

SPECIAL INTERESTS AND THE GAINS FROM POLITICAL INTEGRATION

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This paper presents a formal study of economic influence by special-interest groups under political integration and separation. We first show that countries where more groups are organized to lobby gain from political integration on economic grounds. The reason is that a more organized country, under a political union, can affect policies in the other country to its advantage, something that a less organized country can do to a lesser extent. We then study the interaction of political integration and endogenous lobbying structure. We show that political integration affects the formation of interest groups. Moreover, if a country is more organized before political integration, this will continue to be the case afterward.

1. INTRODUCTION

POLITICAL BORDERS tend to vary across time. History provides many examples of previously independent political entities – independent regions, states, or countries – that have formed or enlarged a political union as a federal state, such as the United States, or an international union, such as the European Union (EU). On the other hand, internal tensions sometimes lead existing political unions to break up into smaller and independent jurisdictions, as shown for instance by the recent experience of the former USSR.¹

To a large extent, strictly political and historical reasons motivate the break up and the formation of political unions. However, it is generally acknowledged that political integration and separation have important economic implications, and economic considerations can help in providing an explanation for political (dis)integration.

A recent literature deals with the political economy of political integration.² Some of this work identifies the benefits of integration and discusses how these benefits are related to the size and income of a country (e.g. Bolton and Roland, 1997). Other work focuses on the tradeoff between

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¹See Alesina and Spolaore (2003) for a general discussion on political integration and separation of countries.

²Early papers on the costs and benefits of political integration are Alesina and Spolaore (1997), Casella and Feinstein (2002), and Milanovic (1996). For a recent survey of this literature, see Ruta (2005). Similar questions have been addressed by a large literature in political science (for instance, Mattli, 1999).

political independence and the internalization of spillovers or economies of scale (e.g. Alesina et al., 2005). This work relies on a median voter approach which, while an insightful first step, is unsatisfactory for two main reasons. First, it fails to recognize that a variety of government prerogatives – market regulation, trade policy, and environmental regulation, to name a few – are strongly influenced by organized interest groups. Political integration alters the decision-making process, thus affecting – but not eliminating – special-interest politics.³ Second, the median voter approach does not consider the relationship between economic and political influence.

There are several ways one country or region might exert a stronger influence on the decisions of the political union after political integration takes place. In a related paper (Brou and Ruta, 2003), we study the effects of political integration when one country or region has greater bargaining power. Here we allow organized interest groups to directly influence the relevant policy-maker and study the effects of political integration on welfare when a country is more organized to exert political pressure (i.e. it has a higher share of lobbies to total population).

More precisely, we develop a framework that deals with the welfare effects of political integration between two economically different regions or countries in a setting in which there is a strategic interaction between interest groups and politicians.⁴ We consider two distinct regimes: political separation, where each government sets policy independently, and political integration, where a union (or federal) government sets policy for the entire political union. Special interests affect policy under both regimes.

In our modeling strategy we borrow from the recent political economy literature on trade policy (Grossman and Helpman, 1994; Mitra, 1999). We first give the main insights in a setting in which there is a given number of organized groups that exert political pressure in order to influence policy. We find that both organized and unorganized groups in a more organized country receive more favorable policies under integration than under separation, while the opposite occurs to groups in a less organized country. The intuition of this result is that political integration, from the perspective of the more organized country, reduces the level of competition among lobbies. The difference in lobbying structure favors interest groups in the more organized country, who can influence policies in their favor to a larger extent, as well as the unorganized groups, because their representation in the political union is increased.

³In a similar vein, Ornelas (2005) studies regional trade agreements when special interests play a role in the setting of external tariffs.

⁴Ruta (2003) employs a similar model to show that lobbying can induce a misallocation of competencies between different levels of government in an international union. Cheikbossian (2004) studies rent-seeking activity in a political union in a more simplified setting where lobbies' behavior is not microfounded. He finds that lobbying expenditures are increasing in international spillovers and in differences between member countries.

We then look at the welfare implications of political integration. In addition to the two channels already studied in the literature – redistribution and common provision of global public goods (or the internalization of cross-border spillovers) – we identify a *lobbying effect of political integration* which has a positive welfare effect for the more organized country and a negative one for the less organized. The overall decision on integration depends on the interplay between these three effects.

Since political integration itself could modify the lobbying structure of countries forming a union, in the second part of the paper we study the effects of political integration when the number of lobbies is endogenously determined. Endogenizing the number of lobbies not only reaffirms our results, it also provides new insights. First, we show that a country with lower costs of organizing will have more active interest groups before political integration. Second, we show that a change in political regime affects the incentives for collective action: political integration reduces competition for groups in the better-organized country and induces even more groups to become organized. As in the exogenous lobby case, unorganized and organized groups in the more organized country receive more favorable policies under integration, while the opposite occurs to groups in the poorly organized country. Furthermore, more groups in the more organized country find it beneficial to become organized, representing an additional channel through which the more organized country benefits.

The paper is organized as follows. Section 2 presents the model with exogenous lobbies. In section 3, we consider the case of endogenous lobby formation. Section 4 discusses the enlargement of the EU to Eastern and Central Europe. Section 5 has concluding remarks. Technical results are presented in the appendices.

2. THE MODEL

The economy is divided into two countries (or regions), A and B. The two countries have similar political and economic environments, but they differ in two respects: income levels and lobby structure. We assume, without loss of generality, that country A is more organized in the sense that it has a higher proportion of lobbies (organized groups that can pay contributions to the government).⁵ There are two sets of public goods: local (or targeted) public goods and global public goods. The first have only few beneficiaries, but their costs are dispersed over the entire population. We allow for a very broad interpretation of these local public goods, including traditional

⁵There are different ways an interest group can influence the government. Contributions can be interpreted either as campaign payments or as lobbying expenditures to provide political support to the government.

targeted policies such as direct transfers, but also less obvious policies like trade barriers, laws, regulations, and any other policy that can favor a particular group. The global public good benefits every citizen equally. Classic examples include defense, antitrust regulation, and enforcement of the law. Interest groups pay contributions in order to influence the political process to their advantage.

The two countries can choose to be integrated in a political union or to be separate. Political integration implies that governments A and B cede the right to choose policy to a supranational (i.e. federal) government.

We begin by describing the case in which there are no lobbies. This provides the benchmark for the rest of the analysis. We then introduce the distinction between organized and non-organized groups and derive equilibrium policies under separation and integration.

2.1 *The Benchmark: Separation with No Lobbies*

In country $i = A, B$ there is a set M_i of groups of individuals with measure m_i . For simplicity, we assume that each group has the same size and that all individuals in the generic group j have the same preferences, given by the quasi-linear utility function:

$$W_i^j = c_i^j + H(g_i^j) + F(G_i), \quad (1)$$

where c_i^j is consumption of the private good and g_i^j is the local public good that benefits each individual belonging to group j . For simplicity we assume no externalities on other groups. The function $H(\cdot)$ is increasing and concave.

G is a global public good. This public good is non-rival and excludable across, but not within, countries. If the two countries are separate, the global public good must be provided separately in each country, foregoing the economies of scale associated with common provision. The function $F(\cdot)$ is also increasing and concave.

We assume that preferences in the two countries are the same.⁶ Moreover, we assume that all individuals in the same country have the same income $y_i^j = y_i$. This allows us to abstract away from issues arising from differences between groups and to focus on differences across countries. Taxation is proportional and converting income into any of the j public goods is costless.

A benevolent government will solve the following problem:

$$\max_{g_i, G_i} \int_{j \in M_i} W_i^j dj, \quad (2)$$

⁶See Alesina et al. (2005) for a model with heterogeneity in preferences.

subject to the resource constraint

$$G_i + \int_{j \in M_i} (g_i^j + c_i^j) dj = \int_{j \in M_i} y_i dj, \quad (3)$$

where W_i^j is given by equation (1).

