Criminal Identities
A Behavioral Economics Analysis of Expressive Terrorism

Martin Leroch* and Johannes Schwarze†

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Abstract

The narrow understanding of Becker’s (1968) model of crime predicts a negative relationship between crime and punishment. We argue that this is correct mainly for instrumental crime, but not for expressive crime, which communicates an attitude. Expressive crime is motivated independently from material interests and provides delinquents with identity, which is partly shared within social groups. Tackling expressive crime with higher penalties might trigger perverse effects because the group may retaliate against the legislator for what the group’s members perceive as illegitimate policies. In this paper, we present a formalization of expressive crime taking account of identity and apply our findings to international terrorism. We find that higher

*Institute of Politics and Economics, University of Mainz, email: leroch@politik.uni-mainz.de
†Doctoral candidate and grant holder of the German Research Foundation at the Institute of Law and Economics, Hamburg, Germany; email: johannes.schwarze@ile-graduateschool.de.
penalties might sometimes increase social costs. This strongly suggests other measures than penalties with an educative and integrative character to address expressive criminal behavior.

1 Introduction

Although probably most forms of criminal behavior result from the desire of the criminal to acquire material riches, some forms result from the delinquent’s desire to “make a statement”. This form of crime is usually labeled expressive crime, in contrast to instrumental crime. Expressive crime is most vividly illustrated by reference to political issues, for instance participation in illegal demonstrations, but it is not limited to this field. Other examples include membership in terrorist organizations, the use of illegal narcotics, or the spraying of graffiti.

Despite its importance, an economic analysis of expressive crime is still rare. Part of the problem for economists to deal with these issues may lie with the fact that material components tend to be of little importance in motivating expressive crime. Inasmuch as economists also employ a consequentialist analysis and tend to focus on deterrence, the call for harsher punishment remains a loud one. Not only recent political developments in the Arabian world indicate that stricter enforcement may prove counter-productive from a policy-maker’s perspective.[1]

In this paper, we offer a different approach by focusing on one of the major motivations for expressive crime, which is the assurance of identity. Identity, as introduced in Akerlof and Kranton (2000), provides utility by fulfilling prescriptions, i.e. ideal physical attitudes and prescribed forms of behavior of social groups or categories one belongs to. A juvenile smoking pot may want

[1] Another example could be seen in the events after “Bloody Sunday” in Northern Ireland, which lead to an increase in the support of the IRA.
to assure himself and others that he is “cool”. Violating these prescriptions, on the other hand, “evokes anxiety and discomfort in oneself and others” (Akerlof and Kranton 2000, 716f.). In order to re-establish one’s sense of self, adequate action has to take place, which often appears detrimental from an outsider’s point of view. Members of global broad-based militant Islamist terrorist organization Al-Qaeda often risk their lives because they think to be oppressed or threatened by “Western capitalism and immoral excess” (Ruby 2002). Especially this latter example may indicate that the focus on deterrence in general need not lead to a reduction of the criminal behavior. Rather, ever harsher punishment is more likely to defy people to increase their criminal behavior because it reveals “the system’s” opposition and is regarded as illegitimate. Consequently, means alternative to pure deterrence are necessary in order to prevent such forms of criminal behavior.

2 Crime and Deterrence

Without a doubt, material incentives can be extremely high in many cases of instrumental crime. The case of drug trade may serve as vivid example. In cocaine trafficking, one kilogram of average cocaine leaves its Mesoamerican country of origin at the price of $1,000. The same kilogram sells at the US border for $33,500. For 2008, the World Bank (2011, 222) estimates that after deducing transportation costs and loss because of seizure, cocaine trafficking leaves a profit of $15,000-$21,000 per kilogram. Although this is more than the region’s average annual GDP per capita, these incentives can be fought through extrinsic penalties. If expected punishment exceeds expected gains, 2

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drug trafficking will come to an end. However, it will be hard for authorities to realize the necessary detection probability.

