

The Materialization of the Common Pool Problem in Government Spending

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Dear CPW,

Thank you for reading this piece!

At this stage, I'm most concerned about whether or not my argument is convincing. Moreover, the biggest challenge for me at the moment – apart from the argument itself – is finding a feasible measure of outside options. Since I don't have such a measure yet, I only provide some descriptive statics and graphs using proxies. I'm using the overall polarization of parliament and the bargaining power of the largest parliamentary party as proxies here, but I know that they don't capture the dynamics that I argue are important (hence, I don't have any real statistical test in which I use them). I could:

- use the effective number of parliamentary parties (ENPP; the more equally seats are distributed across parliamentary parties, the more numerical outside options) and interact it with a measure of polarization. The problem with this measure is that the ENPP values are not comparable across different parliaments since the ENPP can only be interpreted in a meaningful way if we know the raw number of parliamentary parties. Moreover, it doesn't capture the numerical and ideological feasibility of each potential coalition individually.
- construct a modified bargaining power index based not only on the ratio of minimal winning coalitions each party is needed for, but on the ratio of minimal connected winning, minimal range, etc.. The problem with this measure is that I have to restrict it to a certain kind of coalition likely to form (minimal connected winning or minimal range). Surplus and minority governments would mostly not be included in this type of measure, for instance.

Ideally, I would like to have a measure that, for each government party, counts each numerically feasible coalition (not excluding any type *ex ante*) and then evaluates these coalitions if they are ideologically feasible as well. This measure would have to be added up (and potentially weighted by the share of portfolios) for entire governments.

Any ideas about how to capture outside options empirically and any kind of feedback in general are much appreciated!

Thank you for your comments!

1. Government Spending

In their seminal article, Weingast, Shepsle, and Johnsen (1981) show that in a parliament that is elected by SMD plurality, the size of projects/policies increases in the number of districts and thus the size of parliament. In the original model, this is the case because each legislator can demand additional projects for her district in exchange for a vote in parliament. Each legislator needed to secure the parliamentary majority for a certain bill can make her vote contingent on receiving a project for her district. Thus, with concentrated benefits and dispersed costs, the more legislators are needed to pass legislation, the bigger the project, and hence, the higher the levels of spending (Weingast et al. 1981). Although modeled after the US Congress, this “Law of $1/n$ ” (Weingast et al. 1981: 654) has been tested in various settings such as state and local politics (in the US and elsewhere) as well as bicameralism and the difference between presidential and parliamentary systems (see Primo/Snyder 2008 for an overview). Most importantly for this paper, this law has also been applied to the number of parties in governments. The overall empirical evidence for applications of the ‘Law of $\frac{1}{n}$ ’ or the ‘Law of Universalism’, however, is mixed (see for instance Bradbury/Crain 2001).

Applying this argument to governments and the number of parties in government, coalition governments are expected to spend more than single-party governments because they, by definition, comprise more actors and thus are subject to the ‘law of universalism’ (see for instance Bawn/Rosenbluth 2006 and Persson et al. 2007). Given higher levels of party discipline in parliamentary systems, parties are treated as unitary actors, so each additional party in government can make support for leg-

isolation contingent on additional spending for its constituents. Empirical analyses support this argument (Bawn/Rosenbluth 2006; Persson et al. 2007). Moreover, more fractionalized and polarized governments, i.e. some coalition governments, exhibit higher levels of debt and deficit because they adjust to shocks only slowly thereby having greater long-run multipliers (Franzese 2002, 2008). However, not all single-party governments spend equally, either. Depending on the margin of majority in parliament, single-party governments exhibit different levels of spending: Single-party governments spend less if they have slightly more seats than the simple majority or a supermajority and more if their parliamentary majority lies in between the simple and supermajority (Mukherjee 2003).

Recent research has found that coalition governments, in fact, only spend more under certain institutional circumstances (Martin/Vanberg 2012). Under “restrictive budgetary rules”, additional government parties do not lead to higher levels of spending (Martin/Vanberg 2012: 9). Budgetary rules are restrictive if the finance minister is the actor proposing the budget first, if spending is constrained exogenously (requiring balanced budgets, for instance), or if the entire budget has to be approved before individual items are voted on, if amendments implying additional spending cannot be passed, or if additional spending increases in one area have to be offset by cuts in another (Martin/Vanberg 2012: 8f). Similarly, I argue that coalition governments do not always spend more than single-party governments, but do so only under certain parliamentary circumstances. More specifically, I argue that coalition governments comprised of parties having viable outside options in parliament spend less than those who do not have such options. I will present my theoretical argument

in the following section.

