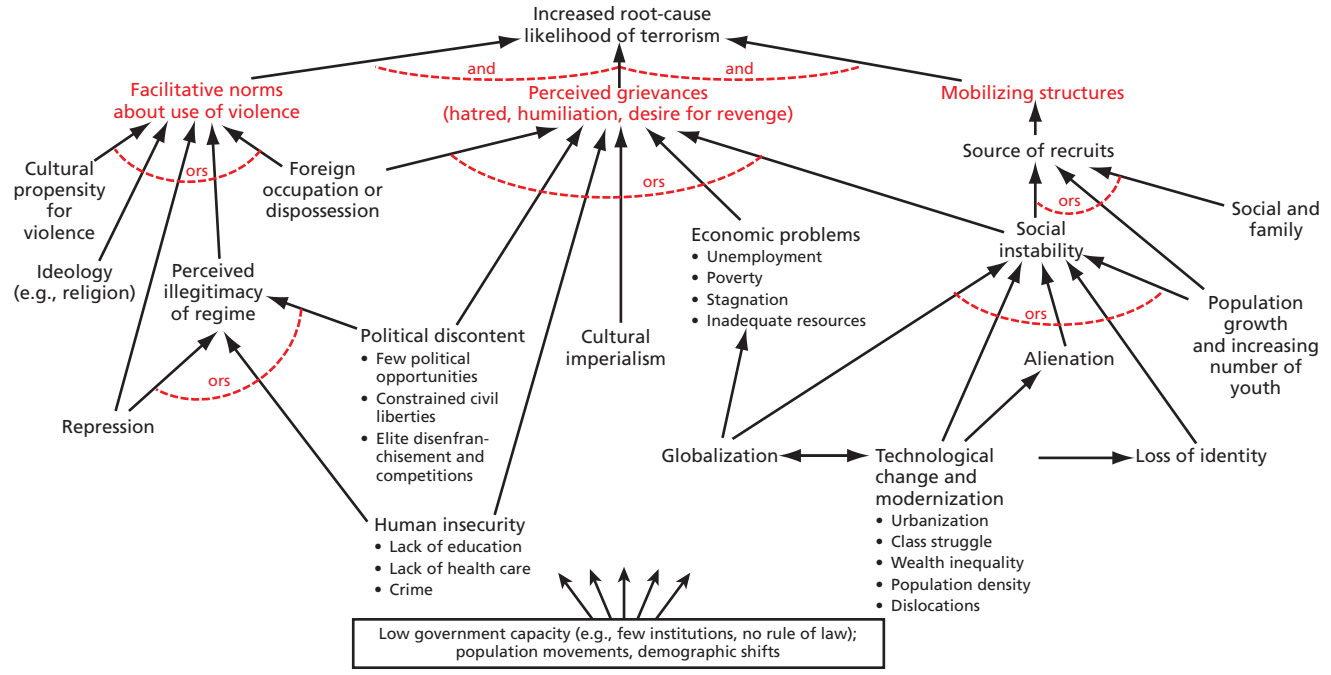
Table S.1
Permissive Factors

Class of Permissive Factor	Factor
Global systemic factors	Global systemic explanations
State structural factors	Perceived illegitimacy of the regime
	Repression
	Democracy
	Modernization
	Economics
Social and cultural factors	Education
	Human insecurity
	Grievances and anxieties
	Mobilizing structures and social ties
	Ideology, religion, and culture

Figure S.1 arranges the primary root causes in a “factor tree”—a kind of influence diagram discussed in the “analytic” paper by Paul K. Davis. The intention is to include all potentially relevant factors. The relative significance of these factors varies greatly with context, but all of them are thought to be significant sometimes—whether directly or indirectly, and whether as an independent causal factor or part of a combination.

If two nodes on the tree are connected, more of the node at the tail of the arrow leads to more of the node at the point of the arrow. Such trees—diagrammatic versions of top-level conceptual models—allowed us to pull together strands of research from different disciplines and perspectives and at different levels of detail. The factor trees encourage the reader to shift away from single-factor questions toward questions of a more systemic nature—questions that recognize that multiple factors must be addressed simultaneously and that none of the simple explanations are sufficient.

Figure S.1
A Factor Tree for Root Causes of Terrorism



NOTE: "and" conditions are approximate; sometimes, not all factors are necessary.
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As a whole, Figure S.1 is to be read as saying that whatever role root causes play in the phenomenon of terrorism, the likelihood that terrorism will ensue as a result of root causes will increase if the social group in question believes that violence is legitimate (even if others see it as terrorism), if it has substantial motivations (perhaps stemming from grievances), *and* if social structures exist permitting the terrorist actions. To a first approximation, however, all three factors are *necessary*, as indicated by the “ands.”

Reading down the tree, we see multiple arrows contributing to each of these major factors. These are to be read as *alternative* permissive factors. Reading from the left, the acceptability of terrorism may be driven by a cultural propensity for violence, by ideology (including but not necessarily religion), by political repression and regime illegitimacy, *or* by foreign occupation. The operative word is “or.” None of these are *necessary*. Any one might be *sufficient*, or it might be that combinations of two or more of them would be necessary. One factor may substitute for another.

As another example, social instability may be due to or exacerbated by alternative factors as diverse as an increase in the youth population, alienation (for example, within an expatriate community), or globalization. Globalization can cause economic problems for those who are displaced and can disrupt traditional societies (for example, by undercutting individuals’ sense of identity and by increasing alienation). As indicated at the bottom of the tree, many other systemic or exogenous factors can contribute. For example, an ineffective government and the absence of the rule of law may engender violence, grievances, and the emergence of protest or insurgency movements.

Figure S.1 is our synthesis rather than an extract from the literature. Others would construct the tree somewhat differently (perhaps, for example, treating religion as distinct, rather than as an example of ideology). Some authors would insist that particular items in the tree have been proven unimportant by quantitative studies. We retain the factors in question, however, because there is logic to including them and because the “disconfirming conclusions” sometimes extrapolate unreasonably from particular contexts or levels of analysis. A factor might well not matter “on average,” but might matter a good deal to

important individuals or groups in particular contexts. Also, a factor might not show up as independently significant from statistical analysis across many cases because it is only one of several contributing factors (that is, its apparent effect is diluted by there being multiple contributors).

Factor trees such as Figure S.1 are schematic, qualitative, analytical models. Because they juxtapose different pathways upward, their use in discussions can help avoid fruitless arguments about which factors matter and which do not. When experts argue on such matters, they are often talking past each other because they have studied terrorism in different contexts and with different disciplinary paradigms.

Despite the considerable literature on root causes of political violence and terrorism more narrowly, we found serious shortcomings. Table S.2 sketches what might be done to improve the situation. First, because context matters so greatly, data analysis needs to distinguish better among (1) classes of political violence (for example, terrorism that is or is not part of an insurgency), (2) the types of terrorist

Table S.2
Shortcomings in the Current Knowledge Base on Root Causes

Step Needed	Example
Distinguish better among classes of political violence	Terrorism versus rebellion, ethnic conflict, social movements, and civil war
Distinguish types of terrorism	Separatist versus religious and left-wing movements
Distinguish different levels and components of terrorist system	Leaders versus lieutenants, foot soldiers, facilitators, financiers
Improve methodology and measurement	Datasets skewed toward Irish Republican Army (IRA) and Israel-Palestine cases; excessively aggregated measures (for example, national gross domestic product)
Address understudied causal factors	Rule of law, strength of related institutions
Address discrete knotty problems	Better characterization and measurement of the roles of ideology, religion, and culture; assessment of whether, for example, some religious tenets are better vehicles for terrorism than others

organizations (for example, separatists versus extremist religious or left-wing movements), and (3) the levels and components of the terrorist system (for example, the leaders rather than the lieutenants or foot soldiers). These distinctions need to be recognized by those posing questions and commissioning research or analysis.