For such cases, i.e., cases where the criminal action is motivated by material interests, the Beckerian model of crime (Becker, 1968, 1995) appears to offer a good analytical tool. Basically it argues that manipulation of the expected costs and benefits of criminal activities will affect crime rates in the desired way. Thus, in order to reduce crime rates, policies may either focus on the detection probability or level of policing, or on the costs of conviction to the delinquent. Empirical support for the successful application of standard expected utility theory to criminal behavior can be found in Klick and Tabarrok (2005). In a natural experiment setting in Washington D.C., they analyze changes in crime rates due to changes in terror-level induced police presence. According to their study, an increase in policing leads to a decrease in crime rates, just as the standard Beckerian approach to crime would predict.\footnote{In a natural experiment setting in Washington D.C., they analyze changes in crime rates due to changes in terror-level induced police presence. According to their study, an increase in policing leads to a decrease in crime rates, just as the standard Beckerian approach to crime would predict.}

In cases of expressive crime, however, material gains are absent. Loosely speaking, delinquents are primarily motivated to “make a statement”, they are intrinsically motivated. Akerlof and Kranton (2000, 2010) refer to a person’s identity in order to analyze similar situations: “Identity affects individual behavior directly. This impact is most apparent in things people do that yield no economic benefit - often in activities that are costly, uncomfortable, and even injurious” (Akerlof and Kranton, 2010, 121). Given that expressly criminal behavior is costly, at times uncomfortable and injurious, but nevertheless deliberately undertaken, we therefore consider the will to (re-)establish one’s identity or self-esteem as the prime motivation for such behavior.\footnote{Note that Becker concedes that incomes can be psychic, not only monetary, but sticks mainly to the logic of price and demand.}

\footnote{The term “self-esteem” is borrowed from Loewenstein (1999). In an economic analysis of extreme mountaineering, he identifies four possible reasons for why humans deliberately choose to face the serious threat of death: self-signaling (self-esteem), goal completion, mastery, and meaning. Extending his analysis to everyday life, he notes that these four factors.}
When considering motivations like self-esteem, the role of the costs of behavior turns out to be less trivial than it appears at first sight. Inasmuch as self-esteem can “truly” only be gained if costs are high, an increase in costs of an action may lead to its increased conduct - contrary to the prediction of standard expected utility theory. Analyzing legal and illegal political protest, 5 for instance find that increases in sanctions may have an encouraging effect, at least if these sanctions are regarded as illegitimate. Opp (1994, 103) argues that, besides the perceived illegitimacy of government action, the deterrent or encouraging effect of legal enforcement depends on the individual’s embeddedness in its social group. The closer delinquents are socially bound together, ceteris paribus, the more likely it is that they will stand up against legislation they regard as illegitimate.

In the following section, we introduce a formal model of expressive crime taking account of identity or self-esteem. With the help of this model, we identify both a deterrent and a defiant effect of an increase in harshness of a regime. The results of the model will in the subsequent section be applied to global terrorism. An example of criminal behavior, in which an exclusively deterrent approach causes perverse effects and an increase in criminal behavior. Chapter 5 concludes.

3 Modeling Criminal Identities

As Akerlof and Kranton (2000) argue, a person’s utility not only depends on his and others’ actions relating to consumption, henceforth labeled $a_i$ and $a_j$

reasons “constitute extremely important motives in human behavior” (434). He also criticizes that these motives have been eschewed in economic utility functions “not because their importance is denied, but because they are difficult to formalize in decision-theoretic terms” (317).

