

A law and economics perspective on terrorism

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Abstract This paper reviews the existing law and economics literature on crime, noting where various models might apply to the terror context. Specifically, it focuses on two strands of the literature, deterrence and incapacitation. It considers anti-terror measures enacted by different countries, highlighting how the details of the laws correspond to the insights from economic models of crime. In conclusion, the paper proposes an efficient sorting mechanism in which individuals will be provided with incentives to reveal their type to law enforcement authorities.

Keywords Terrorism · Penalty enhancements · Communal liability · Organized crime · Basic crime model · Deterrence · Incapacitation

1. Introduction

Until recently, economic analysis of terrorist behavior was relatively underdeveloped. However, given the recent focus of policymakers on measures to fight terrorism, it may be useful to examine what insights the field of economics has to offer to inform the development of counter-terrorism policy. One of the most fruitful areas within economics to mine for insights in this regard is the law and economics of criminal behavior. In many (but certainly not all)

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ways, terrorist activities resemble criminal activities, and so it might be useful to apply (and modify where necessary) the economic models of crime in this area.

This article attempts to lay out the implications of the law and economics literature on crime as they relate to terrorism.¹ The economic model of crime and law enforcement relies on the balance between the benefits from offending and the respective costs in terms of probability and severity of punishment, with respect to individuals (decision whether or not to commit a crime) and society (design of optimal law enforcement) to achieve efficient deterrence.² The preferences of terrorists are very important to the understanding of the benefits from offending (even if these preferences are not “shared or” well understood generally by others) as well as for establishing effective punishment.³ Penalty enhancements only make sense in the economic model if perceived as more severe by potential and actual offenders, and not just by society generally. Although many commentators suspect that ordinary punishment is inappropriate because terrorists have peculiar preferences, the fact of the matter is that there has been no empirical assessment of preferences for terrorism, but governments suspect that terrorists care about the severity of ordinary punishment to some extent.⁴

Another strand of the economic literature looks at criminal incapacitation rather than deterrence. Efficient incapacitation is achieved by eliminating opportunities for terrorism at minimum cost for society. One possibility is simply to eliminate the physical ability to commit offenses by imprisonment or by imposing the death penalty. Another possibility is to reduce assets made available to terrorism by cutting terrorists off from their funds. A third alternative is to increase the distance between terrorists and potential victims by imposing harsher immigration laws, including deportation.

Having in mind the nature of terrorism, we should look at efficient legal policies at the individual and organization levels. Financial penalties are unlikely to play any substantive role with respect to individual terrorists (some of them are indigent any way), but may play a larger role regarding fund-supporting organizations. The effectiveness of deportation is enhanced when applied to well-known leaders (e.g., radical clerics) rather than minor and obscure members of the organization.

We begin our analysis discussing the insights that are available from models that focus on corporate or collective crimes as they relate to terrorism. We then discuss the basic rational agent model of crime in the context of terrorism, pointing out the assumptions that might need to be changed in this new area of application. We then present a sampling of anti-terror measures enacted by different countries, highlighting how the details of the laws correspond to the insights from economic models of crime. We then conclude with an innovative mechanism design approach to mitigating the tensions between security and privacy in implementing policies geared toward monitoring and prosecuting terror suspects.

Our paper does not address legal international cooperation for anti-terrorism measures (Sandler, 2005). The current economic literature on cooperation at the level of criminal prosecution and criminal law is extremely under-developed, but it seems to support the comparative federalism paradigm (in the context of this article, jurisdictions should compete

¹ The seminal paper is Becker (1968).

² For a criticism of the deterrence literature in terrorism see Frey and Luenchinger (2004).

³ See on terrorist preferences and rational Bernholz (2004).

⁴ Examples include the IRA and ETA as we will see when we discuss anti-terrorism legislation in the UK and Spain in Section 7.

by means of tougher legislation to avoid terrorism attacks) which is not very appealing in the context of terrorism (given external costs) (Garoupa, 1997a,b; Teichman, 2005).

2. Communal liability: Identifying the relevant unit

While an individual may independently carry out an act of terrorism, the nature, the goal and the magnitude of terror crimes make terrorism more like corporate crime and organized crime than individual crime. Honor, pride and family status limit the persuasive power that individual punishment will have on a potential terrorist, while the continuity and long-term goals of the terrorism organization enhance the effects that group liability may yield. While preventing terrorist acts requires deterring those individuals who would otherwise commit the acts, the role of terrorist organizations and networks suggests that anti-terrorism policy must focus incentives and punishment on the terrorist group as well as the individual terrorist. Notice we focus on two distinct aspects. We consider the most obvious case of liability for active supporters of terrorism, but also the less obvious case of liability for those who benefit indirectly from terrorism or are passive supporters of terrorism, that is, those who are in better position to deter terrorism and fail to do so.

There are two different rationales for group liability. The first is based on the idea that terrorism has a “constituency” that benefits from terrorist acts. The group liability would target the constituency who benefits from the terrorist act. This is similar to the foundation of vicarious liability of the principal for the acts of the agent (i.e., enterprise liability). This is a rationale that focuses on the wrongdoers’ external benefits. The second rationale instead focuses on the identification of superior enforcers. Liability is imposed on the wrongdoer’s group not because the group benefits from the terrorist acts, but because the group can monitor and prevent terrorist acts more effectively. Large financial liability of groups and families that provide support, or could have prevented the commission of a terrorist act serves this purpose. In certain settings, this form of “communal liability” might prove more effective than individual criminal liability of those who are directly involved in the terrorist activity. This claim, based on Becker’s analysis, supposes that spreading liability to the members of the group or family infrastructure will provide some level of internal monitoring, and eventually ex post sanctions on members of the group that occasion the imposition of financial liability on the group as a whole.

Within this framework of group-wide liability, family or group members of a terrorist become quasi-enforcers. Since groups and families are held (strictly)⁵ liable for their members’ actions, the government delegates to the family or group infrastructure the task of monitoring and controlling potential offenders. It lowers the cost of enforcement to the government, but it increases the monitoring costs to such local groups. In doing so, the government must make sure the group has the appropriate incentives to monitor and eventually penalize its members for engaging in criminal activities that lead to liability for the group.

