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THE ALLOCATION OF COMPETENCIES IN AN INTERNATIONAL UNION: A POSITIVE ANALYSIS

BY MICHELE RUTA

April 2003

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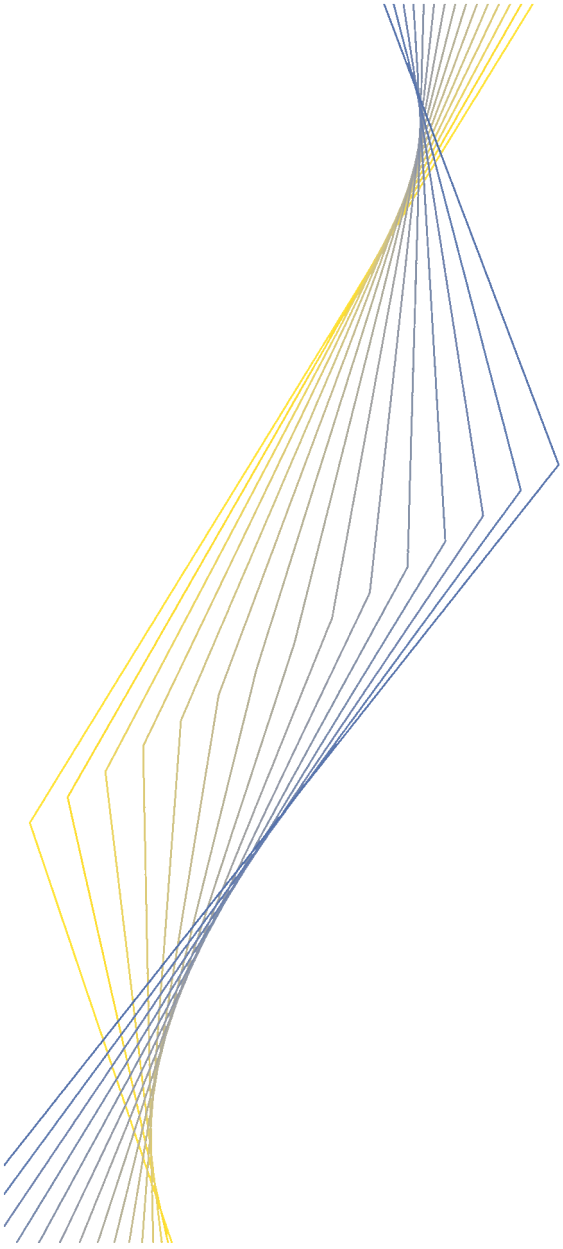

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THE ALLOCATION OF COMPETENCIES IN AN INTERNATIONAL UNION: A POSITIVE ANALYSIS[1]

BY MICHELE RUTA[2]

April 2003

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Abstract

This paper presents a positive theory of centralization of political decisions in an international union. My central claim is that lobbies play a role in determining the assignment of competencies to the union because their power of influence can increase or decrease under centralization. I show that in this setting a misallocation of prerogatives between the international union and national governments can be an outcome, both leading to excessive decentralization and/or non necessary centralization. This result reconciles a partial inconsistency that recent studies pointed out between the allocation of prerogatives in the EU and normative criteria, as laid out in the theoretical literature.

Keywords: Political Economy, International Unions, Fiscal Federalism, Lobbying.

JEL Classifications: F02, D72, H77, P16.

Non-technical summary

This paper studies a novel aspect of the political economy of fiscal federalism. More specifically, it addresses the question of how lobbying activity affects the equilibrium allocation of competencies between the union authorities and national governments in an international union. The analysis is built on, and further develops, the Olsonian idea of a link between jurisdictional integration – that is, the shift to an international institution of the right to take relevant economic policy decisions – and the power of organized interest groups.

Special interests attempt to distort the constitutional decision on the allocation of prerogatives in an international union because they correctly perceive that their power – i.e. their ability of influencing policy outcomes – changes when a competency is delegated to the union authorities (i.e. when the competency is centralized). The paper studies two channels that explain why jurisdictional integration matters for organized groups. First centralization creates (or increases) competition for influence between national lobbies. Second, delegation of a prerogative to the union authority changes the mechanism through which decisions are taken. Special interests lobby to induce centralization (decentralization) if their influence on policy decisions increases (decreases) when the policy is delegated to the union.

The main result is that in this setting a misallocation of prerogatives between the union authorities and national governments can be an outcome of the political game, if governments are sufficiently responsive to lobbying activity. More precisely, policies that on normative grounds should be delegated to the union authorities (mainly because of the existence of relevant cross-border spillovers) could be maintained at a national level – *bias toward excessive decentralization.* On the other hand, prerogatives that according to normative criteria should be assigned to national governments could be centralized in the hands of the union authorities – *bias toward non necessary centralization.*

This result helps to explain a partial inconsistency that recent empirical studies highlight between the resulting allocation of competencies in the European Union and normative criteria concerning the assignment of policies to different levels of government.

1 Introduction

Political economists define an international union as a group of countries that decide together certain policies. A largely debated "constitutional" issue is the proper allocation of competencies between national governments and the international union. In other words, a key normative question concerns the identification of policy domains that should be decentralized (i.e. remain at the national level) and of policy areas that should be centralized (i.e. delegated to the international union authorities). Well known examples are the ongoing debates over the competencies of the European Union (EU) and the proper scope of the World Trade Organization (WTO).[1]

The literature on fiscal federalism deals with the economic efficiency of the attribution of prerogatives to different levels of government and therefore provides the ideal benchmark for a normative analysis.[2] Oates' (1972) famous Decentralization Theorem states that policies characterized by high cross border spillovers and low heterogeneity of preferences for different districts should be centralized, while the provision of all other services should be decentralized. Recent articles by Alesina, Angeloni and Etro (2001) and Besley and Coate (2000) confirm this result in a political economy analysis that explicitly formalizes how decisions are taken at the local and the central level.

Alesina, Angeloni and Schuknecht (2001) contrast this normative benchmark with a set of indicators that measure the role of the EU in different policy areas. Interestingly, they find that there is a partial inconsistency between the resulting allocation of competencies to the EU and the Oates' (1972) normative criteria. In particular, their data suggest that the EU is active in areas where cross border spillovers are low (mainly agriculture) and that its intervention is too limited in policy domains characterized by large spillovers and low heterogeneity of preferences (in particular defense, foreign relations and environmental policy).

This paper departs from this inconsistency between theory and evidence and provides a positive theory of centralization of political decisions in an international union.[3] More precisely, the aim of this work is to show that a misallocation of competencies between the international union and national governments can arise as a result of a political equilibrium with lobbying.

The key idea that I want to put forward is that organized interest groups play a role in determining the assignment of prerogatives to an international union.[4] My central claim is that the influence that special interests can exert on policy outcomes (loosely speaking, the "power" of lobbies) depends on which political authorities - national or supranational - decide the policy.

[1] From an economic perspective a useful reference for the ongoing debate on the EU is Tabellini (2002), while for the WTO see Bagwell and Staiger (2002).

[2] A recent survey of fiscal federalism is in Oates (1999).

[3] Therefore, in contrast to most of the literature on the assignment of prerogatives to different levels of government, this paper adopts a positive rather than a normative approach. A similar approach is in Cremer and Palfrey (1996).

[4] This idea finds support in historical records for the EU (see Moravcsik (1998)).

This idea is only partly new. Olson (1982) first observed that there exists a link between jurisdictional integration - "*the shift to a new institution of the right to take at least some important decisions in economic policy*" - and the power of organized interest groups. However, he argued that the assignment of competencies to the international union authorities always reduces the influence of lobbies.[5]

In this paper I build a model to study the allocation of a competency between an international union and national governments in a setting in which lobbies affect policies as well as the constitutional stage (i.e. the centralization/decentralization decision).[6] The economic framework employed excludes from consideration efficiency issues related to centralization. International spillovers and differences in national preferences, key elements of a normative approach, are not modeled because they would confound the pure effects of lobbying on the equilibrium allocation of the competency.

I analyze two levels of government: national (i.e. decentralized) and union (i.e. centralized). Under centralization, common authorities set the policy for the entire political union. These common authorities are modeled as a supranational (union) government, directly elected by the union voters, or as an international legislature formed by national governments (union council). These are extreme and opposite institutional environments: real world institutions are likely to be somewhere in between these two settings.

At the constitutional stage, member governments of the international union vote to maintain the exclusive competence over a certain policy or to delegate it to the union. Special interests lobby to induce centralization (decentralization) if their power increases (decreases) when the policy is assigned to the international union.[7] If the policy is decentralized, the interaction of national special interests and national governments determines equilibrium policies. If the policy is centralized, national lobbies can compete to influence the union authorities or can collude (i.e. national special interests can merge to form an international lobby). The interaction of competing national special interests or, in alternative, of an international lobby and the international union authorities determines equilibrium policies in the centralized policy areas (see figure 2).

I identify two channels that explain why special interests play a role in determining the allocation of a competency in an international union, possibly creating distortions (i.e. excessive decentralization and/or non necessary centralization). First, if national lobbies do not manage to coordinate their lobbying activities, a *bias toward excessive decentralization* is likely to emerge

[5] A similar argument is in Buchanan (1991).

[6] I employ as a benchmark a framework largely used to explain special interests politics in modern democracies that was first developed by Grossman and Helpman (1994). See Grossman and Helpman (2001) for a recent survey of the literature. In a companion paper, Brou and Ruta (2002) use a similar framework to study the enlargement of an international union.

[7] There is one key difference between this story and the one of Olson (1982). In Olson's view the assignment of competencies to the international union needs always to be explained with exogenous events because centralization always reduces the influence of lobbies. Instead, an interesting implication of this work is precisely that special interests might lead the process of centralization when they benefit from it.

regardless of the international union institutional arrangement (i.e. the policy is decentralized both under union government or union council) for sufficiently strict voting rules at the constitutional stage. The reason is that centralization of the competency in the hands of a union government creates competition between national special interests and, therefore, decreases the effectiveness of weak lobbies to distort policies to their advantage. When the policy is assigned to a union council, national lobbies are even worse off: only the special interest in the agenda setting country is effectively able to distort the policy to its advantage.

Second, when interest groups coordinate their lobbying activities by forming an international lobby, a *bias toward excessive centralization* is likely to emerge, if governments are sufficiently responsive to political pressures. The reason is that, if the policy is assigned to a union council, an international lobby finds it easier to affect decisions because it only needs to influence the agenda setter and a majority of governments in the union. In the alternative institutional setting (centralized policy assigned to a union government), the international lobby is just equally able to distort the policy under both centralization and decentralization and is, therefore, indifferent.

