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Economic Perspectives

Daniel Meierrieks and Tim Krieger

This chapter provides an *economic perspective* on the *radicalization process*, with terrorism as the most extreme outcome of this process. The term “radicalization” has no generally agreed-upon scientific definition; instead, its meaning is fluid and contains many security-loaded negative connotations (Pisoiu 2014). Our analysis is based on two definitions of the term “radicalization” that appear particularly fitting: According to Peter Neumann (2013, 874), radicalization is “the process whereby people become extremists”; extremism here referring to “‘radically’ different ideas about society and governance . . . [or] the (often violent or coercive) actions in which those ideas result” (2013, 875). Similarly, Anja Dalgaard-Nielsen (2010, 798) defines “violent radicalization” as “a process in which radical ideas are accompanied by the development of a willingness to directly support or engage in violent acts.”

At the heart of any economic analysis of radicalization is a *behavioral model* that explains why people decide in a particular way or, more specifically, why they choose one out of several options under a resource constraint. For instance, economic analysis seeks to answer why a person spends (scarce) time on becoming an extremist rather than earning money or starting a family. As a first step, our economic analysis aims at uncovering the theoretical mechanisms that explain human behavior turning toward radical actions. We ask whether radicalization is a rational choice that ultimately leads to a “supply” of radical activity. Second, we study how *terror-*

ism entrepreneurs, that is, semi-professional organizations and their leaders that conduct and organize radical activities, guide individual radicalization. These entrepreneurs “demand” radicalized new members. Demand and supply for radicalism meet on the “market” for radicalism, where its (relative) price determines total radical activity (and, arguably, the number of people who start to radicalize). Third, economic analysis confronts theoretical predictions with empirical evidence. We especially focus on the role of *economic determinants* in explaining violent extremism. Here, the primary focus is on empirical evidence related to *terrorism*. There are several reasons for this focus. First, Neumann (2013) argues that the phenomenon of radicalization is intimately linked with the phenomenon of terrorism, especially after the 9/11 attacks. What is more, terrorism—as an outcome of radicalization processes—produces noticeable negative economic effects; the economic consequences of “cognitive radicalization” (Neumann 2013, 873), that is, of the genesis and proliferation of radical ideas, are far less tangible and thus more difficult to examine.¹ For another, terrorism is a measurable outcome (indicated by, e.g., the number of terrorist incidents occurring in a given country and year); this allows for the application of quantitative methods (e.g., regression analysis) commonly used in economics. By contrast, empirical analyses of behavioral changes toward radicalism are still rare in economics. Finally, *economic models of (processes toward) deviant behavior* (rather than of deviant ideas) already exist, most famously Gary S. Becker’s (1968) economic-rational model of crime. It seems appropriate to apply—and subsequently refine—earlier economic models of crime to another form of illicit behavior: terrorism.

Radicalism and terrorism as the outcomes of radicalization processes remain serious threats to security. For instance, figure 1.1 shows the extent of terrorism in Western Europe between 2000 and 2015, with the data drawn from the *Global Terrorism Database* (LaFree and Dugan 2007). Each year, Western Europe saw dozens (if not hundreds) of terrorist attacks with dozens (if not hundreds) of victims, with 2015 being a particularly gruesome year (most prominently due to the November 2015 Paris attacks). In recent years, such attacks have become increasingly associated with Islamist radicalism, while former hotbeds of nationalist-separatist terrorism (especially Northern Ireland and the Basque country) have become

1. Statistical analyses of the economic consequences of terrorism have shown that terrorism negatively affects, for example, domestic investment, vulnerable economic sectors (e.g., tourism, transportation, etc.), and international trade, ultimately hurting economic growth and development. We refer to Sandler and Enders (2008), Meierrieks and Gries (2013), and Gaibulloev and Sandler (2019) for a further discussion of this issue.

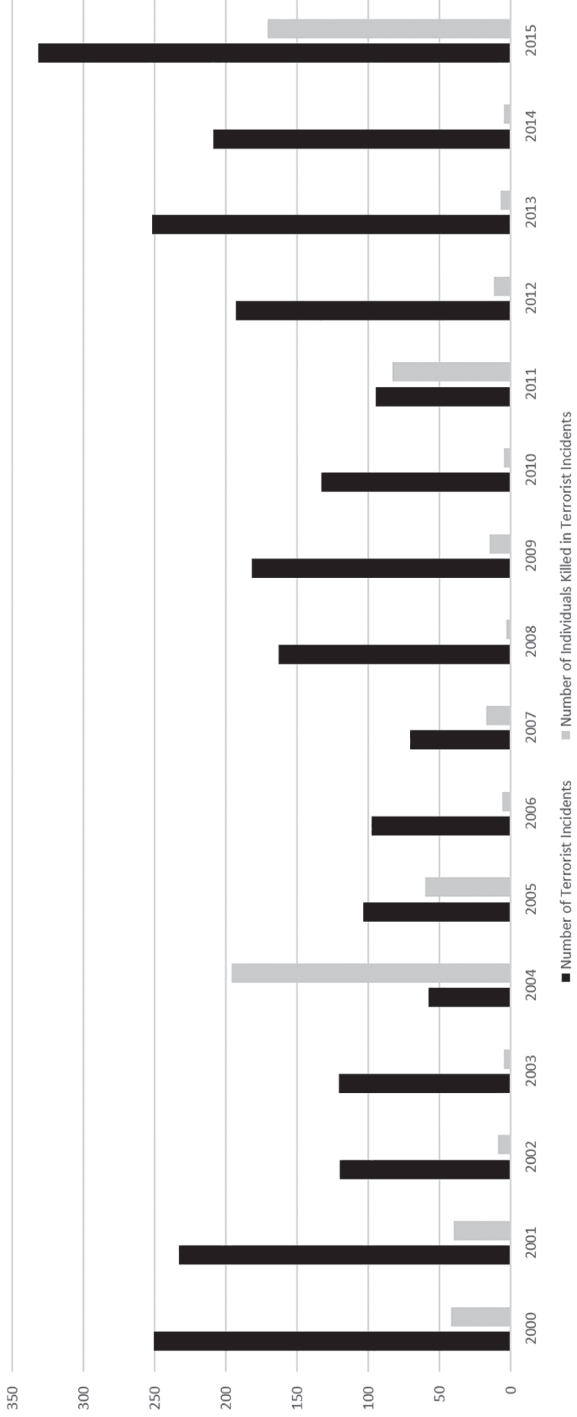


Fig. 1.1. Terrorism in Western Europe, 2000–2015

more peaceful. What is more, citizens of Western European countries have been attracted to joining foreign terrorist organizations (most prominently, *Al-Qaeda* and the *Islamic State*) in considerable numbers in recent years (Hegghammer 2013).

