

Multiparty Government, Fiscal Institutions, and Public Spending

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A large body of research has claimed that budget making by multiparty governments constitutes a “common pool resource” (CPR) problem that leads them to engage in higher levels of spending than single-party governments and, further, that this upwards fiscal pressure increases with the number of parties in the coalition. We offer a significant modification of the conventional wisdom. Drawing on recent developments in the literature on coalition governance, as well as research on fiscal institutions, we argue that budgetary rules can mitigate the CPR logic provided that they (1) reduce the influence of individual parties in the budget process and (2) generate endogenous incentives to resist spending demands by coalition partners. Our empirical evaluation, based on spending patterns in 15 European democracies over nearly 40 years, provides clear support for this contention. Restrictive budgetary procedures can eliminate the expansionary fiscal pressures associated with growing coalition size. Our conclusions suggest that there is room for addressing contemporary concerns over the size of the public sector in multiparty democracies through appropriate reforms to fiscal institutions, and they also have implications for debates about the merits of “proportional” and “majoritarian” models of democracy that are, at least in part, characterized by the difference between coalition and single-party governance.

Multiparty government, which is the norm in most of the world’s democracies, combines the need for *joint* policymaking with *separate* electoral accountability for parties that participate in a coalition¹. This combination can create tensions for governance because parties face incentives to distinguish themselves from their partners and to secure policy outcomes that favor their constituencies, even if doing so is undesirable from the perspective of other coalition members. A particularly salient and important area in which these tensions play out is the construction of a government’s budget. The fact that parties can be held separately accountable provides strong reasons for each to push for spending on priorities that its constituents favor. A well-established line of scholarship has argued that, as a result, coalition governments confront a “common pool

resource” (CPR) problem in budgeting that makes it difficult to restrain spending and that is likely to lead to a larger public sector as more parties are added to the cabinet (Bawn and Rosenbluth 2006; Persson, Roland, and Tabellini 2007). Indeed, empirical work bears out this expectation. Controlling for a wide array of factors that tend to increase spending (including economic and demographic conditions), scholars have consistently found that the public sector is larger under coalition government than under single-party government and increases further as more parties are added to the coalition (e.g., Bawn and Rosenbluth 2006; Braeuninger 2005; Perotti and Kontopoulos 2002; Persson, Roland, and Tabellini 2007; Volkerink and de Haan 2001).²

In this study, we revisit this conventional wisdom regarding the expansionary fiscal effects of a larger

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²We should note that while we (and the literature to which we are contributing) are focused on the impact of the expansionary effect of the number of governing parties on the *size of the public sector*, an important related literature has considered the impact of the CPR logic on budget deficits and debt levels (e.g., Balassone and Giordano 2001; de Haan, Jong-A-Pin, and Mierau 2012; Hallerberg, Strauch, and von Hagen 2009; Roubini and Sachs 1989; Wehner 2010). We return to this literature below.

number of governing parties. In focusing on the “pure logic” of the CPR problem, the literature to date has largely abstracted away from institutional features of the budget process. We show that doing so obscures critical subtleties in understanding the fiscal consequences of multiparty governance. In particular, we argue that the CPR logic is significantly shaped by the institutional structure within which budgets are made. Certain fiscal institutions can suppress the ability of coalition parties to push for greater spending and can generate incentives for parties to resist spending demands by their partners. As a consequence, budget institutions can constrain the upwards fiscal pressure created by a rising number of government parties.

We evaluate this argument empirically through an analysis of spending patterns in 15 European democracies over a period of almost 40 years. Our results suggest that fiscal institutions can provide an effective tool for managing the budgetary pressures that result from increasing coalition size. In “appropriate” institutional environments, a greater number of parties in government does *not* lead to increased spending. This finding challenges current research on the budgetary consequences of multiparty governance. It is also significant because it suggests that there is room to address contemporary concerns over the size of the public sector in multiparty democracies through appropriate reforms to fiscal institutions. In addition, our conclusions have implications for broader debates about the relative merits of “proportional” and “majoritarian” models of democracy that are, at least in part, characterized by the difference between coalition and single-party governance.

In making this argument, we build on existing work, and so it is useful to distinguish our contribution before proceeding. In addition to the literature that has examined the impact of the number of governing parties on the size of the public sector (Bawn and Rosenbluth 2006; Persson, Roland, and Tabellini 2007), a voluminous literature has explored the determinants of government spending, including the impact of wars, the growth of administrative bureaucracies, the rise of the modern welfare state, the ideological complexion of governments, and the (geographic and population) size of the state (e.g., Blais, Blake, and Dion 1993; Higgs 1987; Huber and Stephens 2001; Remmer 2010). Unlike our approach, these contributions do not focus on the institutional framework within which budgets are constructed.

In contrast, budget institutions have been at the heart of an extensive strand of literature that examines how fiscal institutions shape *deficits* and *debt levels* (e.g., Fabrizio and Mody 2006; Hallerberg

and von Hagen 1997; von Hagen and Harden 1995). In an important work, Hallerberg, Strauch, and von Hagen (2009) develop a unique data set on fiscal institutions, and they demonstrate that certain budgetary frameworks can limit deficit spending. They also highlight the difference between single-party and coalition governments, arguing that each type of government requires a distinct set of fiscal institutions to curb deficits. The principal feature that distinguishes our contribution from the debt and deficit literature lies in the fact that we are concerned with *spending*, i.e., the size of the public sector. Obviously, spending levels, deficits, and debt levels are related fiscal outcomes. But there is a crucial theoretical distinction between them. As we detail below, the expansionary fiscal pressures that result from adding parties to a coalition emerge from the electoral incentives that induce parties to push for spending that their constituencies value. In other words, the intent of the party actions that result from the CPR logic is to increase spending. Of course, larger deficits may go hand in hand with increased spending (and often do, although they need not, if increased spending is financed through increased revenues). But to the extent that deficits result, they constitute secondary effects and are not the direct aim of party actions. As a result, we focus on the manner in which budgetary frameworks condition the spending implications of adding governing parties. Having said that, the ease with which governments can engage in deficit financing affects the ability of parties to pursue their spending demands, and institutional features that limit the ability to carry deficits constitute an important force that can blunt the CPR logic. This is central to the argument and empirical results we present below.³

In the next section, we review existing arguments on the fiscal pressures exerted by adding parties to a coalition. We extend this logic by arguing that budgetary institutions can counteract the “pressure to spend,” and we identify institutional features that are required to do so successfully. In the third section, we provide an overview of our data. We then present results from a systematic analysis of spending patterns in 15 countries between 1971 and 2009.

³We should also note that while Hallerberg, Strauch, and von Hagen (2009) consider the distinction between coalition and single-party government, they do not investigate the impact of the *size* of coalitions, nor the *interactive* effects of budget institutions and coalition size on deficits/debt. In our analysis of spending, these marginal and interactive effects are central. Wehner (2010) explores interactive institutional effects of the impact of *legislative fragmentation* on deficits, but he does not consider spending or the number of government parties.

