

Do coalitions lead to higher fiscal deficits? A regression discontinuity approach

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Abstract

This paper studies the causal effect of the type of government on fiscal deficits in a panel of Spanish Municipalities. We follow a regression discontinuity design using the variation provided by the fact that the probability of a local government to be a single party-majority changes discontinuously when a party obtains the last seat that allows them to have more than fifty per cent of the seats of the municipality council. We find that majority governments run budgets with a surplus two percentage points greater than that of coalition governments.

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1. Introduction

Budget deficits are a common phenomenon in industrialised economies.

However, we still know little about what determines whether countries or other political units run deficits. As public spending can be a countercyclical instrument, a recession or an increase in unemployment, like the ones currently experienced in Western economies, could justify temporary budget deficits (Alesina and Tabellini 1990). The key question is why certain governments have used them systematically, following a pattern that led many countries to reach unsustainable levels of debt (Grilli et al. 1991).

It is widely believed that this phenomenon cannot be fully explained by economic variables (Volkerink and De Haan 2001). Therefore, there has been research studying other political causes such as the electoral system (Grilli et al. 1991) the number of parties with parliamentary representation (Volkerink and de Haan 2001), or the ideology of the government (Carlsen 1997). Among these political determinants of deficits, the type of government has been a usual suspect. Theoretical models predict that when several actors are part of the policy decision-making process, the result would be biased towards overspending (Weingast et al. 1981). However, and despite these theoretical expectations, empirical evidence on this issue has been quite mixed.

Our argument is that much of the inconclusiveness of empirical evidence is related to a misspecification of empirical models. This paper tries to take a step further in this area by analysing fiscal and electoral data of Spanish municipalities for the period 2004-2011. Using a research discontinuity design, we control for the fact that the type of government can be endogenous to previous fiscal outcomes. This allows us to provide results that have a causal interpretation.

The paper proceeds as follows. The next section provides an overview of the current state of the art and the limitations we find in it. Sections 3 and 4 present the Spanish case, the data, and the research design. In section 5 we show the empirical analyses and explain the results. Finally, section 6 concludes.

2. Budget deficits and coalition governments

What's the relation between fiscal outcomes and the type of government? This question has attracted the attention of a large theoretical and empirical literature. In the theoretical public choice literature, it is normally expected that coalition governments will lead to higher expenditure and deficits. This claim owes much to Weingast et al. (1981) and Shepsle and Weingast (1981) seminal formalisation of the common-pool problem. According to their theoretical model, Weingast et al. (1981) suggest that when public policy decisions are made with the agreement of several decision-makers (as in coalition governments and minority governments that need parliamentary supports), all actors have incentives to pursue their policy agenda and overspend. Each actor internalizes the (electoral) benefits of expenditure in the policies they favour. However, the costs of financing them are shared among all of them, and parties in government only internalize the cost the fraction of the cost that their constituents will have to pay (Scartascini and Crain 2001). This leads to the 'law of $1/n$ '. Assuming that public programs are financed by general taxes, each party favours a level of expenditure for her constituency, such that the marginal benefit equals $1/n$ of its marginal costs, where n equals the number of actors (Weingast et al. 1981).

This theoretical argument suggests that when a government is formed by several parties it will increase spending, causing greater deficits and public debt. These straightforward theoretical predictions have, nonetheless, found mixed empirical results.

The results depend dramatically on the data availability, the operationalization of the variables, and the statistical models employed.

The usual approach is based on Roubini and Sachs' (1989a) seminal contribution. These authors created a political dispersion index for 15 OECD countries with four categories -one party majority government, coalition government with two or three coalition partners, coalition government with four or more coalition partners and minority governments-, and, with an OLS analysis, concluded that more fragmented governments lead to higher deficits. Edin and Ohlsson (1991) revisit these results by using each category of Roubini and Sachs' index as a single dummy in their statistical models (instead of a continuous variable) and argue that only minority governments, and not coalitions, are more likely to produce deficits. Since these first empirical works, other research on deficits has yielded results in a similar direction, concluding that fragmented governments, in a variety of forms, solve the common pool problem causing more spending and higher deficits (Roubini and Sachs 1989b, Borrelli and Royed 1995 Franzese 2000, Balassone and Giordano 2001, Woo 2003, or Bawn and Rosenbluth 2006, among others).

