

# Ballots and Bullets as Complementary Tactics

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## Abstract

This paper presents a two-stage model to demonstrate the impacts of the democratic participation of a separatist terrorist group on the policy platform of the incumbent government. When the citizens of the targeted constituency have to decide between the incumbent and the political wing of the terrorists, the voter preferences do not only depend on the proposed governing policies of the two contestants, but also depend on the level of terrorism and the political campaigns that affect the popularity of the incumbent regime. If the voters are less polarized and designing institutions is less costly, the electoral pressure on the incumbent government and the terrorist group forces the former to improve the inclusiveness of the status quo's institutions, and the latter to decrease the level of armed activities. Nevertheless, if economic subsidy is a more effective way to mobilize the voters, the central government does not invest in political campaigns to improve institutions, but curbs the public support through public spending. The absence of improvements in political campaigns brings along a higher level of terrorism.

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# 1 INTRODUCTION

In early 1989, Hamas's leader Sheik Yassin clarified the organization's view on electoral participation by insisting that Hamas would never participate in elections until there was "a complete Israeli withdrawal" (Brathwaite, 2013). However, two years before the parliamentary elections of 1996, the voices that supported the formation of an Islamic party within Hamas grew louder. Supporters believed that the establishment of a party would not signal the end of the military struggle, but rather create additional means for manifesting the interests of the Islamic movement (Weinberg and Pedahzur, 2003).

Hamas is not the unique example of a terrorist organization that turns to party politics in order to achieve its goals either wholly, or partly. In fact, a total of twenty-seven of the seventy-five terrorist groups, which were challenging incumbent political regimes between 1945 and the early 1980s, exhibited links to political parties (Weinberg, 1991). Numerous famous examples can be given: Tamil Tigers (LTTE) and the People's Front of Liberation Tigers, the Irish Republican Army (IRA) and Sinn Fein, the Basque insurgent group Euskadi Ta Askatasuna (ETA) and Herri Batasuna, and the Kurdish Worker's Party (PKK) and the Kurdish political movement<sup>1</sup> in Turkey, Colombia's guerrilla organization M-19 and Alianza Democratica or the African National Congress (ANC) and South African Communist Party are among those pairs of insurgent groups and associated political wings.<sup>2</sup>

The decision by terrorists to pursue an electoral strategy raises numerous questions

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<sup>1</sup>Since the foundation of HEP in 1991, pro-Kurdish politics has been represented under 9 different party names due to legal limitations.

<sup>2</sup>Many of these parties insist, of course, that they are independent organizations with no link to insurgent groups. However, if the subject is the voting behavior of different groups, what matters more is the voter interpretation of the integral link between a party and a terrorist group. Interested readers can look at the following surveys to see how voters in the Basque region believe that Herri Batasuna and ETA are linked (CIS 1721 [1987] and CIS 2308 [1998]), and how voters in Turkey interpret the Peace and Democracy Party (BDP) as the political wing of the PKK (Kadir Has Üniversitesi Türkiye Sosyal-Siyasal Eğilimler Araştırması; [2010], [2011], [2012], [2013]).

that serve as the focus of this paper. Does the adoption of an electoral strategy and the competition for ballots necessarily stop the bullets of terrorists? To what extent do the electoral terrorists invest in non-violent civilian campaigns to gain public support in elections? Why do not the governments faced with terrorism always encourage electoral competition of terror groups by providing power and sovereignty on local institutions?

To answer above questions, this article presents a two-period model that formalizes the possible channels of the interaction between a central government, a terrorist organization, the political wing of these terrorists, and the social group that the terrorist group claims to represent. First, I assume that the conflict is located in a remote area of a given country where the population mainly consists of a different ethnic identity from that of the majority of the country. To distinguish between the social group living in the conflict region and the country's remaining population, I call the former as the *aggrieved population*<sup>3</sup> and the latter as the *majority*. The aggrieved population is in some way at odds with the status-quo, and confronts the government policies such as the prohibition of ethnic languages in schools and media, or the denial of their ethnic identity through the imposition of one state identity. The aggrieved population simply demands an improvement over the status-quo about ethnic and linguistic rights, in other words, they demand political recognition and inclusion.

The interest of this paper is restricted to the later phases of an insurgency in which the terrorist group promotes the formation of a local party, party  $L$ , to derive additional strategic and economic benefits from an incoming electoral competition. The model does not comprise the militaristic battle between the terrorists and the incumbent government, but rather focuses on terrorism and politics that are used to manipulate the incoming elections.

I assume the terrorist group promotes the formation of a local party, party  $L$ . Then, at

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<sup>3</sup>This is not my subjective judgment, but rather the population's self assessment of itself.

the first stage, the terrorists choose the allocation of their resources on nonviolent civilian campaigns and terrorism. Later at the second stage, Party  $L$  and the local authorities of the incumbent central government compete in a local election in the aggrieved region. In referring to terrorism in Turkey, for example, we would take the Justice and Development Party (AKP) to be the incumbent party ruling the central government, the Kurdish people to be the aggrieved population, the PKK to be the terrorist group, and finally the Peace and Democracy Party<sup>4</sup> (BDP) to be the local party. In the dispute between Spain and the Basque people; the Spanish Socialist Workers' Party (PSOE) is the party ruling the central government, the Basque people are the aggrieved population, the ETA represents the insurgent group while Herri Batasuna is the local party associated with the ETA.

Moreover, the degree of the regional control through an electoral success depends on the strength and the sovereignty of the local governments in the system. For instance, if the electoral design is inclusive and the institutions provide enough authority to the local executives to change and implement policies, the electoral success will be more beneficial to the separatist movement. On the contrary, if the local authorities are incompetent at implementing policies without the approval of the central executives, the terrorists will expect fewer benefits from a local electoral success. The central government is yet able to choose the economic subsidy of the region and the level of the institutional design to improve the strength and the sovereignty of the local governments. By doing so, the central government, however, faces a trade-off between increasing its popularity among the aggrieved population and enhancing the regional power of the terrorists in the event party  $L$  wins the local election. Henceforth, in this paper, I incorporate the central government's trade-off between a local electoral success and its authority in the region,

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<sup>4</sup>The BDP's name was changed to the Democratic Regions Party (Demokratik Bölgeler Partisi) in July 2014.

and the terrorists' tradeoff between investing in insurgent activities and electoral civilian campaigns.

Accordingly, when violence and politics become complementary tactics, it is intuitive to assume that the aggrieved population's decision on for whom to vote is affected by the first stage choices of the central government and the terrorist group. Hereby, this paper is the first one to develop a formal model that analyzes the impact of the terrorist strategies on the electoral competition in the regions of conflict. I assume the violent tactics of the terrorist group affect voter preferences through the popularity of the cause in two ways: First, if the government does not take sufficient initiative for the institutional change while the terrorists invest in civilian political campaigns, the violence popularizes the terrorists' cause before the local elections of the second stage. Second, if the government puts effective efforts in favor of democratic and institutional development, the insurgent acts decrease the popularity of the separatist cause among the voters while popularizing the incumbent regime. Henceforth, I assume that a more credible tradition of improving the inclusiveness of the status-quo increases the relative popularity of the incumbent before the incoming local election. Nevertheless, the higher the polarized tension between the aggrieved population and the incumbent central authority, the fewer the effectiveness of the incumbent's political campaigns.

