



Why do non-target Countries enforce counterterrorist Policies?

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*¿Por qué los países “no destino” aplican políticas antiterroristas?
Por que razão os países não alvo aplicam políticas anti-terroristas?*

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As terrorist groups turn into more complex organizations, and more effective technology becomes available to them, transnational counterterrorism policies related with their resources as well as their structures are needed. This article tries to explain why non-target countries enforce such regulations. According to this research work, target countries seek non-target countries to implement some counterterrorist policies. As a transnational ‘market-for-regulation’ is unfeasible due to transaction costs, these policies are imposed by means of implicit and/or explicit sanctions, which are applied if non-target countries fail to enforce the desired counterterrorism level.

A medida que los grupos terroristas se convierten en organizaciones mucho más complejas y disponen de tecnología más efectiva, es necesario crear políticas transnacionales en el marco antiterrorista relacionadas con sus recursos, así como con sus estructuras. En este artículo se intenta explicar por qué los países “no destino” aplican estas políticas. Según este trabajo de investigación, los países “destino” buscan países “no destino” para implementar políticas antiterroristas. Como mercado regulador (market for regulation) transnacional, resulta inviable debido a su coste transaccional. Estas políticas se imponen por medio de sanciones explícitas o implícitas que se aplican si los países “no destino” no hacen efectivo el nivel antiterrorista deseado.

Quando os grupos terroristas se transformam em organizações mais complexas, e lhes são disponibilizadas tecnologias mais eficazes, são necessárias políticas contra-terroristas transnacionais relacionadas com os seus recursos bem como com as suas estruturas. O presente artigo procura explicar por que razão os países não alvo aplicam esses regulamentos. Segundo este trabalho de investigação, os países alvo procuram que os países não alvo apliquem algumas políticas anti-terroristas. Como não é exequível uma abordagem transnacional do tipo ‘market-for-regulation’ devido aos custos de transacção, estas políticas são impostas por meio de sanções implícitas e/ou explícitas, que são aplicadas se os países não alvo não aplicável o nível pretendido de contra-terrorismo.

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1. Introduction

Why do non-target countries enforce counterterrorist policies? Why do they devote resources which could have been used in more useful purposes? Over the last 35 years, many international conventions have been signed aimed to prevent terrorist acts. These conventions force the signatory states to pass as well as to enforce counterterrorist measures. Among them there are countries which have never been attacked, nor will likely be attacked by terrorism groups. However, they sign those conventions. Why? This article will attempt to give an answer to this question.

This article will be composed as follows. Section I presents a bibliographic review about this subject. Section II introduces a theoretical framework. Section III gives expression to an analytic model. Some practical considerations as well as examples are given in Section V. Finally, section VI provides some concluding remarks.

2. Bibliographic Review

Terrorism is a phenomenon in a state of constant change. Regardless of what kind of motivations terrorist groups may pursue, there are two characteristics which are common among all of them. First, technology available for terrorist groups changes, and so is the nature of the tactics. According to Enders and Sandler (1993), terrorist groups use a Household Production Function by which they evaluate and choose their strategies. Consequently, if any terrorist tactic becomes less costly because there have been a technological change, that tactic would be chosen. In another paper, Enders and Sandler (2005) empirically test the existence of a “substitution effect” in terrorist acts. Such substitution effect may also feature in geographical terms (Enders & Sandler, 2006), as terrorists carry out their attacks where it is less costly for them¹. Moreover, global terrorist groups enjoy transnational support which increases their terrorism-specific factors, such as financial support, expertise and so on. This, in turn, enhances terrorist activity not only because it enhances terrorist groups’ capacity to attack, but also because such factors reduce the risk associated with terrorism (Sanico & Kanikama, 2008).

Adamson (2005) asserts that globalization has facilitated the mobility of people, capital and ideas. Therefore, it is easier to form networks of violence like terrorist groups. As a result, the importance of these movements as actors has increased, and there is less distinction between internal and external security². Nevertheless, organizational structures among terrorism groups have a dynamic nature, which is dictated by the external conditions. According to them, as well as the immediate target, the terrorist group will define its communication structure, its level of specialization and division of labor, its chain of

1. Drakos and Gofas (2006) observe that there is a persistence in terrorism activity in those regions where already exists (“addictive contagion”). Such continuity would be caused by logistical advantages which those places offer to terrorist groups.

2. According to AsaI, Nussbaun and Harrington (2007), terrorist organizations function like Transnational Advocacy Networks (TAN), as they are coalitions of local and national groups which form larger regional or international umbrella organizations.

KEY WORDS

International economics, Law and Economics, Counterterrorism, Public goods, Public policy

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command and control, and its time definitions regarding the implementation of planned actions. Mishal and Rosenthal (2005) propose that Al-Qaeda has become a so called “Dune organization”, which relies on a strategy of territorial disappearance and lack of imminent institutional presence. This, in turn, makes such type of organizations highly fragmented, de-territorialized and fast-moving³. On the other hand, Enders and Su (2007) model the trade-off between security and intragroup communication faced by terrorism. According to this model, terrorists will attempt to counter increased efforts at infiltration and restructure themselves to be less penetrable. Ganor (2008) presents the “terror equation” according to which the characteristics of terrorist attacks depend on the level of the group’s motivations multiplied by the extent of organization’s operational capability to realize such motivation. Therefore, there is a “limiting variable” which curtails terrorist activity. Specifically, groups that have the motivation to execute terror attacks may not have the operational capability to carry them out.

From the two previous paragraphs it can be inferred that terrorist groups are dynamic, elusive organizations that choose an optimum structural form in order to attack more effectively according to their objectives. Also, there is a relationship between a terrorist group activity can its amount of resources. Finally, the terrorist group would locate such resources, as well as any other organizational capability, in a place which offered less risk, like non-target countries.