Other research has been critical with the outcomes of this literature, describing it as inconsistent and not robust to slight changes of the model (de Haan and Sturm 1997). This line of research refutes the view that more unified governments are less prone to deficits (Alt and Lowry, 1994) or that divided governments systematically run budget deficits (de Haan and Sturm, 1994, 1997; de Haan et al. 1999).

Given these inconclusive findings, some articles have tried to provide conditions under which fragmented governments yield more deficits and unbalanced fiscal outcomes. These studies take into account variables such as the number of ministers

with spending powers (Perotti and Kontopoulos 2002) or the number of changes in the government (Grilli et al. 1991) to draw a causal relation between fragmentation and fiscal outcomes. In this regard, Falcó-Gimeno and Jurado (2011) show that minority governments only produce more deficits, when the opposition is not concentrated in a single party that anticipates having to deal on their own with the burden of increased debt in case it reaches office in the future.

This research is valuable, as it sheds light on the conditions under which coalition and minority governments will be more likely to run a deficit. However, our argument is that the mixed findings have more to do with three limitations of empirical analyses. First, much of this research analyses the effect of political variables on deficit and debt outcomes. However, deficits are the compound result of the level of government's revenues and expenditures. We may expect that certain types of government might be more prone to run deficits due to increases in expenditure expansion, while others will do it through lower levels of taxation. The outcome will be the same, but the mechanism (and the implications) will be quite different. Perotti and Kontopoulos (2002), who define fragmentation as the degree to which individual fiscal policymakers internalize the cost of an extra dollar of expenditure, only find significant effects of coalitions on the size of transfers, but not on deficits. This evidence would confirm that coalitions are big spenders in need of satisfying all the constituencies of government's parties (Jones et al. 1997). However, this does not necessarily imply that coalitions are more fiscally irresponsible in their government performance than single party governments. The second implication of Perotti and Kontopoulos' findings is that the difference between coalition governments and parliamentary minorities lies in capacity to raise taxes. Thus, more research on fiscal outcomes, opening the black box of deficits, and exploring the effect of political variables on both expenditure and

revenues will provide us a more complete explanation of the effect of government characteristics on fiscal outcomes.

Second, research tends to rely on country-level data. However, given that elections do not take place every year, analyses tend to draw on few country-level observations. Only recently, the literature has turned to analyse the political determinants of budget deficits by using data at the sub-national level. Ashworth and Heyndels (2005), -for the case of Flemish municipalities-, Le Maux et al. (2011), -for the case of French Departments-, Borge (2005) -for Norwegian municipalities-, and Baskaran (2013) -for the German Länder- find that coalition governments are associated with more spending. However, Schaltegger and Feld (2009), who analyse Swiss Cantons, provide less clearcut results and only find an effect of the size of the cabinet on fiscal outcomes, regardless of being formed by a coalition. Focusing on subnational governments seems a promising path for research that allows us to increase the sample size of our analyses and avoid omitted country-level variable biases. The problem is that, although the pool of observations is larger, over-time variation in the coalition variables tends to be limited in these studies. Consequently, there could remain unobserved factors that influence both public expenditures and government fragmentation simultaneously that are not adequately taken into account (Baskaran 2013).

