

LOBBYING AND COMPROMISE

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Abstract

The compromise enhancing effect of lobbying on public policy has been established in two typical settings. In the first, lobbies are assumed to act as 'principals' and the setters of the policy (the candidates in a Downsian electoral competition or the elected policy maker in a citizen- candidate model of electoral competition) are conceived as 'agents'. In the second setting, the proposed policies are solely determined by the lobbies who are assumed to take the dual role of 'principals' in one stage of the public-policy game and 'agents' in its second stage. The objective of this paper is to demonstrate that in the latter setting, the compromising effect of lobbying need not exist. Our reduced-form, two-stage public-policy contest, where two interest groups compete on the approval or rejection of the policy set by a politician, is sufficient to show that the proposed and possibly implemented policy can be more extreme and less efficient than the preferred policies of the interest groups. In such situations then more than the calf (interest groups) wish to suck the cow (politician) desires to suckle thereby threatening the public well being more than the lobbying interest groups. The main result specifies the conditions that give rise to such a situation under both the perfectly and imperfectly discriminating contests.

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I. Introduction

Lobbying is an important part of the policy-making process in representative democracies, Grossman and Helpman (2001), Persson and Tabellini (2000). Several studies have addressed the issue to what extent lobbying affect policy? Modeling lobbying as a "menu-auction", Grossman and Helpman (1996) study a Downsian model of electoral competition where candidates choose policies to maximize their probability of winning the elections. In their common agency setting, lobbying induces candidates to select policies that constitute a compromise between the policy preferences of voters and the lobbies. More recently, building on the work of Besley and Coate (1997, 2001), Felli and Merlo (2001) study an alternative citizen-candidate model of electoral competition with "menu-auction" lobbying, assuming that the elected policy maker selects the lobbies that take part in the policy-making process. In their elaborate model, the equilibrium policy outcome is always a compromise between the policy preferences of the elected candidate and those of the (at most two) lobbies chosen by the policy maker.¹ In contrast to this literature, Glazer, Gradstein and Konrad (1998) demonstrate that extreme policies may appear not in spite of, but because of, political opposition. More specifically, an incumbent may gain political support by adopting a policy the challenger is more likely to change. The awareness of voters to the high cost of the more likely policy change induces them to support the extreme policy proposed by the incumbent. The examples that are given by the authors are anti-abortion stands by the republican party in the United States, pro-affirmative action positions by the Democrats in the United States, adoption of the poll tax by Thatcher's government in the United Kingdom and moves towards privatization in some of the former Communist countries of Eastern Europe.

In a "menu-auction", an equilibrium comprises a set of contribution schedules that are optimal for the interest groups in light of the anticipated behavior of the politician who selects a policy that is his best response to the implicit offers of the

¹ In the classical Downsian model of electoral competition, politicians are only concerned about winning the election. In a two-party system with politicians who are "office motivated", an extreme compromise, namely, complete policy convergence is expected, Downs (1957). In a more general setting, politicians may face a trade-off between two objectives: the desire to be re-elected and the desire to implement a policy that is most preferred by the constituency supporting their party. In such an extended dynamic electoral model in which the voters are not fully informed about the preferences of the incumbent, Alesina and Cukierman (1990) show that the incumbent follows a policy which is a compromise between the other party's ideal policy and his own ideal policy. In these earlier studies, however, the effect of lobbying on the nature of the proposed policy has not been examined.

interest groups. But an alternative political-economic equilibrium may comprise of the policy proposals that are optimal for the interest groups in light of the anticipated outcome of the lobbying contest that hinges on their lobbying efforts. In this alternative setting the lobbying efforts are directed to the politician who approves one of the proposed policies and the contest outcome is the winning probabilities of the proposed policies.² Epstein and Nitzan (2004a) have recently shown that in such a reduced-form, two-stage lobbying game, the policies proposed by the contestants also tend to be restrained. Consequently, as in the common agency literature, the implemented (winning) policy is always a compromise, that is, it belongs to the interior of the interval defined by the interest groups' (ex-post) preferred policies. However, in an imperfectly discriminating contest, the proposals of the different groups will not coincide. Munster (2004) shows that in a perfectly discriminating contest, (an all-pay auction) the proposed policies also tend to be restrained. In contrast to Epstein and Nitzan (2004a), the proposals in the all-pay auction will coincide.