Second, existing quantitative analysis depends heavily on datasets skewed toward the data-rich cases of the IRA and the Israeli-Palestinian conflict. Much of the existing analysis is also highly aggregated, which introduces measurement error. For example, economic factors prove not to be a causal factor of terrorism in the large, but we know that individuals sometimes move toward or away from terrorist organizations in part according to whether personal-level opportunities exist. Third, a number of important causal factors have not been adequately studied. These include whether an area enjoys the rule of law and whether it has strong related institutions. Finally, a few knotty problems need to be addressed more carefully and rigorously. Some of these involve the roles of ideology, religion, and culture.

In considering how to address the shortfalls, we note that

- A good deal of existing data should be reanalyzed and recoded with the distinctions suggested by Table S.2.
- However, much more data is needed, especially the kind obtained only by scientific fieldwork, rather than merely mining readily accessible materials or collecting anecdotal material.

In some important cases, relevant data exist but are treated as classified or are otherwise restricted. Declassification or sanitation should often be possible.

Why People Become Terrorists

Root-cause factors affect terrorism indirectly by contributing to an environment, but how do we conceive causes at the level of individuals? Why, given the dangers and moral issues, do some people become

terrorists? Here, the relevant literatures include psychology, social psychology, sociology, and religious studies.

Some of the important research conclusions are “negative”: It has simply not proven feasible to identify terrorists by general characteristics, as discussed in the papers by Todd C. Helmus and by Claude Berrebi. Terrorists tend to be males, aged 17–30 (although sometimes women do become terrorists). Notably, however:

- Terrorists are *not* particularly impoverished, uneducated, or afflicted by mental disease. Demographically, their most important characteristic is normalcy (within their environment). Terrorist leaders actually tend to come from relatively privileged backgrounds.

These conclusions are firmly supported by empirical analysis, although there are many nuances, as discussed by Berrebi.

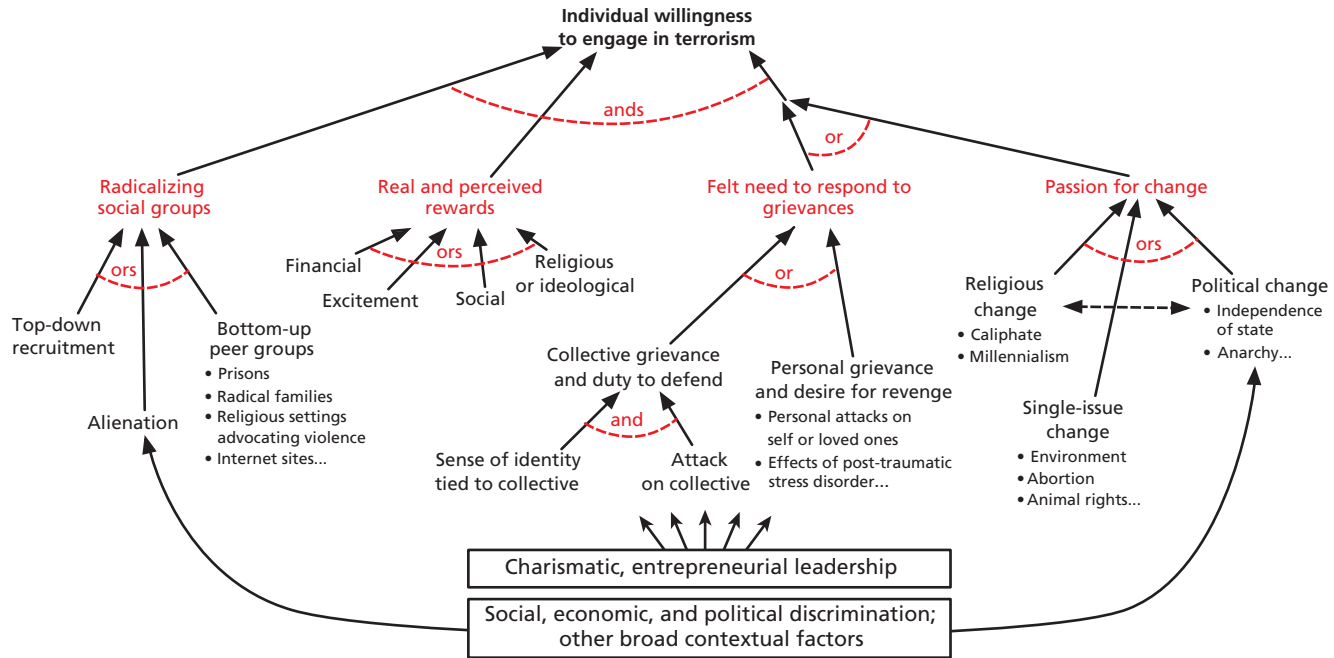
What, then, are the factors at play? As in the research on root causes, a myriad of factors have been identified and discussed. To make sense of them, we can use the factor tree shown in Figure S.2, which comes from the Helmus paper.

The first-order factors in this figure (listed in red) are group socialization processes, expected rewards, a felt need to respond to grievances, and a passion for change.

The first factor is well established: Abundant evidence indicates that socialization processes are a necessary precondition for radicalization (by which we mean the process of becoming willing to conduct a terrorist act). Group processes assure individuals that their chosen path is correct, build up socially motivated courage, and help to dehumanize selected targets.

Another factor that is usually necessary is the perception of rewards for participation in terrorism. Three examples are the friendships and camaraderie solidified in the terror cell or organization, the social status derived from membership (for example, the respect shown to members of Hamas and Fatah), and the heavenly gains of martyrdom. Group processes and rewards ultimately combine with one of two key motivational factors (the right side of the factor tree) that are

Figure S.2
Factor Tree for Individual Willingness to Engage in Terrorism



different psychologically. The first is a strong sense of necessity, as with a perceived duty to defend a people or achieve revenge for either personal or collective wrong. The second is a passion for change, which might be religious (as in establishing an Islamic caliphate) or political (as in revolution against repression). These two factors form the ideological basis for terrorism and constitute overt reasons for terror action. Neither is in itself a necessary factor but at least one is likely required.

Dipping more deeply into the factor tree, a number of observations are possible. First, group processes take place in essentially one or both of two ways: There may be top-down recruitment strategies initiated by a terror organization or cell, there may be bottom-up processes dominated by peer bonds and other social influences, or both (note the “ors”). Within the bottom-up trajectory, groups of individuals meet and interact in any of various settings that include prisons, radical families, religious houses advocating violence, and the Internet (bulleted items in the figure are examples but do not include all the possibilities).

Groups within either top-down or bottom-up processes may be influential as a result of perceptions of social and religious alienation. Feelings of alienation in Muslim communities throughout Europe and the Middle East draw individuals to places where they can meet and identify with like-minded people. This alienation is likely fed by perceptions of social, economic, and political discrimination.

