

Violent Political Protest: The Role of Expression in the Rational Choice to Commit Terrorist Acts

Jennifer Dirmeyer, *Hampden-Sydney College*
Justin Isaacs, *Hampden-Sydney College*

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Abstract: Terrorism, defined as the premeditated use of violence to achieve a policy objective through the use of public fear¹, is a potentially effective means² for a dedicated but weak organization to engage a militarily superior force. Given the number of “causes” of terrorism, determining the optimal anti-terror strategy requires a workable model of the incentives and conditions that engender terrorist activity. The rational choice model of terrorist activity explains patterns in terrorist behavior as strategic responses to changes in relative price resource endowments. While this model has had success explaining many of the characteristics of terrorism over the last half-century, some empirical results are inconsistent with predictions from the model. In this analysis we apply the concept of expressive value, from the literature on voting behavior, to the terrorist decision in order to explain these results.

JEL: F51, D74, K42

I. Introduction

Terrorism, defined as the premeditated use of violence to achieve a policy objective through the use of public fear³, is an potentially effective means⁴ for a dedicated but weak organization to engage a militarily superior force. This tactic, which relies on public pressure rather than military dominance to achieve policy objectives, presents a unique challenge to the governments of target countries.

¹ (Rosendorff and Sandler, 2005, 172).

² Terrorism is a political tool. Congleton, 2002; Enders and Sandler 2006; Badley 1998. 96. Many different political motivations behind terrorist attacks; nationalism, separatism, Marxism, ant-racism, nihilism, redistribution, religion. (Wilkenson 1986; Hoffman 1997, 2; 1998, 185-99; Juergensmeyer 1997.

³ (Rosendorff and Sandler, 2005, 172).

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Empirical evidence suggests that the prevalence of terrorists attacks within a country is impacted by factors as varied as democratic participation, institutional structure, GDP, income inequality, regime durability, government capability, fractionalization, conflict, freedom of the press and education.

Given the number of “causes” of terrorism, determining the optimal anti-terror strategy requires a workable model of the incentives and conditions that engender terrorist activity. Since Landis (1978) terrorist behavior has been modeled as a rational choice based on the expected costs and benefits of committing a terrorist act. Since utility is gained through the attainment of political objectives as well as other goods, individuals should respond to increases in the costs of terrorist activities and reductions in the expected benefits of terrorist activities by reducing terrorism. This suggests a series of counter-terrorism strategies that accomplish one or both of these changes in the opportunity set of potential terrorists.

While this model has had success explaining many of the characteristics of terrorism over the last half-century, some empirical results are inconsistent with predictions from the model. In particular, the model fails to explain the stability in the occurrence of terrorist acts over the years given ever-increasing security measures, that retaliatory strikes on terrorists seem to increase terrorist activity rather than decrease it⁵ and that even a credible commitment to non-concession on

⁵ Although we will return to this later in the paper, it is important to note that retaliatory air strikes have been shown to actually increase terrorist activity in the short-term and have no impact in the long-term (Malvesti 2002;). This runs counter to traditional rational choice models of terrorism which would measure retaliatory airstrikes as an increased cost of terrorist activity which should therefore reduce incidence.

the part of the United States does not appear reduce terrorist attacks against the United States.

These and other unexplained results suggest that some important factor explaining terrorist behavior has not been accounted for in the model. In an effort to explain these discrepancies, scholars have alluded to the possibility of non-policy related preferences for terrorist activity such as religious rewards, propensity for violence or bias against a particular country. In almost all cases, these factors lie outside the model as an explanation of residual or are included as a randomly distributed variable. In this analysis we apply the concept of expressive value, from the literature on voting behavior, to the terrorist decision in order to explicitly model the non-policy factors in the terrorist's decision calculus. We find that including expressive value in the terrorist utility function provides further insight into the observed characteristics of terrorism; specifically in the cases of the effects of retaliatory strikes, persistence of attacks on strongly defended targets and the efficacy of a non-concession strategy.

