Public spending, public deficits and government coalitions

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Abstract

The study examines the relationship between types of government and level of public spending. There are two competing perspectives about the consequences of coalition governments on the size of public expenditures. The most common argument is that government spending increases under coalition governments, compared with one-party governments. Another line of thought contends that coalition governments are stalled in the status quo due to the veto power of each member. Our analysis of public spending in 33 parliamentary democracies between 1972 and 2000 confirms the latter argument that coalition governments have a status quo bias. We find that single-party governments are apt to modify the budget according to the current fiscal condition, which induces them to either increase or decrease spending. On the contrary, coalition governments find it difficult not only to decrease spending under difficult fiscal conditions but also to increase it under more favourable contexts, because each member of the coalition has a veto power.

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1 Introduction

As trust in politicians, parties, and institutions such as Parliament is gradually eroding, there is mounting support for institutional change (Dalton 2004). Institutional reform has been debated and implemented in many countries. Among established democracies, Italy moved from a PR system to a mixed one in the 1990s, and it has just reversed back to a PR system. In the same period, New Zealand switched from a plurality to a mixed corrective system, while Japan went from the single non transferable vote to a mixed parallel system. In Canada, five of the ten provinces have been contemplating a change in their electoral system. The debate is not confined to developed countries. In Latin America in particular, a huge controversy has emerged about the virtues and vices of presidentialism versus parliamentarism (Linz 1990; Linz and Valenzuela 1994; Jones 1995, 1997), and large scale reform of the electoral system took place in Bolivia, Mexico and Venezuela (Mayorga 2001; Shugart and Wattenberg, 2001).

Push for institutional reform is predicated on the view that institutions matter, that is, politics changes when a country moves from a presidential system to a parliamentary one or from plurality to PR. There is indeed a vast literature on the impact of electoral systems on the number of parties (Duverger 1954, Taagepera and Shugart 1989, Lijphart 1994, Cox 1997) and turnout (for a review of the literature, see Blais 2006). But a more difficult, and crucial, question is whether political institutions affect the decisions that governments make.

This study focuses on the impact of the number of parties forming the government on the overall level of public spending. The number of parties in government is not an institutional factor in the strict sense of the term but it is clearly related to institutional variables, more precisely the electoral formula and district magnitude, which together strongly affect the number of parties running in an election, the number of parties represented in Parliament, and the number of parties that form the government (Rae 1969; Powell 1982; Taagepera and Shugart 1989; Blais and Carty 1991; Lijphart 1994; Cox 1997; Katz 1997; Clark and Golder 2006). The number of parties

in government has the great advantage of varying over time while institutional factors seldom change, which makes it much easier to ascertain its effects. We also test the effect of ideological distance among parties in cabinet. Ideological distance has been emphasized by scholars to constitute a crucial characteristic of coalition governments. Warwick (1994) asserts that it is not simply the number of parties in a coalition but ideological divergence among coalition partners that brings the fall of a coalition. Tsebelis uses ideological distance as a measurement for the strength of veto players instead of the number of parties in a coalition (Tsebelis, 2002). Although our main interest lies in the number of parties, we also use ideological distance as one of our primary independent variables to examine if there are discrepancies in the results.

We look at the relationship between the level of public spending and the number of parties in government. We argue that in doing so we also need to take into account a crucial contextual variable, the overall fiscal situation that a given government is faced with. Instead of simply comparing the size of public expenditure under different types of government, we focus on how easily governments can shift spending depending on the context. We hypothesize that single-party governments are more flexible than coalition governments with respect to changing the size of government expenditure whenever it is necessary. When a government faces a negative fiscal context (large debts or past deficits), it needs to redress the fiscal imbalance; this usually entails cutting spending. If the government consists of one party, it should be relatively easy to make that tough decision. In contrast, under a coalition government, reducing the size of expenditures is more difficult, since coalition partners must agree on the necessity of fiscal responsibility, and everyone may exercise its veto power. For this reason, we would expect coalition governments to spend more than their single-party counterparts in periods of fiscal imbalance.

However, this is the only one side of the story. Suppose that the public debt is nil or that the government has been making surpluses in the past. Under such a context, there is little pressure to cut spending; on the contrary, the temptation to increase expenditures may be irresistible. Under

such a scenario, one-party governments would want to provide more public goods with the hope that this will make people happy and that will increase their chances of being re-elected. Coalition governments, however, may be stalled by internal disagreements about how and where to spend, and the outcome may well be... the status quo. Under a "positive" fiscal context, then, coalition governments should actually spend less than single-party governments.

