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Terrorism from the Rational Choice Point of View

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Karl-Dieter Opp has been a major figure in rational choice sociology. His contributions are wide-ranging. They not only deal with methodological aspects¹ but also analyse major issues in society². Most recently, Karl-Dieter Opp has provided fascinating studies relating to the transition of the German Democratic Republic to the Federal Republic of Germany.³

This contribution is related to the latter work. It analyses a topical problem societies are confronted with as much as transition, namely terrorism. There is a large literature on terrorism.⁴ It has, in particular, been fuelled by the events of 11th September 2001, the terrorist attacks on the twin towers of the World Trade Centre in New York and the Pentagon in Washington. Only a small part of this literature uses a rational choice approach and, even then, usually concentrates on specific aspects.⁵ The rational choice analysis provided here intends to demonstrate that this approach offers valuable new insights compared to the many other contributions rooted in sociology, law, political science or international relations.

My analysis also differs from many other studies in that it emphasises the generally neglected consequences of anti-terrorist policy. I wish to argue that the present policy (especially that pursued by the United States in the wake of the attacks on 11th September 2001) focuses almost exclusively on deterrence. It seeks to fend off terrorism by raising the cost of undertaking terrorist acts. While such deterrence raises the (marginal) cost to terrorists and therefore tends to reduce the number and intensity of terrorist attacks, it is less effective than generally thought. There may even be cases in which a deterrence policy induces **more terrorism**. This is, in particular, the case if deterrence policy induces **centralisation** of decision-making in the polity and economy.

I suggest that an effective anti-terrorist policy should focus more on reducing the expected benefits of terrorist acts **to the prospective terrorists**. Such a policy is based on **strengthening** rather than weakening decentralised decision-making: the institutions of polyarchy, i.e. decentralisation of political power via democracy and federalism, as well as the market system, i.e. decentralisation of economic actors, are an effective antidote against terrorist attacks. Under these conditions, terrorism has little or no effect on the stability of the polity and the economy. The expected benefits from terrorism drop. This discourages political enemies from engaging in terrorist violence and encourages them to seek more peaceful forms of pursuing their goals.

Section I presents a simple rational choice model of terrorism, based on the notion of equilibrium in a demand and supply framework. The following section focuses on the supply side, the marginal cost of undertaking terrorist acts. Section III looks at the benefits of terrorist acts from the point of view of prospective terrorists. The next section discusses anti-terrorist policy. Section V notes that deterrence policy may be counterproductive and concludes that de-

centralisation of the polity and the economy is the most effective and desirable antidote against terrorism.

I. A Simple Rational Choice Model of Terrorism

Figure 1 depicts the supply of, and the demand for terrorism as a function of the extent and intensity of terrorism T .

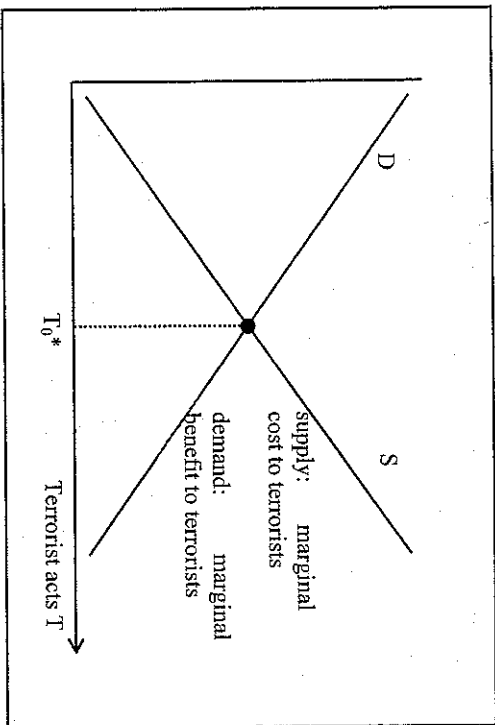


Figure 1: Supply of and Demand for Terrorism

The variable T is open to measurement, as shown by the considerable number of indicators of terrorist acts. Examples are the number of incidents in general or special types of attack. Another frequently used indicator for the extent and intensity of terrorism is the number of victims, especially the number of deaths (see e.g. Abadie and Gardesabal 2001).

