The Common Pool Problem in European Parliaments: The Interrelationship of Electoral and Legislative Institutions

by

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Abstract

The Treaty of Maastricht established debt and deficit limits which states should meet if they are to participate in a future monetary union. This paper considers the relationship between electoral and legislative institutions on the one hand and the size of a given European country's budget deficit on the other. Plurality electoral systems have a "winner-take-all" rule where only the top vote-getter in each district wins a seat in parliament. One way incumbent legislators can appeal for support is to bring home particularistic benefits, such as public works projects. Since her district pays only a small portion of the central government's tax revenues, however, she will ask for more spending than when the central government pays for them than when they have to be paid for with local taxes. In states with proportional representation, on the other hand, candidates do not have the same incentive to offer particularistic benefits to their electorates.

Parliamentary rules which restrict or eliminate the ability of legislators to amend budgetary bills will consequently have the greatest effect in limiting spending in states with single member districts. One of the most effective restrictions is that legislators can only approve or disapprove the entire budget under a "closed rule." Such rules give the government near or complete agenda-setting power. Legislators cannot attach extra spending in their districts, nor can they plan to swap their votes for others who have similar projects earmarked for their respective districts. This theoretical point stands in contrast to authors who would predict that a move to single member districts alone in a country like Italy would lead directly to lower budget deficits. I will argue that a simple change in the electoral system could lead to higher deficits if legislators are not prevented from providing particularistic benefits to their districts. Similarly restrictive parliamentary rules found in France and the United Kingdom are needed in Italy, for instance, if spending is to be limited at the legislative stage.

1. Introduction

In the last twenty years many European states have run persistent governmental budget deficits even in years when their economies have experienced strong economic growth. The Maastricht Treaty's convergence criteria for the common currency have increased interest in the size of budget deficits within European Union countries. The Treaty stipulates that, among other requirements, states reduce their budget deficits to no more than 3% of their gross domestic products per year. While there are certainly favorites for reaching these targets, to date it is unclear which states will qualify under these criteria by the time the participants in the "first wave" are announced in April or May 1998.

A question which the literature has recently addressed is how differences among electoral systems affect the size of budget deficits, and, by extension, the chances that a country will be able to keep deficits under control both before and after EMU. A rough consensus in the literature argues that proportional representation leads to larger deficits than plurality electoral systems (among others Persson and Svensson 1989; Roubini and Sachs 1989; Grilli, Masciandaro, and Tabellini 1991; Hahm 1994; Alesina and Perotti 1995). In contrast, Hallerberg and von Hagen (1997a) contend that the relationship between electoral systems and budget deficits is more complex than others have presumed. Instead of leading directly to larger or smaller deficits, such differences precondition the type of fiscal institutions (either a strong finance minister or binding spending targets) a given government can use to control spending at the cabinet level, and it is the presence of the fiscal institutions rather than the economic ones that affect the size of deficits.[1]

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[1] More specifically, electoral system differences are important because they affect the type of government that is likely to form--plurality electoral systems are much more likely to have one party majority governments, while multi-party majority governments are the norm in most proportional representation systems. In one-party majority governments a finance minister can monitor spending ministers and punish those who "defect" and can consequently lead the government to the collectively valued goal of a low budget. In multi-party coalition governments common under proportional representation, coalition partners are confronted with a principal-agent problem. They cannot guarantee that a finance minister will negotiate deals that benefit the "common" interest, and they will not accept a strong finance minister. A more feasible institutional solution for such governments is the use of credible spending targets.

This paper extends the study of the relationship between electoral and fiscal institutions to the legislative stage of the budget process. Electoral systems affect the incentives for members of parliament to provide particularistic benefits for their districts. Simply put, legislators receive greater electoral rewards for providing such benefits in plurality systems than in proportional representation (PR) systems. This result affects the desirability of certain decision-making rules within parliaments. "Closed rules" which prevent legislators from making amendments to government budget bills lead to smaller levels of spending in states which use plurality electoral systems but have little practical effect one way or the other in states with proportional representation. In contrast, "open rules" which allow amendments can lead to tighter fiscal discipline where proportional representation is the rule but result in much higher deficits in plurality states. In addition to the European countries, this theoretical result has practical implications for the design of institutions in new democracies in Eastern Europe and Latin America.

The paper is organized is the following matter. Section 2 presents a simple model for budgetary votes in a parliament. It indicates how the "common pool resource problem," which exists when actors consider the tax burden only on their constituencies instead of the total tax burden, increases spending. Section 3 compares European electoral systems. Section 4 integrates the expectations about parliamentary and electoral institutions into one framework, and it considers the role that party discipline may play on budgetary outcomes. It also presents initial evidence about the use of open and closed rules in European legislatures and their effects on the level of deficits in the current European Union countries. It finds that, while there is variation in the type of legislative institutions states use, most European countries have adopted the necessary legislative institution for their given electoral system to reduce the common pool resource problem. Section 6 concludes.

2. A Model for the Setting of the Budget in Parliament
a. A Voting Game for Budgeting

This section presents a median voter model for votes on the budget which expands the argument presented in Hallerberg and von Hagen (1997b). Following Ferejohn and Krehbiel (1987), I consider three players, A, B, and C, who vote on a budget, S, which has two dimensions, x and y, labeled military and domestic spending for illustration. The players have preferences over the amounts of spending in each dimension described by the preference (or utility) functions:

$$(1) \qquad U_j = -\frac{1}{2}(x-x_j)^2 - \frac{\varepsilon_j}{2}(y-y_j)^2, \quad j = A, B, C$$

where (x_j, y_j) represents player j's most preferred amount of spending in the two dimensions and $\varepsilon_j > 0$ is player j's utility weight on domestic spending.[2]

If the players vote on each dimension separately the budget is determined by the median voter in each direction, and the total budget is equal to

$$(2) \qquad S_b = \underset{j}{median}(x_j) + \underset{j}{median}(y_j)$$

Neither of these choices depends on the utility weights, ε_j, because neither of the decisions explicitly trades off one dimension for another.