The same logic applies to the exploration of the relationship between government spending and ideological distance among coalition parties. Presumably, it is more difficult to reach consensus on budget outlays under ideologically diverse coalition governments than ideologically cohesive governments. Under pressure for contracting budget in fiscally difficult times, ideologically remote coalition parties are less willing or able to agree on where to cut and may well end up not cutting at all. On the other hand, in fiscally stable times, the increase in spending can be stalled because of the veto power of each member that has quite different views about where to increase spending. In contrast, ideologically cohesive governments should face little difficulty in expanding or reducing the size of budget.

In what follows, we briefly review the current state of knowledge on the impact of coalitions on public spending. The data and the methods for our analysis follow in the next section. We then discuss our results and conclude.

2 Coalition governments and public spending

The standard view in the literature is that public spending should increase with the number of parties in government. The typical interpretation is that coalition governments are less willing or able to resist pressures for more spending, the so-called common-pool problem. Because the benefits of government intervention are more concentrated than its costs, most groups have an incentive to push for more spending. The propensity to overspend should be greater when the government is made of many coalition parties, none of which wants to take responsibility for resisting "legitimate" demands, than when it is made of a single party (Kontopoulos and Perotti 1999; Persson

and Tabellini 2003, 26-27).

The argument that the presence of coalition governments fosters logrolling and increased spending appears sensible. If the parties in a coalition government apportion among themselves the different departments and if each minister controls her own department (Laver and Shepsle 1990; Browne and Franklin 1973), the most likely outcome (assuming that each minister prefers to have a larger budget) is for total spending to go up.

The theoretical perspective adopted by Bawn and Rosenbluth (2006) but also in Persson and Tabellini's (2003) seminal research, is that coalition governments foster logrolling and are less able to resist pressures for more spending, each party focusing on its priority domain, which entails more total spending, as none of the partners is willing to take responsibility for resisting demands coming out from the other parties.

In a recent paper, Persson, Roland and Tabellini (2007) propose a comprehensive model that includes both electoral rules and the type of government (coalition or single-party). They show that larger budget outlay in PR countries is entirely explained by the type of government. That is, the link between PR and government spending is indirect; it is mediated by the greater frequency of coalition governments under PR.

Another important empirical study on the impact of coalitions on public spending is that of Bawn and Rosenbluth (2006). Bawn and Rosenbluth (2006, 255) make two claims: "first parties externalize costs not borne out by their own constituent groups; and second, because electoral accountability is fragmented, participation in a coalition government is not sufficient to internalize these costs." The logical consequence is that public spending should increase as the number of parties forming the government increases. Their analyses, based on data from 17 Western European countries from 1970 to 1998, confirm the hypothesis.

However, there is another theoretical perspective on the nature of coalitions; that perspective is provided by Tsebelis (1995). If each coalition partner has a veto power on the overall orientation of government policy, the predicted consequence of a coalition government would simply be greater stability. The presence of coalitions entails the presence of more veto play-

ers and the ultimate consequence should be that it is more difficult to bring about change. Coalitions should have a status quo bias. The impact of a coalition should be to pull governments towards no change; it should put a break on whatever direction a given government is impelled to move. When the fiscal situation makes it possible to increase spending, coalition governments should actually spend less than their single party counterparts; it is only when there is a need for a reduction in the size of the state that the presence of a coalition would have a positive effect on public spending (through reducing spending cuts).

The theoretical prediction thus hinges on the assumption that is made about the nature of the budgetary process in coalition governments. If the coalition enhances the freedom of each minister to increase her own budget, the consequence should obviously be higher spending. But if the existence of a coalition entails that it is more difficult to bring about change, because of the presence of more veto powers, then the consequence should depend on the context. If the fiscal situation allows for greater spending, the presence of a coalition should partially offset the inclination to spend more, and so the net effect should be lesser spending compared to single party governments. From a veto power perspective, coalitions should have a stabilizing effect. Governments that are tempted to increase spending would be forced to increase less and those governments that have to cut would cut less. The impact of a coalition should simply to make it more difficult for a government to move in the direction it is inclined to go.