My results show that the electoral competition forces the central authority to provide institutional changes in favor of the aggrieved population when the cost-polarization ratio is small enough, and the smaller this ratio, the bigger the level of change. Further, since a more devoted government increases the competition for ballots in the aggrieved regions, the incumbent's investment in institutions pins down the level of terrorism and forces the terrorist group to direct more resources to non-violent civilian campaigns.

The remaining part of the article is organized as follows. The next section is an extended review of the relevant literature. Then section 3 builds up the model while

section 4 justifies the related assumptions. Later section 5 uses a backward induction to ascertain the sub-game perfect equilibrium and illustrates the results for different set of parameters. Finally Section 6 concludes.

## 2 LITERATURE REVIEW

Having consensus on terrorism being a political process, many scholars have studied the impact of terrorist activity on the outcomes of the incoming elections (Berrebi and Klor, 2006; Kıbrıs, 2011, 2014; Robbins et al. 2013) and the impact of electoral pressure on the counter-terror policies (Siqueira and Sandler, 2007; Sautter, 2010). However, these studies analyze the sensitivity of the victimized groups to terrorism and the effects of on-going conflicts on their voting behavior. For instance, Berrebi & Klor (2006) and Kıbrıs (2009) find that terrorist attacks before an election has a positive impact on the vote share of the right-wing candidates with strict counter-terrorism agendas. However, it is intuitive to assume that terrorism may have different outcomes on the voting behavior of the aggrieved population that terrorists claim to represent. With this objective, some scholars have recently studied the sensitivity of the aggrieved groups to terrorism by analyzing the impact of terrorist attacks on the vote share of terrorist political wings. On the one hand, political theory predicts that the combination of violence and counter-terror activities draw attention to a terror group's cause among the larger population, and creates communal bonds that strengthen the awareness for social identity along ethnic or religious lines (Byman, 2008). As a result, terrorism may foster public support for insurgent movements by popularizing the social conflicts among different segments of society. On the other hand, as Berman et al (2008) point out, an increase in violence can lead to diminishing support from the population, especially during the times when violence shifts from the selective targets to indiscriminate ones. Accordingly, Criado

(2011), Calle and Cuenca (2012), McGrath and Gill (2014), Jaeger et al (2012, 2014) empirically find different results about the impact of terrorist attacks on the electoral performances of regarding political wings. This paper contributes to this discussion by modeling the possible channels of the impact of terrorism on the public support.

Further, this paper analyzes the impact of the government's efforts and initiatives, which are designed to improve democratic institutions, on the level of terrorism. Therefore, the literature studying the impact of political regimes and democratic participation on insurgent activities (Eubank and Weinberg, 1994, 2001; Li, 2005; Qvortup, 2011; Young and Dugan, 2011; Aksoy and Carter, 2012) is also relevant to my analysis. Although Eubank and Weinberg (1994, 2001) find that democratic regimes are more permitting to terrorism, others conclude that democratic and proportional participation (Li, 2005; Qvortup, 2011), permissive institutions (Aksoy and Carter, 2012) and less veto players presented in a political system (Young and Dugan, 2011) decrease the level of terror events by creating opportunities to change policies with non-violent campaigns. My results suggest similar findings with those paper finding an inverse relation between democratic participation and the level of terrorist events.

This paper takes its cue from Siqueira and Sekeris (2012) to model the strategical interaction between a government and a terrorist group as both vie for political support. In their influential paper, Siqueira and Sekeris (2012) build a two-stage model in which an insurgent organization seeks public support to take the control of the desired region. Their model investigates the early stages of an insurgency in which the organization has not yet engaged in insurgent activity, and makes only political investments to influence and mobilize voters. In contrast to this, I model a similar two-stage game in which the insurgent group can direct its resources on two different tactics: violent and non-violent campaigns. Further, in this paper, to curb public support in the aggrieved region, the central government can also provide economic subsidy to the region. Consequently,

I am able to demonstrate the link between terrorism, economic externality, political campaigns and public support.

### 3 MODEL

In the first period ( $t = 1$ ), there is a simultaneous game between the terrorist elites and the central government. The incumbent central government chooses the level of economic subsidy that will be provided to the region in the event the local authorities of the incumbent regime win the local elections, and the level of political campaign to influence the popularity of the status-quo in the aggrieved regions. A law that allows schooling in the region's local language, an effort that increases elections' inclusiveness or any institutional/democratic change in favor of the aggrieved population's recognition can be an example of the political investments made by the central government to affect the relative popularity of the incumbent regime in the conflict region. Similarly, the elites of the terrorist group choose the allocation of their resources for two different tactics: insurgent activities and non-violent civilian campaign to mobilize the aggrieved population before the local elections of the second stage. Indoctrination or other forms of political and civilian campaigns of the terrorists can be an example of those non-violent campaigns.

In the second period ( $t = 2$ ), there is a local election in which the political elites of the separatist movement (party  $L$ ) competes with the local authorities of the incumbent party (party  $M$ ). Each party wages a propaganda campaign and announces the level of taxes and local public goods that will be provided and chooses the level of rent that will be extracted from holding the office. Voters in the aggrieved region cast their votes based on their individual preferences over public good, private good, individual ideological biases towards each party and the relative popularity of the terrorists' cause

over the incumbent regime.

All uncertainty concerning the population's preferences is resolved, and the party that gains support, implements policy.

For simplicity, starting from the second-stage, the constraints and the preferences of each side involved into the game are listed below.

### 3.1 Second Stage Ballot Game: *Party L vs. Party M*

Let the voters in the aggrieved territories be a mass of 1. Each individual of the aggrieved population,  $i$ , has the following preferences over the local public good,  $x_j$ , and the private good,  $z^i$ :

$$U^i = u(x, z) = u(x_j) + z^i$$

where  $u' > 0$ ,  $u'' < 0$ ,  $u(0) = 0$ , and  $j \in \{l, m\}$  indexes the parties  $L$  and  $M$ , respectively. Each individual  $i$ 's budget constraint is given by  $z^i = y - t_j$ , where  $y$  represents individual income, assumed to be the same for all residents and  $t_j$  represents the tax to be collected by the party that wins the election. I assume that the level of  $y$  is sufficiently high so that  $z^i$  is strictly positive in the equilibrium. In addition, proposed taxes define each party's finance structure for the provision of the local public goods, and yet party  $M$  has access to a broader resource on top of the tax revenue. We can interpret it as the positive externality of the central government over a small local party. Let  $\beta$  denote the economic externality explained here.