Coalition Size, the CPR Logic, and Budget Institutions

A well-established literature in economics and political science has argued that for multiparty governments, spending has elements of a “common pool resource” problem (Bawn and Rosenbluth 2006; Braeuninger 2005; Persson, Roland, and Tabellini 2007). Every party has spending priorities, at least some of which provide benefits that are disproportionately appreciated by its constituents. If parties are held accountable primarily for spending decisions in the areas of concern to their voters and can blame coalition partners for fiscal outcomes in other domains, then fiscal restraint will be hard to achieve. Each party will “push” for spending in its own domain and has little incentive to insist on restraint in other areas since it is largely relieved of responsibility for those outcomes. As more parties are added to the coalition, this dynamic intensifies. In consequence, spending tends to increase. In contrast, the pressure to spend is muted in a single-party government because the party *as a whole* is held accountable for *all* of its decisions, which provides party leaders with an incentive to be sensitive to the costs of increased spending. Thus, the difference in electoral accountability between the two types of governments should result in systematically different policy decisions. In one of the most systematic theoretical expositions of this argument, Bawn and Rosenbluth summarize the intuition this way:

A single party in government is accountable for all of its policy decisions. . . . Participants in multiparty coalition governments, by contrast, are held primarily responsible for only a subset of policy decisions: those in the policy areas in which they have the biggest stake. This difference in electoral accountability. . . . results in systematic differences in policy decisions. . . . [C]oalitions of many parties will strike less efficient bargains than those composed of fewer parties. The less efficient bargains imply a larger public sector, other things equal, as the number of parties in government increases (2006, 251).⁴

⁴See also Persson, Roland, and Tabellini, “The central mechanism is that voters can discriminate between the parties of a coalition government at the polls, while they cannot discriminate between different factions of a single-party government. This creates electoral conflict—an *electoral common pool problem*—within a coalition government, but not within a single-party government” (2007, 157). Persson and colleagues develop a formal model of this logic. There is an analogy between this logic and the argument that political parties themselves represent organizational vehicles for forging “long” coalitions that survive across elections (Aldrich 1995).

Systematic empirical evidence is clearly consistent with this argument. Numerous studies have demonstrated that (controlling for a variety of factors, including economic conditions, the demographic make-up of the polity, and the extent of the welfare state) deficits and spending increase as the government consists of more parties. Coalition governments spend more than single-party governments (Persson, Roland, and Tabellini 2007), and larger coalitions spend more than smaller ones (Bawn and Rosenbluth 2006; Braeuninger 2005; Perotti and Kontopoulos 2002; Volkerink and de Haan 2001).

In focusing on the dynamics induced by the separate electoral accountability of coalition members, these explanations abstract away from the institutional framework within which budget making occurs. Significantly, a central theme in the literature on coalition governance has been that the institutional details of the policy process are critical to the ability of coalition governments to curb more general agency problems. For example, the privileged position of ministers in drafting and implementing legislation within their jurisdiction can pose a potential threat to the interests of their coalition partners. Recent work has demonstrated that certain policymaking institutions can significantly reduce ministerial influence and thus serve to protect intracoalition policy compromises. Such “policing institutions” include inner cabinets or cabinet committees (Müller and Strøm 2000; Strøm, Müller, and Bergman 2008) and junior ministers, who shadow the work of their senior colleagues from within a ministry (Lipsmeyer and Pierce 2011; Martin, and Vanberg 2011; Thies 2001). Similarly, institutions at the legislative level—in particular, strong committee systems—provide parties with opportunities to counteract ministerial “policy drift” (Carroll and Cox 2012; Kim and Loewenberg 2005; Martin and Vanberg 2005, 2011). Moreover, as highlighted above, a separate literature in political economy has demonstrated that budget institutions shape debts and deficits (e.g., Fabrizio and Mody 2006; Hallerberg, Strauch, and von Hagen 2009; Wehner 2010). Jointly, these findings suggest that the conventional account of the fiscal impact of the number of government parties may be incomplete in a critical way: to the extent that budgetary frameworks can help coalition partners manage the CPR problem of spending, there may be an institutional dimension to the fiscal dynamics of multiparty governments.

To appreciate why the budgetary framework may *condition* the fiscal impact of the number of government parties, it is useful to note that the CPR logic is driven by two assumptions:

- 1) Coalition parties have opportunities (perhaps through the ministries they control) to push for spending in “their” policy areas;
- 2) Coalition parties have only weak incentives to oppose spending demands by their partners in other areas.

These assumptions are central to the CPR dynamic. Electoral considerations encourage parties to pursue spending favored by their constituents. Assumption 1 implies that they have the *means* to do so. Assumption 2 implies that the pursuit of higher spending is likely to be successful: other parties will tend not to oppose these demands, so few hurdles stand between the desire of parties to increase spending and the resulting fiscal outcomes.⁵

Critically, the extent to which these assumptions accurately characterize fiscal decision making by coalition governments (and therefore the CPR dynamic) depends on the institutional rules of the budget process. Specifically, budgetary frameworks can:

- 1) Constrain the ability of parties to push for spending by reducing the influence of individual parties in the budget process;
- 2) Generate incentives for parties to oppose spending demands by their partners.

Putting it differently, while the logic of electoral competition may lead parties to *favor* spending increases in their domains, whether they can *successfully pursue* that end depends on the rules that structure budgeting. Fiscal institutions can counteract the CPR logic by (1) reducing parties’ input into the budget process and (2) raising the likelihood that other parties will resist their demands. Institutional frameworks that do this successfully are less vulnerable to the fiscal pressure that results from an increasing number of government parties; those that fail to do so are likely to give rise to the CPR dynamic.⁶ These considerations

⁵For example, the formal model developed by Persson, Roland, and Tabellini (2007) assumes that under coalition government, each party is able to decide unilaterally on the spending level for public goods preferred by its constituency.

⁶The focus of the argument in this study is on the CPR dynamic of spending that emerges in *multiparty* governments as a result of the separate electoral accountability of coalition members. However, a CPR dynamic may also emerge within a *single-party* government occupied by a deeply factionalized party, provided that the electoral system makes separate factions within the party electorally accountable to their target groups. If so, the institutional features we discuss here may also be relevant for budget making under single-party government. For example, the single, nontransferable-vote electoral system in place in Japan prior to 1994 encouraged competition among factions of the dominant Liberal Democratic Party, and these factions engaged in mutual “oversight” in ways that are typical of parties in coalition governments (Thies 2001).

imply that the effect of adding parties to a coalition is conditional on budgetary rules:

H1: In the presence of budgetary rules that (1) reduce the influence of individual parties in the budget process and (2) generate incentives to resist spending demands by other parties, the expansionary effect of an increase in the number of government parties on spending is reduced, or even eliminated.

