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# Legislative Bargaining and Lobbying in the European Union

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## Abstract

This paper analyzes the effects of legislative bargaining in the EU on public goods provision and lobbying. We argue that delegation to a single policy maker at the centralized level -which we call supranational policy making- increases lobbying expenditures. When policy in the center is formulated by a committee consisting of national representatives -intergovernmental decision making- centralization causes lobbying expenditures fall, for centralization makes national policy makers more responsive to demands from domestic lobbies. In the extensions we consider the effects of enlargement on lobbying and analyze endogenous lobby formation.

**Keywords:** Centralization, Fiscal Federalism, Legislative Bargaining, Lobbying, the European Union

**JEL classification:** D72, D78, F36, H41

# 1 Introduction

Does centralization of policy making increase lobbying? Many contributions in the political economics tradition argue that it does (see e.g. Persson and Tabellini 1994, Besley and Coate 2003). The primary reason in this literature is that cost sharing among jurisdictions induces a common pool problem, which creates incentives for rent-seeking by special interest groups. Consequently, centralization of policy making results in overprovision of local public goods. However, there also is a literature that stresses that centralization results in lower lobbying efforts because of the preference dilution effect (Melo et al. 1993). Here, centralization increases heterogeneity, which causes pressure groups to become less powerful. Hence, centralization weakens the incentives to lobby and reduces inefficiencies in public goods provision.

A key assumption in most of this literature is that political centralization among countries leads to ‘supranational’ policy making, where countries hand over sovereignty to a single policy maker. In this paper we extend the standard approach by allowing for legislative bargaining among representatives of the member states.<sup>1</sup> In our set up, a committee consisting of national politicians unanimously decides on public goods provision. A main result is that centralization may reduce lobbying expenditures when compared to decentralized policy making. The intuition is that the common pool effect gives national politicians a stronger incentive to cater to domestic organized interests. Hence, centralization causes the national policy maker to become an ally of the domestic interest groups. Anticipating this, interest groups can exploit national policy makers more easily by offering them lower contributions in return for policy favors.

The main motivation for writing this paper is to contribute to the discussion on the merits of centralization in the European Union. For long the supranational view of the EU has dominated European studies, as the member states were unvisited as moving towards ‘ever closer Union’. This process involves the handing over of policy making authority to supranational actors in Brussels.<sup>2</sup> However, the more recent Constitution emphasizes the cooperative nature of decision making based on national

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<sup>1</sup>In this paper, a federation consists of a center and member states. When we refer to national policy makers, we mean politicians from the member states.

<sup>2</sup>Early approaches in the political science literature stress the *functionalist* tendencies in the European integration process (e.g. Haas 1958, 1964 and Lindberg and Scheingold 1970). In this literature supranational actors are the engine of the integration process because they are more effective in creating common policies. An early attack from Hoffman (1966) established the *intergovernmentalist* approach that depicted EU policy making in the center as a ‘battle’ between representatives of the member states. Since Moravcsik (1991) these intergovernmentalists have dominated European studies. See for an overview of European integration theories Rosamond (2000).

sovereignty and the subsidiarity principle. In this view, the European Council of Ministers, consisting of representatives from the member states, is seen as the main policy making body that cooperatively decides on common policies.<sup>3</sup>

There are many case-study testimonies that show that lobbying these national delegates acting in Brussels is an important activity for domestic pressure groups to influence EU decision making (e.g. Lanzalaco 1993, Spence 1993, Van Schendelen 1993, 1998). For example, Mazey and Richardson (1993) p211 note "...the growing importance of EC regulation has in many cases reinforced the dependency which exist at the national level between groups and 'their' ministries, since the latter are effectively *intermediaries* (original italics) between groups and the EC in the final stages of Community decision-making". Spence (1993) in his account of the role of the British civil service in Brussels goes a step further and calls national officials 'lobbied lobbyists'. Moreover, even if one would wish to lobby a truly European policy maker, many doubt that she actually exists.<sup>4</sup> For example, Pappi and Henning (1999) analyze networks in the Common Agricultural Policy (CAP), by many regarded as a supra-national policy domain *pur-sang*, and conclude that national farmer's organizations spend considerable resources to influence domestic policy makers acting in Brussels.

To analyze lobbying at the centralized level, we make use of the well explored Grossman-Helpman (1994, 2001) workhorse model. In this two-stage policy making game, in the first stage organized interest groups offer a credible and 'truthful' contribution schedules to the policy maker, where payment is contingent on the policy outcome. In the second stage of the game the policy maker decides on public goods provision. In equilibrium, the allocation of public goods is jointly efficiency for the policy maker and the lobby groups. Mitra (1999) extends the approach by endogenizing

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<sup>3</sup>A first objection to our view of the EU policy making process is that in the policy domains that deal with the supply local public goods (for example agriculture and cohesion policies) there is a strong role for the European Commission. However, this role is limited to policy initiation and implementation where approval is in the hands of the Council. A second objection to our set-up may be that there is qualified majority voting in the Council. However, for example Messerlin (2001) argues that unanimity also implicitly is the rule in policy domains where there is qualified majority voting, for member states anticipate that outvoting may cause veto's in unanimity domains. Moreover, among others, Hix (1999) argues that actual voting is a rare occasion in the Council, for all deals reflect a prefabricated policy packages. Arregui (2004) approaches this issue empirically and shows that EU policies reflects a balance between the initial policy preferences and positions of the member states. A more descriptive account of the cooperative nature of decision making in the Council is provided by Beyers and Dierickx (1998) and Beyers (1998).

<sup>4</sup>Many suppose that the European Commission act like the guardian of the European common interest. However, this may be doubtful as for instance *The Economist* notes on recent proposals to reform the European Commission: "In theory, these commissioners will think only of the European interest, yet the ferocity with which the smalls are demanding to keep their right to a national commissioner suggests otherwise". *The Economist*, *Tyranny of the tiny?*, January 23rd, 2003

lobby formation.