II. The Rational Choice to Commit Terrorist Acts

Landis (1978) was the first to suggest that in order to understand the characteristics of terrorism, scholars should apply a rational choice model where individuals are assumed to be committing terrorist acts in order to maximize the value of their resources. Following this logic, the rational choice model has been used to explain the effects of metal detectors on airplane hijackings, of embassy fortifications on embassy attacks, of retaliatory strikes on terrorist incidents, of non-

concession strategies, of proactive versus reactive anti-terror strategies, the substitution between different types of terrorist activity as relative prices change, etc. Overall, the rational choice model of terrorist behavior has proven an extremely effective means of identifying the causes of terrorism as well as evaluating the effectiveness of anti-terrorism strategies.⁶

In the basic model⁷, taken here from Enders and Sandler (1993), terrorists are assumed to engage in a terrorist act if the expected benefits, derived from achieving policy goals, are greater than the expected costs, determined by the anti-terrorism strategies of the target country. Individuals gain utility from the consumption of a variety of political goods and may substitute between 1) terrorist and non-violent means, 2) between different terrorist means⁸ and 3) between different non-violent means of achieving the overall goal (1993, 830). The expected values are the

⁶ There are three basic counter-terror strategies available to a country that wishes to reduce the prevalence of terrorist attacks within its borders; 1) increase security to counter or prevent planned attacks (raises the price of logistical success), 2) increase response to successful or planned attacks (reduces the net benefit of a terrorist attack), 3) reduce the demand or preference for attacking a particular country (increase the opportunity cost of terrorism). Interestingly, the United States counter terrorism policy, as is articulated in the June 1995 Presidential Decision Directive-39 (PDD-39): U.S. Policy on Counter Terrorism only addresses the first two strategic possibilities: "It is the policy of the United States to deter, defeat and respond vigorously to all terrorist attacks on our territory and against our citizens, or facilities, whether they occur domestically, in international waters or airspace or on foreign territory (quoted from Malvesti, 2002, 18)."

⁷ Lapan and Sandler (1988) use a model of expected utility to explain the terrorist's decision to commit a hijacking in order to gain policy concessions. In the model the expected value of the successful⁷ attack is determined by the probability of gaining policy concession, the payoffs from gaining concession and the payoff from failing to gain concession (16-18). The individual chooses to use a terrorist tactic if the expected benefits are greater than the costs.

⁸ The allocative choice between different terrorist means includes the choice between different targets. It may also include the choice between different countries if more than one country is attached to the particular political goal.

product of the probability of success and the value of the policy objective. As costs increase or the expected payoff decreases, terrorism is predicted to decrease.

The model yields three significant testable predictions about the effects of various counter-terrorism strategies.

First, it predicts that increases in the per-unit price of terrorist tactics should decrease their prevalence.

Since terrorist activity is constrained maximization an increase in price will reduce the quantity consumed. This is supported by evidence from Landis (1978), as well as... etc.. This simple model has been used to successfully explain the drop in airplane hijackings when metal detectors were installed in airports internationally (Landes 1978), the decrease in embassy bombings when embassies were fortified (Cauly and Im 1988), etc.

Second, it predicts that terrorists will substitute for other terrorist activities if they are considered closer substitutes than non-violent means.

In fact, the ability to substitute between different violent tactics as well as between violent and non-violent tactics renders the model unable to predict the effect of a price increase of a particular terrorist tactic on the overall level of terrorist activity.⁹ As Enders and Sandler (1993) acknowledge, an increase in the

⁹ It is tempting to believe that violent terrorist tactics are generally more expensive than non-violent ones. However, there is likely no systematic difference between prices of legitimate means and prices of violent means other than the likelihood that the prices of violent means are more closely centered around the mean. For example, the cost of voting (a legitimate means) is extremely low, probably lower than any violent means with the possible exception of a bomb threat that is not followed up with a bomb. However, getting a high-standing public official with your goals elected is probably much more expensive than even the most elaborate violent terrorist tactic especially if we are not counting war. There is, therefore, no a priori

price of one terrorist tactic may result in substitution toward relatively lower cost violent *or* non-violent means (ibid). If individuals find violent activities to be closer substitutes than non-violent activities, then it is possible that an increase in the price of one violent tactic simply results in a proportionate increase in a different violent tactic or set of tactics. This is especially true if those tactics differ more in the expected utility than in per-unit price. These results seem to suggest an extremely inelastic demand for the category of violent terrorism as a whole with the vast majority of substitution happening between different violent tactics and insignificant resource effects. Since the goal of terrorist activities is to pressure authorities by inspiring fear in the public it is reasonable to think that violent political goods are highly substitutable if not perfect substitutes.¹⁰

Another important implication of the model is that changes in the overall relative prices of violent and non-violent means should have an unambiguous effect on the level of terrorist activity.