The players also consider the size and the distribution of the tax burden. An important characteristic of public budgeting decisions is that they involve a common pool problem. This problem arises from the fact that the benefits of public sector activities and programs tend to be more focused on particular groups of recipients than their financing. Subsequently, we assume that all expenditures are paid for from a general tax fund equal to the budget.[3] Policymakers recognize the full marginal benefit of an extra dollar spent on

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[2] The model can be extended to more players and dimensions without changing the qualitative results.
[3] For an analysis of the common pool problem including the possibility of budget deficits, see von Hagen and Harden (1996).

their constituents, but they recognize just the share of the marginal tax burden falling on the same group. Thus, for example, a Congressman recognizes the full benefit of road improvements financed with federal monies in his district, but since his voters pay only a small share of the bill, he will ask for more road improvements financed that way than if the improvements were paid for in full by his district.

The common pool problem can be illustrated more formally in the following manner. I assume that the excess burden from taxation, T, which is the economic loss due to adverse incentive effects of taxes on labor and income and inefficiencies arising from tax collection, increases quadratically with the size of the budget, such that

$$(3) \qquad T = \frac{q}{2} S^2$$

However, each player considers only that part of the tax burden that falls on her constituency, represented by p_j, $p_j > 0$, such that $p_A + p_B + p_C = 1$. The preference function for player i is then

$$(4) \qquad U_i = -\frac{1}{2}(x - x^*)^2 - \frac{\varepsilon_i}{2}(y - y^*)^2 - p_i T$$

The process then yields the total budget

$$(5) \qquad S_b = \underset{j}{median}(\frac{x^* + y^*}{1 + p_j q(1 + \varepsilon_j^{-1})}).$$

Note that this budget is larger than if the players had considered the full tax burden instead of just the burden on their respective constituencies. Setting $p_j = 1$ in equation (5), one sees immediately that the respective budget would then be

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$$(6) \quad S_G = \frac{x^* + y^*}{1 + q(1 + \varepsilon_m^{-1})}.$$

where $\varepsilon_m = \text{median}(\varepsilon_A, \varepsilon_B, \varepsilon_C)$. It should be noted that S_G is equivalent to the

maximization of a hypothetical group preference function

$$(7) \quad U_G = -\frac{1}{2}(x - x^*)^2 - \frac{\varepsilon_m}{2}(y - y^*)^2 - \frac{q}{2}S^2 \; .$$

The group's preference function applies the median weight on domestic spending and

recognizes the full tax burden on those players.

b. Open and Closed Rules in the Legislature

While the simple voting game presented above is meant to represent a simplified

parliament, there are other factors that deserve consideration. First and foremost,

parliament's consideration of the budget is the second stage of a multi-stage process. The

government of the day in all cases in Europe first formulates a budget proposal and then

submits it to parliament. In public choice parlance, the government represents an agenda-

setter who sets the terms of the debate on the budget. In cases where the government seeks

to maximize a hypothetical collective preference function, its agenda-setting power reduces

the common pool problem. This is most likely the case where a strong finance minister or

negotiated targets are used when the cabinet considers the budget (Hallerberg and von

Hagen 1997a).[4] In cases where the government proposes a budget where the common

pool problem is endemic, however, a weakening of the agenda-setting power of the

executive may lead to a lower budget. After reviewing the theoretical expectations based

largely on Romer and Rosenthal's (1978, 1979) model of an agenda setter, I argue that

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[4] Hallerberg and von Hagen (1997b) consider an agenda setter who consciously seeks to maximize the group's hypothetical preference function in the American context.

one's need to strengthen the government's agenda-setting powers to reduce the common pool problem varies according to the electoral system used in a given country.

The agenda setter makes a proposal at each stage to be voted on by the other players and herself. The stronger her agenda-setting power, the smaller the scope for the other players to amend her proposal in the final decision. What will be the ideal budget of the agenda setter? I consider two polar possibilities. First, I assume that the agenda setter seeks the solution where the full tax burden is considered and where budget-maximizers are not able to include additional spending. The size of the agenda-setter's budget is then equal to S_G, which is equivalent to the budget that emerges when the players consider the entire tax burden in their preference functions. Such an agenda-setter may be selected by the group because, as their hypothetical group preference function given in equation (7) suggests, the players themselves have a collective interest in resolving the common pool problem.[5]

The second case is the one where the agenda-setter chooses a budget equivalent in size to the situation where the players who are "high demanders" in a given spending dimension decide the level of spending for that dimension. An agenda-setter then exacerbates the size of the common pool problem as long as the players are assumed to continue to consider just the tax burden on their respective constituencies.

This setup therefore parallels the outcomes from the governmental stage predicted in Hallerberg and von Hagen (1997a). In the latter situation where the agenda setter presents the collectively optimal budget, the common pool problem has already been solved within the cabinet. In the former situation, in contrast, where "high demanders" determine spending, spending ministers within the cabinet decide autonomously the level of expenditures in their ministries, and a coordinating device to reduce the common pool problem at the cabinet level is lacking. It also corresponds to the American case where

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[5] Whether the players have an individual interest in considering the entire tax burden is a different matter and depends on the distribution of the tax burden. An extreme case illustrates the point--if only one player's constituency bears the entire tax burden, then the other two will vote for much higher spending than if their constituencies had to pay some to taxes as well, and they will have no incentive to solve this extreme common pool problem. The median voter will therefore not support an agenda-setter.

Congressional committees stacked with members who want increased spending for their respective jurisdictions have some gate-keeping power. As will be illustrated shortly, these distinctions are important because they affect which parliamentary institutions can lead to lower spending.

If the actors simply vote on the setter's proposal versus the proposal of the median voter, the setter will have no effect on the final outcome. If the setter can assure that the vote is only between her proposal and some exogenous alternative, however, the setter can affect the level of spending which a parliament approves. In particular, the players operate under a closed rule, which means that they cannot make amendments to the agenda-setter's proposal. Following the Romer and Rosenthal model, I assume that the setter knows the preferences of the actors, that all players know both the setter's proposal and the default, or reversion, budget they will receive if they reject the setter's proposal, and that the vote on spending is taken in one dimension (1978, 1979)[6].