An alternative reduced-form public-policy contest is studied in Epstein and Nitzan (2003, 2002a). In this extended contest there are three players. Two interest groups and a two-tier government. One interest group is "a challenger" who is interested in the approval of the proposed policy. A second interest group is "a defender" who prefers the status quo and is therefore interested in the rejection of the proposed policy. The government consists of an elected politician who sets the agenda (proposes a policy that along with the status quo constitutes the agenda) and approves or rejects the proposed policy. The behavior of the politician can have microfoundations as shown in Epstein and Nitzan (2002b, 2004b). It is represented, as is common in the vast rent-seeking literature, Lockard and Tullock (2001), Nitzan (1994), by a contest success function (CSF) that relates the probability that the proposed policy is approved to the lobbying efforts of the interest groups. The timing of events in this public-policy contest is as follows: (i) In the first stage of the game, the politician proposes a policy, being aware of the preferences of the interest groups and anticipating the equilibrium in the lobbying contest. (ii) Given the CSF, the

² The interest groups can also try and influence the proposed policy. In our setting the proposed policy is not directly affected by the lobbying groups. However, it is indirectly affected by the interest groups in light of the awareness of the politician, who proposes the policy, to the lobbying efforts of the interest groups and their effect on the outcome of the contest.

lobbying contest takes place (iii) The actual value of the policy is realized and uncertainty is resolved. The objective of the current paper is to show that within a general class of this public-policy contest, contrary to the findings of Grossman and Helpman (1996), Felli and Merlo (2001) and Epstein and Nitzan (2004a), lobbying may result in the proposal and implementation of an extreme policy. In other words, lobbying is not necessarily compromise enhancing. This result crucially depends on the policy maker (the politician in our case) being a 'principal' and on his having an effective incentive to be extreme. The existence of such an incentive hinges on the payoffs (contest stakes) of the interest groups and their dependence on the implemented policy and on the preferences of the policy maker. In contrast to Epstein and Nitzan (2004a) and Munster (2004), who consider the case where two interest groups compete over the approval of a policy that each of them proposes, in this paper we assume that the decision on the proposal is made by the politician and not by the interest groups. As in Hillman (1982), Grossman and Helpman (2001) and Epstein and Nitzan (2003), we assume that the politician's utility is a composite function of the public well being (social welfare) and the lobbying outlays made by the interest groups. When the lobbying outlays are positively related to the policy set by the politician, the stronger his narrow motivation represented by the weight assigned to the lobbying outlays, the more extreme is the proposed policy. It is therefore possible that the defender and the challenger of the status quo prefer a policy which is less radical and more efficient than the policy proposed by the politician. In particular, it is possible that more than the calf (challenger of the status-quo policy) wishes to suck the cow (politician) desires to suckle. When this happens the politician seems to be more concerned than the challenger about enhancing the latter's interest.³ We analyze both the perfectly and imperfectly discriminating contests. Our main result specifies sufficient conditions to lobbying that give rise to a proposed policy which is more extreme than the proposals preferred by the interest groups⁴. Examples of such

³ Esteban and Ray (1999) observe that in a classical contest game where the two players not only have to decide about how much lobbying effort to provide, but also for which alternative they want to lobby, all lobbyists will always invest their effort in favor of their most preferred policy alternative. Hence we would have expected that agenda setting does not harm the interest groups while enhancing a compromise. As mentioned above, we show that this is not the case and that the proposed policy may well be more extreme even relative to the ideal certain proposal of the challenger. Note that if the proposed equilibrium policy is approved, it is also implemented because, ex-post, the challenger prefers it to his ex-ante most preferred policy.