This chapter is organized as follows.² The second and third sections are devoted to a supply-side analysis. In the second section, we introduce a simple model of radicalism that is based—as common in economics—on behavioral concepts such as rationality, utility maximization, incentives, and cost-benefits analysis. We discuss the predictions of this model with respect to the role of socioeconomic factors (e.g., income, education) in determining radicalism and terrorism. Furthermore, we highlight the shortcomings of the radicalism model when it comes to explaining why people radicalize. Therefore, we also sketch an economic model of the process of radicalization. In the third section, we present an overview of empirical studies on the socioeconomic determinants of terrorism at the individual and country level. From this review, we learn that empirical evidence is too ambiguous to be explained by supply-side considerations only. This is why the fourth section separates the concepts of supply and demand for radicalism and terrorism by introducing the idea of terrorist entrepreneurs. The fifth section concludes.

The Supply Side: An Economic-Theoretical Framework of Radicalization and Terrorism

Radicals as Rational Actors

Economic models of deviant behavior resemble models of labor supply, in which there is a trade-off between (legal) individual labor supply and the *supply of illegal activities* (e.g., crime, terrorism, etc.). Models of this type rely—like all standard models in economics—on the representation of human behavior in accordance with the idea of the “economic man” or *homo economicus* whose behavior is characterized as follows (e.g., Kirchgässner 2008; Sandler and Enders 2004; Becker 1968):

1. When an individual has to decide between different actions, they take into account *preferences* and *restrictions*.

2. Note that this chapter draws in parts on Krieger and Meierrieks (2017; 2013; 2011), Krieger (2013), Meierrieks (2014), and Schneider, Brück, and Meierrieks (2015).

2. In accordance with this *economic calculus*, the individual chooses the action that maximizes utility (or expected utility).
3. This utility-maximization behavior implies *rationality*. It assumes that individuals follow their own intentions (i.e., their own preferences) so as to act to the best of their (relative) advantage given certain constraints.

Thinking of radicals or terrorists as rational actors seems to run counter to public perception, where radicals and terrorists (especially suicide terrorists) are usually deemed “irrational.” However, psychological studies of terrorist behavior provide little evidence that terrorists routinely suffer from mental incapacities (Victoroff 2005). As summarized by Marc Sageman (2004, 83), the “failure of mental illness as an explanation for terrorism is consistent with three decades of research that has been unable to detect any significant pattern of mental illness in terrorists.”

What is more, rationality in the context of the economic analysis of radicalism and terrorism does not imply that the *homo economicus* operates like a human computer. Rather, it suggests that a rational individual is able to gauge their freedom of action and consequently choose an action that is to their relative advantage. If circumstances change, the individual will *systematically* (i.e., in a predictable way) change their behavior (Kirchgässner 2008). This will still be the case when radicals and terrorists behave in ways that are “boundedly rational” (Simon 1955), which implies that they decide rationally only up to the point where a sufficient (but not the maximum) level of utility has been achieved.

The Radical's Calculus

Most economic models compare different equilibrium outcomes but tend to ignore the dynamics of moving from the old to a new equilibrium. More specifically, the economic analysis of radicalism typically compares states of the world with more or less (supply of) radical activity; how a person turned into a radical in the first place (that is, the process of radicalization) is rarely considered. In the following, we will first turn to the standard economic approach and investigate the factors that explain why the number of radical actions may change between two points in time. Afterward, we will make the radicalization process explicit and explain it using a broader economic approach that includes the possibility of boundedly rational behavior.

Our economic analysis starts with an examination of the *radical's calculus*

that models the decision of “being” a radical or not. For our discussion, we suppose a (potential) radical may choose between two actions:

1. A non-radical activity that is associated with a specific level of utility. For instance, utility may arise from the consumption of a commodity that is purchased from a wage earned from employment (i.e., the supply of labor as a non-radical activity).
2. A radical activity that is associated with a specific level of utility. For instance, utility from (the supply of) radical behavior may be produced when such behavior induces political concessions from a government opposed by the radical.

Following our economic perspective, we expect the radical to consider the advantages (benefits) and disadvantages (costs) of these alternatives and choose the action corresponding to the higher net utility, where this decision implies (economic) rationality. If the radical activity is expected to maximize personal utility, the decision-maker ultimately chooses to conduct an (observable) radical activity.

The potential radical’s economic calculus consists of three components. Each of these components is expected to influence their decision to behave radically or opt for the alternative (e.g., earn a living from regular employment).

First, the *direct or material costs* of being an extremist are one element of the radical’s calculus. For instance, these costs are associated with joining a radical organization (which, e.g., may involve high information acquisition costs), perpetrating (potentially illicit) radical activities, and evading government punishment or surveillance (Schneider, Brück, and Meierrieks 2015).

Second, we have to consider the *benefits* of being a radical. These benefits are synonymous with the utility produced from the radical behavior. For one, benefits may accrue from achieving the long-run political, economic, religious, or social goals that underlie radicalism. For instance, government concessions (e.g., basing legislation on religious doctrine or refraining from foreign policy actions in the Islamic world) ought to benefit the members of radical groups (Schneider, Brück, and Meierrieks 2015). For another, radical actions may also produce “incidental benefits,” such as donations from sympathizers and media attention that facilitates recruitment (Schneider, Brück, and Meierrieks 2015).

Third, the decision between two actions implies that the foregone utility (i.e., the *opportunity costs*) associated with the action not chosen has also been taken into account. For instance, given the choice between being a

radical or not, the rewards from radicalism (e.g., political concessions) have to be weighed against the rewards from non-radicalism and non-violence, such as wages (and consumption) from participation in the ordinary economic life.

The idea of an economic calculus of a (potential) radical finally allows us to make a number of theoretical predictions: A person is more likely to supply radical activities when (1) the material costs of radicalism decrease, (2) the benefits of radicalism increase, or (3) the opportunity costs of radicalism decrease. In all these cases, the *relative price of radicalism* is affected in a way that makes radicalism more attractive. What is more, boundedly rational behavior may contribute to distorting the calculus in predictable ways. For instance, potential radicals may underestimate the costs of radicalism or overestimate its benefits (Abrahms 2006).