Some empirical studies have shown the utility of the veto player model. Bawn (1999) provides compelling evidence of the theory. She successfully demonstrates that in Germany, the Freie Demokratische Partei (FDP), which was often the minor partner in government coalitions, was able to veto spending increases in "left-wing" or "right-wing" areas proposed by its major partner (SPD or CDU/CSU).

Tsebelis (2002) provides additional evidence in support of the veto player model by examining the number of significant legislations in western European countries. He emphasizes the ideological range between coalition partners as being a primary source of veto power. In his analysis, he finds that as

the ideological difference between coalition partners in government increases, the number of significant laws adopted decreases. He concludes that "... if there are many veto players separated by large ideological distance, then legislation can only be incremental. If an exogenous shock occurs, a government such as this cannot handle the situation and cannot agree on the necessary policies" (p.605) Later, Tsebelis and Chang (2004) provide further evidence for the veto player model by exploring changes in budget composition. They find that change in budget structure, which is measured by the Euclidean space distance between two consecutive budgets, is less likely to take place when the ideological distance between veto players is large.

With respect to the size of government spending, Ha (2008) examines how the number of and ideological distance between veto players in government affects the size of welfare spending under the pressure of globalization. Her empirical analysis of 18 advanced countries demonstrates that the increasing effect of globalization on the size of welfare spending is significantly offset by the number of and ideological distance between veto players.

We investigate the impact of the number of parties in government on total public spending. We test a model inspired by the veto player perspective, which assumes that the impact of the number of parties in government is to produce a status quo bias. More precisely, the presence of coalitions weakens the impact of other pressures for both increased and decreased spending. The effect is thus conditional. We identify the fiscal context as a crucial factor that induces governments to increase or decrease public spending. We assume that it is easier to increase spending when the books are in good shape and that a high debt or deficit forces governments to cut expenditures. Single-party governments adjust their budgetary decisions in accordance with the fiscal situation. Such adjustments are more difficult to achieve under multiparty governments, because of the presence of veto players with divergent political interests. Thus, the size of spending remains relatively unchanged under coalition governments.

(Table 1 about here)

Table 1 summarizes our theoretical expectations of fiscal shifts according

to the type of government. Our central hypothesis is that the impact of the fiscal factor (the previous year's deficit) on public spending is reduced in the presence of coalition governments, because of their status quo biases. Such an argument has not been yet tested on a large sample of countries where coalition governments emerge.

Additionally, we also investigate the relationship between size of government spending and ideological distance among coalition partners. In doing so, our research should demonstrate that the conditional relationship is not limited to the number of parties in a government, but holds as well when ideological divergence among coalition partners is considered.

3 Data and methods

Our sample consists of 33 parliamentary democracies and the time period is 1972 to 2000. To determine whether a country is democratic or not, we use Freedom House ratings of political rights. Only countries that receive a score of 1 or 2 for ten successive years are construed as democratic. We start in 1972 because this is when both Freedom House ratings and fiscal data become available.

We focus on parliamentary systems. We want to determine whether the presence of coalitions increases public spending, and it is only in parliamentary systems that it makes sense to distinguish coalition and single-party governments. We follow the definition and the classification proposed by Golder (2005) and inspired by Przeworski et al. (2000). A parliamentary system is one in which the government serves so long as it maintains the confidence of the legislature.

The dependent variable is the level of central government spending as a ratio of GDP. We only look at program spending and exclude interest payment and military spending in order to avoid outlier problems which might be caused by some countries spending extraordinarily large proportions on military spending.[1] The data come from the IMF Government Financial

[1] For instance, in the case of Israel, average military spending consists of about 30 percent of total government spending. We also performed regression analyses using total

Statistics (GFS) Yearbook on CD-ROM. We look at central government spending since we are concerned with the impact of the number of parties forming the central government.

A close examination of the dependent variable alerted us to the presence of outliers in cases of hyperinflation. This led us to remove cases where inflation was above 30 per cent. It is difficult to put much confidence in estimates of government spending and/or GDP when prices are climbing at such a pace.

Our most important independent variable is the number of parties in government. The variable is self-explanatory; it corresponds to the number of parties involved in the cabinet. When there is cabinet replacement in a year, we use the weighted average during the year.[2]

As indicated above, the conventional theory argues that the more parties there are in government, the greater the propensity is to increase spending. We assume a more complicated dynamics; the impact of having more parties in government is conditioned by the fiscal context. Therefore, we include an interaction term between the number of parties and the lagged government deficit (surplus) as a proportion of GDP.