⁴ Our main result is related to the studies of Cairns and Long (1991) and Glazer and McMillan (1992) on voluntary price regulation. Using a different settings inspired by Becker's (1983) pressure model,

policies can be the type of policies presented by Glazer, Gradstein and Konrad (1998) (see discussion above) or other examples such as the determination of minimum wage, see Grossman and Helpman (2001, Chapter 8.2), where the proposed minimum wage is more extreme than the union's most preferred wage. Another example is the issue of migration quotas which is very important in the United States and in Europe. Governments determine quotas that may well exceed the quota preferred by the capital owner who takes part in the political contest over the quota, and this quota can be lower than his optimal amount of migrants in a situation where the quota is certainly approved (there is no political contest on the determination of the quota), see for example Boeri, Hanson and McCormick (2002). The price of a regulated monopoly, Baik (1999), Epstein and Nitzan (2003), or the degree of restriction of bank branching, Kroszner and Strahan (1999), may well be other examples where the proposed policy is more extreme than the policy that would have been proposed by the relevant interest groups.

We first present the public policy game and then the conditions that lead to non-compromise enhancing lobbying under imperfectly and the perfectly discriminating contests.

II. The Public-Policy Game

In our game there are three players. The first one is a politician, who sets the policy proposal I in the first stage of the game. His proposal is approved or rejected in the end. The decisions of the two-tier government (the proposed policy and whether it is approved or rejected) determine the ex-ante and ex-post payoffs of the two other players, the interest groups that are differently affected by the proposed policy and its approval or rejection. Both players derive some benefit if the government supports their preferred policy by approving or by rejecting the proposed policy. Suppose that a status-quo policy, I_s , is challenged by one interest group and defended by another group. This policy can be the price of a regulated monopoly, Baik (1999), Epstein and Nitzan (2003), the degree of restriction of bank branching, Kroszner and Strahan (1999), or the determination of minimum wage, Grossman and Helpman (2001, Chapter 8.2). The defender of the status-quo policy (henceforth, interest group d)

these authors show that, within a monopoly context, the threat of price regulation due to an effective political opposition by consumers may induce the monopolist to price below the unregulated price.

prefers the status-quo policy I_s to any alternative policy. The most preferred policy of the challenger of the status-quo policy (interest group c) is I_c . With no loss of generality, it is assumed that $I_s < I_c$ and that the policy I_s (I_c) is the optimal policy proposal of the defender (the challenger), provided that his supported policy gains certain approval.⁵ That is, each of these policies is optimal for the respective interest group when it disregards the possibility that its proposed policy can be rejected, in which case, by assumption, the policy proposed by the rival interest group is approved.

The interest groups are engaged in lobbying activities because they wish to increase their probability of winning the public-policy contest, i.e., secure the realization of their preferred policy⁶. In our model the lobbying groups do not try to directly affect the policy proposed by the politician. Rather, the lobbying efforts are directed to the politician who approves or rejects the proposed policy and therefore they do affect, indirectly, the policy proposed by the politician. Interest group d wins the contest when the proposed policy is rejected. In such a case the status quo I_s is implemented. Its benefit in such a case is its avoided loss. Interest group c wins the contest when the proposed policy is approved and implemented. The ruling politician is responsible for the existence of the contest, being aware of its direct potential benefit, namely, of the possibility to benefit from part or all of the lobbying outlays. He may also be aware of the effect of his decision on his probability of being re-elected either via the expected campaign contributions of the contestants or via the expected support of the voters whose welfare depends on the policy of the government.

The Rationale for Creating a Contest Between the Interest Groups.

The ruling politicians/government could decide to select the policy that results in the realization of one of the proposed policies, i.e., to select the policy that generates the highest benefit to one of the interest groups: either the stake n_d for the defender of the status group or n_c for the challenger. An alternative option for the government is to choose randomly between the two different policies that it faces. Clearly, if the utility the government derives from the selection of a policy is positively related to the

⁵ Note that assuming that $I_s > I_c$ would not qualitatively change any of our results.

⁶ Modeling the rent seekers as single agents presumes that they have already solved their collective action problem. The proposed model thus applies to already formed interest groups.

aggregate net payoffs (stakes) of the interest groups, then it would never randomize, that is, it would select the policy that generates the higher stake. The probabilities of realization of the two policies in the complete-information public-policy contest are given by the contest success function (CSF). This function specifies the relationship between the interest groups' investment in the so called influence, lobbying or rent-seeking activities and the probability of realization of the two policies. The expected payoff of interest group i is given by $E(u_i)$ and the effort invested by each interest group is denoted by x_i . (later on we examine the relationship between the CSF, $E(u_i)$ and x_i).