Therefore, third, and most importantly, the lack of concluding findings in this field can be a result of methodological problems in much of the existing research. All previous research predominantly draws upon time-series-cross-sectional approaches, usually including country fixed effects to control for unobserved heterogeneity at the unit level in the generation of deficits. Apart from the limitations of fixed effects when the variables of interest are time-invariant or display sluggish trends, the main problem

of estimating the effect of the type of government (single party/coalition) on fiscal outcomes is that the type of government can be endogenous to fiscal behaviour. It is reasonable to think that those political units where governments spend more may end up having majority governments with a higher likelihood. To solve this, Persson et al. (2007) resort to instrumental variable models to account for the endogeneity of type of government. This would be a promising approach, provided that the instrument is not correlated with the dependent variables. However, Persson et al. (2007) use the electoral rule as an instrument of the type of executive. This might not be the best approach, as electoral systems might correlate themselves with fiscal outcomes (Iversen and Soskice 2006), and countries might select themselves into electoral rules based on unobservables that are shaped by fiscal variables (Garman 2012). Not accounting for this potential endogeneity of the instrumental variable could introduce biases in our estimations. Given that valid instruments that fulfil all necessary conditions are scarce, other research strategies seem to be in order.

In this paper, we try to overcome all these limitations studying fiscal outcomes of Spanish municipalities with a regression discontinuity design. This allows us to analyse a variety of fiscal results in a large pool of observations, with a strategy that takes into account the potential endogeneity of the type of government to the dependent variable.

3. The Spanish case

To study the impact of majority/coalition executives on budget deficits, we use a panel of 4459 Spanish municipalities for the period 2004-2011. This covers all Spanish municipalities with more than 250 inhabitants, and two complete electoral terms: 2004-

2007 (elections take place in May 2003), and 2008-2011 (elections take place in May 2003).

The panel contains annual data for all local expenditures and revenues. As the political data are invariant between elections, we aggregate the annual data of each variable to have the mean value over the electoral term. All our fiscal data are taken from the original source of the Ministry of Public Administrations, and electoral data are taken from the Ministry of Internal Affairs.

The Spanish case is particularly useful for our research goals due to two reasons. First, although Spanish municipalities receive a relevant share of their revenues through transfers from national and regional governments, they have taxing powers over several areas. In addition, they have large spending powers, particularly in social care, security, environment protection, and local events. Thus, municipalities have room to increase/decrease their expenditure or raise/lower their taxes. In addition, the period of our analyses coincides with the peak and outburst of the housing bubble in Spain. As much of the local revenues come from taxes and fees linked with construction, we can analyse both the behaviour of local governments during a period of growth and fiscal period, and in a period of fiscal adjustment and consolidation. This provides a more generalising scope to the results.

4. Empirical Strategy

As mentioned above, estimating the effect of the type of government on fiscal variables is not straightforward due to endogeneity: if an incumbent runs high deficits this may affect the probability of the next government being a majority government if voters have a preference for short-run expansionary policies, or it may decrease it

otherwise. A standard OLS approach using a measure of fiscal deficits as the dependent variable would not be valid because it would yield biased coefficient estimates.

One way to deal with endogeneity in this context is to look at elections in which the government obtained the majority by a very small margin, or did not obtain it by a similarly small margin. The idea is that elections in which a very small number of votes determined whether the government would be a majority are very similar to those in which the winner of the election fell a little short of obtaining enough votes to rule on its own. In these cases, whether a municipality enjoys a majority or a coalition government can be considered a random event. Therefore, if we compare the outcome of interest (e.g. fiscal deficits) in municipalities in which the mayor ruled on its own by small margin (treatment group) with similar municipalities in which a majority government could not be formed (control group), we would be able to identify the causal effect of the type of government on fiscal deficits.

In this paper we follow this approach and make use of a regression discontinuity design (Imbens and Lemieux, 2008, Lee and Card, 2008). A RDD takes advantage of the fact that the probability of receiving the treatment changes discontinuously at a certain cut-off point of the assignment variable. Most of the previous papers studying the effect of political variables using RDD use the percentage of votes as their assignment variable, and obtaining 50 per cent of the vote share as the cut-off point (e.g. Pettersson-Lidbom, 2008). In our case the vote share would be an invalid assignment variable because of two features of the Spanish political system. On the one hand, the Spanish system uses the D'Hondt rule to allocate seats. The D'Hondt is not a perfectly proportional rule, but instead a system that helps bigger parties to the expense of smaller parties. This implies that bigger parties usually obtain a greater seat share than vote share, while the opposite is true for smaller parties. On the second hand, in the Spanish

system parties obtaining less than 5% of the seats are excluded from obtaining representation. Both features imply that the winning party can in fact have less than 50% of the vote share and still have more than 50% of the seats, which makes the vote share an inadequate assignment variable.