The hypothesis states a general claim. Making this claim sufficiently concrete to test the argument obviously requires us to identify budgetary institutions that (1) reduce the influence of individual parties, and (2) generate incentives to resist spending demands by coalition partners. Fortunately, we can take advantage of a unique dataset created by Jürgen von Hagen and his collaborators (Hallerberg, Strauch, and von Hagen 2009; Hallerberg and von Hagen 1997; von Hagen and Harden 1995), who collected data on more than 20 features of the institutions governing the planning, legislative approval, and implementation of budgets in member states of the European Union. Not all of these rules are directly relevant to modifying the “pressure to spend” generated by an increasing number of government parties. For example, some countries (like Austria) require that budget bills be passed in one vote, rather than in a series of separate budget bills. This requirement can serve to make mutual commitments to a budget deal within a coalition “credible” by eliminating the possibility that parties will renege on a compromise once “their” part of the package has been adopted. That is, this rule serves to enforce log-rolls, but it has no implications for the *content* of the agreement, which might involve fiscal restraint or lavish spending in each partner’s domain.

There are, however, four features of the budgetary process that readily map onto the two assumptions identified above. Two of these features are relevant because they affect the ability of individual parties to push for spending increases specific to their favored domains (Assumption 1). The other two are relevant because they generate incentives for parties to resist spending demands by their partners (Assumption 2). The four features follow.

Centralized budget formulation. In some countries (e.g., Sweden in the early 1990s), budget negotiations begin with spending proposals by individual cabinet ministers, which are then aggregated into an overall budget. In other countries (e.g., France), individual ministers do not “open negotiations” with a proposal. Instead, the finance minister determines spending limits for individual ministers, who must then develop budget proposals within these constraints. By moving agenda setting/proposal power to the finance

minister, centralized budget making limits the ability of individual parties to push for spending by reducing the influence of their ministers in determining budget size.

Amendment Limits. In some countries (e.g., Denmark), legislators are able to offer amendments to budget bills. In other countries (e.g., Ireland), no amendments to budget bills may be proposed in parliament. This procedure limits the ability of parties to push for additional spending during the budget approval process.

Restrictions on Budget Size. Some countries (e.g., Finland after 2003) impose exogenous constraints on budget size. Others (e.g., Sweden before the mid-1990s) do not. Similarly, in some countries (e.g., the Netherlands), the budget process begins with a binding parliamentary vote on the total size of the budget prior to consideration of individual spending plans. By imposing an aggregate spending constraint *before* parties can press a case for specific outlays, both types of rules move the allocation of the budget closer to a “zero-sum game.” Because the overall size of the budget is fixed, spending *more* on one party’s priorities implies spending *less* on another party’s priorities. As a result, these types of fiscal rules raise the incentives for coalition partners to resist spending demands by their partners.⁷

Offsetting Amendments. In some countries (e.g., France), amendments that propose spending increases must contain corresponding *decreases* in other areas. Such a budget rule raises a significant hurdle to a party’s ability to push for additional spending in its preferred domain: Because increases must be offset by decreases in another area, those coalition partners who will be negatively affected by the required reduction face immediate incentives to oppose the proposal.

The first two features reduce opportunities for individual parties to push for spending. The last two features generate incentives for coalition partners to oppose additional spending demands by their partners—a result that calls to mind James Madison’s famous dictum that in politics “ambition must be made to counteract ambition.” We would expect that—compared to more permissive institutional environments—the presence of such budgetary rules will significantly mitigate the CPR logic that connects the number of government parties to in-

creased spending by limiting the influence of individual parties and raising potential obstacles to their spending goals. In short, our argument implies that, unlike in more permissive institutional environments, adding parties to a governing coalition *in the presence of these budgetary institutions* will result in a *muted* increase in spending, or perhaps no increase in spending at all.

Data and Empirical Design

To evaluate our argument, we analyze overall government spending patterns in 15 European democracies: Austria (1971–2006), Belgium (1971–2007), Denmark (1972–2009), Finland (1971–2007), France (1979–2009), Germany (1971–2009), Greece (1979–2004), Ireland (1971–2009), Italy (1971–2008), Luxembourg (1991–2004), the Netherlands (1971–2006), Portugal (1978–2009), Spain (1980–2009), Sweden (1971–2009), and the United Kingdom (1971–2009). Our choice of countries and starting years makes our sample roughly comparable to that of Bawn and Rosenbluth (2006). The major differences are that (1) we extend the sample in time to take advantage of more recent economic and government data, and (2) we are forced to exclude Iceland and Norway because the measures of budgetary rules on which we rely (Hallerberg, Strauch, and von Hagen 2009) are not available for these countries.

Our dependent variable is overall government spending as a percentage of GDP, as measured in each calendar year in each country and reported by the OECD.⁸ In six countries, the public sector, on average, accounted for more than half the nation’s GDP. Sweden, at an average of 58%, was by far the biggest spender, followed by Denmark, Belgium, the Netherlands, France, and Austria. The lowest average levels of spending over the period, corresponding to a public sector of roughly 40% of GDP, could be found in Luxembourg, Portugal, Spain, and Greece. There was also considerable variation within countries over our time frame. For most countries, there was a steady rise in spending throughout the 1970s and the mid-1980s, followed

⁷Putting it differently, the connection between the ease of deficit spending and the expansionary effects of adding additional government parties under the CPR logic is that if deficit spending is relatively easy, parties can more easily give in to the spending demands of their partners because such spending can be financed via the deficit. If deficit spending is restricted, giving in to others’ demands is more costly, because such spending must be paid for by cutting expenditure in other areas.

⁸Specifically, we use the measure *Outlays* reported in the most recent version of the Comparative Political Data Set I, collected by Armingeon et al. (2011). This measure represents the total outlays (disbursements) of general government as a percentage of GDP and is drawn from the OECD Economic Outlook database (OECD, 2010). Outlays are available only from 1971 onwards for Denmark; from 1978 onwards for France; from 1990 onwards for Luxembourg; and from 1977 onwards for Portugal.

by a brief decline, and then a general trend upwards. For every country but the Netherlands, government spending was higher in the mid-2000s (in most cases, substantially higher) than it was in the early 1970s.