The **supply** curve S reflects the **marginal cost** of engaging in terrorist acts. It slopes upwards because it is increasingly costly to undertake terrorist acts.⁶ To begin with, the easiest and most conveniently available targets are chosen. Thereafter it becomes increasingly difficult to undertake terrorist acts. The costs involved for the terrorists consist in material resources, collecting information, as well as the time needed to prepare the attacks. Finally, costs also reflect the danger involved in actually undertaking the act. A terrorist may be hurt or lose his or her life while preparing or carrying out the act, may be captured, interrogated, possibly tortured, imprisoned or even put to death. For the sake of simplicity, the supply curve is drawn as a straight line, but it may well be, of course, that the marginal cost curve becomes increasingly steep. But the basic gist of the following analysis remains unaffected.

The supply curve for terrorist acts is determined by terrorists' behaviour. This will be fully discussed in section II.

The **demand** curve D reflects the **marginal benefits to terrorists** of undertaking terrorist acts. The curve is assumed to slope downwards according to the number and intensity of terrorist acts. This is the case if additional terrorist acts have less and less effect on the country and population. But this need not necessarily be the case; one could imagine nations in which the society targeted becomes more and more affected by terrorism so that the marginal benefit increases its marginal benefit. But, as is argued below, this is unlikely to happen, because the persons and societies targeted learn to react to terrorist acts in such a way that their **marginal** effects tend to diminish with time. The position and slope of the demand curve for terrorism thus depends on the behaviour of the persons targeted. This will be fully discussed in section III.

The intersection of the supply and demand curves identifies the **equilibrium** extent of terrorism T^* . Rational choice theory suggests that this corresponds to the number of terrorist acts observed in reality and measured by the indices of terrorism. The following look more closely at what determines this equilibrium and thereafter the empirically observed extent of terrorism. They raise the question of how much terrorism is to be expected when the supply and demand curves shift.

II. Raising the Cost of Terrorism

The supply curve depends on the behaviour of terrorists. Two extreme assumptions are made:

1. The persons engaging in terrorism are solely **extrinsically** motivated. They undertake their attacks because of the compensation they receive. In most cases, compensation takes the form of gaining recognition and admiration from the persons supporting their cause. Many terrorists also enjoy the fame achieved in the international and local press. In some cases, terrorists even receive monetary compensation for their acts, or their families are guaranteed financial support.⁷ While the analysis does not depend on whether the terrorists receive any inducement in the form of money, a careful reading of the evidence suggests that it often plays at least some role. An exogenous increase in (any type of) exogenous inducement produces a rightward shift of the supply curve, resulting in a larger equilibrium amount of terrorism.
2. The prospective terrorists are solely **intrinsically** motivated.⁸ They are convinced that they are doing the right thing, irrespective of any incentive from outside. It may certainly be the case that **some** persons are motivated solely from within, in which case the supply curve would be vertical: such persons neither react to cost nor to rewards for their actions.

The evidence⁹ available suggests that most prospective terrorists are greatly influenced by their social environment, and react to external incentives. Both extrinsic and intrinsic motives play a role. It follows that the supply curve is positively sloped and shifts upwards (downwards) with an exogenous increase in the cost (rewards) of undertaking terrorist acts.

Deterrence policy is based on this behavioural assumption. It aims at raising the cost of terrorist acts by making them more difficult to undertake and by punishing the actors more severely. As shown in figure 2, the supply curve is shifted upwards, resulting in a smaller equilibrium amount of terrorism.