Increases in the overall prices of violent means are accomplished through greater intelligence gathering, or destruction of resources that are particularly suited to violent means as opposed to non-violent means. Decreases in the price of non-violent means of policy change could be accomplished through more democratic representation, the right to protest, etc. Can cite some of the literature

means of attributing the choice of terrorism to the prices of violent means and legitimate means.

¹⁰ This is not necessarily true for legitimate political goods. the presence of specific mechanisms and effects in legitimate political goods probably means that price changes in particular legitimate political goods will have an effect on the price of the entire choice set. Voting performs a specific function that other legitimate political goods could not easily replicate.

on civil liberties here and the enders and Sandler stuff on proactive versus defensive.

Finally, changes in income have an ambiguous impact on the production of terrorism depending on whether it is seen as an inferior or normal good. If, as is possible, individuals who are currently engaged in terrorist activities see it as the superior method of political change, income increases will tend to produce more terrorism. This is in contrast to Bruno Frey's work on income effects and has support in the lack of a clear link between income per capita and terrorist activity.

There are two major policy implications that emerge from this theoretical approach.

1.) proactive measures should be more effective than defensive ones.

Measures that increase the overall price for violent political action, such as increases in punishment, retaliatory attacks, greater intelligence gathering should be more effective than protecting particular targets. However, the empirical data are not perfectly aligned with this. First, according to the model increase in punishment should decrease terrorist activity. Enders and Sandler (1993) find that increasing punishment for terrorist activity appears to have no effect on its level.¹¹ Similarly, Brophy-Baermann and Conybeare (1994) found that Israeli retaliation did

¹¹ They also found that the retaliation on Lybia had the perverse effect of increasing low cost attacks relative to high value attacks (838) implying that those attacks would have been possible before but were not valuable. This implies that the relevant margin for substitution is expected utility not price. It is also true that retaliation increases the underlying impetus for terrorist activity but this does not affect the shift to low cost attacks.

not decrease the long-run level of terrorist activity leveled against it.¹² Second, retaliatory and pre-emptive airstrikes, which would be modeled as a cost or a decrease in net benefit, do not decrease terrorist activity as the model would predict. In fact, they increase it in the short-run and have no long-term effects.

2.) non-concession is essential to reducing the impetus for attacks.

Third, terrorists appear to attack targets even when there is no chance of gaining policy concessions, or to continue to attack heavily guarded targets when easier ones are available. Another analysis states that non-concession should reduce the benefit of terrorism. Again, this has not proven true. Another article shows that non-concession is only effective when credible and goes on to demonstrate that credible commitment is a tall order in this context. A major problem for credible commitment is that terrorists may continue to attack even given a credible commitment. This lessens the benefit of such a commitment and makes it even more difficult to maintain credibility. Lapan and Sandler (1988) demonstrate that since the expected value of failing to gain policy concessions may be positive even a strict commitment to non-concession may be insufficient to deter attacks (17-18.)

Fourth, the strange relationship between terrorism and civil liberties.

Fifth, the persistence of violent acts when legitimate political acts could produce the same chance of achieving policy goals.

For instance, a bomb in a train station probably inspires nearly as much fear as hijacked airplanes, so that if the price of one increases, consumption would simply shift toward the other. However, if this were the case, then we would expect to see

¹² In fact, both studies instead showed an increase in terrorist activity directly following the retaliation, tapering back to normal levels within a few months.

no airplane bombings in the first place as it is significantly cheaper to bomb a subway.¹³¹⁴ The counter theory would be that airplane bombings get more press but that does not play out in the evidence.