Given the theoretical argument we wish to test, the first critical explanatory variable we require is the *Number of Government Parties*. Our coding is based on a new data set on government composition collected for the project Constitutional Change and Parliamentary Democracies (CCPD), as described by Strøm, Müller, and Bergman (2008). Although it is a simple enough matter to count the number of government parties, there is one complicating issue that must be addressed: spending is recorded on a calendar-year basis, but there may be more than one government in office in a given year. Following Bawn and Rosenbluth (2006), we adopt the solution of (1) weighting the number of parties for each government in a calendar year by the proportion of the year the government was in power and then (2) summing the weighted measures across all governments in that year. This variable exhibits a cross-national pattern that is familiar to most scholars of European coalition politics—a tendency for single-party government in the United Kingdom, Greece, Portugal, and Spain, relatively large coalitions in Belgium, Finland, and Italy, and relatively small coalitions (usually of the two-party variety) in the remaining countries.⁹

The central thrust of our argument is that the relationship between the number of government parties and spending is *conditional* on the nature of the fiscal rules under which governments operate. Rules that reduce the influence of individual coalition parties in the budget process, or that create incentives for parties to oppose the budget demands of their partners, should mitigate the expansionary effects of coalition size on public spending. In the previous section, we identified four specific budgetary institutions that are likely to have these effects. Of course, the budget process in any individual

country may be characterized by none, some, or all of these features. Moreover, budget rules are likely to be mutually reinforcing if more than one is present. For this reason, it is desirable to account for the *aggregate* impact of these rules in the empirical specification by creating a measure that indicates how “restrictive” the budget process is.¹⁰ Drawing on recent work by Hallerberg, Strauch, and von Hagen (2009), we construct such a measure, which we refer to as the *Budgetary Constraint Index (BCI)*.¹¹

The first two procedural features we have identified concern the influence of individual parties on the budget. As our measure of *centralized budget formulation*, we use the variable from the Hallerberg, Strauch, and von Hagen (2009) study that indicates the extent of the finance minister’s involvement in the budget negotiation process. In order of highest to lowest values (“most restrictive” to “most permissive”), this variable indicates whether the finance minister unilaterally determines the budget limits for individual ministers before they submit proposals, whether the finance minister proposes limits subject to cabinet approval, whether the cabinet collectively decides on limits, whether the finance minister collects individual “bids” from ministers subject to preagreed guidelines, or whether ministers initiate individual budget proposals that are aggregated by the minister of finance into an overall budget. As our measure of *amendment limits*, we use a dichotomous variable indicating whether there exists a limit on the ability of members of parliament to introduce amendments to budget bills.

The other two procedural features we have identified concern the incentives for coalition parties to oppose greater spending by their parties. To measure *restrictions on budget size*, we use two separate variables. The first indicates whether there is a general fiscal constraint on the budget before the cabinet considers it. From highest to lowest values, this variable

⁹The *Number of Government Parties* variable can take a value of 0 in cases where the only government in office in a calendar year is a nonpartisan (or technical) administration. This happens only twice in our sample: in Portugal in 1979 (the Pintassilgo administration) and in Italy in 1995 (the Dini administration). In the calculation of this measure, and the two other political measures that can change within a calendar year (the *Effective Number of Legislative Parties* and *Government Ideology*), we ignore “crisis” periods, i.e., periods in which caretaker administrations are in office. We account for periods of caretaker government explicitly with the *Caretaker Time* variable described below.

¹⁰In auxiliary analysis, discussed below, we also disaggregate the index to investigate whether these rules have an equally constraining effect on spending.

¹¹See also von Hagen and Harden (1995) and Hallerberg and von Hagen (1997). The budgetary information presented in Hallerberg, Strauch, and von Hagen (2009) is based on three waves of surveys conducted by von Hagen and his collaborators, as well as the European Commission, in 1990–91, 2000–2001, and 2004. The surveys asked detailed questions about budgetary procedures to officials in finance ministries, to central banks, and to parliamentary budget-committee staff members. The authors also supplemented the surveys with in-person interviews and extensive consultation of primary source materials.

indicates whether there is a constraint on both government spending and the budget deficit, whether there is a constraint on government spending and a “golden rule” requirement, whether there is a constraint on overall debt and the budget deficit, whether there is only a constraint on debt but not on the deficit, or whether no such constraints exist. The second variable is a dichotomous indicator of whether parliament first votes on the total size of the budget before it considers individual budget items. Finally, as our measure of *off-setting amendments*, we use a dichotomous variable indicating whether a parliamentary amendment that proposes a spending increase in one area must concomitantly propose a decrease in spending in another area or an increase in taxes.

Our budgetary constraint index is simply the sum of these five variables divided by their maximum possible sum. The index thus has a theoretical minimum of 0 (most permissive) and a maximum of 1 (most restrictive). Because our theory suggests that the impact of the number of government parties is conditional on the restrictiveness of the budgetary environment, we also create an *interaction* between the number of parties and the budgetary constraint index.¹²

In Figure 1, we display the values of the BCI for the 15 countries in our sample. For countries that have undergone significant changes in budgetary rules, we show the values of the BCI before and after the changes. As the figure makes immediately clear, most countries have strengthened their budgetary rules over time. Only France (which had the maximum value of the BCI for the entire period) and Luxembourg have not experienced change in their budget procedures. Of the remaining countries, only the Netherlands has loosened its budgetary rules. Another noteworthy point is that the changes in fiscal rules occurred in most countries in the mid- to late-1990s. The degree to which budgetary institutions were strengthened differs consid-

erably: Belgium and Greece were the biggest reformers, while the United Kingdom, which already had a number of restrictive rules in place, changed the least. In any event, an important result of the reforms of the 1990s was a much more stringent, and more uniform, set of fiscal rules across Europe.¹³

Along with our main covariates—the number of government parties, the budgetary constraint index, and the interaction between the two—we include several political and economic control variables, identical to those in the Bawn and Rosenbluth (2006) study. The first is the *Effective Number of Legislative Parties*. Previous scholarship has associated legislative fragmentation with higher spending because it may indicate a greater number of decision makers demanding benefits on behalf of their constituents. Although we agree with Bawn and Rosenbluth (2006) that in parliamentary systems the relevant decision makers—especially on the national budget—are typically members of the government, not members of the legislature (see also Laver and Shepsle 1996), to preserve comparability with previous studies and to account for the fact that ordinary legislators (even if in opposition) may have input in the budgetary process, we control for this feature. We measure legislative fragmentation with the Laakso-Taagepera index of the effective number of (parliamentary) parties (Laakso and Taagepera 1979).

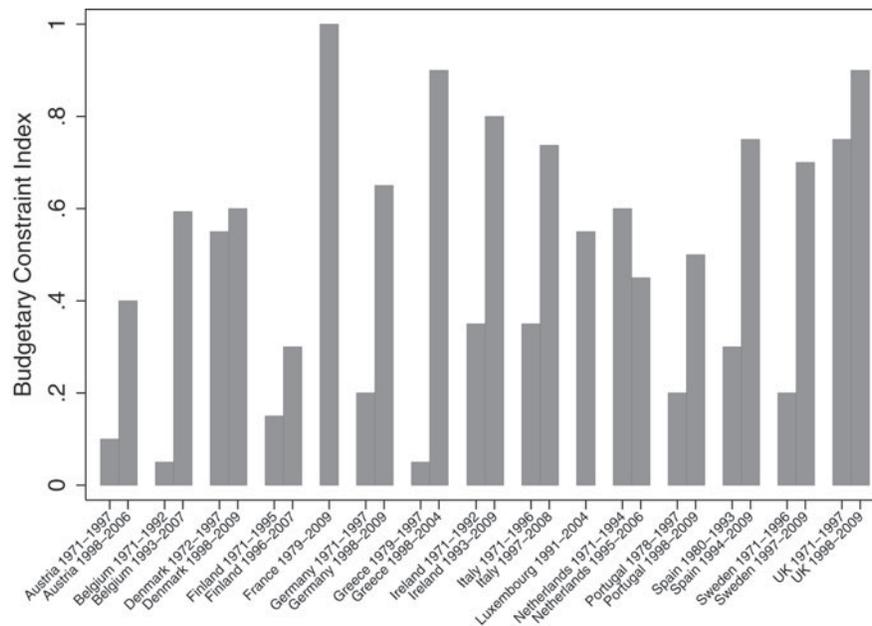
The second political control is the government’s ideological orientation. The prevalent expectation in the literature is that left-wing governments tend to spend more (Blais, Blake, and Dion 1993; Swank 1988). We measure ideology using the left-right measure (see Laver and Budge 1992) from the most recent version of the Comparative Manifestos Project. Specifically, the ideological score for a government is the seat-weighted average ideological position of its members.¹⁴ The final political control is the proportion of the calendar year that a caretaker administration (or a nonpartisan technical administration) is in office, which we refer to as *Caretaker Time*. We include this variable primarily to preserve comparability of our results to the findings of Bawn and Rosenbluth (2006), but we do not expect it to have a