Romer and Rosenthal concentrate on the situation where the setter is a budget-maximizer and where the reversion level is below the median voter's preferred level of spending. This situation is portrayed graphically in Figure 1, Part i. The median voter will support whatever proposal is the closest to her ideal point M. The agenda setter for her part would prefer the higher level of spending at point A, and she proposes a take-it or -leave-it level of spending to the median voter. In Part i the reversion point lies at R, and the agenda-setter will then propose B which the median voter will consequently accept. The

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[6] The last requirement that the vote on the budget is taken in one dimension is not necessarily what occurs in practice. In cases where the parliament first votes on the total size of the budget (i.e., a top-down process), this assumption is not problematic. In cases where the players vote on the budget one dimension at a time, however, it may be that the agenda-setter prefers higher spending than the median voter in the legislature in some areas and lower spending in others. While that is certainly a possibility, in most cases it is unlikely to occur. If the cabinet resolves the common pool problem before sending its budget proposal to the legislative floor, it with usually ask for a smaller level of spending in each dimension because, unlike the median voter, the cabinet's proposal considers the full tax burden.

Some readers may also wonder why I use this earlier model instead of variant of Baron and Ferejohn (1989) or Baron's (1996) models on votes in a legislature. While those articles add important features to a legislative voting game that are not included here, such as discount rates and iteration, my concern is with how electoral systems affect the outcome, not with developing a legislative model *per se*. I therefore rely on the simpler Romer and Rosenthal framework. Future extensions could, of course, consider how electoral systems affect both the discount rates of actors and the expected length of the game.

general lesson is that the lower the reversion level is from the median voter's ideal point the higher the budget above the median's preferred point the setter will propose. Note that, if the reversion point is higher than what the median voter wants (Figure 1, Part ii), the agenda setter will simply propose the reversion point so that $R = B$.

Now consider the situation where the setter desires a lower level of spending than the median voter, or where $A < M$, which is portrayed in Figure 1, Part iii. If the reversion level is higher than M then the agenda-setter will propose a budget B which is lower than the median voter's ideal point. Conversely, if the reversion point lies between the ideal budgets of the median voter and the setter respectively, the setter always proposes the reversion level as the final budget (Figure 1, Part iv).

Two important lessons emerge from this model. First, setting a low reversion level does not necessarily lead to a lower budget--if the agenda setter desires greater spending, progressively lower reversion levels lead to correspondingly higher budgets so long as $A - M > M - R$. In addition, if the agenda setter supports lower spending than the median voter, it is the relative distance from the median voter's position rather than the absolute location of the reversion level (i.e., higher or lower than the median) that matters. Second, the location of the agenda-setter affects the desirability of a closed rule for votes on the budget. As the previous section documented, a median voter who considers the tax burden on her constituency will support a higher level of spending than if she had considered the full tax burden. An agenda setter whose spending preference lies below the median voter can therefore represent a solution to the common pool problem in the parliament. If the agenda setter is located below the median voter, then she should be guaranteed a closed vote on the budget regardless of where the reversion level is set. At the same time, if the agenda setter is located above the median voter, the common pool problem is likely worse at the governmental stage than at the parliamentary stage. The median voter should make the final decision on the budget and an open rule should be used on votes for the budget.

The most important part of this set-up is therefore the location of the agenda-setter relative to the median voter, and I will consider the location of the reversion point as exogenous to the model and as fixed. One common reversion point is last year's budget. In Spain, for instance, if parliament does not approve a budget then the previous year's budget is simply carried forward. If there is any inflation, constant spending in real terms implies a decrease in the provision of goods, and the same budget in nominal terms will lead to a declining real budget. The reversion point is then generally lower than the median voter's position, [7] and, so long as the reversion point is not at the same place as the median voter's most preferred level of spending, the agenda-setter has some power in this framework. For the purposes of this paper, the reversion level is therefore assumed to be below the median voter's ideal position.

There is a further reason for concentrating on the location of the agenda-setter instead of on the location of the reversion point. While Romer and Rosenthal discuss the situation where the agenda-setter only has the power to make a take-it or leave-it offer to the median voter, in fact the agenda-setter may have additional means to move the median voter's decision towards her ideal point. One can imagine several practices that give the agenda setter some leverage in the budget process. A common way to favor the setter's position is to require something more than a simple majority vote to overturn the setter's decision. Under Gramm-Rudman-Hollings in the United States, for instance, an amendment to a bill proposed in the Senate which increased spending over the agreed-upon targets without a corresponding spending cut required a 3/5 majority vote (Wildavsky and Caiden 1997, 133). A second device is to require government approval for any Member of

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[7] The American experience with the Gramm-Rudman-Hollings Act demonstrates that the assumption of a fixed reversion point is not always realistic. The Act required across-the-board cuts in several departments if Congress did not act to lower the aggregate size of the budget. The "players" themselves therefore specified reversion levels in future years. While the proviso arguably forced the respective players to agree to budgets smaller than they would have been had Gramm-Rudman-Hollings never passed, the "players" also repealed the provisions for mandatory cuts in 1990. This example indicates that the reversion level is sometimes part of the debate. If the median voter controls the reversion level the agenda-setter will not be able to force a lower budget than the median-preferred position.

Parliament's bill whose main purpose is to raise spending. The United Kingdom, Portugal, and Spain use this rule (Döring 1995, 232-233).

Party discipline also plays an important role. One factor among others that affects the agenda setter's power is her ability to offer selective incentives or inflict selective punishments on actors who do not support her position. In the American case, the Speaker can reward loyal congresspersons with committee assignments. More punatively, assuming a supportive majority leader and Rules Committee, she can refuse to report a given committee's bill to the floor for consideration (Cox and McCubbins 1993, Chaps. 7, 9). If the agenda setter is a party leader she can threaten to withdraw party support of a given player. This threat can be especially effective in the European context, where a leader can withhold campaign funds, leave intransigent members off of party lists, and even simply expel a rebel from the party. In Greece, for instance, the party leader even has control over who can speak before the parliament. (Alivizatos 1990, 146). If party discipline is perfect or nearly so, it is not unreasonable to conceive of the only important actors being parties instead of individual legislators. In such a case, unanimous agreements on the budget can also reduce the common pool problem.