Assume that residents in the conflict area have individual biases,  $\sigma^i$ , towards the candidate of the local party. This parameter can also represent an ideological bias if there is a tendency for individuals to keep the status-quo. Let  $\sigma^i$  be uniformly distributed on the interval  $[-1/2\varphi, 1/2\varphi]$  with density  $\varphi$ . Further assume that the parameter  $\delta$

measures the relative popularity of the local party while consisting on two components such that  $\delta = \tilde{\delta} + \eta a$ , where  $\tilde{\delta}$  is uniformly distributed on the interval  $[-1/2\psi, 1/2\psi]$  with density  $\psi$ . The variable  $\eta$  represents the net level of political activity invested in swaying the aggrieved population to the separatist movement, and translates the impact of terrorism,  $a$ , towards the relative popularity of the separatist movement.

*Assumption 1:* Assume the following holds:  $\eta = \eta^T - \kappa\eta^G$  and  $\delta = \tilde{\delta} + \eta a$ , where  $\kappa$  measures the effectiveness of the government's political efforts,  $\eta^G$ , to that of the terrorists' non-violent civilian efforts,  $\eta^T$ .

Allowing for rents,  $r_j$ , let each party's binding budget constraint be given as  $t_l = x_l + r_l$  and  $t_m + \beta = x_m + r_m$ . Using this identity, an individual's budget constraint under the each regime can respectively be written as  $z^i = y - x_l - r_l$  and  $z^i = y - x_m - r_m + \beta$ . Incorporating a given individual's budget constraint into her utility function, we can state that a voter in the conflict zone will support party  $M$  if

$$u(x_m) + y - x_m - r_m + \beta > u(x_l) + y - x_l - r_l + \sigma^i + \tilde{\delta} + \eta a$$

Hence we can define the indifferent voter as

$$\hat{\sigma} = u(x_m) - x_m - r_m + \beta - u(x_l) + x_l + r_l - \tilde{\delta} - \eta a$$

Then any voter whose individual  $\sigma$  lies above  $\hat{\sigma}$  supports party  $L$ , while any voter with a  $\sigma$  lower than  $\hat{\sigma}$  supports party  $M$ . Meanwhile, given our assumptions, the share of the voters supporting the local party is given by

$$n_l = \frac{1}{2} - \varphi \left\{ u(x_m) - x_m - r_m + \beta - u(x_l) + x_l + r_l - \tilde{\delta} - \eta a \right\}$$

Letting  $\rho_l$  represent the probability that the local party wins the election in the

conflict region, we can then write

$$\rho_l = Prob. \left\{ \frac{1}{2} - \varphi \left\{ u(x_m) - x_m - r_m + \beta - u(x_l) + x_l + r_l - \tilde{\delta} - \eta a \right\} > \frac{1}{2} \right\}$$

after rearranging, the equation for  $\rho_l$  is as follows:

$$\begin{aligned} \rho_l &= Prob. \left\{ \tilde{\delta} > u(x_m) - x_m - r_m + \beta - u(x_l) + x_l + r_l - \eta a \right\} \\ &= 1 - Prob. \left\{ \hat{\delta} \leq u(x_m) - x_m - r_m + \beta - u(x_l) + x_l + r_l - \eta a \right\} \end{aligned}$$

Given our assumptions concerning the distribution of  $\tilde{\delta}$ ,  $p_l$  can be stated as

$$\rho_l = \frac{1}{2} - \psi \{ u(x_m) - x_m - r_m + \beta - u(x_l) + x_l + r_l - \eta a \} \quad (1)$$

### 3.2 First Stage Bullet Game: *The Central Government vs. The Terrorist Group*

Taking the electoral equilibrium at time  $t = 2$  as given, we can now consider the preferences of the insurgent group and the central government (party  $M$ ) at time  $t = 1$  over the ongoing dispute. Assume the expected preferences of the insurgency are described as:<sup>5</sup>

$$U^T = \rho_l(B(\eta^G) + \theta r_l)$$

Let  $\theta \in [0, 1]$  represents the share of the rent that the insurgency obtains if party  $L$  holds the office. When the local party and the terrorist group does not have a strategic

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<sup>5</sup>The terrorist group's expected utility over the ongoing disputes can be read as following: With probability  $\rho_l$  party  $L$  wins the incoming local election and the terrorist group gets  $\theta$  share of the electoral rent and an authority over the region measured with  $B(\eta^G)$ . With probability  $1 - \rho_l$ , party  $M$  wins the elections and the terrorists get zero payoff.

link, but only have an ideological link, we can expect  $\theta = 0$ .  $\theta$  being greater than zero implies that political movements can also act as economic fronts for terrorist groups.  $B(\eta^G)$  translates the effect of the central government's institutional campaign on the sovereignty and the power of the local governments. Hereby, by supporting the formation of its political wing, the insurgency expects two forms of benefits in case of a political success: strategic benefit derived from controlling the region, and some share of party  $L$ 's rent.

*Assumption 2:*  $B'(\eta^G) > 0$  and  $B''(\eta^G) > 0$ ,  $B(0) = 0$ . In other words, the terrorist group expects only political rent from the electoral competition since it is assumed that the status-quo does not provide any sovereignty to the local executives.

Assume that at the beginning of time  $t = 1$ , the insurgency has a sufficiently large endowment of  $\omega$ . To account for the costliness of terrorism, we can assume a strictly convex cost function while normalizing the price of the terrorist civilian campaign to 1. Hence the binding budget constraint of the insurgency is stated as  $\omega = \frac{a^2}{2} + \eta^T$ .

Similarly, we can specify the central government's problem at time  $t = 1$ . I assume that the central government chooses the level of economic subsidy ( $\beta$ ) and the institutional design  $\eta^G$  in order to maximize:<sup>6</sup>

$$U^G = (1 - \rho_l)r_m - \rho_l B(\eta^G)$$

If party  $L$  wins the local election, which occurs with probability  $\rho_l$ , the central government loses its strategic power in the region denoted by  $B(\eta^G)$ . The central government has a fixed monetary budget,  $g$ , to be allocated on economic subsidy and institutional change. To account for the costliness, let  $\gamma$  be the unit cost of political investment done by the government. Hence, the binding budget constraint of the central government at this stage of the conflict is given by  $g = \beta + \gamma\eta^G$ .

Finally, we can assume both  $\omega$  and  $g$  are proportionally high enough so that  $\rho_l$  is bounded between 0 and 1.

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<sup>6</sup>The central government's expected utility over the ongoing disputes can be read as: With probability  $1 - \rho_l$  party  $M$  wins the incoming local election, hence the government gets electoral rent of  $r_m$ . With probability  $\rho_l$  party  $L$  wins the local election and the government loses its  $B(\eta^G)$  level of authority in the region to the terrorist group.

For present purposes, the model is restricted the period before an election and does not cover the general militaristic battle between the terrorists and the government. For simplicity, I exclude the effects of counter-terrorist strategies on the outcome of the incoming election. We can either think that the level of counter-terror strategies of the central government has been decided at the earlier stages of the dispute, or the level of terrorist events,  $a$ , is the net of terrorism and counter-terrorism.

## 4 CLARIFICATION OF KEY ASSUMPTIONS

Before starting the analysis of the model, in this section, I discuss the two key assumptions of the model.