¹²In selecting which of the 20 indicators from Hallerberg, Strauch, and von Hagen (2009) to focus on, we concentrate on those that we believe most clearly relate to the ability of individual parties to influence budget negotiations and affect their incentives to resist spending demands by their partners. In their work on debt and deficits, Hallerberg, Strauch, and von Hagen (2009) have shown that a slightly broader index of the level of “delegation” in budget negotiations (which includes the features we focus on) constrains *deficits* by coalition governments. Substituting this “delegation index” for the budget index, we construct generates similar results, which is not surprising since the two indexes overlap significantly in their components (correlating at 0.85 in our sample). Because of its more direct fit with our theoretical argument, we prefer our BCI variable to the broader delegation index.

¹³On average, the BCI was 0.38 in the prereform years, with a standard deviation of 0.28, whereas in the postreform years, the BCI had an average value of 0.64 with a standard deviation of 0.17.

¹⁴Like the *Number of Government Parties* variable described earlier, the *Effective Number of Legislative Parties* and the *Government Ideology* variables are weighted by the proportion of the year the corresponding government spent in office during the calendar year; these weighted measures are then summed across all governments in the calendar year.

FIGURE 1 Budgetary Constraint Index, by Country and Time Period



significant impact on spending since caretaker administrations are typically not empowered to change policy. We also control for several socioeconomic variables that have been associated with the size of the public sector. These include *GDP per Capita*, measured in thousands of 2005 US dollars (Cameron 1978; Swank 1988); the *Unemployment Rate* (Castles 2001; Huber and Stephens 2001); *Trade Openness* of the economy (Cameron 1978; Swank 1988), which is the ratio of imports and exports to GDP; and the *Dependency Ratio* (Castles 2001; Huber and Stephens 2001), the percentage of the population under 15 or over 64.¹⁵

Finally, we add a control that is not included in the Bawn and Rosenbluth (2006) study to account for potential confounding effects. Budgetary rules are *chosen* by governments, presumably in part because governments believe that these rules will have an impact on public spending. In and of itself, this is not problematic for an empirical investigation of the causal effect of these rules *unless* (1) factors that influence adoption of the rules have a direct influence on government spending, and (2) these factors are not accounted for in the model. The exclusion of such factors could lead to spurious inferences about the direct relationship between fiscal rules and spending, and so it is important to control for them at the

estimation stage. To some extent, the variables already discussed mitigate this problem. For example, the ideological preferences of a government may influence the choice of budgetary rules as well as spending, as might prevailing economic conditions.

One potentially relevant factor not yet discussed involves the adoption of the Maastricht Treaty (formally, the Treaty on European Union) in February 1992. Among other things, the Maastricht treaty established convergence criteria for EU member states to enter the Economic and Monetary Union and adopt the euro as the common currency. Two of these criteria directly concerned government finances: a limit on deficits and a limit on gross debt (both as a proportion of GDP). One would expect that these limits placed considerable pressure on (some) governments to cut back spending. It is possible that one step governments took to accomplish this was to tighten fiscal rules. As we showed in Figure 1, most of the changes to fiscal rules, almost all of which were in the direction of strengthening them, happened within a few years after the adoption of the treaty. It is also possible that meeting the criteria forced decisions by governments to cut spending that are not attributable to tighter fiscal rules. To take this into account, we include an indicator variable for the post-Maastricht era in the analysis.¹⁶

¹⁵*GDP Per Capita* was taken from the OECD Economic Outlook database (OECD, 2010). The remaining socioeconomic controls are from the Comparative Political Data Set I (Armingeon et al. 2011).

¹⁶In auxiliary analysis, discussed below, we also separate the countries in the post-Maastricht era that opted in to the euro from those that did not.

Analysis and Findings

To evaluate our hypothesis, we estimate an autoregressive distributed lag (ADL) model on the 511 country-years (the units of analysis) in our sample.¹⁷ Bawn and Rosenbluth (2006) also estimate this type of model, which facilitates comparison between their results and ours. An immediate issue in model specification is whether past or present values of the exogenous regressors (or both) should be included. Where possible, this decision should be driven by substantive, theoretical considerations. In the absence of a substantive rationale, the best practice is to estimate the most general specification of the ADL model, which includes contemporaneous and lagged values of the exogenous regressors as well as a lag of the dependent variable. From this starting point, one can then eliminate contemporaneous/lagged regressors on the basis of test statistics (De Boef and Keele 2008).

In our case, where the quantity of interest is budgetary spending, we do have some substantive guidance, at least with respect to the political variables in our model. Specifically, in all the democracies in our sample, national budgets are drawn up by governments, and enacted by parliaments, over the course of the year *prior* to the calendar year in which spending takes place. Thus, we include only one-period lagged values of these variables in the model and omit contemporaneous values. Notably, this decision is also supported by the empirical findings of Bawn and Rosenbluth, who show (for all the political variables we include) that the effects “are felt primarily when budgets are drafted and passed, not when they are implemented” (2006, 261).

In contrast, we are agnostic on this issue with respect to the socioeconomic variables. While we expect that socioeconomic conditions during the previous year will affect government and legislative decisions in budget formulation, it is also quite possible that contemporaneous socioeconomic conditions affect implementation, for example by expanding or restricting the pool of eligible recipients of government programs. Thus, we include both contemporaneous and one-

period lagged values of these variables. Finally, we include a lagged value of the dependent variable. The substantive rationale for doing so is that budgets are not written onto a blank slate from one year to the next. Rather, annual budgets are “sticky.” Once a program is in place (e.g., a program to build a new weapons system or a program to provide lost-cost health insurance to the poor), it is typically not feasible to dismantle it in one fell swoop. Yearly changes would likely be incremental at best.¹⁸

In Table 1, we present our findings. As a baseline comparison, we also present the results from the Bawn and Rosenbluth (2006) study, the prevailing “institutions-free” approach to examining government spending. Our model, unlike the institutions-free model, accounts for the conditional impact of a rising number of government parties under different budgetary frameworks. Like Bawn and Rosenbluth (2006), we present a version of our model with and without country fixed-effects. We do this primarily to demonstrate that the main results are insensitive to the inclusion of country-specific factors, but it also suggests an important substantive point.