The first-order conditions are the following:

$$H_g(g_i^{j*}) - 1 = 0, \quad (4)$$

for each group j in country i and

$$m_i F_G(G_i^*) - 1 = 0, \quad (5)$$

where g_i^* is the equilibrium allocation vector of local public good provisions in the benchmark case. Note that the marginal benefit for each group equals the marginal social cost (of unity). With a benevolent government each group receives the “amount” of targeted public good that gives to the group the same marginal benefit as any other group. G_i^* is the equilibrium amount of the global public good in the case of two separated political entities. Local and global public goods satisfy the Samuelson condition that aggregate marginal benefit equals the marginal cost of provision.

2.2 Separation with Lobbies

Grossman and Helpman (1994) have developed a model of lobbying based on the menu auction approach by Bernheim and Whinston (1986), which has been used to study trade as well as other policies. Here we follow Persson and Tabellini (2000) in applying this framework to local public goods.

We assume that in country i there is a subset N_i of groups with measure n_i that are organized to influence the government to their advantage and that the government is “semi-benevolent” in the sense that it gives some weight to the general interest, but can also be influenced by lobbies through contributions. Moreover, we assume that under political separation lobbies in one country cannot influence policies in the other country.⁷

The game has two stages:

1. Every lobby j , with $j \in N_i$, non-cooperatively and simultaneously presents a contribution schedule $C_i^j(g_i, G_i)$ to the government, giving a binding promise of payment conditional on the chosen policy.

⁷This is a standard assumption, see for example Grossman and Helpman (1995). Allowing foreign lobbies to affect the home government would not change the nature of our results, provided that it is easier for home special interests to lobby the home government than for foreign groups. There are several reasons why this might be the case. First, politicians often view gifts from foreign sources as tainted money. Second, foreign lobbies have weaker connections with the government, the bureaucrats, and the media.

2. The government sets g_i and G_i so as to maximize a weighted sum of social welfare and contributions:

$$W_{GOV}^i(g_i, G_i) = \eta \int_{j \in M_i} W_i^j(g_i, G_i) dj + (1 - \eta) \int_{j \in N_i} C_i^j(g_i, G_i) dj, \tag{6}$$

where $0 \leq \eta \leq 1$ is a measure of government benevolence.

We derive an equilibrium in truthful strategies.⁸ This is equivalent to maximizing the following weighted sum:

$$W^i = \eta \int_{j \notin N_i} W_i^j(g_i, G_i) dj + \int_{j \in N_i} W_i^j(g_i, G_i) dj. \tag{7}$$

In other words, the equilibrium coincides with the solution to a planning problem in which the non-organized groups receive a lower weight than the organized ones to an extent that depends on the government’s benevolence.

The government budget constraint is given by:

$$t_i m_i y_i = \int_{j \in M_i} g_i^j dj + G_i, \tag{8}$$

where t_i is the proportional tax rate. Contributions do not enter the government budget constraint because they are strictly for private consumption of the politicians.

From the government budget constraint, we derive an expression for the tax rate and, recalling that $c_i^j = (1 - t_i)y_i$, we can substitute directly into the utility function of the representative agent in group j :

$$W_i^j(g_i, G_i) = y_i - \frac{1}{m_i} \left(\int_{j \in M_i} g_i^j dj + G_i \right) + H(g_i^j) + F(G_i). \tag{9}$$

Substituting this expression into equation (7) and maximizing we obtain the first-order conditions that define equilibrium allocations under separation:

$$H_g \left(\tilde{g}_{iS}^{j,L} \right) - 1 = -(1 - \lambda_i)(1 - \eta) \leq 0, \tag{10}$$

for $j \in N_i$,

$$H_g \left(\tilde{g}_{iS}^{j,N} \right) - 1 = \lambda_i(1 - \eta)/\eta \geq 0, \tag{11}$$

⁸For now we assume that such an equilibrium exists. In Appendix B, we show that the conditions that we derive under this assumption constitute necessary conditions for the existence of an equilibrium.

for $j \notin N_i$, and

$$m_i F_G(\tilde{G}_{iS}) - 1 = 0, \tag{12}$$

where the parameter λ_i is the share of the population organized in lobbies and

$$0 \leq \lambda_i = \int_{j \in N_i} \frac{1}{m_i} dj = \frac{n_i}{m_i} \leq 1.$$

On the left-hand side of the first-order conditions we have the utilitarian benchmark derived in the previous subsection, therefore the right-hand side measures deviations from the social optimum. Two results can be drawn. First, groups that can pay contributions receive more and unorganized groups receive less of the local public goods relative to the social optimum, $\tilde{g}_i^L > g_i^* > \tilde{g}_i^N$.⁹ Second, lobbying activity does not affect the provision of the global public good. Lobbies have no incentive to influence the government’s provision of G since it coincides with their optimal choice and there is no conflict between different groups on the provision of the global public good.¹⁰

2.3 Political Integration

In this section, we study the equilibrium policies that emerge in a union with a politically motivated government. In the union there is a set $M = M_A \cup M_B$ of groups with measure $m = m_A + m_B$. Again, we define the share of organized groups in country A as $\lambda_A = n_A/m_A$ and similarly for B, $\lambda_B = n_B/m_B$.

We assume that countries A and B have different income levels: $y_A \neq y_B$. Taxation in the union is proportional and converting income into any public good is costless. Moreover, we assume that country A has a higher share of organized groups (i.e. groups that pay contributions) when compared with country B: $\lambda_A > \lambda_B$.

Under political integration, lobbies in countries A and B can influence policy by lobbying the “semi-benevolent” union government. The problem the union government faces is the following:

$$\max_{g_U, \tilde{G}_U} W^U = W^A + W^B, \tag{13}$$

subject to

$$t_U(m_A y_A + m_B y_B) = \int_{j \in M} g_U^j dj + G_U, \tag{14}$$

⁹This follows from the fact that $H_g(\tilde{g}_{iS}^{j,L}) < H_g(\tilde{g}_{iS}^{j,N})$ and the assumptions on $H(\cdot)$.

¹⁰This result follows from the assumption of separability of the utility function [equation (1)].

where W^i with $i = A, B$ is given by equation (7) and g_U is the vector of local public goods under union.

From the union government budget constraint we obtain the union tax rate:

$$t_U = \frac{1}{\bar{y}m} \left(\int_{j \in M} g_U^j dj + G_U \right), \tag{15}$$

where we define $\bar{y} \equiv (m_{AY_A} + m_{BY_B})/m$.

Using the union tax rate, the indirect utility of group j in country i is given by:

$$W_i^j(g_U, G_U) = y_i - \frac{y_i}{\bar{y}m} \left(\int_{j \in M} g_U^j dj + G_U \right) + H(g_{iU}^j) + F(G_U). \tag{16}$$

Solving for the first-order conditions, we obtain the equilibrium allocations under integration:

$$H_g \left(\tilde{g}_{iU}^{j,L} \right) - 1 = -(1 - \lambda_U)(1 - \eta) \leq 0, \tag{17}$$

for each $j \in N_A \cup N_B$,

$$H_g \left(\tilde{g}_{iU}^{j,N} \right) - 1 = \lambda_U(1 - \eta)/\eta \geq 0, \tag{18}$$

for each $j \notin N_A \cup N_B$, and

$$mF_G \left(\tilde{G}_U \right) - 1 = 0, \tag{19}$$

where $\lambda_U \equiv (m_{AY_A}/m\bar{y})\lambda_A + (m_{BY_B}/m\bar{y})\lambda_B$ is a weighted average of each country's λ , and the weights depend on a country's relative size m_i/m and its relative income y_i/\bar{y} .

We want to compare how the provision of public goods changes in the case of the formation of an international union between countries A and B.¹¹

Proposition 1. (i) The provision of the global public good increases under integration. (ii) Both organized and non-organized groups in the country with a higher portion of lobbies receive more of the targeted public good under union than under separation. (iii) The opposite occurs to organized and non-organized groups in the country with a lower share of lobbies.

Intuitively, the provision of the global public good is increased under union because the social benefit is larger, owing to the increase in population, while the social cost remains the same.

¹¹All proofs are in Appendix A.