It should be remembered that the imposition of group liability for crimes that are not easily preventable or detectable from outside the group is not a novel idea. Historically, groups and clans were liable for the wrongs committed by group members and this ensured effective internal monitoring of the troublemakers within the group. Parisi and Dari Mattiacci (2004) show that the law applicable to inter-group wrongdoing was often characterized by rules

⁵ For the implications of strict versus negligence-based vicarious liability on the economic incentives to monitor potential wrongdoers, see Mattiacci and Parisi (2003).

of absolute and collective responsibility.⁶ Historically, communal liability thrives in social contexts where local groups and families have better information than potential victims and central enforcement authorities, thus providing less expensive preventive measures.⁷ Local groups could be superior enforcers because their enforcement measures are more credible and effective.⁸ Obviously, in the case of terrorist activities, local monitoring should be augmented with central enforcement. Through communal liability, local groups and families are given incentives to cooperate with central enforcement authorities in the prevention of terrorist activities.

The creation of internal monitoring incentives created by communal liability should be evaluated against the common pool effects that such a system creates. The history of communal liability rules in ancient law can be used to illustrate this tension. Historically, the boundaries of the “group” for communal responsibility purposes tend to narrow overtime. The system of communal responsibility was never extended beyond the closer family (i.e., a group that recognized a common ancestor within the last three, or at most four, generations).⁹

The implementation of legal policies designed to create widespread monitoring incentives should obviously be attentive to the respect of other important legal safeguards. There are in fact different ways in which families, groups, or even states can “foster” terrorist activities. Arend and Beck’s (1995) distinction between toleration, support and sponsorship becomes relevant in the context of legal policies of communal liability.¹⁰ Liability on the group can

⁶ Most relevant is the recent work by Parisi and Mattiacci (2004). In ancient societies, rules of communal responsibility permitted the imposition of sanctions (both physical and pecuniary) on a wrongdoer’s clan. These rules followed the collective ownership structure of early communities. The authors provide an economic explanation for the widespread use of communal liability rules in ancient law, considering the factors that determined the rise and subsequent abandonment of communal liability. See also Parisi (2001).

⁷ Early rules of communal liability were an effective instrument for restoring the equilibrium between groups and to promote intra-group monitoring incentives, in an environment characterized by limited access to information outside the group and underdeveloped discovery systems. Second, these societies were characterized by a substantial lack of privacy and this facilitated the opportunities for cross-monitoring members within the group. Posner (1980) considers the function of privacy, or lack thereof, in a system characterized by communal responsibility and collective ownership. He maintains that the characteristics of strict and communal liability for injuries, and collective guilt, fundamentally derive from the high information costs of ancient society. A way of limiting these costs is by maintaining crowded living conditions that deny privacy, thereby increasing the production of information (but at the same time reducing the production of some socially useful information by failing to assign a property right in such information). Because of the limited extent of personal privacy, detection of crimes is high and so is the probability of punishment. This in turn serves to keep the required level of sanctions low and to moderate the lack of individual incentives to contribute to the common good.

⁸ Inducing optimal monitoring and ensuring internal sanctioning (that is, credibility of firm’s enforcement policy) is also not immune to controversy. Arlen (1994) identifies a “potentially perverse effect” by which holding firms (vicariously) liable for offenses committed by its employees can increase enforcement costs. If the information that the firm acquires can be used to increase its own probability of incurring liability, the firm will not monitor optimally. In order to tackle this effect, a composite liability regime where some duty-based liability or mitigation provisions are included has been proposed. However, it has been noted when information costs are high, strict liability could be preferable.

⁹ Exodus 20:5 and Deuteronomy 5:9. Parisi and Dari Mattiacci (2004) show that early clans tended to remain relatively small in size (and to become even smaller, as group wealth increased), in spite of the forgone economies of scale in external security. External security was obtained through coalitions of clans, but the boundaries of the group for purposes of joint ownership and communal responsibility never extended beyond the closer family. This still characterizes the domain of vicarious liability of the family in the Romanistic legal systems, where the finding of a common ancestor within the last three generations serves as the general threshold for establishing a family link.

¹⁰ Arend and Beck (1995), distinguish three different levels with which a group or state can foster terrorist activities: (1) toleration, (2) support; or (3) sponsorship. Higher levels of involvement also include lesser forms.

be imposed on a strict basis, regardless of the group's involvement in the terrorist activities. But if strict group liability is found inappropriate, a specification of the standard becomes necessary. At the most conservative end of the spectrum, liability of the group may be imposed only in the case of active involvement of the group, through sponsorship. This form of liability would not substantially depart from existing criminal rules. At the other end, group liability may be imposed even if the evidence reveals only passive acquiescence or toleration. This standard may be coupled with an inversion of the burden of proof. For example, rules could be designed to exclude the imposition of liability for groups and families that cooperate with central enforcement authorities, reporting suspect group members, even if criminal activities are not successfully prevented. Finally, intermediate solutions could also be possible, imposing liability for groups that provide any form of support to individuals that are involved in terrorist acts.¹¹

3. Terrorism as crime: New dimensions

The standard crime model provides valuable insights when considering terrorist groups as cohesive units. However, terrorism represents a peculiar form of crime which poses several difficulties to the application of the neoclassical models of crime. Crimes of terrorism are not committed by individuals acting in isolation, without regard to other possible actors. In the context of terrorist organizations, the crime results from the concerted or interdependent action of various actors committing – or possibly preventing – offences. Agency problems, including coordination or team issues, are thus likely to be pervasive in the case of organized terrorist activities. Further, families of terrorist members may directly or indirectly support terrorist activities, concealing the whereabouts of the members or providing practical or financial assistance.

When agency problems are considered, the standard crime model needs to be extended to maintain its descriptive power. The adoption of a principal-agent framework can provide useful insights into terrorism, helping predict criminal behavior by terrorist organizations.¹²

3.1. Spreading the incentives: Insights from the economics of corporate criminal liability

The economics of corporate criminal liability provides important insights into the punishment of terrorist groups since some of the problems that have been identified in the literature are easily recast in terms of terrorists. Ideally, with complete contracting and without liquidity constraints, individual liability alone would induce efficient behavior. Consequently, corporate and organizational liability would not be necessary and the classical economic model of crime would be enough to prescribe efficient policies.

Models of corporate liability apply when contracts are incomplete or when solvency matters. In the context of terrorism, models of corporate liability may be predictive.

¹¹ Murphy (1989) distinguishes twelve ways in which support to terrorism can be given, including assets, financial support, territory, training, intelligence, weapons and explosives, transportation, technology, and rhetorical support.

¹² See for example Miceli and Segerson (2004). They show that group punishment can never dominate individual punishment on pure deterrence arguments. See also the application to terrorism by Gan, Williams, and Wiseman (2004).

Individual terrorist actors may not be entirely responsive to incentives, such as suicidal bombers who are not afraid of jail sentences or do not have enough assets to make financial penalties effective. On the other hand, supporting organizations usually have extensive funds and most individual members (who are not suicidal bombers) care about imprisonment.