3. European Electoral Systems and the Size of the Common Pool Problem

The common pool problem is expected to be especially severe in pluralist systems for two reasons. First, candidates in plurality systems are more likely to benefit from the provision of particularistic goods to their electoral district. Second (and more speculatively), political parties, which can provide a coordination device outside of parliament to reduce the common pool problem, are expected to be weaker in plurality systems than in PR systems. Legislative institutions which strengthen the government's role as agenda-setter are therefore most needed in states that use plurality.

The rules for pluralist systems are usually simple. The country is divided into many electoral districts, and only one member of parliament is elected per district. While

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the party affiliation of a given candidate may appear on the ballot, voters cast their ballot directly for a person, not a party. The candidate with the most votes in a particular electoral district wins the seat, and the rest of the candidates who receive less than the plurality of the vote receive nothing.

This system has implications for the number of political parties, the way candidates campaign, and for the organizations of parties. Plurality systems tend to be two party systems. In an explanation that has stood up well since it was first published in the early 1950's, Maurice Duverger provides two reasons for the link between plurality and two-party electoral systems. First, competition for votes drives candidates towards the median voter, and political parties on the extremes of public opinion cannot hope to win a plurality of seats. These parties quickly die out (Duverger's mechanical effect; Duverger, 1954).[8] Second, even if a smaller party runs candidates and if a small segment of the population prefers those candidates, these voters will not sincerely support these parties because they fear that their vote will be "wasted" on a party that stands no chance of winning the seat (Duverger's psychological effect). They therefore vote for the large party closest to their true preference.

It should be emphasized that this system leads to two "effective" parties, not to two parties in the legislature.[9] Indeed, the plurality electoral system encourages local personalities to run in individual districts who may have no party affiliation at all, and there may be several parties that receive legislative seats. This result comes from the nature of competition among candidates in a given electoral district. A candidate must only convince a plurality of voters to cast ballots for her in her district, and she will stress only the policy dimensions that are relevant in her given district. Districts tend to vary across a given

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[8] A recent empirical confirmation of Duverger's mechanical effect is found in Taagepera and Shugart (1993).
[9] A measurement for effective parties considers the strength of parties and well as their absolute number. The measure that will be used here is for the effective number of parties in parliament and is taken from Mark Laakso and Rein Taagepera, as quoted in Lijphart (1994, 68). It is calculated as $N_s = \dfrac{1}{\sum s_i^2}$,

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country, with class being the relevant cleavage in some parts of the country, linguistic divisions perhaps in another part, and religion in perhaps still a third part. Parties with strong regional support but weak national support may be able to win a handful of seats. As Richard Katz persuasively argues (1980), candidates have an incentive only to move towards the median position on the relevant policy dimension, and, assuming politicians are risk-averse, they will be intentionally vague about their positions on other dimensions. Plurality elections also encourage incumbents to provide particularistic benefits to the district in the hope of convincing voters that she has looked out for the district's interests at the national level.

This is an important result in the discussion of the common pool problem. Members of parliament receive electoral benefits in terms of votes needed to win an election if they consider the spending requests and tax burdens of just their respective districts. If the tax burden is divided relatively evenly among the districts, an implication is that the common pool problem will worsen as the number of representatives sent to parliament increases (Weingast, Shepsle, and Johnsen 1981).

The electoral incentive structure also contributes to the formation of relatively weak parties. Since districts tend to vary across a given country, members of the same political party may espouse much different policy positions. In the United States, for example, district preferences vary systematically with geography, and as a consequence it is not surprising that Democrats from the south have different policy preferences than their party colleagues from California or New York. In addition, since small parties cannot win seats by themselves, they have an incentive to merge with other parties to increase their numbers. The implication is that parties tend to resemble a loose collection of different groups which often have contradictory policy positions.[10] While it is beyond the scope of this paper to

where N_s equals the effective number of parties in parliament and s_i equals the proportion of seats party i possesses in the legislature.

[10] Lee Atwater's vision of the Republican Party as a "big tent" able to encompass both sides of the abortion debate and John Major's "classless society" can be seen as attempts to emphasize that their respective parties are mass organizations able and willing to accommodate many, sometimes contradictory, interests.

treat systematically the effect of the pluralist system on appearance of the government (see Hallerberg and von Hagen 1996a), readers should note that, since pluralist systems usually have two dominant parties, one-party majorities are common electoral results, and they are then translated into one-party majority governments.

How does the plurality system compare with a proportional representation system? Under PR voters cast ballots for a party instead of an individual candidate. Parties for their part submit lists of persons to be elected, and, in its purest form, the percentage of persons on the list elected corresponds to the percentage of the popular vote the party received. This procedure implies that, if the Dutch Labour Party wins 33% of the vote, the top third of the names on that party's list are elected as members of parliament.

In practice, however, the proportion of seats a party wins varies systematically across countries from its proportion of the popular vote. Perhaps the most important determinant of proportionality is the number of candidates per electoral district, or what is commonly referred to as 'district magnitude.' Countries with low district magnitudes are, as a rule, less proportionate than countries with a large district magnitude, and systems with low district magnitude favor larger parties. In Spain, for example, where the average district magnitude is just 6.73, the Socialist party won 44.3% of the popular vote in the 1986 national elections but 52.6% of the seats in the Congress of Deputies.[11] At the other extreme, the Netherlands has only one electoral district composed of 150 seats for the entire country, and a party that wins less than one percent of the national vote can gain seats in parliament. Other factors which affect proportionality include legal barriers which require a party to gain a certain percentage of the national vote to win legislative seats, the method used to apportion seats, and whether or not a second allocation of seats is used to reduce disparities at the district level.[12]

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[11] Thomas T. Mackie and Richard Rose (1991, 397, 399). The average district magnitude figures is reported in Lijphart (1994, 22).

[12] A succinct summary is found in Michael Gallagher, Michael Laver, and Peter Mair (1992, 153-159).