To grasp the intuition of results (ii) and (iii), note that the effectiveness of lobbying is a decreasing function of the share of groups that are organized, λ .¹² When this share is low, there is less competition among lobbies and each one is better able to affect policies in its favor. Unorganized groups also receive more favorable policies because they become a more important part of the aggregate (social) welfare function and the government weighs their interests more heavily. For the more organized country, joining the union decreases the share of lobbies in total population ($\lambda_A > \lambda_U$), while the opposite happens for the less organized country ($\lambda_B < \lambda_U$).

Lobbies in the more organized country receive more of the targeted public good because they can influence policies in the other country under unification to a larger extent. Special interests in the less organized country can also affect policies in a political union. However, as they face tougher competition under union (λ increases), lobbies in the poorly organized country are less effective under integration than under separation.

2.4 Political Integration and Welfare

Having discussed the characteristics of policies in the political equilibria under separation and integration, we now turn our attention to the welfare effects of political integration.

Consider first the change in welfare of a non-organized group of country i when that country moves toward political integration:

$$\Delta_i^N = \tilde{W}_{iU}^N - \tilde{W}_{iS}^N.$$

Similarly, the change in welfare induced by political integration on a lobby in country i is

$$\Delta_i^L = \left(\tilde{W}_{iU}^L - \tilde{C}_{iU} \right) - \left(\tilde{W}_{iS}^L - \tilde{C}_{iS} \right),$$

where \tilde{C}_{iU} and \tilde{C}_{iS} represent equilibrium contributions under integration and separation, respectively. Equilibrium contributions are derived in the Appendix.¹³

Substituting in the equilibrium policies and rearranging both equations we get:

$$\begin{aligned} \Delta_i^N &= [H(\tilde{g}_{iU}^N) - H(\tilde{g}_{iS}^N)] + [F(\tilde{G}_U) - F(\tilde{G}_{iS})] \\ &\quad - [y_i(\tilde{I}_U - \tilde{I}_{iS})] \end{aligned} \tag{20}$$

¹²From the first-order conditions, we get $d\tilde{g}^L/d\lambda = (1 - \eta)/H_{gg}(\cdot) < 0$ and $d\tilde{g}^N/d\lambda = [(1 - \eta)/\eta]/H_{gg}(\cdot) < 0$.

¹³Following Laussel and Le Breton (2001) it can be shown that the vector of equilibrium contributions is unique for commonly used utility functions (e.g. Logarithmic, Cobb–Douglas, CIES) when η is not very small.

and

$$\begin{aligned} \Delta_i^L = & \left[\left(H(\tilde{g}_{iU}^L) - \tilde{C}_{iU} \right) - \left(H(\tilde{g}_{iS}^L) - \tilde{C}_{iS} \right) \right] \\ & + \left[F(\tilde{G}_U) - F(\tilde{G}_{iS}) \right] - [y_i(\tilde{t}_U - \tilde{t}_{iS})]. \end{aligned} \quad (21)$$

The change in either group's welfare consists of three different effects, represented by the three bracketed terms in the above equations. We refer to the first as the *lobbying effect of political integration*, the second is the gain from centralized provision of the global public good and the third component is the redistribution effect, which captures the change in the total cost of providing public goods as well as the redistributive effect implied by proportional taxation.

The change in political regime results in changes in both the provision of the targeted public good (for all groups) and contributions (for organized groups). The overall lobbying effect of integration is established in the following proposition.

Proposition 2. The lobbying effect of political integration is positive for all groups in the more organized country and negative for those in the less organized country.

A formal proof can be found in the Appendix; here we discuss the intuition. Under integration, the political process results in a more favorable allocation of local public goods for both organized and non-organized groups in the more organized country. As established in the previous subsection, this is because there is relatively less competition for influence. This is a pure benefit for non-organized groups and it more than compensates the organized groups for any increase in equilibrium contributions. The opposite argument can be made for groups in the less organized country.

The global public good effect is always positive since it is strictly an economies of scale effect. All groups benefit from a greater population under political union. The redistribution effect is theoretically ambiguous, being a function of the λ 's and the y 's. However, it is likely to benefit the poorer country as any increased expenditure on public good provision will be borne largely by the richer country. The larger the disparity in income across the two countries (or regions), the more likely that this effect will be positive for individuals in the poorer country.¹⁴

¹⁴Thus far we have assumed that governments are always able to collect enough in tax revenues in order to provide the optimal level of public goods (both local and global). That is, in the government maximization problem under separation, the additional constraint $t_i \leq 1$ is not binding. This need not always be the case for poorer economies. How does this assumption affect our results? Poorer countries would face an additional benefit from integration because their budget constraint would be loosened: public goods that are too expensive to provide under separation can be provided under integration.

As in the previous economic literature on political integration, overall preferences over separation and integration are shaped by the relative strength of the different channels through which political integration affects welfare.¹⁵

3. ENDOGENOUS LOBBY FORMATION

Until now we have assumed that the number of lobbies is constant and exogenous. We now consider an extension of the model where the number of lobbies is endogenously determined. The reason for this exercise is that groups that were unorganized under separation could find it convenient to get organized and lobby the government once a political union is formed. In other words, political integration itself could modify the lobbying structure of countries forming a union and bring into question previous results.

More specifically, in this section we address three questions. How is the equilibrium number of lobbies in each country determined? Does political integration modify the incentives of interest groups to organize? How does lobby formation influence equilibrium policies and welfare?

We first present a model of endogenous lobbying and derive the equilibrium number of lobbies under political separation. We then study how political integration affects the lobbying structure of each country and of the union as a whole.

3.1 *Equilibrium Lobbies under Political Separation*

In this subsection, we study the decision of an unorganized group to form a lobby under political separation. Following Mitra (1999) we model the decision to become organized as a simple entry game where agents with common interests weigh the benefits of affecting policy in their favor against the cost of becoming organized.

Each group faces a fixed cost of becoming organized. In choosing whether to incur this fixed cost, the n th group considers its welfare if organized relative to its welfare if it is not. If the benefit of becoming organized – net of contributions – is greater than the fixed cost, the group will choose to become organized. The game is solved by backward induction, where the outcome of the last stage is given by our previous results. As we saw in section 2, the policies chosen in equilibrium depend on the fraction of the

¹⁵Note that we do not explicitly model the decision on integration or how lobbies might influence this decision. If the decision were based on a popular vote – e.g. by referendum – the interplay between the three effects would determine how each individual votes. If, instead, the integration decision were taken by the incumbent government, special interests would presumably play a part in this process. Then, the size of each group's gain or loss from integration would determine the maximum amount they are willing to spend on influencing the decision. In this case, the relative willingness to spend would play an important role in the decision.

population that is organized, i.e. on the fraction of groups that choose to form a lobby, $\lambda_i = n_i/m_i$.

Define the gross and the net benefit of forming a lobby, respectively, as¹⁶

$$GB(\lambda) = \tilde{W}^L(\lambda) - \tilde{W}^N(\lambda) \tag{22}$$

$$NB(\lambda) = \tilde{W}^L(\lambda) - \tilde{W}^N(\lambda) - \tilde{C}(\lambda), \tag{23}$$

where a “~” indicates equilibrium values. Therefore, $\tilde{W}^L(\lambda)$ is the welfare of an organized group when a subset of groups of mass n are organized but all other groups are not.¹⁷ Clearly, $NB(\lambda) = GB(\lambda) - \tilde{C}(\lambda)$.

Let $K(j)$ denote the fixed cost of getting organized for group j . There is heterogeneity across groups within a country because groups differ in their organizational ability. Let groups be ranked and indexed in ascending order of their fixed costs such that $K'(\lambda) > 0$.

A group n will choose to become organized under the following condition:¹⁸

$$\tilde{W}^L(\lambda) - \tilde{W}^N(\lambda) - \tilde{C}(\lambda) > K(\lambda). \tag{24}$$

It can be shown that if $NB'(\lambda) < K'(\lambda)$, there exists a unique Nash equilibrium and it is the one that satisfies the condition $\tilde{W}^L(\hat{\lambda}) - \tilde{W}^N(\hat{\lambda}) - \tilde{C}(\hat{\lambda}) = K(\hat{\lambda})$, where $\hat{\lambda} = \hat{n}/m$.¹⁹ In this equilibrium, all groups with fixed cost less than $K(\hat{\lambda})$ are organized.