As in this paper, there is a growing number of contributions that tie legislative bargaining to lobbying.<sup>5</sup> Most papers analyze which politician is targeted to influence policy making. The choice who to lobby is largely determined by the legislative process that precedes policy outcomes. In the spirit of Shepsle and Weingast (1981), Helpman and Persson (2001) introduce an agenda setter to derive legislative equilibria. One of their results is that lobbying efforts are concentrated on this agenda setter. Another setting, explored in Grossman and Helpman (2001), is that majority voting causes lobbies to focus on the pivotal legislator. To extend the Persson and Tabellini (1994) analysis, Mazza and van Winden (2001) analyze the effects of checks and balances in federations. They develop a two-stage lobbying game where one policy maker sets the tax level and the other policy maker allocates local public goods. They show that lobbies may bind their own hands by first lobbying the tax setter for a low tax rate, so as to avoid overspending in the public goods allocation stage when they lobby the policy maker in charge of spending.<sup>6</sup> Our paper differs from these approaches, for we consider unanimous decision making. In our case all legislators are ‘veto players’ and thus pivotal.

A few papers discussed below deal explicitly with questions of centralization. However, in contrast to the papers on legislative bargaining and to this paper, they all assume that centralization entails policy making by a single politician. Redoano (2003) uses the citizen-candidate set-up by Besley and Coate (2001) to analyze the effects of centralization on lobbying in a representative democracy in which she allows for endogenous lobby formation. One of her results is that centralization may increase the number and size of lobbies, for more heterogeneous preferences in a federation makes lobbying more necessary. Bordignon et al. (2003) analyze lobbying for public goods by a local and a foreign firm in two jurisdictions where, as in this paper, they allow for lobbying in the decentralized case. Centralization of policy making internalizes the negative spill-over effects of subsidizing the local firm. Among other things, they show that centralization may enhance lobbying as competition among firms for policy favors increases. Bardhan and Mookherjee (2000) focus on relative capture of policy makers by special interests in a model that includes swing voters and conclude that

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<sup>5</sup>Various models of lobbying and legislative bargaining are surveyed in Grossman and Helpman (2001) and Persson and Tabellini (2000).

<sup>6</sup>In contrast to the papers that stress financial contributions, Bennesen and Feldmann (2002) consider the role of providing information by lobbying groups in influencing legislatures. In their paper, efforts by pressure groups signal the interest intensity of their policy maker, which increases her chances of being included in the policy making coalition.

the merits of policy centralization are a trade-off between greater accountability with decentralized policy making and more dispersion of interests with centralized policy making.

The remainder of the paper is organized as follows. In section 2 we introduce the model, determine the socially optimal spending on local public goods and analyze decentralized provision of public goods supply when the national policy maker is lobbied. Section 3 analyses centralized public goods provision and lobbying behavior when goods are supplied by a single, *supranational*, policy maker. Section 4 shows centralized public goods provision and lobbying behavior for *intergovernmental* cooperation among national policy makers. Section 5 analyzes the effect of enlargement on lobbying. Section 6 considers endogenous lobby formation. Finally, Section 7 offers concluding remarks.

## 2 Decentralized policy making

We consider two symmetric countries indexed by  $i$ , populated by  $n$  groups of citizens indexed by  $j$ . By assumption, in each country  $k$  of these groups are organized in a lobby and the citizens in the other  $n - k$  groups are not organized. In each country a policy maker can provide a public goods  $g^j$  to a group; for simplicity we assume that the policy maker provides public goods to organized groups only. As citizens within a group are assumed to be identical, group size is normalized to one. The utility from consuming public goods for each group is described by a utility function  $b(g)$  with derivative properties  $b_g > 0$ ,  $b_{gg} < 0$ , and  $b(0) = 0$ . The average and marginal cost of producing a unit of  $g$  are set at unity in terms of the private good. Public good production is financed by a lump sum tax  $t$  that is equal for all citizens in a country, so that the government budget constraint is  $\sum_{j=1}^n g^j = T$  where  $T = nt$ .

Organized groups can make a credible commitment to a contribution schedule  $c^j(g^j, g^{-j})$  that they offer to the policy maker. Here,  $g^{-j}$  denotes the public goods provided to other groups, for which members of group  $j$  have to pay taxes. Indirect utility for group  $j$  is then given by:

$$V^j = b(g^j) - \psi c^j(g^j, g^{-j}) + y - t \tag{1}$$

were  $y$  denotes income, which is equal for all citizens, so that the term  $y - t$  represents the utility from private goods consumption. The parameter  $\psi$  equals one if the group makes a contribution, and zero otherwise. Summing over all groups, the socially

optimal level of public good to group  $j$  satisfies:

$$b_g - 1 = 0. \quad (2)$$

In the following (2) serves as a benchmark against which to evaluate the legislative outcomes. Suppose that in the decentralized case each country is governed by a single policy maker whose objective function is given by:

$$V_i^P = \sum V_i^j + \alpha \sum_{k_i=1}^{k_1} c_i^k \quad (3)$$

The parameter  $\alpha$  measures the relative preference of the policy maker for the sum of contributions  $c_i^j$  that she receives from the  $k$  organized groups.

The second stage equilibrium involves finding the politically optimal provision of public goods to group  $j$ . For this, we need to specify lobbying behavior, although actual contributions themselves are determined in the first stage of the game. Following Bernheim and Whinston (1986), to avoid multiple equilibria, we require lobbying behavior to be ‘truthful’, so to reflect the marginal welfare gain (or loss) to group  $j$  from a change in public goods allocation. Making use of (1), it follows that these truthful contribution schedules have properties:

$$\frac{\partial c_i^k(g^k, g^{-k})}{\partial g^k} = \frac{\partial V_i^k}{\partial g^k} = \lambda_i^k b' - \frac{1}{n_i} > 0 \quad (4a)$$

$$\frac{\partial c_i^k(g^k, g^{-k})}{\partial g^{-k}} = \frac{\partial V_i^k}{\partial g^{-k}} = -\frac{1}{n_i} < 0 \quad (4b)$$

We assume that, within the relevant set of public goods supply, contributions are increasing in own public goods, for the marginal utility is higher than the tax cost to the group. Contributions are declining in public goods provision to other groups, as this raises the tax cost to the members of group  $j$ .