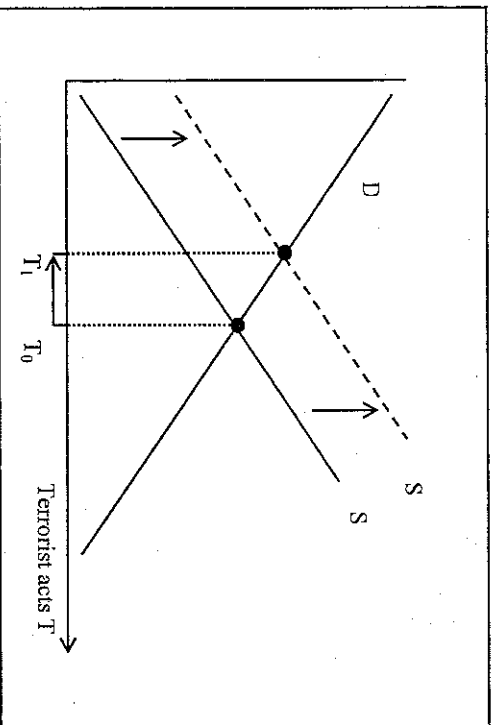


Figure 2: Increasing the Cost of Terrorism

In the (unlikely) event that terrorists are **solely** intrinsically motivated, such policy would have no effect because the supply curve is then vertical. A deterrence policy is also ineffective if it is offset by rewards. This would be the case if a larger punishment is interpreted as an indication to prospective terrorists that their cause is particularly worthy and will be rewarded accordingly in afterlife.¹⁰

But deterrence policy does not solely depend on the potential terrorists' incentives. It also seeks to prevent terrorist acts by making them more difficult to undertake. A case in point is tightening up security measures to prevent the hijacking of planes.¹¹ It follows that deterrence policy in many cases is able to shift the perceived cost of terrorism upwards and to therewith reduce the intensity and number of terrorist acts. This is the reason why deterrence is at the forefront of anti-terrorist policy. Indeed, it is often taken to be the *only* possibility, both in the literature and in practical policy.

III. Reducing the Benefits of Terrorism

The equilibrium amount of terrorism may also be diminished by reducing the marginal fits of terrorist acts to the actors, thereby shifting the demand curve downwards. T shown in figure 3.

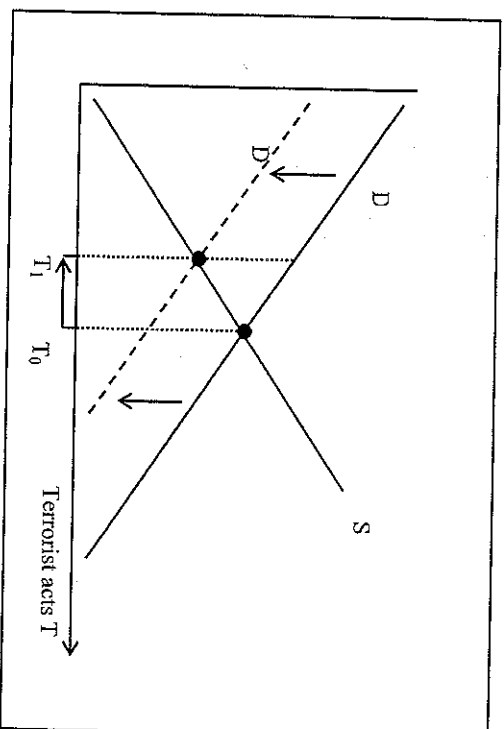


Figure 3: Reducing the Benefits of Terrorism

The basic idea is to make terrorism a less attractive option to the potential terrorists. In order to achieve this result, the benefits of terrorism to terrorists must be identified. They to attain three main goals, all aimed at imposing the maximum possible cost on the con under attack¹².