In the D'Hondt system, the treatment status of a municipality is given by having a majority government, and having a majority government is a discontinuous function of the number of seats in the municipality council obtained by the party. A natural choice for the assignment variable would, therefore, be the seat share of the winning party (Garmann, 2012). If a party obtains more than one half of the seats it will form a single-party majority government, while if it obtains less, it will form a coalition or a minority government that will still need the support of other parties to pass legislation (in other words, a legislative coalition). Note, however, that given that municipalities only elect an odd number of seats and given that this number depends on the size of the municipality, the jump in the probability of having a majority does not happen exactly at 50%, but at a different point depending on the number of seats to be elected. For example, in a municipality that elects 3 seats, there is a discontinuous jump in the probability of having a majority, which goes from 0 to 1 when the number of seats of a party goes from 1 to 2. Similarly, in a municipality that elects 5 seats, the discontinuous jump occurs when the number of seats goes from 2 to 3, and in one that elects 7 representatives the kink in the probability occurs when the number of seats goes from 3 to 4. If one chooses fifty percent of the seats as the rule that determines whether a municipality receives the treatment, many municipalities would not be in a close range of the threshold despite being a majority or a minority by a very small margin. For example, in small municipalities that elect only three representatives, all the parties that won or lost by a small margin would have either two thirds of the seats (if a majority

government was formed) or one third of the seats (if a coalition government was formed). Similarly in a municipality that elects five representatives, the smallest majority would have three fifths of the seats, while the largest single party minority would have at most two thirds. This prevents us from using the percentage of seats as the variable that determines if a municipality belongs to the treatment.

Instead, we use the seat margin, which is the number of seats by which the incumbent party is above the minimum needed to form a majority government. We compute this variable in the following way

$$\text{Seat margin} = \text{Incumbent Seats} - \text{int}(\text{Total Seats}/2),$$

where incumbent seats is the number of seats obtained by the winning party, and $\text{int}(\text{total seats}/2)$ is the smallest integer number that is larger or equal than half of the seat count. The seat margin would, for example, take value zero if the major party obtains the minimum number of seats needed to form a majority government. It would take value -1 if the winning party would have needed one more seat to form a single party majority government and it would take value 1 if the winning party had one extra seat above the minimum needed to form the majority. The probability of a municipality belonging to the treatment group (having a majority government) is then a discontinuous function of the seat margin, with the discontinuity occurring exactly at zero. Our identification strategy, thus, consists on comparing fiscal deficits of municipalities in which the seat margin is zero with those in which is exactly minus one.

A potential problem for this identification strategy is that the sample includes municipalities of very different sizes. In small municipalities relatively more votes are needed to obtain an additional seat compared to larger municipalities. This implies that

two municipalities for which the assignment variable is minus one (or zero) may actually have different probabilities of receiving the treatment. If the size of the municipalities was randomly distributed around the cutoff point this would not be a problem for the RDD. Smaller municipalities, however, are more likely to enjoy single-party majority governments in the D'Hondt rule. To avoid this problem and to ensure that the treatment and the control group are balanced on both sides of the cut-off point, we follow a within-unit approach and condition all the estimations on the size of the municipality council and on a set of individual FE terms (for a similar strategy see Pettersson-Lidbom, 2012, and Garmann, 2012). We also include an electoral term dummy to further control for characteristics that common across municipalities in each electoral term such as national level economic conditions. Our approach, therefore, consists on estimating a set of regressions of the following type:

$$Y_i = \alpha + \beta_0 T_{it} + f(\text{seat margin}_{it}) + \theta X_{it} + \lambda_i + \gamma_t + \varepsilon_{it} \quad [1]$$