It must be seen that there is no such thing as a global counterterrorism policy. Rather, there are many national policies related with this issue. As a consequence, first axiom of welfare does not apply here, since there

3. Both authors warn that such operational capability may be perceived in a broader context than Islamic terrorist organizations.

is no central planner, but many economic agents –namely, the states, which enforce policies which either acts as a public good, or presents many positive externalities. Lee (1988) points out the possibility that countries may behave as “paid riders”, that is, sell or reduce the public good of retaliation, provided through the efforts of others, by offering safe havens to terrorists in return for the terrorists’ pledge to attack elsewhere. By their side, Sandler & Arce (2005) assert that global counterterrorist policies are not optimally provided. As an example, proactive policies aimed at terrorist groups themselves are public goods whose benefits are not fully enjoyed by the enforcing country. This, in turn, brings about a suboptimal provision of those policies. Additionally, Sandler & Siqueira (2006) state that countries which have more interests abroad, such as diplomatic institutions, multinational corporations and so on, will be less prone to implement reactive policies against terrorism because terrorist groups may act against those countries’ interests in any other territory where it may be more feasible to attack. Conversely, if a state does not have any interest outside its territory, it will implement more reactive policies than globally optimum, because terrorist risk will spill other countries rather than decrease. On the other hand, each state is implementing its counterterrorist policy by its own. Therefore, states could not take advantage of economies of scale in many policies, such as prevention or intelligence. Brauer (2004) enlists many market failures in transnational public goods, such as the lack of property rights and enforceable contracts, competitive break-downs, information failures, externalities, government failures. His research work uses peace as an example, the author admits that all these characteristics apply also to global counterterrorism.

From all of what it has been written in the previous paragraphs, it is obvious that

counterterrorism's benefits are not symmetrical among different countries. Instead, target countries, whose people as well as territory may be affected by attacks, are those which enjoy most from security created by these regulations. Second, there is an institutional arrangement by which non-target countries are forced to sign commitments directed to enforce anti-terrorist policies. Third, such conventions cover some areas. The underlying question is what areas are susceptible to be subject of global agreements. A list of international conventions, both global and regional, is provided in [Tables 1 and 2](#).

Table 1: International Conventions on Terrorism

Convention	Year	Area
Convention on Offences and Certain Other Acts Committed On Board Aircraft (Aircraft Convention)	1963	Aviation
Convention for the Suppression of Unlawful Seizure of Aircraft(Unlawful Seizure Convention)	1970	Aviation
Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation (Civil Aviation Convention)	1971	Aviation
Convention on the Prevention and Punishment of Crimes Against Internationally Protected Persons (Diplomatic agents Convention)	1973	Internationally Protected Persons
International Convention against the Taking of Hostages(Hostages Convention)	1979	Hostage
Convention on the Physical Protection of Nuclear Material(Nuclear Materials Convention)	1980	Nuclear
Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation, supplementary to the Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation (Extends and supplements the Montreal Convention on Air Safety) (Airport Protocol)	1988	Aviation
Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation (Maritime Convention)	1988	Maritime
Convention on the Marking of Plastic Explosives for the Purpose of Detection (Plastic Explosives Convention)	1991	Plastic Explosives
International Convention for the Suppression of Terrorist Bombings (Terrorist Bombing Convention)	1997	Bombings
International Convention for the Suppression of the Financing of Terrorism (Terrorist Financing Convention)	1999	Financing
Protocol to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation	2005	Maritime
2005 Protocol to the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf	2005	Maritime
International Convention for the Suppression of Acts of Nuclear Terrorism (Nuclear Terrorism Convention)	2005	Nuclear

Source: UN Counter-Terrorism Committee, Hunt (2006)

Table 2: Regional Conventions on Terrorism

Region	Convention	Year	Sponsor Organization
Europe	European Convention on the Suppression of Terrorism	1963	Council of Europe
Europe	The EU Framework Decision on Terrorism	2002	European Union
Europe	Protocol-European Convention on the Suppression of Terrorism	2003	Council of Europe
Europe	Council of Europe Convention on the Prevention of Terrorism	2005	Council of Europe
Europe	Convention on laundering, search, seizure and confiscation of the proceeds from crime and on the financing of terrorism	2005	Council of Europe
Europe	Treaty on Cooperation among States Members of the Commonwealth of Independent States in Combating Terrorism	1980	CIS
Americas	Organisation of American States Convention to Prevent and Punish Acts of Terrorism. Taking the Form of Crimes Against Persons and Related Extortion that are of International Significance	1971	OAS
Americas	Inter-American Convention Against Terrorism	2002	OAS
Africa	Convention on the Prevention and Combating of Terrorism	1991	African Union
Southeast Asia	SAARC Regional Convention on Suppression of Terrorism	1987	SAARC
Southeast Asia	Additional Protocol to the Convention on Suppression of Terrorism	2004	SAARC
Arab States	Arab Convention on the Suppression of Terrorism	1998	League of Arab States
Islamic	Convention of the Organization of the Islamic Conference on Combating International Terrorism	1999	Organization of the Islamic Conference

Source: UN Counter-Terrorism Committee, Hunt (2006)

A remarkable point is that traditional economic analysis of alliances does not provide a suitable explanation to counterterrorist policy enforcement by non-target states' side. According to the model presented by Olson and Zeckhauser (1966), defense is a pure public good, so each country's willingness to pay is its marginal rate of substitution. Beyond any sub optimality created by the fact that states ignore other countries' benefits, it must be pointed out that this is not the case. First, it could be expected that target countries, if counterterrorist were a pure public good, would provide counterterrorist policies, no matter whether non-target states might be "free riders". Thus, it would not be expected that international conventions were signed. Sandler & Hartley (2001) also present a "joint product model" according to which a country-specific output, and an alliance wide deterrence are produced under a fixed-proportion technology. Again, such model does not fail to explain why

target countries may want non-target countries to enforce policies, but also why non-target countries would be willing to implement them. The latter does not enjoy any country-specific output (such regulations struggle against absent phenomenon) or enjoy most of the alliance wide deterrence from anti-terrorism regulations, but also they have to fund them.