*Assumption 1:* The first assumption in this paper states that terror events affect voter preferences through the relative popularity of the cause. The impact of terrorism on the votes of the terrorists' political wing is positive as long as the terrorist movement's civilian campaign is more effective than those of the central government. On the contrary, the increase in insurgent attacks has a negative impact on the electoral performance of the insurgency's political wing if the central government makes a sufficient investment in favor of the aggrieved population's democratic and institutional demands. The assumption on  $\delta$  has been observed during many separatist conflicts. For instance, the Turkey's central government, ruled by the AKP, developed a new program of granting cultural, identity rights and freedoms as well as economic welfare to the Kurdish population between 2002-2007 (Polat, 2008). Meanwhile, in 2004, the PKK restarted its terrorist actions after a four year long truce period. As the model in this paper predicts, the AKP increased its vote from around 26 percent to 53 percent in the Kurdish southeast region in the 2007 elections, surpassing the votes of the ethnic Kurdish party DTP. In fact, the AKP was the first mainstream party that surpassed an ethnic Kurdish

party in the region since 1995.

Further, when the terrorists opt out violent strategies,  $a = 0$ , I assume the electoral competition turns out to be a regular one between two political parties as the mean of the popularity term being constant. Since violence is used as a propaganda tool to increase the popularity of the terror group's cause, without violence, civilian investments of each side will not be strategic.

Finally, the effectiveness of the government's campaigns can also be interpreted as the polarization of the aggrieved population against the status-quo. For instance, when  $\kappa = 0$ , the government's efforts never meet the aggrieved population's demand of political recognition and inclusion. This case illustrates a fully polarized society where the central government's agenda and the aggrieved population's demand never intersect.

*Assumption 2:* The second assumption relates the central government's efforts to the strategical value of the regional political control, assuming the status quo does not provide any sovereignty to the local administration. Under the status quo, even if party  $L$  wins the local election, the local executives are not able to implement policies favoring political recognition and inclusion. The higher the central government's political investment is, the more authority that the terrorists have when party  $L$  wins the local election. Further, the convexity of  $B(\eta^G)$  is needed for the existence of an equilibrium.

## 5 ANALYSIS

I use a backward induction to ascertain the sub-game perfect equilibrium. First I solve the equilibrium of the second stage by using a variation on the probabilistic voting model of Lindbeck and Weibull (1987) without any commitment problem. Then I analyze the first period problems of the government and the terrorist group. The results highlight how the electoral pressure on both parties influence the level of insurgent tactics and

the institutional change promoted by the incumbent policy-makers.

## 5.1 Policy Platforms of the Ballot Game

I can now characterize the competition between party  $L$  and party  $M$  for public support in the given locale. Given the choices of the insurgency and the central government regarding  $a, \eta^T, \eta^G, \beta$  from the first stage and party  $M$ 's choices, party  $L$  chooses  $x_l$  and  $r_l$  in order to maximize:

$$\max_{r_l, x_l \in \mathbb{R}^+} \{\rho_l r_l\}$$

Similarly, given  $a, \eta^T, \eta^G, \beta$  party  $L$ 's policy platform, party  $M$  chooses its  $x_m$  and the rent from holding office  $r_m$  in order to maximize:

$$\max_{r_m, x_m \in \mathbb{R}^+} \{(1 - p_l)r_m\}$$

Using equation (1), the first-order conditions with respect to  $x_l$  and  $x_m$  is given as

$$-\psi \{-u'(x_l) + 1\} r_l = 0 \tag{2}$$

$$\psi \{u'(x_m) - 1\} r_m = 0 \tag{3}$$

Since  $u'(x_j) = 1$  for both  $j = l, m$ , we can state that two parties offer the same policy platform regarding the provision of the local public goods. In other words,  $x_l = x_m = x^*$ .

The resulting first order conditions with respect to  $r_l$  and  $r_m$  are as follows:

$$\begin{aligned}
-\psi r_l + \rho_l &= 0 \\
-\psi r_m + (1 - \rho_l) &= 0
\end{aligned}$$

After substituting for  $\rho_l$  and using the fact that  $x_l = x_m = x^*$ , each party's best response to the other's rent extraction can be stated as:

$$\begin{aligned}
r_l &= \frac{1}{4\psi} + \left(\frac{r_m + \eta a - \beta}{2}\right) \\
r_m &= \frac{1}{4\psi} + \left(\frac{r_l - \eta a + \beta}{2}\right)
\end{aligned}$$

Above equations imply that each party's rent extraction is a strategic complement of the other. The more rent a party proposes induces the other to increase its. By solving both equations simultaneously, we obtain the following expressions:

$$r_l = \frac{1}{2\psi} + \frac{\eta a - \beta}{3} \tag{4}$$

$$r_m = \frac{1}{2\psi} - \frac{\eta a - \beta}{3} \tag{5}$$

Note that the local authorities of the central government and the separatist movement free-ride on the first stage choices. When the terrorists invest in political campaign to increase the relative popularity of their cause, the local authorities of the terrorist movement extract more rent. Similarly, when the central government invests in institutional design favoring the aggrieved population's political recognition and inclusion, its local elites extract more rent. Further, the impact of the terrorists' violent activities on party  $L$ 's rent extraction is positive only if  $\eta > 0$ .

**Proposition 1:** There exists a unique electoral equilibrium at  $t = 2$ , where, for a given level of  $a, \eta^T, \eta^G$ , the policy platforms of each party is stated with the following quadruple;

$\{x_l^*, x_m^*, t_l^*, t_m^*\} = \left\{x^*, x^*, \frac{1}{2\psi} + \frac{(\eta a - \beta)}{3} + x^*, \frac{1}{2\psi} - \frac{(\eta a + 2\beta)}{3} + x^*\right\}$ . If  $x$  is interior, it satisfies the equations (2) and (3). Party  $L$  wins the election with probability,

$$\rho_l(x^*, x^*, t_l^*, t_m^* | a, \eta^T, \eta^G, \beta) = \frac{1}{2} + \frac{\psi}{3} [(\eta^T - \kappa \eta^G) a - \beta] \quad (6)$$

If we substitute the budget constraint of each side into equation (6), party  $L$ 's winning probability can be restated as:

$$\rho_l(x^*, x^*, t_l^*, t_m^* | a, \eta^G) = \frac{1}{2} + \frac{\psi}{3} \left[ \left( \left( \omega - \frac{a^2}{2} \right) - \kappa \eta^G \right) a - g + \gamma \eta^G \right] \quad (7)$$

Following corollaries are derived from equation (7).

$$\text{Corollary 1: } \frac{\partial \rho_l}{\partial a} = \frac{\psi}{3} (\eta - a^2) = \begin{cases} > 0 & \text{if } \eta^T > \frac{2\omega + \kappa \eta^G}{3} \\ \leq 0 & \text{if } \eta^T \leq \frac{2\omega + \kappa \eta^G}{3} \end{cases}$$