These issues suggest that much of the explanatory power of the rational choice model for terrorist action must rely on a particular formation of the utility function.¹⁵ In other words, understanding terrorism requires understanding the preference for terrorism as much as the opportunity set of terrorists.¹⁶ In fact, several of these results have led some theorist to claim a “natural rate” of terrorism that is unaffected by the level of security and is only affected by changes in expectations. This natural rate hypothesis is a refutation of the rational choice hypothesis.

An alternative is to recognize that the same costs and resources may lead to different demands for terrorism in predictable ways. For example, individuals who expect to get religious rewards in the next life will have a higher demand for terrorism than will individuals who don't. From this, we may predict that religiously motivated terrorist organizations will have higher demands for

¹³ When analyzing skyjackings, if a terrorist is unconcerned with living then Utility if the attack fails is equal to Utility if attack succeeds (Enders and Sandler 2002, 7).

¹⁴ Proactive anti-terror policies might encourage recruitment which will have impacts for other countries as well as the acting country (Rosendorff and Sandler, 2004).

¹⁵ This analysis is consistent with the theory that the choice to engage in or spend resources on terrorism has more to do with specific political objectives than with relative prices. Several empirical studies have pointed to specific instances of political conflict as the primary factor in predicting the level of terrorist activity in a country. The reason that political conflict is such a powerful predictor of the incidence of terrorism within a country is its effect on the expected utility of a terrorist attack. At a base level conflict increases the rewards to policy change.

¹⁶ This gets us closer to a production model or investment model for terrorist behavior.

terrorism at any given price. In order to be effective at understanding and predicting terrorist activity, rational choice models must have a means of incorporating specific non-policy considerations into the utility calculus.

III. The Role of Political Expression in Terrorism

The expected relationship between price and quantity demanded does not seem to manifest in the empirical results. Our expectations about this relationship come from the assumption that terrorists commit terrorist acts in order to achieve policy concessions, gain public goods, etc. The discrepancies must either come from the price side, what we see as a price increase is actually not, or they must come from the utility side, what we think is generating the utility is actually not. Some of them might simply be the result of extremely inelastic demand, although that would need to be explained as well, why might some individuals have an extremely inelastic demand for terrorism, lack of substitutes? What counts as a substitute for terrorism. Both the price and utility sides of the equation could be mis-understood if we do not know what is actually being demanded.

We intend to add the value of political expression to the rational choice model in order to be able to better explain choice; particularly in the cases where individuals seem to be failing to act in their own best interest. From the expressive voting literature we know that if expression is a relevant and predictable input into the utility function then we would expect to see certain things. 1. Expression dominating when p is low. 2. A greater number of attacks

then seem cost-effective. 3. A strange distribution of attacks; attacks in weird places. We find all of these to be present in the stylized facts about terrorism.

Given that expression is a relevant and predictable argument in the utility function of terrorists what are the implications for anti-terror strategies?

In cases where there are few substitutes for violent political expression you would expect to see more inelastic demand for terrorism. This would account for the fact that increasing security measures in the United States does not do much to reduce terrorism against the United States. Those who attack the United States do not have much opportunity for legitimate political expression. By the same note, it should be true that security measures should have a greater impact on terrorism when legitimate political expression is available such as in the case with domestic terrorism.

It may even be the case that strategies that raise the cost of committing terrorist acts, while not increasing the instrumental value of said attacks, actually increase the expressive value, leaving the demand response uncertain and making it possible that individuals would respond by increasing terrorist attacks. If the probability of policy concession is vanishingly small for all available means of attaining it, then a change in policy concession will not have a large effect because expression will be dominating. So if policy concession is zero with terror and .001% with political then non-concession is worthless and therefore not credible. In cases where price increases don't actually affect the

ability to generate expression you would expect to see a smaller response. This is true in cases where price increases in one particular area simply lead to increased demand for other types of terrorist activities.