One motivational set (the third of four branches) involves perceived grievances. These may be collective, as in defending one’s people or rejecting an occupier, or personal, as in a desire for revenge against those who killed or imprisoned friends or family. Personal traumatization, often manifested in post-traumatic stress disorder, may exacerbate motivations for revenge.

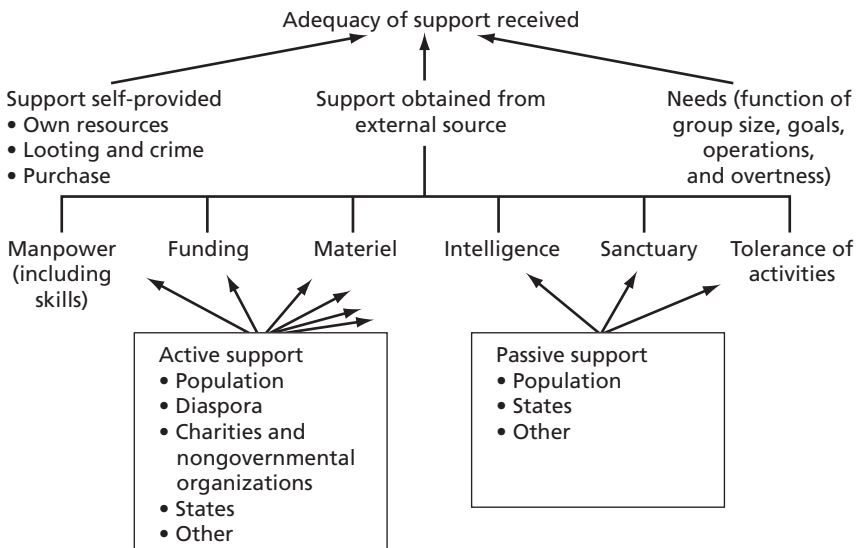
An alternative motivational set involves the passionate desire for change (the right branch), which may be related to political change (for example, independence), religious change (for example, establishing an Islamic caliphate with Sharia law), or even single-issue change (regarding the environment or abortion, for example).

Finally, as shown at the bottom, below the tree, some factors affect most or all of the items above. These include many contextual factors, but also the existence of charismatic and entrepreneurial leaders.

How Terrorists Obtain and Maintain Support

Given that individuals are willing to become terrorists, how does a terrorist organization gain support, what support is needed, and how is the support sustained? Christopher Paul's paper addresses these questions, drawing heavily on the sociology literature among others. Figure S.3 indicates the types of support needed and from where it may come. Of the support types, some is provided by "active" support, whereas some is provided merely by a population or state looking the other way or perhaps sharing information. Not all organizations are equal. Some terrorists are able to obtain much of what they need through straightforward purchases, from wealthy members, or through criminal activities. Also, small self-organizing groups need less support than does, say, an insurgent army. However, some things must always be obtained from external sources. The issues of sanctuary and toleration are especially important. When the population turns against a terrorist organization, intelligence tips increase markedly. Further, the terrorist

Figure S.3
Support of Terrorist Organization



organization itself must be more cautious and must worry increasingly about internal penetration. *That public support is very important to terrorist organizations is perhaps the strongest conclusion from social science affecting the counterterrorism policy issue.*

The factor tree for this discussion is shown as Figure S.4. The top-level factors include the perceived *need for resistance and action*, *identification* with the terrorist organization, and *pressures* to support that organization. Usually, all the top-level factors are needed (note the approximate “and” relationship), although there are exceptions, such as when intimidation by the terrorist organization may be sufficient to force support. Identification with the terrorist organization is especially important, as indicated by the larger arrow.

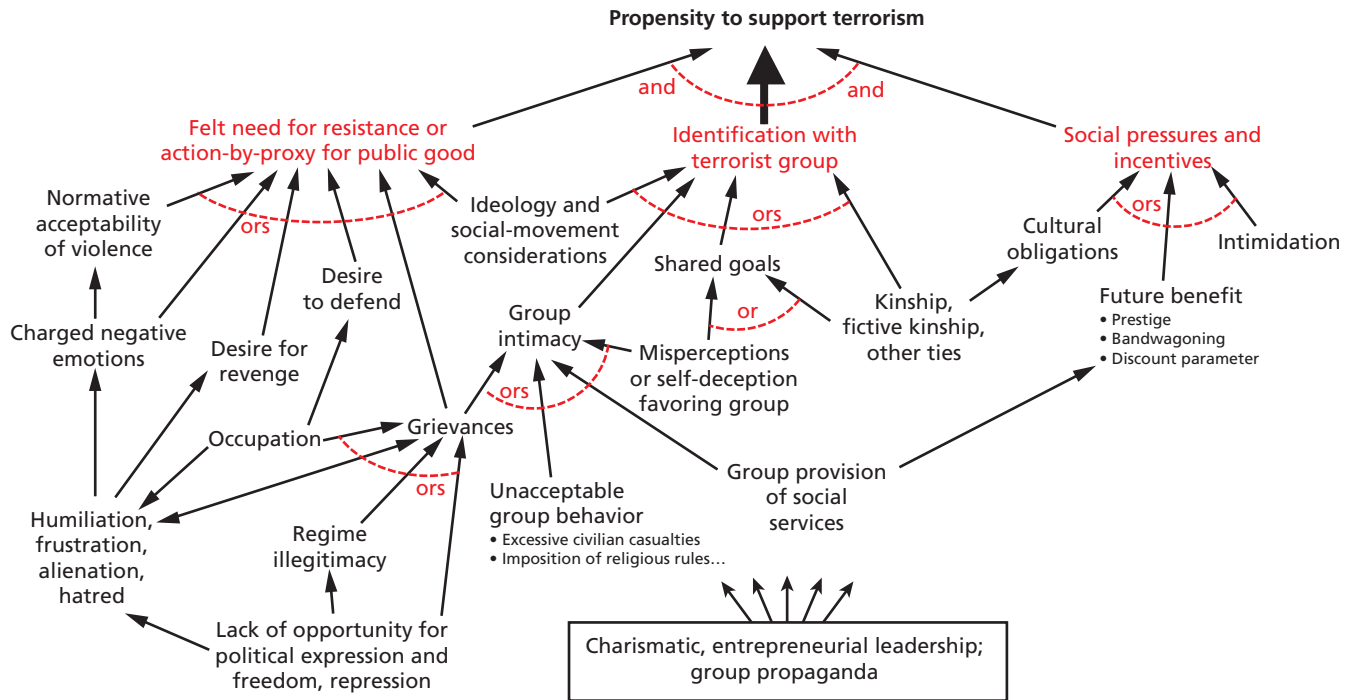
In examining support-related counterterrorism possibilities, it becomes clear that one size does not fit all. The most important implication here is that

- *Policymakers should first ascertain the specifics of the particular case they are dealing with.*

That is, rather than applying a generic concept (perhaps one in vogue in Washington), they should identify the type of group (size, goals, nature of operations, and covertness), the extent of support needs (manpower, funding, materiel, intelligence, sanctuary, and tolerance of activities), and how the group’s needs are being met. It then becomes much easier to specify interventions to reduce support motives. To put it differently, although ideal cases have a long and valued role in academic studies, applying the lessons of social science is another matter. Not all details matter, certainly, but which details *do* matter differ with the case. The conclusion might seem banal but for the fact that this principle of starting with context is often violated.