The paper is organized as follows. Section 2 presents a model of public spending. Section 3 characterizes equilibrium policies in the presence of lobbying activity in a decentralized setting. In section 4 I turn to study the allocation of public spending under centralization, assuming that lobbies compete to influence the union authorities. I extend these results in section 5, in which national interest groups are allowed to cooperate for influence. Section 6 deals with the choice of policy delegation to the union, while section 7 discusses issues of enlargement and centralization of prerogatives. The concluding section summarizes the main findings.

2 The model

I model a society where the government uses a common pool of tax revenues to provide public spending, the benefits of which are concentrated to well defined groups of citizens.[8] Other policy instruments, such as tariffs, environmental standards, regulations, etc., can be modeled in a similar way.

There are two levels of government: public spending allocations and taxes can be decided at the national level or at an international union level. The union is defined as a supranational jurisdiction, formed by I countries (indexed by $i = 1, ..., I$), that takes decisions on centralized policies through common authorities. Member countries are assumed to have same size N and same per-capita income y.

In each country i there are two groups of citizens indexed by $j = \{l, n\}$, where l stands for lobby and n for non organized. Each group j has mass N^j with $\sum_j N^j = N$.[9] A lobby is defined

[8] The framework for this application of special interest politics to public spending is due to Persson (1998).

[9] Therefore the size of the lobby is the same in each country. This is a minor assumption that simplifies the algebra

as an organized interest group that can take political actions to influence the government to its advantage.[10] All individuals in group j are identical and have the same preferences, given by the quasi-linear utility function:

$$w_i^j = c_i^j + H\left(g_i^j\right) \tag{1}$$

where c_i^j is consumption of the private good in country i and g_i^j is per-capita public spending that benefits each individual belonging to group j in country i in the same way. The function $H(.)$ is increasing and concave, therefore $H_g > 0$ and $H_{gg} < 0$, with $H(0) = 0$. Underlying this utility function there is the assumption that public spending in one country has no spillover effects on other countries' government spending.[11]

Countries in the union can choose to centralize public spending. Centralization implies that the governments cede the right to choose the overall amount and the allocation of public spending to the union authorities. Under decentralization, this power remains in the hands of national governments.

Before describing the implications of lobbying activity, it is worth thinking for a moment about optimality. The question is: should the union decide over this policy or not? The answer depends on the effect of centralization on the union social welfare.

2.1 Social optimum

In a decentralized setting, a social planner chooses public spending in order to maximize national social welfare. This corresponds to solving the following problem:

$$\max_{g_i} \sum_j N_i^j w_i^j \tag{2}$$

subject to the national resource constraint

$$\sum_j N_i^j \left(g_i^j + c_i^j\right) = Ny \tag{3}$$

where $g_i \equiv \left(g_i^l, g_i^n\right)$ is the vector of policies in country i and w_i^j is given by equation 1.

The first-order conditions of the decentralized problem are:

$$H_g\left(g_{iD}^{j*}\right) = 1 \tag{4}$$

without changing the results.

[10] I assume that the lobby was able to overcome the free riding problem implicit in collective action highlighted by Olson (1965).

[11] Alesina, Angeloni and Etro (2001) study a model in which public spending has cross-border spillovers effects.

Where $g^*_{iD} \equiv \left(g^{l*}_{iD}, g^{n*}_{iD}\right)$ is the optimal allocation vector of per-capita public spending in country i under decentralization. The marginal benefit of the representative agent in each group equals the marginal cost of unity. The members of each group receive an "amount" of public spending that gives them the same marginal benefit as the members of any other group.

In a centralized setting, a social planner chooses public spending in order to maximize the overall union social welfare. This corresponds to solving the following problem:

$$\max_{g_C} \sum_i \sum_j N_i^j w_i^j \tag{5}$$

subject to the union resource constraint

$$\sum_i \sum_j N_i^j \left(g_i^j + c_i^j\right) = INy \tag{6}$$

where in this case the vector of policies is given by $g_C \equiv \left(g_1^l, g_{1,\ldots,}^n g_I^l, g_I^n\right)$.

The first-order conditions of the centralized problem are:

$$H_g\left(g_{iC}^{j*}\right) = 1 \tag{7}$$

Where $g^*_{iC} \equiv \left(g^{l*}_{iC}, g^{n*}_{iC}\right)$ is the optimal allocation vector of per-capita public spending in country i under centralization.

Equations 4 and 7 imply that equilibrium policies in the centralized and in the decentralized setting do not differ when a social planner (supranational or national) maximizes overall welfare. In other words, absent cross border spillovers, there is no argument in favor (or against) centralization.

In a world of benevolent policy makers (or where there are no lobbies that try to affect policy outcomes), if both the union authorities and the national governments can always differentiate public spending for different groups, all outcomes are Pareto optimal. Therefore, the economic model excludes from consideration efficiency issues related to centralization. The reason for this formalization is to isolate the pure effects of lobbying on the equilibrium allocation of a competency in an international union.

The next section specifies how interest groups enter the political process.

2.2 The political game

Special interest groups take political actions to influence policy outcomes to their advantage. Lobbies have an interest in affecting what an international union does because their power (i.e. the influence they have on policy outcomes) varies when a policy is centralized.

Incumbent governments care about social welfare, but are willing to pay some attention to what interest groups want because the political support of lobbies can increase their chance of

being reelected. As a result, there exists a tension between the politicians' interest in social welfare and political support from lobbies. This tension always causes a distortion in equilibrium policy outcomes and might lead to misallocations in the distribution of prerogatives between different levels of government in an international union.

The political game has two main stages (see figure 1). At a constitutional stage, the governments of member countries meet to vote on centralization. In a second stage, if centralization is accepted, the union authority decides the policy for the entire international union. If centralization is rejected, national governments independently choose public spending.

Lobbies can enter both stages of the political game. Before each decision is taken, special interest groups lobby their own government by offering political support. Political support consists of "actions" that special interests promise to take contingent on governments' decisions. These "actions" span from contributions for the campaign of the incumbent government, as emphasized by Grossman and Helpman (1994), to the direct effort to influence other voters' opinion through the media or through other means of influence.[12] A key assumption is that a national interest group cannot affect decisions of a government of a different country.[13]

Information is perfect and complete. The game is solved by backward induction and, therefore, the solution needs to be subgame perfect.

In the next sections I derive the equilibrium allocations of public spending under decentralization and under centralization. Then, I move to consider the stage where national governments vote on centralization.

3 Decentralization

When the policy is decentralized each national government chooses independently the size and the allocation of public spending to the two groups: the lobby and the unorganized citizens. A similar problem has been already studied in the literature, for example by Grossman and Helpman (2001). The basic framework has the structure of a principal-agent problem, in which the principal (the lobby) offers an incentive scheme (the political support function) to the agent (the government).

The objective function of the organized interest group is

[12] The excessive emphasis that part of the literature poses on monetary contributions leads some economists to think that lobbying is not very relevant when contributions are low. Instead, I argue that lobbying might be still very relevant because of the connections that special interests have with the media. The logic is the same, but this approach seems more appealing to explain the source of the "power" of lobbies.

[13] This is clearly plausible if we think of lobbies as offering political support in the form of effort to influence voters. However, some economists -see for exemple Krishna, Gawande and Robbins (2002)- have argued that foreign special interests can choose to pay contributions to a national government. Even if true, this argument does not change the qualitative results of the following analysis provided that for a foreign interest group is more expansive to lobby a government than for national special interests.

$$u_i^l = w_i^l(g) - p_i(g) \tag{8}$$

where $w_i^l(g)$ is given by equation 1 and $p_i(g)$ is the Political Support Function that gives for every vector of public spending g the effort in support of the government of each member of the lobby. Note that under decentralization the objective function of the national special interest is defined only over the national policy vector (i.e. $g \equiv g_i$), while under centralization preferences are defined over the union policy vector (i.e. $g \equiv g_C$).

The political support can consist of contributions to the government's campaign or effort to influence other voters' opinion through the media or other means. Political support enters negatively in the utility of the lobby for two reasons. In the case of contributions, because money that are spent to influence the government cannot be used to buy the private good. Secondly, time employed to obtain access to the media or to convince other voters reduces available time to produce income that could be spent to consume the private good.

The national government sets g_i so as to maximize a weighted sum of social welfare and political support from the lobby:

$$w_i^{GOV}(g_i, P_i) = \eta w_i^S(g_i) + (1-\eta) P_i\left(g_i, N^l, \alpha_i^l\right) \tag{9}$$

where $w_i^S(g_i) = \sum_j N^j w_i^j(g_i)$ is social welfare in country i, $\eta \in [0,1]$ is a measure of government benevolence and $P_i\left(g_i, N^l, \alpha_i^l\right)$ is overall political support from lobby l that depends on the budget allocations chosen by the government and on two parameters: the number of people in the lobby (N^l) and the "power" of the lobby (α_i^l). More precisely, α_i^l measures the access that the special interest has to the media or its organizational abilities to influence through public debates and other means (such as public protests) the electorate or the connections with politicians. I assume the following specific form for this function:

$$P_i\left(g_i, N^l, \alpha_i^l\right) = \alpha_i^l N^l p_i(g_i) \tag{10}$$

For a given level of per-member political support $p_i(g_i)$, overall political influence is bigger, the larger the number of people in lobbying activity and the greater the power of the special interest group.

Under decentralization, the lobby's problem of designing an optimal incentive scheme $p_i(.)$ can be written as

$$\max_{g_i, p_i(.)} u_i^l = w_i^l(g_i) - p_i(g_i)$$

subject to

$$t_i N = \sum_j N_i^j g_i^j \tag{11}$$

$$w_i^{GOV}\left(g_i, P_i\left(g_i\right)\right) \geq w_i^{GOV}\left(g_{iD}^*, P_i = 0\right) \tag{12}$$

$$w_i^{GOV}\left(g_i, P_i\left(g_i\right)\right) \geq w_i^{GOV}\left(g_i^{'}, P_i\left(g_i^{'}\right)\right) \forall g_i^{'} \neq g_i \tag{13}$$

where conditions 11, 12 and 13 are respectively the national budget constraint, the government participation and incentive compatibility constraints. The first simply tells us that public spending is financed by lump sum taxation, where the national tax rate $t_i \in (0, y)$ is residually determined. The second imposes that the government must receive at least the level of utility that it can obtain when it refuses political support from the lobby and chooses the social optimum under decentralization (g_{iD}^*). The last constraint implies that the government will find it optimal to choose the action that the lobby wants to induce.