PR systems also change the incentive structure for candidates in their campaigns. Parties have an incentive to run candidates in every part of the country, since even a weak showing in a given area can add votes to the final national total which is used to determine parliamentary seats. National competition implies that parties must often deal with many policy dimensions at once, and candidates will have to provide a complete policy platform that considers each dimension. Since a given party faces multiple enemies, it will have to be more precise and more consistent in staking out its positions. The presence of several opponents means that a given party will in most cases face an opponent to either side of it on a given issue, and parties have an incentive to differentiate themselves from their closest rivals. Parties that insist on vague platforms will likely lose voters to their better-defined competitors.[13] Unlike in pluralist systems, candidates also do not have the incentive to offer particularistic benefits to electoral districts. In electoral districts with a high district magnitude it is difficult for a particular legislature to claim credit for a given benefit (Katz 1980). When the electoral district is the entire country, particularistic benefits for a given district are obviously not possible, since by definition such benefits are exclusive goods that the general population cannot enjoy.

The implication for the study here is that the common pool problem should be much less of a concern at the parliamentary stage in PR states than in plurality states. There may, of course, be some variation, with PR countries that have very small district magnitudes such as Greece and Spain resembling plurality countries, but one would expect the general trend to hold.

Other things equal, parties are also expected to be more centralized and to possess greater discipline in PR states. Since candidates campaign on party platforms instead of individual dimensions, parties are more ideological and members of parliament have more

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[13] Richard Katz provides the best explanation of the difference between plurality and PR systems: "If redistribution of income, for example, is an important issue, each candidate competing under a plurality formula would be expected to stress only that he favored more or less redistribution than his optimal enemy in the district. Candidates in PR systems, however, ought to stress exactly how much redistribution they favor since, in general, they will have to defend their share of the electorate against parties that favor more

consistent policy views. The selection process for party lists also provides the leadership with a powerful weapon against party dissenters. When parties instead of voters determine a candidate's position on a given list, the leadership can move "rebels" down the list, if not delete them altogether.

A final important feature of PR systems is the shape of government. Since more than two parties usually compete in elections, one-party majorities are rare. Coalition governments are therefore the norm. Negotiations among the coalition parties determine which parties get which portfolios, and, by extension, the distribution of power in the cabinet.

[Table 1 About Here]

Table 1 compares the political systems of the European Union countries. A few points require clarification. First, while France uses a plurality system in all elections but those held in 1986, it's system of two rounds of votes increases the effective number of parties in parliament. Unless a given candidate wins an absolute majority in the first round, a second round of voting is held. This process encourages several parties to run candidates in the first round and to form electoral coalitions for the second round. The two rounds of voting means that smaller parties do not have to merge into larger ones, and this process increases the effective number of parties within the legislature. The predicted emergence of two strong blocks facing each other under plurality does still occur, however, with the UDF allying almost exclusively with the RPR and the PS with the communists.

Second, PR systems do not translate the percentage of votes directly into the percentage of seats, and "small" parties often cannot gain entry into the legislature. Such barriers are sometimes legal barriers (such as Germany's requirement that a party win either 5% of the nation-wide vote or three seats by plurality vote) or less obvious barriers built into the system, such as small district magnitudes or allocation rules which favor larger parties over smaller ones. Arend Lijphart translates these rules into an "effective

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distribution as well as against parties that favor less." Katz (1980, 27).

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threshold," which is the percentage of the national vote a party must receive to expect to gain any legislative seats.[14] The higher the effective threshold, the fewer the number of parties, since only larger parties can win seats. Indeed, the correlation between the effective threshold and the number of parties within the European Union has the correct sign at -.46, and it jumps to -.60 if France is excluded from the sample.

4. Bringing the Pieces Together: Electoral and Legislative Institutions and their Effects on the Size of Budget Deficits

One can now integrate the expectations about parliamentary and electoral institutions into one framework. As the previous section indicated, the district magnitude affects whether or not legislators can expect to profit from providing particularistic benefits to their electoral districts. Only France and Britain have district magnitudes of one, and pork-barrel projects coming out the legislature should be of concern in these states. The overlapping jurisdictions that politicians have in France makes the problem especially acute. Many legislators simultaneously sit on local councils or are mayors of towns, and particularistic benefits can increase one's power base at several levels. Germany also has single member districts for half of its seats, and excessive spending amendments might be expected here as well. There is some evidence that the "personal" vote for a given candidate has little effect on one's party voter, however, and the effect in Germany should be minor.[15] Finally, Greece and Spain are two PR states which stand out because they have low district magnitudes. Candidates running for office therefore likely have some incentive to provide particularistic benefits in these states as well.

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[14] More specifically, the "effective threshold" is the mean of the lower threshold, which is the minimum proportion of votes needed to gain representation, and the upper threshold, which is the proportion of the votes where one is guaranteed to win a seat. Lijphart (1994: 25-30) provides further details on the creation of the index.

[15] Bawn (1993) indicates that the Social Democrats and the Free Democrats passed the two vote system in 1953 to reduce any incumbency effects that the electoral system might encourage. In the 1949 election, voters cast their ballots just for a given candidate, and party proportions were divided according to the party affiliation of a given candidate. Pork-barrel projects would presumably have been more profitable for incumbents under the latter system.

[Table 2 About Here]

Table 2 compares this paper's expectations about the size of the common pool problem at the governmental and legislative stages. Hallerberg and von Hagen (1996a) indicate that the common pool problem is minimized at the governmental level in states which use either a strong finance to coordinate the cabinet members (referred to as "strategic dominance") or budget targets negotiated among the coalition members, and such states are therefore classified as having a "low" level common pool problem. Combined with the theoretical expectations about electoral systems derived here, Table 2 indicates that closed rules on budget votes are most important in states where the common pool problem is low at the governmental stage and high within parliament, i.e. plurality states were strategic dominance is the pattern. Conversely, when the common pool problem is not solved at the governmental stage and when the problem is low in parliament, an open rule will reduce the common pool problem. In the two cases where the expected size of the problem is more or less the same at both stages, the use of an open or closed rule is less relevant.