The problem of characterizing the choice of potential terrorists is similar to the problem faced by theorists trying to understand voting behavior of rational individuals. The mystery of voting is that people vote even when the benefits do not appear to outweigh the costs and that they vote for policies that do not appear to be in their material interest. The attempt to resolve this mystery has resulted in the concept of expressive voting.¹⁷

The theory of expressive voting, first discussed by Gordon Tullock in 1971, identifies an alternative to the traditional theory that individuals vote in order to get policy that is in their best interest. As first explicated by Brennan and Lomasky (1993) and Brennan and Hamlin (1998), the expressive voting is differentiated from “instrumental” voting by the feature that voting is the good that the individual is consuming as opposed to the merely being instrumental in the attainment of political ends. In short, the theory of expressive voting allows individuals to get utility from voting, purely as an expression, unrelated to policy outcomes. Including the value of expression in the rational choice model of voting individuals allows us to more explain outcomes that wouldn’t be understandable in the purely instrumental model. Particularly, it allows us to understand when individuals are more likely to act against their primary or material interest.

¹⁷ It is clearly not only instrumental and therefore the actions of voters appear probabilistic to candidates (Banks and Duggan 2004, 1; McKelvey and ?; Schofield 2004).

The same concept of expression can be used to understand the non-policy considerations in terrorist behavior. While terrorism is undoubtedly used as a method to achieve political goals it is also used for political expression. The implication is that terrorism should be modeled as an alternative to legitimate political action in terms of both the ability to achieve political policies and political expression.

3.1 The Model

Assume a group of individuals making the decision to invest in public goods. The individuals have a utility function, $u(Y,P)$, where Y is the amount of political action they receive and P are the constant prices of engaging in political action. We assume that u is strictly increasing, concave, and differentiable in political action, Y . The decision for the individuals is to maximize U given they can invest the money into one of two types of political action: violent terrorism or legitimate political involvement (V, L). In either case, both violence and legitimate political action carry a probabilistic gross return, $\theta^i, i=V,L$. Further, an individual can choose to engage in one or both of these actions and we assume that the returns of one action can impact the returns of the other, so we specify a joint probability distribution, Π , which for a finite set of returns (θ^V, θ^L) , yields $\Pi(\theta^V, \theta^L)$. If we let α^i represent the amount to be invested in each type of political action, and assume that the group is going to invest all current available resources, W , then the group's consumption problem can be written as:

$$(1) \quad \text{Max } \Sigma u(\alpha^V(\theta^V) + (W - \alpha^V)(\theta^L)) \Pi(\theta^V, \theta^L),$$

This way the budget constraint and the expected value are built in, right? Can you briefly show how this relates to the typical expected value minus cost formula that we see in most terrorism models. Maybe compare it to the model in Sander and Sequiera 2009? Then we can talk about why we chose to use an investment type model before we get into expression.

Subject to α^V and $(W - \alpha^V)$. This consumption function is relatively straightforward and well documented in the literature on terrorism (citation). Our analysis, however, suggests that this If there exists a level of political expression, E^i , that yields individuals a positive return regardless of the direct political return, however, this standard model may be incomplete.

As a simple modification, we assume that there exists a level of political expression that yields the individuals $E^i > 0$ for each dollar invested in political action. In other words, regardless of the allocation of political action, the group receives some amount of return through political expression even if both investments fail to provide direct political returns. Given this, (1) can be rewritten as:

$$(2) \text{Max } \Sigma u(\alpha^V(\theta^V + E^V) + (W - \alpha^V)(\theta^L + E^L)) \Pi(\theta^V, \theta^L).$$

From this basic model the expected utility of a given resource investment in either violent or legitimate political goods is a function of the probability of achieving policy change associated with the political goods and the expressive value of the good itself. Again we maximize this equation subject to α^V and $(W - \alpha^V)$ which yields the first order conditions for α^i :

$$(3) \Sigma (\theta^i + E^i) u' (\alpha^V(\theta^V + E^V) + (W - \alpha^V)(\theta^L + E^L)) \Pi(\theta^V, \theta^L).$$

The marginal utilities from this specification are now flexible enough to look at both the standard hypotheses on terrorist activity as well as the use of violence for purely expressive means. In what follows we evaluate some of the relationships that exist within this framework.

There are several implications of this in the rational choice model.

One, as the probability of affecting policy change becomes small, then expressive value dominates. If we have reason to believe that expressive value is higher for violent than for legitimate means, then we would expect more terrorism even if the chances of achieving policy change are higher with legitimate action. This could also explain why terrorists attack airports and not malls or why they attack the U.S. at all.