The solution to this problem $\widetilde{g}_{iD} \equiv \left(\widetilde{g}_{iD}^l, \widetilde{g}_{iD}^n\right)$ is such that the government participation constraint is binding. However, there is a multiplicity of political support functions such that the incentive compatibility constraint holds (i.e. such that $\widetilde{g}_{iD}$ is an optimal choice of budget allocations for the government). Following Grossman and Helpman (1994 and 2001) and Bernheim and Whinston (1986), I consider a particular type of political support functions (defined as truthful) that have the following form

$$p_i\left(g_i, b_i\right) = \max\left[0, w_i^l\left(g\right) - b_i\right] \tag{14}$$

where b_i is a constant that is set optimally by the lobby.[14] Truthful political support functions allow to reformulate the problem as follows

$$\max_{g_i}\left\{\eta w_i^S\left(g_i\right) + \left(1-\eta\right)\alpha_i^l N^l w_i^l\left(g_i\right)\right\}$$

subject to equation 11.[15]

Maximizing we get the first-order conditions that define the equilibrium allocations in a decentralized setting:

[14] Truthful political support functions imply that the political support from the lobby reflects for every policy level the true preferences of the interest group ($\frac{\partial p_i(g_i,b_i)}{\partial g_i^j} = \frac{\partial w_i^l(g_i)}{\partial g_i^j}$ everywhere). For a more detailed discussion of the properties of truthful functions see Bernheim and Whinston (1986).

[15] To show that the two problems are equivalent when political support functions are truthful, we need to prove that $\widetilde{g}_{iD}$ (i.e. the solution to the agency problem) is such that $\widetilde{g}_{iD} = \arg\max\left\{\eta N^n w_i^n\left(g_i\right) + \left[\eta + \left(1-\eta\right)\alpha_i^l\right] N^l w_i^l\left(g_i\right)\right\}$.

From the government incentive compatibility constraint (condition 13) $\eta w_i^S\left(\widetilde{g}_{iD}\right) + \left(1-\eta\right)\alpha_i^l N^l p_i\left(\widetilde{g}_{iD}\right) \geq \eta w_i^S\left(g_i\right) + \left(1-\eta\right)\alpha_i^l N^l p_i\left(g_i\right) \forall g_i \neq \widetilde{g}_{iD}$. Moreover from truthful political support functions $p_i\left(\widetilde{g}_{iD}\right) = w_i^l\left(\widetilde{g}_{iD}\right) - \widetilde{b}_i$ implies $p_i\left(g_i\right) \geq w_i^l\left(g_i\right) - \widetilde{b}_i$. The proof is completed by using this last condition into the incentive compatibility constraint.

$$H_g\left(\widetilde{g}_{iD}^l\right) = \frac{\eta + (1-\eta)\,\alpha_i^l N^l/N}{\eta + (1-\eta)\,\alpha_i^l} \leq 1 \tag{15}$$

$$H_g\left(\widetilde{g}_{iD}^n\right) = \frac{\eta + (1-\eta)\,\alpha_i^l N^l/N}{\eta} \geq 1 \tag{16}$$

Equilibrium policies under decentralization are given by $(\widetilde{g}_D^i, \widetilde{t}_i)$, $i \in I$, where $\widetilde{t}_i$ is derived residually from the national government budget constraint (equation 11).

Results can be summarized in the following:

Proposition 1 *When a lobby is organized to influence the government, (1). The equilibrium allocation of public spending is socially optimal ($\widetilde{g}_{iD}^l = \widetilde{g}_{iD}^n = g_{iD}^*$), i) if $\eta = 1$ (i.e. the national government is fully benevolent); ii) if $N_i^l = 0$ (i.e. nobody is in the lobby); iii) if $N_i^l = N$ (i.e. everybody is in the lobby); iv) if $\alpha_i^l = 0$ (i.e. the lobby has no power to influence the electorate). (2). The lobby gets more and the unorganized citizens get less public spending relative to the social optimum ($\widetilde{g}_{iD}^l \geq g_{iD}^* \geq \widetilde{g}_{iD}^n$). (3). Public spending that the lobby receives is increasing in its power (α_i^l) and decreasing in government benevolence (η).*

Proof. 1. It can be deduced from direct inspection of equations 15 and 16.

2. From the first order conditions note that $H_g\left(\widetilde{g}_{iD}^l\right) \leq H_g\left(\widetilde{g}_{iD}^n\right)$ and recall the assumptions on $H(.)$.

3. Applying the implicit function theorem to equation 15, get $\frac{d\widetilde{g}_{iD}^l}{d\alpha_i^l} > 0$ and $\frac{d\widetilde{g}_{iD}^l}{d\eta} < 0$. ■

Similar results have been largely discussed in the literature (see Persson and Tabellini (2000) and Brou and Ruta (2002)) and there is no need to further comment on them. Lobbying activity distorts policies in favor of the organized group and against the unorganized. The only difference here compared to previous contributions is to highlight the role played by the power of a special interest. Predictably, the distortion created by lobbying is positively related with the power of the lobby α_i^l.

The last step to fully characterize the equilibrium under decentralization is to calculate the equilibrium political support for each member of the lobby. This is given by the following equation:[16]

$$\widetilde{p}_i = \frac{\eta}{(1-\eta)\,\alpha_i^l N^l}\left[w_i^S\left(g_{iD}^*\right) - w_i^S\left(\widetilde{g}_{iD}\right)\right] \tag{17}$$

Equilibrium political support needs to compensate the government for a fraction of the loss in social welfare created by lobbying activity (just substitute equation 17 into 10). The reason is that the government, when choosing policies that favor the lobby, needs to be at least as better off as in the case in which it chooses the social optimum (see equation 12).

The next section studies what determines equilibrium policies under centralization.

[16] See the appendix.

4 Centralization with competing lobbies

When a policy is centralized, national governments cede the right to choose it to the political authorities of the international union. Centralization has some relevant consequences for lobbies. As it has been noted by several economists, mainly Olson (1982), under centralization lobbies that used to be monopolists at home have to compete with organized special interests coming from other countries. This is likely to increase the cost of influence. On the other hand, centralization also opens new opportunities for powerful lobbies. The reason is that, through the international union institutions, national interest groups in one country can affect policies in other countries. More specifically, a lobby in a country could receive public spending from a larger pool of resources (i.e. the union budget constraint). I will highlight this aspect that was neglected by previous contributions on the political economy of fiscal federalism.

As a benchmark I consider the case in which the international union works as a supranational government directly elected by the union voters. I turn then to study the case in which political decisions in the international union are taken by a union council - formed by national governments - that works as an international legislature. Clearly, a union government and a union council represent two opposite and extreme institutional settings: real world political institutions of international unions are going to be somewhere in between these extremes.[17]

This section does not take into account the possibility that national special interests coordinate their lobbying activity in an international union. I allow for this extension in the next section. Figure 2 summarizes the possible interactions under centralization between lobbying behavior and union authorities.

4.1 Union government

A government is democratically elected by the citizens of the international union to decide on public spending for the entire union. The union government cares about overall social welfare and the political support of organized special interests that can increase its chance of being reelected. Its objective function is similar to the one assumed for national governments (equation 9)

$$w_U^{GOV}\left(g_C, P_i\right) = \eta w_U^S + (1-\eta)\sum_i P_i\left(g_C, N^l, \alpha_i^l\right) \tag{18}$$

where $w_U^S = \sum_i \sum_j N^j w_i^j\left(g_C\right)$ is the union social welfare and $P_i\left(g_C, N^l, \alpha_i^l\right)$ is political support from the lobby in country i and it is given by equation 10.[18] Under centralization preferences and political support are defined over the union policy vector g_C. The reason is that each group is

[17] In fact, this is the case for EU institutions. See Nugent (1999).

[18] I am assuming that the union government has the same degree of benevolence as all the member governments of the union. Brou and Ruta (2002) have a discussion of this assumption.

indirectly affected - i.e. through taxation - by the public spending that other groups in any country of the union receive.

The framework now has the structure of a common agency problem in which several principals (the national lobbies) offer an incentive scheme (the political support function) to a common agent (the union government).[19]

Every national lobby faces a problem close to the one seen under decentralization (equations 8-13). There are two main differences. First, all special interests non cooperatively and simultaneously present the union government a commitment of political support contingent on the chosen policy, while observing the political support schedules of the other lobbies. Second, the union government chooses public spending for the entire union.

As before, assuming truthful political support functions, there is an equivalent maximization problem in which the union government chooses public spending to

$$\max_{g_C} \left\{ \eta w_U^n \left(g_C \right) + \left(1 - \eta \right) \sum_i \alpha_i^l N^l w_i^l \left(g_C \right) \right\} \tag{19}$$

subject to

$$t_C IN = \sum_i \sum_j N^j g_i^j \tag{20}$$

where t_C is the union lump sum tax rate.

The first-order conditions that define the equilibrium allocations in a centralized setting are the following:

$$H_g \left(\widetilde{g}_{iC}^l \right) = \frac{\eta + \left(1 - \eta \right) \left(N^l / N \right) \sum_i \alpha_i^l / I}{\eta + \left(1 - \eta \right) \alpha_i^l} \lesseqgtr 1 \tag{21}$$

$$H_g \left(\widetilde{g}_{iC}^n \right) = \frac{\eta + \left(1 - \eta \right) \left(N^l / N \right) \sum_i \alpha_i^l / I}{\eta} \geq 1 \tag{22}$$

Equilibrium policies under centralization are given by $(\widetilde{g}_C, \widetilde{t}_C)$, where $\widetilde{g}_C \equiv \left(\widetilde{g}_{1C}^l, \widetilde{g}_{1C}^n, ..., \widetilde{g}_{IC}^l, \widetilde{g}_{IC}^n \right)$ and $\widetilde{t}_C$ is derived residually from the union government budget constraint (equation 20).

The following results can be easily proved:

Proposition 2 *When lobbies compete to influence the union government, (1). The equilibrium allocation of public spending is socially optimal* ($\widetilde{g}_{iC}^l = \widetilde{g}_{iC}^n = g_{iC}^* \ \forall i$)*, i) if* $\eta = 1$ *(i.e. the union government is fully benevolent); ii) if* $N^l = 0$ *(i.e. nobody is in the lobby); iii) if* $\alpha_i^l = 0 \ \forall i \in I$

[19] Persson and Tabellini (2000) deal with a similar problem that applies the framework of Bernheim and Whinston (1986) and Grossman and Helpman (1994) to local public goods provision.