There are three sources of demand for antiterrorist regulations. First, target states want to keep terrorists away from new sources of technology as well as resources, especially financial. Such policies may be examples of *weakest link*, because terrorist groups would be willing to operate, as well as to get resources, in those territories where less regulation is enforced. Sandler & Arce (2001) suggest that in such context, it would be good to implement an international agreement which meant a 'veil of ignorance', so that a globally optimum regulation may be provided. The reasoning which lurks behind of it is that countries would avoid "free-riding" behavior if incomplete information is given. Also, both authors propose a political entrepreneurship which may coordinate the public good provision. They suppose that games are symmetrical, and that strategies, and equilibrium, created by such 'veil of ignorance' is correlated, that is, each player chooses its strategy depending on the probability distribution over all players' strategies. Nevertheless, the classification of states into target and non-target suggest an asymmetry in their relationship with terrorism phenomenon, and therefore that benefits are not the same among countries. Furthermore, this analysis suggests that as, as for non-target countries, enforcing policies would be a dominated strategy. Therefore, there would not be room for any agreement implementation, unless there is a mechanism by which such countries are forced to cooperate.

A second source of demand is related to policies which act like commons rather than public goods. Examples of those are information, intelligence and infiltration (Sandler and Arce, 2003, 2005). If many countries enforce such policies in a single territory, there is the risk of degradation. Therefore, a coordination of policies across different political entities is desired so as to avoid the duplication of such regulations, as well as a political leadership able to enforce this kind of coordination. The outcome may be a *leader* game, that is, a player unilaterally deviates from mutual cooperation, or a *hero* game, which also means that a player deviates from mutual cooperation, but by doing so he provides for the other player a greater benefit than for herself. Again, if cooperation is a dominated strategy for non-target countries, there wouldn't be a feasible coordination among different states.

A third source of demand is derived from reactive policies enforced by target countries. Frey (2004) asserts that states ought to enforce decentralization as anti terrorist regulation, so as to reduce the benefits which terrorist groups may obtain from attacking valuable targets, such as buildings or emblematic places. If that were the case, target states would like to enhance their policy effectiveness by means of imposing appropriate counterterrorist regulations to those countries where interest have been placed, especially if these interests are irreversible (such as long term investments) and/or may create a large amount of negative externalities if attacked.

In their paper, Aggrawal & Dupont (1999, 2002) asserts that, if benefits are low enough, the public good is not provided. Both authors also allow asymmetric benefits between players when they introduce the effects of crowding into the analysis. Nonetheless, they don't give any explanation about institutional arrangement when such asymmetries are present, though they give some clues. If benefits are high, which is the case by target states' side, and one's

actor resources are lower than the cost of provision, then a proper institutional framework would be to link the provision of the good with other issues. On the contrary, if both actors' resources are greater than cost of provision, then institutions might help preserve the existence of the good over the long run by establishing some kind of burden-sharing scheme with insurance against defection.

In short, we need a model which takes into account those asymmetries among players, specifically the differences in benefits earned from each one's strategies. However, this is not enough. How cost is shared among countries must also be analyzed, as well as a mechanism by means of which cooperation may be imposed to non-target countries. In the theoretical framework and the analytic model which will be presented in the following sections, it will be assumed that the non-target country completely defrays its counterterrorist policies. Also, a structure of punishment will be used in order to force non-target countries to commit and to implement the desired level of counterterrorist regulation. Such punishments are inspired in the "stick-and-carrot" scheme used in game theory.

Finally, two stylized facts about international conventions must be stressed. First, there has always been difficult to find a unanimously accepted definition of terrorism (Guillaume, 2004). Authors of instruments for the prevention of acts of terrorism have refrained from using the term "terrorism" itself^{4,5}. Second, there is not such thing as a convention which may cover terrorism generally (Trahan, 2002), but rather there are many conventions which address a variety of topics⁶. Certain conventions require states to share information about possible attacks⁷, but there is little emphasis on preventions⁸. International conventions generally exclude acts occurring within a single state and arguably fail to require states to take sufficient measures against domestic terrorism. Finally they are inconsistent as to whether they permit extradition of terrorism suspects to be avoided on the grounds that the acts were *political*. According to Guillaume (2004), the international instruments concerning terrorism have one objective in common: to respond to the internationalization of terrorism by the internationalization of repression. In the same way, Resolution 1373 approved by the UN Security Council in 2001 mandates UN members to undertake a host of measures to combat terrorism^{9,10}. Nevertheless, this resolution goes before the conclusion of a multilateral

4. According to the author, it appeared that, quite often, according to a commonplace, 'one person's terrorist is another person's freedom fighter'.

5. It was only in 1999, when the convention for the suppression of the financing of terrorism was signed in New York, that there was a first attempt at a definition, albeit unhappily inconclusive.