Rewriting equation (9), the welfare of an organized group and a non-organized group are, respectively, given by:

$$\tilde{W}^L = \left[y - \frac{n}{m} \tilde{g}^L(\lambda) - \frac{m-n}{m} \tilde{g}^N(\lambda) - \frac{\tilde{G}}{m} + H(\tilde{g}^L(\lambda)) + F(\tilde{G}) \right] \tag{25}$$

¹⁶For now we consider the equilibrium in a single country and drop the country index.

¹⁷Note that we explicitly write the gross benefit and contributions as functions of the share of the population that is organized, λ . That the gross benefit depends only on λ is apparent from equation (22). In Appendix A, we formally derive equilibrium contributions and show that they also depend only on λ . Intuitively, this is the case because, with truthful contributions, a newly formed lobby must compensate the government for any resulting reduction in its welfare. Since the new lobby does not affect the provision of the global public good, any reduction in government welfare must come about through the new lobby’s effect on the local public good, but this depends entirely on λ .

¹⁸Mitra (1999) provides a more detailed discussion of this point. Essentially, we assume that groups can costlessly overcome the free-rider problem. As long as the group as a whole is better off by becoming organized, the members will be able to coordinate the payment of the fixed cost.

¹⁹We restrict our analysis to the more interesting case of an interior solution, $\hat{n} \in (0, m)$.

and

$$\tilde{W}^N = \left[y - \frac{n}{m} \tilde{g}^L(\lambda) - \frac{m-n}{m} \tilde{g}^N(\lambda) - \frac{\tilde{G}}{m} + H(\tilde{g}^N(\lambda)) + F(\tilde{G}) \right], \tag{26}$$

where $\tilde{g}^L(\lambda)$ and $\tilde{g}^N(\lambda)$ are the equilibrium levels of local public good provision under separation to organized and non-organized groups, respectively, and \tilde{G} is the equilibrium provision of the global public good. They are implicitly determined by the first-order conditions of the appropriate government maximization problem.

Using the definition of gross benefit and equations (25) and (26) we have:

$$GB(\lambda) = [H(\tilde{g}^L(\lambda)) - H(\tilde{g}^N(\lambda))]. \tag{27}$$

Equilibrium contributions are derived in the Appendix and take the following form:

$$\begin{aligned} \tilde{C}(\lambda) = & -\frac{\eta}{1-\eta} GB(\lambda) + \lambda(\tilde{g}^L(\lambda) - \tilde{g}^N(\lambda)) \\ & + \frac{\eta}{1-\eta} (\tilde{g}^L(\lambda) - \tilde{g}^N(\lambda)). \end{aligned} \tag{28}$$

The economic interpretation of this equation is the following. Recall that equilibrium contributions compensate for the reduction in overall gross welfare. The first term represents the increase in welfare to the newly formed lobby. The second term is the reduction in gross welfare of existing organized groups: each of the n lobbies has to pay a share $1/m$ of the increase in tax expenditures owing to the formation of the new group.²⁰ Similarly, the third term represents the decrease in social welfare owing to the increased tax burden. Note that in our benchmark case, the utilitarian equilibrium implied $\tilde{g}^L = \tilde{g}^N = g^*$, therefore the greater the difference between the two policies, the larger is the distortion and accordingly the higher equilibrium contributions need to be.

Using equations (27) and (28), the net benefit from forming a lobby is

$$\begin{aligned} NB(\lambda) = & \frac{1}{1-\eta} [H(\tilde{g}^L(\lambda)) - H(\tilde{g}^N(\lambda))] \\ & - \left(\lambda + \frac{\eta}{1-\eta} \right) [\tilde{g}^L(\lambda) - \tilde{g}^N(\lambda)]. \end{aligned} \tag{29}$$

In the following lemma we prove that, if the government is semi-benevolent ($\eta < 1$) the net benefit is positive. Even if special interests are

²⁰The increase in tax expenditures is a consequence of the increase of targeted public good provision for the new group from \tilde{g}^N to \tilde{g}^L .

competing, the government cannot extract all the surplus that lobbies stand to gain from the agency game, as in Dixit et al. (1997). The reason is that in our model the tax rate (and therefore the budget) is residually determined after the decision on public goods provision has been taken. Therefore, changing the policy instrument creates distortions: altering the provision of targeted public goods for different groups induces a change in the tax rate (and therefore a change in net income) that distorts the optimal consumption of the public versus private good. As in Grossman and Helpman (1994) and Mitra (1999), when the policy instrument creates distortions, a semi-benevolent government is disinclined to use it to extremes. This allows competing special interests to obtain positive rents from the lobbying game.²¹

Lemma 1. $NB(\lambda) > 0$ for all $\eta \in [0, 1)$.

We show next that the net benefit of forming a lobby is a decreasing function of the share of the organized groups. Taking the derivative of the net benefit with respect to λ and rearranging we get

$$NB'(\lambda) = -(\tilde{g}^L(\lambda) - \tilde{g}^N(\lambda)) - H_g(\tilde{g}^N(\lambda)) \frac{d\tilde{g}^N}{d\lambda}. \quad (30)$$

The first term represents the decrease in the net benefit owing to the increased tax burden. This term is negative because $\tilde{g}^L(\lambda) > \tilde{g}^N(\lambda)$. The second term represents the opportunity cost of a group to stay unorganized when other groups organize (i.e. when λ increases). From equation (11), we get $d\tilde{g}^N/d\lambda = [(1 - \eta)/\eta]/H_{gg}(\tilde{g}^N) < 0$ because $H_{gg}(g) < 0$ by assumption. It follows that the second term is positive. In the following lemma, we show that the first term dominates the second for all possible values of the parameter η . The intuition for this result is that as the number of lobbies increases, there are more organized groups working against each other and a smaller unorganized population to exploit. Therefore the net benefit from forming a lobby is decreasing in the existing number of lobbies. Formally, we have:

Lemma 2. $NB'(\lambda) \leq 0$ for all $\eta \in [0, 1]$.

As a direct consequence of the lemma and the fact that by construction $K(\lambda)$ is increasing in λ , there is a unique equilibrium number of lobbies that is determined endogenously by the condition $NB(\hat{\lambda}^S) = K(\hat{\lambda}^S)$.

²¹When the budget is fixed (i.e. in a pure redistribution game) or when the government has access to non-distorting means of redistribution, competing lobbies derive no extra benefit from lobbying activity compared with non-organized groups. Details can be found in Proposition 3 and the ensuing discussion in Dixit et al. (1997).

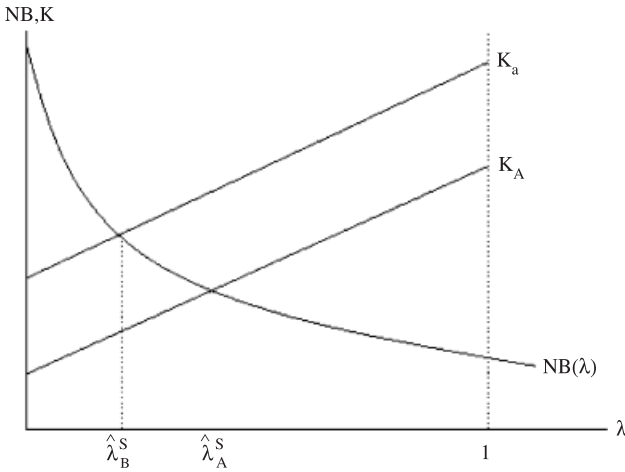


Figure 1. Equilibrium lobby formation under separation.

The smaller the fixed cost of becoming organized for each group (i.e. the more the K schedule shifts down), the larger is the number of organized groups. These fixed costs can depend on a number of factors. Heterogeneity across countries is likely to arise as a result of differences in economic structure, political institutions, infrastructure (e.g. communications), etc. Assuming that these costs are lower in country A than in B, we have that $\hat{\lambda}_A^S > \hat{\lambda}_B^S$ (see Figure 1).