Economic Determinants of Radicalism: Theoretical Predictions

How can the theoretical framework outlined here predict radicalism (as the outcome of radicalization processes) and the supply of radical activity that is due to socioeconomic factors (as indicated by, e.g., poverty, unemployment, low levels of education)? Using an economic rational-choice representation of radicalism, we can make the following three predictions:

1. Poorer socioeconomic conditions reduce the direct costs of radicalism. For instance, operating a radical organization and evading government surveillance (e.g., via the establishment of safe houses) ought to become less expensive when socioeconomic conditions are unfavorable. This is because popular support for terrorism is expected to increase when economic conditions are poor and more potential radicals start to radicalize, which ought to dilute counter-radicalism efforts.³
2. Poorer socioeconomic circumstances are expected to increase the benefits of radicalism. For example, the potential payoff from radical activities (e.g., political concessions that alleviate socioeconomic hardship) is comparably more attractive during poor economic times.

3. Here, the idea is to also model the behavior of radicalization/terrorism *sympathizers* in an economic-rational fashion. In other words, the willingness to support rather than outright join radical organizations (e.g., through donations, the provision of information) is also subject to (opportunity) cost-benefit considerations. A further discussion of this idea can be found in Freytag et al. (2011).

3. Most important, poorer socioeconomic conditions affect the opportunity costs of radicalism. As stressed previously, these opportunity costs refer to the foregone utility associated with non-radical activity (e.g., from consumption of commodities purchased from wage income earned in the ordinary economic life). Arguably, poor socioeconomic conditions can be expected to constrain economic participation and consequently make the alternative (radicalism) a more attractive option for an economic-rational agent.

In sum, the predictions of an economic rational-choice model with respect to deteriorating socioeconomic conditions are straightforward. As argued by authors such as S. Brock Blomberg, Gregory D. Hess, and Akila Weerapana (2004b) and Andreas Freytag and colleagues (2011), *poorer socioeconomic conditions ought to translate into more radical activity* because they reduce the material costs of radicalism, increase its (expected) benefits, and, arguably most important, reduce its opportunity costs. At the individual level, this ought to lead to more potential radicals who actually start to radicalize.

An Economic Perspective on the Radicalization Process

Our simple model of radicalism has focused so far on the choice between non-radicalism (and thus, economic activity) and radicalism, thereby comparing two equilibrium states with and without radical activities. The definitions of radicalization presented in the introduction suggest, however, that radicalization is a *process with multiple steps*. In order to provide a sufficiently simple and intuitive economic analysis of the radicalization process, we follow Erik Pruyt and Jan Kwakkel (2014) by assuming that the process of radicalization can be split into different stages that can be analyzed separately. Here, in its first stage the radicalization process leads from non-activism to *political activism*, in the second stage from political activism to *extremism*, and in the final stage from extremism to *violent extremism* or terrorism. Individuals at these stages of radicalization are assumed to respond differently to economic incentives, exhibiting different economic calculi.

At the first stage of the radicalization process, the calculus is clear-cut. When economic conditions deteriorate, incentives for political activism increase. Given that the costs of political activism are—particularly in democracies—very low, we expect socioeconomic contractions to result in more political activism.

At the second stage of the radicalization process, the calculus changes. In particular, it becomes more costly to join an extremist radical organization (e.g., compared to joining a legitimate political party) because such organizations are rarer and information about the costs and benefits of membership are less clear. Furthermore, there is a *collective action problem* (Olson 1965) because many political activists—while supporting extremist ideas—consider active participation too costly. In plain terms, these persons free-ride on other extremists' activities, shying away from carrying the costs themselves.

At the final stage of radicalization, the calculus adjusts again. For one, the information costs associated with joining a *violent* extremist organization (e.g., with respect to finding such a clandestine organization in the first place) may become prohibitively high. Furthermore, we can expect violent extremists (i.e., terrorists) to be less responsive to socioeconomic incentives. In particular, the set of choices for violent radicals is limited. They cannot easily re-join the ordinary economic life even as economic conditions improve. Rather, their choice is between punishment (e.g., prison) and continued violent extremism. Facing these two choices, a violent extremist may very well choose a continuation of violence.

In sum, conceptualizing radicalization as a process and applying the economic concepts of full and bounded rationality (the latter being closely related to the issue of information acquisition costs) may further explain how socioeconomic variables are related to radicalism and terrorism. Radicalization involves changes in the calculus of individuals undergoing this process. Hence, an economic theory of the radicalization process adds valuable insights into why and how specific empirical outcomes emerge.

Economic Determinants of Radicalism: Empirical Evidence

Empirical studies that analyze whether socioeconomic variables and radicalism are related are usually carried out at the individual or the country level.⁴ The former approach correlates data on the socioeconomic circumstances of individuals (e.g., their employment status, personal income) with the likelihood of them becoming radicals (e.g., joining an Islamist terror-

4. For the sake of brevity, we largely disregard variables that may matter at the meso level (i.e., at the level of the radical organization such as group dynamics, network effects, or the organizational structure of a radical organization). Analyses of radicalism and terrorism at the group level can be found in, for example, Cronin (2006) and Blomberg, Gaibulloev, and Sandler (2011).

ist organization) or supporting radicalism. The latter approach means to correlate macroeconomic data (e.g., on unemployment rates or per capita income) with the number of terrorist incidents occurring in a country during a specific period of time.

Individual-Level Evidence

A first set of empirical studies focuses on the individual characteristics of radicals and terrorists. For one, these studies examine the role of socio-demographic (non-economic) factors, such as marital status, age, religion, ethnicity, or sex, in explaining participation in radical groups. For instance, participants in terrorism are usually male and rather young (e.g., Gambetta and Hertog 2016). For another, they account for the role of socioeconomic variables, most importantly employment status, personal wealth, and income, as well as levels of education. In line with our prior theoretical discussion, we would expect sound socioeconomic circumstances (i.e., being employed, well-off, and well educated) to negatively predict participation in radicalism and terrorism.

Interestingly, though, these predictions are not in line with the empirical evidence on the individual level. Rather, higher standards of living and levels of education are *positively* associated with the individual decision to participate in terrorism (e.g., Krueger 2008; Berrebi 2007; Krueger and Malečková 2003). For instance, Alan Krueger and Jitka Malečková (2003) find that terrorists active in the Arab-Israeli conflict are in fact fairly well-off and educated. At a minimum, the evidence suggests that active terrorists do not especially suffer from socioeconomic deprivation.