Where Y is the average fiscal deficit or surplus in percentage terms for municipality i in term t. T is the treatment status of the observation and takes value 1 if the municipality has a majority government during the electoral term and zero otherwise. The seat margin is our assignment variable, and as explained above, is centered around zero. The function $f(\text{seat margin}_{it})$ represents the relationship between the assignment variable and fiscal deficit, and we allow it to be flexible. X_{it} is a vector of controls that includes the size of the municipality council and in some specifications a set of incumbent party dummies. λ_i and γ_t are, respectively, the individual FE effects terms and the electoral term dummy. Finally, ε_{it} is the error term.

The coefficient of interest is β_0 , which represent the marginal impact of having a majority government, at the cut-point. As the deficit variable is defined as revenues

minus expenditures divided by total revenues, a positive coefficient would imply that majority governments run smaller deficits.

The inclusion in the model of the seat margin corrects for selection bias due to selection on observables not included in the model. We used the Akaike information criterion (AIC) to decide which function on the seat margin to use. A model with a simple linear term yields a lower AIC value than the models that include higher order polynomials. Therefore, we use only a linear term in our preferred specification. Results are robust to the use of higher order functional forms.

All the specifications include errors that are clustered at the municipality level. To avoid regressions to be influenced by outliers, we eliminate from the estimation sample municipalities with values of the dependent variable above 100 per cent in absolute value. We also dropped from the sample municipalities in which the incumbent party obtained an abnormally low or high vote share¹.

Finally, it is worth noting that a potential concern the RDD design just described is that it would only be valid if there is no endogenous selection into the treatment. Figures 1 and 2 are histograms that show the density of our assignment variable, for the whole sample and for a subsample of bigger municipalities. In both figures we can see that there are many more municipalities that have incumbents with exactly the minimum number of seats to form a majority (value of seat margin equal to zero) compared to the number of municipalities whose incumbent was exactly 1 seat short. This could be evidence of endogenous selection into the treatment if there was vote-buying of the last seat, or if there was electoral manipulation. Both of them are

¹ The D'Hondt system allows for very small parties to become incumbents due to the coalition game. As very small parties are fundamentally different than big national level parties, we prefer to eliminate them from the sample. The overall results do not change when smaller parties are included although the precision of some the estimates worsens.

difficult to imagine in our setting, and there is no evidence of such behavior in Spanish elections. In the Spanish system the sharp change in the density at the threshold has, instead, an exogenous explanation: The D'Hondt rule, which favors the formation of majorities to give stability to the government and is exogenous to the players in each election.

5. Results

We start our discussion of the results with the simple graphical analysis of Figure 3. In this Figure we show three bar plots showing the average deficit in each of the two terms analyzed and in total, by whether the incumbent major has a majority of the seats of the municipality council. These graphs seem to indicate that municipalities with a coalition or a minority government incur in slightly smaller surplus when the economy is going well (first term), and in slightly higher deficits in times of economic difficulties (second term). However, a t-test of the difference in means between the two groups is not significant.

In addition, as explained above, given the heterogeneity across municipalities in the treatment and control groups, we cannot interpret the difference of means as causal. This heterogeneity is illustrated in table 1, which shows the summary statistics of some variables. The first column includes information for the whole sample, the second and third columns show information for the treatment and control groups. Columns 4 and 5 show the summaries for treatment and control groups for the subsample of municipalities with more than one thousand inhabitants. In columns 2 and 3 we can see that there is a very large difference in the average size of the municipalities across treatment and control groups. The average population of the municipalities in the treatment group is 12693 (column 2) while it is only 7517 in the treatment group

(column 3). A t-test of the differences between the two groups shows that the differences are also statistically significant.