Two, violent political action may still persist even if the chance of achieving policy goals is zero, or the expected value of achieving policy goals is zero. If terrorists get expressive value from violent political action then even a zero chance of policy change will not be enough to eliminate terrorism. This explains the inefficacy of non-concession strategies.

Three, if expression dominates the utility function then extremists are more likely to be terrorists because the expressive value from legitimate political action is likely to be lower given the assumption that greater expressive value is gained the closer one's position is to the available candidates.

There are two major implications of including the value of expression in individuals voting behavior that will be relevant to the model of terrorist behavior. First, in cases where the probability of affecting the election are vanishingly small, an individual “does not face an effective choice between alternative policy outcomes, but she does face an effective choice as to which candidate to support... (Brennan and Hamlin 1998, 156.)” This should mean that the larger the election, the more likely we are to find expressive considerations dominating voter’s decisions (McKelvey and Patty 2006). In an experiment using Intermediate Microeconomics students, A. Fischer (1996) found that as the chances of affecting the outcome increased, expressive considerations became less important. Carter and Guerrett (1992) found similar, although less robust results.

Second, expressive voting has been used to explain why so many individuals vote in elections where their chance of swaying the election is low and the costs of participating is relatively high. While the traditional theory of voter behavior predicts zero or very low voting turnouts in large elections when the chance of affecting the outcome is indistinguishable from zero, the expressive voting model predicts voter turnouts on the basis of degree of alienation (Brennan and Hamlin 1998, 156-7). Thus more voters are predicted when expression is included in the model.¹⁸

Laband, et al (2009) find evidence that individuals who are expressive in both political and non-political settings are more likely to vote. Specifically, the authors found a significant correlation between displaying football team

paraphernalia and voting behavior. Something like this notion could be used to explain any costly political action that does not result in policy change. Protest marches, petitions and editorials may all be undertaken because of their expressive value even if there is no chance that they will actually achieve policy change.

The third implication of the expressive voting model is that different individuals will choose to vote and for different reasons. In the instrumental theory only individuals who have a relatively high potential benefit from gaining their own policy choice will vote. These individuals will tend to be extremists as their preferred positions are relatively distant from the median position. However, in the expressive model, individuals will tend to vote more as the options more closely match their ideal expressive value. Therefore, the majority of voters will tend to be those that identify with the options (Brennan and Hamlin 1998, 169).¹⁹

Empirical tests of this implication have not yielded positive results. Greene and Nelson (2002) found that voters who identified themselves as moderate tended to vote less than voters that identified themselves as either conservative or liberal (429-30). While the authors argue that this is because expressive voting is not determined by degree of alienation but by imitation, as is argued by Nelson (1994). It seems more likely that the survey results are simply picking up people who have thought about it, and are more likely to vote, versus people who have not thought much about it, and are therefore “moderate” by default and less likely to vote. It could also be that the instrumental and the expressive overlap to some extent here

¹⁹ Of special interest later will be the observation that extremists voters will be more likely to gain instrumentally from voting but less likely to have an ideal candidate expressively (Brennan and Hamlin 1998, 169).

and that creates individuals who get the policies that they want and therefore don't need to choose expression in their consumption bundles. If political goods are seen as substitutes for one another, this could be particularly true.

The expected utility of a given resource investment in either violent or legitimate political goods is a function of the probability of achieving policy change associated with the political goods and the expressive value of the good itself. Several interesting relationships may exist within this framework.

1. What goes in to determining the probability of achieving policy goals? The extent of anxiety created in the general public? The constitutional rules restricting government action? The form of elected government? The

2. Since public anxiety is probably a major driver in determining government action, it will be useful to try and characterize the relationship between the probability of achieving policy goals and anxiety. Anxiety probably increases with the number of casualties an attack produces but the relationship between the number of attacks and the anxiety level is ambiguous. It seems that the initially the anxiety would increase as it did with the 9/11 and the anthrax scare right after it. But that it would then decrease as people are desensitized. Sandler (2003) suggests that terrorists deliberately attack unprotected targets because of the effect that simulated randomness has on public anxiety (780.) I think it is more likely that the costs are lower and the expressive value is constant- a degree of substitutability thing.