Focusing more specifically on Islamist radicalism, similar patterns emerge. For instance, studying a sample of homegrown U.S. Islamic terrorists in comparison to non-radical U.S. Muslims, Krueger (2008, 295) finds that the “alleged homegrown Islamic terrorists that were studied [do] not appear especially deprived.” Similarly, based the characteristics of 77 homegrown Islamist terrorists in the United Kingdom, Yener Altunbas and John Thornton (2011, 263) find that the homegrown Islamist terrorists “are often drawn from well educated, middle-class or high-income families.” Diego Gambetta and Steffen Hertog (2016, 10), in a study of 497 individuals who have been active in Islamist militant groups, find that “violent Islamist radicals . . . are vastly more educated than their compatriots,” with almost half of the individuals studied having a degree in engineering. The researchers (2016, 33) conclude “that university students and graduates generally are vastly overrepresented among Islamist radicals . . .

[implying that] the core of the Islamist movement emerged from would-be elites, not from the poor and the dispossessed.”

Overall, terrorist activity appears to be supplied by members of the middle and upper classes who are relatively highly educated (Sageman 2004). Crucially, the finding that sound socioeconomic circumstances (especially education and income) positively predict participation in radical activities is at odds with our economic rational-choice model of radicalism.

Popular Support for Islamist Terrorism

There also exist a number of empirical studies analyzing the individual correlates of support for Islamist terrorism. This support is a first step for potential radicals toward entering a radicalization process. We provide an overview of the various findings in table 1.1. Here, answers to specific survey questions (regarding an individual’s level of support for suicide terrorism, anti-American terrorism, and Islamist terrorism in general) are correlated with socioeconomic and non-economic characteristics of the survey respondents.

As shown in table 1.1, most studies reviewed suggest that poorer individual socioeconomic circumstances do not translate into stronger support for Islamist militancy. In other words, similar to active participation in violent extremism, socioeconomic circumstances also only have limited explanatory power to predict passive support for violent extremism by Islamist militants. If we assume that potential terrorism supporters and sympathizers behave at least as rationally as their more violent counterparts, the findings reported in table 1.1 are again not consistent with a rational-choice representation of radicalism.

Macro-Level Evidence

Another (much more extensive) set of empirical analyses investigates the effect of socioeconomic conditions on the emergence of radicalism and terrorism at the country level. For one, these studies use data on socioeconomic variables measured at the country level (indicating, e.g., per capita income, poverty levels, unemployment, or economic growth rates). For another, these empirical analyses also control for non-economic factors that may also be associated with terrorist activity, such as political or demographic variables (indicating, e.g., a country’s political regime and population size).

Considering the socioeconomic determinants of terrorism, a first strand

TABLE 1.1. Socioeconomic Conditions and Support for Islamist Terrorism

Study	Scope	Main Results
Fair and Shepherd (2006)	14 Muslim countries, 2002	Unclear influence of economic conditions on support. Low socioeconomic status (lack of food) negatively predicts support; measures of high socioeconomic status (access to computers) positively predicts support.
Bueno de Mesquita (2007)	13 Muslim countries, 2002	Support for terrorism not correlated with education and personal economic situation.
Tessler and Robbins (2007)	Algeria and Jordan, 2002	Support for terrorism not dependent upon personal economic situation or personal assessment of country's economic situation.
Shafiq and Sinno (2010)	6 Muslim countries, 2005	Effects of income and education vary across countries and interact with political dissatisfaction.
Mousseau (2011)	14 Muslim countries, 2002	Approval of Islamist terrorism linked to urban poverty but not with other measures of poor socioeconomic circumstances (e.g., lack of education, poverty, income dissatisfaction).

of the literature is indeed consistent with the rational-choice theory of radicalism and terrorism outlined previously. That is, a number of studies find that higher levels of income and lower levels of poverty are obstacles to the production of terrorism (Caruso and Schneider 2011; Freytag et al. 2011; Blomberg and Hess 2008). For instance, Freytag and colleagues (2011) find that countries with higher per capita income levels are less likely to experience terrorism. Furthermore, there is evidence connecting solid short-run economic conditions (especially sound economic growth) with less political violence (Freytag et al. 2011; Blomberg, Hess, and Weerapana 2004a). For instance, Blomberg, Hess, and Weerapana (2004a) find that economic downturns correlate with increased terrorist activity.

A second strand of the literature establishes indirect linkages between socioeconomic conditions and the emergence of terrorist activity. First, these studies argue that policies of economic integration and liberalization tend to reduce terrorism by fostering economic growth and development. For instance, Quan Li and Drew Schaub (2004) show that higher levels of economic integration (e.g., trade openness) are negatively related to terrorism through their beneficial effect on economic development. Second, social welfare policies and functioning social safety nets are associated with less terrorism by removing economic grievances (Krieger and Meierrieks 2010; Burgoon 2006). Third, economic policies that counter economic dis-

crimination of minorities lead to less terrorism, as such discrimination may have otherwise motivated terrorism (Piazza 2011). In other words, these findings are in line with rational-choice expectations in that socioeconomic progress (induced by specific policies that promote economic liberalization, economic non-discrimination, and economic security) affects the calculus of radicals in ways that make violence (observed at the macro level) less attractive.

A third strand of the literature, however, is far more skeptical about the pacifying effects of socioeconomic development. In fact, the empirical mainstream (as, e.g., outlined in Gaibullov and Sandler 2019; Gassebner and Luechinger 2011; Krieger and Meierrieks 2011) does not support the idea that terrorism has strong economic roots. These empirical studies (e.g., Basuchoudhary and Shughart 2010; Abadie 2006; Kurrild-Klitgaard, Justesen, and Klemmensen 2006; Piazza 2006; Tavares 2004; Krueger and Malečková 2003) instead find that *political and institutional variables* trump economic ones in statistical analyses. That is, even though these studies control for the effect of the economy on terrorism, they do not find that it matters once politico-institutional factors come into play. Rather, these studies find that (1) unfavorable politico-institutional conditions (e.g., political instability) offer opportunities for violent extremism, (2) a lack of political participation and poor institutional quality constitute root causes of terrorism, (3) international political factors (e.g., foreign policy) matter to terrorism, again suggesting that such factors matter more than socioeconomic variables, and (4) demographic stress (signaled by, e.g., large populations) is conducive to the emergence of conflicts. For instance, Atin Basuchoudhary and William Shughart (2010) find that ethnic tensions promote transnational terrorist activity.