(i.e. no lobby has power to influence the electorate). (2). Public spending that each lobby receives is increasing in the power of the lobby (α_i^l) and decreasing in government benevolence (η).

Proof. 1. It can be deduced from direct inspection of equations 21 and 22.

2. Applying the implicit function theorem to equation 21, get $\frac{d\widetilde{g}_{iC}^l}{d\alpha_i^l} > 0$ and $\frac{d\widetilde{g}_{iC}^l}{d\eta} < 0$. ■

It is worth to emphasize the results that differ from decentralization. First, not all special interests are able to effectively distort the centralized policy. Certain lobbies (i.e. those with $\alpha_i^l > (N^l/N)\sum_i \alpha_i^l/I)$ will manage to influence the union government to their advantage at the expenses of unorganized citizens (as it is the case under decentralization) and of less powerful lobbies.

The difference with the decentralized equilibrium clearly emerges when all citizens have their interests represented by lobbies ($N^l = N$). In this special case, while under decentralization equilibrium policies mimic the social optimum, the allocation of public spending chosen by the union government is still distorted. The reason is that, when lobbies compete for influence, their power relative to other national special interests determines the pattern of public spending within the union. In other words, even if everybody is lobbying in the union, groups do not perfectly offset each other, because the union government cares more about the powerful special interests and less about the others.

Some authors, as Buchanan (1991) and Olson (1982), have argued that the assignment of a competency to an international union can reduce overall distortions.[20] However, this does not follow from this reasoning, unless we assume that the union government is more benevolent (i.e. higher η) or if the power of national special interests decreases under centralization (i.e. each α_i^l is scaled down to $\alpha_i^l - \varepsilon_i$). As equations 21 and 22 show, it is not clear if we are moving toward or away from the social optimum.

Simple inspection of equations 15, 16, 21 and 22 suggests that powerful lobbies (i.e. those with $\alpha_i^l > \sum_i \alpha_i^l/I$) benefit from centralization while weak national special interests (i.e. those with $\alpha_i^l < \sum_i \alpha_i^l/I$) benefit from decentralization. The former are able to exert more power under centralization, the latter experience a reduction in their political influence when dealing with a union government.[21] Similarly, unorganized groups in countries where lobbies are strong (weak) are as well better off (worse off) under centralization. Intuitively, this is because the average power of special interests in the union is lower (higher), accordingly the extent to which unorganized

[20] A related issue is Becker's (1983) argument on the efficiency of competition between interest groups. See also Dixit, Grossman and Helpman (1997). The difference here is that centralization not only creates competition among pressure groups, but also increases the size of the budget and therefore the possibilities for organized groups to distort public spending. The overall effect on efficiency is therefore ambiguos.

[21] Note that even assuming that each national lobby is less able to influence the union government (compared to the national government), this result still holds for values of ε_i not too large. The reason is that what really matters is the relative power of a national special interest compared to its foreign counterparts.

citizens' interests are taken into account by a semi-benevolent government is increased (decreased). This result is summarized in the following

Proposition 3 *When lobbies compete to influence the union government, (1). Powerful lobbies (with* $\alpha_i^l > \sum_i \alpha_i^l/I$*) get more public spending under centralization than under decentralization* $(\widetilde{g}_{iC}^l > \widetilde{g}_{iD}^l)$*; (2). Weak lobbies (with* $\alpha_i^l < \sum_i \alpha_i^l/I$*) get less public spending under centralization than under decentralization* $(\widetilde{g}_{iC}^l < \widetilde{g}_{iD}^l)$*; (3). Unorganized groups in countries where lobbies are powerful (weak) get more (less) public spending under centralization than under decentralization.*

Proof. 1. From the first order conditions 21 and 15, $\alpha_i^l > \sum_i \alpha_i^l/I \Rightarrow H_g\left(\widetilde{g}_{iC}^l\right) < H_g\left(\widetilde{g}_{iD}^l\right)$. From concavity of $H(.)$ follows $\widetilde{g}_{iC}^l > \widetilde{g}_{iD}^l$. Point 2. is proved in the same way.

3. From the first order conditions 22 and 16, $\alpha_i^l > \sum_i \alpha_i^l/I \Rightarrow H_g\left(\widetilde{g}_{iC}^n\right) < H_g\left(\widetilde{g}_{iD}^n\right)$. From concavity of $H(.)$ follows $\widetilde{g}_{iC}^n > \widetilde{g}_{iD}^n$. Similarly we get the result for unorganized people in countries where lobbies are weak. ■

The central feature is that a national interest group cannot influence policy decisions to its advantage in other countries when the policy is decentralized, but it can influence the policy process under centralization. Powerful national special interests (i.e. those groups that are more effective in influencing the union government) benefit from centralization, while weak lobbies are hurt from the loss of their monopolistic influence on their national government.

The last step is to calculate equilibrium political support that each member of a national special interest has to provide to the union government:[22]

$$\widetilde{p}_i = \frac{1}{(1-\eta)\, N^l \alpha_i^l} \left\{ \eta \left[w_U^S\left(\widetilde{g}_C^{-i}\right) - w_U^S\left(\widetilde{g}_C\right) \right] + (1-\eta)\, N^l \sum_{j \neq i} \alpha_j^l \left[w_j^l\left(\widetilde{g}_C^{-i}\right) - w_j^l\left(\widetilde{g}_C\right) \right] \right\} \qquad (23)$$

Where $\widetilde{g}_C^{-i}$ is the equilibrium vector of public spending when the national lobby of country i chooses not to support the union government. The interpretation of this equation is the following. In order to induce the union government to change its policy to favor the special interest in country i, lobby i needs to compensate the government for a fraction of the loss in overall (i.e. union) social welfare and the loss in welfare of the other special interests. Therefore each lobby pays more the lower its political power (i.e. the smaller α_i^l) and the higher the political power of its rivals (i.e. the larger α_j^l for $j \neq i$).

A comparison of equations 17 and 23 is not immediate. However, when a policy is centralized, competition between opposing national special interests is likely to induce them to increase their effort (or contributions) to support the incumbent government. For our purposes, what really matters is that weak special interests, not only receive less public spending when a policy is centralized, but they also have to increase their effort to influence the government.

[22] See the appendix.

4.2 Union council

The working of an international union can be quite far from the one depicted in the previous subsection. Very often national governments take directly decisions on policies that have been centralized in an "intergovernmental" way. In this model this means that member governments meet in an ad hoc body, the union council, and vote on the allocation of public spending between groups in the union.[23]

Helpman and Persson (1998) provide a model that deals with the interaction of lobbies and a legislature. Their framework can be applied to study how equilibrium policies under centralization are determined by a union council.[24]

The timing of the game is the following. First, some exogenous institutional rule decides which government is the agenda setter (for example it could be a different government every six months). The agenda setter has the power to make a take-it-or-leave-it proposal. Second, each national lobby presents to its government a political support function. The lobby in the agenda setting country makes its support to the government contingent on the proposal. Interest groups in any other country make their support contingent on the vote that their government casts in the union council. Last the council votes on the proposal. If it receives a majority of votes in favor, the proposal is adopted. Otherwise, a default policy with a minimal amount of public spending is implemented.

Consider first the agenda setter's problem. The government with agenda setting power formulates a proposal to

$$\max_{g_C} w_a^{GOV}(g_C, P_a) = \eta w_a^S(g_C) + (1-\eta) P_a\left(g_C, \alpha^l, N^l\right)$$

subject to the union budget constraint (equation 20) and

$$w_M^{GOV}(g_C, P_M(g_C)) \geq w_M^{GOV}(\overline{g}_C, P_M(\overline{g}_C)) \tag{24}$$

Where the subscript a indicates the agenda setting country. Condition 24 is a participation constraint for a majority of governments (i.e. under simple majority $M = \frac{I-1}{2}$) and $\overline{g}_C$ is the vector of default public spending that is undertaken when the proposal of the agenda setter is rejected by the council.

To solve the agenda setter's maximization problem, let's start from the non agenda setting countries' participation constraints (conditions 24). The agenda setter wants to satisfy these conditions with equality to maximize its utility. Therefore, it will set policies so that:

[23] The so called "community method" adopted in several policy domains by the EU - that involves in the decision making process the European Commission and the European Parliament as well as the European Council of Ministers - is somewhere in between a union government and a union council.

[24] This discussion follows Persson and Tabellini (2000).

i) A majority of governments is not worse off under the proposal

$$w_M^{GOV}\left(\widetilde{g}_C, P_M\left(\widetilde{g}_C\right)\right) = w_M^{GOV}(\overline{g}_C, P_M\left(\overline{g}_C\right)) \tag{25}$$

ii) Lobbies in the majority will have no incentive to influence their governments to vote against the proposal

$$w_M^l\left(\widetilde{g}_C\right) = w_M^l(\overline{g}_C) \tag{26}$$

iii) All other groups receive no public spending

$$\widetilde{g}_{i \neq MC} = 0 \tag{27}$$

A majority of governments are indifferent to vote in favor or against the agenda setter's proposal. What could make a difference is the political support of national lobbies. However, if national special interests engage in a costly lobbying activity to induce a rejection, they only obtain a lower utility. Consequently, interest groups in member countries different from the agenda setter will not put any effort in influencing the vote in the council and the agenda setter's proposal will be accepted.

The last step is to describe the maximization problem of the lobby in the agenda setting country. This special interest is a principal that chooses the incentive scheme (i.e. political support) for its own government to

$$\max_{g, p_a(.)} u_a^l = w_a^l\left(g_C\right) - p_a\left(g_C\right)$$

subject to equations 20, 25, 26, 27 and

$$w_a^{GOV}\left(g_C, P_a\left(g_C\right)\right) \geq w_a^{GOV}(g_C^*, P_a = 0) \tag{28}$$

$$w_a^{GOV}\left(g_C, P_a\left(g\right)\right) \geq w_a^{GOV}(g_{C'}, P_a\left(g_{C'}\right)) \forall g_{C'} \neq g_C \tag{29}$$

Where conditions 28 and 29 are respectively the agenda setter's participation and incentive compatibility constraints.[25] The lobby in the agenda setting country faces a problem similar to the one described under decentralization, with only one difference: now the budget is larger because taxes are collected in the entire union and only a small fraction of public spending needs to be devoted to "buy" the vote of a majority of governments.