In table 2 we show the results of the regression model of equation [1], which deals with heterogeneity in size across both groups by including the size of the municipality council as a control and by including a set of fixed effects. The first column of this table estimates the model for the whole sample of municipalities. Columns 2, 3, 4 and 5 make the treatment and control groups even more comparable by restricting the sample to municipalities in which the major obtained similar percentage of votes across the treatment and control groups. The second column restricts the sample to municipalities in which the major obtained a share of votes in the range of 30 to 70 per cent. Column 3 restricts the sample to municipalities in which the major obtained a share of votes in the range of 35 to 65 per cent. Column 4 restricts the range to 40 to 60 per cent and column 5 to 45 to 55 per cent of the vote share.

The results of table 2 show that municipalities in which the major is able to form a majority government do better in fiscal terms. The coefficient of the variable that captures the treatment variable (having a majority government) is positive and generally significant across specifications. The coefficient has a value between 1 and 2. This implies that municipalities that are able to form a majority government after the election have deficits that are 1 to 2 percentage points lower than those of similar municipalities in which the executive is a coalition or a minority government.

To test the robustness of the results, in table 3 we run the same specification as in table 2 but restricting the sample to a subsample of larger municipalities. In small municipalities, our assignment variable –the marginal number of seats- does not capture well how far the incumbent has been from losing or from obtaining a majority. One

reason is that when the number of municipality seats is small we can have majors that form a majority government with exactly the minimum number of seats, that obtained very high electoral support or much lower electoral support and similarly we can have majors with a small number of seats with both high or small electoral support. In these cases, the seat margin would not be a good indicator of how far the major was from losing or obtaining the majority. Eliminating the smaller municipalities from the sample, therefore, strengthens the validity of the regression discontinuity design.

In table 3 we exclude from the estimation the municipalities with less than a thousand inhabitants (municipalities with more than 7 seats in the municipality council). Columns 4 and 5 of the summary statistics of table 1 shows that excluding these municipalities makes the treatment and control groups much more balanced in terms of size. The average size of the municipality in the control group is now 15700, while is average size in the control group is 13045. A t-test of the differences of means shows now that there are no statistically significant differences between the two groups. The results from table 3 confirm that majority governments have an impact on municipal level fiscal deficits. The coefficient of the treatment variable is greater but in the same range of values than in table 2 and is statistically significant, at least at the 5 per cent level, across all specifications, except for the estimation of column 5, which has low power due to the small number of observations. The coefficient of column 5, has, however, a similar coefficient value -1.9- indicating that majorities have a positive causal effect on local finances. Municipalities that enjoy majority governments have deficits that are approximately 2 percentage points lower than municipalities in which the government has to negotiate with other parties.

6. Conclusion

This paper has used a regression discontinuity design to study whether coalition governments lead to more budget deficits. Using data from Spanish municipalities for the period 2004-2001, the results confirm the main hypothesis of the paper, giving support to a large theoretical literature. Our estimation shows that majority government run budgets with a surplus of, in average, 2 percentage points more than coalition governments. These are differences of a very relevant magnitude.

The research design used for this paper and the results open up new paths for future research. First, we have shown that single party majority governments run fewer deficits than coalition governments. In this paper we have defined as coalitions all governments where the decision-making needs the support of more than one party. This includes both coalitions within the executive and legislative coalitions (where the government is formed by just one party, but it needs the support of other parties to pass legislation and, specifically, the budget). The data we have used does not allow us to differentiate between both types. Future research should look into this with more detail and analyse the extent to which the type of coalition matters. This would allow revisiting Edin and Ohlsson's (1991) results, which argued that it is legislative coalitions, and not government coalitions, the ones that lead to higher deficits. In a similar vein, we have drawn a distinction between single party governments and coalition governments without considering the number of parties that form the coalition. If the law of $1/N$ is true, we should expect that coalitions formed by a high number of parties should spend more than coalitions with only two party members.