A second implication of the review is that, given knowledge of the case-specific matters, *it is wise to focus on factors that matter and that can be changed.* Cultural characteristics change over decades or centuries, not weeks, but whether a state provides essential social services, whether a state can protect a population from intimidation, and

Figure S.4
Factors Affecting Support of Terrorism



whether a terrorist organization and its actions are considered legitimate and effective may all be better targets for change efforts.

How Terrorists Make Decisions

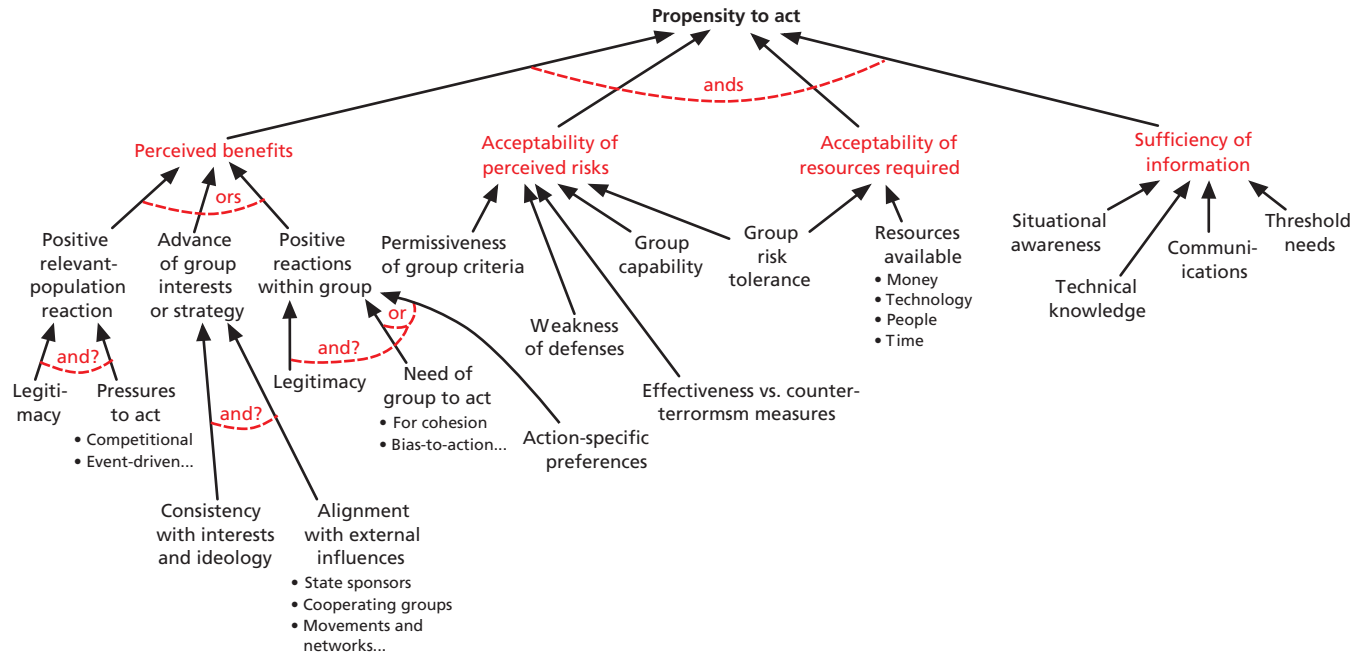
A Rational-Choice Framework

Given that terrorist organizations exist, how do they behave, to include making decisions? This is the subject of papers by Claude Berrebi and Brian A. Jackson, which drew on literatures from organization theory, political science, game theory, and economics, among others.

To make sense of the many factors and processes at work, we adopted a structure described in detail in Jackson's paper and summarized in Figure S.4. As with the earlier factor trees, we show and/or conditions (always to be regarded as approximate). The overall framework for organizing is one of rational choice, although a better terminology is perhaps "limited rationality," for reasons discussed below.

Despite these caveats, much of what terrorist organizations do *can* be understood well in a rational-analytic framework, so long as allowance is made for misperceptions and cognitive biases. The structure in Figure S.5 describes such a framework. We believe that this is a useful way to organize and collect intelligence and to understand behaviors at different levels of detail. The major factors shown are perceived benefits, acceptability of risks, acceptability of expending the resources required for success, and the sufficiency of information in making a judgment. This modest set of four factors is influenced, however, by many subtle lower-level factors. For example (left side of the figure), a decision may reflect judgments (perceptions) about the degree to which a contemplated action will cause positive reactions among the relevant population. That judgment can be quite wrong: If the group overreaches and kills too many of the wrong people (such as al-Qaeda in Iraq's attacks in Amman, Jordan, against other Muslims) or innocent civilians generally, the reaction may be quite negative even if highly successful. But public reaction is only one of many concerns. Even if morally debatable within the organization, would the action advance the organization's interests? Or, to change the language somewhat to

Figure S.5
Factors Influencing Terrorist Decisions and Behavior



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correspond with other perspectives, is the action *demand*ed by God or Allah or *demand*ed by one's sense of honor in redressing past grievances, as discussed above? Would the action benefit the group itself positively, or would it cause dissension and splintering? Moving rightward in the figure, we see a mixture of objective and subjective subfactors at work. For example, a group's willingness to accept perceived risks is to some extent subjective, whereas assessment of a target's success, of operational security, or of the group's capabilities may be rather objective.

Explaining Empirical Results with a Rational-Choice Model

Some of the best quantitative research on terrorism and counterterrorism has been accomplished by economists applying rational-choice models to empirical data. Some such work has gone well beyond the usual statistical analysis of heterogeneous data with uncertain significance to analysis of special datasets that can be seen as reflecting "natural experiments"—that is, phenomena under a range of conditions akin to the range that an idealized social experiment would call for. The result is an ability to get closer than usual in social-science research to being able to infer causality or disprove claims of causality.

Claude Berrebi's paper describes several recent studies in which such techniques have been used to assess apparent rationality. The results support the rational-choice model for interesting cases that draw on experiences in the long-running conflict between Israel and Palestine. Some selected results are the following:

- At the group level, tactical- and operational-level rationality explains where and when Palestinian terrorists chose to attack. That is, attacks were not random but rather quite "sensible" when considering such issues as target value, attack cost, and risk.
- Attack timing was also explained, but only with inferences about the value terrorists place on targets of different types. For example, terrorists are not content to leave certain high-profile areas untouched, even though it would be easier and, in a narrow sense, more fruitful to attack others.
- Terrorist use of suicide bombers is well explained by understanding suicide bombers to be special assets with particular value

against “hard targets” (that is, targets difficult to attack in more conventional ways). Perhaps even more interesting is evidence of how “human capital” considerations matter. Not all volunteers for suicide attacks are equal and mounting a suicide-bombing attack involves a large operation. As would be expected from rational-choice theory, “better” suicide bombers (older and more-educated terrorists who are, according to the data, more likely to succeed) are used preferentially against larger, important, and lucrative civilian targets.