Suppose that the government's objective function $G(E(u_c); E(u_d); (x_c + x_d))$ depends on the expected payoffs $E(u_i)$ and on the interest groups' lobbying efforts $x_c + x_d = X$. If the government decides not to generate a contest and choose an optimal certain policy, then the value of the government's objective function is equal to $Max\{G(n_d), G(n_c)\}$. It is therefore sensible for the government to create a contest if and only if the existence of a contest increases the expected value of its objective function. That is,

$$(1) \quad G(E(u_c); E(u_d); (x_c + x_d)) > Max\{G(n_d), G(n_c)\}$$

For example, as commonly assumed in the recent political economy literature, Grossman and Helpman (2001), Persson and Tabellini (2000), let the government's objective function be a weighted average of the expected social welfare and the lobbying efforts:

$$(2) \quad G(.) = \alpha(E(u_L) + E(u_H)) + (1 - \alpha)(x_L + x_H)$$

The parameters α and $(1 - \alpha)$ are the weights assigned to the expected social welfare and the contestants' lobbying outlays. If the government decides not to generate a contest and choose the policy that results in the higher stake n_H , then the value of the

government's objective function is equal to αn_H . In this case it is therefore sensible for the government to create a contest if and only if

$$(3) \quad \alpha(E(w_L) + E(w_H)) + (1 - \alpha)(x_L + x_H) > \alpha n_H$$

In Epstein and Nitzan (2002d) it is shown that, if the weight assigned to the lobbying outlays is greater than the weight assigned to the expected stakes, a contest based on CFSs such as the commonly assumed all-pay auction or Tullock's lottery logit functions is preferable to no contest. In such cases then random government behavior is rational.

We now consider two types of contests: the imperfectly and perfectly discriminating contests.

The imperfectly discriminating contest

Let the ruling politician reject the proposed policy I with probability Pr_d . This implies that he approves the preferred policy of interest group d . With probability $Pr_c (= 1 - Pr_d)$ he approves the proposed policy I . The lobbying expenditures x_d and x_c of the risk-neutral contestants determine the probability of approval of the policy proposed by the regulator. It is assumed, as in Skaperdas,

(1992) and in Epstein and Nitzan (2002e), that $\frac{\partial Pr_i(x_i, x_j)}{\partial x_i} > 0$, $\frac{\partial Pr_i(x_i, x_j)}{\partial x_j} < 0$

and $\frac{\partial^2 Pr_i(x_i, x_j)}{\partial x_i^2} < 0$ ⁷ (the latter inequality ensures that the second order conditions

are satisfied). Since $Pr_i(x_i, x_j) + Pr_j(x_j, x_i) = 1$, $\frac{\partial^2 Pr_i(x_i, x_j)}{\partial x_i \partial x_j} = -\frac{\partial^2 Pr_j(x_j, x_i)}{\partial x_i \partial x_j}$.

The expected net payoff of the two interest groups, d and c are given by

⁷ As already noted, the function $Pr_i(x_i, x_j)$ is usually referred to as a contest success function (CSF). The functional forms of the CSF's commonly assumed in the literature, see Nitzan (1994) and Skaperdas (1996), satisfy these assumptions.

$$(4) \quad E(u_d) = \Pr_d n_d(I) - x_d \quad \text{and} \quad E(u_c) = \Pr_c n_c(I) - x_c$$

where n_d and n_c denote, respectively, the net benefits or the contest stakes of the interest groups. We assume that for any I in the interval $[I_s, I_c]$, an increase in the proposed policy I increases the stakes of both interest groups, that is, $\frac{\partial n_d(I)}{\partial I} > 0$ and $\frac{\partial n_c(I)}{\partial I} > 0$.⁸

By our assumptions, the interest groups participate in the contest, that is, x_d and x_c are positive. We therefore focus on interior Nash equilibria of the second stage of the contest. Solving the first order conditions $\left(\frac{\partial E(u_d)}{\partial x_d} = 0 \text{ and } \frac{\partial E(u_c)}{\partial x_c} = 0 \right)$ we obtain:

$$(5) \quad \Delta_i = \frac{\partial \Pr_i(x_i, x_j)}{\partial x_i} n_i(I) - 1 = 0, \quad \forall i \neq j \text{ and } i, j = d, c$$