3.2 Equilibrium Lobbies under Political Integration

We turn now to study the interaction of political integration and lobby formation. More specifically, we focus on how political integration affects the equilibrium number of lobbies in each country and how this change influences equilibrium policies.

We assume that the equilibrium lobbying structure of the two countries under separation represents the status quo. This means that the choice of group formation under separation occurred some time in the past when interest groups could not foresee the possibility of political integration. Once a political union is formed, groups that were not organized in the separation regime may decide to form an active lobby in the new political environment.

In this section, we assume a “historical” number of organized groups.²² The timing has the following four stages:

²²The alternative scenario where *all* groups simultaneously face the organization decision under political union leads to similar results. The formal proof is available upon request.

1. Each country decides to integrate or maintain political independence.
2. If a political union is formed, unorganized groups choose to form a lobby or remain unorganized in the new political jurisdiction. Organized groups that have already paid the fixed cost of becoming organized under separation remain that way (i.e. we assume no lobby destruction).
3. Every lobby non-cooperatively and simultaneously presents the union government with a contribution schedule.
4. The union government chooses policies for the entire union so as to maximize a weighted sum of social welfare and contributions.

Consider how the incentives of (unorganized) groups to become organized are affected by a political union. Initially, the (weighted-average) proportion of the population that is organized in the union is given by

$$\lambda_U^o = \frac{m_A y_A}{m \bar{y}} \hat{\lambda}_A^S + \frac{m_B y_B}{m \bar{y}} \hat{\lambda}_B^S,$$

so that $\hat{\lambda}_A^S > \lambda_U^o > \hat{\lambda}_B^S$. This implies that $NB(\lambda_U^o) > NB(\hat{\lambda}_A^S) = K_A(\hat{\lambda}_A^S)$, and that there are unorganized groups in country A that find it worthwhile to become organized under a political union. It is also true that $NB(\lambda_U^o) < NB(\hat{\lambda}_B^S) = K_B(\hat{\lambda}_B^S)$, and no unorganized group in country B finds it worthwhile to become organized. We assume that once a group is organized to affect national policy it can also affect union policy so that no organized group in B chooses to disband. As lobby formation takes place in country A, both λ_A and $\lambda_U = (m_A y_A / m \bar{y}) \lambda_A + (m_B y_B / m \bar{y}) \hat{\lambda}_B^S$ increase, moving up along the K_A schedule and down the NB schedule. This will continue until the equilibrium condition $NB(\hat{\lambda}_U) = K_A(\hat{\lambda}_A^U)$ is satisfied. The exact value of $\hat{\lambda}_U$ will depend on the shapes of these two schedules, but it will lie somewhere in the interval $[\hat{\lambda}_U^o, \hat{\lambda}_A^S]$. The main results are summarized in the following proposition.²³

Proposition 3. Political integration induces: (i) An increase in the equilibrium number of lobbies in the more organized country but no increase in the equilibrium number of lobbies in the poorly organized country. (ii) An increase in equilibrium targeted public good provision for both organized and non-organized groups in the more organized country. (iii) A decrease in

²³The assumption that previously formed lobbies in country B do not disband does not alter the results. If we allow for lobby "destruction," organized groups in B would disband as groups in A become organized. Equilibrium is reached when the condition $NB(\hat{\lambda}_U) = F_A(\hat{\lambda}_A^U) = F_B(\hat{\lambda}_B^U)$. It can be shown that $\hat{\lambda}_A^S > \hat{\lambda}_U > \hat{\lambda}_B^S$ still holds and the same qualitative results follow.

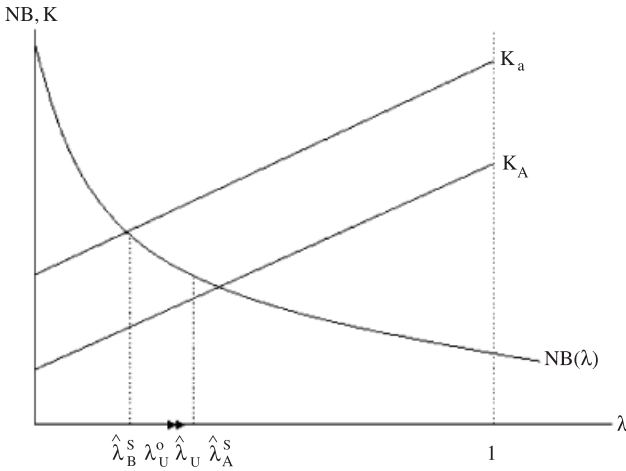


Figure 2. Equilibrium lobby formation under political union.

equilibrium targeted public good provision for both organized and non-organized groups in the less organized country.

To grasp the intuition of this result we need to focus on how political integration affects lobbying activity. New lobbies are formed in the (historically) more organized country because political integration, by initially reducing the relative number of lobbies over total population, reduces effective competition between special interests and increases the net benefit of becoming organized.

Lobby formation in country A increases the amount of competition in the political union compared with the initial proportion of the population that is organized in the union, $\hat{\lambda}_U > \lambda_U^o$. However, in equilibrium the share of lobbies over total population in the union is still lower than in country A in the separation regime, $\hat{\lambda}_U < \hat{\lambda}_A^s$ (see Figure 2). Qualitatively, the effect of political integration is not changed by allowing for endogenous lobby formation. Although new lobbies are formed, the country that was more organized before integration is still the one that benefits from the lobbying effect of political integration because competition among lobbies is lower relative to the case of separation. The opposite is also still true for the country that was less organized before joining the union.

3.3 Discussion: Political Integration, Lobby Formation, and Welfare

In this subsection, we turn to welfare analysis. We focus on the lobbying effect of political integration. In the case of endogenous entry of lobbies, political union benefits the citizens of the rich country in two ways. First,

more groups choose to become organized and lobby the government for preferential treatment. Second, as in the exogenous lobby case, the decrease in competition allows organized groups to receive more of the local public good at a lower cost to the unorganized groups.

We can separate the groups in the historically more organized country into three categories: those that are organized under both separation and union; those that are not organized under either regime; and those that only become organized under a political union. The first two groups, as in the exogenous case, benefit from a political union because the resulting fall in λ increases the amount of targeted public good they receive. The third group benefits further from the fact that they become organized and can influence the government to their advantage.

Groups in the poorly organized country, as in the exogenous case, lose from a political union because the resulting increase in λ reduces the amount of public good they receive. However, the lobbying effect of political integration is now larger because the amount of competition in the union is larger than in the case of exogenous lobbying. The overall welfare effect of joining the union then depends on the relative size of this effect and the other channels through which political integration influences welfare.

4. EU ENLARGEMENT TO EASTERN AND CENTRAL EUROPE

In May 2004, 10 new members joined the EU: Cyprus, Czech Republic, Estonia, Hungary, Poland, Slovenia, Latvia, Lithuania, Malta, and Slovakia.²⁴ Contrary to previous instances of enlargement, the Eastern enlargement process will change the face of the EU. This is mainly for two reasons. First, incoming countries are much poorer than the EU. Their average per capita GDP in purchasing parity terms is 8,755 euros against an average of 22,645 euros for the EU. Second, entering countries have a population of 105 million people. Eastern enlargement has increased the size of the Union's population by 20 percent and its GDP by only 5 percent.²⁵ Most economists agree that there are large benefits from economic integration between Western and Eastern Europe, but what are the economic benefits and costs of political integration?

According to the traditional political economy approach, while the benefits of political integration in Europe – economies of scale in public goods provision and the internalization of cross-border spillovers – are shared, redistribution provides a heavy burden for the rich West and an additional incentive to join the Union for Eastern countries.

²⁴Three other countries have been considered for accession: Bulgaria and Romania should enter the EU in 2007; Turkey has not been given a fixed date of accession.

²⁵Data are drawn from the *Eurostat Yearbook* (2002), are for the year 2000 and do not include Turkey.