The probability that party  $L$  wins the local election can be both increasing or decreasing in terror events. When the level of terrorist civilian campaign is sufficiently high, the impact of an increase in terrorist events on the electoral winning probability is positive.

$$\text{Corollary 2: } \frac{\partial \rho_l}{\partial \kappa} = -\frac{\psi \eta^G a}{3} < 0.$$

When the central government is more effective to persuade the aggrieved population about its political campaign, the probability that party  $L$  wins the election decreases.

$$\text{Corollary 3: } \frac{\partial \rho_l}{\partial \eta^G} = -\frac{\psi}{3}(\kappa a - \gamma) = \begin{cases} > 0 & \text{if } \frac{\gamma}{\kappa} > a \\ \leq 0 & \text{if } \frac{\gamma}{\kappa} \leq a \end{cases}$$

The probability that party  $L$  wins the local election can be both increasing or decreasing in the central government's efforts for political campaigns. When the level of terrorist attacks is sufficiently high, the central government can reduce party  $L$ 's winning probability through political campaigns.

$$\text{Corollary 4: } r_m \geq r_l \text{ if } (\omega - \frac{a^2}{2})a + \eta^G(\gamma - a\kappa) < g.$$

Party  $M$  is likely to extract more rent than Party  $L$  does for high levels of  $g$  and  $\kappa$ , and low levels of  $\gamma$  and  $\omega$ .

## 5.2 Policy Platforms of the Bullet Game

Taking the second period electoral equilibrium as given from equations (4), (5), (6), and the government first stage choices, the insurgency's problem at time  $t = 1$  is given as:

$$\begin{aligned} \max_{a, \eta^T \in \mathbb{R}^+} & \quad \{\rho_l(B(\eta^G) + \theta r_l)\} \\ \text{s.t.} & \quad \omega = \frac{a^2}{2} + \eta^T \end{aligned}$$

Substituting for  $a$  into the terrorists' preferences using the relevant budget constraint as  $\eta^T = \omega - \frac{a^2}{2}$ , and taking  $\rho_l$  from equation (7), the first-order condition of the above problem with respect to  $a$  is given as:

$$\left(\frac{\partial \rho_l}{\partial a}\right) (B(\eta^G) + \theta r_l) + \theta \rho_l \left(\frac{\partial r_l}{\partial a}\right) = 0 \tag{8}$$

After substituting for  $\frac{\partial \rho_l}{\partial a}, \frac{\partial r_l}{\partial a}$ <sup>7</sup> from Corollary 1 and equation (4), the first order condition becomes

$$(\eta - a^2) (\psi B(\eta^G) + 2\theta \rho_l) = 0$$

Hence the terrorists' best response to the government's political campaign is given as:<sup>8</sup>

$$\eta^T = \begin{cases} \omega & \text{if } \eta^G > \frac{\omega}{\kappa} \\ \frac{2\omega + \kappa \eta^G}{3} & \text{otherwise} \end{cases} \quad (9)$$

Similarly, the central government's problem at time  $t = 1$  is as follows:

$$\begin{aligned} \max_{\beta, \eta^G \in \mathbb{R}^+} & \quad \{(1 - \rho_l)r_m - \rho_l B(\eta^G)\} \\ \text{s.t.} & \quad g = \beta + \gamma \eta^G \end{aligned}$$

Substituting for  $\beta$  by using the government's budget constraint as  $\beta = g - \gamma \eta^G$  and taking  $\rho_l$  from equation (7), the first order condition of the above problem with respect to  $\eta^G$  is as follows:

$$-\left(\frac{\partial \rho_l}{\partial \eta^G}\right) (r_m + B(\eta^G)) + (1 - \rho_l) \left(\frac{\partial r_m}{\partial \eta^G}\right) - \rho_l B' = 0 \quad (10)$$

After substituting for  $\frac{\partial \rho_l}{\partial \eta^G}, \frac{\partial r_m}{\partial \eta^G}$  from Corollary 3 and equation (5), the first order condition becomes

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<sup>7</sup>See Appendix 1 for the derivation of the relevant derivatives.

<sup>8</sup>The details of the proof and the second order conditions are provided in Appendix-1a.

$$(\psi r_m + \psi B(\eta^G) + 1 - \rho_l) \left( \frac{\kappa a}{3} - \frac{\gamma}{3} \right) - \rho_l B' = 0 \quad (11)$$

Hence the central government's best response to the terrorists' civilian campaign is given as

$$\eta^G = \begin{cases} 0 & \text{if } \eta^T \geq \omega - \frac{1}{2} \left( \frac{\gamma}{\kappa} \right)^2, (a \leq \frac{\gamma}{\kappa}) \\ b(\eta^T) & \text{otherwise} \end{cases} \quad (12)$$

The interior solution is given by the best-response function  $b(\eta^T)$  that satisfies equation (11) and the second order condition.<sup>9</sup>

I can now solve the best responses of each side jointly and use Proposition (1) to characterize the sub-game perfect equilibrium. Proofs for the following propositions and corollaries are provided in Appendix 2-a and 2-b, respectively.

**Proposition 2:** Equilibrium when  $\sqrt{\frac{2\omega}{3}} \leq \frac{\gamma}{\kappa}$ :

1) First stage's policy platforms:

$$\eta^{G*} = 0, \beta^* = g, \eta^{T*} = \frac{2\omega}{3}, a^* = \sqrt{\frac{2\omega}{3}}$$

2) Second stage's policy platforms:

$$x_l = x_m = x^*, r_l = \frac{1}{2\psi} + \frac{1}{3} \left[ \left( \frac{2\omega}{3} \right)^{3/2} - g \right], r_m = \frac{1}{2\psi} - \frac{1}{3} \left[ \left( \frac{2\omega}{3} \right)^{3/2} - g \right]$$

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<sup>9</sup>The details of the proof and the second order conditions are provided in Appendix-1b.

$$t_l^* = x^* + \frac{1}{2\psi} + \frac{1}{3} \left[ \left( \frac{2\omega}{3} \right)^{3/2} - g \right], t_m^* = x^* + \frac{1}{2\psi} - \frac{1}{3} \left[ \left( \frac{2\omega}{3} \right)^{3/2} + 2g \right]$$

*Corollary 5:*  $\rho_l^* = \frac{1}{2} + \frac{\psi}{3} \left[ \left( \frac{2\omega}{3} \right)^{3/2} - g \right]$ .

$$\begin{aligned} 0 \leq \rho_l^* < \frac{1}{2} \quad &\& \quad r_m^* > r_l^* \quad \text{if} \quad g - \frac{3}{2\psi} \leq \left( \frac{2\omega}{3} \right)^{3/2} < g \\ \frac{1}{2} \leq \rho_l^* \leq 1 \quad &\& \quad r_m^* \leq r_l^* \quad \text{if} \quad g \leq \left( \frac{2\omega}{3} \right)^{3/2} \leq g + \frac{3}{2\psi} \end{aligned}$$

*Corollary 6:*  $t_l > t_m$ .

The positive economic externality of electing the mainstream party that has access to broader resources can be seen from the tax regimes under each party.