[25] Now g_C^* is the optimal value of the public spending allocations for the agenda setting government. Note, however, that the agenda setter does not freely dispose of the entire union budget, because it has to "buy" the votes of a majority of governments

The first-order conditions that define the equilibrium allocations in the agenda setting country are:

$$H_g\left(\widetilde{g}^l_{aC}\right) = \frac{\eta/I + (1-\eta)\,\alpha^l_a N^l/IN}{\eta + (1-\eta)\,\alpha^l_a} \leq 1 \tag{30}$$

$$H_g\left(\widetilde{g}^n_{aC}\right) = \frac{\eta/I + (1-\eta)\,\alpha^l_a N^l/IN}{\eta} \lesseqgtr 1 \tag{31}$$

Several results are summarized in the following

Proposition 4 *When national lobbies compete to influence the union council, (1). The equilibrium allocation of public spending is never socially optimal. (2). The lobby and the unorganized in the agenda setting country receive more public spending under centralization than under decentralization (i.e.* $\widetilde{g}^l_{aC} > \widetilde{g}^l_{aD}$ *and* $\widetilde{g}^n_{aC} > \widetilde{g}^n_{aD}$*). (3). The lobbies and the unorganized in all other countries receive less public spending under centralization than under decentralization (*$\widetilde{g}^l_{i\neq aC} < \widetilde{g}^l_{i\neq aD}$ *and* $\widetilde{g}^n_{i\neq aC} < \widetilde{g}^n_{i\neq aD}$*).*

As in Helpman and Persson (1998), an extreme allocation with very large distortions emerges when national lobbies influence the council: the agenda setting government allocates a large part of the union public spending between the lobby and the unorganized citizens of its country. All groups in countries different from the agenda setter are clearly worse off if the policy is centralized and assigned to the union council because they have to pay taxes to finance the union budget but receive no or little public spending.

Equilibrium political support for the lobby in the agenda setting country is given by

$$\widetilde{p}_a = \frac{\eta}{(1-\eta)\,\alpha^l_i N^l}\left[w^S_a\left(g^*_{aC}\right) - w^S_a\left(\widetilde{g}_{aC}\right)\right] \tag{32}$$

All other special interests do not want to influence their governments, because by so doing they only reduce their utility without affecting equilibrium allocations. Accordingly $\widetilde{p}_i = 0\ \forall i \neq a$.

This framework is useful to study how lobbying affects the political process in international unions precisely because it represents an extreme situation. The presence of other political actors that represent supranational interests in the decision mechanism of the union and/or the adoption of rules less restrictive than the one here described are likely to moderate extreme outcomes. A part of the political economics literature focuses on such safeguards (see Persson and Tabellini (2000)). Here my attention goes in a different direction: national lobbies coordinate their activities, by so doing they avoid undesired outcomes when a council is taking decisions. This is going to be the focus of the next section.

5 Centralization with colluding lobbies

Many national interest groups have managed to coordinate their lobbying activity on international authorities and on national governments by forming international lobbies. For example, available data suggest that in the EU there are around 975 of these international special interests.[26]

The advantages of coordinating national lobbying activities are evident. First, it potentially reduces the cost of influence. Second, it allows national lobbies to affect decisions of the international union authority whatever the institutional setting of the union is.

For simplicity in this section I add the assumption that all national interest groups have the same power (i.e. $\alpha_i^l = \alpha^l \ \forall i \in I$), so that national lobbies are fully symmetric. I define an international lobby as an organization of national special interests that has the following objective function

$$u_{INT}^l = \sum_i u_i^l \tag{33}$$

where u_i^l is given by equation 8.

The first issue to consider should be under what conditions an international lobby will be formed. I set this issue aside and simply assume that such an international lobby exists.[27]

In the next two subsections I study how the interaction of the union authorities and this international special interest group distorts equilibrium policies in the union both in the case in which the union has a supranational government and in the case in which the union works as an international legislature formed by national governments.

5.1 Union government

When the union government interacts with an international lobby that coordinates national interest groups' political support activities, the game really looks like the one under decentralization: the international lobby is the only principal in the agency relation with the union government.

As in section 4.1, the union government maximizes a weighted sum of social welfare and political support (equation 18). However, now the political support is coordinated by the international lobby. A legitimate question is whether this coordination increases or decreases the power of the

[26] This number is taken from the European Commission web site dedicated to civil society organizations: http://europa.eu.int/comm/civil_society/coneccs/. Needless to say that this number is purely indicative.

Many of these organizations are recent, however Moravcsik (1998) reports that powerful national lobbies were already coordinating their activities in the post-war period. For example, cooperation between the peak German and French organizations of farmers (respectively the DBW and the FNSEA) initiated in the 1950s and intensified during the Rome Treaty negotiations.

[27] A simple way to study this problem would be to assume that there exists an exogenous fixed cost of lobby formation (F). National interest groups will be willing to merge if the utility that they can get when they coordinate their lobbying activities is larger than the utility they get when competing plus this fixed cost $\frac{\widetilde{u}_{INT}^l}{I} \geq \widetilde{u}_i^l + F$.

national special interests. A simple way to model this issue is to suppose that the political support of the international lobby takes the following form

$$P_{INT}\left(g_C, N^l, \alpha^l\right) = \left(\alpha^l N^l\right)^{\rho} \sum_i p_i\left(g_C\right) \tag{34}$$

where ρ is a parameter that can take values greater or smaller than unity. Given this political support function, the game is easily solved as in section 4.1.

If $\rho = 1$ (i.e. international lobbying does not increase the power of national special interests), the first order conditions that determine the equilibrium allocations of public spending under centralization are identical to the first order conditions under decentralization (equations 15 and 16). Similarly, per capita effort to influence the government does not increase nor decrease.

If ρ takes values different from 1, it can be easily shown that the effectiveness of lobbying activity (i.e. how much public spending a lobby can distort to its advantage) increases when $\rho > 1$ and decreases otherwise.

Unfortunately it is very difficult to say a priori what the appropriate value of ρ is: there are plausible arguments that go in opposite directions. For this reason I will continue to assume $\rho = 1$ as a benchmark.[28] Summarizing:

Proposition 5 *When an international lobby influences the union government, members of the international lobby and unorganized citizens receive the same amount of public spending under centralization and under decentralization if* $\rho = 1$.

5.2 Union council

The timing of the game is the same as in section 4.2. The key difference in this setting is that an international lobby can affect any member government of the union and, therefore, can always influence the agenda setter.

Consider the interest group's maximization problem. The international lobby is a principal that chooses the incentive scheme (i.e. political support) for every government in the council to

$$\max_{g_C, p_i(.)} u^l_{INT} = \sum_i \left[w^l_i\left(g_C\right) - p_i\left(g_C\right)\right]$$

subject to equations 20, 24, 28 and 29.

To solve this maximization problem, let's start from the non agenda setting countries' participation constraints (conditions 24). The international lobby has no incentive to influence any

[28] I will briefly discuss in section 6 the implications of $\rho \lessgtr 1$.

national government to reject the proposal, that is $p_{i\neq a}\left(\overline{g}_C\right)=0\ \forall i$. The reason is that it can always influence directly the proposal. On the other hand, the international lobby can always engage in lobbying activity to induce the approval of the proposal by a majority of governments.[29]

The conditions the international lobby has to deal with are the participation and the incentive compatibility constraint of the agenda setter (conditions 28 and 29). Using truthful political support functions, this problem can be reformulated as follows

$$\max_{g_C}\left\{\eta w_a^S\left(g_C\right)+\left(1-\eta\right)\sum_i \alpha^l N^l w_i^l\left(g_C\right)\right\}$$

subject to the union budget constraint.

The first-order conditions that define the equilibrium allocations in a centralized setting when an international lobby interacts with a legislature are the following:

$$H_g\left(\widetilde{g}_{aC}^l\right)=\frac{\eta/I+\left(1-\eta\right)\alpha^l N^l/N}{\eta+\left(1-\eta\right)\alpha^l}\leq 1 \tag{35}$$

$$H_g\left(\widetilde{g}_{aC}^n\right)=\frac{\eta/I+\left(1-\eta\right)\alpha^l N^l/N}{\eta}\leqslant 1 \tag{36}$$

$$H_g\left(\widetilde{g}_{i\neq aC}^l\right)=\frac{\eta/I+\left(1-\eta\right)\alpha^l N^l/N}{\left(1-\eta\right)\alpha^l}\leqslant 1 \tag{37}$$

$$g_{i\neq aC}^n=0 \tag{38}$$

Simple inspection of conditions 35 to 38 and a comparison with the first order conditions that define equilibrium allocations of public spending under decentralization (i.e. equations 15 and 16) imply the following

Proposition 6 *When an international lobby influences the union council, (1). The equilibrium allocation of public spending is never socially optimal. (2). For low values of η, unorganized citizens in countries different from the agenda setter receive no public spending, while the unorganized in the agenda setting country get positive public spending. (3). Members of the international lobby receive positive public spending, in particular they receive more public spending than under decentralization for sufficiently low values of η and/or high values of I.*

[29] The international lobby has two alternatives to induce approval: to promise political support to a majority of governments contingent on their vote and/or to induce the agenda setter to provide some public spending to unorganized citizens in a majority of countries. For sufficiently low values of η, the international lobby will always find convenient only to promise political support to a majority of governments (see equation 24 and use the definition of government welfare, equation 9, and the fact that $p_{i\neq a}\left(\overline{g}_C\right)=0\ \forall i$).

Proof. 1. and 2. immediate.

3. From equations 15 and 35, $H_g\left(\widetilde{g}^l_{aC}\right) < H_g\left(\widetilde{g}^l_{aD}\right)$ for $I > 1$. Therefore $\widetilde{g}^l_{aC} > \widetilde{g}^l_{aD}$.

From equations 15 and 37, $H_g\left(\widetilde{g}^l_{i\neq aC}\right) < H_g\left(\widetilde{g}^l_{i\neq aD}\right)$ for $I > \overline{I}$ and/or $\eta < \overline{\eta}$.