1. Terrorists seek the **attention of the media** in order to make their cause more widely known. Laqueur (1977: 105) goes as far as to claim that "Terrorist action is nothing, if it is not 'noticed'". Terrorists have shown themselves to be very skilful in that respect. They find it a waste of time, effort and resources to undertake terrorist acts in cities and especially in capitals, where they can be assured of maximum media attention. What terrorists find ways to magnify their acts through the media, terrorism becomes more attractive. The marginal benefit curve shifts upwards and the equilibrium amount of terrorism increases.
2. Terrorists seek to **destabilise the polity**. When the government loses power and, more importantly, when the political system's legitimacy is eroded, the terrorists' chances of achieving their goal improve. Respective actions result in an upward shift in the terrorist

marginal benefit curve. Terrorism becomes a more attractive option, leading to a higher equilibrium level of terrorism.

3. Terrorists seek to **damage the economy**. They want to impose material cost on the population in order to force them to yield to their demands. Empirical research has shown that terrorist acts significantly reduce the number of tourists (see Enders and Sandler 1991 for the case of Spain; Enders, Sandler and Parise 1992 and Drakos and Kutan 2001 for Mediterranean countries) as well as foreign direct investment (see Enders and Sandler 1996), gross domestic income and stock prices (see Abadie 2002 for the case of the Basque country). The consequences of the attacks of 11th September, 2001 on the United States have been estimated to be in excess of \$ 100 billion in direct cost, and as much as \$ 2 trillion in total cost (Navarro and Spencer 2001, Rathbone and Rowley 2002). The more an economy is affected by terrorist acts, the more the terrorists' marginal benefit curve shifts upwards, and the equilibrium amount of terrorism increases.

The three goals are intertwined. The extent of attention attributed to terrorist acts by the media affects both the polity and the economy. In all societies, the politicians in power react to the media (and therefore want to control them). The effect on the economy of the media works through consumers' and investors' expectations about the future state of business. The importance of terrorist acts is strongly influenced by how they are reported in the media. The more prominence they get, the more they depress expectations about the future state of the economy.

Economic conditions systematically affect the government, as has been empirically shown in the literature on popularity and election functions. A rise in unemployment and inflation, and a fall in the rate of growth in income, lower the survival prospects of the government.¹³ But bad economic conditions, a deep recession or depression, may even destroy the very constitutional foundations and may lead to authoritarian or dictatorial governments taking over.

The polity influences the economy through policy changes. Thus, for example, public expenditures for military purposes may be stepped up, or the flow of finance may be interfered with.¹⁴ More fundamentally, policy changes may affect the basic rules within which the economic actors make their decisions. This is, for example, the case when regulations undermine the workings of an economy based on free markets.

IV. Anti-terrorist Policy

Within the framework of the simple model of the supply of, and demand for, terrorist acts, the options of an anti-terrorist policy are identified: the marginal cost to potential terrorists to undertake terrorist acts must be raised and the marginal benefits derived by terrorists must be lowered.

Deterrence policy by raising the (marginal) cost to terrorists has already been alluded to, has been widely applied and therefore needs no further discussion here. It suffices to point out

that a deterrence policy also **raises** marginal benefits to terrorists through the cost the imposed on the target economy. This effect has been experienced by many countries in terrorism (Israel is a good example). Deterrence policy thus shifts both the (marginal) and the marginal benefit curve upwards. The overall effect on the equilibrium amount of terrorism is theoretically undetermined; it depends on the relative size of the two counter effects. In large, productive and not fully employed economies, the costs imposed on a country targeted will be relatively small, so that terrorists' marginal benefit curve shifts only a little. In that case, a deterrence policy will successfully reduce the intensity of terrorist acts.

The second anti-terrorist policy option has been rarely discussed and has little, if any, portance in reality. But one of the most effective ways to immunise a country against terrorist attacks is to **decentralise activity**, both with respect to the polity and the economy.