- Strategic-level rationality has been manifested in explicit statements by Osama bin Laden, among others (for example, he crowed about the positive exchange ratio between the cost of the September 11 attacks and the cost of its consequences to the United States). More generally, the rationality of terrorist objectives relating to imposing economic hardships on the targeted countries is supported by several studies. That is, there is an empirical basis for terrorists’ imagining that they will be able to achieve many of their objectives through violent action.

Such solid evidence of rationality is both encouraging and discouraging. On the one hand, we can expect terrorists to be clever and to make good operational choices that exploit target weaknesses. More positively, however, it means that with good intelligence and analysis, we can expect to understand their calculations and how to affect them. Further, at least some terrorists should be expected to respond to incentives. It is not just wishful thinking to imagine this.

Limitations of the Rational-Choice Model

There are limits to the rational-choice model. These involve bounded rationality (for example, the inability to gather the information needed for idealized rational-analytic calculations, and misperceptions), the many cognitive biases that afflict human decisionmaking (for example, the consequence of selecting data that reinforce preferences, of demonizing adversaries), the character of individual leaders (such as their risk-taking propensity), emotions (for example, the fervor that commanders seek to build before battles or the fears that can paralyze), physiological

circumstances (such as exhaustion and, variously, paranoia or paralysis), and leaders' idiosyncrasies (for example, those of Shoko Ashahara of Aum Shinrikyo). The study of such considerations has led to Nobel prizes and is reflected in the relatively new field of behavioral economics. Despite these limitations, the rational-choice models fare better than erroneously assuming that terrorists and terrorist organizations behave chaotically. Their rationality may be "limited" or "bounded," but it is understandable and needs to be understood. The primary admonition here is simple: In applying the "rational-choice model," analysts should take pains to use realistic assessments of *terrorist* perceptions and values rather than our own.

How Does Terrorism End?

Interestingly, the historical evidence describing how terrorism ends uses somewhat different terms than descriptions of how it arises. Naively, one might think to bring an end to terrorism simply by working to reduce all the factors causing it in the first place. However, as noted above, many factors matter to different relative degrees in different contexts (including aspects of context dependent on "random" events). Which pathway through the factor trees will prove to be most relevant?

As discussed in the paper by Gaga Gvineria, it is possible to summarize the modes by which terrorism declines as in Table S.3, which includes examples:

- Terrorist movements often decline as the result of at least partial success and partial accommodation reflected in state policy. Also, new alternatives may arise as a result of political compromise, civil war, or economic prosperity. This is arguably playing itself out today: It is difficult to imagine negotiations with al-Qaeda central, but states can address local grievances with a diminution of terrorism by al-Qaeda affiliates.
- Sometimes, terrorist movements are defeated by direct counterterrorism activities, which may be repressive or which may at least walk a tight line and sometimes transgress.

Table S.3
Classes of Cases and Historical Examples

Dominant Mode of Terrorism Decline	Notable Historical Examples
Substantial success (primary objectives met, by whatever means)	Original Irish Republican Army (IRA) (circa 1921) EOKA (Cyprus) Croatian Ustasha African National Congress (ANC) Nepalese Maoists Irgun/Stern Gang (Israel)
Partial success	Palestinian Liberation Organization (PLO) Provisional Irish Republican Army (PIRA)
Direct state counterterrorism activities (sometimes repression)	Revolutionary Armed Task Force (RATF) Symbionese Liberation Army (SLA) George Jackson Brigade Narodnaya Volya Uruguayan Tuparamos Muslim Brotherhood
Disintegration through burnout	Weather Underground Front de libération du Québec (FLQ) Red Brigades
Loss of leaders	Shining Path Real Irish Republican Army (Real IRA) Aum Shinrikyo
Unsuccessful generational transition	Red Brigades The Second June Movement The Japanese Red Army Weather Underground Symbionese Liberation Army Baader-Meinhof group (Red Army Faction)
Loss of popular or external support	Weather Underground Front de libération du Québec Real IRA Red Brigades Shining Path Armenian Secret Army for the Liberation of Armenia (ASALA)
New alternative to terrorism	Front de libération du Québec Provisional IRA Palestinian Liberation Organization Revolutionary Armed Forces of Colombia Khmer Rouge Armed Islamic Group Maoists in Nepal Guatemalan Labor Party/Guatemalan National Revolutionary Unit

- Often, decline occurs because the organization itself weakens—through loss of leaders, “burnout,” unsuccessful generational transitions, and so on.
- Loss of popular support has often been very important. As support wanes, intelligence tends to increase on terrorist activities, penetrations occur, and operations become more difficult. The effects are across the board and may not be easy to measure.

The examples listed in Table S.3 sometimes exhibited more than one of the failure modes listed.

Having reviewed a considerable literature on the ascent and decline of terrorism, we selected two aspects of decline for additional study: deradicalization and strategic communications. We also added an appendix (not summarized here), by Ben Bahney, which takes a first cut at the literature on metrics to suggest ways in which factors arising in the various chapters can be measured.

Disengagement and Deradicalization

As discussed in a paper by Darcy M.E. Noricks (Chapter Eight), deradicalization has not yet been adequately studied by scholars. A number of valuable observations are possible, however. These include the following:

- Disengagement is often a more realistic goal than deradicalization. People often disengage from the activities of terrorism without rejecting their cause or beliefs (although their passion for those may also wane over time).
- The pathways for radicalization and deradicalization are different, which has important implications for policy interventions (Table S.4).

Interestingly, although aggregate-level quantitative research has not found economic factors to be predictive of radicalization, a number

Table S.4
Pathways for Radicalization Versus Those for Deradicalization or Disengagement

Radicalization	Deradicalization/Disengagement
Individual economic factors not predictive	Majority of programs provide economic support for targeted individuals and their families
Ideology/religion sometimes predictive; other times not	Many programs based in ideological re-education Delegitimize use of violence Reinterpret theological arguments
Supportive peer group	Isolation from peer group Role model important Saudi program: self-esteem counseling Saudi and Singapore: target broader family network
Traumatic event catalyzes	Traumatic event catalyzes
Failure of nonviolent strategies	Failure of violent values and beliefs

of countries have deemed it important to provide economic support for both individuals and their families in their deradicalization programs. Also, although ideology and religion are only sometimes root motivators for joining a terrorist cause, most of the deradicalization programs include ideological “re-education.” This may be necessary even if the dangerous ideas were picked up as part of indoctrination rather than having had deeper roots. Peer-group issues loom large in both radicalization and deradicalization. Extracting individuals from the terrorist group is important, as is providing new role models. In some programs, self-esteem counseling and counseling in a family-network context is included. The last two items of the table are parallel: Traumatic events can catalyze radicalizing *or* disengagement, and people learn: Just as a failure of nonviolent protests can lead to violence, so also can failure of violent activities lead to disengagement.

A final conclusion from the social science so far is that “pull factors” are more effective than “push factors.” That is, people are more likely to disengage from terrorist activities because they are positively attracted to a “normal life,” new employment, or a new social group

than they are to disengage because of the threat of punishment, counter-violence, or a negative reputation.

Strategic Communications

It is now widely recognized that it is essential (necessary, if not sufficient) to reduce public support for terrorism. “Strategic communications” is one of the primary mechanisms discussed for that purpose. It is also controversial. We use the term here, even though some associate it with careless and heavy-handed propaganda. Any term that we might choose would likely also be tainted. In any case, we have in mind “good” strategic communications. Michael Egner’s paper reviews relevant literatures and reaches conclusions that would seem innocuous and obvious except that they are so often not heeded.