Akerlof and Kranton (2000, 2010) also explicitly hint towards the relation between crime and identity. However, they take the view that that legal interaction will lead to desired results (Akerlof and Kranton 2010, 124).
respectively, but also on a person’s identity. Formally, an individual’s utility may take the following form:

$$u_i = u_i(a_i, a_{-i}; I_i),$$  \hspace{1cm} (1)$$

where $I_i$ represents person $i$’s “identity utility”. $I_i$ in turn is partly dependent on $i$’s membership in groups, $G_i = \{g^1_i, g^2_i, ..., g^n_i\}$ (e.g. an Al-Qaeda terrorist or US soldier). Each of the $n$ groups has a specific codex of optimal behavior and ideals or physical appearance, which is called the set of prescriptions, $B$. $I_i$ then also depends on individual characteristics respectively the types, $\theta_i$, which indicate in how far $i$ matches these prescriptions. Finally, $I_i$ is also dependent on how $i$ is treated by others. When being treated unkindly, offended or threatened, people lose part of their identity utility because they are for instance partly deprived of their identity as respectable persons. Formally, a person’s identity utility may then be specified as follows, $K$ representing the “kindness” of others:

$$I_i = I_i(G_i, B, \theta_i, K).$$  \hspace{1cm} (2)$$

In the following, we will simplify this basic setup further by considering only one group and restricting the set of prescriptions, $B$, to one single component, namely the reaction to being treated unkindly. It is well-known that people frequently are reciprocators. In our setting, people tend to reciprocate because they can reassure themselves that they are indeed respectable persons and thus partly offset the identity-depriving effect of being treated unkindly. Put differently, they signal to themselves that they are respectable and stand in for their values. The individual intensity of reaction, labeled

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6?! here use the term "social categories".

7Loewenstein (1999) offers an analysis of the importance of self-signaling and other non-pecuniary motives for mountaineers.
depends both on the degree of initial unkindness and the prescription of one’s social category. We, for the sake of simplicity, assume that there is a single optimal reaction intensity as prescription, \( r^*_c \), to a given unkind action, which is shared by all individuals of the social category. Similar to standard models of signaling, we assume that the closer individuals come to this prescription, the more utility they have from “gaining back” identity, initially at increasing marginal returns, later at decreasing marginal returns. Showing a stronger than prescribed reaction will reduce the utility levels again because people might have the feeling to have “overdone it”. The set of possible “unkind treatments” will be limited to a single element as well, namely a policy which is directed against the social category which is part of, and which is not regarded as legitimate. Such policies could include, e.g., the “war on terror” or the order to shoot protesters. Representing the “harshness” of such policies implemented by \( P \in [0, 1] \), and utility deriving from actions related to consumption by \( \pi_i \), the individual utility functions may then be specified as follows:

\[
  u_i = \pi_i(a_i; a_{-i}) + P(-1 + I_i(P, r))\theta - c(P, r)
\]

In equation (3), the level of utility individuals gain from showing a reaction also depends on their type. In the following, types refer to the importance individuals attribute to the social category. Whereas “low types” only gain

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8 Obviously, there might be some fuzziness involved in determining the optimal reaction intensity. Further, individuals probably differ in their assessment of what the optimal reaction would be.

9 Note that our example only refers to expressive crime. In the case of instrumental crime, the identity of delinquents is less likely to be affected as the delinquents usually do not define their selves via the criminal activity or category. Rather, they are more likely to justify their criminal behavior via the material components to be gained. For example in the Columbian drug war, drug cartels apply terrorist activities to intimidate and bring to heel the local population. Since the activities were materially motivated, US military support for the Columbian government to fight the drug trafficking showed desired effects (SOURCE).
relatively little utility from aspects relating to the category, possibly because they do not identify with the social category to the same degree, “high types” gain more utility. We assume that individual types are distributed between these two extrema according to the density function $f(\theta) d\theta$, which is defined on the interval $[\theta_L, \theta_H]$. Besides increasing individual utility via identity, showing a reaction is, however, associated with costs, $c$. For the sake of simplicity, we take these costs as linear and increasing in intensity, $r$.

Figure 1 summarizes these points graphically. The subscripts $H$ and $L$ highlight the the two most extreme forms of types. These are the extrema between which all the remaining individuals are located. Hence, the subscript $i$ labels an individual of type $L < i < H$. For any reaction, the $H$-type gains the most utility, whereas the $L$-type gains the least. Note again that, for matters of simplifying the analysis, all types share the same optimal reaction when excluding costs.