The policy maker maximizes (3), so that the politically optimal provision of  $g^j$  to an organized group satisfies:

$$\frac{\partial V^P}{\partial g^j} = (1 + \alpha) \left[ b_g - \frac{k}{n} \right] - \frac{n - k}{n} = 0 \quad \implies \quad b_g - \frac{n + \alpha k}{n + \alpha n} = 0 \quad (5)$$

When we compare (5) to the socially optimal allocation in (2), it is easy to see that there is overprovision of public goods when  $k < n$ . Further, when all groups in society are organized ( $k = n$ ), the allocation of public goods is socially optimal. The



intuition is that when all cost of public goods to group  $j$  are internalized and have equal weighting across groups, this results in the socially optimal provision of good  $j$ .

For later purpose, it will be useful to derive the change in public goods provision when more groups in society engage in lobbying. By using the implicit function theorem:

$$\left(\frac{dg^j}{dk}\right)^d = \frac{\alpha/(1+\alpha)n}{b_{gg}} < 0 \quad (6)$$

This makes clear that when more groups in society become organized, this reduces the public goods supply to each of them. The intuition is that with more lobbies there is stronger competition for public goods, so that the optimal supply of them to each lobby falls. The crucial point then is that, if supply of public goods is suboptimally high, an increase in the number of lobbies may well *improve* social welfare, for at the margin it reduces public goods supply to all organized groups. This is most clearly seen in the limiting case where all groups are organized and the supply of public goods is socially optimal.<sup>7</sup>

The equilibrium in the first stage is a contribution by each organized group (the principals) that leaves the policy maker (the agent) indifferent between the situation in which the group pays this contribution and the situation in which it does not, hence, a contribution that binds the agent's participation constraint in the relation with the interest group. To find the equilibrium contributions, suppose that a small fraction  $\Delta k$  of the  $n - k$  unorganized groups contemplates to form a lobby. To obtain public goods, the contribution from this group must make the policy maker indifferent between the situation in which the lobby contributes (denoted by the superscript  $l$ ) and the situation in which it does not ( $-l$ ):

$$(V^s)^l + \alpha k(c^{-j})^l + \alpha \Delta k(c^j)^l = (V^s)^{-l} + \alpha k(c^j)^{-l} \quad (7)$$

where social welfare is denoted by  $V^s = \sum_j V^j$  and  $c$  are contribution *levels*. The left hand side gives the pay-off to the policy maker in the case  $\Delta k$  contributes, and the right hand side denotes the pay-off in the case it does not. For a very small  $\Delta k \rightarrow 0$ , recognize that for each  $j$  truthfulness implies  $(c^j)^l - (c^j)^{-l} = (V^j)^l - (V^j)^{-l} = V_g^j$ , where  $V_g^j$  are the net marginal benefits of group  $j$  from a change in the allocation of public goods. The decentralized equilibrium contributions of each group are then

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<sup>7</sup>However, in this situation all groups are worse-off when compared to the situation where no group lobbies, for all groups have to pay contributions to the policy maker.

given by:

$$(c^j)^d = - \left( \frac{dg^j}{dk} \right)^d [(1 + \alpha)kV_g^{j \in k} + (n - k_i)V_g^{j \notin k}] \quad (8)$$

To explain, equilibrium contributions of a lobby must by the first term in square brackets compensate for the loss in welfare of the  $k$  organized groups, who are discounted by  $(1 + \alpha)$ . The reason is that, for  $\left(\frac{dg^j}{dk}\right)^d < 0$ , the public goods provided to the  $k$  groups decline for each additional lobby, which reduces these lobbies' welfare (as  $V_g > 0$ ) and, consequently their contributions (which adds the  $\alpha$ ). By the second term in brackets, if a small group in society enters the lobbying game, this lowers the public goods to the  $k$  lobbies, which in turn increases the welfare of the unorganized groups (as  $V^{j \in m} < 0$ ), and thus *reduces* the need to compensate to policy maker by making donations. For later purpose, we can re-write (8) as:

$$(c^j)^d = - \left( \frac{dg^k}{dk} \right)^d \left[ (1 + \alpha)k\left(b_g - \frac{1}{n}\right) + (n - k)\left(-\frac{1}{n}\right) \right] \quad (9)$$

where we have substituted (4a) and (4b) in (8).

### 3 Supranational policy

Suppose that two countries form a federation and appoint a single 'supranational' policy maker in the center to allocate public spending. For a large part, the intuition of this section with respect to lobbying resembles Persson and Tabellini (1994). We differ from their approach by allowing for lobbying in the decentralized policy making case, which provides some additional interesting insights. The Persson and Tabellini (1994) model can be interpreted as *public lobbying* by national policy makers on behalf of all citizens in their country, for they assume that there is no common pool problem of public spending in the decentralized case. Hence, in their paper, centralization *induces* lobbying, which drives a large part of their results. In our paper, where we allow for lobbying in the decentralized policy making case, comparing the outcomes of federal to decentralized policy making then shows the effects when national special interests shift their activities away from the local policy maker towards the supranational policy maker.