2. Outside Options and the Materialization of the Common Pool Problem

Applying the ‘law of universalism’ to parliamentary systems, government is the appropriate body to analyze. Unlike in the US, levels of party discipline are higher in parliamentary systems, so the government does not have to build support coalitions for individual policies in parliament, but can instead rely on the representatives of the members of the government to vote in support of each bill. This, of course, only applies to majority governments and applies particularly to those governments that have to pass an investiture vote to enter government. Consequently, the traditional argument posits that an increase in the number of government parties will lead to higher levels of spending because each party can make its votes contingent on rewarding their constituents. Thus, with more parties in government, spending is expected to increase because the government needs the votes of all parties to pass legislation. Consequently, coalition governments are seen to spend more than single-party governments and coalitions comprised of more parties will spend more than two-party coalitions, for instance (Bawn/Rosenbluth 2006). However, I argue that the parliamentary bargaining context affects how much additional spending government parties can extract.

As already mentioned above, Martin and Vanberg (2012) argue that under certain institutional circumstances, coalition governments do not spend more than single-party governments. In addition to the institutional environment, the parliamentary

makeup impacts the level of spending as well. Regarding welfare-spending, Hicks and Swank (1992) find that the ideology of junior partners in coalition governments and the presence of a strong opposition (measured as vote and seat share) from the opposing ideological camp influence how much governments spend on welfare. While right-wing governments (including coalition governments in which the right-wing party is the senior partner) spend less on welfare in the absence of a strong left opposition, they spend more, the stronger the left opposition grows (Hicks/Swank 1992). Similarly, left-wing governments spend less in the presence of a strong right-wing and center opposition and if the junior partner in the left-led coalition government is conservative or centrist (Hicks/Swank 1992).

Similarly, I argue that the parliamentary opposition influences the level of government spending. However, rather than the strength and ideology of the opposition itself, I contend that the presence of outside options mitigates the spending pressures that government parties can exert on each other. I define a government party to have *viable outside options* if it can enter other coalitions that are numerically and ideologically feasible in addition to the one currently in office and that it is a member of. Thus, if one or all of the coalition parties currently in office can enter a coalition government with one or more opposition parties that is feasible numerically – it crosses the majority threshold in parliament – and ideologically – all coalition partners are close ideologically – these incumbent government parties have (one or more) viable outside options. The ideological component is important in this respect because although many coalition governments might be feasible numerically, only certain ones are likely to form. Coalition governments with a small range of ideolog-

ical positions represented that contain ideologically adjacent parties are most likely to form (Axelrod 1970; de Swaan 1973)¹.

In a two-and-a-half party system comprising two large parties and a small one, for instance, where a combination of two parties yields a parliamentary majority, any government party has outside options because either of the two large parties in government can enter another coalition government with the other large party or with the small one. Similarly, the smaller party can enter government with either of the two large parties. Which of these options is more likely to form, however, depends on the ideological configuration of these parties. That is, even though all combinations might be feasible numerically, only certain coalitions are feasible ideologically. Moreover, in any surplus coalition, those government parties needed to cross the majority threshold in parliament by definition have at least one viable outside option. Since not all coalition members are needed, excluding the one (or more) party whose votes are not necessary to secure a parliamentary majority still leads to a majority coalition. This coalition is a viable outside option. Similarly, in minority governments – irrespective if composed of one or multiple parties – government parties also have at least one numerical outside option since the party/parties can enter a coalition government with one or more of the opposition parties. However, it is possible that such a coalition is not feasible ideologically.

Following previous research, I also expect government spending to be lowest for single-party majority governments because they are only comprised of one political

¹I do not consider a government comprising all parliamentary parties as an outside option.

party². Thus, irrespective of the parliamentary bargaining context, there are no additional actors extracting spending. With only one party in government, no additional actor demands spending for its core constituency. This, however, only applies to single-party *majority* governments. This reasoning does not apply to single-party minority governments since these governments need parliamentary support from non-government parties. These non-government parties can again make their support for policies contingent on additional spending rewarding their constituents. In addition, a single-party majority government that is not only faced with one major opposition party but at least two also has at least one numerical outside option by definition. In such a case, the incumbent party can enter government with one of the opposition parties. This outside option is not automatically ideologically feasible, however. Thus, my most basic hypothesis is in line with previous research on government spending:

Hypothesis 1: Single-party majority governments spend less than coalition governments.