For the case of corporate or organizational criminal liability, the existence of different interests within the organization can be exploited for the purpose of deterrence with the choice of appropriate remedies. With respect to corporations, appropriate incentives are created to deter business offenses, that is, offenses committed by agents with or without the shareholders' consent. In this context, the literature has examined whether it is desirable or not to hold an employee liable for corporate crimes committed by managers (Segerson & Tietenberg, 1992; Polinsky & Shavell, 1993; Shavell, 1997), and what the structure of optimal corporate sanctions should look like (Arlen, 1994).

Applying by analogy the results of corporate criminal liability, it could be claimed that a socially optimal criminal sanctioning policy would favor large financial liability of groups and families that provide support, or could have prevented the commission of a terrorist act, over criminal liability (and jail sentences) for those individuals directly involved in the terrorist activity.

3.2. Agency costs and group liability

Agency costs play a central role in assessing efficient policies. In a world where the alignment of interests is costless, it is not relevant who is actually punished since terrorists and supporters (including relatives) can bargain *ex ante* and reallocate sanctions. Individual liability of terrorists alone induces efficient behavior. However, in the particular case of terrorist activities, agency costs exist and can be significant. Usually there is asymmetric information because active members of a terrorist group have more and better information concerning terrorist activities than other members of their family or support group.

One consequence of the asymmetry between these actors is that communal liability will distort incentives inside the group. On one hand, it will deter those harmful activities that are easily observable but will induce active terrorists to engage relatively more in those harmful activities that are hardly observable and controllable by their families and group members. On the other hand, spreading of liability might affect productive activities that are somehow correlated but not easily separable from terrorist activities (e.g., money laundering) (Garoupa, 2000a,b).

In an ideal world in which the individual terrorist bears the full burden of the sanction, group and individual sanctions are substitutes. In the case of terrorist activities it is very unlikely that any substantial portion of the sanction can be passed along to the actual wrongdoer. This is because the group is often unable to shift the penalty to the actual wrongdoers, who often sacrifice their lives to carry out a terrorist act. When the penalty cannot be effectively placed directly on the wrongdoer, the group must monitor the member's actions to prevent any potential wrongdoing.

These arguments suggest that, in spite of the general skepticism of law and economics scholars on the issue of corporate criminal liability (Block, 1991), there may be valid considerations in support of group liability for the wrongdoing of one of its members. Aligning the interests of the group with those of the government by making use of spreading of liability can be potentially effective.

4. Terrorism as organized crime

The organization of terrorist activities bears some resemblance to that of organized crime. Organized crime can be characterized as exhibiting economies of scale, undertaking violence against other legal and illegal business, creating a hierarchy which internalizes negative externalities and manages a portfolio of risky activities, and avoiding resource dissipation through competitive lobbying and corruption (Fiorentini & Peltzman, 1995).

We emphasize the following differences between organized crime (including terrorism) and corporate crime: (i) organized crime is carried out by illegal organizations (usually without a legal entity, but not always), the criminal market being their primary market and legitimate markets being secondary markets; (ii) corporate crime is carried out by legal firms (with legal entity), the legitimate output market being their primary market and the criminal market being their secondary market. Whereas organized crime exists to capitalize on criminal rents and illegal activities, corporations do not exist with the purpose of violating the law. Organized crime and terrorists get into legitimate markets in order to improve their standing on the criminal market, corporations violate the law so to improve their standing on legitimate markets.

There are different reasons for the existence and persistence of organized crime and terrorist organizations in different societies. In general, we can say that organized crime emerges because there is an absence of state enforcement of property and contractual rights, which can also include the collapse of legitimate business institutions. Organized crime provides primitive state functions but at a cost typically much higher than modern governance. Thus, its control is necessary, since it can easily corrupt existing institutions and business environment (Skaperdas, 2001). This characterization can easily be applied to terrorism, the Taliban government of Afghanistan as the obvious example.

The economic literature on organized crime is quite limited when compared to the work on individual crime and criminal law. Economic analysis of organized crime has stressed welfare comparisons between different market structures (monopoly versus competitive supply) of offenses. Crimes are economic bads, not goods. A monopolistic market is more efficient than a perfectly competitive one in the presence of bads because the output is smaller (Buchanan, 1973; Reinganum, 1993; Garoupa, 2000a,b). Besides monopoly power, transaction costs also determine the activities of organized criminal firms, being more successful when there is a production cost advantage. That explains, for example, why organized crime supplies protection to illegal firms dealing with victimless activities where the activities are easily observable, while self-protection is the rule for organizations involved in appropriation (Dick, 1995). Certainly terrorism fits well with the former rather than the latter.

The criminal organization can be modeled as a vertical structure where the principal extracts some rents from the agents through extortion (Konrad & Skaperdas, 1997). As long as extortion is a costless transfer from individuals to the criminal organization, it has been shown that not only the existence of extortion is social welfare improving because it makes engaging in a criminal offense less attractive, but it also allows the government to reduce expenditure on law enforcement (the government free-rides on the entry barriers created by criminal organizations). However, when extortion is costly because the criminal organization resorts to threats and violence, the existence of extortion is social welfare diminishing and may lead to more expenditure on law enforcement. Extortion in the context of terrorism is costly (e.g., the revolution-supporter taxes extorted by ETA in Spain or the Colombian terrorist groups) because they are enforced by kidnapping and murder.

Illegal organizations however are not just the kind of firms that operate in the criminal market or commit business crimes. They also operate in legitimate input and output markets

and compete with the state in the provision of public services (two good examples are the extensive parts of Colombia controlled by left and right terrorist groups or the former Taliban government of Afghanistan). They exist as an alternative provider of goods and services to the private sector and compete with the government in terms of tax rates and provision of public goods. Their existence can have a beneficial effect because the “kleptocratic” tendencies of the government are moderated (Grossman, 1995). However, they may distort legal markets (e.g. money laundering, control of unions, unfair competition) and create inefficiencies (Gambetta & Reuter, 1995). Incorporation into legitimate business can be a problem, but at the same time a solution by making detection easier (because activities in the legitimate markets are easier to monitor and detect).

The institutional environment of organized crime (and terrorism) has not been analyzed by economists with the attention it deserves. One major issue that constrains the relationship between those involved in organized crime, in particular terrorism, is that contracts are not enforceable in court. That is not to say that illegal contracts are not enforceable. One mechanism to enforce an illegal contract is the threat and use of violence. The participants in illegal markets lack access to state-provided facilities for settlement of disputes. Consequently, violence can be an effective method to resolve disagreements. Furthermore, victims of violence are disadvantaged in seeking police protection: the process of providing an informative complaint will convey information to the police about the illegal activities of the complainant.