Formally, the first order conditions for utility maximization are specified as:

$$\frac{\partial u_i}{\partial r} = PI_r(P, r)\theta - c_r(P) = 0$$

(4)
Obviously, the individual reactions may differ in light of the differences in utility to be gained. Higher types will react more strongly than lower types because the marginal impact of reactions on their utility are weighted higher. Figure 2 illustrates this point. Note that in the case illustrated, the L-type will in fact not show any reaction. His utility to be gained, even by the optimal reaction of the category he well accepts as such, is not sufficient to offset the costs of this reaction.

An increase in harshness of policies may now have two effects, an increase or a decrease in reaction intensity. Formally speaking, an increase in harshness is represented by an increase in the value of $P$, and leads to an increase in the marginal costs of reactions, $r$. To analyze the effect of a decrease in $P$, we analyze (4) by application of the Implicit Function Theorem:

\[
\frac{dr}{dP} = -\frac{PI_r \theta + I_r \theta - c_r P}{PI_{rr} \theta}
\]  

(5)

Note that the denominator of (5) is the the second order condition for maximization and thus negative in case of utility maximization. Further, the sign
of the numerator will be positive if the marginal utility from reactions and the change in the marginal effect of a reaction on identity induced by the increase in harshness outweigh the increase in marginal costs of the reaction. Thus, in this case the overall effect of an increase in harshness will lead to an increase in the intensity of the reaction. Such an effect could be labeled defiance effect. In case the marginal costs increase too much to be compensated by the utility gains of a more intense reaction, delinquents could be said to be deterred.

How will the number of reactionaries change after an increase in harshness of policies? From what has been said above, the two effects just derived, the defiance and the deterrence effect, compete. Figure 3 illustrates how these may relate to each other. The grey lines represent the the case of a relatively lenient regime, $P_1$, the black lines the case after an increase in harshness to regime $P_2$. Prior to the regime change, all members of the social category showed some reaction. Nobody was deterred by the policy. The regime change increased the inclination of all members to show a more intense reaction - all identity utility curves shift upwards. But the marginal costs of reactions also increase. For those types $\theta_i \in [\theta_L, \theta_{crit})$, the increase in marginal costs was sufficient to deter them from taking further reactions. For types $\theta_i \in (\theta_{crit}, \theta_H]$, the deterrent effect was offset by the defiant effect: they not only remained reactionaries, they also further increased the intensity of their reaction.

As specified above, the number of members in the given social category follows the distribution function $f(\theta)d\theta$. The number of those deterred by a regime change then simply is given by $\int_{\theta_{crit}}^{\theta_H} f(\theta)d\theta$. Obviously, if the category under consideration is rather homogenous, the distribution will not be very “broad”. Hence, it appears likely that either a large or a small number of its members are deterred by a change in policy.

\footnote{For the sake of clarity, the area of declining identity utility beyond $r_{\ast}$ is not illustrated.}
When implementing a “deterrence policy”, politicians aim to increase the costs of individual reactions such that these would be too costly. In cases of instrumental crime, such policies may well work because reactions are typically not associated with further increases in utility. As argued above, however, in cases of expressive crime reactions may provide utility by (partly) reestablishing one’s identity. Whether or not reactions will take place depends on the utility gains relative to the costs implemented.

4 Expressive Crime in Global Terrorism

Probably the most severe form of expressive crime is terrorism. Ruby (2002) summarizes that according to the US Department of State, “terrorism is defined as politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents, usually intended to influence an audience.” International terrorism causes tremendous individual,
social, and material damage and is among the most delicate modern problems. The recent startling incident in Norway shows that prevention is hardly possible: On July 22, 2011, islamophobic extremist Anders Behring Breivik on his own killed 8 people in a bombing in Oslo and 76 people in a shooting spree on nearby Utoeya island. According to his own statement, he aimed to attack the liberal immigration policies of the Norwegian Labor government, which hosted a youth camp on the island (BBC, 2011).