We also create a variable measuring ideological distance among coalition partners. We identified the parties in a given cabinet and assigned each party an ideological score on the left-right scale. The ideological scores were assigned on the basis of three studies; Castles and Mair (1984), Hubert and Inglehart (1995), and Benoit and Laver (2006). We standardized ideological scores into a 0 to 10 scale and used mean scores whenever a given party had been rated by more than one study. We identified the two ideologically most distanced parties in a coalition government and calculated the absolute difference between these two parties. As in the case of number of parties, ideological distance within coalition is interacted with lagged government deficit (surplus).

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spending including military spending and interest payments as the dependent variable, and the change in dependent variable does not result in any difference in the sign and significance of coefficients.

[2] We used Keesings' World Archive for the analysis of government composition.

The model includes two socio-demographic variables: the percentage of the population aged under 16 or over 64 and the annual change in per capita GDP. Lastly, we insert the lagged level of government spending in order to control for possible autocorrelation in this type of data.

We test the hypothesis that the level of government spending is influenced by the number of parties and ideological distance in government, but we predict that the impact is conditional on the level of government deficit/surplus. Unlike previous studies asserting that the number of parties in government increases the level of spending independent of fiscal circumstances, we expect that multiparty governments with greater ideological distance are more constrained to change things. Hence, in the presence of a large deficit, single-party governments should spend less than multiparty governments where some veto players oppose spending cuts. Also, ideologically cohesive governments should cut spending more swiftly. Under a situation of government surplus, on the other hand, single-party governments can more easily increase the size of public spending whereas multiparty governments experience harder time increasing spending, again due to the objections of veto players. In the same way, governments internally divided along ideological lines should find it more difficult to increase spending than cohesive governments. As a result, the size of government spending fluctuates in single-party governments with cohesive ideological stance according to the fiscal context whereas it stays relatively stable in multiparty governments with diverse veto players regardless of the context.

If our hypothesis is correct, we should observe a positive effect for the main deficit/surplus variable, that is, public spending should increase with higher surpluses (and decrease with higher deficits). On the other hand, we should expect a negative coefficient for the interactive variable, that is, the positive effect of the surplus should be weakened as the number of parties in government and/or ideological divergence within cabinet increases.

Since our data are the form of the time-series cross-section (TSCS), we are careful about choosing the right model. As a preliminary step, we performed the Breusch-Pagan test which confirms the presence of heteroskedasticity. Therefore, we use panel corrected standard errors (PCSE)

estimations. These estimations correct for heteroskedasticity with the consideration of contemporaneously correlated errors across panels. The model is based on Ordinary Least Square with panel corrected standard errors (PCSE), as proposed and advocated by Beck and Katz. (Beck and Katz, 1995a, 1995b; Beck et al., 2001). Later, we also consider a fixed effect model and compare the results. By adding country fixed effects, we eliminate any possible bias stemming from unobserved cultural and institutional characteristics of each country. We employ AR1 disturbances, since we find first order serial correlation after a Wooldridge test.[3]

4 Findings

Table 2 shows the distribution of variables. Mean government spending as a percentage of GDP is 31.2 per cent. The mean number of parties in government is 2.04 and 47 percent of the sample is one-party government. Ideological distance among coalition partners ranges from 0 (when there is only one party in government) to 5, and the mean is 1.5. Most of the time, governments face a negative fiscal context, that is, there was a deficit the previous year. This was the case for 64% of the governments in our sample. The overall mean is a deficit that corresponds to 3% of GDP but there is a wide range of fiscal contexts.

(Table 2 about here)

Table 3 presents the regression results. The first column shows the results when the number of parties is considered and the second column is with ideological distance in cabinet.[4]

(Table 3 about here)

[3] We use xtserial command in STATA and obtained F-statistics of 38.225 from the Wald test, which far exceeds the significance level at .05.

[4] We do not include number of parties and ideological distance together in the same model because of the presence of multicollinearity. Indeed, the correlation coefficient between ideological distance and number of parties is .71.

The results are similar across the two estimations. The level of spending in the previous year and the presence of a substantial fraction of non-working age population both contribute to increased public spending while a favourable economic conjuncture leads to relatively lower spending, in a counter-cyclical fashion. The impact of these control variables is consistent with theoretical predictions.