**Proposition 3:** Equilibrium when  $\sqrt{\frac{2\omega}{3}} > \frac{\gamma}{\kappa} : \exists \eta^G > 0$  that satisfies equation (11) and the second order condition.

1) First stage's policy platforms:

$$\eta^{G*} = \eta^{G*} < \frac{\omega}{\kappa}, \beta^* = g - \gamma\eta^{G*}, \eta^{T*} = \frac{2\omega + \kappa\eta^{G*}}{3}, a^* = \sqrt{\frac{2(\omega - \kappa\eta^{G*})}{3}}$$

2) Second stage's policy platforms:

$$x_l = x_m = x^*$$

$$r_l^* = \frac{1}{2\psi} + \frac{1}{3} \left[ \left( \frac{2(\omega - \kappa\eta^{G*})}{3} \right)^{3/2} + \gamma\eta^G - g \right]$$

$$r_m^* = \frac{1}{2\psi} - \frac{1}{3} \left[ \left( \frac{2(\omega - \kappa\eta^{G*})}{3} \right)^{3/2} + \gamma\eta^G - g \right]$$

$$t_l^* = x^* + \frac{1}{2\psi} + \frac{1}{3} \left[ \left( \frac{2(\omega - \kappa\eta^{G*})}{3} \right)^{3/2} + \gamma\eta^G - g \right]$$

$$t_m = x^* + \frac{1}{2\psi} - \frac{1}{3} \left[ \left( \frac{2(\omega - \kappa\eta^{G*})}{3} \right)^{3/2} + 2(g - \gamma\eta^G) \right]$$

*Corollary 7:*  $\rho_l^* = \frac{1}{2} + \frac{\psi}{3} \left[ \left( \frac{2(\omega - \kappa\eta^{G*})}{3} \right)^{3/2} + \gamma\eta^G - g \right]$

### 5.3 Results and Applications

Proposition 2 clearly states that the central government invests less in political campaigns for higher values of  $\gamma$  and lower values of  $\kappa, \omega$ . To put it differently, we can conclude that if the terrorist organization is weak in terms of endowment (small  $\omega$ ), or the aggrieved population is more polarized against the incumbent regime (small  $\kappa$ ), or designing institutions are costly (high  $\gamma$ ), the central government provides less (or even none) institutional change, but rather the incumbent provides more public spending to curb the public support. Further, when the incumbent is not reformist, the terrorists face with less competition on the political arena, hence, the terrorist events increase. On the contrary, a high level of political investment favoring the aggrieved population's recognition and inclusion forces the terror group to direct more resources on non-violent civilian campaigns.

To get some insights for the corner equilibrium, we can suppose that model parameters are given as  $\psi = 10^{-4}, \kappa = 0.1, \gamma = 2, g = 400, w = 100$ , and  $B(\eta^G) = \frac{(\eta^G)^2}{2}$ .

Before proceeding the equilibrium, it is helpful to analyze the winning probability of Party  $L$  by using equation (7). Figure 1 in Appendix-3 plots  $\rho_l$  for affordable levels of  $a$  and  $\eta^G$ . We can see from Figure 1 that  $\eta^G = 0$  minimizes  $\rho_l$  at every level of  $a$ . Since  $\sqrt{\frac{2\omega}{3}} = 8.16 \leq \frac{\gamma}{\kappa} = 20$ , this set of parameters imply a corner solution. The equilibrium is then straightforward:  $\eta^{G*} = 0, \eta^{T*} = 66.67, a^* = 8.16, \beta^* = 400, \rho_l^* = 0.49$ .

Imagine another scenario with  $\psi = 10^{-4}, \kappa = 1, \gamma = 0.5, g = 400, w = 100$  and  $B(\eta^G) = \frac{(\eta^G)^2}{2}$ . Figure 2 in Appendix-3 plots  $\rho_l$  for affordable levels of  $a$  and  $\eta^G$ . We can observe from Figure 2 that  $\rho_l$  is minimized at  $\eta^{G*} > 0$  for each level of  $a$ . The equilibrium suggests that  $\eta^{G*} = 4.91, \eta^{T*} = 68.3, a^* = 7.96, \beta^* = 397.54, \rho_l^* = 0.503$ . Consequently, the level of terrorism is smaller than the one in the previous example.

As the examples above suggest, the equilibrium level of terrorism diminishes as the central government is more able to implement political changes to improve the status quo. The results suggest that when the terrorist group expects a higher political investment from the incumbent regime, the terrorists invest less in terrorist attacks, but more in political campaigns before elections. On the contrary, the terrorist organization provokes its popularity through terror events when the central government is not effective to convey political recognition and inclusion favoring the aggrieved population. It can be concluded that terror organizations are likely to mobilize their audience through terror attacks when incumbent regimes are not sufficiently capable of investing in political campaigns. In fact, the increase in terrorist activities has been often related to governments' unwillingness to restructure institutions. For example, the PKK leaders often criticize the Turkish political system and the ten percent election threshold for failing to adequately represent Kurdish concerns and issues. Indeed, the system's restrictiveness is often cited as an important reason for the PKK's use of violence (Aksoy and Carter, 2013).

## 6 CONCLUSION

Elections, if encourage proportional representation systems and the formation of cross-ethnic parties, are ways to bring communities together rather than polarize them. Many terrorist groups have understood the importance of electoral participation and promoted the formation of their political wings. In this paper, by incorporating the political aspects of terrorism in a model, I am able to formalize recent discussions about how military tactics affect the voting behavior of the constituencies terrorists claimed to represent. I propose a probabilistic voting model that incorporates the level of terrorism and the relative popularity of the terrorists' cause. The inclusion of terrorism or conflicts into voting models provides better explanations on the population-centric view of conflicts.

Moreover, the model depicts the terrorists' strategies as a function of many variables such as the government's proposed political campaigns, the expected share of political rents, the strategic value of the electoral success and the sensitivity of the population to the proposed policies. As in reality, the model assumes that terror group will promote the adoption of an electoral strategy if the political institutions are designed in a way to offer opportunities for them to change policies and rent extraction.

If political investment decreases the level of terrorism as Proposition 3 states, why then many governments facing with the treat of terrorism have not adopted more inclusive policies against the terrorists audience? In Proposition 2, the model of this papers relates the absence of the government's political investments to the cost and the efficiency of these campaigns. When the aggrieved population is highly polarized against the government and does not perceive the incumbent's efforts, or the political investment is costly, the equilibrium can produce only economic externality for the aggrieved region in the event that the incumbent wins the election. Secondly, if an incumbent government expects to loose the incoming election, it is less likely to offer concessions

not to lose the control of the conflict region. However, another possible explanation for the lack of institutional change may also be related to the government's broader electoral pressure from majority groups. If the majority's demands do not match with those of an ethnic-minority group, the government in question may forgoes political investment favoring the minority. Hence, the model in this paper can be extended to a broader election model to account for the sensitivity of the majority to the proposed political campaigns about the possible institutional changes. By doing so, we can aggregate the model to a general level where we can analyze the conflict of interests between social groups.