[Table 3 About Here]

Table 3 compares the expected size of the common pool problem at the two stages for all European Union countries. Based on this table, a closed rule at the parliamentary stage is most important in France, Ireland, and in the United Kingdom. Conversely, an open rule should be pursued in Belgium, Portugal, Sweden, and perhaps in Italy, although in Italy the existence of strong parliamentary committees may make a closed rule more necessary that an open one.[16]

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[16] The "distributive" school argues that committees are composed of high demanders for the services for which the committee holds a jurisdiction (Shepsle and Weingast 1987; Weingast and Marshall 1988). If a closed rule exists, then the committees can benefit from coordinating their spending requests with other committees. One way to break this coordination is to introduce open rules (Baron 1991). As Hallerberg (1997) shows, however, such committee structures serve as an alternative agenda-setter to the government,

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One qualification to this discussion concerns party discipline. First, in parliaments where party discipline is high, an open rule may make little difference since the median voter is expected to support her party even if her true preferences are for lower spending. Second, party discipline can potentially play a positive role in reducing the common pool problem. A party leader can play the finance minister's role of fiscal entrepreneur within the legislature and assure that the budget that gains approval meets the collective requirements of the party. Like the prime minister, the party leader can increase her personal benefits only if her party is successful at the polls.[17]

Unfortunately party discipline is not a full-proof way to deal with the incentive for legislators to increase spending. One problem is that plurality electoral systems tend to have weaker parties than PR systems, and it is exactly in plurality systems where this discipline is most needed. Section 2 predicted that states with single member districts should have lower party discipline, ceteris paribus, than states with multi-party districts. It also indicated that states with high effective thresholds force smaller parties to merge, and that this process makes parties in such states little more than loose coalitions of interests.[18] Table 4 therefore separates states according to their effective thresholds.

[Table 4 About Here]

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and, since the parliament elects the government in the first place, are unlikely to exist in parliamentary systems. Mattson and Strøm (1995) indicate that Italy is the only European country that has strong committees.

[17] Theories of the firm also provide reasons why party discipline is important. In a repeated sales game played between consumers and sellers, sellers nearing retirement have nothing to lose if they provide an inferior product in the last round they play with customers, since they no longer need to maintain a reputation to assure that customers keep coming back. In contrast, firms play a repeated game with consumers more or less infinitely, and even if particular persons leave the firm has an interest in maintaining its reputation. Similarly, political parties have reason to maintain their reputation among voters, even if certain individuals anticipate retiring or leaving politics (Cox and McCubbins 1993).

[18] The comparisons are necessarily rough, but most persons familiar with European parties would agree that the British parties within Britain have a higher level of discipline than those in Italy. A more systematic measure would of course be desirable, but to my knowledge such an index does not currently exist. Herbert Döring in correspondence with the author also indicated that such an index has yet to be created.

The relationship between effective threshold and party discipline exists to some degree-- five of the six states with high party discipline have low effective thresholds. Yet surprisingly three of the five countries with low party discipline are also in low threshold states, and two-thirds of the high-threshold states have medium or high discipline. With regard to the common pool problem in legislatures, this table indicates that the two states with single-member districts with plurality rules, France and the United Kingdom, do not have strong party discipline. They therefore need institutional restrictions on the right of parliamentary private members to amend budget bills in order to avoid the common pool problem. In states with high party discipline, such as the Scandinavian countries, the Netherlands and Luxembourg, open or closed rules are likely to make little difference.

[Table 5 About Here]

Table 5 compares the size of the common pool problem in the legislature with the type of parliamentary rules expected to reduce the problem (from Tables' 2 and 3) and whether or not there are restrictions on amendments made to budget bills. Those rules that are predicted to reduce the common pool problem unambiguously, i.e. those cases where the extent of the common pool problem should not be the same at the governmental and executive stages, appear in bold text. Although there are only six cases, it is noteworthy that all six have the expected presence or lack of full amendment power, which happens only one in 2^6 of the time, or 1 in 64. This stands in contrast to the cases where an open or closed rule is not expected to make much difference--half of the time the states restrict amendments, half of the time they do not. One interesting finding here as well is that two of the three states where open rules are expected to be beneficial to the resolution of the common pool problem also have low party discipline, which implies that the use of an open rule might in fact be beneficial. In the remaining state were an open rule is expected to be

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useful, Sweden, party discipline is also high, and the rule probably has little impact as the median voter is likely to vote with her political party.

Table 5 also contrasts the expected size of the common pool problem in the legislature with Döring's (1995) measurement of the power of the government to determine the plenary agenda. Indeed, keeping in mind that an increasing number on the Döring index indicates a decreasing level of government control over the agenda, the Spearman Rank Correlation between the Döring Index and the predicted level of the Common Pool Problem is high and has the expected sign at -.72. The two countries which use a pluralist electoral system and hence have the strongest incentives for pork barrel politics within the legislature, Great Britain and France, and which do not have strong party discipline, also have governments with strong agenda setting power. In addition, governments are strong in two other states where the common pool problem is expected to be high, in Greece and in Ireland. Spain is the only country where the common pool problem is expected to be large and where the government's agenda setting power is merely average. In contrast, in those countries both where party discipline is high and where the common pool problem is expected to be low, the average figure for government control of the agenda is 5 compared to 3.1 for the other states, where an increase in the figure indicates a decrease in government control. Intuitively, this makes sense--in those cases where party discipline is high there is little need for institutions to guarantee the government's leading role over the parliament.