Violence further arises when the criminal organization wants to monopolize the market or avoid competitive entry. Moreover, in the long run, the violent gang and terrorist group can usually replace internal violence by reputation increasing profits and saving on labor costs (Reuter, 1983). The threat of violence also affects the organization of the market *ex ante* by avoiding misunderstandings and controlling the degree of subjective uncertainty as well as investment in reputation (Konrad, 2004).

A second mechanism to enforce an illegal contract is reverting to arbitration. Seeking the Mafia’s arbitration can be of advantage to criminal firms because violence is costly and uncertain: the cost of acquiring reputation is high in an environment where disputes are frequent. Moreover, there is a complete absence of feasible symbols of quality and reliability. On the supply side, allowing the Mafia to act as a referee solves the problem of defining property rights. In the context of terrorism, a similar argument applies to the unitary leadership of the terrorist organization (e.g. internal rifts within the IRA or ETA were dealt swiftly and without mercy by the leadership every time they aroused).

Given that enforcing criminal contracts is expensive, either because violence is not inexpensive (even if only at a threat level) or because solving the matter within the Mafia’s institutional system is not costless (it may include costs of arbitration, rents to be paid as subscription, bribes), one would think criminal organizations should prefer an employment relationship rather than subcontracting. Monitoring and enforcing a contract is relatively easier in an employment relationship. The cost of monitoring subcontractors is augmented because there is no book-auditing and record-keeping must be minimal to reduce evidence.

The problem posed by an employee is that his detection can compromise the whole organization with higher probability than an external subcontractor. Employees can provide information about past and future deals leading to arrest and seizure of assets involved in the transaction. Therefore the entrepreneur aims to structure the relationship so as to reduce the amount of information available to them concerning his own participation, and to ensure that they have minimal incentive to inform against him. Moreover, employees are afraid of other employees. Thus dispersion and monitoring naturally emerges as to control individual risk.

One consequence of these observations is that illegal firms should be smaller than if the product were legal. In policy terms, sanctioning the organization more severely affects not only the dimension but also the characteristics of a criminal network. Severe punishment reduces the dimension of the network, but it might increase the effectiveness (criminal productivity) of its members. Eventually smaller firms are easier to manage and consequently fewer mistakes are committed, diminishing the likelihood of detection.

This last point is especially salient with respect to terrorist groups to the extent that they too face organizational problems that are more easily managed in smaller groups. Also, given the public nature of the good they produce, a smaller group may be more effective since there will be less free-riding (Olson, 1971). To effectively monitor and provide adequate incentives to workers, terror groups tend to tap into existing social networks such that they can select for high demanders of the public good. They also use the social network to provide incentives in cases where standard labor incentives are not possible (e.g., when success requires that the worker dies). So, for example, if organized crime and terror organizations each draw their employees from cohesive communities, the value of status (even past death) is greater, and there can be strong expectations that rewards and punishments will be visited upon surviving individuals about whom the worker cares a great deal. Also, especially in the context of terror activities, it makes sense that workers are often selected on the basis of their religiosity since expectations regarding the afterlife can provide strong incentives and can allow for very effective monitoring (Klick, forthcoming).

Terror groups also seem to build counterparts in legitimate markets, just as we see with organized crime. As with organized crime, these legitimate businesses or political groups serve to help fund the terror activities (e.g., Sinn Fein and the IRA, some of the Islamic charity groups that have come under suspicion in recent years, religious schools in Afghanistan, Batasuna and ETA, etc.). This vertical integration arises given the high transactions costs terror groups would have in dealing with completely legitimate businesses (Iannaccone, 2004).

Given the relatively undeveloped state of economic analysis of organized crime, the literature does not offer huge insights into the nature of terrorist organizations. However, it would seem that the similarities of the two institutions, in particular the observation that terror groups generate public goods, could generate a number of interesting empirical predictions and policy recommendations.

Law enforcement can also benefit from the insights of the principal-agent setup. Terrorism is usually a cooperative (even if not organized in the sense of a vertical hierarchy) crime in the sense that it involves more than one individual. In this context, distrust between agents and principals may deter crime *ex ante* and reveal information and evidence *ex post*. Legal mechanisms that create distrust between different parties (e.g., plea-bargaining or leniency programs) generate a chilling effect so that the different parties are less likely to violate the law (since each party is afraid that the other will make a deal with the authorities and provide incriminatory evidence). In the case that a violation does happen, the same legal mechanism is useful to get information and evidence from the different parties. Naturally well-designed plea-bargaining or leniency programs increase the effectiveness of law enforcement and reduce enforcement costs. However, if not well designed, plea-bargaining could be counterproductive because it diminishes the expected cost of illegal activities and thus it generates more terrorism (Garoupa, 2005).

The reputation of the terrorist group is very important to undermine law enforcement efforts. The conventional model assumes a never-to-capitulate enforcement policy which hinges on the government's ability to fully control deterrence with full credibility. By allowing reputation costs and limits, including budget constraints and electoral cycles, to the government's

choice of legal policy, we can see how precommitment not to negotiate can become a liability in law enforcement. Nevertheless, making concessions under plea-bargaining can also limit the credibility of the government's policy (Lapan & Sandler, 1988, 1993; Sandler & Enders, 2004).

5. Terrorism as crime: Revisiting the basic crime model

Traditionally, economic analysis of crime has been concerned with individual deterrence from a cost-benefit analysis viewpoint. In the usual Becker-Polinsky-Shavell setup, potential criminals compare the illegal gain from committing an offence with the expected cost, including expected punishment. The theory of optimal law enforcement has emerged as a normative comprehensive framework to prescribe optimal legal policies when individuals behave rationally.¹³

In the standard models of crime, offences are committed by rational individuals who decide whether or not to commit the crime based on the probability and severity of punishment. Some of the insights provided in the context of the rational individual can be usefully carried over into the terrorism context. For example, it has been noted in the literature that expected punishment should increase with the harmfulness of the criminal act (Polinsky & Shavell, 1992). One can argue that terrorism is usually associated with more socially costly offenses and much more serious consequences, and so enforcement should be harsher.

Further, it has been shown that when the government observes how difficult individuals are to be apprehended only after expending enforcement resources, the optimal sanction should be maximal for those most difficult to apprehend (Bebchuk & Kaplow, 1993). If apprehension rates for terrorists are lower (low probabilities of detecting, apprehending and punishing criminals), this model of optimal sanction would provide an additional justification for harsher punishment.