The presence or absence of viable outside options impacts the dynamics in intra-governmental decision-making. I will first turn to the implications of government parties having outside options before explaining how the absence of viable outside options impacts decision-making and in particular government spending. If government parties have viable outside options, I do not expect coalition governments to spend more than single-party governments. If a coalition member demands more

²I realize that every party is in fact comprised of different factions and can itself be seen as a coalition. Although too simplistic, I assume parties to be unitary actors.

spending for its constituents in return for supporting government policies, it can be excluded from the government because other coalitions are feasible. Moreover, since reshuffles of the government are possible, a failure of the incumbent government does not automatically lead to early elections (see Lupia/Strom 1995). In such a case, the party demanding more spending does not jeopardize all government parties' future status but only its own. That is, by demanding more spending, it risks being excluded from government and substituted for with another party. Hence, government parties do not attempt to extract more spending to retain their government status, and the common pool problem does not materialize. Suppose, the incumbent government is comprised of one large party and one small party that is needed to cross the majority threshold. Suppose, moreover, that the larger party can enter government with two other small or large parties. If the junior partner of the incumbent government demands high levels of additional spending, the senior partner can credibly threaten to exclude the small party from government and replace it with one of the other potential coalition members. If the failure of the government leads to early elections, the larger party is likely to negotiate a coalition agreement with one of the other potential coalition partners after the elections and not with the previous junior partner. Knowing that the senior partner in the coalition has viable outside options and that demanding additional spending will decrease the likelihood of remaining in government in the current and likely the following term, the junior partner will refrain from demanding more spending in exchange for support for government policies. This logic extends to coalition governments comprised of more than two parties. Thus, I expect coalition governments not to spend more than single-party majority

governments if some or all government parties have viable outside options.

In contrast, if government parties do not have any viable outside options, they can extract additional spending. In such a case, one (or more) government party can successfully demand more spending because it can credibly threaten to break the entire government. If no government party has viable outside options, the government as a whole fails if any one of the government parties leaves government because it cannot be substituted for as no other combination of parties is feasible. Hence, parties can blackmail their coalition partners and extract higher levels of spending. In case no government party has viable outside options, not agreeing to spending more if one party demands so jeopardizes the survival of the entire government and, thus, all government parties' future status. An early termination of government due to conflicts over spending will lead to early elections with an uncertain outcome. Knowing this, government parties demand additional spending in exchange for support for government policies. Consequently, in such a case, the common pool problem materializes. Therefore, if none of the government parties has viable outside options, I expect governments to spend more than both single-party majority governments and coalition governments whose members have viable outside options. This is the case because government parties can successfully demand spending to reward their constituents and more constituent groups have to be appeased to stay in government.

Hypothesis 2a: Coalition governments only spend more than single-party governments if government parties do not have viable outside options.

Hypothesis 2b: Coalition governments comprised of parties without viable outside options spend more than coalition governments comprised of parties having viable

outside options.

To summarize, I expect the parliamentary context to influence the dynamics of intra-governmental decision-making and to influence whether or not the common pool problem materializes. Coalition governments whose members have viable outside options tend to spend less than those whose members do not have any viable outside options. Similarly, coalition governments whose members have viable outside options do not tend to spend more than single-party majority governments.

4. Data and Method

I test my hypotheses using the “Comparative Political Data Set I 1960-2009” (Armingeon et al. 2011) and the “European Representative Democracy Data Archive” (Andersson/Ersson 2012). The first of the two data sets contains information on governments (partisan makeup and strength of government parties measured as the share of government ministries) in developed democracies from 1960 to 2009 as well as variables on the institutional (electoral and party system) and parliamentary (ideology and vote and seat share of all parties winning more than 2 percent of the national votes) context (Armingeon et al. 2011). More importantly, it includes various economic variables, such as the level of debt, trade openness, and the level of central bank independence.

For the dependent variable, government spending, I use outlays as a share of GDP as a dependent variable (as Bawn/Rosenbluth 2006, for instance). These data

are yearly data covering the period of 1960 to 2009 (Armingeon et al. 2011).

The main independent variable for the first hypothesis that single-party majority governments spend less than coalition governments is a dummy variable coded as one for single-party majority governments and zero for all types of coalition governments. I expect this variable to have a negative effect on spending.