In the first stage of the game, the politician selects his strategy, that is, the proposed policy I subject to, the political constraint, namely, subject to the lobbying contest on the approval of his proposal. Hence, as mentioned above, his objective function $G(\cdot)$ is of the general form⁹ $G(E(u_c); E(u_d); (x_c + x_d))$, where $E(u_c)$ and $E(u_d)$ are the expected net payoffs of the challenger and the defender that positively affect G . The contestants' lobbying outlays $(x_d + x_c) = X$ represent either transfers to the government or resources wasted in the contest. Note that taking into account the public interest is consistent with the politician being either benevolent or realistic (wishing to be re-elected).

⁸ This condition holds in many situations. In particular, it holds in the context of monopoly-price regulation where I_s is the competitive status-quo price and I_c is the profit-maximizing monopoly price, see Epstein and Nitzan (2003). The assumption is also plausible in the context of minimum-wage determination, where I_s represents the existing equilibrium wage and I_c represents the minimum wage preferred by the workers' union or in the context of protective trade policy (by tariff or quota).

⁹ See Epstein and Nitzan (2002a).

The first order condition for an interior maximization of $G(\cdot)$ with respect to I requires that

$$(6) \quad \frac{\partial G(\cdot)}{\partial E(u_c^*)} \frac{\partial E(u_c^*)}{\partial I} + \frac{\partial G(\cdot)}{\partial E(u_d^*)} \frac{\partial E(u_d^*)}{\partial I} + \frac{\partial G(\cdot)}{\partial X^*} \frac{\partial X^*}{\partial I} = 0$$

A sub-game perfect interior Nash equilibrium of the public-policy contest is thus characterized by the three equalities in (5) and (6).

A Non-Compromising Equilibrium Policy

The existence of a non-compromising equilibrium policy requires that the policy maker has an effective incentive to propose a policy that is more extreme than one of the preferred proposals of the interest groups. The effectiveness of the incentive in our setting is partly due to the fact that the policy preferred by both the challenger and the defender is restrained. Let us first clarify this point by considering the proposed policies that the interest groups prefer. By assumption, interest group d prefers the status-quo I_s to any proposed policy. Since I_s maximizes the stake of this interest

group, $\left. \frac{\partial n_d(I)}{\partial I} \right|_{I=I_s} = 0$. Similarly, the policy I_c maximizes the stake of interest group

c , which implies that $\left. \frac{\partial n_c(I)}{\partial I} \right|_{I=I_c} = 0$. To understand the result let us consider the

optimal proposal by interest group c . The policy I_c^* that maximizes interest group c 's expected payoff $E(u_c)$ is characterized by the following first order condition:

$$(7) \quad \frac{\partial E(u_c)}{\partial I} = \frac{\partial \Pr_c}{\partial x_c} \frac{\partial x_c}{\partial I} n_c + \frac{\partial \Pr_c}{\partial x_d} \frac{\partial x_d}{\partial I} n_c + \Pr_c \frac{\partial n_c}{\partial I} - \frac{\partial x_c}{\partial I} = 0$$

By the two main results in Epstein and Nitzan (2004),¹⁰ as long as the two interest groups engage in a viable contest in the second stage of the game, in equilibrium they are induced to voluntarily moderate their proposals relative to their best policies when they do not need to take into account the opposition of the other interest group. Thus,

¹⁰ It can be verified that the conditions needed for applying the results in Epstein and Nitzan (2004) are satisfied.