One could also argue that punishment should be more severe in the context of terrorism if it is found that terrorists (including supporting organizations) are on average wealthier or hold more assets than other categories of criminals.¹⁴

To the extent to which financial penalties are imposed on terror group assets, the relevance of risk profiles come into play. Economic theory usually treats organizations as risk neutral and individuals as risk averse. According to the prevailing theory of optimal penalties, risk neutral terrorist groups should be more severely punished than risk-averse individuals. Higher penalties would in turn allow lower enforcement probabilities, a predicate that is consistent with the empirically observable lower apprehension rate (Polinsky & Shavell, 1979).

The economic models of marginal deterrence could become a serious concern for terrorism. Marginal deterrence becomes relevant when criminals choose their criminal conduct from a range of harmful acts to commit (for example, whether to commit rape or also to kill the victim). In such contexts, the threat of sanctions plays a dual role. Sanctions should aim at deterring the lesser crime, but for individuals who choose to commit the lesser crime, there should be a sufficient escalation in the threat to deter the commission of the more serious crime. Marginal deterrence pursues deterrence of a more harmful act by threatening a higher sanction than that imposed for a less harmful act. In the case of terrorist acts, the issue of marginal deterrence could be of critical importance. For example, penalties for the bombing

¹³ Useful surveys can be found in Garoupa (1997a,b), and in Polinsky and Shavell (2000).

¹⁴ Note however the debate concerning the efficiency of wealthier individuals being more or less severely punished. See Friedman (1981); Lott (1987); Garoupa (2001a,b); Garoupa and Gravelle (2003).

of a building should be high enough to deter the act, but maximal penalties should only be imposed for the most harmful terrorist activities (Stigler, 1970; Wilde, 1992).

A similar logic applies to the case of attempt of terrorism.¹⁵ The sanction for attempts should never be larger than the sanction for causing harm. Further, attempts should be severely punished when the government cannot determine the probability of harm but does know the magnitude of the potential harm (Shavell, 1990). This result is important for the context of terrorism where the likelihood of success is relatively low.

At the individual level, the standard crime models may need to be modified slightly to generate useful predictions and policy prescriptions in the terrorist context. For example, some terrorists may gain utility from the prospect of receiving certain punishments (e.g., the death penalty) if they wish to be viewed as martyrs for their cause. Incorporating this concern into the crime model is not straight forward. Presumably, the desire to be a martyr is subordinate to the desire to be effective in carrying out the terror activity.¹⁶ If it were not, terrorists would not spend resources in planning and carrying out their attacks since they could achieve martyrdom relatively easily without any preparation. For example, it would be quite simple to become a martyr by charging toward a well protected enemy target with a weapon. Since execution or imprisonment will preclude the terrorist from engaging in future terror activities, it would appear that increasing punishments or the probability of apprehension will have a deterrent effect, even if the terrorist gets some value out of martyrdom. However, on the margin, this factor might imply that some forms of punishment will be more effective than others. For example, shaming mechanisms that are likely to lower the terrorist's status among his network could be relatively effective.

Another issue, which is addressed more fully below, involves the public good nature of the terrorist's activities. That is, the benefits of the crime (i.e., the costs inflicted on individuals constituting the enemy of the terrorist group), in this context, accrue to many individuals beyond those directly involved. Thus, policy prescriptions can profitably exploit the problems that arise from the provision of public goods.

6. Implications for the security of victims

In the previous sections we have discussed terrorism if committed by individuals in a setup without agency costs (classical theory) and in a setup with agency costs (importing insights from corporate criminal liability). In these discussions, the behavior of victims was implicitly exogenous. However, a more general model needs to incorporate incentives faced by victims as well.

Potential victims can exercise security measures in order to reduce the probability of victimization. Nevertheless, it is not clear if these security measures are part of efficient deterrence, let alone if the government should encourage them. Security measures are chosen by potential victims for private reasons; hence the choice of precaution is generally not socially optimal (Shavell, 1991).

¹⁵ Obvious examples are the failed July 21, 2005 bombings in London.

¹⁶ Evidence to this effect can be found in *Military Studies in the Jihad Against the Tyrants* (translation available at <http://www.thesmokinggun.com/archive/jihadmanual.html>) which describes among the qualifications necessary for its members, "Sacrifice: He has to be willing to do the work and undergo martyrdom for the purpose of achieving the goal and establishing the religion of majestic Allah on earth." Further evidence can be found in the requirement that members be cautious and prudent.

Within the economic literature on private precaution, we can distinguish three arguments against the efficiency of security or victimization avoidance measures. Even though developed in the context of the classical model, these arguments can easily be extended to terrorism.

The first argument against the efficiency of private precaution goes along the following lines: victims are expected to over-invest in precaution because they do not take into account the gains for the perpetrator. The argument that a victim, whether an individual or a group, ignores criminal gains implies that the private value of precaution is higher than its social value (Ben-Shahar & Harel, 1995).

A second argument predicts over-investment by a different rationale. Faced with a victim that takes security measures, the perpetrator will prey on the individual that took fewer precautions. As a consequence, security measures divert rather than deter crime. However, because victims do not care about overall deterrence, but their own likelihood of victimization, they over-invest in precaution (Hui-Wen & Png, 1994).

The last argument goes in the opposite direction: victims will tend to under-invest in precaution because they anticipate that the government will reduce public enforcement accordingly. Alternatively, they over-rely on governmental law enforcement. The private value of precaution is lower than its social value (Hylton, 1996).

The problem of inefficient behavior by potential victims has led Harel to argue for a “contributory fault” rule in criminal law (Harel, 1994). In tort law, contributory negligence and comparative negligence rules are rules by which responsibility for an accident is apportioned between the tortfeasor and victim. Damages are rendered non recoverable or are reduced when the victim was also negligent. A similar interpretation is proposed for criminal law: if a victim satisfies the standard precaution, the offender is inflicted with a high sanction; if a victim fails the standard precaution, the offender is inflicted with a low sanction. Offenders have some information on potential victims’ private precaution and will search for victims who fail to take the standard precaution. This obviously induces victims to choose the standard precaution.

Cohen presents a similar idea though less radical with respect to sentencing of economic crimes and new technology offenses (Cohen, 2000). Economic crimes against victims with higher costs of prevention should be more severely punished. In fact, if it is usually more difficult for the government to prevent business crimes than the private sector (essentially due to asymmetries of information), offenders should be more severely punished when the victim is the government rather than the private sector.

Certainly the choice of targets by terrorists seems to be related to the degree of self-protection by victims, with the obvious examples of the attacks in New York (September 11, 2001), Madrid (March 11, 2004), and London (July 7 and 21, 2005), and more commonly in the case of Palestinian suicide bombers in Israel. The economic approach suggests that bombing trains or buses and killing innocent civilians could be more effective from the viewpoint of terrorists due to the high security protection offered to public officials and buildings.