# APPENDIX 1

## APPENDIX 1-a

I first restate the terrorists' problem after substituting the budget constraint as  $\eta^T = \omega - \frac{a^2}{2}$ ,

$$\begin{aligned} \max_{a \in \mathbb{R}^+} \quad & \{\rho_l(B(\eta^G) + \theta r_l)\} \\ & \rho_l = \frac{1}{2} + \frac{\psi}{3} \left[ \left( \left( \omega - \frac{a^2}{2} \right) - \kappa \eta^G \right) a - g + \gamma \eta^G \right] \end{aligned}$$

the first-order condition of the above problem with respect to  $a$  is given as:

$$\left( \frac{\partial \rho_l}{\partial a} \right) (B(\eta^G) + \theta r_l) + \theta \rho_l \left( \frac{\partial r_l}{\partial a} \right) = 0$$

Substituting for  $\frac{\partial \rho_l}{\partial a}$ ,  $\frac{\partial r_l}{\partial a}$ <sup>10</sup> from Corollary 1 and equation (4), the first order condition becomes,

$$(\eta - a^2) (\psi B(\eta^G) + 2\theta \rho_l) = 0$$

I first check the possibility of a corner solution. Given the non-negativity of the each term in  $(\psi B(\eta^G) + 2\theta \rho_l) = 0$ , when  $\eta > a^2$ , the FOC becomes positive implying that the terrorist should direct its all resources on violent attacks such that  $\eta^T = 0, a = \sqrt{2\omega}$ . Thus  $\eta = -\kappa \eta^G$ . However,  $\eta > a^2$  then implies that  $-\kappa \eta^G > 2\omega > 0$ , contradiction. On the other hand, when  $\eta < a^2$ , the FOC becomes negative implying that the terrorist should direct its all resources on civilian campaigns such that  $\eta^T = \omega, a = 0$ . Thus  $\eta = \omega - \kappa \eta^G < 0$ . When  $\frac{g}{\gamma} > \eta^G > \frac{\omega}{\kappa}$ , the government's sufficiently higher spending

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<sup>10</sup>See Appendix 1 for the relevant derivatives.

on political campaigns forces the terrorist group not to attack. Otherwise, terrorism would have increased the popularity of the incumbent regime that makes high political investment in favor of the aggrieved population.

Interior solution exists when either  $\eta = a^2$  or  $(\psi B(\eta^G) + 2\theta\rho_l) = 0$ , and the second-order condition is satisfied. The second-order condition of the above problem is as follows:

$$\begin{aligned} & (-a - 2a)(\psi B(\eta^G) + 2\theta\rho_l) + 2\theta (\eta - a^2) \frac{\psi}{3} (\eta - a^2) \\ & = -3a(\psi B(\eta^G) + 2\theta\rho_l) + \frac{2\theta\psi}{3} (\eta - a^2)^2 \end{aligned}$$

The second order is negative if  $\psi B(\eta^G) + 2\theta\rho_l > \frac{2\theta\psi}{9a} (\eta - a^2)^2 \geq 0$ . Using the fact that  $\psi B(\eta^G) + 2\theta\rho_l > 0$ , the interior solution exists when  $\eta = a^2$ . Substituting for  $a^2$  using the terrorists' budget constraint, I can now state that  $\eta = \eta^T - \kappa\eta^G = a^2 = 2(\omega - \eta^T)$ , and so  $\eta^T = \frac{2\omega + \kappa\eta^G}{3}$ . Note that the second order condition implies that at the interior equilibrium both  $\eta^G$  and  $\rho_l$  cannot jointly be equal to zero.

Hence the terrorists' best response to the government's political campaign is given as:

$$\eta^T = \begin{cases} \omega & \text{if } \eta^G > \frac{\omega}{\kappa} \\ \frac{2\omega + \kappa\eta^G}{3} & \text{otherwise} \end{cases}$$

## APPENDIX 1-b

I restate the central government's problem after substituting the budget constraint as

$$\beta = g - \gamma\eta^G,$$

$$\max_{\eta^G \in \mathbb{R}^+} \{(1 - \rho_l)r_m - \rho_l B(\eta^G)\}$$

$$s.t. \quad \rho_l = \frac{1}{2} + \frac{\psi}{3} \left[ \left( \omega - \frac{a^2}{2} \right) - \kappa \eta^G \right] a - g + \gamma \eta^G$$

The first order condition of the above problem with respect to  $\eta^G$  is as follows:

$$- \left( \frac{\partial \rho_l}{\partial \eta^G} \right) (r_m + B(\eta^G)) + (1 - \rho_l) \left( \frac{\partial r_m}{\partial \eta^G} \right) - \rho_l B' = 0$$

After substituting for  $\frac{\partial \rho_l}{\partial \eta^G}$ ,  $\frac{\partial r_m}{\partial \eta^G}$  from Corollary 3 and equation (5), the first order condition becomes,

$$(\psi r_m + \psi B(\eta^G) + 1 - \rho_l) \left( \frac{\kappa a}{3} - \frac{\gamma}{3} \right) - \rho_l B' = 0$$

I first check for the possibility of a corner solution. Using the fact that  $\psi r_m = 1 - \rho_l$ , the expression in the first parentheses becomes  $2 - 2\rho_l + \psi B(\eta^G) \geq 0$  given the non-negativity of each term. If  $a \leq \frac{\gamma}{\kappa}$ , the first order condition becomes negative for  $\forall \eta^G$ . Thus  $\eta^G = 0$  and  $\beta = g$  if  $\eta^T = \omega - \frac{a^2}{2} \geq \omega - \frac{1}{2} \left( \frac{\gamma}{\kappa} \right)^2$ .

On the other hand, the interior solution exists when  $a > \frac{\gamma}{\kappa}$ , and the first and second order conditions are satisfied. Reorganization of the first order implies that

$$\frac{1}{B'} \left( \frac{\psi B(\eta^G) + 2}{\rho_l} - 2 \right) = \frac{3}{\kappa a - \gamma}$$

The second order condition is given as:

$$\begin{aligned} (-2 \frac{\partial \rho_l}{\partial \eta^G} + \psi B') \left( \frac{\kappa a}{3} - \frac{\gamma}{3} \right) - B' \frac{\partial \rho_l}{\partial \eta^G} - \rho_l B'' &= \\ \frac{\psi}{3} \left( \frac{2}{3} (\kappa a - \gamma) + B' \right) (\kappa a - \gamma) + \frac{\psi}{3} (\kappa a - \gamma) B' - \rho_l B'' &= \\ \frac{\psi}{3} (\kappa a - \gamma) \left[ \frac{2}{3} (\kappa a - \gamma) + 2B' \right] - \rho_l B'' &< 0 \end{aligned}$$

Given that  $a > \frac{\gamma}{\kappa}$ ,  $B' > 0$ ,  $B'' > 0$ , the second order condition holds when

$$\rho_l = \frac{1}{2} + \frac{\psi}{3} \left[ \left( \omega - \frac{a^2}{2} \right) a - (\kappa a - \gamma) \eta^G - g \right] > \frac{\frac{\psi}{3} (\kappa a - \gamma) \left[ \frac{2}{3} (\kappa a - \gamma) + 2B' \right]}{B''} > 0$$

Or reorganizing,

$$\left( \frac{(\kappa a - \gamma) + 3B'(\eta^G)}{3B''(\eta^G)} + \frac{\eta^G}{2} \right) < \frac{3}{2\psi(\kappa a - \gamma)} \left( \frac{1}{2} + \frac{\psi}{3} \left( \left( \omega - \frac{a^2}{2} \right) a - g \right) \right)$$

## APPENDIX 2

### APPENDIX 2-a

*Proposition 2:* Equilibrium when  $\sqrt{\frac{2\omega}{3}} \leq \frac{\gamma}{\kappa}$ .