6. Most of these conventions and protocols requires states to: (a) criminalize the acts covered and make them "punishable by appropriate penalties which take into account the grave nature of those offences"; (b) establish jurisdiction over offenses committed in certain contexts and permit states to establish jurisdiction over offense committed in other contexts; (c) take alleged offenders into custody and make a preliminary factual inquiry; (d) notify, either through the U.N. Secretary-General or directly, certain potentially interested states of the actions taken; (e) submit the case for prosecution if the state does not extradite the alleged offender; (f) deem the offence to be an "extraditable offence" for the purpose of any extradition treaty between states parties; and (g) assist each other in connection with criminal proceedings regarding the offences covered (Trahan, 2002).

7. The Convention on the Physical Protection of Nuclear Material, art.5, obligates sharing of information and cooperation only once nuclear materials have been stolen or threats have been made to steal such material (Trahan, 2002).

8. Indeed, according to Trahan (2002) only two conventions attempts to prevent terrorism –the Convention on the Marking of Plastic Explosives for the Purpose of Identification and the International Convention for the Suppression of the Financing of Terrorism.

9. Such resolution created a Counter-Terrorism Committee to monitor implementation of that resolution.

10. Resolution 1373, art.2 (a)-(g) mandates that all states shall refrain from providing any form of support to terrorist groups; shall take the necessary steps to prevent the commission of terrorist acts, including by provision of early warning to other states; shall deny safe haven to those who finance, plan, support or commit terrorist acts; and shall ensure that persons financing, planning, or perpetrating terrorist acts are brought to justice and that such acts are established as serious criminal offences under each state's domestic laws.

terrorism convention. Thus, there is the risk that states may adopt different and inconsistent definition of terrorism. Also, there has been no debate among states to what measures are the most important to implement, what approach to implementing them would work best, and when measures designed to combat terrorism might go too far. Sandler (2003) also points out how countries keep on refusing to extradite terrorists, and to integrate their counterterrorist policies, except in exchanging information¹¹.

3. Theoretical Framework

It will be assumed that all states have three sources of utility. *Autonomy* –the extent of independence as well as liberty any state have in the decision making process over all issues related with its territory as well as population, *security* –the physical as well as moral integrity which the state’s population has within its territory, and *wealth* –the economical power that a country’s inhabitants possesses, and which is used by those inhabitants in order to achieve a higher level of welfare (Altfeld, 1984; Sororkin, 1994).

In this context, terrorism is a phenomenon which comes against the pursuit of those objectives. Obviously, the most affected goal is security since, by definition, threatens its citizen’s integrity. However, wealth is also attacked by means of three channels. First, the direct cost in terms of human lives and infrastructure. Second, any increase in uncertainty about future attacks may affect the country’s financial risk. Third, terrorism has a negative impact on several industries such as tourism (Abadie & Gardeazabal, 2008). As for autonomy, it is affected by terrorism because terrorist groups’ impositions may bring about a loss of freedom in the state decision-making process.

As a consequence, all states has incentives to enforce policies directed to know whether terrorists aim at its soil or its citizens, as well as against the terrorism phenomenon itself, either directed against terrorists themselves or against terrorism risk. Generally, national governments have five types of policies by which they may inhibit terrorist activity.

1. Knowing all available options to terrorists (i.e. intelligence, information).
2. Increasing any strategy’s costs (i.e. air security).
3. Decreasing any strategy’s effective risk and its success probability (i.e. Protection to victims).
4. Restricting production, transport and transference of all available resources (i.e. prevention of financing, arms control).
5. Attacking directly to terrorist groups’ members (i.e. repression, military invasion).

Therefore, if a country finds that an attack against its territory as well as its citizens is a possible terrorist strategy, then antiterrorist policies will aim to both an increase in the attack’s operational costs (like air security), as well as the decrease of its effectiveness (more protection to symbolical buildings). Because of the aforementioned objectives, any counterterrorist

11. According to Enders & Sandler (1993), international conventions have been ineffective and statistically not significant in their effect over terrorist attacks. However, it is a fact that those conventions have kept on being signed.

policy must be evaluated in terms of security as well as of wealth, that is, how much economical power is spent in order to enhance the extent of protection a state may give to its citizens and/or its soil.

However, transnational terrorism features negative externalities across different states. First of all, the *target country*, the country against which a terrorist act is carried out, is not necessarily the *venue country*, which is the country where that terrorist act happens. Terrorists act in places where their attacks are more effective and/or less costly. On the other hand, terrorist groups may produce and/or shelter resources in countries which are neither targets nor venues. In addition, antiterrorist policies any state may enforce are more complex, due to the aforementioned transnational externalities, than those which are carried out against domestic terrorism in terms of the objectives which national states pursue, especially autonomy. Even if a country does not gain security from any policy enforcement, that policy should be evaluated in terms of autonomy –how much sovereignty that country loses from enforcing it, and wealth- how much income that country loses if that country chooses not to carry out that policy. This is very important in small countries whose economies are open to the rest of the world.

As for resources employed by terrorist groups, they can be localized in non-target countries, and therefore bring about negative transnational externalities. Target states may urge on non-target countries to enforce a global counterterrorist policy aimed to keep terrorist groups from obtaining resources which may be used in future terrorist attacks against any of these target states' soil and/or their citizens. Also, some resources might not be produced by terrorist groups in any particular country only, but also transferred from one to another, e.g. funds. Consequently, target states want non-target states to enforce counterterrorist policies aimed to limit terrorist resources mobility. A more detailed list of resources-oriented counterterrorist policies is presented in [Table 3](#).