Before turning to our results, we believe it is useful to review the Bawn and Rosenbluth (2006) findings concerning the effect of the number of government parties.¹⁹ The first column of results in

¹⁸Another reason for including a lagged dependent variable is that it can eliminate remaining serial correlation in the data after conditioning on the other covariates in the model. In our data, autocorrelation is quite high ($\rho > 0.90$) when the lagged dependent variable is not included in the model. When it is included, the residual autocorrelation is virtually eliminated ($\rho < 0.05$, which is not significantly different from zero as shown by a LaGrange multiplier test). The absence of residual autocorrelation implies that we need not worry about possible endogeneity bias arising from the inclusion of the lagged dependent variable (Keele and Kelly 2006).

¹⁹For our common control variables, there are only slight differences between our model results and those of Bawn and Rosenbluth (2006). With respect to the socioeconomic controls, we find that an increase in GDP per capita and trade openness has a smaller impact on spending (which is positive in the year of budget enactment and negative in the following year), but we find that an increase in unemployment has a larger impact (which is negative in the year of budget enactment and positive in the following year). With respect to the political controls, both sets of models show that when governments are ideologically farther to the right during the year of budget enactment, spending in the next year is smaller. We do not find, however, that the amount of time caretaker governments spend in office makes a difference to spending. Finally, like Bawn and Rosenbluth (2006), we find no evidence that increasing legislative fragmentation leads to higher spending (indeed, the coefficient is negative across all models, reaching statistical significance in our fixed-effects specification).

¹⁷To test whether government spending is stationary, we use the nonparametric unit root test for panel data advocated by Maddala and Wu (1999), originally developed by Fisher (1932). The Fisher test is based on the combined p -values of individual unit-root test statistics for each panel (country) in the sample. For the country-specific unit-root tests, we use both the augmented Dickey-Fuller test and the Phillips-Perron test under several different assumptions about the prevailing lag structure. Under all assumptions, the Fisher test suggests that we can safely reject the null hypothesis of a unit root.

TABLE 1 Effect of Number of Government Parties on Government Spending, Conditional on Strength of Budgetary Institutions

Explanatory Variables	Bawn and Rosenbluth		Martin and Vanberg	
	<i>without Fixed effects</i>	<i>with Fixed effects</i>	<i>without Fixed effects</i>	<i>with Fixed effects</i>
Lagged Variables				
Number of Government Parties	0.276*** (0.094)	0.451*** (0.122)	0.258** (0.116)	0.367** (0.167)
Effective Number of Legislative Parties	-0.076 (0.086)	-0.152 (0.145)	-0.013 (0.068)	-0.197** (0.090)
Government Ideology	-0.014*** (0.005)	-0.009* (0.005)	-0.010** (0.004)	-0.007 (0.005)
Caretaker Time	-4.278** (1.816)	-3.858** (1.759)	0.194 (0.525)	-0.383 (0.606)
GDP per Capita	2.286*** (0.266)	2.311*** (0.261)	1.458*** (0.177)	1.466*** (0.181)
Unemployment Rate	-0.200** (0.099)	-0.175* (0.103)	-0.398*** (0.075)	-0.384*** (0.076)
Dependency Ratio	0.182 (0.407)	0.370 (0.415)	0.103 (0.326)	0.231 (0.331)
Trade Openness	0.084** (0.035)	0.074* (0.040)	0.022 (0.017)	0.018 (0.018)
Spending	0.921*** (0.014)	0.832*** (0.027)	0.930*** (0.011)	0.893*** (0.020)
Maastricht Era			-0.490* (0.251)	-0.335 (0.336)
Budgetary Constraint Index (BCI)			0.633 (0.424)	1.065 (0.711)
Number of Government Parties x BCI			-0.371** (0.182)	-0.500** (0.248)
Current Variables				
GDP per Capita	-2.271*** (0.260)	-2.291*** (0.256)	-1.409*** (0.173)	-1.414*** (0.184)
Unemployment Rate	0.158 (0.098)	0.240** (0.104)	0.344*** (0.074)	0.365*** (0.076)
Dependency Ratio	-0.154 (0.403)	-0.411 (0.413)	-0.150 (0.324)	-0.195 (0.333)
Trade Openness	-0.080** (0.035)	-0.084** (0.035)	-0.024 (0.017)	-0.029 (0.018)
Intercept	3.510 (2.304)	10.581*** (3.495)	1.654 (1.660)	4.843* (2.689)
N	447	447	511	511

Note: Coefficient estimates from autoregressive distributed lag model, with panel-corrected standard errors in parentheses. For both the Bawn and Rosenbluth (2006) models and our models, we display the estimates without and with country fixed effects, respectively. The country intercepts are not displayed for the fixed effect models. Significance levels : * .10% ** .05% *** .01%.

Table 1 reproduces their model without fixed effects and provides clear support for the conventional hypothesis that an increase in the number of government parties during the year in which a budget is enacted leads to a subsequent increase in spending. For each additional party in government, spending

in the next year increases by 0.276% of GDP—a substantively sizable effect. When Bawn and Rosenbluth introduce fixed effects (the second column of results), the finding remains. In fact, the expansionary effect of the number of government parties on spending gets larger. This implies that their

finding is driven primarily by systematic changes in spending patterns *within* countries rather than across countries.²⁰

The critical implication of our theoretical argument is that increasing the number of parties in government should only entail higher spending when budgetary institutions are relatively *weak*. In contrast, restrictive budgetary institutions that reduce opportunities for individual parties to push for more spending or that generate endogenous incentives for coalition partners to oppose additional spending demands by their partners should reduce or eliminate the expansionary fiscal effect of the number of government parties. In our models (the third and fourth columns of results), which account for the interaction between the number of government parties and budgetary institutions (without and with fixed effects, respectively), we find clear empirical support for this argument.²¹ The coefficient on the *Number of Government Parties*—which represents the effect of an increase in the number of government parties when the BCI is equal to zero, that is, in a permissive institutional environment—remains positive (and statistically significant). However—and this is the key point—the estimated coefficient on the interaction between

the number of parties and the budgetary constraint index is *negative* (and statistically significant). That is, the expansionary effect of the number of government parties on spending is *reduced* with an increase in the strength of budgetary institutions and quickly becomes statistically indistinguishable from 0.²²