Lemma 1: Under the imperfectly discriminating contest

$$I_c^* < I_c, \quad I_d^* > I_s \quad \text{where} \quad I_c^* > I_d^* \quad \text{and} \quad X^* > 0$$

In light of this lemma, the challenger would not lobby for his best policy under certainty I_c , but rather for his optimal policy I_c^* , and the defender would not lobby for his best policy under certainty I_s , but rather for his optimal policy I_d^* . The optimal policies I_c^* and I_d^* maximize the expected net payoffs of c and d . The intuition for this result is that if there is no opposition the challenger chooses the policy I_c . In the presence of an opposition, the challenger realizes that lowering his proposal below I_c leads to a decrease of his payoff from winning the contest. But the more restrained proposal yields an increase in the payoff of the opponent and, in turn, a reduction in his stake that induces him to become less aggressive. The resulting decline in the defender's probability of winning the contest clearly benefits the challenger. Since the latter favorable effect dominates the former unfavorable effect, the challenger prefers to restrain his lobbying target, i.e., propose a policy below I_c . A similar intuition explains the readiness of the defender of the status-quo to moderate his position by proposing a policy that exceeds I_s .

As the proposals of the contestants do not converge, both will invest effort in order to win the contest and therefore the total amount of resources invested in such a contest will be positive, $X^* > 0$.

A perfectly discriminating contest

Let us now consider the endogenous policy proposals of the defender and the challenger under the perfectly discriminating contest, i.e., the all-pay auction. Under this type of contest, the interest group that invests the highest amount of effort wins the contest. That is, the winning probability of interest group i is equal to:

$$(8) \quad \Pr_i = \begin{cases} 1 & \text{if } x_i > x_j, \forall i \neq j \\ \frac{1}{2} & \text{if } x_i = x_j, \forall i \neq j \\ 0 & \text{if } x_j > x_i, \forall i \neq j \end{cases}$$

and so its net payoff is given by:

$$(9) \quad E(u_i) = \begin{cases} n_i(I) - x_i & \text{if } x_i > x_j, \forall i \neq j \\ \frac{1}{2}n_i(I) - x_i & \text{if } x_i = x_j, \forall i \neq j \\ -x_i & \text{if } x_j > x_i, \forall i \neq j \end{cases}$$

Munster (2004) shows that under the all-pay auction, in equilibrium both players propose the same proposal. That is,

Lemma 2: Under the perfectly discriminating contest

$$I_c^* < I_c, \quad I_d^* > I_s \quad \text{such that} \quad I_c^* = I_d^* \quad \text{and} \quad X^* = 0.$$

Since the two interest groups propose the same policy, there will be no need for a contest between the groups. This implies that the interest groups will not invest effort in trying to win the contest, $X^* = 0$.

The difference in the findings in the two types of contests is due to their different nature. In an imperfectly discriminating contest, the group that chooses the higher lobbying outlay doesn't necessarily win. There is some "noise" in the determination of the winner and the winning probabilities are continuous functions of the lobbying efforts.

Public Policy

The effectiveness of the policy maker's incentive to propose a policy that exceeds I_c^* or is lower than I_d^* depends on the sensitivity of G with respect to its three arguments and on the sensitivity of the equilibrium total lobbying outlays X^* and of the expected utility of the interest groups with respect to the proposed policy. Let I^{**}

denote the equilibrium policy that satisfies (6). At I_c^* , $\left. \frac{\partial E(u_c)}{\partial I} \right|_{I=I_c^*} = 0$, at I_d^* ,

$\left. \frac{\partial E(u_d)}{\partial I} \right|_{I=I_d^*} = 0$ and therefore at I^{**} $\left. \frac{\partial E(u_c)}{\partial I} \right|_{I=I^{**}} < 0$ and $\left. \frac{\partial E(u_d)}{\partial I} \right|_{I=I^{**}} < 0$. By the

equilibrium condition (6), we therefore get that $I^{**} > I_c^*$ or $I^{**} < I_d^*$ if

$$(10) \quad -\frac{1}{\left. \frac{\partial G}{\partial X} \right|_{I=I^{**}}} \left[\left. \frac{\partial G}{\partial E(u_d)} \right|_{I=I^{**}} \left. \frac{\partial E(u_d)}{\partial I} \right|_{I=I^{**}} + \left. \frac{\partial G}{\partial E(u_c)} \right|_{I=I^{**}} \left. \frac{\partial E(u_c)}{\partial I} \right|_{I=I^{**}} \right] < \left. \frac{\partial X}{\partial I} \right|_{I=I^{**}}$$

Notice that the LHS of (10) is positive and since its RHS is independent of $G(\cdot)$, we obtain

Proposition: $I^{**} > I_c^*$ or $I^{**} < I_d^*$, if at I^{**} , $\left. \frac{\partial X}{\partial I} \right|_{I=I^{**}} > 0$ and the sensitivity of $G(\cdot)$

with respect to X relative to its sensitivity with respect to $E(u_d)$ and $E(u_c)$ is sufficiently large.