Table 3: Set of Resources-Oriented Counterterrorist Policies

Resources	Policies against Production	Policies against Transference
Financial	Regulations against Collection (Nonprofit Organization, Donations)	Regulations against Transference and Use of Funds (Freezing of Assets, Embargoes)
Logistical (Arms)	Regulating Activities Related to Arms Supplying (Arms Productions, Moratorium on WMD)	Regulating Arms Exports. Restricting Access to Arms and Explosives.
Humans	Policies against Recruitment	Restricting Immigration

As far as target countries are concerned, their ideal outcome would be that non-target countries may enforce as much counterterrorist regulation as possible, so that terrorist groups could not use their resources, either because they can not produce in any given country and/or transfer them from one country to another.

Nevertheless, the transaction costs are high enough so as to preclude the formation of a “market-for-regulation”. First, any state would not be willing to give up control over its se-

curity policies, among them counterterrorism. Second, there is not such thing as a “global central authority” which could force a country to “pay for security” to another country. Finally, information that a state may collect about another is often too expensive to collect. Furthermore, a country may have incentives to keep information hidden and to create false information. Therefore, it may be too costly to verify the fulfillment of a contract signed between states. As a consequence, it is more feasible for target countries to impose punishments against non-target countries if the latter fail to enforce any desired counterterrorist policy. The purpose of such sanctions is to force non-target countries to share part of the risk which is brought about by the lack of such regulation.

4. Analytic Model

It will be assumed that there are two countries, Y and X . Y is a non-target country, that is, transnational terrorist groups are not aimed at its citizens nor operate in its soil. On the contrary, X is a target country¹² whose soil and citizens face terrorism risk.

Let us establish a utility function for Y defined over the aforementioned objectives, so that:

$$U_Y = U(W_Y, S_Y, A_Y)$$

It will be assumed that the marginal utility of each one of these objectives is positive and diminishing, that is:

$$\frac{\partial U_Y}{\partial W_Y}, \frac{\partial U_Y}{\partial S_Y}, \frac{\partial U_Y}{\partial A_Y} > 0 \quad \frac{\partial^2 U_Y}{\partial W_Y^2}, \frac{\partial^2 U_Y}{\partial S_Y^2}, \frac{\partial^2 U_Y}{\partial A_Y^2} < 0$$

As for counterterrorist policies, Y chooses which level of counterterrorist regulation (RAT_Y) will enforce. Such regulation provides benefits ($B(RAT_Y)$) in terms of wealth, security and autonomy. It will be assumed that such benefits are positive and marginally decreasing, which is equivalent to suppose that, though the enforcement of such regulations increases the extent of the state’s objectives, its effectiveness is marginally decreasing¹³. This may be seen from the equations exhibited as follows.

$$MB_Y(RAT_Y) = \frac{\partial U_Y}{\partial RAT_Y} = \frac{\partial U_Y}{\partial W_Y} \frac{\partial W_Y}{\partial RAT_Y} + \frac{\partial U_Y}{\partial S_Y} \frac{\partial S_Y}{\partial RAT_Y} + \frac{\partial U_Y}{\partial A_Y} \frac{\partial A_Y}{\partial RAT_Y} > 0$$

$$\begin{aligned} \frac{\partial MB_Y(RAT_Y)}{\partial RAT_Y} &= \frac{\partial^2 U_Y}{\partial RAT_Y^2} = \frac{\partial^2 U_Y}{\partial W_Y^2} \frac{\partial W_Y}{\partial RAT_Y} + \frac{\partial U_Y}{\partial W_Y} \frac{\partial^2 W_Y}{\partial RAT_Y^2} + \\ &\frac{\partial^2 U_Y}{\partial S_Y^2} \frac{\partial S_Y}{\partial RAT_Y} + \frac{\partial U_Y}{\partial S_Y} \frac{\partial^2 S_Y}{\partial RAT_Y^2} + \frac{\partial^2 U_Y}{\partial A_Y^2} \frac{\partial A_Y}{\partial RAT_Y} + \frac{\partial U_Y}{\partial A_Y} \frac{\partial^2 A_Y}{\partial RAT_Y^2} < 0 \end{aligned}$$

12. It can be assumed too that X may be a group of countries, that is, $X = (X_1, X_2, X_3, \dots, X_n)$

13. Analytically, it is expressed as $\frac{\partial W_Y}{\partial RAT_Y}, \frac{\partial S_Y}{\partial RAT_Y}, \frac{\partial A_Y}{\partial RAT_Y} > 0, \frac{\partial^2 W_Y}{\partial RAT_Y^2}, \frac{\partial^2 S_Y}{\partial RAT_Y^2}, \frac{\partial^2 A_Y}{\partial RAT_Y^2} < 0$

The interpretation which lies behind of these equations is straightforward: a state does not pursue security only when it enforces any counterterrorist policy, but also wealth and autonomy. This means that a non-target state which does not face any terrorist risk, and thus may not gain any increase in its security, could enforce a counterterrorist policy by itself, in order to achieve its wealth and autonomy goals. A good example of this are those policies oriented to curtail counterfeiting.

As for the costs, it will be expressed by $C(RAT_Y)$, and assumed to be marginally increasing.

$$\frac{\partial C(RAT_Y)}{\partial RAT_Y} > 0$$

A very interesting characteristic about the costs involved in the counterterrorist policies enforcement is that it is composed not by tangible items (equipment, personnel) only, but also by intangible ones, like time and new institutions. Another feature is that the costs may be thought of as a function of wealth – the resources involved in its enforcement- and autonomy –the commitments under which any state engages itself¹⁴.

As a benchmark case, let us assume that the non-target country chooses its enforcement level by itself, without interacting with any other state. If such context occurs, the non target country will execute the level which maximizes its net utility.

$$\begin{aligned} & \arg \max_{RAT_Y} B_Y(RAT_Y) - C(RAT_Y) \\ & MB_Y(RAT_Y^*) = C'(RAT_Y^*) \\ & RAT_Y \geq 0 \end{aligned}$$

Such level will be defined as the *domestic optimum*, and expressed by RAT_Y^* .