3. The relationship between anxiety and policy change is also complex. It may only lead to retaliations and increased security measures, rather than attaining policy goals. Is this consistent with the rational choice model without expression? What incentive would terrorists have to raise anxiety if it did not lead to achieving policy objectives? **The relationship between anxiety and attaining policy objectives could be a function of GDP. Poor countries give in; rich countries fight back.**

4. It is likely that rather than being separate arguments in the household utility function, violent and legitimate political goods are related as either substitutes or complements. It is also true that various violent political goods may be either substitutes or complements, as well as various legitimate political goods.

5. In the case where violent political goods are complements it may be that when one terrorist act is committed an additional attack is more productive in terms of the anxiety that it causes and thus the expressive value of the attack increases. This network externality may be able to explain why the number of terrorist incidences within a particular time frame seems to be cyclical **(Enders and Sandler 1999)**.

Sandler (2003, 787) notes that the interconnected networks of terrorist groups makes these network effects more significant. I'm not sure what the implications are for the probability of achieving policy change. Maybe nothing.

6. Terrorists may substitute between different violent goods, between different legitimate goods, between the categories of violent and legitimate goods, between various countries and inter-temporally. The substitutability between various political goods will be a function of their ability to achieve similar policy objectives or similar expressive values. The first will be related to the function that translates

terrorist acts into political action- via public anxiety. One potential margin upon which terrorists likely measure substitutability is casualties. If casualties are important to creating public anxiety then attack modes that create more casualties will be more substitutable for one another. Of course, the number of casualties is also an important argument in the expressive value of the terrorist activities, given that publicity and public anxiety increase expressive value. **If the number of casualties does not impact the likelihood of achieving policy change then the substitution between methods would be evidence of expressive value.**

7. What is the definition of logistical success? What role does it play in determining individual demand for terrorist activity? I had in mind that the price one pays for a political good is the price for a particular logistical gamble. Therefore, the higher the price the more favorable the logistical gamble.

8. The cost/price of a political good needs more definition. What are we buying?
A.) Increasing security on potential targets increases the price through the effect on probability of logistical success. Empirical evidence shows that increased security causes a substitution away from those methods (Enders et al 1990a; Enders et al 1990b; Enders and Sandler 1993). B.) Retaliation reduces the net benefits- what does that do to cost? Empirical evidence shows that retaliation has only short-term effects on the number of terrorist incidents and furthermore, that those effects sometimes go in the opposite direction than was expected. (Enders and sandler 1993). C.) Criminal punishment reduces the expected value as well. Empirically, tougher laws against terrorism have had no significant effect on terrorist activity. **Is**

it significant that the things that increased actual costs had effects while the things that supposedly reduced net benefits did not?

IV. Understanding Terrorism Using Political Expression

There are two effects that do most of the work; the relative probability of achieving policy change and the relative expected payoff from losing. As the probability of achieving policy change through violent means increases relative to the probability of achieving policy change through legitimate means the marginal rate of substitution increases for any given combination of violent and legitimate political goods and the individual will choose more violent means for any given price ratio. This result indicates that individuals will be more likely to choose violent means as the relative probability of achieving political goals through violent means increases, or as the relative probability of achieving political goals through legitimate means decreases. This property helps to inform the discussion on why people become terrorists and on the effectiveness of anti-terror tactics.

1. One possible explanation for why so much terrorist activity has centered on the return of hostages, trading prisoners of war is because the chance of achieving this objective through legitimate means is small because of political powers to achieve such policy objectives do not exist outside of emergency situations.

2. This relationship explains why extremist groups are more likely to choose terrorist activities as a means of political expression than moderate groups.

Individuals with extreme political views have a vanishingly small chance of

achieving policy change through legitimate means. *Ceteris paribus* this would result in a very steep MRS and a heavy bias toward violent means. Of course, in the case of extremist groups, the chance to achieve political goals through violent means is also very small. This might indicate a MRS closer to 1. Any source of bias in that case would be the result of differences in the relative expressive value of violent and legitimate means. In fact, as both the probabilities of achieving policy change through violent and legitimate political goods get lower, the importance of the relative expressive benefits get higher.