Our main concern is the impact of number of parties under different fiscal conditions. Our prediction is that the positive effect of a previous surplus (or, equivalently, the negative effect of a previous deficit) is reduced under coalition governments. As a consequence, the main effect of the deficit/surplus variable should be positive while the coefficient of the interaction term should be negative, which is precisely the result that we get. In order to interpret the meaning of coefficients, we have to consider both main effects and interaction effects. With respect to the impact of the number of parties in the first column of Table 3, the threshold is set from the equation. When the government deficit is higher than .014, having more parties in government increases the level of spending; one-party governments spend significantly less than multi party governments. Once this threshold is passed, that is, when the government deficit becomes lower than .014 or even becomes positive (a surplus), having more parties in government implies less spending. Under this condition, one-party governments spend more than multiparty governments. The same calculation can be applied to the second column of Table 3 in which ideological distance among coalition parties is used instead of the number of parties. The result is quite similar to the result of the first model except for a slight change in the threshold. Now, the threshold is -.015, under which ideologically diverse governments spend more than cohesive governments. As the deficit level is lower than .015 or as the government starts to enjoy a surplus, ideologically cohesive governments spend more than ideologically diverse governments. The results perfectly support our hypothesis.

We run a set of simulations to illustrate the implications of these findings.[5] The results of these simulations are presented in Table 4 and Figure 1. As the simulation results show, when there is a very large deficit, that is, it represents 20% of GDP (the observed maximum is .233), public spending tends to be low (the overall mean is .29) but this is particularly the case for single-party governments (.268). In those cases, public spending increases with the number of parties in cabinet because the presence of many parties makes it more difficult to cut. At the other extreme, when there is a huge public surplus, the propensity to spend is much greater but this is again especially the case with single-party governments. Single-party governments under high surpluses of 23% of GDP overspend coalition governments by a large margin (.363 vs. .313). Coalition governments spend less, because there is a stronger resistance to change. What these simulations indicate is that previous surpluses or deficits have a substantial impact on single-party governments but very little on governments with three or four parties. This is entirely consistent with the view that coalitions increase the number of veto points and are biased in favour of the status quo, not in favour of higher spending.

(Table 4 about here)

Figure 1 represents the relationship between the number of coalition partners and government's swiftness in adjusting spending according to fiscal situation. The variance of spending among single-party governments is quite large representing big fluctuations in the size of spending depending on the level of deficit. The variance shrinks as the number of parties in coalition government increases, and finally becomes almost negligible under four-party coalition governments. The graph vividly corroborates the veto player model.

[5] The simulation is based on the OLS estimation with PCSE in the first column in Table 3. We also ran a separate simulation based on the fixed effect estimation which is presented in the second column of Table 3 and we found no significant difference.

5 Robustness checks

In this section, we run set of regressions in order to verify the robustness of our results. First, we insert other independent variables that might explain the pattern of government spending. The first set of independent variables pertains to national economic conditions, trade openness and GDP per capita. The regression results are presented in the first and second columns of Table 5. Per capita GDP has a significant and positive effect on the level of spending, but the magnitude is very small. The effect of trade openness is also positive. Nonetheless, they do not change the sign or the significance of our most crucial variable, the interaction term between government deficit and number of parties or ideological distance. The negative coefficient associated with the interactive variable is very robust.

We also test the sensitivity of our findings to the inclusion of a major institutional factor, that is, federalism. It has been argued that federalism limits the authority of the central government particularly with respect to restricting sub-national governments' economic activities. The moral hazard problem faced by sub-national governments would lead to increased spending and transfers of the costs to others (Rodden, Eskeland, and Litvack, 2002). Political scientists, for these reasons, predict a positive association between federalism and fiscal indiscipline, represented by high inflation, overspending and fiscal imbalance (Treisman, 2000; Wibbels, 2000; Rodden et al., 2002). Thus, we include a federal state dummy as additional control variable. The federal states in our sample are Austria, Belgium, Germany, Canada, Spain, Australia, South Africa, St. Kitts and Nevis, and India. Interestingly, the results show a strong negative effect of federalism on government expenditure growth. But the most important result for the purpose of this paper is that the interaction term with number of parties or ideological distance remains negative and significant.

Our data comprise a wide range of countries unlike other studies that cover relatively developed countries. Minding possible unstable spending patterns among less developed countries, we restrict the data only for OECD countries and test the robustness of our findings. The results are reported in

columns 5 and 6. Among OECD countries, the interaction between number of parties and government deficit has the right sign though it is no longer statistically significant. But the interaction between ideological distance and government deficit does have the consistent negative and significant effect.