The supranational policy maker's objective is to maximize the sum of social welfare

of the two countries and the contributions from all lobby groups:

$$V_c^p = V_1^s + V_2^s + \alpha \left[ \sum_{j=1}^{k_1} c_1^j + \sum_{j=1}^{k_2} c_2^j \right] \quad (10)$$

The cost of public goods supply to groups in country  $i$  are now shared with the citizens in the other country, which from the perspective of the organized group changes the marginal tax cost of public goods for their members. Truthful contribution schedules are described by:

$$\frac{\partial c_i^j(g^j, g^{-j})}{\partial g^j} = \frac{\partial V_i^j}{\partial g^j} = b_g - \frac{1}{2n} > 0 \quad (11a)$$

$$\frac{\partial c_i^j(g^j, g^{-j})}{\partial g^{-j}} = \frac{\partial V_i^j}{\partial g^{-j}} = -\frac{1}{2n} < 0 \quad (11b)$$

When compared to the decentralized case, the net marginal benefits of public good are larger. Hence, lobbies offer a more ‘aggressive’ contribution schedule that raises the rewards for an additional unit of public goods when compared to decentralized policy making, and punish her stronger for a reduction. In contrast, from (11b) it is clear that, now that tax cost are shared, each lobby cares less for public good provision to other groups in the federation. Therefore, the policy maker is punished less severely for providing public goods to rivaling groups when compared to decentralized policy making.

Using the truthful contribution schedules, the first-order condition for the politically optimal supply in the second stage satisfies:

$$\frac{\partial V_c^p}{\partial g^j} = (1 + \alpha) \left[ b_g - \frac{k_1 + k_2}{n_1 + n_2} \right] + (n_1 + n_2 - k_1 - k_2) \left( -\frac{1}{n_1 + n_2} \right) = 0 \quad (12)$$

which can be re-written as:

$$b_g - \frac{n_1 + n_2 + \alpha k_1 + \alpha k_2}{n_1 + n_2 + \alpha(n_1 + n_2)} = 0 \quad (13)$$

Clearly, in the symmetric equilibrium ( $n_1 = n_2$  and  $k_1 = k_2$ ), comparison to the decentralized provision of public goods in (5) shows that centralization does not change public goods provision. The intuition is that, for in the symmetric case centralization does not alter the *share* of organized groups in society, the *marginal* political opportunity cost of providing a unit of  $g^k$  in the center in terms of lower social welfare and a

loss in contributions from all other groups equals that of national policy maker. Also, recognize that when in one of the countries a larger number of groups is organized, centralization increases public goods supply in that country and reduces it in the other country.<sup>8</sup>

To determine contributions in the first stage of the game, it will prove useful to know what happens when the number of organized groups in country  $i$  increases. By using the implicit function theorem we find that for  $n_1 = n_2$ :

$$\left(\frac{dg^j}{dk_i}\right)^c = \frac{1}{2} \frac{\alpha/(1+\alpha)(n_i)}{b_{gg}} < 0 \quad (14)$$

When we compare to the decentralized case in (6), an increase in the number of organized groups in country  $i$  has only half the effect on public goods provision to other groups. The reason is that the tax pool at the centralized level is twice as large, so that an increase in the number of lobbies in one of the countries provides less of an incentive for the policy maker in the center to reduce public goods supply to the organized groups when compared to the decentralized case.

To find the contributions of the organized groups, recall that the contributions leave the policy maker indifferent between the allocation in which the lobby does and the one in which the group does not contribute. Hence, for a group of size  $\Delta k$  in country one:

$$(V^s)^l + \alpha k_1 (c_1^{-j})^l + \alpha \Delta k_1 (c_1^j)^l + \alpha k_2 (c_2^{-j})^l = (V^s)^{-l} + \alpha k_1 (c_i^{-j})^{-l} + \alpha k_2 (c_2^{-j})^{-l} \quad (15)$$

Again making use of the truthfulness condition, contributions are:

$$(c_i^k)^{supra} = - \left(\frac{dg^j}{dk_i}\right)^c \left[ (1+\alpha)(2k_i)(b' - \frac{1}{2n_i}) + 2(n_i - k_i)(-\frac{1}{2n_i}) \right] \quad (16)$$

Recognizing that  $\left(\frac{dg^k}{dk_i}\right)^c = \frac{1}{2} \left(\frac{dg^k}{dk_i}\right)^d$  we can now compare centralized contributions to those in the decentralized case:

$$(c^j)^{supra} = \overbrace{-\frac{1}{2} \left(\frac{dg^j}{dk_i}\right)^d}^A \left[ \overbrace{(1+\alpha)(2k_i)(b_g - \frac{1}{2n_i})}^B + \overbrace{2(n_i - k_i)(-\frac{1}{2n_i})}^C \right] \overbrace{\quad}^D \quad (\text{Centralized})$$

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<sup>8</sup>This result can also be found in Brou and Ruta (2003).

$$(c^j)^{dec} = - \left( \frac{dg^k}{dk_i} \right)^d \left[ (1 + \alpha)(k_i)(b_g - \frac{1}{n_i}) + (n_i - k_i)(-\frac{1}{n_i}) \right] \quad (\text{Decentralized})$$

To facilitate the discussion, in the centralized equation the partial effects are isolated by letters. Part *A* is the *common pool effect*. It shows that, for the tax cost of providing public goods to group  $k$  can be shared among two countries, this reduces the payments for each lobby when compared to decentralized policy making. Hence, the policy maker has an stronger incentive to provide public goods to each lobby. Part *B* is the *interest dilution effect*: at the center each lobby is opposed by more lobbies, which raises the contributions for obtaining public goods. Third, part *C* is the *lobby incentive effect*. As the tax cost of public goods are shared with citizens in the other country, this increases the net benefits of public goods to member of a lobby. Hence, this increases contributions, as opposing lobbies will more fiercely oppose entry of additional lobbies. Part *D* is the *tax cost effect*. Clearly, centralization does not alter the share of unorganized citizens and their payments for public goods. However, due to the common pool effect, an additional lobby has smaller tax saving effect when compared to decentralized policy making. Hence, this raises the payments for each lobby.