Note that $\left. \frac{\partial E(u_d)}{\partial I} \right|_{I=I^{**}} < 0$ and $\left. \frac{\partial E(u_c)}{\partial I} \right|_{I=I^{**}} < 0$. Therefore, since

$\left. \frac{\partial G}{\partial E(u_d)} \right|_{I=I^{**}} > 0$ and $\left. \frac{\partial G}{\partial E(u_c)} \right|_{I=I^{**}} > 0$, if $\left. \frac{\partial X}{\partial I} \right|_{I=I^{**}} > 0$, then for (10) to

hold, $\left. \frac{\partial G}{\partial X} \right|_{I=I^{**}} > 0$ must be satisfied.

If, for example, $G(E(u_c); E(u_d); (x_c + x_d)) = G((x_c + x_d))$, then (both in the perfectly and imperfectly discriminating contest) a sufficient condition for the

proposition to hold is that $\left. \frac{\partial X^*}{\partial I} \right|_{I=I^{**}} > 0$.¹¹ Recall that under the perfectly

discriminating contest, the all-pay auction, the total amount of resources invested in the contest under the proposals of the interest groups will be zero. Therefore, if the politician wishes to obtain outlays, he/she must propose a policy that is more extreme than that of the interest groups.

As we can see, in the above condition the effect of a change in the proposed policy on the lobbying efforts of the contestants plays an important role. In general, the effect of a change in the proposed policy I on X^* is ambiguous in the imperfectly discriminating contest while it is positive in the all-pay auction. The role of stake-asymmetry and ability-asymmetry between the interest groups in determining the sign

of $\frac{\partial X^*}{\partial I}$ is clarified in Epstein and Nitzan (2004b).¹² A simple sufficient condition

ensuring that the total lobbying outlays are monotone increasing in the policy set by the politician is stated in terms of the relative stakes and the relative- stake- elasticities of the interest groups¹³

The Proposition implies that the policy set by the politician can be higher or lower than the policy the challenger prefers, provided that two conditions are satisfied. First, the sufficient condition ensuring that an increase in the policy proposal I increases the total lobbying efforts of the two interest groups (which is satisfied in the case of an all-pay auction); Second, the marginal effect on G of a change in the contestants' total lobbying expenditures is sufficiently high relative to the marginal effect on G of a change in the expected utility of the interest groups. In other words, an increase in the policy I has two conflicting effects on G . It increases G via the increase in the total lobbying expenditures X while decreasing G via the reduction in the expected payoffs of the status-quo defender and its challenger. The condition

¹¹ For example, in the case of monopoly price determination, if the demand is given by: $p= 1-q$, the marginal cost equals zero and the CSF is Tullock's lottery logit function, the monopoly profit-maximization price is equal to 0.5 while the price that maximizes the total lobbying efforts incurred by the contestants is equal to 0.575426.

¹² Note that asymmetry in the contestants' ability depends on the form of the contest success function and, in particular, on its second order cross derivatives. However, it also depends on the stakes of the interest groups because these cross derivatives are computed in equilibrium, which is affected by the stakes.

¹³ In the context of monopoly regulation, Epstein and Nitzan (2003), the sufficient condition is satisfied, so an increase in the proposed price increases the total lobbying expenditure of the interest groups.