Notably, the empirical studies discussed above investigate the relationship between terrorism, radicalism, and socioeconomic development *in general*. That is, these studies do not only focus on religious terrorism, arguably the current most dangerous and prominent form of terrorism, but instead use data on other kinds of terrorism as well.⁵ However, a few studies (Brockhoff, Krieger, and Meierrieks 2016; Kis-Katos, Liebert, and Schulze 2014; Robison, Crenshaw, and Jenkins 2006) have analyzed whether there are distinctions between different (with respect to their ideological background) kinds of terrorism, also regarding their respective socioeconomic

5. As noted by, for example, Meierrieks and Gries (2013) and Gaibullov and Sandler (2019), earlier waves of terrorism have been dominated by anarchist, nationalist-separatist, and left-wing agendas. The end of the Cold War coincided with the end of the wave of left-wing terrorism, with Islamist terrorism becoming more prominent.

roots. Here, the evidence suggests that there are differences but also commonalities in the causes of Islamist and non-religious (e.g., ethnic or left-wing) terrorism. Most important for our discussion, there is no evidence that Islamist terrorism responds differently to the socioeconomic environment than its non-religious counterparts. Thus, we can very well extrapolate from the evidence presented thus far to the specific subset of Islamist radicalism and terrorism.

Empirical Puzzles

In sum, the findings introduced in the last section do not outright invalidate our previously introduced rational-choice theory of radicalism. However, the evidence is generally inconclusive. In detail, our overview of the empirical literature on the economic determinants of radicalism at the individual and country level has unearthed two empirical puzzles concerning the predictions of our economic model of radicalism and terrorism:

1. On the micro level, socioeconomic status (e.g., income, education, etc.) may positively predict participation in and support for radical activities rather than deter it.
2. On the macro level, the evidence is generally inconclusive. In any case, poorer socioeconomic conditions do not automatically translate into more radicalism and terrorism.

In the next section, we discuss how these empirical puzzles can be reconciled with our economic model by considering demand-side effects. As we discuss next, the inconclusive evidence does not suggest that the economic model is incorrect but rather *incomplete*, particularly at the micro level.

Reconciling Theory and Evidence: The Demand Side of Radicalism and Terrorism

How can we explain that—at the individual level—better socioeconomic status (i.e., more wealth, higher incomes, higher levels of education) tends to positively predict active participation in violent radicalism? A promising way to solve this puzzle is to also consider the *demand side* of radicalism and terrorism. Here, the demand side refers to understanding terrorist organizations as *terrorist firms* and the leaders of those organizations as *terrorist entrepreneurs*. This accounts for a basic insight from economics, namely

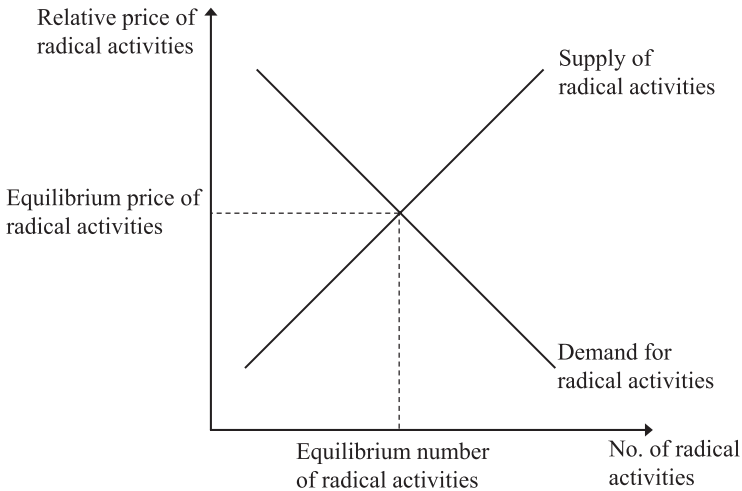


Fig. 1.2. The Interplay of Demand for and Supply of Radical Activities

that equilibrium prices and production (in our case, of extremism) result from the interaction of supply and demand (in our case, the supply of and demand for radical activity or, simply, extremists). Figure 1.2 shows how demand and supply determine the “market equilibrium.”

Conceptualizing terrorist groups as firms and terrorist leaders as entrepreneurs and thus interpreting terrorist activity as a “business” or “enterprise” is a perspective taken by a number of academic contributions (e.g., Abdulkadirov 2010; Zelinsky and Shubik 2009). Indeed, terrorist groups such as the *Islamic State* exhibit a number of characteristics they share with ordinary businesses. For instance, the *Islamic State* has an internal bureaucracy (e.g., designated to fighting, recruitment, propaganda, etc.), produces franchises (called “provinces” such as *Islamic State of Iraq and the Levant—Caucasus Province*), and exhibits an organizational hierarchy (with the “caliph” and a leadership council at the top).

Again, the economic analysis of the behavior of conventional firms and entrepreneurs rests on the well-known assumption of rationality.⁶ Crucially, the actions of firms and entrepreneurs (e.g., with respect to choosing prices, levels of production) are chosen so that profit is maximized (e.g., Baumol 1968). This implies that production inputs (e.g., workers) are selected in a way that is conducive to *profit maximization*.

6. If one considers firms as impersonal entities, concepts like bounded rationality do not apply to them by definition.

The same mechanisms can also be expected to matter to the “production” of radicalism. That is, radical organizations are interested in maximizing their “profit,” where this “profit” may be generated by donations from supporters, income from criminal activity (e.g., the drug trade), media attention, political concessions from the government, or the production of public goods to maximize political influence (e.g., Abdukadirov 2010; Ferrero 2005).

If we consider terrorist groups and their leaders to operate as businesses and business leaders, respectively, we can then examine how the socio-economic profiles of prospective terrorist recruits matter to such profit-maximizing businesses. First, labor-economics considerations strongly suggest that education raises productivity, and this productivity gain is reflected in higher wages and profits (e.g., Becker 1962). An ordinary firm is thus expected to recruit more educated workers that raise productivity so as to maximize the firm’s profit. Similarly, we expect that radical organizations trying to get people to radicalize would have available a large pool of potential radical followers from which members can be recruited so as to maximize “terrorist profits.” This suggests that terrorist organizations will especially recruit the educated because educated members of radical organizations are more reliable and productive (e.g., with respect to “producing” violent extremism) than non-educated followers. Indeed, Efraim Benmelech and Claude Berrebi (2007), for example, find that Palestinian suicide bombers are more educated than the population average. They also find that more educated suicide bombers are more successful in producing damage (that is, they are more productive). Conversely, a violent extremist organization ought to be less interested in employing poorly educated or trained individuals.⁷

In sum, conceptualizing radical organizations as firms that produce an output in a way that maximizes their “profit” may help understand why participants in violent extremist groups tend to be rather well educated and well-off. Even though the supply side of radicalism may offer a pool of potential recruits with diverse socioeconomic backgrounds, the demand side (i.e., the radical organization and its leaders) ought to favor those recruits who are more educated, thus exhibiting a higher (expected) “terrorist productivity.” Given that an individual’s educational profile tends to closely correlate with their income (and also with the income/wealth of their family), we would expect to see—purely due to demand side

7. For instance, following this “business logic” it is not surprising that the Islamic State tends to use foreign recruits (who lack language skills and combat expertise) as expendable “cannon fodder.”

considerations—participants of violent extremist groups to be on average better educated and having rather sound economic backgrounds.