Terrorism becomes increasingly problematic in a globalized world: Terror cells are better connected and can recruit new members throughout countries; new weapons and means of terrorist attacks, for instance cybercrime are available. Contradicting common sense, poverty and illiteracy do not cause terrorism. Most terrorists have a middle class and educational background, dominantly motivated by political ideology. Summarizing the results of Harvard’s Kennedy School of Government Conference on Terrorism, Kristof (2002) identifies humiliation, economic isolation and foreign policy as the three important causes for terrorism. With regards to the African Mali and West Bank, The World Development Report from World Bank (2011, 83) identifies revenge, injustice, or belief in the cause as driving forces for individuals to join ideological militant movements.

As in the previous examples, higher penalties might bear unintended consequences and provoke terrorist groups to engage in more terrorist activity. Observing suicide attacks in Israel, Benmelech et al. (2010) give evidence

For the possible malware threat see the latest Symantec Security Response W32.Stuxnet Dossier on the computer worm Stuxnet (Falliere et al., 2011). Stuxnet targets Siemens industrial software and equipment running Microsoft Windows, apparently aiming at Iranian nuclear facilities. It could be used to attack industrial control systems and sabotage those from remote places. German control system security consultant Ralph Langner assumes the US behind the worm, because of the expensive complexity of the programming (http://www.ted.com/talks/ralph_langner_cracking_stuxnet_a_21st_century_cyberweapon.html, October 19, 2011). The creators of this worm seem to have more recently developed the Trojan Duqu that would be able to prepare a system for a Stuxnet-attack (http://www.symantec.com/connect/w32__duqu_precuror_next_stuxnet, October 19, 2011)
that on the one hand *punitive* house demolitions in Israel against terrorists directly cause a significant decrease in the number of suicide attacks, but this effect dissipates over time. But *precautionary* house demolitions against people not related to terrorists cause an increase in the number of suicide attacks.

The reaction of former US president George W. Bush to the 2001 al-Qaeda suicide attacks upon the US consisted of immediate military retaliation. On October 7, 2001, US and British forces started the war in Afghanistan. Even though the data cannot guarantee causality, figure 4 shows that terrorist attacks in Afghanistan significantly rose after the war in Afghanistan began. A similar development shows after the US invasion in Iraq (figure 5).

Figure 4: Absolute number of terrorist attacks per year in Afghanistan (Global Terrorism Database, 2011, * data for 1993 not available, + war begins)

Gerges (2006) finds that the war in Iraq fuels the global jihad, with which he refers to the “holy war” of Islamist extremists to defend the religion and values of Islam. While the 9/11 attacks were initially condemned by the Muslim world, Gerges states:

\[\text{Gerges (2006)}\]
Ordinary Muslims, not just Islamists and jihadists, view the “war on terror” as a war against their religion and values. Many Muslims who had initially condemned Al Qaeda and 9/11 are having second thoughts about bin Laden’s fight against the Americans and their allies. Bin Laden has gained credibility in their eyes.

According to the BBC, Gerges impression is backed by a US intelligence report stating that after the US intervention “militants, although a small percentage of Muslims, are increasing in both number and geographic dispersion.”

Terrorism does not face a single legislator. Rather, national legislation, cooperating states, or international organizations agree on how to react to terrorism. It is important to highlight that terrorists cannot be penalized in Libya and Iran, have condemned the terror attacks on the U.S.” (CNN on [http://archives.cnn.com/2001/WORLD/europe/09/12/mideast.reaction/index.html](http://archives.cnn.com/2001/WORLD/europe/09/12/mideast.reaction/index.html), October 19, 2011).