Where $\overline{I}$ is such that $H_g\left(\widetilde{g}^l_{i\neq aC}\right) - H_g\left(\widetilde{g}^l_{i\neq aD}\right) = 0$ for a given level of government benevolence (call it $\widetilde{\eta} \in (0,1)$). That is $\overline{I} = \frac{\widetilde{\eta}-(1-\widetilde{\eta})\alpha^l}{\left[(1-\widetilde{\eta})\alpha^l\right]\left(1-\frac{N^l}{N}\right)} > 1$. And $\overline{\eta}$ is such that $H_g\left(\widetilde{g}^l_{i\neq aC}\right) - H_g\left(\widetilde{g}^l_{i\neq aD}\right) = 0$ for a given size of the union (call it $\widetilde{I} > 1$). That is $0 < \overline{\eta} = \frac{x}{1+x} < 1$, with $x = \alpha^l\left(\widetilde{I}-1\right) - \alpha^l\widetilde{I}\frac{N^l}{N}$.

Therefore $\widetilde{g}^l_{i\neq aC} > \widetilde{g}^l_{i\neq aD}$ for $I > \overline{I}$ and/or $\eta < \overline{\eta}$. ■

Centralization of a prerogative in the hands of the union council can increase the political power of national special interests that have been able to coordinate their lobbying activity and reduce the power of non organized citizens. The reason is that interest groups find it easier to affect decisions that are taken by a body working as a legislature (the union council) than by a single political actor (the national government). This result derives from the fact that an international lobby can always influence the agenda setting government and, therefore, affect the outcome of the legislative bargaining process to its advantage. Therefore, the larger political power of lobbies is only a consequence of the different decision mechanism through which decisions are taken at the union level relative to the national level.

If governments are sufficiently keen to listen to special interests' requests (i.e. if η small enough), unorganized citizens in countries different from the agenda setter pay taxes but receive no public spending. The larger is the size of the union, the bigger is the "dividend" from centralization that members of the international lobby can get.

Interestingly, simple inspection of equilibrium allocations under centralization suggests that distortions created by lobbying activity are larger under intergovernmentalism. This is true for any behavior of national special interests (i.e. competition or collusion).

Per-member equilibrium political support of the international lobby differs if it is in favor of the agenda setter or of a government in the majority:[30]

$$\widetilde{p}_a = \frac{\eta}{(1-\eta)\,\alpha^l N^l I}\left[w_a^S\left(g^*_{aC}\right) - w_a^S\left(\widetilde{g}_{aC}\right)\right] \tag{39}$$

$$\widetilde{p}_i = \frac{\eta}{(1-\eta)\,\alpha^l N^l I}\left[w_i^S\left(\overline{g}_C\right) - w_i^S\left(\widetilde{g}_C\right)\right] \forall i \in M \tag{40}$$

A comparison of equilibrium political support under decentralization (equation 17) and under centralization (equations 39 and 40) is not immediate. However, when a policy is centralized and lobbies coordinate their activity, the competition for influence effect disappears. This implies that equilibrium political support is likely not to be larger. Moreover, there are good reasons

[30] See the appendix.

to think that per capita effort could even be lower under centralization. First, the international special interest needs to lobby only a majority of governments. Second, overall political support is provided by a larger group of organized citizens ($N^l I$ at the denominator of equations 39 and 40, while there is only N^l at the denominator of equation 17).

6 Voting on centralization

I now move to the first - i.e. the constitutional - stage of the game. Governments meet to decide if to maintain the prerogative at the national level or to delegate it to the union authority. Lobbies may try to influence the outcome of this decision as well. I maintain the assumption that national special interests can only affect the vote of their own governments.

The question I now address is the following: how does lobbying affect the distribution of competencies in an international union? The answer depends on the voting mechanism (simple majority, qualified majority or unanimity) that countries adopt to take the centralization decision.[31]

Government i will be in favor of centralization whenever

$$\Delta^i = \widetilde{w}_i^{GOV}(C) - \widetilde{w}_i^{GOV}(D) > 0$$

where $\widetilde{w}_i^{GOV}(C)$ and $\widetilde{w}_i^{GOV}(D)$ are respectively the utility of government i if it votes in favor of centralization or against it. Using equation 9, this condition can be expressed as follows

$$\eta w_i^S(\widetilde{g}_C) + (1-\eta) P_i\left(C, N^l, \alpha_i^l\right) > \eta w_i^S(\widetilde{g}_D) + (1-\eta) P_i\left(D, N^l, \alpha_i^l\right) \tag{41}$$

where $\widetilde{g}_C$ and $\widetilde{g}_D$ are the equilibrium policies under the two different regimes and $P_i\left(C, N^l, \alpha_i^l\right)$ and $P_i\left(D, N^l, \alpha_i^l\right)$ are respectively the political support for government i in case it casts its vote in favor or against centralization. Political support has the same functional form of equation 10, if lobbies are national, and 34 if special interest form an international lobby.[32]

The game at the constitutional stage does not differ from the policy choice stage. Lobbies present a binding promise to provide political support to the government contingent on the decision the government takes. The difference is that here this decision is binary.[33] Accordingly, a policy contingent political support function will now consist of two numbers. Clearly the lobby will promise political support only if the government casts its vote in favor of the option that the lobby prefers and no support if the government votes the other alternative. In short, each special interest

[31] The outcome of the centralization decision depends also on the agenda of the international meeting. Governments usually bargain over several issues at the same time. Voting in favor of centralization of a policy could well be considered as a "gift" to other governments in exchange of something else. However, in what follows I assume that the agenda of the international meeting includes only one issue.

[32] Recall the assumption that $\rho = 1$.

[33] Grossman and Helpman (1995) have a similar problem in which a government can be influenced by interest groups to participate or not to a Free Trade Area.

will offer to its government only one number representing the level of political support that it will provide if the government votes the lobby's preferred outcome.

Interest groups' behavior will differ if they compete or collude to influence the union authorities. The next two subsections study respectively how competing and colluding national lobbies will affect the constitutional stage and what the equilibrium allocation of prerogatives will be in these two alternative environments.

6.1 Choice of centralization with competing lobbies

Under centralization I presented two different union authorities: a supranational government and a union legislature. Section 4.2 shows that when lobbies compete to influence a union council, public spending is allocated in a very asymmetric way: only groups in the agenda setting country receive more public spending under centralization. For a sufficiently large number of members in the union, the probability of being the agenda setter is so low that all governments will be against centralization. No matter what the voting mechanism at the constitutional stage is, centralization will always be rejected. Things are different when lobbies interact with a union government. I, therefore, turn to study this case.

When lobbies compete for influence, both organized and unorganized groups in any country are affected in the same way when the policy is centralized.[34] This fact is useful to derive lobbies' behavior at the institutional stage: each special interest will find it optimal not to promise any political support to the government. The reason is that lobbying aims at distorting policies that have a different effect on different groups. If the impact of centralization is the same for everybody in a country, the lobby can always reduce its political support, increasing its utility, without affecting the vote that its government will cast at the institutional stage.[35]

The equilibrium allocation of prerogatives to the union depends on the structure of the decision mechanism at the constitutional stage. I assume that each country casts a single vote and that the centralization decision requires either a simple majority or unanimity. Results are summarized in the following

Proposition 7 *(1). Under simple majority voting, the policy is centralized (decentralized) if there are powerful lobbies (i.e.* $\alpha_i > \sum_i \alpha_i^l/I$*) in a majority (minority) of countries, provided that the tax effect is not too large. (2). Under unanimity, the policy is always decentralized.*

Proof. 1. Define $\alpha_U \equiv \sum_i \alpha_i^l/I$ as the average power of lobbies in the union while α_M is the median. I will show the result for centralization. Equilibrium decentralization can be proved in a

[34] See proposition 3.

[35] This argument would be different in presence of spillovers and/or in the case in which centralization of a policy has different effects on different groups. In these situtions political support to influence the constitutional stage could well be positive.

similar way.

Claim: $\alpha_M > \alpha_U \Rightarrow \widetilde{g}^l_{MC} > \widetilde{g}^l_{MD}$ and $\widetilde{g}^n_{MC} > \widetilde{g}^n_{MD}$. This simply follows from porposition 3.

This claim implies that the centralization of the policy increases welfare of the country with the median lobby, and therefore of all countries i such that $\alpha_i > \alpha_M$, because $H(.)$ is increasing in its argument by assumption.

However, the condition $\alpha_M > \alpha_U$ is not sufficient unless $w_i^S(\widetilde{g}_C) > w_i^S(\widetilde{g}_D)\ \forall i$ such that $\alpha_i \geq \alpha_M$. A sufficient condition for $\Delta^i > 0$ to be true is $H\left(\widetilde{g}^X_{iC}\right) - H\left(\widetilde{g}^X_{iD}\right) > \widetilde{t}_C - \widetilde{t}_i\ \forall X = l, n$. The left hand side is the gain from centralization, that is always positive for all countries such that $\alpha_i \geq \alpha_M$ (claim a and b). The right hand side is the tax effect: the increase or decrease of the share of public spending under centralization paid by country i. Note that there is no presumption of aggregate overspending under centralization. Some countries get more (those with $\alpha_i \geq \alpha_M$), while the others get less. Therefore, the tax effect could be positive or negative. What it is required is this effect to be not too large (i.e. such that this condition holds $\forall i$ with $\alpha_i \geq \alpha_M$).

2. By the definition of α_U, it always exists at least one $\alpha_i < \alpha_U$. ■

The key insight is that the lobbying structure of countries in the union (i.e. the distribution of α) matters. If all countries had the same α, the assignment of a competency to the union government would not make a difference: lobbies in each country will be equally able to influence policies under centralization.[36] It is the asymmetry in α that makes some groups worse off and some other better off under centralization (see proposition 3) and that ultimately influences the equilibrium allocation of competencies to the international union in this setting. Introducing cross border spillovers and heterogeneity of preferences across countries does not change the nature of this result: distortions in the distribution of prerogatives between the union authorities and the national governments can be motivated by lobbying activity.

This logic can be extended to different voting mechanisms at the constitutional stage. The stricter the voting rule, the harder is to centralize a policy. If unanimity is required to take constitutional decisions in the union, a policy will never be centralized in this setting because the country with the weakest lobby always finds it convenient to impose its veto on centralization.[37] Again, introducing cross border spillovers and heterogeneity of preferences across countries would not change the direction of the result: a strict voting rule at the constitutional stage could lead to a *bias toward excessive decentralization* of competencies to the international union. Policies that would be optimal to centralize can be kept national because of the opposition of few national special

[36] Even if national lobbies might need to increase their political support under centralization (see equations 17 and 23).