In addition, I test if there is an association between the presence/absence of outside options and spending. The main independent variable for these tests is thus a variable indicating whether and how many outside options each government party has. For this, I use two different proxies based on coalition research. First, to account for numerical possibilities, I test my argument using the bargaining power of the largest parliamentary party. This measure is obtained from Andersson and Ersson (2012) and captures the ratio of the minimal winning coalitions feasible in parliament for which the largest parliamentary party is necessary. It ranges from zero to one, with single-party majority governments taking on a value of one. Since the largest parliamentary party is regularly selected as the formateur party, this variable can be used to assess some of the numerically feasible outside options for one of the government parties (note that surplus governments that this party could form, for instance, are not captured by this measure). Thus, higher values indicate more numerically feasible outside options, so I expect this variable to negatively affect spending.

However, the bargaining power of the largest party only captures numeric coalition possibilities for this party without taking into account the ideological composition of parliament. Following previous research on coalition governments, I use the

polarization of parliament as a proxy for the availability of ideologically feasible outside options (see the chapters in Strom et al. 2008, for instance, for examples of this use in studies on coalition formation, policymaking, and termination). This measure is also obtained from the “European Representative Democracy Data Archive” (Andersson/Ersson 2012). It is calculated as the sum of the deviation of each party’s ideological position from the parliamentary average left-right position, weighted by its bargaining power³ (Andersson/Ersson 2012; Müller/Strom 2000; Strom et al. 2003; Strom et al. 2008). Higher values of this measure indicate higher levels of polarization and thus fewer viable outside options for government parties. Therefore, I expect polarization to positively affect spending.

Due to data availability, the final sample comprises 17 Western European countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, United Kingdom) for the time period from 1960 to 2009.

Since my argument about outside options is conditional (coalition governments do not spend more than majority governments if government parties have viable outside options and only spend more if government parties do not have viable outside options), in a multivariate analysis, each of these proxies have to be interacted with a dummy variable denoting coalition governments.

Finally, in a multivariate analysis, various different variables have to be controlled for. I control for the strength of left-wing parties in government since left-wing parties are associated with higher levels of spending, *ceteris paribus* (see Franzese 2002

³The formula is the following: $\sqrt{\sum_{i=1}^n b_i(x_i - \bar{x})^2}$

and 2008, for instance). This is measured as the share of portfolios controlled by a left-wing party in government where ‘left’ spans the range from Communist to Social Democratic parties. This share of ministries is weighted by days. Next, I control for the seasonally adjusted unemployment rate since higher levels of unemployment lead to more spending because a greater share of the population receives welfare benefits. I also include a measure of the share of the population aged 65 and older as a control since higher shares lead to higher levels of spending due to pension expenses. Finally, I also control for the lag of the dependent variable (Armingeon et al. 2011).

5. Preliminary Descriptive Results

Of a total of 466 cabinet years for which spending and bargaining context data are available, 366 are coalition governments, while 100 are single-party majority governments. Table 1 reports the mean values of public spending as a share of GDP for the entire sample, coalition, and single-party governments. Figure 1 shows box plots of public spending differentiated by government type (single-party majority and coalition governments). Single-party governments spend more than coalition governments in general. Both the mean and median values for single-party majority governments (44.10 and 44.29 percent, respectively) are lower than the corresponding values for coalition governments (46.56 and 47.29 percent, respectively). Moreover, as can be seen in the box plots, coalition governments exhibit greater variance in spending levels. T-test using both equal and unequal variances for these two groups indicate that the mean spending levels for single-party majority and coalition governments

are significantly different from each other at at least the one percent level.

Table 1: Mean Values of Public Spending by Government Type

	Full Sample	Coalition governments	Single-party Majority
Mean spending (share of GDP)	46.03	46.56	44.10
Std. deviation	6.95	7.48	3.98