First, we should distinguish sharply between short-, medium-, and long-term aspects of a strategic communications campaign. Second, once again, context matters. Here, however, it is *audience* that matters. A frequent error in strategic communications has been to develop messages that are suitable for one audience but counterproductive for attempting to influence another. The implication is that messages should be targeted and built by people with a close understanding of those particular audiences. Further, close monitoring and rapid adaptation are important because perceptions and concerns change rapidly. All of this argues against highly centralized message construction, especially when driven by American headquarters intuition rather than local knowledge.

A third observation is that a core issue in strategic communications is the simple reality that actions speak louder than words (although words matter as well). What the United States actually does in the international arena weighs heavily on results. Sometimes those actions are helpful to strategic communications (Tsunami relief) and sometimes they are not (U.S. failure, for some years, to provide basic security for the population after occupying Iraq; or the appearance, for some years, of having tilted excessively toward Israel).

Analytic Representation of the Social Science

As discussed in the paper by Paul K. Davis, we developed new analytical methods to bring a certain amount of order out of chaos. The relevant social science is fragmented and discipline-bound, with researchers tending to study one or a very few factors in great detail but not addressing the whole. Further, their work involves different levels of analysis, which makes for difficult communication across projects. To make things worse, some of the social science is primarily observational, and other parts are quantitative and rigorous but narrow. Finally, there is the problem that most of the quantitative social science depends heavily on statistical analysis, which has shortcomings for understanding and explaining phenomena and reasoning about intervention alternatives.

We also concluded that the current *quantitative* social science was too heavily imbalanced toward statistics-heavy atheoretical empirical work. Both theory-driven and atheoretical approaches are crucial, but the current situation is out of balance.

System Theory

The approach we took in our study, reflected ultimately in all of the papers, was to organize thinking with causal system models, i.e., theory. In mature sciences, “theory” is good; it is the means by which the whole can be seen and the strands pulled together. “Theory” in this sense is anything but ad hoc speculation or simplistic “It’s all about X” assertions. In a good theory-informed approach, one uses data to test the validity of a theory, to identify its shortcomings, and—when the theory appears to be valid—to calibrate its parameters. A good theory provides the integrated framework within which to recognize principles and mechanisms. Alternative theories may be necessary, but that also is good because they sharpen the issues for debate and inquiry.

The factor trees used throughout the monograph illustrate how a great deal of confusion can be eliminated by viewing matters in this way. The approximate use of “and” and “or” relations clarifies many unnecessary disagreements and, at the same time, distinguishes between individually critical factors and factors that can substitute for

one another to achieve the same effect. Counterterrorism that attacks only one of several “or” branches will likely prove ineffective because of the substitutions. On the other hand, successful attacks on any of the “and” branches might prove to quite effective.

Humility About “Prediction”

Another theme of our work is that, even where the social science is “strong,” the paradigm of reliable prediction is usually inappropriate. Too many factors are at work, many with unknown values and some not even knowable in advance. Except in rare cases in which matters are over determined, there will be a substantial “random” component in social behavior. Strategy, then, should be developed with an eye toward achieving flexibility, adaptiveness, and robustness.

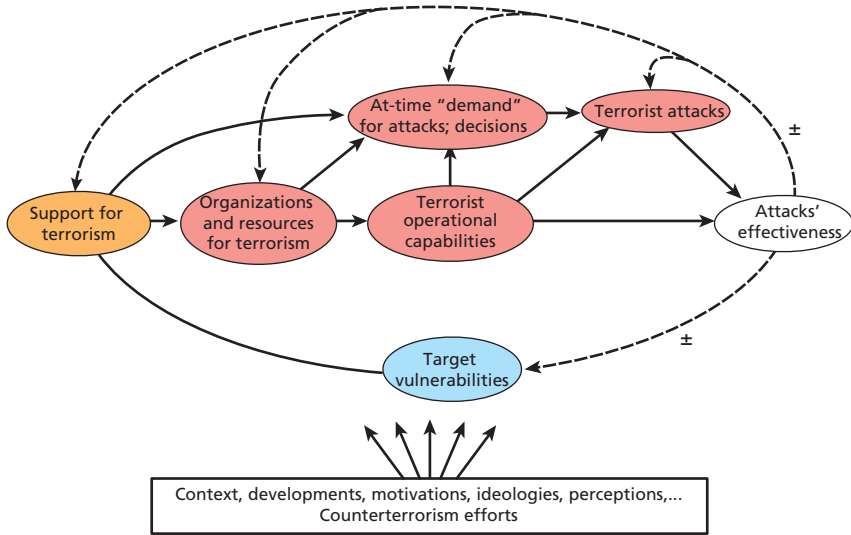
A Systems View

Figure S.6 illustrates another aspect of taking a systems view. In this particular depiction, the terrorist organization (red ovals) has capabilities that depend on its organization and its resources. There is a “demand” at any given time for terrorist actions, whether generated internally or by relevant publics. The resulting attacks will be more or less effective depending on such factors as target vulnerability and counterterrorism efforts. The consequences of attacks will feed back, affecting everything else in the system. Public support for the terrorists may then rise or diminish; targets may be hardened further or become more vulnerable than previously, and so on. Support for terrorism (orange oval to left) includes that from states and relevant publics. To decrease support requires separate attacks on each such source of support. Some of our factor trees can be seen as “zooms” into the macro factor of support in Figure S.6 (excluding state support).

Looking for Leverage

An important concept of analysis amidst uncertainty is the need, as mentioned above, to forgo pursuit of certainty in favor of an approach to improve odds. Where is the “leverage”? Figure S.7 illustrates the kind of analytic display we have in mind. In this, the issue is whether to expect high, medium, or low levels of public support for the terrorist organization and its case. Level of support is indicated by color: Red is

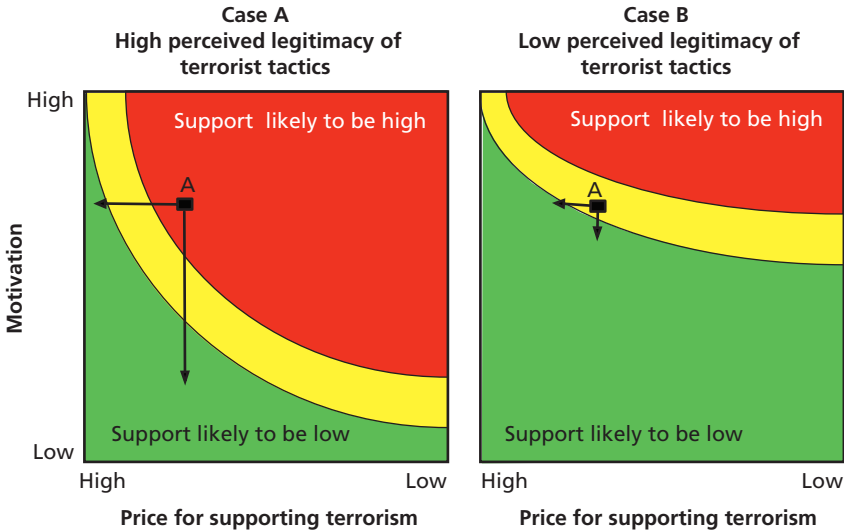
Figure S.6
An Illustrative High-Level Systems View



RAND MG849-S.6

high support (bad from our perspective); green is low support (good). Consistent with the earlier factor-tree discussion, the expectation is based on assessments of the motivation for such public support (such as a felt need to redress grievances or a passion for violent jihad; vertical axis), the expected price that will be paid personally or by one's society as the result of supporting the terrorism (horizontal axis), and the degree to which the violence is regarded as legitimate (left versus right panel). If the baseline situation is Point A, then if legitimacy is deemed high (left panel), motivation must drop substantially or the price of support must increase to very high levels if support is to be low. In contrast, if legitimacy is deemed low (right side), the baseline situation is already less dire, and relatively small changes in motivation or perceived price will shift support level to low. The drop in perceived legitimacy can come about naturally, as when terrorists become too bloodthirsty and indiscriminate.