*Proof.* The best-responses of each side are intersected to find the equilibrium. I first analyze the case where  $\eta^G = 0$  if  $\eta^T \geq \omega - \frac{1}{2} \left( \frac{\gamma}{\kappa} \right)^2$ . But then the terrorists best response to  $\eta^G = 0 < \frac{\omega}{\kappa}$  is  $\eta^T = \frac{2\omega}{3}$ . It follows that  $\frac{2\omega}{3} \geq \omega - \frac{1}{2} \left( \frac{\gamma}{\kappa} \right)^2$ . This is possible if  $\sqrt{\frac{2\omega}{3}} \leq \frac{\gamma}{\kappa}$ .

*Corollary 5:* I can now substitute the equilibrium values given in Proposition 2 into equation (6). It follows that

$$\rho_l^* = \frac{1}{2} + \frac{\psi}{3} \left[ \left( \frac{2\omega}{3} \right)^{3/2} - g \right]$$

Remaining part of the corollary follows from the conditions on  $\omega, g, \psi$  to bound the party L's winning probability between zero and one.

*Corollary 6:*  $t_l^* = x^* + \frac{1}{2\psi} + \frac{1}{3} \left[ \left( \frac{2\omega}{3} \right)^{3/2} - g \right] > t_m = x^* + \frac{1}{2\psi} - \frac{1}{3} \left[ \left( \frac{2\omega}{3} \right)^{3/2} + 2g \right]$ . This is true if  $\frac{2}{3} \left( \frac{2\omega}{3} \right)^{3/2} > -\frac{g}{3}$ . QED.

## APPENDIX 2-b

*Proposition 3:* Equilibrium when  $\sqrt{\frac{2\omega}{3}} > \frac{\gamma}{\kappa}$ :

*Proof.*

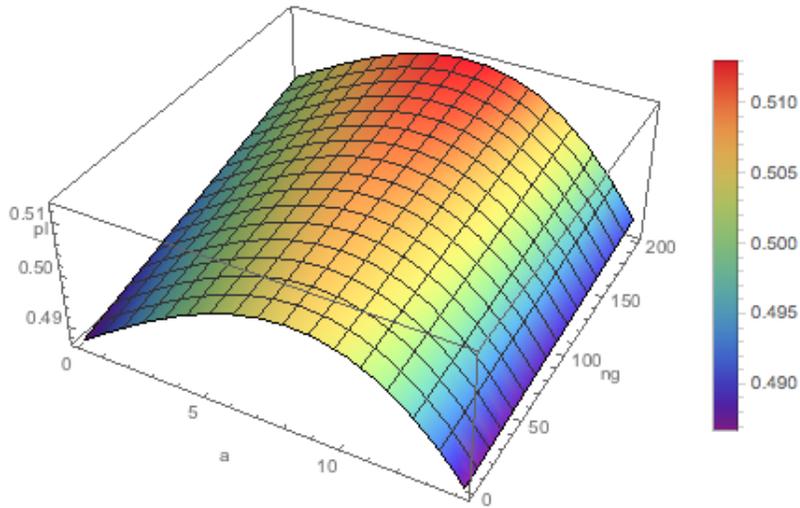
1) First assume that there exists an equilibrium such that  $\frac{\omega}{\kappa} > \eta^G > 0$  since  $\eta^T < \omega - \frac{1}{2} \left( \frac{\gamma}{\kappa} \right)^2$ . But then the terrorists best-response implies that  $\eta^T = \frac{2\omega + \kappa\eta^G}{3}$ . It follows that  $\frac{2\omega + \kappa\eta^G}{3} < \omega - \frac{1}{2} \left( \frac{\gamma}{\kappa} \right)^2$ . Thus  $\eta^G < \frac{\omega}{\kappa} - \frac{3}{2\kappa} \left( \frac{\gamma}{\kappa} \right)^2 < \frac{\omega}{\kappa}$ . QED.

2) Now assume that  $\eta^G > \frac{\omega}{\kappa} > 0$ . The terrorist best response to the government political investment is then  $\eta^T = \omega$ . However,  $\eta^G$  is interior if  $\eta^T < \omega - \frac{1}{2} \left( \frac{\gamma}{\kappa} \right)^2$ . But  $\eta^T = \omega > \omega - \frac{1}{2} \left( \frac{\gamma}{\kappa} \right)^2$ , a contradiction.

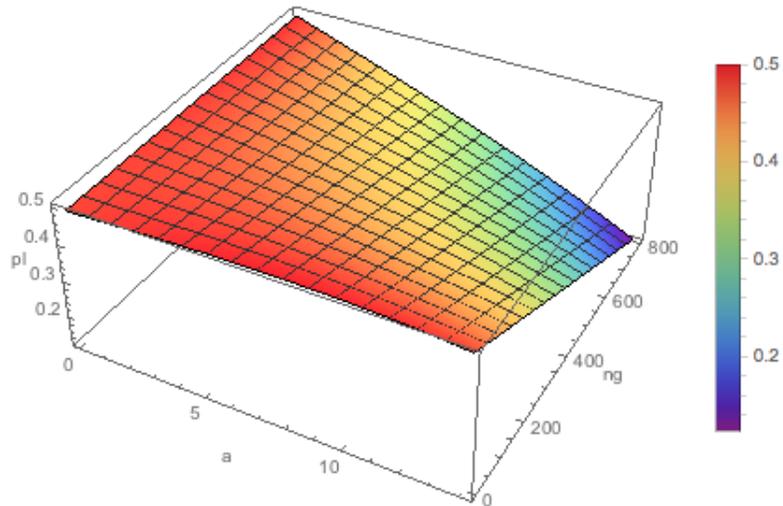
*Corollary 7:* Derivation of  $\rho_l$  is straightforward as it is the direct application of equation (6). Further, interior solution implies that  $\rho_l^* > 0$  as the second order conditions suggested earlier in Appendix-1a and Appendix-1b.

## APPENDIX 3

**Figure 1:** *Party L's winning probability when  $\psi = 10^{-4}, \kappa = 0.1, \gamma = 2, g = 400, w = 100$*



**Figure 2:** *Party L's winning probability when  $\psi = 10^{-4}, \kappa = 1, \gamma = 0.5, g = 400, w = 100$*



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