Importantly, this conclusion holds even when taking into account the possibility of a “Maastricht effect” on government spending. In our model without fixed effects, we do find evidence that countries after adoption of the Maastricht Treaty had lower public spending, by approximately 0.5%. However, once country fixed effects are added to the model, the Maastricht effect is considerably smaller and statistically insignificant. Thus, within any given country in the sample, entering the Maastricht era had no direct impact on spending.²³

A more intuitive way to demonstrate these findings is to illustrate them graphically. In Figure 2, we graph the impact of the *Number of Government Parties* on government spending *conditional* on values of the budgetary constraint index (with 95%

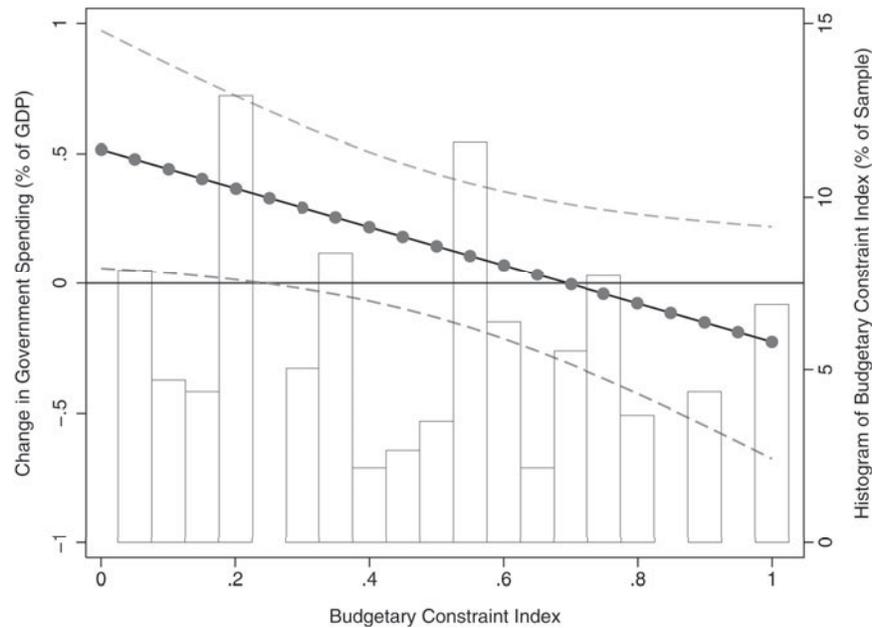
²⁰The inclusion of country indicators removes information on mean country differences in spending. Thus, the coefficients on the other (nonfixed) covariates are based solely on information about their effects on spending within a given country. Bawn and Rosenbluth (2006, 261) offer an interesting conjecture about why the within-country effect of the number of government parties is larger than the cross-national effect. Specifically, they contend that countries that routinely have larger coalitions may have found (institutional) ways to counteract the incentive to overspend (which, if true, would suppress the cross-national effect of the number of government parties). As we note below, our findings support this conjecture.

²¹Notably, with respect to the coefficient on the *Number of Government Parties* variable, the difference between our models with and without fixed effects (for all values of the BCI) is approximately 40% smaller than the difference in the coefficient across the Bawn and Rosenbluth (2006) models. This suggests that, if their speculation (mentioned previously) is correct, the institutions we have identified may be one way governments in large coalition systems have managed to counteract the incentives to overspend. We also note that incorporating fixed effects does little to enhance the explanatory power of our model (the difference in the R^2 values is small and statistically insignificant). The main effect is to increase the size of the standard errors. Given that the coefficient values for our variables of interest do not change appreciably, and that the fixed-effects model is less efficient—a consequence of removing cross-national variation from the estimation (Beck and Katz 1995)—the substantive effects we present in Figure 2 use the results from our model without fixed effects. In Figure 3, which illustrates spending in a single country over time under coalitions of different sizes and under different budgetary frameworks, we use the results from our model with fixed effects.

²²In auxiliary analyses, we also estimate five additional models in which we replace the BCI and its interaction with each of the five components of the index (rescaled to lie on a 0/1 interval) and their corresponding interactions. These results show that both broad types of budgetary institutions—those that affect the *influence* of individual coalition parties on spending and those that affect their *incentives* to oppose one another’s spending demands—mitigate the expansionary impact of the number of government parties. Specifically, of the rules constraining party influence, we find a large impact for centralized budget formulation. Of the rules relating to party incentives, we find that all of them—the existence of a general fiscal constraint on the budget, the requirement that parliament votes on the total size of the budget before it considers individual parts of it, and the requirement of offsetting amendments—reduce the expansionary impact of the number of government parties on spending. As these constraints become more restrictive, the positive coefficient on the number of government parties is reduced and becomes statistically insignificant. Only one of the components of the BCI index, the limits on the number of amendments parliament may introduce, has no mitigating impact on the government size effect. Excluding this constraint from our index has no effect on our conclusions.

²³In auxiliary analyses, we also separate the countries that opted in to the convergence criteria from those that opted out. In the specification without fixed effects, the results show that for the opt-in countries, there was a slightly higher reduction in spending than for the opt-out countries, though this was not a statistically significant difference (which implies that a single indicator variable combining the two types of countries is not problematic for model estimation). In the specification with fixed effects, there was virtually no difference between them. Most importantly, separating the opt-in and opt-out nations has no impact on our central conclusions.

FIGURE 2 Effect of Number of Government Parties on Government Spending, Conditional on Strength of Budgetary Institutions



Note: The solid line represents the change in government spending resulting from an increase in the *Number of Government Parties* from its 25th percentile value to its 75th percentile value, conditional on the values of the Budgetary Constraint Index. The dashed lines are 95% confidence intervals.

confidence bounds).²⁴ We also display our sample values of the budgetary constraint index in a histogram. As the figure shows, when the BCI is at its sample minimum (0.05), an additional two parties in government in one year leads to an increase in expected government spending in the following year of approximately 0.50%. As budgetary institutions become stronger, the impact of the number of parties on spending diminishes dramatically. In cases where the BCI is 0.35 or above (approximately 53% of our sample), having additional parties in government has no statistically discernible effect on next-year spending.