Interestingly, attitudes of special-interest groups toward enlargement in Eastern and Western Europe have not been consistent with these models. On the East side some groups, notably the lobby of farmers, opposed joining the EU. On the West side several lobbies strongly favor enlargement: an editorial in the *Financial Times* of November 2001 argued that “enlargement remains a priority for the elite, not the ordinary voter.”²⁶ How can we explain these opposing attitudes toward the East enlargement of the EU?

Available data suggest that far more special-interest groups are active in old members of the EU than in the new ones. The number of registered trade and business associations is disproportionately larger in the EU relative to candidate countries (1,396 and 130, respectively).²⁷ These data confirm what Mancur Olson argued in *The Rise and Decline of Nations*, that “stable societies with unchanged boundaries tend to accumulate more collusion and organizations for collective action over time” (Olson, 1982, p. 41). Moreover, most of the new members are former socialist states. As such, democratic institutions are more recent and agents are less familiar with the process of lobbying. Special interests are less likely to have realized the benefits of collective action and face higher costs of becoming organized.

As also suggested in Brou and Ruta (2003) and Wallner (2003), the loss of political independence from participating in an international union has costs and benefits in addition to those found by the existing political economy literature. Here we identify a new *lobbying effect of political integration*. We argue that this new channel helps to explain the welfare effects of political integration between Western and Eastern Europe and, in particular, the benefits for some groups in the West as well as complaints from some special interests in Eastern Europe. Clearly, the overall decision on political integration in Europe was the result of the interplay of this effect with the other two (economies of scale and redistribution) discussed in this work, as well as strictly political considerations that we do not directly address. In most cases, new members were eager to join because, for them, the “standard” effects of economies of scale and redistribution were very important and likely overshadowed the lobbying effect. For existing members of the EU, the same traditional effects cannot justify the desire for enlargement because the economies of scale effect was small from their perspective and the redistribution effect large and negative. The lobbying effect provides a rationale for EU members being in favor of enlargement.

²⁶As a matter of fact, even special interests that would be expected to oppose enlargement (such as labor unions) did not do so.

²⁷The number of registered trade and business associations is admittedly a rough indicator. However, Greenwood (2003) finds that 70 percent of registered EU-level special-interest groups are identified as “formal business associations.”

We can consider how the lobbying effect could work in practice through an example.²⁸ The EU is, among other things, a regional trade agreement, with no internal tariffs and a common external tariff. In the separation regime, Eastern European countries independently choose their trade policies. Under integration, policy is set in agreement with the other European countries. EU organized groups, mainly the lobby of exporters, find it difficult to influence trade policy decisions in Eastern European countries, but they would be better able to influence these decisions to their advantage in an enlarged union.²⁹

Moreover, the EU has a set of laws that regulate its internal market. This might give another advantage to EU interest groups. Think, for example, of environmental regulation: a lobby of firms can influence what kind of regulation the union can adopt and can push toward rules that favor its technology, but cannot influence legislation in a foreign country. Once Eastern European countries are inside the Union they will have to undertake that regulation, making the expansion of current EU firms into Eastern European markets easier. As tariff barriers decrease, special-interest groups will turn their attention to these “non-tariff” barriers as a way to protect their interests.

The analysis of special-interest politics in an international union highlights an interesting aspect of the Eastern European enlargement – and more generally of political integration – neglected by the existing literature. Forming a union implies a loss of political independence for each country. Our results show that this problem might be particularly relevant for (less organized) Eastern European countries and less important for countries already in the EU. The reason is related to the different concept of political equilibrium that we use in this paper. In the previous literature, political integration implies a change of the median voter equilibrium. Assuming that the two countries have equal size, this change would be fully symmetric and the loss of political independence would be equal for the two nations. Instead, in our model lobbies affect policies in their favor. Therefore, the higher the number of organized groups in a country, the larger is the extent to which that country is able to influence the political process of the Union and the smaller is the loss of political independence. This fact also helps to rationalize the fears of Eastern European nations that their interests will be neglected in an enlarged Union.

²⁸Recent historical accounts of the European integration process (Moravcsik, 1998) and studies by political scientists (Greenwood, 2003) highlight the role of special interests in influencing policies and regulation in the EU.

²⁹The important role played by interest groups in affecting trade policy has been largely studied. For a survey of empirical work in this area see Gawande and Krishna (2003).

5. CONCLUSIONS

When government policy decisions benefit specific groups of individuals, special-interest politics are likely to be an important determinant of the level of provision. The creation (or dismantling) of political unions transforms the setting in which these decisions are made. In this paper, we analyze how political unions affect the provision of different types of public goods and the resulting effect on the welfare of individuals in participating countries. Whereas the existing literature has focused on the tradeoff between political independence (or redistribution) and some sort of economies of scale or spillover, here we identify a new channel that we call the *lobbying effect of political integration*. This effect arises when two (or more) countries with differing lobby structures form a political union. The main result of the model is that individuals in a country with a higher level of special-interest organization will face an additional benefit from political integration. This benefit arises because integration results in a lower level of competition for political influence. The benefit accrues both to individuals who are part of an organized lobby group facing less competition and to individuals who are not organized because they are now exploited by (proportionally) fewer lobbies.

We extend the analysis to allow for the fact that the integration decision itself may affect the decision of groups to become organized. We treat the decision by groups of individuals to become organized as a simple entry game and show that a country where groups face lower costs of organization will have, in equilibrium, a larger share of organized groups. Allowing for political integration and endogenous lobby formation reinforces our original findings.

The results of this paper are presented primarily as a contribution to the understanding of the political economy of integration. We identify a previously ignored channel through which individuals' preferences for political integration are shaped. We feel this contribution is of particular interest because it may apply to the recent enlargement of the EU. Our argument helps to understand why the EU was willing to admit the new members and the opposition of some special interests in Eastern Europe.

APPENDIX A

In this appendix, we provide the proof of the results in the main text.

Proof of Proposition 1. Compare the first-order conditions under separation [equations (10)–(12)] and integration [equations (17)–(19)]. Result (i) is immediate. Results (ii) and (iii) follow from $\lambda_A > \lambda_U > \lambda_B$. \square

Proof of Proposition 2. We first derive equilibrium contributions and then we show that the “lobbying effect of political integration” [i.e. the first

bracketed term in equations (20) and (21)] is positive (negative) for groups in the more (less) organized country. \square

A.1 Equilibrium Contributions

As in Bernheim and Whinston (1986), we consider only truthful contributions, that are given by:³⁰

$$C = W^L - b, \tag{A1}$$

where b is the net of contributions welfare of an organized group.

In order to calculate equilibrium contributions by a lobby, we follow Mitra (1999) by asking what will happen if a small number of organized groups, of measure Δn , decide to defect. Using equation (6), the national government welfare in equilibrium is given by

$$\begin{aligned} \tilde{W}_{GOV}(n) &= \eta \left(n\tilde{W}^L(n) + (m - n)\tilde{W}^N(n) \right) + (1 - \eta)n\tilde{C} \\ &\equiv \eta\tilde{W}_A(n) + (1 - \eta)n \left[\tilde{W}^L(n) - \tilde{b} \right], \end{aligned} \tag{A2}$$

where \tilde{W}_A is aggregate welfare (gross of contributions) and where we make explicit that the welfare of groups and the aggregate welfare (net of contributions) are a function of n . However, if a number of lobbies of measure Δn deviate, the government's welfare changes to:

$$\begin{aligned} \tilde{W}_{GOV}(n - \Delta n) &= \eta(n - \Delta n)\tilde{W}_A(n - \Delta n) \\ &\quad + (1 - \eta)(n - \Delta n) \left[\tilde{W}^L(n - \Delta n) - \tilde{b} \right]. \end{aligned} \tag{A3}$$

For Δn small enough, equations (A2) and (A3) have to be equal. Writing the equality and taking the limit for $\Delta n \rightarrow 0$ we get the net of contribution equilibrium welfare for lobby j :

$$\tilde{b}(n) = \tilde{W}^L(n) + n\tilde{W}^{L'}(n) + \frac{\eta}{1 - \eta} \tilde{W}'_A(n). \tag{A4}$$

From (A1) and (A4), we have

$$\tilde{C}(n) = - \left[n\tilde{W}^{L'}(n) + \frac{\eta}{1 - \eta} \tilde{W}'_A(n) \right]. \tag{A5}$$

The above expression means that the equilibrium contribution level by an organized sector compensates for the reduction in the gross welfare of the

³⁰See Bernheim and Whinston (1986) and Grossman and Helpman (2001) for a detailed discussion of truthful strategies. An equilibrium in truthful strategies has the property that all contribution schedules, when positive, have a slope that is equal to the marginal benefit for the lobby.

other existing organized groups and the reduction in the overall social welfare brought about by the formation of that organized group.