[37] Allowing governments to bargain over multiple issues would lead to a different result. The intuition is that a government could accept centralization of a policy, even if it is penalized, in exchange of some sort of compensation on other issues. Interstate bargaining has a large role in international unions. For an historical perspective on bargaining in the EU see Moravcsik (1998). For a formal approach in the context of the EU enalargement process see Brou and Ruta (2003).

interests.

This section has a quite strong empirical prediction: when national lobbies do not manage to coordinate their lobbying activities, a bias toward excessive decentralization is likely to emerge regardless of the international union institutional arrangement (i.e. union government or union council). In the next section I will show how this result changes when lobbies coordinate.

6.2 Choice of centralization with colluding lobbies

This section deals with the equilibrium allocation of a prerogative in an international union when governments interact with an international lobby. Just as in the previous subsection, the institutional structure of the union authorities matters. Differently from last subsection, now centralization may have a different impact on organized and unorganized people. This creates scope for lobbying activity at the institutional stage.

Let's consider first the case in which in the union a supranational government chooses policies. Section 5.1 shows that in this case equilibrium allocations of public spending do not change. The lobby has no interest in supporting centralization. This implies that $\Delta^i = 0 \ \forall i \in I$: lobbying activity does not create distortions in the optimal allocation of competencies in an international union.[38]

I consider next the case in which an international lobby interacts with the union council. Section 5.2 shows that, for certain parameter values of η and I, citizens that have their interests represented by the international lobby benefit from centralization when policies are chosen by the union council.

A government casts its vote in favor of centralization if condition 41 is satisfied. What can be said about the political support of the international lobby $p_i(.)$? Clearly $p_i(D) = 0 \ \forall i \in I$, because the international special interest is gaining from centralization by assumption. $p_i(C) \in \left[0, p_i^{MAX}\right]$, where p_i^{MAX} is the maximum effort in political support that the international lobby is willing to put to influence each national government to vote in favor of the assignment of the prerogative to the union. An international lobby will offer no more than what it stands to gain from centralization. In this symmetric case the maximum per member effort to influence a single government is $p_i^{MAX} = \left[w_i^l(\widetilde{g}_C) - w_i^l(\widetilde{g}_D)\right]/I$, where $w_i^l(\widetilde{g}_C)$ and $w_i^l(\widetilde{g}_D)$ are respectively equilibrium utility of each national lobby under centralization and decentralization. Using equation 34, condition 41 simplifies to

$$\eta w_i^S(\widetilde{g}_C) + (1-\eta)\,\alpha^l N^l \left[w_i^l(\widetilde{g}_C) - w_i^l(\widetilde{g}_D)\right] > \eta w_i^S(\widetilde{g}_D) \tag{42}$$

This condition endogenously determines a threshold value for η, call it $\widehat{\eta}$. Because of the symmetry of this problem, the threshold value for η is the same for every country in the union.

[38] However, if international lobbying increases (decreases) the power of national special interests, that is $\rho > 1$ ($\rho < 1$) in equation 34, it can be shown that the policy is centralized (decentralized) for sufficiently low values of η.

Therefore,

Proposition 8 *Independently of the voting mechanism adopted at the constitutional stage, an international lobby can always induce centralization for sufficiently low values of* η *(i.e.* $\eta < \widehat{\eta}$*).*

When national special interests manage to coordinate their activity, the assignment of prerogatives to the union can be an equilibrium outcome of the constitutional stage for any voting mechanism, if each government cares enough about the political support of the lobby.

Differently from the previous subsection, the interaction of an international lobby with the union council may create a *bias toward excessive centralization*: the international union can well be active in policy areas that on normative grounds should not be centralized. The reason is that special interests benefit from centralization because they find it easier to influence policies that are decided by the council rather than by national governments: lobby members receive more public spending and reduce their political support effort (see section 5.2). Note that assigning centralized policies to a union government, directly elected by all voters in member countries, would fully remove this bias and would make the international lobby indifferent between centralization and decentralization.

The higher the weight that each government puts on social welfare, the more difficult is for special interests to induce centralization in the absence of international spillovers. At the limit, in a world of fully benevolent governments, centralization of policies with no cross-border externalities should never arise, because legislative bargaining at the union level creates asymmetries in policy outcomes.

As the previous section, also in this case there is a clear empirical prediction: when national lobbies manage to coordinate their lobbying activities, a bias toward excessive centralization is likely to emerge regardless of the union institutional setting.

7 Discussion: enlargement

The model can be extended to consider the effects of increasing the size of the union on the assignment of prerogatives to the union authorities. I briefly discuss the main implications.

An existing union with I members enlarges to include a set of NE new countries. The enlarged union is now formed by $E \equiv I \cup NE$ members. Enlargement clearly changes the political equilibrium of the union.[39] What I want to investigate here is how this will affect the centralization decision. This issue has been largely discussed in the context of the EU enlargement to Eastern and Central European countries. Several commentators have observed that an enlarging international union will be induced to decentralize a higher number of prerogatives. This prediction contradicts past

[39] The effects of enlargement on the political equilibrium of an international union has been studied by Alesina, Angeloni and Etro (2001).

history of the EU: in the last decades, in fact, the EU has both increased its size and the number of its competencies.[40]

Denote with the subscript ME the median of the entire enlarged union $E \equiv I \cup NE$ and with α^l_{UE} the average of national α^l_i with $i \in I \cup NE$, the following proposition can be proved:

Proposition 9 *(1). If national special interests compete, under simple majority the policy is centralized in an enlarged international union if $\alpha^l_{ME} > \alpha^l_{UE}$, provided that the tax effect is not too large, and it is decentralized if $\alpha^l_{ME} < \alpha^l_{UE}$. (2). If an international lobby that includes special interests of new entrants exists, enlargement can increase the competencies of the international union under any voting mechanism.*

Proof. 1. Same as proof in proposition 7.

2. From equations 35 and 37 note that $\frac{d\widetilde{g}^l}{dI} > 0$. This induces an increase in welfare for the members of the international lobby. Consequently, for any level of η, equation 42 is more likely to hold because the left hand side increases, while the right hand side stays constant. ■

When lobbies compete for influence, enlargement is likely to change the distribution of prerogatives between the international union and national governments. However, the logic of this model implies that there is no presumption that enlargement of the union will lead to more decentralization: changes can occur in any direction depending on the lobbying structure of new members. For instance, entering countries will push for centralization of sectors in which they are largely organized and for decentralization of sectors in which their special interests are likely to loose from competition with other national lobbies.

The result is more interesting when national special interests of entering countries are already members of international lobbies active in the union.[41] Enlargement, increasing the size of the international union, affects positively the welfare of the international lobby that can distort policies to its advantage to a larger extent. The intuition for the public spending example of this paper is that enlargement brings an increase in the number of unorganized citizens in the union, that contribute to increase the common pull of taxes without receiving public spending. In this case, lobbying activity explains why an increase in the size of the union is consistent with an increase of its competencies.

[40] The EU (at that time EEC) had at its origin in 1957 only 6 members. Progressively this number increased to 15. The empirical analysis by Alesina, Angeloni and Schuknecht (2001) shows that in this period the involvement of European institutions in many policy areas largely increased.

[41] According to information available on the European Commission web site, this is the case for many international special interests active at the EU level. Moreover, as time goes by, coordination between lobbies of new and old member countries is likely to become more important.

8 Conclusions

This paper presents a positive theory of centralization of political decisions in an international union in a setting in which special interests can affect governments.

I show that the assignment of prerogatives to the union authorities can both increase or decrease the power of interest groups. Special interests lobby their own government to induce centralization (decentralization) if their influence on policy decisions increases (decreases) when the policy is delegated to the union. My main result is that, when governments care about lobbies' support, the political influence of national special interests can cause a misallocation of prerogatives in an international union both leading to excessive decentralization and/or not necessary centralization. More precisely, if national lobbies compete to influence the union authorities, weak lobbies are hurt from the loss of their monopolistic influence on their national government. If the voting rule at the constitutional stage is strict a *bias toward excessive decentralization* emerges: policies are not centralized because of the opposition of few national special interests. If national special interests collude to influence the union council, citizens active in lobbying benefit when a policy is centralized. This fact creates a *bias toward excessive centralization*, if national governments are sufficiently responsive to political pressures from special interests.

A related finding is that distortions created by lobbying activity are larger when an international union has an "intergovernmental" structure.[42] When centralized policies are assigned to a union government - elected by all voters of member countries - distortions are lower both if national special interests compete or collude.

I conducted this analysis under the restrictive assumption that the size of the international union is constant. Allowing for an exogenous enlargement process does not change the nature of the results. Interestingly, a larger international union could not be a more decentralized one and, under some circumstances, an increase in its size is consistent with an increase of the competencies assigned to the union authorities.

These results are consistent with recent data on the policy involvement of EU institutions and help to reconcile a partial inconsistency between the resulting allocation of competencies in the EU and normative criteria concerning the assignment of policies at different government levels.

Future work in this area will have to deal with the empirical relevance of special interest politics in determining constitutional choices as the distribution of prerogatives in an international union. On theoretical grounds, some issues that have been only mentioned in this paper deserve further attention. Relevant positive questions are: why some national interest groups manage to coordinate their lobbying activity at the international level and other special interests do not? How does this fact influence policy making in an international union? A crucial normative issue motivated by this

[42] The idea that an intergovernmental body could be more exposed to special interests' pressures is present in the articles of the Federalist Papers that deal with the limits of a Confederacy (articles 10 to 22).

article is the following: how should international institutions be designed to limit special interests influence on policies?

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9 Appendix: Equilibrium political support

In what follows I derive the expressions for equilibrium political support under decentralization (equation 17), under centralization with competing lobbies (equation 23 and 32) and under centralization with colluding lobbies (equations 39 and 40).

9.1 Equilibrium political support under decentralization

From the government's participation constraint (equation 12) overall political support from lobby i, call it $\widetilde{P}_i$, needs to be such that

$$w_i^{GOV}\left(\widetilde{g}_{iD}, \widetilde{P}_i\right) = w_i^{GOV}\left(g_{iD}^*, P_i = 0\right)$$

Exploiting the quasi linearity of government's welfare (equation 9), this reduces to

$$\eta w_i^S\left(\widetilde{g}_{iD}\right) + (1-\eta)\,\widetilde{P}_i = \eta w_i^S\left(g_{iD}^*\right)$$

Using equation 10 and rearranging, we get equation 17.

9.2 Equilibrium political support under centralization (competing lobbies)

I shall consider separately the case of national lobbies competing to influence a union government and a union council.