In order to achieve more security, potential victims may have to help authorities to detect and punish crime. Usually, a victim decides to report suspicious behavior and help enforcers by considering several aspects: the cost of reporting, including reputation and possible effects on utility; the consequent increase in the likelihood of recovery if a crime has already been committed, in particular compensation; the effect on deterrence and incapacitation of future crimes (future security); and legal obligations that must be fulfilled (depending on which criminal liability rules are in place).

Strict monetary compensation for reporting would cover some of the costs borne by the actual or potential victim. However it might create moral hazard by reducing the appropriate

incentive to self-care for security *ex ante* (in a way, this monetary compensation would play the role of insurance) (Garoupa, 2001a,b).

7. Political economy of anti-terrorism legal policy

Special attention should be devoted to the political economy aspects of terrorism. So far we have analyzed how legal policy, including criminal liability and security measures, deters crime. Now we look at the other side of the coin: how criminal organizations affect legal policy. In that respect, crimes committed by organizations differ substantially from individual crime because organizations have a particular ability to influence and eventually shape the preferences of the criminal justice authorities.

First, terrorism supporting organizations can more easily corrupt enforcers, regulators and judges. They are better organized, are wealthier and benefit from economies of scale in corruption. Corruption is especially problematic because it diminishes deterrence for the underlying criminal behavior (Bowles & Garoupa, 1997; Chang, Lai, & Yang, 2000; Polinsky & Shavell, 2001; Garoupa & Klerman, 2004).

These organizations are also better placed to manipulate politicians and the media. By making use of large grants, generous campaign contributions, and influential lobbying organizations, they may directly (via legislator) or indirectly (via opinion makers) push law changes and legal reforms that benefit their illegal activities.

Finally, terrorist supporting organizations benefit more from globalization and free movement of capital in order to better hide their illegitimate activities than individuals. Corporate avoidance activities are more effective. Avoidance activities generate waste and reduce the effectiveness of law enforcement (Malik, 1990; Gravelle & Garoupa, 2002).

These characteristics affect the design of optimal law enforcement. Within the classical model, some of the aspects we have pointed out have been addressed, for example, how enforcement should change when avoidance activities become quite frequent or how enforcement should be designed in an environment with corruption.

Another problem posed by terrorism is its power to redistribute future income in favor of the terrorist supporting group. There are two important transaction costs to be considered, direct (greater loss of income in successful attacks) and indirect (legislative and law enforcement costs). A balance between these direct and indirect costs must be achieved in order not to leave everyone worse-off (Garfinkle, 2004).

8. A sampling of anti-terror measures

In the U.S., the September 11, 2001 attacks prompted lawmakers to re-examine their ability to detect and prosecute terrorist activities effectively. The primary result of this effort was the USA Patriot Act. A number of other countries, which had their own experiences with terrorism, already had anti-terror laws in place. Here we give a brief overview of a number of different countries' responses to terrorism, highlighting details that relate to the discussions above. Specifically, we look at how anti-terror measures incorporate the factors discussed above: (i) penalty enhancement for terrorist crimes or with terrorist motivation (severity and probability of punishment); (ii) special provisions against organized terrorism crime and supporting organizations, in particular cutting terrorists off from their funds; (iii) special provisions regarding voluntary surrender (to make cooperation in crime more difficult).

8.1. United States

U.S. anti-terrorism measures focus primarily on raising the probability of detection and punishment of planned terror activities, as opposed to using punishment enhancements to raise the expected marginal cost terrorists face. While constitutional and procedural safeguards in U.S. criminal law generally pre-suppose a suspect's innocence (presumption of innocence) and make it relatively difficult for prosecutors to rebut such a presumption through restrictive rules regarding the detention of suspects, the admissibility of evidence, and a host of other avenues, laws enacted to combat terrorism and prosecutorial practice in the wake of the September 11, 2001 attacks have effectively moved toward a default that is much more neutral if not reversed in its presumptions regarding the guilt of terror suspects, at least those without U.S. citizenship. Effectively, if the general presumption of innocence in the U.S. can be seen as an attempt to minimize Type II errors (i.e., the guilty go free) conditional on fulfilling a constraint regarding Type I errors (i.e., a minimum number of innocent people are wrongly apprehended and convicted), anti-terror policies seem to flip optimization problem to one in which the constraint involves Type II errors (i.e., very few guilty individuals go uncaptured) and we optimize over Type I errors.

From a mechanism design standpoint, such a switch could be optimal if the expected costs of damage done by free terrorists are quite large relative to the expected damage associated with a free non-terrorist criminal, assuming that society's estimate of the cost of wrongful punishment remains unchanged. Also, from the standpoint of marginal deterrence, it may be more effective to vary the probability of detection/punishment in cases where the level of punishment has an effective upper bound (e.g., execution).

One of the most visible attempts to reduce Type II errors has been the adoption of the Terror Alert System by the U.S. Department of Homeland Security. The Terror Alert System serves to place the population on guard when intelligence suggests that the likelihood of a terrorist attack has risen. In addition to alerting the citizenry to be on the lookout for suspicious activities, the Terror Alert System serves as a coordination mechanism by which federal authorities can easily signal the need for additional protective measures, such as increased police presence and surveillance of high-profile targets, to state and local authorities (Klick & Tabarrok, 2005).

In terms of procedural reforms meant to improve public law enforcement's ability to identify and capture potential terrorists, the USA Patriot Act (Public Law 107-56) contains a number of provisions that expand the scope of government surveillance powers, especially as they relate to telecommunications.¹⁷

The Patriot Act also contains a handful of provisions affecting penalties for those engaged directly or indirectly in terrorist activities:

8.1.1. Penalty enhancement for terrorist crimes or with terrorist motivation

The Patriot Act also includes provisions which increase the maximum term of imprisonment for terrorist activities to life in prison under some circumstances. Further for non-life terms, the Act allows for a period of post-release supervision that can extend for the rest of the individual's life (18 USCA, §3583).

¹⁷ For a good discussion of the degree to which the Patriot Act expands the government's surveillance powers, see 97 Nw. U. L. Rev. 607.

8.1.2. Special legislation/provisions to tackle group or organized individuals in terrorist activities

The Patriot Act provides for federal prosecution of any individual who harbors or conceals or provides any material support to an individual he knows or has reason to know has or is about to commit a terrorist activity. These actions can be punished with both fines and imprisonment (18 USCA, §2339) with the sentence increased to life in prison in some cases for those who provide material support to a terrorist. It also provides for the forfeiture of any assets held by an individual or organization that perpetrates or plans to perpetrate any act of terrorism (18 USCA, §981).