However, the benefits brought about by counterterrorist policies carried out by the non-target country Y are not excludable, but they are enjoyed by the target country X . Again, a utility function over the objectives of wealth, autonomy and security will be established for X .

$$U_X = U(W_X, S_X, A_X)$$

The assumptions about this utility function also hold for the target country. The main difference lies in the benefits in security that the target country expects to obtain from the counterterrorist policy enforced by the non-target country, which are assumed to be far higher than those captured by the latter. Analytically it is expressed as follows:

$$\frac{\partial U_X}{\partial S_X} \frac{\partial S_X}{\partial RAT_Y} > \frac{\partial U_Y}{\partial S_Y} \frac{\partial S_Y}{\partial RAT_Y}$$

14. Security may also be part of the cost function. This is particularly true when it is a high degree of risk substitution involved in its enforcement, like air security (Sunstein, 2002).

In turn, the extent of benefits which X enjoys from the counterterrorist policy is closely related to the terrorist risk level which the target country faces. From now on, the benefit which target country X obtains from such regulation shall be defined as $B_X(RAT_Y)$ 15. Also, the marginal benefits enjoyed are higher in the target country than in the non-target country.

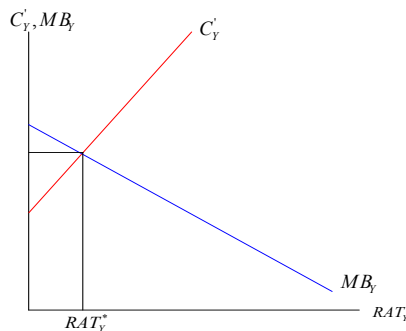
$$MB_X(RAT_Y) > MB_Y(RAT_Y)$$

Because counterterrorist policy enforced by non-target country Y is a public good, its

total benefits are the vertical sum of marginal benefits enjoyed by all countries ($\sum_{i \in X,Y} B_i(RAT_Y)$). However, the cost of the counterterrorist policy enforced by Y is completely defrayed by that country. Consequently, X obtains pure benefits from such policy. The optimal global level of counterterrorist policy (RAT_Y^{***}) equalizes marginal cost with total marginal benefits obtained by all countries favoured by its enforcement.

$$\begin{aligned} & \arg \max_{RAT_Y} \sum_{i \in X,Y} B_i(RAT_Y) - C(RAT_Y) \\ & \sum_{i \in X,Y} MB_i(RAT_Y^{***}) = C'(RAT_Y^{***}) \\ & RAT_Y \geq 0 \end{aligned}$$

Graph 1



As it can be seen in Graph 2, the non-target country does not capture all the benefits caused by its counterterrorist policies, so it will enforce less than the domestic optimum

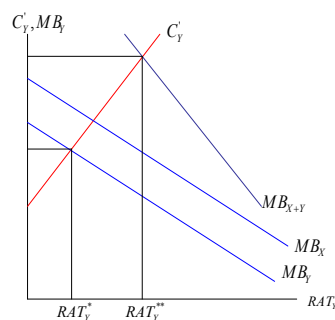
($RAT_Y^{**} > RAT_Y^*$). More interestingly, as it is shown in Graph 3, some globally efficient policies ($RAT_Y^{**} > 0$) are not enforced because its costs are higher than the private benefits obtained by Y ($RAT_Y^* = 0$)16. It will be assumed that policies costs are constant. Therefore, the optimal

15. An underlying assumption is that the country may evaluate benefits as well as cost of terrorism. For a further reading over this particular issue, please read Frey and Luchsinger (2005).

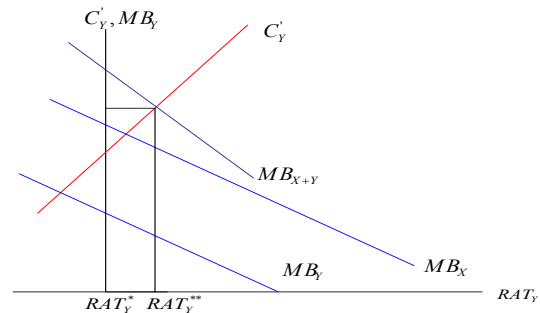
16. It could be that a non-target country may enforce a “negative counterterrorist policy” ($RAT_Y < 0$), that is, providing safe-haven to terrorist groups.

global level may change either if effective terrorism risk increases in any country, or if such terrorism risk spreads over more countries. In both cases the marginal benefit curve ($MB_X(RAT_Y)$) shifts horizontally to the right.

Graph 2



Graph 3



From now on any counterterrorist policy level demanded by target country X shall be defined as RAT_Y^{***} , which will be assumed to be higher than the domestic optimum

($RAT_Y^{***} > RAT_Y^*$). As for the question of how such demanded counterterrorist regulation level will be provided by the non-target country, it has been seen in the previous section that such thing as a “counterterrorist policy” market is not feasible, and thus target country X does not “pay” to Y for the enforcement of counterterrorist regulations. Rather, X will force Y to enforce counterterrorist policies by means of a punishment or sanction to be applied by X if Y fails to implement such regulation. Sanctions are preferred to payments because of three reasons. First, the non-target country may refuse to be controlled in its sovereign decisions by another state. Second, many effective policies are precisely unobservable, so it may be too costly for target countries to verify that Y fulfils its obligations, Third, if it does not enforce counterterrorist policies, sanctions serve as a tool to make non-target country share some of the risk faced by the target country.