Figure S.7
Support for Terrorism as Function of Motivation for Supporting, Price of Supporting, and Perceived Legitimacy of Terrorist Tactics



RAND MG849-S.7

Although the particular display in Figure S.7 is notional, it may suffice to illustrate how social-science knowledge could be displayed to clarify issues of relative leverage.

Future Research and Analysis

With respect to future analysis and increasingly ambitious modeling, we recommend a process as described in Table S.5. A core element of the process is exploiting factor-tree representations to define modules for the research community to address separately—but always with the larger perspective in mind. With multiple research thrusts for each of the crucial modules, it should be possible to sharpen the trees, to define how to “measure” the factors (even if subjectively), to sharpen the understanding of how the various factors combine and when they are more or less important, and to work toward *approximate* causal descriptions that improve the odds of correct diagnosis and prescription.

Table S.5
Procedural Elements of an Approach

Tier One
Collect factors, focusing on concepts, not proxies
Define factor levels meaningfully
Organize in multiresolution factor trees
Consider alternative trees for different perspectives
Translate trees into influence diagrams with feedback loops, dotted lines
Annotate diagrams to indicate first-order combining logic
Review, debate, iterate, refine
Tier Two
By module, characterize combining functions with diagrams, logic tables, “operator math,” and pseudo code
Implement simple module-level models, exercise, refine
Compare representations and conduct live model-observation exercises to elicit comments, insights
Do, as above, for system-level model

Doing so would include conferences, peer-reviewed work, and convergence-focused activities, with the goal of reaching integrated conclusions (even though expressed more in terms of odds than confident prediction).

We emphasize the importance of in-depth work on each module, but the higher-level system perspective is crucial as well. On the one hand, little credence should be placed on detailed system models dependent on a myriad of poorly understood details and uncertain inputs in a myriad of subcomponents. Such system models can certainly be constructed and will “run,” but the social science (and experience with big-model analysis under uncertainty) does not justify confidence in their results. Thus, the system models should be seen not as an answer machine, but as an integrative framework, with most of the debate and analysis being conducted at the module level.

The framework can also be valuable for higher-level analysis. As should be evident from the factor trees, it will often be possible to

make more progress working at higher levels of particular modules than by immersing oneself in the myriad of details of the subbranches. Exploratory analysis with a low-resolution overall system model may prove quite useful. Such analysis varies all the key inputs systematically rather than fixing on alleged best estimates. It looks for conclusions that are relatively insensitive to uncertain assumptions.

Selected Cross-Cutting Observations

As we conducted our review of the social sciences and their relevance to studies of terrorism and counterterrorism, we identified some key points of agreement and disagreement bearing on counterterrorism policy. These are discussed in the paper by Kim Cragin.

Points of Agreement

Context. As mentioned above, context matters so much that those contemplating a counterterrorism campaign should *start* by understanding and characterizing their context, rather than looking to generic principles or conventional wisdom. This may seem banal, but in fact it is a principle often violated. Context varies drastically, even within what at first appears to be a single nation, area, or people. As merely one example, attempting to refute extremist religious arguments might be entirely appropriate with one subgroup and a waste of time and credibility with another that is concerned about matters of security, politics, or even economics.

Root Causes Versus Basis of Support. The root causes of terrorism are many, complicated, and subtle. However, they are not the key to either the sustainment of terrorism or to short- and mid-term counterterrorism. Table S.6 contrasts some of the factors identified above for root causes with those for maintaining support. There are some overlaps, but many of the most important—and actionable—factors are arguably less root causes than they are proximate causes of grievance or intimidation that can actually be addressed.

Table S.6
Root-Cause Factors Versus Sustaining-Support Factors

Root Causes	Maintain Support
Perceived illegitimacy of state	Perceived illegitimacy of state
State repression	State repression
Lack of opportunity	Lack of opportunity
Constrained civil liberties	Humiliation and alienation
Elite disenfranchisement	Resistance as public good
Ethnic fractionalization	Defense of self or community
	Identification with group
	Kinship and fictive kinship
	Intimidation by group
	Group provision of services
	Perceived group legitimacy

Ascent and Decline Are Different. Interestingly, the decline of terrorism does not mirror its ascent. For counterterrorism purposes, it is important to keep in mind the various modes of decline so that they can be recognized and accelerated where possible. To illustrate this point, Table S.7 compares root causes with the modes of decline. It demonstrates the disconnect between the various factors in our analysis. This disconnect makes sense, since root causes do not account for terrorist decisionmaking or the relationship that emerges between the terrorist group and support populations. In fact, it can be argued that the most likely situations of decline relate to terrorist group decisionmaking. That is, terrorism seems to decline in situations where terrorist leaders assess the risk of counterterrorism activities or the loss of popular support as greater than the benefits of the fight, or when they take such extreme actions as to lose popular support. The root-cause factors need not have been resolved.

Popular Support Matters Greatly, But Is Only One Consideration. A strong point of consensus in the social sciences is that terrorist

Table S.7
Descent Does Not Mirror Ascent

Root Causes	Modes of Decline
Constrained civil liberties	Success or preliminary success
Elite disenfranchisement	Burnout, poor succession, loss of leaders
Ethnic fractionalization	N/A
Illegitimacy of state	Success or preliminary success
State repression	Success or preliminary success
Lack of opportunity	Success or preliminary success
N/A	Loss of popular support
N/A	Counterterrorism activities
N/A	Loss of state support

NOTE: N/A = not applicable.

groups rely on popular support to sustain their activities and membership. Nevertheless, popular support is not the only factor that terrorist leaders weigh in their decisionmaking. For example, some evidence suggests that al-Qaeda leaders have sometimes viewed popular support as a preeminent consideration. Yet, at other times, al-Qaeda leaders have forsaken popular support to accomplish immediate operational objectives. The most well-known examples relate to the attacks against fellow Muslims by al-Qaeda in Iraq under Abu Mus'ab al-Zarqawi's leadership, including against hotels in Amman, Jordan. Our findings also suggest that terrorist leaders at the operational and tactical levels must meet—virtually or physically—to weigh factors more regularly than those terrorist leaders providing broad guidance to their followers. Thus, the relative value of these factors for terrorist groups are more likely observable at an operational level. Moreover, changes in those values are more likely to take place first at the operational level and then filter upward to those leaders separated from the day-to-day survival of the group.

Points of Controversy

We end by discussing briefly three nettlesome issues.