We finally estimate fixed effects models. As briefly mentioned in the previous methods section, cross-national studies always face a pitfall because of the uniqueness of some countries. It is quite possible that unobserved individual heterogeneity such as cultural, institutional and social uniqueness is present in our sample. For instance, some countries may be prone to spend more than other countries for various reasons including political culture. If this is the case, we cannot assume that there is no correlation between the independent variables and the error term, and this eventually leads to bias estimates. For this reason, we include country fixed effects and compare the results with those from the previous model. The findings are shown in columns 7 to 12 in Table 5. We did not perform fixed effect estimations with the federalism variable, because "federalism" is an institutional variable that does not change over time.

(Table 5 about here)

Column 7 presents the results using number of parties as a measure of the strength of veto players. Our primary concern is whether or not any change takes place in the coefficient or sign of number of parties and the interaction term between number of parties and government deficit. The results are very similar to the initial findings. We also find a very consistent result when ideological divergence is used instead of the number of parties (column 8). The signs are correct and the interaction of ideological distance with the government deficit is statistically different from zero. We also insert two additional economic variables to the model (column 9 and column 10). Again, the results do not change much and even the magnitude of coefficients is very close. In the sample of OECD countries, we find that the interaction term with the number of parties loses its significant explanatory power as it did in the previous OLS with PCSE estimation (column 11). However, when ideological distance instead of number of parties is used as a measure

of tension between veto players, the interaction term demonstrates a negative and significant coefficient as we projected (column 12). Thus, among OECD countries, it is ideological distance among coalition parties rather than number of parties as such that creates a veto game. In addition, we also performed additional analyses only for OECD countries controlling for additional economic variables and federalism. The results are very robust.[6]

To summarize, our results that the impact of coalition size and/or ideological divergence on government spending is conditional on the size of the deficit/surplus appear to be robust. This provides strong support for the veto player model.

6 Conclusion

The goal of this paper has been to examine the linkage between number of parties in government and policy outcomes. The standard view in the literature has been that the size of public spending increases under coalition governments. The findings of this paper reject the conventional wisdom and provide a different perspective about budget decision-making in various fiscal contexts. The results endorse the veto player perspective according to which the main consequence of a coalition government is to increase the number of veto players, and that this impels a status quo bias, as suggested by Tsebelis (Tsebelis, 1995, 2002). Coalition governments spend more than single-party governments when they are in a difficult fiscal context but they spend less when the fiscal situation is rosy. It all depends on the fiscal context.

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	Government Fiscal Condition	
Type of Government	Good (Surplus)	Poor (Deficit)
Coalition Government	Status Quo	Status Quo
Single-Party Government	Increase	Decrease

Table1: Government Spending: Government Type and Fiscal Condition

Variable	Obs	Mean	Std. Dev.	Min	Max
Government spending as a fraction of GDP	544	.312	.084	.118	.564
Lag of government spending as a fraction of GDP	544	.310	.084	.098	.564
Lag of government surplus(deficit) as a proportion of GDP	544	-.029	.049	-.233	.226
Number of parties in government	544	2.041	1.379	1	8
Interaction between lag of government deficit and number of parties	544	.039	.13	-.244	.439
Annual rate of change in real GDP per capita (US dollars)	544	.362	.047	.297	.526
Ideological distance among coalition parties	286	1.487	1.480	0	5.2
Interaction between lag of government deficit and ideological distance	286	-.045	.089	-.427	.266
Proportion of population Aged under 16 or over 64	544	-.067	.123	-.744	.226

Table 2. Descriptive Statistics

	PCSE	*PCSE*
Lag of government spending as a fraction of GDP	**0.927*** (0.019)**	**0.894*** (0.022)**
Lag of government surplus(deficit) as a proportion of GDP	**0.277*** (0.063)**	**0.227*** (0.044)**
Number of parties in government	-0.001 (0.001)	
Ideological distance among coalition partners		0.002 (0.001)
Annual rate of change in real GDP per capita	**-0.036** (0.011)**	**-0.039** (0.012)**
Proportion of population Aged under 16 or over 64	0.009 (0.033)	0.037 (0.045)
Interaction between lag of government deficit and number of parties	**-0.070** (0.026)**	
Interaction between lag of government deficit and ideological distance		**-0.073** (0.026)**
_cons	**0.028* (0.013)**	0.026 (0.017)
R-Squared	0.889	0.890
Obs.	544.000	428.000