Figure 1: Public Spending by Government Types

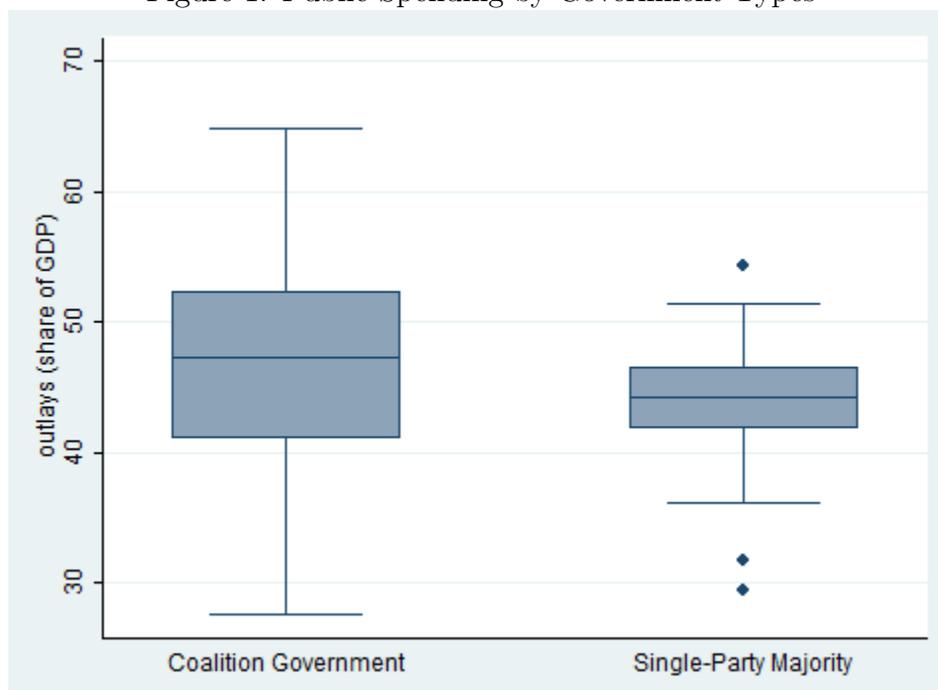


Table 2 reports the mean, minimum, and maximum values of the bargaining power of the largest parliamentary party as well as polarization in the entire sample for which spending data are available. The bargaining power of the largest party ranges from a minimum of 0.16 for the largest party in the Belgian parliament between 1999 and 2003 to a maximum of one for all single-party majority governments.

The level of polarization in parliament ranges from an in-sample minimum of 0.71 for Portugal from 1991 to 1995 to a maximum of 38.09 in Finland between 1983 and 1987.

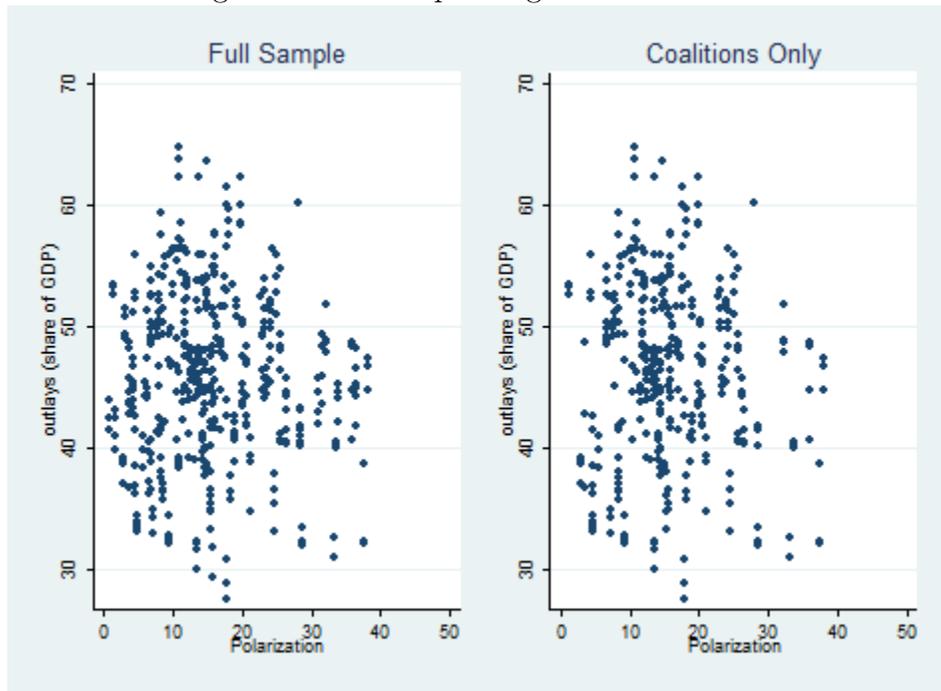
	Minimum	Mean	Maximum
Bargaining Power (largest party)	0.16	0.53	1
Polarization	0.71	15.62	38.09

Figure 2: Public Spending and Bargaining Power



Figure 2 shows scatter plots of the bargaining power of the largest parliamentary party and public spending for the entire sample as well as for coalition governments only. Figure 3 shows scatter plots of the polarization in parliament and

Figure 3: Public Spending and Polarization



the level of public spending as a share of GDP for the entire sample and coalition governments only as well. As both graphs show, there is no clear bivariate relationship between the availability of numerical and ideological outside options if none of the factors described above are controlled for.