Taking the four effects together shows that centralization increases lobbying expenditures. The main reason is the lobby incentive effect. Consider a national politician who is appointed as policy maker in the center and who contemplates providing public goods to a domestic lobby. For a her, the common pool effect and the preference dilution effect cancel out, as she realizes that supporting a domestic lobby reduces contributions from foreign lobbies. However, each new pressure group and the policy maker know that all present groups in the center have a stronger incentive to oppose an additional lobby. This raises the equilibrium contributions for all lobbies.<sup>9</sup>

The overall conclusion is that in the symmetric country case supranational centralization does not alter public goods allocation.<sup>10</sup> However, centralization does increase lobbying expenditures. How does this stand up to the EU experience? Among others, Vaubel (1994a, 1994b) shows that budgetary redistribution did increase in the first years of the establishment of the EU. However, this is often attributed to the initial economic bargain of establishing the EU itself. In this view, Germany gained from

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<sup>9</sup>One objection to the result may be that, as  $n$  is very large, lobbies do not take the tax cost for their members into account when offering contributions to the policy maker. In that case, clearly there is no incentive effect of centralization.

<sup>10</sup>Bardhan and Mookherjee (2000) qualitatively have the same result in a two-party electoral competition set-up. In their model, when districts are identical, parties announce equal policy positions in local and federal elections.

market integration, whereas the France was ‘compensated’ for this by a large share of the Common Agricultural Policy funds and Italy and Greece through the Cohesion funds. Harrop (2004) shows that after these initial years structural spending in the EU has remained constant as a share of GDP. Moreover, even though the new member states in Central Europe are much poorer than the existing ones, enlargement will not increase the EU budget as a share of GDP. Moreover, Wildasin (1990) argues that centralized spending by the EU may have crowded out national spending, leaving total spending unaltered. Hence, it is difficult to draw clear conclusions on the overall provision of public goods in the EU, when increased supply from the center is not analyzed relative to spending by the member states.

The same conclusion may be true for lobbying, although the analysis is hampered by a lack of hard data on EU lobbying strategies and expenditures. There are many accounts, including the ones mentioned in the introduction, that note a rise in lobbying in Brussels. However, the net effect of centralization of policy making in the EU is ambiguous, for the increase may reflect lobbies who shift their activities from the member states to the EU, it may be the presence of new lobbies, or, in the spirit of this section, national lobbies who fight harder in Brussels than they previously did in their national capitals.

## 4 Intergovernmental policy

In this section we introduce joint policy making by two national politicians, to which we refer as ‘intergovernmental’ policy making. Again, the two countries form a union which centrally taxes citizens to finance national public goods. In contrast to the previous section, the allocation of public goods is decided in a bargain among the two policy makers. When, as in our model, both sides are fully informed about the costs and benefits of public goods provision, most models predict that the allocation has the property of Pareto efficiency (for the players) and, in the case when policy makers are identical, that there are equal payoffs to both policy makers. Thus, for Pareto efficiency the central bargaining outcome maximizes:

$$V^c = V_1^s + \alpha_1 \sum_{k_1=1}^{k_1} c_1^k + V_2^s + \alpha_2 \sum_{k_2=1}^{k_2} c_2^k \quad (17)$$

Note that this objective function closely resembles the one of a single supranational policy maker. The only difference is that we may allow for a different weighting of contributions by the policy makers. Clearly, due to the common pool externality

associated with common financing of public goods, truthful contribution schedules again have to satisfy (11a) and (11b). Maximizing with respect to  $g_i^j$  then gives:

$$b_g - \frac{n_1 + n_2 + \alpha_1 k_1 + \alpha_2 k_2}{n_1 + n_2 + \alpha_1 n_1 + \alpha_2 n_2} = 0 \quad (18)$$

In the symmetric case  $g_i^j$  resembles the level supplied under supranational policy making (and decentralized policy making). If one of the policy makers cares more for contributions, the public goods supply to organized groups in the country with the most ‘corruptible’ policy maker increases and decreases in the other country.

To determine equilibrium contributions, we focus on the symmetric case for  $n$ ,  $k$  and  $\alpha$ . Here, we assume that each policy maker can only be lobbied by organized groups in her home country. One justification for this assumption may be that it is prohibitively costly for a lobby to obtain support from a foreign policy maker. In contrast to the home policy maker, the foreign policy maker does not care for the welfare of this group. Hence, this assumption implies that for the relevant set of contribution in the first stage of the game, the marginal effectiveness of promising the home policy maker an additional Euro is higher than promising the additional Euro to the foreign policy maker. In the symmetric equilibrium this clearly is satisfied.<sup>11</sup>

The crucial difference when compared to supranational policy making then is that, when evaluating offers from organized groups in an intergovernmental setting, each national policy maker only cares for the change in contributions from the home organized groups and for the welfare of the citizens in the home country. Using the same procedure as above, equilibrium contributions are:

$$(c_i^k)^{inter} = -\frac{1}{2} \left( \frac{dg^j}{dk_i} \right)^d \left[ (1 + \alpha)(k_i) \left( b_g - \frac{1}{2n_i} \right) + (n_i - k_i) \left( -\frac{1}{2n_i} \right) \right] \quad (19)$$

where the superscript *inter* denotes intergovernmental policy making.

When compared to the decentralized case described by (9), the common pool effect raises the incentives for the national policy maker to cater to national lobbies, which reduces lobbying expenditures. Second, however, the lobby incentive is larger, which raises expenditures. Clearly, as the increase in lobby incentive is a second-order effect, both effects together reduce lobbying expenditures. Counterbalancing is that the common pool causes the tax cost effect of an additional lobby the fall.

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<sup>11</sup>Prat and Rustichini (2003) analyze a lobbying game where policy makers are indifferent to the source of contributions.