8.1.3. Special issues regarding the provision of information regarding terrorist activities

In the money laundering provisions of the Patriot Act, financial institutions are protected from any liability with respect to their customers, arising from regulatory or contractual obligations, if they voluntarily report potential violations of U.S. money laundering laws by organizations involved in supporting terrorist activities (31 USCA, §5318).

8.1.4. Other aspects

The Patriot Act gives the Attorney General the responsibility to hold in custody any alien about whom there is a reasonable suspicion of involvement in terrorist activities until the alien can be removed from the United States (8 USCA, §1226a).

8.2. United kingdom

Much of the UK's anti-terror legislation stems from difficulties with the IRA. However, in the aftermath of the September 11 attacks,¹⁸ attention shifted to the presence of foreign nationals who might be involved in international terrorism while residing in the UK. New legislation is currently being prepared in the aftermaths of the July 7 attacks.

8.2.1. Penalty enhancement for terrorist crimes or with terrorist motivation

Individuals convicted of engaging in terrorist activities can be sentenced to life in prison. Further, the Terrorism Act 2000 (TACT) created new criminal offenses for anyone who insights a terrorist act, provides terrorist training, or provides training in the use of firearms, explosives, or chemical, biological, or nuclear weapons. The Act also provides for the forfeiture of any money or property held by an individual who violates the anti-terrorism laws if the money or property was going to be used to support terrorist activities.

¹⁸ The Terrorism Act 2000 (TACT) came into force on February 2001 in response to the changing threat from terrorism, and replaced previous temporary anti-terrorism legislation that dealt primarily with the IRA. Just after the September 11 attacks new legislation was passed, the Anti-Terrorism Crime and Security Act 2001 (ATCSA). The Prevention of Terrorism Bill was introduced to the House of Commons on February 2005.

8.2.2. *Special legislation/provisions to tackle group or organized individuals in terrorist activities*

The UK's Prevention of Terrorism Act (first passed in 1974) essentially allows the UK government to declare certain groups suspected of engaging in terrorist activities illegal, implying that membership in those groups is an offense for which someone could be arrested. Fines and prison sentences could also be levied if an individual is found to have provided financial support to a proscribed group.

New provisions to reduce the possibility of terrorists making money through organized crime and disrupt financial operations supportive of terrorism have been implemented by the Proceeds of Crime Act 2002.

8.2.3. *Special issues regarding the provision of information regarding terrorist activities*

Under the Terrorism Act 2000 (TACT), individuals who reasonably suspect that someone will engage or has engaged in a terrorist offense, but do not report this suspicion to law enforcement officials, can be fined or imprisoned.

8.2.4. *Other aspects*

In the wake of the September 11 attacks in the U.S., the UK passed the Anti-Terrorism Crime and Security Act (ATCSA) which allowed for the detention of foreign nationals who were suspected of but not convicted for involvement in international terrorism but could not be deported because they faced the prospect of torture or inhumane treatment in their country of origin.¹⁹ After the recent terrorist attacks in London (July 7 and 21, 2005), the British Government has announced further legal reforms to provide the police with adequate and more effective instruments (it could include access to email and mobile phone calls without previous judicial control) and tighter immigration laws (including deportation of radical clerics).

8.3. Spain

Given the activities of the Basque terrorist group ETA since the early seventies, Spain has passed several antiterrorism laws. Nowadays articles 571 to 580 of the Penal Code regulate the crime of terrorism, and several other pieces of legislation provide further restrictions

¹⁹ The Anti-Terrorism, Crime and Security Act 2001 (ATCSA) was repealed by the House of Lords by December 2004 under the notion that it was discriminatory and not proportionate to the threat the UK faced from terrorism. Deportation in such instances is prohibited under Article 3 of the European Commission on Human Rights (ECHR). This provision was found to be incompatible with the ECHR's Articles 5 and 14 due to the differential treatment of foreign nationals relative to citizens of the UK. A compromise was reached in which the same prohibitions would be applied to UK citizens and foreign nationals alike, whereby individuals who are suspected of engaging in terrorist activities can be subjected to curfews, limitations on their use of telecommunications equipment, limitations on what individuals they may associate with, etc. The government has introduced a new Prevention of Terrorism Bill to overcome the problem; the aim of the Prevention of Terrorism Bill is to put in place measures which are fully compatible with the European Convention of Human Rights and which are applicable to both British and foreign nationals regardless of the type of terrorism involved (whether it is domestic or international).

on individuals or organizations suspected of terrorism.²⁰ The conflict between antiterrorism laws and procedural guarantees for the accused has been assessed several times by the Constitutional Court recognizing that a balance between both is hard to achieve.²¹

8.3.1. *Penalty enhancement for terrorist crimes or with terrorist motivation*

The current legislation imposes longer imprisonment sentences for terrorist acts than similar offenses without terrorist motivation; it reduces the possibility of parole or any other mechanism that could undermine the effective duration of the sentence; it allows under exceptional circumstances the maximal sentence to be forty rather than the usual thirty years in prison. Antiterrorism law enforcement benefits from a special regime that allows custody for a longer period of time and empowers the police with extra powers for investigation and monitoring. Hence we can conjecture that law enforcement is more effective for terrorist crimes than otherwise.

8.3.2. *Special legislation/provisions to tackle group or organized individuals in terrorist activities*

An organization that is hierarchical, apparently stable, uses weapons, and practices violent acts against individuals or property, including murder or kidnapping, can be prosecuted as a terrorist group. Membership of a terrorist organization is punished as such (that is, independently of the crimes committed), including not only the direct members of the organization and those hired or contracted by the organization to pursue their interests, but also pure collaborators that favor in some respect the activities of the organization. Consequently, individuals who inform the organization about potential victims, who help the escape of members of the organization, or who offer any kind of help to the organization are liable under penal law. Sentences can go from five to ten years in prison plus fines.

A particular point concerns those who individually or in group (political parties) promote and justify terrorist crimes and terrorists, or engage in hate speech against the victims of terrorism. Not only they are also liable, but political parties that openly support terrorism or include convicted or suspected terrorists in their leadership are forbidden.

8.3.3. *Special issues regarding the provision of information regarding terrorist activities*

Self-reporting terrorists will benefit from special treatment under three conditions: (i) The individual has voluntarily abandoned any kind of involvement with terrorism, (ii) The individual

²⁰ Law 3/1988, dated of May 25, develops the legal definition of crimes by terrorist organizations (on top of crimes by individual members), including the crime of membership of a terrorist organization; Law 4/1988, dated of May 25, introduces a more flexible system of procedural guarantees for those accused of terrorism; Law 7/2000, dated of December 22, regulating hate speech; Law 6/2002, dated of June 27, effectively illegalizes the political wing of terrorist groups (hence, also cutting access to public funding for legally constituted political parties); Law 7/2003, dated of June 30, allows penalty enhancement for terrorist crimes and reduces the possibility of parole.