This reasoning corresponds well to the model of radicalization stages introduced above, in which—at different stages—there are different levels of supply of radical activities that now meet different demands, expressed by different recruitment strategies. Today, for instance, initial contact with “would-be radicals” often takes place online, while actual recruitment for positions in a radical organization happens on a personal level.

Still, statistical analyses of the recruitment decisions of radical organizations remain—due to obvious data constraints—very scant, opening avenues for future research. For instance, it could be interesting to study what happens to those individuals (i.e., the less educated and thus poorer) who are “not in demand” by “terrorist firms” but still want to engage in extremist violence. One option may be that they self-radicalize and become lone wolf terrorists, but they could also be frustrated from being rejected by the terrorist group and reveal the group to counter-terrorism agencies.

Yet another interesting question is how boundedly rational or cognitively biased individuals respond to demand for radical services by extremist organizations. Economic theories of consumer marketing suggest that not fully rational potential radicals could be influenced by propaganda for the extremist cause. The same theories may provide valuable insights on whether and how it will be possible to undermine the extremists’ strategies through appropriate countermeasures (e.g., counternarratives) at the different stages of the radicalization process.

Conclusion

Do radicalism and terrorism have socioeconomic roots? Why do individuals start to radicalize? As discussed in this chapter, economic theory provides interesting insights to these questions and shows how they are related. One important insight is that the answer to the first question should be yes. Socioeconomic improvements ought to make radicalism a less attractive option, especially by increasing the opportunity costs of radicalism. This prediction is derived from a simple economic model of radicalism that considers a radical to be a rational actor (i.e., a *homo economicus*) who maximizes utility and chooses radicalism over non-radicalism when the direct costs, benefits, and opportunity costs associated with radicalism are more favorable (i.e., utility-improving) compared to the (opportunity) costs and benefits of non-radicalism.

Empirical analyses of participation in and support for violent extremism (terrorism), however, show that the correlation between socioeconomic conditions and terrorism is rather weak at the country level and tends to be positive at the individual level. To reconcile these empirical findings with our theoretical deliberations, we discuss how our simple economic-rational model can be amended by relaxing the rationality assumption (to allow for bounded rationality) and—to provide an answer to the second question outlined above—by taking a closer perspective on the actual radicalization process. We also introduce the demand side of radicalism (where radical organizations favor the recruitment of educated members) to investigate the “market for radical activity”; only the combination of demand and supply effects can fully describe the radicalization process.

We argue that individual radicalization processes are complex and provide different incentives at different stages. These incentives are shaped by the “supply side” (i.e., potentially radicalized individuals and their living conditions) but also by the “market demand” for radical recruits. Regarding the first, there is no clear-cut relationship between socioeconomic factors and participating in violent extremism; regarding the latter, empirical evidence indicates that radical groups operate as “terrorist firms” that are interested in attracting well-educated (and thus comparatively better-off) recruits in the first place.

Underlying our reasoning is the question of whether socioeconomic variables do influence radicalization and, as its outcome, terrorism. If this is the case, economic and social policies could be employed to counter extremism. Based on our discussion, we advocate a more nuanced perspective on the role of economic factors in radicalization and terrorism. By explicitly analyzing the dynamics of the radicalization process from an economist’s perspective, we are able to better recognize that socioeconomic deprivation may very well be important at the outset of the radicalization process but becomes less important as radicalization progresses. For instance, before joining the Islamic State, many European jihadists had criminal careers, suggesting that economic hardship was prominent in their lives and making them more susceptible to the radicals’ call (Basra and Neumann 2016). However, and in accordance with our more elaborate model of radicalization, economic considerations are likely to matter less strongly the more radicalized individuals become (e.g., as they join an extremist mosque or even a terrorist organization) because the benefits of ordinary economic activity can be reaped less easily (e.g., as individuals have committed crimes during the radicalization process), while the ben-

efits specific to radicalism (e.g., spiritual redemption; see Basra and Neumann 2016) begin to materialize.

What are the policy implications of our discussion? First, *after* radicalization has occurred (so that a country actually witnesses violent extremism, e.g., in the form of terrorism), policy measures that emphasize socioeconomic improvements may not be appropriate. Rather, government policies ought to influence the radical's calculus in different ways. As summarized by Friedrich Schneider, Tilman Brück, and Daniel Meierrieks (2015), the government may aim at raising the material costs of radicalism and terrorism by, for example, constraining access to weapons and explosives or raising penalties for extremist and terrorist offenses. It may also focus on reducing the benefits of extremism by, for example, denying a radical group media attention. However, during (and especially at the beginning of) the radicalization process socioeconomic improvements induced by political action (e.g., through redistribution, social welfare, and economic policies that promote economic growth) are more likely to be helpful. This is because we can expect non-radicals to be much more responsive to economic incentives than their already radicalized counterparts.

REFERENCES

- Abadie, Alberto. 2006. "Poverty, Political Freedom, and the Roots of Terrorism." *American Economic Papers and Proceedings* 96 (2): 50–56. <https://doi.org/10.1257/000282806777211847>
- Abdukadirov, Sherzod. 2010. "Terrorism: The Dark Side of Social Entrepreneurship." *Studies in Conflict & Terrorism* 33 (7): 603–17. <https://doi.org/10.1080/1057610X.2010.484011>
- Abrahms, Max. 2006. "Why Terrorism Does Not Work." *International Security* 31 (2): 42–78. <https://doi.org/10.1162/isec.2006.31.2.42>
- Altunbas, Yener, and John Thornton. 2011. "Are Homegrown Islamic Terrorists Different? Some UK Evidence." *Southern Economic Journal* 78 (2): 262–72.
- Basra, Rajan, and Peter Neumann. 2016. "Criminal Pasts, Terrorist Futures: European Jihadists and the New Crime-Terror Nexus." *Perspectives on Terrorism* 10 (6): 25–40.
- Basuchoudhary, Atin, and William F. Shughart. 2010. "On Ethnic Conflict and the Origins of Transnational Terrorism." *Defence and Peace Economics* 21 (1): 65–87. <https://doi.org/10.1080/10242690902868343>
- Baumol, William J. 1968. "Entrepreneurship in Economic Theory." *American Economic Review Papers and Proceedings* 58 (2): 64–71.
- Becker, Gary S. 1962. "Investment in Human Capital: A Theoretical Analysis." *Journal of Political Economy* 70 (5): 9–49. <https://doi.org/10.1086/258724>
- Becker, Gary S. 1968. "Crime and Punishment: An Economic Approach." *Journal of Political Economy* 76 (2): 169–217. <https://doi.org/10.1086/259394>