Decentralising politics

A polity with many different centres of decision-making and implementation is difficult not impossible, to destabilise. If one of the centres is hit and destroyed by a terrorist attack the other centres can take over. That this is indeed possible has been demonstrated by an incident in Switzerland. In September 2001, a man ran amok (he was not a terrorist) in parliamentary building of the Swiss canton Zug and shot dead no less than three of the members of the government council (Regierungsrat), as well as eleven members of parliament. He also injured a significant number of other members of the government and parliament. Nevertheless, within a very short period of time (something like half an hour), the government was functional again, not least because the heads of the partly autonomous communes took over.

Decentralising political power, or to use the term used by Dahl and Lindblom, polyarchy can take two forms:

1. Political power is distributed between a number of **different political actors**. The classical division of power between government, legislature and courts is the most important. Moreover, the media must be decentralised so that a terrorist attack is unable to control the flow of information. It is no accident that persons attempting a coup d'état first try to gain control of the TV station. But if there are several TV stations located in different places, this effort is doomed to failure.

2. Political power must also be divided up between various levels of government. In federal (i.e. spatially decentralised) countries, there is usually the federal, state / provincial / communal, and the communal level. But it is possible to go one step further still by introducing a fourth, regional level, or to grant far-reaching autonomy to all kinds of functional, overlapping and competing jurisdictions (for the idea of FOCI, see Frey and Eichenberg 1999).

Strengthening political decentralisation via the division of power and federalism contributes enormously to a country being less vulnerable to terrorist attacks. The attraction of such actions for terrorists is diminished. The marginal benefit of terrorism falls and the equilibrium amount of terrorism is reduced.

Decentralising the Economy

A market economy is based on an extreme form of decentralisation of decision-making and implementation. Indeed, the advantages of the market as an efficient resource allocation mechanism break down when it is centralised via oligopolies or monopolies (e.g. Hayek 1960, 1978). As has been dramatically shown by the terrorist attacks on the World Trade Towers, economic activity was quickly resumed, despite the high number of people killed and whole firms being wiped out. This was possible because there was a substantial number of competitors, which could quickly be substituted, rather than just one monopolistic supplier of the respective economic services. The more an economy functions according to market principles, the less vulnerable it is to terrorist attack. The terrorists' marginal benefits' curve shifts downwards as terrorist activities prove to have little or no effect on aggregate economic activity.

Obviously, an anti-terrorist policy concentrating on decentralisation has other attractive features: it strengthens democracy and liberalism.

V. Deterrence May Backfire

Policies of fighting terrorism by using deterrence and decentralisation may interact. Deterrence policy tends to **increase political and economic centralisation**. In order to curb terrorism by deterrence, the central government tends to reduce the democratic rights of citizens¹⁵ and to take power away from lower levels of government. Increasing expenditures benefit the military-industrial complex (to use President Eisenhower's term), which is far more centralised and monopolistic than other parts of the economy. More decision-making and implementation power is then vested in one location, making it vulnerable to terrorist attacks.¹⁶ Such a deterrence policy does not only shift terrorists' cost curve upwards, but at the same time also their benefit curve. The two effects are countervailing and it remains open whether the equilibrium amount of terrorist activity actually falls, as generally expected. It may well be that the increasing centralisation of the economy and polity raises the attraction for terrorists to such an extent that the equilibrium amount of terrorism increases. The lowering effect of deterrence is likely to dominate in the short term, but it may well be reversed long term. This should be taken into account by a wise anti-terrorist policy. Unfortunately, political economy suggests that a deterrence policy is in any case favoured by governments, because it demonstrates politicians' determination to fight terrorism. In contrast, seeing and conserving the value of decentralisation has more the character of a public good, whose maintenance is not

directly attributed to the government in power. It is therefore all the more important guard political and economic decentralisation at the constitutional level.