The intuition is that, as tax cost are shared among countries, establishment of an additional domestic lobby has lower tax saving effect for non-organized citizens. This last effect raises lobbying expenditures, as the increase in competition among lobby groups is less "profitable" for the policy maker in terms of reducing public goods.

Clearly, the number of organized interest groups determines which effect dominates. To see this, suppose that only a very small fraction of the population is organized so that  $k$  is close to zero. Then, the first term in brackets in (9) and in (19) is close to zero and the effect of centralization is dominated by the tax saving effect. Hence, centralization raises lobbying expenditures, as the establishment of an additional lobby has a lower tax savings effect when compared to decentralized policy making. In contrast, when  $k$  is large, centralization causes lobbying expenditures to fall. The reason is that the common pool reduces the concerns of many opposing domestic lobbies with respect to the public good supplied to the marginal lobby. Consequently, these lobbies punish the national policy maker less severely for supplying public goods to the marginal lobby. Hence, anticipating this, the marginal lobby can reduce spending.

Comparing contributions to the supranational case described by (16), it is easy to see which forces reduce lobbying expenditures. The main driver is that for a domestic policy maker the common pool effect is not balanced by the dilution effect, as the domestic policy maker does not care for the welfare of and contributions by lobbies in the other country. Hence, from her point of view, the common pool simply makes public goods provision to national interest-groups less costly in terms of national social welfare. However, this change in the relative price of policy favors for the domestic policy maker is anticipated by the lobbies, who reduce their contributions accordingly.

By the second term within brackets, the national policy maker considers tax saving effects for domestic citizens only, where a policy maker in the center considers tax payers in both countries. Hence, the marginal lobby has a lower tax saving effect for the domestic policy maker, which raises contributions when compared to supranational policy making.

Concluding, the biggest contrast between the two modes of centralization is that intergovernmental policy making may reduce lobby expenditures, whereas supranational centralization increases lobbying expenditures. Further, in contrast to other studies, we have shown that centralization does not alter the supply of public goods and, hence, leaves the tax rate unaltered. For a somewhat looser interpretation, as both modes of centralization result in the same level of public goods supply, the differences in welfare net of contributions solely depend on the cost of influencing policy. With supranational policy making, these cost increase, resulting in a welfare loss for



society. The policy maker herself benefits from the increased competition among lobby groups. The reason is that lobbies have a stronger incentive to oppose other groups, which raises contributions to all of them. Hence, ex ante lobbies would commit to decentralized policy making, so as to bind their own hands not to increase lobbying. In contrast, with intergovernmental centralization lobby cost fall, resulting in a net welfare gain. The intuition is that centralization increases political competition *between policy makers* to obtain public goods for their constituency. This competition reduces lobbying expenditures for all lobbies without having any effect on public goods, which improves social welfare.

## 5 Enlargement

Over time the EU has taken up many new members, and the potential social welfare effects of enlargement are well documented elsewhere (see, among others, Baldwin et al. 1996). Analyzing the political effects of enlargement, a major concern is the loss of efficiency of the legislative process when policies are formulated on an intergovernmental basis. The reason is that taking up more members increases the transaction costs of policy making, for consensus among the member states is more difficult to achieve.<sup>12</sup> Many commentators thus argue that the role of supranational institutions in the policy making process should be enhanced.

In this section we abstract from the transaction cost effect of enlargement and instead ask how enlargement affects the efficiency of public goods provision and lobbying behavior. Suppose that a Union consists of  $m$  symmetrical countries. Clearly, both modes of centralization result in the same supply of public goods to each lobby, described by the first order condition:

$$\lambda^k b'_i - \frac{1}{m} \frac{mn_i + (m-1)\alpha k_{-i}}{(1+\alpha)n_i} - \frac{1}{m} \frac{\alpha k_i}{(1+\alpha)n_i} = 0 \quad (20)$$

In the symmetric equilibrium where  $k_i = k_{-i}$ , public goods supply will equal that of

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<sup>12</sup>Steunenbergh (2001) notes that, when taking up countries in Central Europe, these risks are limited, for policy preferences of these new member states are not further from the core than those of the present member states. However, as the new member states are relatively poor, funds will shift, leaving present member states worse-off. Kandogan (2000) argues that this creates incentives for present members to change voting rules, so as to prevent new members from obtaining more public goods in the future. Heinemann (2003) shows that this is just what happened in the Treaty of Nice.

the previous sections. From the implicit function theorem it follows that

$$\left(\frac{dg^k}{dk_i}\right)^c = \frac{1}{m} \frac{\alpha/(1+\alpha)(n_i)}{\lambda^k b''} = \frac{1}{m} \left(\frac{dg^k}{dk_i}\right)^d < 0 \quad (21)$$

which shows that in larger unions a change in the number of organized groups in country  $i$  has a lower effect on public goods supply. The reason is that the centralized tax pool is larger, so that an increase in public goods to a newly organized group has a lower effect on the optimal public goods supply to others lobbies.

In the first stage of the game, depending on institutional framework of decision making in the center, lobbying expenditures are described by

$$(c_i^k)^{\text{supra}} = -\frac{1}{m} \left(\frac{dg^k}{dk_i}\right)^d \left[ (1+\alpha)(mk_i)(b_g - \frac{1}{mn_i}) + m(n_i - k_i)(-\frac{1}{mn_i}) \right] \quad (22a)$$

$$(c_i^k)^{\text{inter}} = -\frac{1}{m} \left(\frac{dg^k}{dk_i}\right)^d \left[ (1+\alpha)(k_i)(b_g - \frac{1}{mn_i}) + (n_i - k_i)(-\frac{1}{mn_i}) \right] \quad (22b)$$

The crucial differences between the two institutional set-up's is that with intergovernmental policy making an additional lobby in country  $i$  only has to compensate it's national policy maker for the loss of contributions, which is  $1/m$  the amount of groups that a single policy maker faces. For a sufficiently high number of  $k_i$  it can be shown that enlargement with intergovernmental policy making reduces lobbying expenditures for all lobby groups. The reason is that, for tax cost are shared with more countries, from the viewpoint of the national policy maker the optimal level of public goods to the organized groups is increasing in the number of countries that are member of the Union. Intuitively, as the national policy maker has a stronger incentive to provide centrally financed local public goods from a domestic social welfare perspective, the national lobbies anticipate this and reduce their contribution promises accordingly.