3. In fact, most extremist groups do not turn to terrorism. Only a relatively few do. And the ones that do turn to violent means tend to be either foreign or separatists. Why would I expect this to be the case? The foreigners make sense because of little access to legitimate political expression. The separatists make sense because their violent action leads policy change or to more valuable forms of legitimate political expression.

4. Bombings account for 56.3% of all transnational terrorist attacks. (Enders and Sandler, 61). Large spikes in the ALL series are generally due to spikes in Bombings. Elasticity of bombing is high. Bombings have risen as a percentage of total attacks since 1999. Bombings are less expensive and easier to pull off. You should see an increase in bombings when the cost of other methods increases, or when the general intelligence gets better because they are logistically simpler. (62) Threats are low cost but also low effectiveness. They spike twice in 84, 86 but fall off completely in 1999. (64).

5. the relationship between media coverage and the two probability distributions over achieving policy change by way of violent and legitimate political goods.
6. Substitution between violent means: Enders and Sandler (1993); Enders et al, (1992); Mickolous et al (1989)- all show substitution between hijacking, hostage-taking and assassinations, when costs of one method increase. Given this, the challenge is to explain why terrorists ever go for the higher cost method. In what way is the higher cost method superior? Casualties? Publicity? Symbolism (pure expression)? There is a testable hypothesis here. Why haven't terrorists hijacked more planes in foreign countries or bombed more trains or malls? The theory says they should (Sandler 2003, 791).
7. Suicide attacks: Sandler (2003) says they are a dominant strategy for both the organizational leaders and the suicide attackers themselves (786). Enders and Sandler (2003) give the logic. The implication is that there is no means of disincentivizing them. Why not? A lot hinges on whether the number of casualties increases theta v. **If poor countries give in and rich countries fight back and more suicide attacks occur against rich countries, this is evidence for expressive value.**
8. Explaining attacks against the U.S. when the U.S. doesn't concede. Evidence of expressive value. In general, the substitutability between countries raises some interesting questions. When it exists, the deterrence of one country increases terrorist activity in other countries. The question is why do the theorists assume that terrorism won't go down if overall deterrence goes up? Shouldn't there be a resource effect? See: Sandler and Lapan (1998); Sandler and Sequeira (2002). The answer must lie in an implicit reliance on expressive value.

9. Analyze the strategy of non-concession. Is it really true that it always decreases expected utility of an attack if it is credible? Can it prevent attacks? Not if the threat is not credible. The credibility hinges on being able to prevent the attack in the first place. If terrorists attack for expressive reasons, then it cannot prevent attacks. **Are there still hostages taken when there is no chance of concession? If so, this is evidence of expressive action.**

10. What has been the record on concession? How many times have the terrorists won?

11. There are two potential reasons that a terrorist group would value media coverage even when the chance of concession was zero; expression and investment in future attempts. How can we tell the difference between these two?

12. Explain why retaliation actually causes attacks to increase. It cannot be that terrorists believe that the probability of achieving policy objectives has increased. It must be that some other benefits to terrorism have increased; expression. As evidence for a role of expressive value in the effect of retaliation is the result that assassination has on the stock market. Zussman and Zussman (2006) find that in Israel between 2000 and 2004, assassination of political terrorist leaders led to a drop in the stock market while assassination of military terrorist leaders led to an increase in the Tel Aviv 25 stock market (199-200). The argument is that killing military leaders has a resource effect while killing political leaders has the effect of inspiring retaliation. These results are not consistent with the pure policy-driven model of terrorist behavior. Killing political leaders should have no effect or also a negative one if terrorists are only interested in attaining policy change. However, if

terrorists are also interested in expression, this result makes sense. The argument is strengthened by the result that killing non-combatants also has a negative effect on the stock market (201). This is also consistent with an expressive model but not with a policy driven model. Killing non-combatants should either have no effect on terrorism or should have a negative effect due to the reduction in expected benefits. It should under no circumstances described by the policy driven model increase terrorist activity.

13. There is an alternative explanation for retaliatory terrorist attacks that occur after some offensive or proactive action on the part of targeted countries. Rather than increasing the expressive value it could raise the value of achieving policy objectives if the new activity by the government represents a new need for policy change. This is how Siquiera and Sandler (2007) model it.

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