Table 3. The determinants of government spending

Level of deficit or surplus	Number of parties in government	Predicted spending	Difference in govt. spending (single vs 4 party coalition)
-.233	1	.268	
	2	.283	.046
	3	.299	
	4	.314	
-.126	1	.290	
	2	.298	.024
	3	.306	
	4	.314	
-.077	1	.300	
	2	.305	.014
	3	.309	
	4	.314	
-.029	1	.310	
	2	.312	.004
	3	.313	
	4	.314	
.02	1	.321	
	2	.318	-.007
	3	.316	
	4	.314	
.068	1	.331	
	2	.325	-.018
	3	.319	
	4	.313	
.226	1	.363	
	2	.347	-.05
	3	.330	
	4	.313	

Table 4. Predicted Spending by Number of Parties and Level of Deficit /Surplus

	(1) other economic indicators (PCSE)	*(2) other economic indicators (PCSE)*	*(3) Federalism (PCSE)*	*(4) Federalism (PCSE)*
Lag of government spending as a fraction of GDP	**0.888*** (0.02)**	**0.853*** (0.03)**	**0.910*** (0.02)**	**0.848*** (0.03)**
Lag of government surplus(deficit) as a proportion of GDP	**0.245*** (0.06)**	**0.187*** (0.04)**	**0.288*** (0.06)**	**0.228*** (0.04)**
Number of parties in government	-0.001 (0.00)		-0.001 (0.00)	
Ideological distance among coalition partners		0.001 (0.00)		0.002 (0.00)
Annual rate of change in real GDP per capita	**-0.032** (0.01)**	**-0.034** (0.01)**	**-0.036** (0.01)**	**-0.039** (0.01)**
Proportion of population Aged under 16 or over 64	0.053 (0.04)	0.088 (0.05)	-0.006 (0.04)	0.019 (0.05)
Interaction between lag of government deficit and number of parties	**-0.070** (0.03)**		**-0.077** (0.03)**	
Interaction between lag of government deficit and ideological distance		**-0.083** (0.03)**		**-0.100*** (0.03)**
Lag of relative GDP per capita	**0.000* (0.00)**	**0.000** (0.00)**		
Lag of the level of trade openness	**0.013*** (0.00)**	**0.014** (0.00)**		
Federalism			**-0.007* (0.00)**	**-0.014*** (0.00)**
Constant	0.006 (0.02)	0.002 (0.02)	**0.041* (0.02)**	**0.050** (0.02)**
R-Squared	0.889	0.895	0.887	0.891
Obs.	534.000	419.000	544.000	428.000

Table 5. Robustness Checks

	(5) OECD : PCSE	*(6) OECD : PCSE*	*(7) PCSE with fixed effects*	*(8) PCSE with fixed effects*
Lag of government spending as a fraction of GDP	**0.935*** (0.022)**	**0.941*** (0.023)**	**0.687*** (0.049)**	**0.644*** (0.056)**
Lag of government surplus(deficit) as a proportion of GDP	**0.317*** (0.080)**	**0.296*** (0.050)**	**0.234*** (0.067)**	**0.194*** (0.053)**
Number of parties in government	0.002 (0.002)		-0.002 (0.002)	
Ideological distance among coalition partners		0.001 (0.001)		**-0.003* (0.001)**
Annual rate of change in real GDP per capita	**-0.036** (0.011)**	**-0.038*** (0.011)**	**-0.044*** (0.010)**	**-0.044*** (0.011)**
Proportion of population Aged under 16 or over 64	**0.226*** (0.066)**	**0.294*** (0.079)**	**0.305*** (0.081)**	**0.303** (0.096)**
Interaction between lag of government deficit and number of parties	-0.051 (0.034)		**-0.071* (0.028)**	
Interaction between lag of government deficit and ideological distance		**-0.091*** (0.024)**		**-0.107*** (0.030)**
Constant	**-0.053* (0.022)**	**-0.073** (0.025)**		
R-Squared	0.914	0.924	0.994	0.994
Obs.	356.000	324.000	544.000	428.000

Table 5. Robustness Check (continued)