The analysis in this section provides for an argument against the common view that enlargement should be followed by more supranational policy making, including more majority voting. Our argument is that enlargement enhances competition among national policy makers for local public goods, which increases their willingness to provide favors to national special-interest groups. This willingness of national policy makers comes at no cost to tax payers, for bargaining in the center ensures that there is no increase in overall spending on public goods. A main benefit to society from enlargement is that it increases competition among policy makers, which reduces the funds and effort needed to influence national policy makers.

## 6 Endogenous lobby formation

So far we have treated the number of organized groups as exogenous. Following Mitra (1999), this section extends by determining the number of lobbies endogenously. By doing so, we are able measure lobbying intensity by the size of contributions and by number of groups that give them.

Consider policy formation as a three stage game. The second and third stage are equal to the two stages in the previous sections, but now they are preceded by a first stage in which members of a group decide to become engaged in lobbying. The equilibrium in this stage describes how many groups become organized. To determine which groups organize, a first step is to introduce heterogeneity among groups. A natural way to do this is to assume that fixed organization cost  $f_i$  differ between groups. Let the groups in country  $i$  be ranked in ascending order by these fixed costs, such that  $f_i^{\min} < f_i^1 < \lambda_i^2 \dots < f_i^k < \dots < f_i^{\max}$ , which means that  $f'_i(n_i) > 0$  for a continuum of groups. Groups engage in lobbying when the pay-off is larger than when the group remains unorganized. In the decentralized case, for group  $i$  this condition is fulfilled when

$$b(g^k)^l - t_i - c_i^k(g^k, g^{-k}) - f_i > b(g_i^k)^{-l} - t_{-i} \quad (23)$$

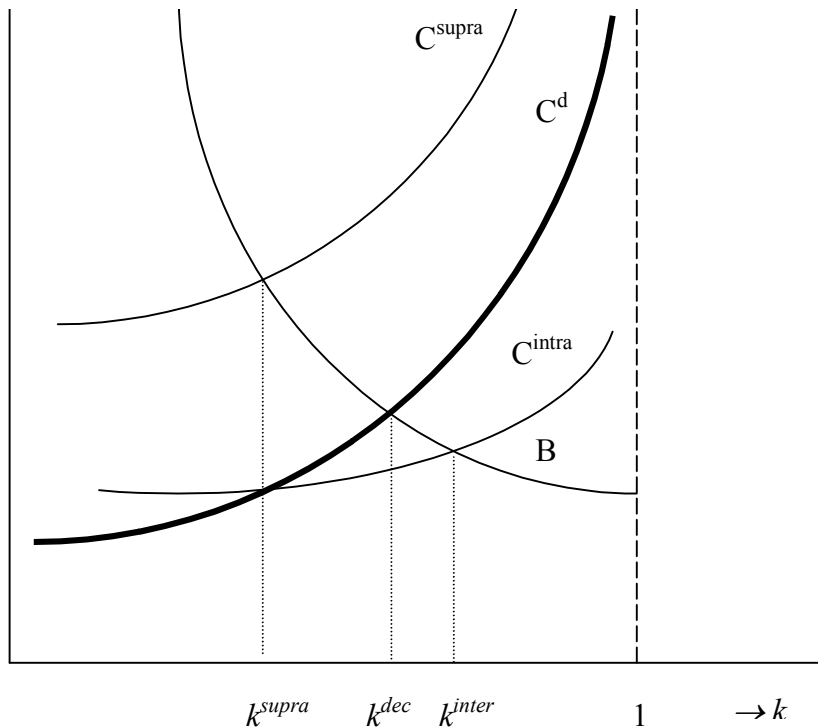
where  $c_i^k(g^k, g^{-k})$  is described by (9).

To facilitate a graphical exposition below, suppose that  $n_i = 1$ , so that  $k_i$  describes the share of the population that is organized in lobbies. To endogenously determine  $k_i$ , we ask how the incentive to form a lobby is influenced by the share of the population that is organized. In the following, we make the simplifying assumption that the contemplating group is small, so that it's entry does not affect the tax cost for society and the group itself. Clearly, the benefits of organizing are decreasing in the level of interest organization as  $b_g \frac{dg^k}{dk} < 0$ . The intuition is that as  $k$  increases, each lobby receives less public goods, which makes it less attractive to organize a lobby.

Focussing on lobby costs, as can be seen in (9), when a larger share of groups in society is organized, entering the lobbying arena requires more funds, as the policy maker has to be compensated for a higher loss in contribution from competing lobbies. Moreover, the marginal lobby has higher fixed costs than previously organized groups. Hence, the cost of lobbying are increasing in the share of society that is organized in lobbies.

The implications of endogenizing lobby formation can be appreciated with the aid of figure 1, which shows the benefitscurve  $B$ , and the cost curves  $C$  for the various

Figure 1: Endogenous lobby formation



cases discussed above.

Decentralized policy making induces a  $k^{dec}$  share of groups in society to become organized. In equilibrium, all lobbies except the marginal one make a profit by becoming organized. Because lobbies are heterogenous in their fixed cost only, difference in gross profit levels do not affect lobbying behavior.