²¹ For example, the following decisions of the Constitutional Court: STC of December 16, 1987 (on delimiting the elements that should be used to characterize a terrorist organization); STC of March 12, 1993 (on the comprehensive meaning of membership of terrorist organizations); STC of March 3, 1994 (on the possibility of longer period of custody); STC of July 20, 1999 (on the punishment for collaboration with terrorist organizations).

self-reports to the authorities and confesses his or her own crimes, (iii) The individual actively cooperates with the authorities to produce evidence to convict other terrorists or stop terrorist activity. The reduction in the sentence is however not very significant and is up to the judge, not the prosecutor, to take such decision.

8.3.4. Other aspects

The legislation recognizes convictions for terrorism or membership of terrorist organizations abroad will be automatically equivalent to convictions in Spain for purposes of penalty enhancement for recidivism.

8.4. Israel

Israel has had anti-terrorist legislation in place since 1948. In recent years, the country has gotten involved in international anti-terror efforts, enacting a law in 1994 which allows officials in the country to confiscate property in Israel belonging to any individual or organization declared by another country to be involved in terrorist activities, even if those activities were not directed toward Israel.

8.4.1. Penalty enhancement for terrorist crimes or with terrorist motivation

In the 1948 law, any individual involved in the planning, implementation, or direct support of a terrorist organization or activity can be imprisoned for up to 20 years. Further, under the 1994 law, the payment of any compensation or support to the families of suicide bombers or others involved in terrorist activities is prohibited.

8.4.2. Special legislation/provisions to tackle group or organized individuals in terrorist activities

Indirect support of terrorist organizations such as the provision of funds, allowing the organization to use a residence for meetings, publication or broadcast of words of praise, sympathy, or encouragement of terrorist activities, and the solicitation of funding for terrorist activities is punishable by prison and fines.

8.4.3. Other aspects

In a holdover from British mandatory law, the Israeli government retains the right to demolish any real property owned by members of the nuclear family of a terrorist, presumably increasing the incentive for relatives to monitor the activities of potential terrorists. Interestingly, in the original British law, this collateral punishment could be inflicted at the village level, but current Israeli practice limits the punishment to close family members only (Amit-Kohn, Renato, Glick & Biton, 1993).

9. A mechanism design approach to tensions between privacy and security concerns

Especially in the U.S., anti-terror measures have generated some tension to the extent that improved surveillance, necessary for preventing terror attacks and for prosecuting individuals

involved in the planning and execution of those attacks, will often conflict with the privacy interests of individuals not involved in terror activities. This conflict between safety and privacy has already drawn the Patriot Act under scrutiny and it has stood in the way of implementing seemingly efficient systems of law enforcement profiling.

In this section, we raise the possibility of designing an efficient sorting mechanism in which individuals will be provided with adequate incentives to reveal their type to law enforcement authorities. By making the system voluntary, it would presumably respect the rights of non-terrorist individuals with high privacy values, as well as providing some collateral benefits.

Specifically, we envision a system in which individuals agreeing to submit to heightened scrutiny would not have to pay a privacy tax of some kind. For example, with respect to personal information collected by an internet service provider or a financial institution, those individuals agreeing to give law enforcement access to personal records could avoid paying an additional use tax.²² Those individuals valuing privacy will be willing to pay the use tax to keep their information away from authorities.²³

Presumably, those involved in terror activities will sort themselves into the tax group and those not involved in terror activities who do not value their privacy very highly will sort into the no-tax group. Because authorities will be able to focus their traditional investigative techniques (i.e., those that do not involve an abridgement of currently existing privacy protections) on a subset of the population, doing so will be lower cost than examining the non-sorted population. Further, revenue raised from the privacy tax can help to fund traditional investigations.

The merits of such a system could be undermined to the extent that individuals involved in terror activities have an incentive to pose as innocent individuals by sorting into the no tax group. The danger of this strategy is mitigated, however, as authorities will then have access to the private information of those individuals, lowering the cost of monitoring them.

An additional problem with such a system involves the general legal/political prohibition on selling rights that are seen as fundamental, a category within which privacy rights may fall. Presumably the prohibition on selling such rights emanates from the realization that the interests of the current self may diverge from the interests of the future self when certain conditions change. That is, while I may not value my privacy now that I have not done anything wrong, if I do something wrong in the future, I may value privacy more highly. Effectively, we may be hesitant to allow current selves to disadvantage future selves through the revocation of certain rights. Even if we structure the tax system in such a way that an individual chooses his status for a discrete period, switching status may provide information about an individual's changing behavior which will undermine the future self's privacy right.

This dilemma revolves around the issue of who holds property rights in privacy and is therefore largely outside the boundaries of economics. However, from a consequentialist perspective, one benefit of allowing individuals to sell their privacy right is that it might serve as a commitment mechanism on the future self. That is, if conditions change such that the future self would be predisposed to undertaking a terrorist activity (or some other illegal activity), if the privacy right was sold in the past, the marginal cost of engaging in the prohibited behavior will be increased.

The last concern with this sorting system involves the possibility for authorities to use private information to investigate and prosecute (or blackmail on the basis of) activities

²² It would be analytically equivalent to provide a subsidy to those willing to give up their privacy as opposed to taxing those who retain it.

²³ We plan to develop a formal model that provides the conditions for the separating equilibrium in a subsequent article.

beyond the scope of the original intent of the system. Such a concern is not avoidable to the extent that it would be difficult for the state to commit to not using information in other domains. However, to some extent, such a problem exists even in the absence of such a system. That is, individuals with access to the private information could always use it (illegally) to engage in blackmail, and we currently rely on constitutional safeguards to stop authorities from using ill-gotten information in the investigation and prosecution of criminal activities. It is not clear why the same safeguards could not restrict the use of private information to the intended domains.

10. Conclusion

Even though the economic analysis of terrorist activities and groups is relatively underdeveloped, we can gain some insights into these activities by looking toward the economic models of crime. Clearly, some modification of these models is necessary in the terrorism context, but it would seem that the existing models can serve as a guide to understanding terrorist activities, as well as being beneficial to the development of anti-terror measures. In this article, we review the existing law and economics literature on crime, noting where various models might apply (with some modifications) to the terror context. We then look at a sample of anti-terror laws, highlighting the measures that are implied by the economic models. Lastly, we suggest a policy innovation that attempts to mitigate the tension between protecting the privacy interests of non-terrorists, while still improving the state's ability to monitor and deter potential terrorists.

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