Generally, sanctions enforced by X are aimed against Y objectives of security (through arms embargoes or restricting military aid), and wealth (trade sanctions, non-tariff barriers). Any sanction is a negative payment for both countries, since it means lost opportunities in trade, black market existence, and so on. Henceforth the cost of such punishment or sanction will be defined as P . Two conditions which sanctions must meet, in order to be a useful tool to impose the demanded counterterrorist level, are to be both *convenient* and *effective*.

A sanction is *convenient* if its use by X may brings about a higher utility level to the target country. Otherwise, the punishment is a non-credible threat. A sanction will be convenient if its cost is less than incremental benefits obtained by the target country X from the enforcement of RAT_Y^{***} relative to the domestic optimum. That is:

$$\int_0^{RAT_Y^{***}} MB_X(RAT_Y) - \int_0^{RAT_Y^*} MB_X(RAT_Y) \geq P^*$$

After rearranging, it can be obtained the following condition:

$$\int_{RAT_Y^*}^{RAT_Y^{***}} MB_X(RAT_Y) \geq P^*$$

By its side, a sanction is *effective* if the non-target country *Y* is effectively induced to enforce the demanded level of regulation through the use of such sanction. It happens if the cost of the punishment inflicted to the non-target country is higher than the loss which is brought about to *Y* when it deviates from the domestic optimum.

$$\int_0^{RAT_Y^*} [MB_Y(RAT_Y) - C'(RAT_Y)] - P^{**} \leq \int_0^{RAT_Y^{***}} [MB_Y(RAT_Y) - C'(RAT_Y)]$$

From this condition, it can be obtained the following mathematical expression:

$$\int_{RAT_Y^*}^{RAT_Y^{***}} [MB_Y(RAT_Y) - C'(RAT_Y)] \leq P^{**}$$

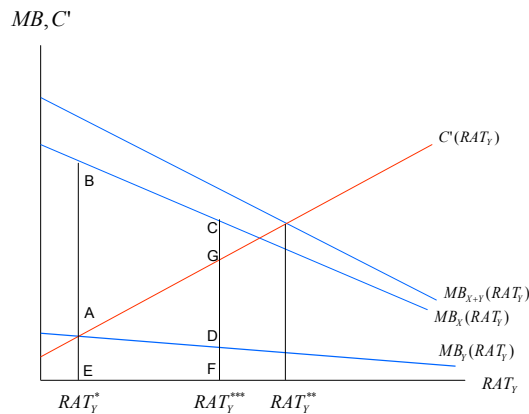
Consequently, sanctions fulfill both conditions if the desired level of counterterrorist policy its global benefits are higher than its cost which is completely defrayed by the non-target country. In other words, the difference between benefits earned by *X* and *Y* after deviating from the domestic optimum RAT_Y^* to RAT_Y^{***} must be higher to the incremental cost.

$$\int_{RAT_Y^*}^{RAT_Y^{***}} [MB_X(RAT_Y) - MB_Y(RAT_Y)] \geq \int_{RAT_Y^*}^{RAT_Y^{***}} -C'(RAT_Y) \tag{17}$$

In [Graph 4](#), such desired policy level RAT_Y^{***} is represented by the ABCD quadrilateral, which may be imposed by means of sanctions if its area is largest than the area of the quadrilateral formed by AEFG.

$$17. \text{ Or } \left| \int_{RAT_Y^*}^{RAT_Y^{***}} [MB_X(RAT_Y) - MB_Y(RAT_Y)] \right| \geq \left| \int_{RAT_Y^*}^{RAT_Y^{***}} C'(RAT_Y) \right|$$

Graph 4



It must be pointed out that the transaction cost of deciding which level of counterterrorist regulation to be demanded sometimes is higher than the punishment cost, because such decision is usually the result of long negotiations among many target countries in international organizations. On the other hand, each country is free to choose the best kind of sanctions to be executed against the non-target country if the latter does not enforce the desired level of regulation. In theory, it could be possible for the target country X , after imposing a policy level RAT_Y^{***} , to use the less costly punishment:

$$P = \int_{RAT_Y^*}^{RAT_Y^{***}} [MB_Y(RAT_Y) - C'(RAT_Y)] + \varepsilon,$$

$$\varepsilon \rightarrow 0$$

Nevertheless, the non-target country will not, out of its zeal for its sovereignty, publish its benefits or its costs. Therefore, the target country does not have enough information to assess the least costly sanction with precision. The latter could implement policies so as to obtain such information, but they could be too costly, and make further complications arise to our analysis.

Finally, if the target country's perceived security which the enforcement of any given counterterrorist policy enforcement may bring about increases, the international demand for the enforcement of that policy goes up, and therefore inconvenient sanctions become convenient to apply against the non-target country. As a consequence, there is a change in the set of counterterrorist policies enforced by the latter. This is particularly important if there is a technological and/or an organizational change in terrorism activity, as it will be seen in the next section.

5. Practical Considerations and Examples

From the analytic model, it is clear that the lack of information among countries is a ubiquitous problem among countries. This makes counterterrorist policies in non-target states harder to implement.

As for the non-target country, it is supposed to enforce a policy whose benefits are mainly captured by other states. In turn, as it has been seen in the previous section, those benefits depend on the decrease in terrorist risk caused by the enforcement of a counterterrorist policy. Therefore, non-target countries ought to assess those benefits. In other words, they should reckon how much potential damage they could generate to target countries in the absence of that policy. Obviously, target countries obtain more benefits from policies oriented to mobile resources, as they may be used in terrorist attacks against their citizens, or even worst, their territory. It would explain why there has been a high demand for regulations in financing and air transportation.