9.2.1 Union government

From equations 18 and 10, government welfare in equilibrium is given by

$$w_U^{GOV}\left(\widetilde{g}_C, p_i\left(\widetilde{g}_C\right)\right) = \eta w_U^S\left(\widetilde{g}_C\right) + (1-\eta)\,N^l \sum_i \alpha_i^l p_i\left(\widetilde{g}_C\right) \tag{A1}$$

Assume that group i deviates and chooses not to provide political support. The government's welfare becomes

$$w_U^{GOV}\left(\widetilde{g}_C^{-i}, p_j\left(\widetilde{g}_C^{-i}\right)\right) = \eta w_U^S\left(\widetilde{g}_C^{-i}\right) + (1-\eta)\,N^l \sum_{j\neq i} \alpha_j^l p_j\left(\widetilde{g}_C^{-i}\right) \tag{A2}$$

Where $\widetilde{g}_C^{-i}$ is the equilibrium vector of public spending when the national lobby of country i chooses not to support the union government. In equilibrium the welfare of the union government is not affected by lobby i's deviation. The intuition is that, if there is more than one organized special interest, if a lobby deviates the government can always "work a deal" with the other lobbies

(that is, change the equilibrium policy vector) and get the same welfare level.[43] Using equations A1, A2 and considering truthful political support functions (equation 14), we get

$$\begin{aligned} & \eta w_U^S\left(\widetilde{g}_C\right)+\left(1-\eta\right)N^l p_i\left(\widetilde{g}_C\right)+\left(1-\eta\right)N^l\sum_{j\neq i}\alpha_j^l\left[w_j^l\left(\widetilde{g}_C\right)-\widetilde{b}_j\right] \qquad \text{(A3)} \\ = \quad & \eta w_U^S\left(\widetilde{g}_C^{-i}\right)+\left(1-\eta\right)N^l\sum_{j\neq i}\alpha_j^l\left[w_j^l\left(\widetilde{g}_C^{-i}\right)-\widetilde{b}_j\right] \end{aligned}$$

Note that $\widetilde{b}_j\ \forall j$ does not change when lobby i deviates. The intuition is that $\widetilde{b}_j$ is the equilibrium net of political support welfare of lobby j. Clearly each special interest wants b_j as large as possible, however if it increases b_j above $\widetilde{b}_j$ the government can always change the policy vector to favor some other lobby that is willing to request a lower b_j and therefore provide larger political support to the government. The only way lobbies can obtain a larger net of support welfare when there are at least two organized groups competing for influence is if all special interests choose to reduce their political support. But this is clearly not a Nash equilibrium.

Simplifying equation A3 and rearranging we get equation 23.

9.2.2 Union council

In equilibrium the agenda setter's participation constraint (equation 28) needs to be satisfied with equality. This implicitly determines the equilibrium level of political support from the lobby in the agenda setting country. Using equation 10 and rearranging terms, we get equation 32.

9.3 Equilibrium political support under centralization (colluding lobbies)

When lobbies collude to influence a union government, equilibrium political support that each member of the international lobby has to provide to the union government is the same as under decentralization.

When lobbies collude to influence a union council, we need to make a distinction between political support to the agenda setter and to the governments in the majority. From the agenda setter's participation constraint (equation 28), overall political support from the international lobby, call it $\widetilde{P}_a$, needs to be such that

$$w_a^{GOV}\left(\widetilde{g}_C,\widetilde{P}_a\right)=w_a^{GOV}(g_C^*,P_a=0) \qquad \text{(A4)}$$

Using equations 9 and 34 into A4

$$\left(1-\eta\right)\alpha^l N^l\sum_i\widetilde{p}_i=\eta\left[w_a^S(g_C^*)-w_a^S\left(\widetilde{g}_C\right)\right]$$

[43] A formal proof of this result is in Dixit, Grossman and Helpman (1997).

Assuming that in a symmetric equilibrium all agents in the lobby put the same effort and rearranging, we get equation 39.

From the participation constraints of the members of the majority (equation 24), we have

$$(1-\eta)\,\alpha^{l}N^{l}\sum_{i}\widetilde{p}_{i}=\eta\left[w_{i}^{S}(\overline{g})-w_{i}^{S}\left(\widetilde{g}_{C}\right)\right]\forall i\in M$$

Rearranging we get equation 40.

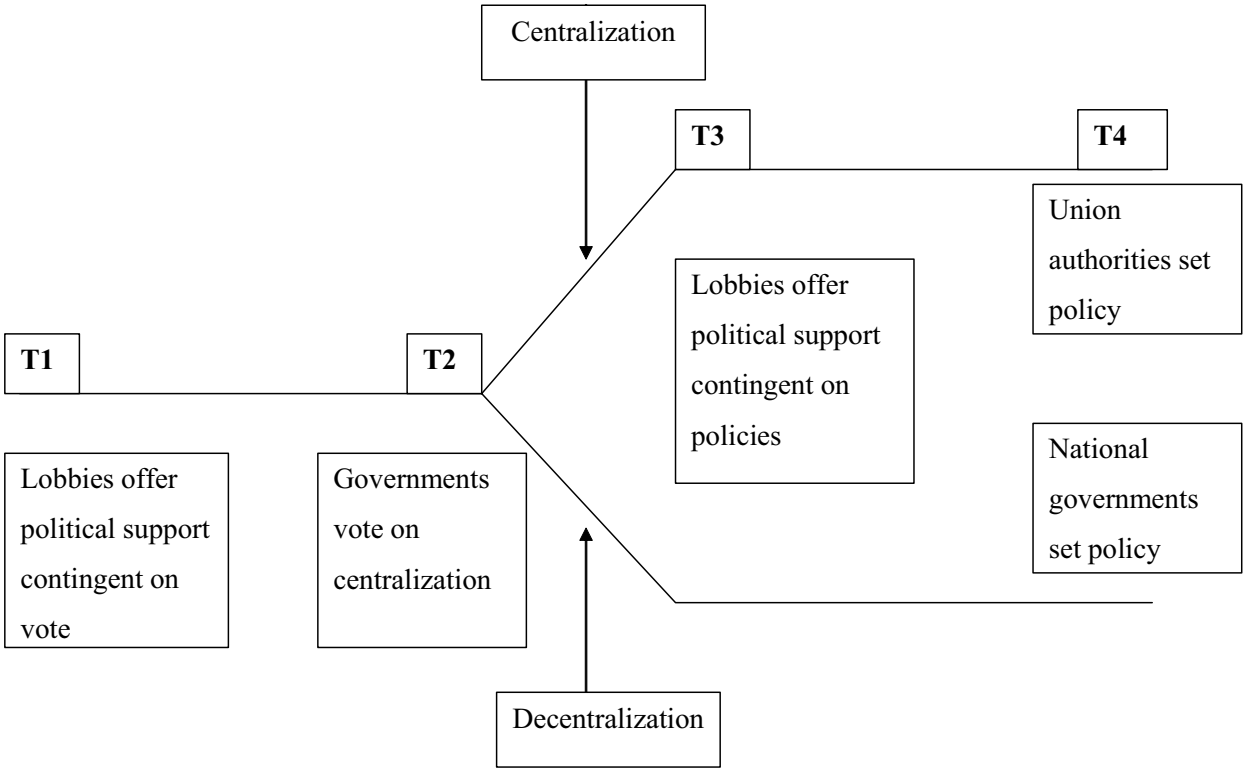

Figure 1: **Timing of the political game**

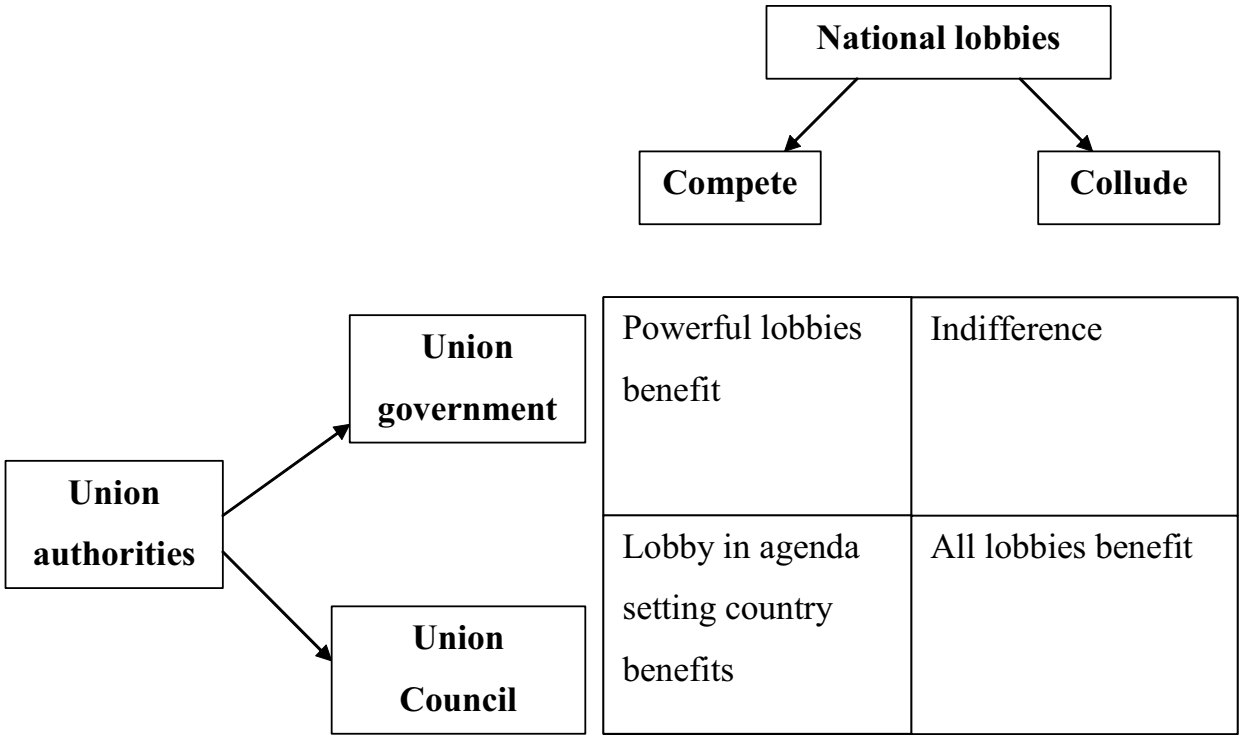

Figure 2: **Centralization**

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