$\tilde{C}(n)$ can be rewritten as:

$$\tilde{C}(n) = W^L(n) - \tilde{V}'(n), \tag{A6}$$

where

$$\tilde{V}(n) = n\tilde{W}^L(n) + \frac{\eta}{1-\eta}\tilde{W}_A(n).$$

Note that

$$\begin{aligned} \tilde{V}'(n) &= V(\tilde{g}^L(n), \tilde{g}^N(n), n) \\ &= \max_g \left[nW^L(g^L, g^N, n) + \frac{\eta}{1-\eta} W_A(g^L, g^N, n) \right]. \end{aligned} \tag{A7}$$

By the Envelope Theorem

$$\begin{aligned} \tilde{V}'(n) &= W^L(\tilde{g}^L, \tilde{g}^N, n) + nW_3^L(\tilde{g}^L, \tilde{g}^N, n) \\ &\quad + \frac{\eta}{1-\eta} W_{A3}(\tilde{g}^L, \tilde{g}^N, n), \end{aligned} \tag{A8}$$

where the subscript “3” stands for the partial derivative with respect to the third argument.

Recalling equation (25):

$$W_3^L(\tilde{g}^L, \tilde{g}^N, n) = -[\tilde{g}^L(n) - \tilde{g}^N(n)], \tag{A9}$$

and using the definition of aggregate welfare, we get:

$$\begin{aligned} W_{A3}(\tilde{g}^L, \tilde{g}^N, n) &= W^L(\tilde{g}^L, \tilde{g}^N, n) - W^N(\tilde{g}^L, \tilde{g}^N, n) \\ &\quad - (\tilde{g}^L(n) - \tilde{g}^N(n)), \end{aligned} \tag{A10}$$

where we have used the fact that $W_3^L(\tilde{g}^L, \tilde{g}^N, n) = W_3^N(\tilde{g}^L, \tilde{g}^N, n)$.

Plugging all these expressions into (A6) and rearranging terms, we obtain the equilibrium contribution schedule

$$\begin{aligned} \tilde{C}(n) &= -\frac{\eta}{1-\eta} GB(n) + n \left(\frac{\tilde{g}^L(n) - \tilde{g}^N(n)}{m} \right) \\ &\quad + m \frac{\eta}{1-\eta} \left(\frac{\tilde{g}^L(n) - \tilde{g}^N(n)}{m} \right). \end{aligned} \tag{A11}$$

Remember from equation (27) that $GB(n) = H(\tilde{g}^L(n)) - H(\tilde{g}^N(n))$ and that n enters the functions $\tilde{g}^L(\cdot)$ and $\tilde{g}^N(\cdot)$ only through $n/m \equiv \lambda$.

Therefore, equilibrium contributions can be written as a function of the share of groups that is organized [as in equation (28) in the main text].

Furthermore, by following the same procedure we find that contribution functions take the same form for lobbies from both countries under political union. The only difference is that $\lambda = n/m$ is replaced by $\lambda_U \equiv (m_{AY_A}/m\bar{y})\lambda_A + (m_{BY_B}/m\bar{y})\lambda_B$. In both equilibria, contribution schedules depend on parameters of interest only through their effect on λ . This is intuitive because equilibrium contributions in the Grossman and Helpman framework compensate the government for the reduction in welfare owing to lobbying activity (i.e. for the change of local public good provision and not for the change in the common public good provision).

A.2 Sign of the Lobbying Effect of Political Integration

1. Non-organized groups

We need to show that the term in the first bracket of condition (20) is positive (negative) for non-organized groups in the more (less) organized country. This is equivalent to showing that $H(\tilde{g}^N)$ is decreasing in λ . Then the result simply follows from $\lambda_A > \lambda_U > \lambda_B$.

Note that

$$\frac{dH(\tilde{g}^N)}{d\lambda} = [(1 - \lambda)\eta + \lambda] \frac{d\tilde{g}^N}{d\lambda}.$$

From the first-order conditions, we have $d\tilde{g}^N/d\lambda = [(1 - \eta)/\eta]/H_{gg}(\cdot) < 0$ which proves the result.

2. Lobbies

We show that the “lobbying effect of political integration” is positive (negative) for lobbies in the more (less) organized country. Using equation (21), this is equivalent to showing that

$$\frac{dH(\tilde{g}^L)}{d\lambda} - \frac{d\tilde{C}(\lambda)}{d\lambda} < 0. \quad (\text{A12})$$

The first term in the last inequality is given by

$$\frac{dH(\tilde{g}^L)}{d\lambda} = [(1 - \lambda)\eta + \lambda] \frac{d\tilde{g}^L}{d\lambda}. \quad (\text{A13})$$

Taking the first derivative of equation (A11) with respect to the fraction of organized citizens, λ , we get the second term in condition (A12):

$$\begin{aligned} \frac{d\tilde{C}(\lambda)}{d\lambda} = & -\frac{\eta}{1-\eta} \left[H_g(\tilde{g}^L) \frac{d\tilde{g}^L}{d\lambda} - H(\tilde{g}^N) \frac{d\tilde{g}^N}{d\lambda} \right] + (\tilde{g}^L - \tilde{g}^N) \\ & + \left(\lambda + \frac{\eta}{1-\eta} \right) \left(\frac{d\tilde{g}^L}{d\lambda} - \frac{d\tilde{g}^N}{d\lambda} \right). \end{aligned} \tag{A14}$$

Using the first-order conditions and simplifying, we get

$$\frac{d\tilde{C}(\lambda)}{d\lambda} = (\tilde{g}^L - \tilde{g}^N) + [(1-\lambda)\eta + \lambda] \frac{d\tilde{g}^L}{d\lambda}. \tag{A15}$$

The result simply follows by substituting equations (A13) and (A15) into condition (A12) and recalling that $\tilde{g}^L > \tilde{g}^N$.

Proof of Lemma 1. From equation (29), we need to show that

$$\frac{H(\tilde{g}^L) - H(\tilde{g}^N)}{\tilde{g}^L - \tilde{g}^N} > \eta + \lambda(1-\eta).$$

From the first-order conditions, remember that

$$H_g(\tilde{g}^L) = \eta + \lambda(1-\eta) < \frac{1}{\eta} [\eta + \lambda(1-\eta)] = H_g(\tilde{g}^N).$$

So that the assumption $H_{gg} < 0$ implies that

- (i) $\tilde{g}^L > \tilde{g}^N$;
- (ii) $\eta + \lambda(1-\eta) < H_g(x) < (1/\eta)[\eta + \lambda(1-\eta)] \forall x \in (\tilde{g}^L, \tilde{g}^N)$.

By the Mean Value Theorem for some $\xi \in (\tilde{g}^L, \tilde{g}^N)$

$$\frac{H(\tilde{g}^L) - H(\tilde{g}^N)}{\tilde{g}^L - \tilde{g}^N} = H_g(\xi).$$

By the above point (ii), we have that $H_g(\xi) > \eta + \lambda(1-\eta)$. So that $NB(\lambda) > 0$.

Proof of Lemma 2. Remember that $NB'(\lambda) = -(\tilde{g}^L(\lambda) - \tilde{g}^N(\lambda)) - H_g(\tilde{g}^N(\lambda))(d\tilde{g}^N/d\lambda)$.

We first consider the extreme cases.

Case 1. Full government benevolence ($\eta = 1$).