For the symmetric case let  $k$  also represent the share of groups that is organized in the Union. We have established that the supply of public goods is independent of the institutional setting in which policy making takes place, hence, the marginal benefits curve  $B$  is equal across these settings.<sup>13</sup> Also, assume that the policy making setting does not influence the fixed costs of lobbying such that also  $f'(k)$  is equal across setting. As was shown in Section 3, supranational policy making increases the cost of lobbying, which shifts the cost curve upwards to  $C^{supra}$ . Consequently, the equilibrium number of lobbies decreases to  $k^{supra}$ , as less groups find the rewards in terms of public goods sufficient to cover the fixed cost of organization and contributions involved in influencing decision making. Hence, supranational centralization increases lobbying

<sup>13</sup>Note that for the Union as a whole  $\frac{dq^k}{dk}$  is also equal to the decentralized policy making case.

contributions for each group, which reduces the number of lobbies.

For a sufficiently high number of  $k$ , the opposite happens for intergovernmental policy making. In the absence of preference dilution, the common pool effect reduces contributions. Thus, centralization makes lobbying profitable for a larger number of groups in society, which raises the share of interest involvement to  $k^{inter}$ .

A natural question to ask is whether centralization increases total lobbying expenditures in society when lobby formation is endogenous. In both cases, there are opposing forces, which makes the net effect of centralization ambiguous. With supranational centralization, the number of lobbies declines, but each lobby spends more. With intergovernmental centralization, the number of lobbies increases, however, each spends less.

In determining the net effect of centralization on total lobbying expenditures the slope of the benefits curve plays a crucial role. As can be seen in (6), the more policy makers value contributions relative to social welfare (a higher  $\alpha$ ), the steeper is the benefits curve. The intuition is that policy makers with high  $\alpha$ 's *dislike* giving public goods to present lobbies more, as this reduces the amount of contributions from new lobby groups. If the policy maker cares much for these new contributions, the increase in competition among lobbies makes her reduce public goods to all lobbies more than a policy maker would do who cares little for contributions.

For higher levels of  $\alpha$ , supranational centralization results in more spending by special interest groups. The reason is that, now that the policy maker is faced with weaker competition among lobbies, she will raise public goods strongly, so as to increase contributions from the remaining lobbies. However, this creates stronger incentive for each existing lobby to stay in the game which, consequently, results in a limited exit of lobbies.

The opposite happens with intergovernmental centralization. Joint policy making by national politicians reduces contributions, which increases the incentives for lobby organization. When the policy maker cares much for contributions, each additional lobby strongly reduces public goods, as competition among lobbies to oppose each others public goods intensifies. This provides for weaker incentives for lobby formation. Hence, there is limited entry of new groups in the lobbying game. Consequently, total lobby expenditures in society decline.

When policy makers care much for social welfare, intergovernmental centralization may increase total lobbying expenditures. For each policy maker, the common pool effect reduces the cost of providing public goods to national lobbies. This in turn reduces cost, which provides stronger incentives to organize a lobby. When the

policy maker is only marginally concerned with how public goods for these new lobbies affect contributions from existing lobbies, entry does not significantly lower the supply of public goods to present groups, and thus does not erode the incentives for lobby formation. Hence, many new lobbies form and total lobbying expenditure may increase.

As for public goods, an increase in lobby formation -  $k$  approaches  $n$ - moves public goods supply to each group to the socially optimal level. In that case, supranational centralization reduces the efficiency in public goods supply, as the center is captured *more* by financially powerful lobbies than local government. The reason is that centralization makes lobbying more competitive and thus more costly, reducing the number of competitors in the game that compete for the same tax base. Hence, this increases the public goods supply to each of them.

With intergovernmental centralization, the efficiency in public goods supply increases, for competition among lobby groups *through* the legislative process intensifies. As newly entered lobbies oppose public goods to other groups, supply decreases and moves towards the socially optimal level.<sup>14</sup>

## 7 Concluding remarks

In this paper we have studied the relation between legislative bargaining in the center of a federation and lobbying. Our main message is that when decisions at the central level are made by consensus bargaining among national officials, centralization may cause lobbying expenditures to fall. The reason is that the common pool increases the incentives for national policy makers to stand up for domestic special interest groups, which in turn reduces the equilibrium contribution for domestic lobbies. Further, we have argued that enlargement magnifies the common pool problem. Hence, the cost of lobbying fall as national policy makers become even more instrumental to special interest groups. This effects may arise for existing members of the union, but is expected to be particularly large for new members who move from national policy making into a large union. Lastly, the paper has argued that centralization changes the incentives for lobby formation.

Our main objective has been to contribute to the discussion on the effects of centralization of policy making in the European Union. However, clearly our paper is

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<sup>14</sup>However, this conclusion rests on the assumption that there is no public goods supply to unorganized groups. When unorganized groups also receive public goods -of which supply is lower than socially optimal- entry would reduce public goods to these unorganized groups, which results in a lower level of social welfare.

also related to the debate on the merits of centralization itself. Traditionally, most normative studies have used as a basing point Oates (1972) and argue that the choice between decentralized and centralized decision making involves a trade-off between preference heterogeneity and internalization of policy externalities. Recently, development economist have used political economics models to study how centralization affects the corruptibility of policy makers (e.g. Bardhan and Mookherjee 2000). As informally argued by Prud'homme (1994), local policy makers are more exposed to powerful local lobbies. In the Madisonian tradition, centralization dilutes these local interest and, hence, reduces corruption. However, an argument against this stance is that centralization makes individual policy makers less accountable, which increases corruptibility. This last position is supported by Fisman and Gatti (2002) who in a cross-country study show that centralization is associated with higher levels of corruption. Hence, in the current debate on institutional reform in developing countries centralization, there seems to be a tendency in favor of promoting decentralized policy making.

This paper contributes to this debate by providing a more general treatment on the conditions and institutional frameworks under which centralization of policy making may increase the corruptibility of policy makers. In our paper centralization changes the relative political price of favors to special interest groups. In addition to the other contributions, it translates these incentive effects into lobbying behavior and formation, facilitating a more general conclusion on the merits of centralization.

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