As for sanctions, their effectiveness does not necessarily depend on the size of the punished country, but rather it mainly depends on how integrated the non-target country is with the rest of the world. Generally, countries which are relatively more isolated are less prone to curtail counterterrorism as they are less punishable. The extent of such integration which a country has may be related with the size of that country, but it is not always the case. Sometimes a small country may be highly isolated, and thus it can even provide a haven for terrorism, like it happens in some countries in Africa. On the other hand, a country is more punishable if its trade or the military aid it receives is highly concentrated among few states. If a non-target country trades with many countries, the collective action needed to sustain a punishment becomes more difficult to obtain among target states.

Any counterterrorist policies enforcement involves costs, which are completely defrayed by the non-target country. Direct costs are basically related with physical, human and financial resources required in their execution. They include the establishment of new governmental agencies as well as eventual decreases in productivity in the rest of the non-target country's economy which, in turn, are closely related with the opportunity cost implied.

Nevertheless, non-target must not take into account these direct costs only. Also, they must assess to what extent a policy is reversible or not. In turn, this is closely related with how specific the assets needed for their implementation are. Generally, policies which require more specific assets are harder to reverse in the future.

Another facet to be considered is so called "political cost" which any measure brings about for the authorities. This is particularly true in democratic countries. First, non-target country's citizens are not willing to give up civil liberty, as well as other constitutional goods, in order to protect themselves against a nonexistent risk like terrorism. Second, the extent of observability varies among different policies. Precisely, public opinion would react negatively if some notorious policies are carried out by the government¹⁸. It must be seen that throughout

18. By definition, observable policies are noticeable to population. Hence, whereas they may be welcome in target countries as a sign that their governments are "doing something", in non-target countries they may be regarded as an interference which may affect political support to the enforcing authority (Bueno de Mesquita, 2007).

this paragraph we have come across with some qualitative variables such as liberty. It can be assumed that there is already a monetary value for them to be used in the evaluation of the different policies.

Two remarkable examples of what it has been told in the previous paragraphs are the policies oriented to prevent financing, and those oriented to prevent recruitment. Terrorist groups often use electronic funds, which are intangible. Hence, policies oriented to prevent financing are mostly unobservable which uses intensively informatics. In another extreme, policies oriented to prevent recruitment deal with a tangible resource. Such measures require tasks, like surveillance and intelligence, which intensively uses human resources. Therefore they feature decreasing marginal returns, as well as their opportunity cost are higher. Of course their enforcement is not favorable to many non-target countries, unless the interest among target countries that such policies are executed is high enough to justify the use of a big sanction if non-target countries fail.

As for international conventions enlisted in [Table 1](#), it can be seen that the original areas were mainly concerned with new technologies which terrorists could have used, like aviation (1963, 1970, and 1971) and nuclear weapons (1980). The anthrax scare that followed shortly after the events of 11 September 2001 has put the spotlight on the risk that biological and chemical weapons, which could be built in non-target countries, may be used by terrorist groups. Also, as terrorist groups become increasingly more complex as organizations, it is likely that new international laws will be addressed to organizational structure itself. A first step was taken in 1999 when the Terrorist Financing Convention was signed. It may be expected that following conventions and laws enacted by non-target countries may be directed at these particular areas, as well as to complement better the UN Resolution 1373.

6. Concluding Remarks

Throughout this article three basic premises have been used. First, terrorist groups have become increasingly more complex organizations. Second, countries may be sorted out between target countries and non-target countries. Third, it is economically unfeasible for states to implement a “market-for-regulation” out of transaction costs which arise from states’ objectives. From all those principles, it has been presented an analytic model in which the goods and services –in this case, counterterrorist policies, are provided by means of an imposition, rather than a transaction. Countries do not use prices as incentives, but sanctions.

It may be odd, even unpleasant for many readers to envision such model. It would be expected that any state must be sovereign in its decision-making process. However, whenever a public policy is enforced by any state, in order to make it globally efficient, its positive externalities must be taken into account, that is, the good effects that such public policy has on other countries. Globalization has increased such international externalities, but there is

not any global central authority which could implement efficient public policies by means of, say, a tax. Therefore, sanctions act as imperfect incentives. As for counterterrorist policies, sanctions implemented by target countries serve to make non-target countries share the risk brought about if the latter does not implement the desired policies, or else, if they are undersupplied.

A very important assumption in this analysis has been that non-target countries completely defray its counterterrorist policies. Two issues are related with this supposition. First, target countries may want as much policy enforcement as possible, taking into account that they enjoy pure benefits from non-target states regulations. Second, it has been said that among state's objectives there is autonomy. As a consequence, it may be of non-target countries' interest to enforce its own policies. Of course such assumption may seem too unrealistic. It can be argued that target countries may offer aid and/or in the implementation of these policies. Nevertheless, it may be said that either target countries participation in policies cost sharing may be too small, or that sanctions can be envisioned as positive opportunities forgone by non-target countries.

A fundamental issue to be pointed out is that the typology used in this article, which classifies the several countries between 'target' and 'non-target', is by no means equivalent to any criterion related with size, that is, 'big' and 'small' respectively. Imposition is not originated by size, but rather out of the context in which political entities in the world face terrorism, and how such context is related with each entity's objectives and conditions. Naturally, it would be more convenient for a big state to apply any punishment against a small state, other things equal, but this is not enough. The extent in which the policies applied by the latter could affect the former must be also taken into account.

Finally, this analysis has used counterterrorism as an application. However, imposition of public policies could be used in many other fields in which benefits are not mostly enjoyed by the country which enforces the policy. Examples of this are global warming, child pornography, health issues, counterfeiting and so on. The extent in which public policies may be imposed will depend on the effectiveness and the convenience of the sanctions which may be enforced by those countries which are more benefited by such regulations.

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