Which Dominates, Supply of or Demand for Terrorists? Our research revealed an interesting apparent conflict. On the one hand, economists (and some others) have noted that terrorist organizations typically operate in contexts that include very large numbers of potential recruits, when only much smaller numbers are needed. Al-Qaeda, for example, may need hundreds or thousands, but not hundreds of thousands. Since it is normal, not unusual, for a society to include many individuals that are angry, disaffected, or otherwise potential recruits, and since even volunteers for suicide attacks appear to be plentiful, it might seem that efforts to reduce supply are doomed to fail. At the same time, Helmus, Paul, and Jackson find that ideology matters to radicalization and support, that *high-quality* recruits are in shorter supply than others, and that specialized skills matter. These findings seem to suggest that it is worth focusing heavily on the supply problem.

Synthesis is needed. We accept the conclusion that the supply of raw volunteers or recruits far exceeds demand. However, our analysis suggests that the payoff is likely to be in attenuating the absorption rate. If recruiters find it difficult to operate, and if opportunities for systematic indoctrination and training are minimal and tenuous, then the *flow* of effective new recruits into al-Qaeda operations will be reduced. That is, the flow is determined not by the raw supply but by bottlenecks in the process of recruiting, radicalizing, indoctrinating, training, and employing. If so, then the goal should not be to “drain the swamp” (however desirable that might be) but rather to disrupt operations enough to minimize flow. This also suggests that affecting motivations is likely to be less important in determining the flow of recruits, but it is very important for other reasons, including influencing popular support for terrorism and encouraging deradicalization.

Are We Dealing with a Centrally Controlled Terrorist Organization or a Distributed, Bottom-Up Network? Over the last decade, we have seen al-Qaeda move to more decentralized networked operations. Some of the discussions about that phenomenon disparage a more classic organizational view and—rather frequently—convey a sense of

hopelessness. Other discussions argue that, despite the decentralization of operations, al-Qaeda Central continues to have great significance: motivational, strategic, and facilitative. We pondered how to deal with the controversy but concluded that it was very much a controversy at a snapshot in time and that we should not allow such current specifics to determine the structure of our intendedly more general social-science depiction. After all, with a major al-Qaeda success, the central leadership could gain more power again; and with a major failure (or the loss of its leaders) it could shrink further in its importance. Thus, Helmus's chapter allows for both bottom-up and top-down processes, and Jackson's chapter describes how terrorist organizations make decisions with a structure that does not depend explicitly on the degree of decentralization. Whether decisions are made in a single room or much more indirectly, the factors he identifies still apply. Details will differ a good deal, but no generalizations are likely to hold up and—in this case—it is better to start with the generic structure and then interpret it for the context.

Arguably, an even more important point is that the appropriate perspective is not really one of a classic hierarchical organization or of a network but rather of a system. A system has many components and many functions, each of which is subject to attack. If one takes a system view, then the natural approach is to identify the major functions and related components and to then mount attacks on them thematically. For example, a campaign to disrupt recruiting or financing would be global from the outset rather than focused geographically (as in merely attacking al-Qaeda in Iraq). This would correspond to a network view in that one would not imagine a single node to be a “center of gravity,” but the focus would not be something ethereal such as “the network generally.” The focus would be on the specific operations (in this case, recruiting or financing). Such a system perspective leads naturally to thinking in whole-of-government terms.

What Is the Role of Religion in Current Struggles? Most of the literature that we reviewed avoids or skirts the issue of religion (except in studies that purport to show that it is not an important factor in terrorism). Most of our own monograph is restrained in discussing the role of religion. Why is this? A basic reason is that the subject is

uncomfortable. Intellectually, scholars are uncomfortable highlighting religion because they see it as a mere subset of ideology (or, at least, as heavily overlapping with ideology). They know well the many instances throughout history in which terrorism has been driven by motivations having nothing to do with religion. A second reason is that the shorthand of referring to “religion” is troublesome because religions can be powerful agents of either the positive or the negative. Other reasons come into play as well. Social-science terrorism literature tends not to draw on the religious-studies literature, especially the relevant Islamic literature. This is a straightforward shortcoming but a rather dramatic one.

This said, the issue of religion arises in numerous places throughout our monograph, albeit in a muted way. Noricks notes that religion can contribute to a “facilitative norm for the use of violence,” especially when people see external threats with sacred meaning. Helmus notes that religion contributes to individual-level radicalization, perception of rewards, and a passion for change. Paul notes that religion can be used as a *tool* of validation for terrorist organizations garnering public support (and as an important part of developing a common identity). However, Berrebi observes that religion correlates poorly with terrorist violence in the Israeli-Palestinian conflict. That, arguably, demonstrates how context matters and can be more subtle than is sometimes appreciated.

Some of the conclusions that we draw are as follows:

- Militant religion sometimes matters a great deal and sometimes not at all.
- Level of analysis matters (for example, leaders may be more affected by religious extremism than the foot soldier).
- The effects of religion may be “original” or subsequent, as when not-particularly religious young males join a terrorist organization and then—as part of bonding and indoctrination—adopt the religious trappings of the overall story.
- Because the role of religion differs so much, both policy and on-the-ground activities, such as counterradicalization and deradicalization activities, should be locally tailored rather than dictated by generalizations.

Conclusions

Some overarching principles proved valuable in establishing our approach and making sense of results:

- Many factors contribute to terrorism phenomena and it is counterproductive to argue about “the” key factor: An interdisciplinary *system approach* should instead inform thinking from the outset.
- Existing social science identifies many relevant factors, but a multiresolution analytic approach is needed to make that information coherent.
- The answer to “Which factor matters most?” is, in most cases “It depends.” Centrality of context is a first principle and establishing context should be the first order of business in organizing thought. The issues of the Taliban in Pakistan are simply not very comparable to those of the Irish Republican Army or to those of Hizballah and Hamas in Palestine, or even to the current activities in Baghdad.
- A combination of logical thinking and empiricism that draws on the social-science base allows us to go well beyond the dismissive “It depends,” characterizing the circumstances in which one or a combination of particular factors is likely to dominate. This amounts to systematizing what experts already do inside their minds. Distinguishing such cases can go far toward explaining or resolving apparent contradictions or heated disputes in social science.
- In social science, it is seldom possible to make strong predictions: Many key facts are not known and “random factors” intrude. A better aspiration is to “improve the odds” of correct diagnosis and prescription and to lay the groundwork for rapid adaptations in response to more information, including that from experience at the time. He who “bets the farm” on the predictions of a model purporting to be based on social science is likely to lose that farm—if not the first time, then the second or third.

Overall, a good deal of structure and coherence can be found in the existing base of social science for terrorism and counterterrorism. Gaps exist in our understanding of the “It depends” contexts that might provide better guidance to policymakers. And many of these “It depends” contexts, such as al-Qaeda’s decisionmaking and the prioritization of Afghanistan or Iraq, have significant implications in the near-to mid-term. Several nettlesome issues, such as the relative importance of supply versus demand, need further research and analysis. Even beyond the call for more and better data (and reanalysis exploiting improved distinctions among cases), much remains to be done in going beyond the “factor tree” descriptions and developing tighter and more analytic subject-area by subject-area (module-by-module) characterizations. Doing so will require a combination of theory-informed and data-driven research, as well as the systematic collection and dissemination of empirical data to researchers.