- Benmelech, Efraim, and Claude Berrebi. 2007. "Human Capital and the Productivity of Suicide Bombers." *Journal of Economic Perspectives* 21 (3): 223–38. <https://doi.org/10.1257/jep.21.3.223>
- Berrebi, Claude. 2007. "Evidence about the Link Between Education, Poverty and Terrorism among Palestinians." *Peace Economics, Peace Science and Public Policy* 13 (1): 18–53. <https://doi.org/10.2202/1554-8597.1101>
- Blomberg, S. Brock, and Gregory D. Hess. 2008. "From (No) Butter to Guns? Understanding the Economic Role in Transnational Terrorism." In *Terrorism, Economic Development, and Political Openness*, edited by Philip Keefer and Norman Loayza, 83–115. New York: Cambridge University Press.
- Blomberg, S. Brock, Gregory D. Hess, and Akila Weerapana. 2004a. "An Economic Model of Terrorism." *Conflict Management and Peace Science* 21 (1): 17–28. <https://doi.org/10.1080/07388940490433882>
- Blomberg, S. Brock, Gregory D. Hess, and Akila Weerapana. 2004b. "Economic Conditions and Terrorism." *European Journal of Political Economy* 20 (2): 463–78. <https://doi.org/10.1016/j.ejpoleco.2004.02.002>
- Blomberg, S. Brock, Khusrav Gaibulloev, and Todd Sandler. 2011. "Terrorist Group Survival: Ideology, Tactics, and Base of Operations." *Public Choice* 149 (3–4): 441–63. <https://doi.org/10.1007/s11127-011-9837-4>
- Brockhoff, Sarah, Tim Krieger, and Daniel Meierrieks. 2016. "Heterogeneous Terrorism: Determinants of Left-Wing and Nationalist-Separatist Terrorism in Western Europe." *Peace Economics, Peace Science and Public Policy* 22 (4): 393–401. <https://doi.org/10.1515/peps-2016-0038>
- Bueno de Mesquita, Ethan. 2007. "Correlates of Public Support for Terrorism in the Muslim World." Washington: United States Institute for Peace. <https://www.usip.org/sites/default/files/May2007.pdf>
- Burgoon, Brian. 2006. "On Welfare and Terror: Social Welfare Policies and Political-Economic Roots of Terrorism." *Journal of Conflict Resolution* 50 (2): 176–203. <https://doi.org/10.1177/0022002705284829>
- Caruso, Raul, and Friedrich Schneider. 2011. "The Socioeconomic Determinants of Terrorism and Political Violence in Western Europe (1994–2007)." *European Journal of Political Economy* 27 (Supplement 1): S37–49. <https://doi.org/10.1016/j.ejpoleco.2011.02.003>
- Cronin, Audrey Kurth. 2006. "How Al-Qaida Ends: The Decline and Demise of Terrorist Groups." *International Security* 31 (1): 7–48. <https://doi.org/10.1162/isec.2006.31.1.7>
- Dalgaard-Nielsen, Anja. 2010. "Violent Radicalization in Europe: What We Know and What We Do Not Know." *Studies in Conflict & Terrorism* 33 (9): 797–814. <https://doi.org/10.1080/1057610X.2010.501423>
- Fair, C. Christine, and Bryan Shepherd. 2006. "Who Supports Terrorism? Evidence from Fourteen Muslim Countries." *Studies in Conflict & Terrorism* 29 (1): 51–74. <https://doi.org/10.1080/10576100500351318>
- Ferrero, Mario. 2005. "Radicalization as a Reaction to Failure: An Economic Model of Islamic Extremism." *Public Choice* 122 (1–2): 199–220. <https://doi.org/10.1007/s11127-005-5792-2>
- Freytag, Andreas, Jens J. Krüger, Friedrich Schneider, and Daniel Meierrieks. 2011. "Cross-Country Estimates of Socioeconomic Determinants of Terrorism."

- European Journal of Political Economy* 27 (Supplement 1): S5–16. <https://doi.org/10.1016/j.ejpoleco.2011.06.009>
- Gaibulloev, Khusrav, and Todd Sandler. 2019. "What We Have Learned about Terrorism since 9/11." *Journal of Economic Literature* 57 (2): 275–328. <https://doi.org/10.1257/jel.20181444>
- Gambetta, Diego, and Steffen Hertog. 2016. *Engineers of Jihad: The Curious Connection Between Violent Extremism and Education*. Princeton: Princeton University Press.
- Gassebner, Martin, and Simon Luechinger. 2011. "Lock, Stock, and Barrel: A Comprehensive Assessment of the Determinants of Terror." *Public Choice* 149 (3–4): 235–61. <https://doi.org/10.1007/s11127-011-9873-0>
- Hegghammer, Thomas. 2013. "Should I Stay or Should I Go? Explaining Variation in Western Jihadists' Choice between Domestic and Foreign Fighting." *American Political Science Review* 107 (1): 1–15. <https://doi.org/10.1017/S0003055412000615>
- Kirchgässner, Gebhard. 2008. *Homo Oeconomicus*. Tübingen: Mohr Siebeck.
- Kis-Katos, Krisztina, Helge Liebert, and Günther G. Schulze. 2014. "On the Heterogeneity of Terror." *European Economic Review* 68 (May): 116–36. <https://doi.org/10.1016/j.eurocorev.2014.02.009>
- Krieger, Tim. 2013. "Calculating the Costs of 9/11." In *Beyond 9/11: Transdisciplinary Perspectives on Twenty-First Century U.S. American Culture*, edited by Christian Kloeckner, Simone Knewitz, and Sabine Sielke, 123–39. Frankfurt: Peter Lang.
- Krieger, Tim, and Daniel Meierrieks. 2010. "Terrorism in the Worlds of Welfare Capitalism." *Journal of Conflict Resolution* 54 (6): 902–39. <https://doi.org/10.1177/0022002710367885>
- Krieger, Tim, and Daniel Meierrieks. 2011. "What Causes Terrorism?" *Public Choice* 147 (1/2): 3–27. <https://doi.org/10.1007/s11127-010-9601-1>
- Krieger, Tim, and Daniel Meierrieks. 2013. "Terrorism: Causes, Effects and the Role of Money Laundering." In *Research Handbook on Money Laundering*, edited by Brigitte Unger and Dan Van der Linde, 78–92. Cheltenham: Edward Elgar.
- Krieger, Tim, and Daniel Meierrieks. 2017. "How to Deal with International Terrorism." In *International Law and the Rule of Law under Extreme Conditions*, edited by Thomas Eger, Stefan Oeter, and Stefan Voigt, 223–47. Tübingen: Mohr Siebeck. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2479161
- Krueger, Alan B. 2008. "What Makes a Homegrown Terrorist? Human Capital and Participation in Domestic Islamic Terrorist Groups in the U.S.A." *Economics Letters* 101 (3): 293–96. <https://doi.org/10.1016/j.econlet.2008.09.008>
- Krueger, Alan B., and Jitka Malečková. 2003. "Education, Poverty and Terrorism: Is There a Causal Connection?" *Journal of Economic Perspectives* 17 (4): 119–44. <https://doi.org/10.1257/089533003772034925>
- Kurrild-Klitgaard, Peter, Mogens K. Justesen, and Robert Klemmensen. 2006. "The Political Economy of Freedom, Democracy and Transnational Terrorism." *Public Choice* 128 (1): 289–315. <https://doi.org/10.1007/s11127-006-9055-7>
- LaFree, Gary, and Laura Dugan. 2007. "Introducing the Global Terrorism Database." *Terrorism and Political Violence* 19 (2): 181–204. <https://doi.org/10.1080/09546550701246817>