References

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- 1 See e.g. Opp (2001, 1999, 1989 and 1979), Opp and Wippler (1990), Opp et al. (1984).
- 2 An incomplete selection is Opp (2001, 1994 and 1983), Opp and Hechter (2001), Opp, Metzke and (2000), and Opp and Müller (1986).
- 3 Just to name the respective book publications: Opp (1995), and Opp, Voss, and Gem (1995).
- 4 Among the most recent contributions, see e.g. Kushner (1998), Stern (1999) and Wilkinson (2000) overview of other recent publications, see Henderson (2001).
- 5 The application of economic methods – in particular the application of the economics of crime (see 1968 and others) – to the study of terrorism began with Landes (1978). Following Landes, who studied's Canley 1983, Atkinson, Sandler and Tschirhart 1987, Lapan and Sandler 1988, Selten 1988, Islam and Sandler (1987), Scott 1987, Scott 1991, Shahin and Islam 1992, and Sandler and Enders (1992), Jim, Sandler (1993, 2001 and 2002) study the temporal pattern of terrorist incidents and find that for most events cycles are prevalent. They also find evidence of both substitutes and complements among different attacks. Several contributions investigate the economic impact of terrorist attacks (e.g. Enders and Sandler 1991, Enders, Sandler and Parise 1992, Pizam and Smith 2000, Drakos and Kutan 2001, Abadie and Galbal 2001, and Glaser and Shapiro 2001). Other contributions deal with different government responses to terrorism (see e.g. Kirk 1983, Lee 1988, Enders and Sandler 1993, and Birstecker 2002).
- 6 The analysis excludes the case of increasing returns to terrorist acts resulting in a falling supply curve terrorism because it seems to be unlikely to be relevant in reality.
- 7 According to a report in the *Ständesische Zeitung* (Steinberger 2002, S. 13), Saddam Hussein raised pay to the families of suicide terrorists from \$ 10000 to \$ 25000.
- 8 For a precise definition and further discussion of intrinsic and extrinsic motivation, see e.g. Deci 15 Frey 1997.
- 9 Sandler and Scott (1987 p. 37), for example, conclude on the basis of their empirical findings that terrorists "respond appropriately" to changes in their constraints".
- 10 Investigating rebellious collective action, Müller and Opp (1986) found that respondents in a survey believe that rebellious behaviour is likely to be costly show a greater tendency to participate than those believe otherwise. The authors speculate that this behaviour reflects a "martyr" syndrome or, alternatively higher expected costs may be closely intertwined with the perception of a higher desirability of their cause.
- 11 Enders and Sandler (see e.g. 1993) and various co-authors investigate the effectiveness of such terrorism policies. They find that security measures decrease the type of attacks they are designed for. The main is that the terrorists react by substituting one type of attack by another, often more deadly, one. There and-terrorist policies are far less effective and more costly than anticipated. Kash points out another pro (1998, p. 164): "Significant advancements in counterterrorist approaches have been evenly matched by terrorist techniques."
- 12 See e.g. Enders and Sandler (1995), Schelling (1991 pp. 20 and 31), for example, asserts as possible good terrorists social and political disruptions, economic losses and media attention (as an end in itself). Further think that terrorism serves to build morale among the supporters of the movement represented by the terrorist (p. 23). This widely acknowledged purpose of terrorism is not further discussed here.

- ¹³ See, for instance, the survey by Paldam 1981 or Mueller 1989.
- ¹⁴ For an analysis of the financial flows connected to terrorism, see e.g. Schneider (2002) for al Qaeda and Bin Laden.
- ¹⁵ In the United States, in response to 11th September 2001, "the administration has resorted to a *de facto* suspension of habeas corpus and to reliance on military tribunals", as well as an "erosion of individual freedom, private property rights, limited government and the rule of law" (Rathbone and Rowley 2002, p. 17).
- ¹⁶ This danger has indeed been recognised by the American presidential administration. It therefore has plans to establish something like a shadow government (see e.g. Safire 2002). But this substitute has no democratic legitimacy and stands outside the established constitution. It means that the power of the State governors and other constitutional actors is diminished. This works in favour of terrorists.

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