To make our findings more concrete, we turn to a second illustration that focuses on a single country—Italy—and uses our estimates to construct counterfactuals that demonstrate the substantive impact of the number of parties, budgetary institutions, and their interaction on spending patterns over time. As observers of current European politics know well, Italy is going through a fiscal crisis of historic proportions, having maintained comparatively high levels of public spending over the past two decades, accompanied by

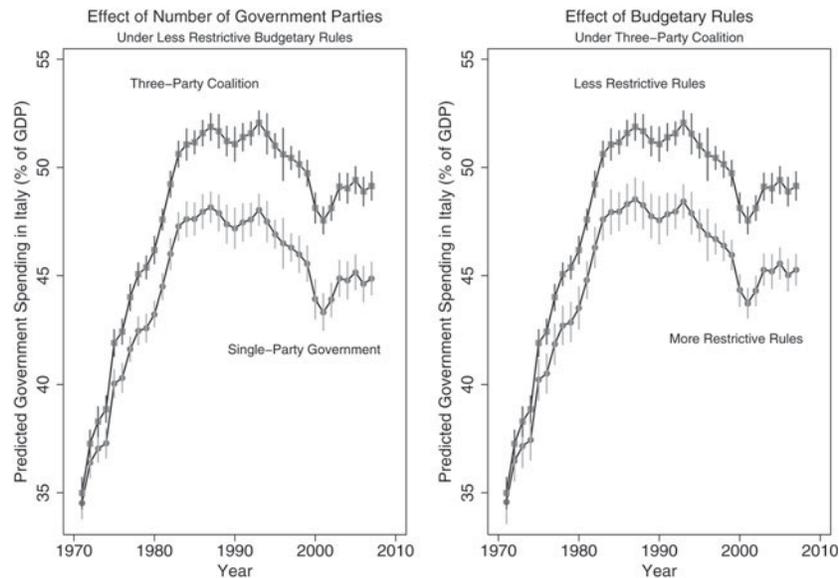
one of the lowest growth rates in the industrialized world. Our argument suggests that one contributing factor to this spending pattern may well have been a combination of fairly loose budgetary rules prior to 1997, coupled with often large coalition governments. This readily suggests a thought experiment: based on our estimates, what do we expect might have happened to government spending over the years if Italian governments had *not* been composed of large coalitions or if those coalitions had been forced to construct their budgets under *tighter* fiscal rules? To carry out this thought experiment, we generate predicted levels of government spending (and 95% confidence intervals) under alternative fiscal rules and for different numbers of government parties (and the interaction between these two). The values of all other covariates, except for lagged spending, are set at their *actual* values for each year.²⁵

In the left panel of Figure 3, we demonstrate the predicted impact of the number of government parties. We contrast a scenario in which Italian governments are assumed to consist of three parties in each year (the actual average number for the entire

²⁴Specifically, we show the effect of moving from the 25th percentile of *Number of Government Parties* in the data (the case of a single-party government) to the 75th percentile (a three-party coalition).

²⁵The lagged spending value in any given year is set to the predicted spending from the previous year.

FIGURE 3 Comparison of the Effect of the Number of Government Parties and the Effect of Budgetary Rules on Predicted Government Spending in Italy (1971–2005)



Note: The points on the solid lines in each pane represent the predicted level of government spending in Italy over time; the vertical lines centered on each point are 95% confidence bounds. The “less restrictive” budgetary rule is defined as having a Budgetary Constraint Index value of 0.35; the “more restrictive” budgetary rule is defined as having a Budgetary Constraint Index value of 1.00.

sample period) with a scenario in which single-party governments hold office for the entire period. The budgetary constraint index is held constant at its 1971 value (which was 0.35, as shown in Figure 1). As this figure demonstrates, given these relatively unrestrictive budgetary rules, under three-party coalitions, predicted government spending in 2007 would have been 49.1% of GDP (which is quite close to its actual spending of approximately 48%). In contrast, Italian spending would have been considerably lower in 2007 had the country been ruled by a single party for the previous 36 years. Under this scenario, predicted spending equals 44.9% of GDP, a reduction of 4.2 percentage points. Expressed in terms of Italian GDP in 2005 (over \$1.6 trillion), this represents a substantial reduction—approximately \$73 billion. The cumulative predicted effect of a switch to single-party government over the 36-year period is more than \$1.6 trillion (in 2005 dollars), roughly the entire 2005 GDP.

In the right pane, we illustrate the extent to which budgetary rules mitigate the expansionary effects of the number of government parties. This time, we graph predicted levels of spending (along with 95% confidence intervals) for a three-party coalition under two different budget-making frameworks. The top line plots predicted spending under the relatively unrestrictive rules that were in place in Italy in 1971. The bottom line

plots predicted spending under the same three-party coalition assuming that the budgetary rules in Italy had been equal to the more restrictive rules in place in France in 1971. As the figure demonstrates, early adoption of more restrictive budgetary rules would have resulted in a spending pattern roughly *equal* to that of single-party governments under less restrictive rules. By 2007, a more restrictive budgetary process would have resulted in a predicted decrease in spending from 49.1% of GDP to approximately 45.3% of GDP—a reduction of 3.8 percentage points and more than \$66 billion. Over the entire period, this amounts to a cumulative decrease of more than \$1.5 trillion. Putting it differently, had Italy tightened its fiscal rules in the early 1970s to match those of its neighbor, the model predicts that Italian coalitions would have produced spending levels almost equivalent to those that would have been produced by a single-party government under the permissive fiscal rules the country lived with for over 25 years.

Conclusion

The size of the public sector is, without a doubt, one of the most salient and significant outcomes of the political process in contemporary advanced industrial

societies. The prevailing argument in the literature on government spending—backed by substantial empirical evidence—is that an increase in the number of government parties will result in higher spending (e.g., Bawn and Rosenbluth 2006; Braeuninger 2005; Perotti and Kontopoulos 2002; Persson, Roland, and Tabellini 2007; Volkerink and de Haan 2001). The theoretical foundation for this argument lies in the claim that spending decisions constitute a “common pool resource” problem for coalition governments because parties face electoral incentives to push for spending favored by their constituents and few incentives to oppose the spending demands of their partners. In this study, we offered a significant modification of this conventional wisdom by taking account of the fact that spending decisions are made within specific institutional contexts. Budgetary rules can mitigate the CPR logic that drives spending under coalition government provided that these rules (1) reduce the influence of individual parties in the budget process and (2) generate endogenous incentives to resist spending demands by coalition partners. Our empirical evaluation, based on spending patterns in 15 European democracies over nearly 40 years, provides clear support for this contention. Restrictive budgetary procedures can *eliminate* the expansionary pressures on spending associated with the addition of parties to a governing coalition.

This finding is important not only because it qualifies previous research and highlights the manner in which institutional rules shape political outcomes. It also matters because it has direct implications for normative debates over the desirability of single-party versus coalition governments. Over the last 15 years or so, a lively scholarly debate has compared the relative merits of systems with proportional representation electoral rules and coalition government to those with majoritarian electoral systems and single-party government. Scholars have differed over the extent to which these systems favor accountability over representation (e.g., Lijphart 1999; Pinto-Duschinsky 1999; Powell 2000; Powell and Vanberg 2000) and their impact on macroeconomic outcomes, such as price levels (Rogowski and Kayser 2002), fiscal policy (e.g., Bawn and Rosenbluth 2006; Braeuninger 2005; Perotti and Kontopoulos 2002; Persson, Roland, and Tabellini 2007), and income equality (Iversen and Soskice 2006). Our results demonstrate that—at least with respect to fiscal outcomes—there is no trade-off involved. Appropriate fiscal institutions can serve as a powerful constraint on common pool resource problems and can lead coalition governments to behave in budget making much like single-party governments do. In this

sense, our conclusions offer hope that appropriate institutional reforms may be part of a political solution to the financial woes currently confronting multiparty governments across Europe.

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