The implication is that the common pool problem is largely solved within West European legislatures. Where there are differences in the size of budget deficits, they likely come from a failure to solve the common pool problem at the executive stage. This also makes testing the effects of the reduction of the common pool problem at the legislative stage extremely difficult, since only one state where the problem is expected to be significant, Spain, does not have an institutional response in the form of restrictive legislative rules. In addition, with respect to the six states where an open or closed rule

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will reduce the common pool problem given the absence or presence of institutions that reduce the problem at the governmental stage, all six adopted the rule and there is hence no variation that can be used to test the effect of the common pool problem in the legislature..[19]

Nonetheless, one can test for the assumption that amendment restrictions by themselves reduce the size of budget deficits. Table 6 presents the results from a regression which uses data from all the current European Union states but Austria from 1981 to 1994 and which includes a dummy variable for the presence of restrictions on amendments to budget bills. As control variables, the regression also includes measures identified by Roubini and Sachs (1989) as well as DeHaan and Sturm (1994) as being important, as well as the two institutional variables (a strong finance minister or negotiated budgetary targets) that Hallerberg and von Hagen (1996a) identify as relevant at the governmental stage. While the dummy for the use of limited amendments is indeed negative, its sign is not significant. This result indicates that closed rules do not lead to an unambiguous reduction in the common pool problem, and indeed provides indirect evidence for this paper's contention that the desirability of open or closed rules depends on whether or not the common pool problem has first been solved at the governmental stage.

5. Conclusion

Rules which restrict or eliminate the ability of legislators to amend budgetary bills are found in states with single member districts where they are most needed. Without these rules, however, budget deficits, ceteris paribus, should be worse in pluralist systems. This theoretical point stands in contrast to Grilli et. al. (1991) who would predict that a move to single member districts like Italy recently made would lead to lower budget deficits. As this paper has argued, a move from proportional representation to some form of plurality will increase significantly the scope of the common pool problem. Similarly tight rules

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[19] A dummy variable for states that adopted the suggested method also makes little sense. Since the nine others had no obvious need to adopt one of the rules, there is no reason to believe that there should be a difference between the two groups of states.

found in France and the United Kingdom are needed in Italy if the common pool problem is to be limited at the legislative stage.

More generally, this framework may explain why closed rules are optimal in some cases and closed rules in others. Baron (1991) indicates that "open rules" which allow legislators to amend budget bills lead to smaller budgets than "closed rules" which mandate a simple up or down vote on the entire bill. In his work von Hagen (1992; von Hagen and Harden 1994a and 1994b) argues just the opposite--closed rules lead to tighter fiscal discipline. The answer suggested here is that it depends--if the common pool problem is not solved at the governmental stage, an open rule in parliamentary votes may reduce the size of the budget if party discipline does not compel the median voter to support her party colleagues in government. This situation is most likely to occur in states which have proportional representation systems.

This paper sets out to explain how electoral systems indirectly affect the size of budget deficits. What it finds is that the legislative institutions European states use match so closely what I predict is needed to reduce the common pool problem that there is not enough variance to examine whether these institutions matter. Indeed, although it borders on functionalism, the model here may explain why variations exist in the legislative structures of European countries. The Döring edited volume (1995) represents one of the first attempts to compare systematically European legislative institutions. The authors in the volume provide valuable information about the legislatures but do not attempt to explain in any systematic fashion why differences exist among them. This paper therefore may provide a first answer by examining both the electoral systems and the structure of institutions at the executive level. It may also guide others who have little experience with parliamentary systems. While the established democracies in Western Europe have put the necessary legislative institutions in place to reduce the common pool problem, young democracies in Eastern Europe and in Latin America are still at the early stage of institution building.

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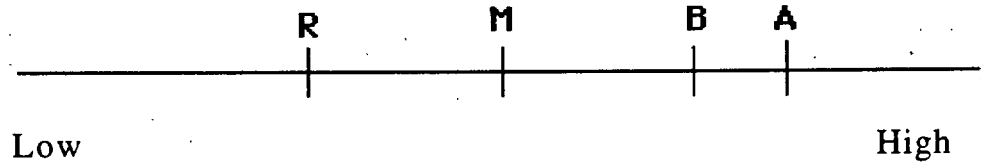**Figure 1: The Power of the Agenda Setter**
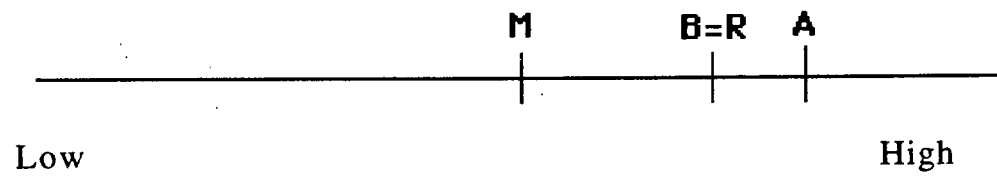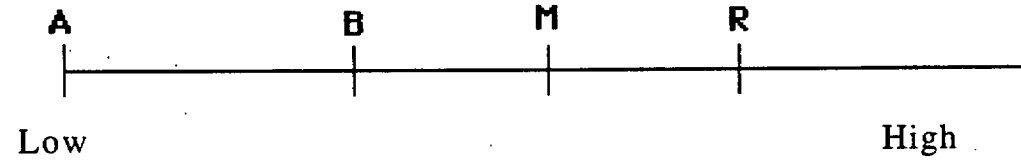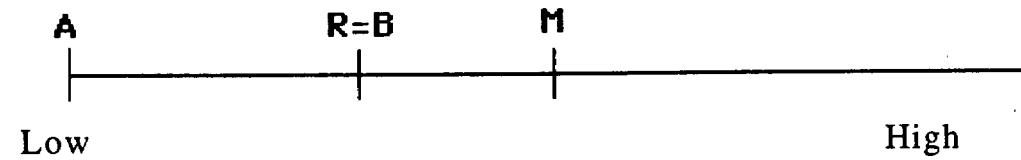
Figure I.i

Figure I.ii

Figure I.iii

Figure I.iv

Table 1: Comparison of Electoral Systems within the European Union

State	System	District Magnitude.	ENPP	Effective Threshold	Years in the Lijphart Study
Austria	2-Tier PR, Remainder Transfers	20.33/91.5	2.42	2.6	71-90
Belgium	PR	23	4.63	4.8	46-87
Denmark	2-Tier PR, Adjustment Seats	7.3/175	4.92	2	64-88
Finland	PR	13.21	5.03	5.4	45-87
France(Fifth Republic)	Plurality	1	3.5	35	58-81
Germany (West)	2-Tier PR, Adjustment Seats	1/497	2.95	5	57-83
Greece	'Reinforced' PR	6	2.08	16.4	74-85
Ireland	STV	3.75	2.79	17.2	48-89
Italy	2-Tier PR, Remainder Transfers	19.55/625.75	3.62	2	58-87
Luxembourg	PR	14.02	3.3	5.1	45-89
Netherlands	PR	150	4.59	0.67	56-89
Portugal	PR	12.4	3.05	5.7	75-87
Spain	PR	6.73	2.72	10.2	77-89
Sweden	2-Tier PR	11.07/350	3.4	4	70-88
U. K.	Plurality	1	2.1	35	45-87