stated in the Proposition requires that the former effect on G is sufficiently high relative to the latter effect. Since, by lemmas 1 and 2, for example, the challenger's certain most preferred policy I_c^* is smaller than I_c , it is clear that under such circumstances, the equilibrium policy I^{**} proposed by the politician can exceed both the challenger's preferred policy I_c^* and I_c (in the same way the policy may be lower than I_d^* and I_s). Note that if the proposed policy I^{**} , $I^{**} > I_c^*$, is the ex-post outcome of the contest, namely, the politician's proposal I^{**} is approved by the politician, then the challenger voluntarily offers its cooperation to implement this policy because ex-post it is preferred to I_c^* . One can relate to the proposed policy I^{**} and to the challenger's optimal policy I_c^* as direct measures of the extent of the permissible and the (challenger's) desired surplus extraction from the defender. The conditions stated in the Proposition give rise to a situation where the proposed policy is more extreme and less efficient than the challenger's ex-ante preferred policy. In such a case lobbying is not compromise enhancing and one can say that more than the calf (the challenger) wishes to suck does the cow (politician) desire to suckle.^{14 15}

IV. Summary

In the political-economic game of policy determination by the government that we have analyzed, a politician proposes the public policy and the proposal is then approved or rejected according to a CSF. In contrast to Epstein and Nitzan (2004a), we assume that the politician proposes a policy and not the interest groups. The politician's proposed policy directly affects the stakes of the two interest groups, the contestants, and, in turn, first, their equilibrium lobbying efforts and, second, their equilibrium expected payoffs. The proposed policy is set such that the politician's objective function that depends on the contestants' lobbying outlays and on their aggregate expected payoff is maximized. It has been shown that, depending on the objective function of the politician and on the interest groups' net payoffs, it may well be the case that the proposed policy is higher, more extreme and less efficient than the policy the interest groups would have preferred that the politician proposed under

¹⁴ Of course, ex-ante any equilibrium is a compromise because it is a lottery between the status quo and the proposed policy. The non-existence of the compromising effect of lobbying in our setting focuses on the comparison between the policy proposed by the politician and the policy proposal that is actually preferred by the challenger. Of course, ex-post, a more extreme proposed policy can be implemented.

¹⁵ The same type of analysis can be carried out for the defender.

certainty. Such a situation occurs when, first, an increase in the policy proposal increases the total lobbying efforts of the two interest groups and, second, the marginal effect on the politician's objective function of a change in the contestants' lobbying outlays is sufficiently high relative to the marginal effect of a change in the expected utility of the interest groups. The proposed policy can, in particular, be the policy that maximizes the challenger's certain stakes. If this is the case, that is, if the politician proposes the challenger's optimal policy under certainty, then we are assured that the challenger always prefers a less extreme policy. However, the proposed policy may be even more extreme than the policy that maximizes the challenger's certain stakes.

In our model the lobbying efforts of the interest groups are directed to the politicians at the second stage of approval or rejection of the proposed policy. Alternatively, the interest groups can lobby the politician at the first stage in order to influence his proposed policy. In general, the interest groups may wish to influence both the proposed policy and the probability of its approval and therefore allocate their lobbying efforts between the two stages. In such alternative lobbying models, as long as the proposed policy or the approval of the proposed policy remain uncertain from the viewpoint of the interest groups, the main insight of the present study is basically preserved. Uncertainty regarding the contest outcome and a policy maker who is a 'principal' are the basic modeling features necessary for the existence of non-compromising lobbying. The sufficient conditions require appropriate relative commitments of the politician to the enhancement of the well being of the interest groups and to the increase of the lobbying outlays and appropriate relative stakes and relative stake elasticities of the interest groups that ensure the positive effect of a change in the proposed policy on the total lobbying efforts. Therefore, we obtain that if the government is not directly involved in the determination of the proposals (as in Epstein and Nitzan, 2004a), then moderation of the proposals will occur, however, if the government is involved directly in determining the proposal, then we have shown sufficient conditions for polarization.

Our analysis has been confined to a reduced-form, very simple public-policy contest that has micro foundations for both the imperfectly discriminating contest and the discriminating contest - the all-pay auction. Despite its simplicity, this stylized setting is sufficient to illustrate that the compromise enhancing effect of lobbying is not necessarily valid when the policy maker, the politician in our case, is a 'principal'

rather than an 'agent'. As is well known from other models of special interest politics, institutional details - such as the number of candidates, the number of interest groups, the voting rule, the amendment rules, the procedures for government formation and dissolution - can have a marked effect on outcomes. This has been indeed demonstrated in this paper regarding the effect of lobbying on the nature of the equilibrium public policy.

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