- Li, Quan, and Drew Schaub. 2004. "Economic Globalization and Transnational Terrorism: A Pooled Time-Series Analysis." *Journal of Conflict Resolution* 48 (2): 230–58. <https://doi.org/10.1177/0022002703262869>
- Meierrieks, Daniel. 2014. "Economic Determinants of Terrorism." In *Understanding Terrorism: A Socioeconomic Perspective*, edited by Raul Caruso and Andrea Locatelli, 25–49. Bingley: Emerald Group Publishing. [https://doi.org/10.1108/S1572-8323\(2014\)0000022002](https://doi.org/10.1108/S1572-8323(2014)0000022002)
- Meierrieks, Daniel, and Thomas Gries. 2013. "Causality between Terrorism and Economic Growth." *Journal of Peace Research* 50 (1): 91–104. <https://doi.org/10.1177/0022343312445650>
- Mousseau, Michael. 2011. "Urban Poverty and Support for Islamist Terror: Survey Results of Muslims in Fourteen Countries." *Journal of Peace Research* 48 (1): 35–47. <https://doi.org/10.1177/0022343310391724>
- Neumann, Peter. 2013. "The Trouble with Radicalization." *International Affairs* 89 (4): 873–93.
- Olson, Mancur. 1965. *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge, MA: Harvard University Press.
- Piazza, James A. 2006. "Rooted in Poverty? Terrorism, Poor Economic Development, and Social Cleavages." *Terrorism and Political Violence* 18 (1): 159–77. <https://doi.org/10.1080/095465590944578>
- Piazza, James A. 2011. "Poverty, Minority Economic Discrimination, and Domestic Terrorism." *Journal of Peace Research* 48 (3): 339–53. <https://doi.org/10.1177/0022343310397404>
- Pisoiu, Daniela. 2014. "Radicalization." In *The Oxford Handbook of European Islam*, edited by Jocelyne Cesari, 770–801. Oxford: Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199607976.013.9>
- Pruyt, Erik, and Jan H. Kwakkel. 2014. "Radicalization under Deep Uncertainty: A Multi-Model Exploration of Activism, Extremism, and Terrorism." *System Dynamics Review* 30 (1–2): 1–28. <https://doi.org/10.1002/sdr.1510>
- Robison, Kristopher K., Edward M. Crenshaw, and J. Craig Jenkins. 2006. "Ideologies of Violence: The Social Origins of Islamist and Leftist Transnational Terrorism." *Social Forces* 84 (4): 2009–26. <https://doi.org/10.1353/sof.2006.0106>
- Sageman, Marc. 2004. *Understanding Terror Networks*. Philadelphia: University of Pennsylvania Press.
- Sandler, Todd, and Walter Enders. 2004. "An Economic Perspective on Transnational Terrorism." *European Journal of Political Economy* 20 (2): 301–16. <https://doi.org/10.1016/j.ejpoleco.2003.12.007>
- Sandler, Todd, and Walter Enders. 2008. "Economic Consequences of Terrorism in Developed and Developing Countries: An Overview." In *Terrorism, Economic Development, and Political Openness*, edited by Norman Loayza and Philip Keefer, 17–47. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511754388.002>
- Schneider, Friedrich, Tilman Brück, and Daniel Meierrieks. 2015. "The Economics of Counterterrorism: A Survey." *Journal of Economic Surveys* 29 (1): 131–57. <https://doi.org/10.1111/joes.12060>
- Shafiq, M. Najeeb, and Abdulkader H. Sinno. 2010. "Education, Income, and Support for Suicide Bombings: Evidence from Six Muslim Countries." *Journal of Conflict Resolution* 54 (1): 146–78. <https://doi.org/10.1177/0022002709351411>

- Simon, Herbert A. 1955. "A Behavioral Model of Rational Choice." *The Quarterly Journal of Economics* 69 (1): 99–118. <https://doi.org/10.2307/1884852>
- Tavares, José. 2004. "The Open Society Assesses Its Enemies: Shocks, Disasters and Terrorist Attacks." *Journal of Monetary Economics* 51 (5): 1039–70. <https://doi.org/10.1016/j.jmoneco.2004.04.009>
- Tessler, Mark, and Michael D. H. Robbins. 2007. "What Leads Some Ordinary Arab Men and Women to Approve of Terrorist Acts Against the United States?" *Journal of Conflict Resolution* 51 (2): 305–28. <https://doi.org/10.1177/0022002706298135>
- Victoroff, Jeff. 2005. "The Mind of the Terrorist: A Review and Critique of Psychological Approaches." *Journal of Conflict Resolution* 49 (1): 3–42. <https://doi.org/10.1177/0022002704272040>
- Zelinsky, Aaron, and Martin Shubik. 2009. "Research Note: Terrorist Groups as Business Firms: A New Typological Framework." *Terrorism and Political Violence* 21 (2): 327–36. <https://doi.org/10.1080/09546550902771993>