"PR" corresponds to "Proportional Representation," "STV" to "Single Transferable Vote," and "ENPP" to "Effective Number of Parliamentary Parties." All figures but those on one-party majorities come from Lijphart 1994, 17, 22, 31,33-35, 44, 160-162; the one party majority figures are based on Woldendorp, Keman, and Budge (1993). Greece, Portugal, and Spain were not democracies during the entire period, and the years covered are, respectively, 1974-90, 1975-90, and 1977-90. This data is published in various issues of the *European Journal of Political Research*, and is based on the date of an election instead of the date of investiture used for the other countries. The figures for France are just for its Fifth Republic, or 1958-90, and include the period 1986-88 when the country used a proportional representation system. The Austrian and Irish data were not completely accurate in Woldendorp, Keman, and Budge (1993). The author supplemented the Austrian data himself, while Jesse (1996), Chapter 2, was used for Ireland, which includes the period 1951-90 here. This table appears in a slightly different form in Hallerberg and von Hagen (1997a).

Table 2: Expectations about the Extent of the Common Pool Problem In Government and in the Legislature

Electoral System	Type of Government	CP Problem in Government	CP Problem in Legislature	Rule Reduces CPR
Plurality/ Low Mag. PR	1 Party w/ Strategic Dominance	Low	High	Closed
	1 Party w/Fiefdom	High	High	Closed (?)
PR	Coalition w/Targets	Low	Low	Closed (?)
	Coalition w/Fiefdom	High	Low	Open

Table 3: Comparison of the Common Pool Problem at the Governmental and Legislative Stages

	Legislature	
	CPR Problem: *Low*	*High*
Government		
Low	Austria, Denmark, Finland, Germany, Luxembourg, Netherlands	France, Ireland, UK
High	Belgium, Portugal, Sweden	Greece, [Italy], Spain

Whether the common pool problem is high or low at the governmental stage depends on whether or not a given country used either a strong finance minister or negotiated budget targets. If such institutions exist, then the common pool problem is low. The data for the governmental stage comes from Hallerberg and von Hagen (1997a).

Italy is in brackets because its strong committee system potentially exacerbates the common pool problem in parliament even though through the early 1990's it used a proportional representation system.

Table 4: Comparison of Party Discipline and Effective Threshold

		Party Discipline		
		Low	*Medium*	*High*
Effective Threshold	>10	France, Spain	Greece, Ireland, Germany, United Kingdom	
	<=10	Belgium, Italy, Portugal	Austria	Denmark, Finland, Luxembourg, Netherlands, Sweden

The categorizations are based on Laver and Schofield's (1990) assessment of whether or not certain parties can be treated as unitary actors.

Table 5: Control of Amendments and the Agenda at the Parliamentary Stage

	Legislative Stage				
Country	*Should Amendments be Limited?*	*Amendments on Budget Bills Limited?*	*Party Strength*	*Expected Size o the CP Problem in the Legislature*	*Agenda Setting Power of the Government, Döring Scale*
Austria	Yes	?	Medium	Small	4
Belgium	**NO**	No	Low	Small	4
Denmark	Yes	No	High	Small	5
Finland	Yes	Yes	High	Small	5
France (Fifth Republic)	**YES**	Yes	Medium	Large	2
Germany (West)	Yes	No	Medium	Small	4
Greece	Yes	No	Medium	Large	2
Ireland	**YES**	Yes	Medium	Large	1
Italy	No	Yes	Low	Small	6
Luxembourg	Yes	Yes	High	Small	3
Netherlands	Yes	Yes	High	Small	7
Portugal	**NO**	No	Low	Small	3
Spain	Yes	Yes	Low	Large	4
Sweden	**NO**	No	High	Small	5
U. K.	**YES**	Yes	Medium	Large	1

Data on whether or not amendments are limited comes from von Hagen (1992) and Brookes (1995a and b).

Those observations in **BOLD** are those that are expected to be especially relevant according to Tables' 2 and 3. The Döring Index comes from Döring (1995, 225), with an increasing number indicating a decreasing level of governmental control over the plenary agenda.

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Table 6: Regression Results on Change in the Debt Level in European Union Countries, 1981-94

Variable	Coefficient	standard error	t-ratio	prob
Constant	3.94	1.321	2.98	0.0033
Change in Debt t-1	0.31	0.0581	5.32	≤ 0.0001
Change in GDP	-0.88	0.1717	-5.12	≤ 0.0001
Change in Debt Servicing Costs	-0.04	0.1181	-0.34	0.73
Change in Unemployment Rate	0.77	0.3154	2.44	0.02
Change of Government	1.65	0.4694	3.51	0.0006
2-3 Party Majority	0.67	0.7798	0.86	0.39
4-5 Party Majority	0.26	0.8806	0.30	0.77
Minority Government	-0.72	0.8805	-0.82	0.42
Left	-0.91	0.7476	-1.21	0.23
Strong Finance Minister (Executive)	-2.10	0.8438	-2.50	0.01
Negotiated Targets (Executive)	-1.52	0.7283	-2.10	0.04
Amendment	-0.08	0.6055	-0.13	0.90

R squared = 53.6%   R squared (adjusted) = 50.6%
n=196.

Data sources: Table 5, European Commission (1995), DeHaan and Sturm (1994), *European Journal of Political Research*, Various Years, Woldendorp, Keman, and Budge (1993), and, Hallerberg and von Hagen (1997a), and von Hagen and Harden (Forthcoming).