In this case, lobbies do not cause any distortion: $\tilde{g}^L(\lambda) = \tilde{g}^N(\lambda)$ and $d\tilde{g}^N/d\lambda = 0$, so that $NB'(\lambda) = 0$.

Case 2. Government only cares about contributions ($\eta = 0$).

In this case, $\lim_{\eta \rightarrow 0} NB'(\lambda)$ is, in general, indeterminate because $\lim_{\eta \rightarrow 0} H_g(\tilde{g}^N(\lambda)) = +\infty$ and $\lim_{\eta \rightarrow 0} d\tilde{g}^N/d\lambda = -\infty$.

However, when we restrict preferences to commonly used utility functions (e.g. Logarithmic, Cobb–Douglas, CIES), it can be shown that $\lim_{\eta \rightarrow 0} NB'(\lambda)$ is always determined and negative.

Now we consider how $NB'(\lambda)$ behaves for $\eta \in (0, 1)$.

$$\frac{dNB'(\lambda)}{d\eta} = - \left[\frac{d\tilde{g}^L}{d\eta} - \frac{d\tilde{g}^N}{d\eta} \right] - \frac{1 - \eta}{\eta} \frac{d(H_g/H_{gg})}{dg} \frac{d\tilde{g}^N}{d\eta} + \frac{1}{\eta^2} \frac{H_g(\tilde{g}^N)}{H_{gg}(\tilde{g}^N)} \geq 0.$$

The first term is always positive. For the same group of commonly used functions, the second term is also positive and always dominates the last (negative) term. Thus, we have that $NB'(\lambda) \leq 0$ for all $\eta \leq 1$. □

Proof of Proposition 3. The discussion in the main text establishes result (i). In order to prove results (ii) and (iii) we need only prove that $\hat{\lambda}_A^S > \hat{\lambda}_U > \hat{\lambda}_B^S$. Suppose that this is not the case. First, consider the case when $\hat{\lambda}_U > \hat{\lambda}_A^S$. This implies that $NB(\hat{\lambda}_U) < NB(\hat{\lambda}_A^S) = K_A(\hat{\lambda}_A^S) < K_A(\hat{\lambda}_A^U)$, which contradicts the equilibrium condition. Similarly, if $\hat{\lambda}_U < \hat{\lambda}_B^S$, then $NB(\hat{\lambda}_U) > NB(\hat{\lambda}_B^S) = K_B(\hat{\lambda}_B^S) = K_B(\hat{\lambda}_B^U)$, another contradiction. □

APPENDIX B

There is no general proof for the existence of an equilibrium in a common agency game with a continuum of principals. Bernheim and Whinston (1986) show that such an equilibrium exists in the case of a finite number of principals. Here we prove that the conditions derived in the main text are necessary conditions for the existence of an equilibrium where all organized lobbies offer a contribution schedule that requires a positive contribution. We do so by showing that the agent (i.e. the government) and the principals (i.e. the lobbies) have no incentive to deviate from this equilibrium.

1. Lobbies

We begin by showing that none of the lobbies (principals) have an incentive to deviate from the specified actions. Specifically, this entails showing that any lobby cannot be made better off by offering a zero contribution (effectively acting as a non-organized group).

Suppose the opposite is true and that an active lobby finds it profitable to abstain from offering contributions. As there is a continuum of groups, each lobby is of measure zero and its deviation does not affect the share of the population that remains organized, λ . Consequently, the government does not alter the quantity of targeted public goods provided to either organized lobbies or non-organized groups (\tilde{g}^L and \tilde{g}^N , respectively). The reason is that

the equilibrium targeted public goods provision only depends on λ . Similarly, the deviation of a lobby does not change equilibrium contributions \tilde{C} (see Appendix A).

The deviating lobby now receives \tilde{g}^N instead of \tilde{g}^L . This implies a gross payoff of \tilde{W}^N as opposed to \tilde{W}^L . Moreover, the lobby no longer has to pay contributions \tilde{C} . The change in net payoff to this group is given by $\tilde{W}^N - \tilde{W}^L + \tilde{C} = -NB$ where the net benefit is given by equation (29) in the main text. Lemma 1 shows that for $\eta < 1$ the net benefit is positive. This is a contradiction because it implies that the deviating lobby incurs in a welfare loss.

2. Government

It is straightforward to show that the government (the agent in this common-agency setup) will not deviate. This follows directly from the fact that

$$(\tilde{g}, \tilde{G}) = \arg \max_{(g, G)} [\eta(m - n)W^N + nW^L] = \arg \max_{(g, G)} W_{GOV}, \quad (\text{B1})$$

where W_{GOV} is given by equation (6) and the last equality follows from the fact that we consider an equilibrium in truthful strategies [equation (A1)].

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REFERENCES

- Alesina, A. and E. Spolaore, 1997, On the number and size of nations. *Quarterly Journal of Economics* 112, 1027–1056.
 ——— and ———, 2003, *The Size of Nations* (MIT Press, Cambridge, MA).
 ———, I. Angeloni, and F. G. Etro, 2005, International unions. *American Economic Review* 95, 602–615.

- Bernheim, D. B. and M. D. Whinston, 1986, Menu auctions, resource allocation, and economic influence. *Quarterly Journal of Economics* 101, 1–31.
- Bolton, P. and G. Roland, 1997, The breakup of nations: a political economy analysis. *Quarterly Journal of Economics* 112, 1057–1090.
- Brou, D. and M. Ruta, 2003, Lobbying, bargaining and EU enlargement. *Rivista di Politica Economica* 1, 2003.
- Casella, A. and J. S. Feinstein, 2002, Public goods in trade: on the formation of markets and jurisdictions. *International Economic Review* 43, 437–462.
- Cheikbossian, G., 2004, Lobbying and rent-seeking for public goods in a fiscally centralized system. *Annales d'Economie et Statistiques* 75/76, 331–351.
- Dixit, A., G. M. Grossman, and E. Helpman, 1997, Common agency and coordination: general theory and application to government policy making. *Journal of Political Economy* 105, 752–769.
- Gawande, K. and P. Krishna, 2003, The political economy of trade policy: empirical approaches, in: E. K. Choi and J. Hartigan, eds., *Handbook of International Trade*, Volume I (Basil Blackwell, Oxford, UK).
- Greenwood, J., 2003, *Interest Representation in the European Union* (Palgrave Macmillan, New York).
- Grossman, G. M. and E. Helpman, 1994, Protection for sale. *American Economic Review* 84, 833–850.
- and ———, 1995, Trade wars and trade talks. *Journal of Political Economy* 103, 675–708.
- and ———, 2001, *Special Interest Politics* (MIT Press, Cambridge, MA).
- Laussel, D. and M. Le Breton, 2001, Conflict and cooperation: the structure of equilibrium payoffs in common agency. *Journal of Economic Theory* 100, 93–128.
- Mattli, W., 1999, *The Logic of Regional Integration: Europe and Beyond* (Cambridge University Press, Cambridge, UK).
- Milanovic, B., 1996, Nations, conglomerates and empires: the trade-off between income and sovereignty. World Bank Policy Research Working Paper No. 1675, October.
- Mitra, D., 1999, Endogenous lobby formation and endogenous protection: a long-run model of policy determination. *American Economic Review* 89, 1116–1134.
- Moravcsik, A., 1998, *The Choice for Europe: Social Purpose and State Power from Messina to Maastricht* (Cornell University Press, Ithaca, NY).
- , 1982, *The Rise and Decline of Nations* (Yale University Press, New Haven, CT).
- Ornelas, E., 2005, Rent dissipation, political viability, and the strategic adoption of free trade agreements. *Quarterly Journal of Economics* 120, 1475–1506.
- Persson, T. and G. Tabellini, 2000, *Political Economics. Explaining Economic Policy* (MIT Press, Cambridge, MA).
- Ruta, M., 2003, The allocation of competencies in an international union: a positive analysis. ECB Working Paper No. 220, April.
- , 2005, Economic theories of political (dis)integration. *Journal of Economic Surveys* 19, 1–21.
- Wallner, K., 2003, Specific investments and the EU enlargement. *Journal of Public Economics* 87, 867–882.