	(9) other economic indicators (PCSE with fixed effects)	*(10) other economic indicators (PCSE with fixed effects)*	*(11) OECD: PCSE with fixed effects*	*(12) OECD: PCSE with fixed effects*
Lag of government spending as a fraction of GDP	**0.687*** (0.05)**	**0.644*** (0.06)**	**0.773*** (0.061)**	**0.772*** (0.066)**
Lag of government surplus(deficit) as a proportion of GDP	**0.219** (0.07)**	**0.182*** (0.05)**	**0.184* (0.086)**	**0.232*** (0.064)**
Number of parties in government	-0.002 (0.00)		0.001 (0.002)	
Ideological distance among coalition partners		-0.002 (0.00)		-0.002 (0.001)
Annual rate of change in real GDP per capita	**-0.040*** (0.01)**	**-0.039*** (0.01)**	**-0.040*** (0.011)**	**-0.042*** (0.011)**
Proportion of population Aged under 16 or over 64	**0.422*** (0.09)**	**0.417*** (0.10)**	**0.270** (0.099)**	**0.263* (0.119)**
Interaction between lag of government deficit and number of parties	**-0.065* (0.03)**		-0.025 (0.034)	
Interaction between lag of government deficit and ideological distance		**-0.100** (0.03)**		**-0.080** (0.031)**
Lag of relative GDP per capita	0.000 (0.00)	0.000 (0.00)		
Lag of the level of trade openness	0.025 (0.01)	0.021 (0.01)		
R-Squared	0.895	0.995	0.995	0.996
Obs.	419.000	419.000	356.000	324.000

Table 5. Robustness Check (continued)

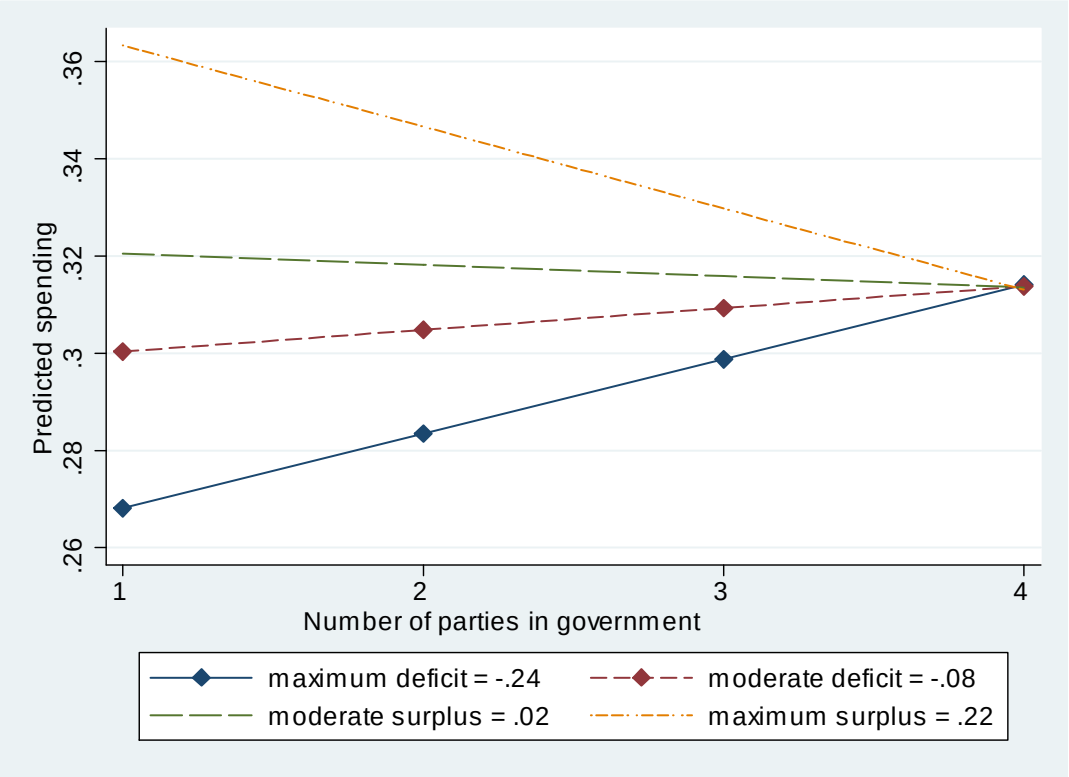

Figure 1. Predicted Spending by the Number of Parties and Government Deficit (Surplus)