14 In 1934, the League of Nations, predecessor of the United Nations, discussed a first
the same way as in the examples we discussed above. Especially religiously afterlife-oriented suicide attacks are hard to deter, even by death penalty.\textsuperscript{15}

5 Concluding Remarks

In this article, we modeled an economic approach to the logic of identity which is nurtured through expressive criminal behavior and thus reacts to legal changes. We extended the existing scholarly debate by formalizing a model incorporating material incentives and immaterial identity. Our findings contribute an explanation to perverse effects of increases in punishment. That is, situations in which a society experiences more crime as a response to increased penalties. With a narrow understanding of the Beckerian model of crime, such effects cannot be explained.

We applied our argument to the delicate issue of global terrorism. In light of the results obtained in the previous sections, policy implications turn from a purely deterrent to a more holistic approach. This demands a new pragmatic perspective on expressive crime based on social costs – and the legal costs necessary to reduce or avoid harm to society. With respect to global terrorism, we promote intensive educational measures to hinder the recruit-

draft convention for the prevention and punishment of terrorism. Although adopted in 1937, the convention never came into force. Since 1963, the United Nations and its specialized agencies and the International Atomic Energy Agency elaborated 14 universal legal instruments and four amendments to prevent terrorist acts. In 2005, substantive changes were carried out regarding Physical Protection of Nuclear Material, Safety of Maritime Navigation, and Fixed Platforms Located on the Continental Shelf. In 2010, the instruments were extended by conventions regarding International Civil Aviation and Unlawful Seizure of Aircraft with the goal to “further criminalize the act of using civil aircraft as a weapon, and of using dangerous materials to attack aircraft or other targets on the ground.” Further: “The unlawful transport of biological, chemical and nuclear weapons and their related material becomes punishable under the treaties. Moreover, directors and organizers of attacks against aircraft and airports will have no safe haven. Making a threat against civil aviation may also trigger criminal liability.” (http://www.un.org/terrorism/instruments.shtml, October 19, 2011).

\textsuperscript{15}See Klick (2006) on religious motivation.

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ing of uneducated poor youngsters into extremist groups. We further favor
the reaction of the Norwegian prime minister Stoltenberg to integrate radical
tendencies as best as possible. Educating individuals to responsible partici-
pating citizens is the most promising way to avoid greater harm. Still, clearly
identified offenders have to face tough penalties to demonstrate determina-
tion. Here, we strongly advocate to avoid means like torture but to respect
the values of humanity - and not further provoke potential terrorists. Our
integrative approach may at first seem idealistic or even illusionary. But from
an economic perspective it avoids the most harm possible.

If we take a look at how the international community legally approaches
global terrorism, we find that deterrent measures prevail. In two resolutions
(1373 (2001) and 1624 (2005)) the United Nations Security Council (UNSC)
indentified contterterrorism as a public good. “States must now work together
bilaterally and multilaterally” in order to fight it. The proactive measures
include (domestic law has to be adjusted respectively):

- sharing intelligence on terrorist activity with other governments,
- cooperating with other governments in investigation, detection, arrest,
  extradition, and prosecution of terrorists,
- criminalizing the financing of terrorism (freeze any related funds, deny
  all forms of financial support), and
- suppressing the provision of safe haven, sustenance, or support for ter-
  rorists.

While the first two measures are strengthening international cooperation, the
two last measures are clearly deterrent. The measures concentrate solely on
the symptoms while origins of terrorism are not addressed. However, the
recent empirical analysis of Gassebner and Luechinger (2011) also highlight
palliative policies: economic freedom, physical integrity rights, and function-
ing law and order all prevent terrorist activity in a country. Gunaratna (2004) recommends to prevent the emergence of terrorism strategically by working with the Muslim countries (governments and NGOs) and targeting the ideology that is producing the terrorist.

Our model reflects the decisions of two aggregated players: The legislator against the social group. We do not explicitly respect society as an important third player, who dominantly affects the environment for both other players. The social willingness to punish has an essential effect on detection rates and herewith on the expected outcome of the crime. The conclusions from our discussion of global terrorism, however, implicitly reflects this player: An educational integrative approach mediates between the social groups and their environment. This is the most effective way to minimize social costs when expressive crime and group identity are interrelated.

References