The results of the paper can also be extended by analysing differences in budget deficits within and between terms. The analyses provided here are drawn from mean electoral term deficits. A more complete explanation would show whether both types of governments behave differently over the whole term, or just on certain years. It can well

be that coalition governments only run higher deficits in electoral years, while the rest of the term they could yield balanced budgets. It will also be necessary to analyse in depth the differences in the behaviour of both types of government between terms. As we have described above, the period 2004-2007 was characterised by economic growth, while the period 2008-2011 is a time of crisis. Disentangling whether both types of governments respond differently to the contextual conditions would enrich our explanation.

Finally, in this paper we have dealt with aggregate revenues and expenditures. We have not considered the possibility that coalition governments lead not a general increase in spending, but to an increase in certain types of expenditures. By analyzing patterns of expenditure and revenues in different areas, we can shed light on whether coalition governments agree on specific types of spending or whether each party uses the budget to target their own constituency. We believe that the regression discontinuity design that we have implemented here can assist us in responding these questions, and contribute to a better understanding of the political determinants of budget deficits.

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Figure 1. Histogram plot of Seat Margin. Full Sample.

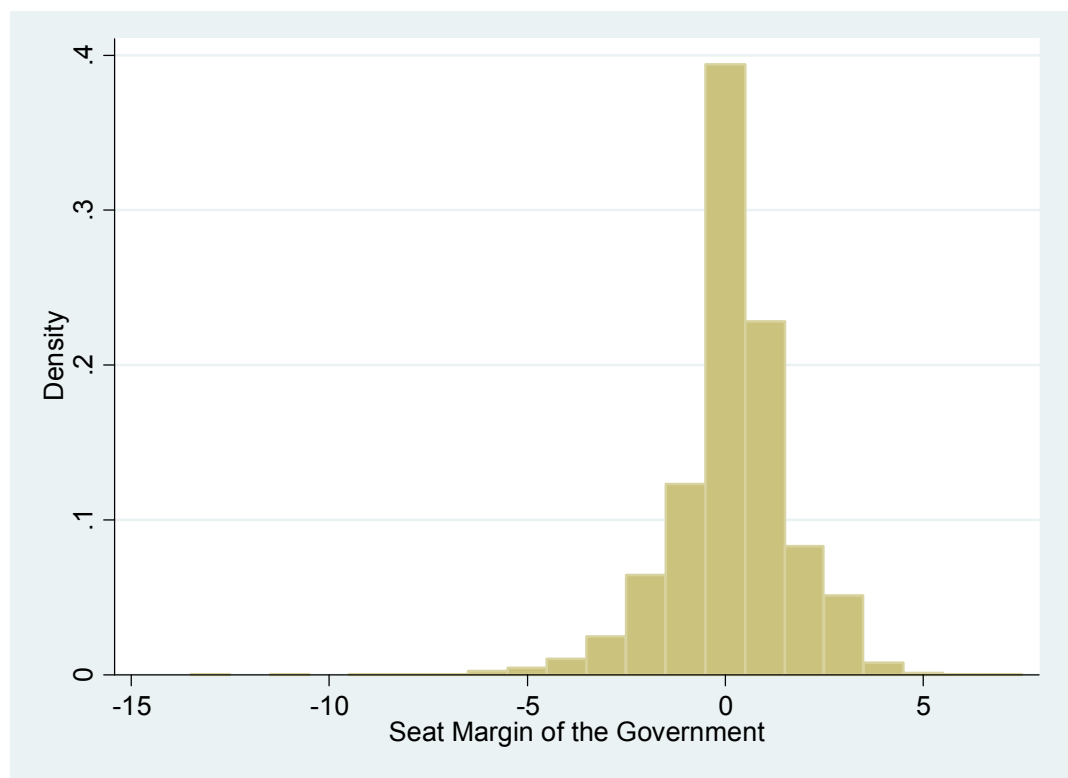


Figure 2. Histogram plot. Seat Margin. Sub-sample of municipalities with more than 7 seats

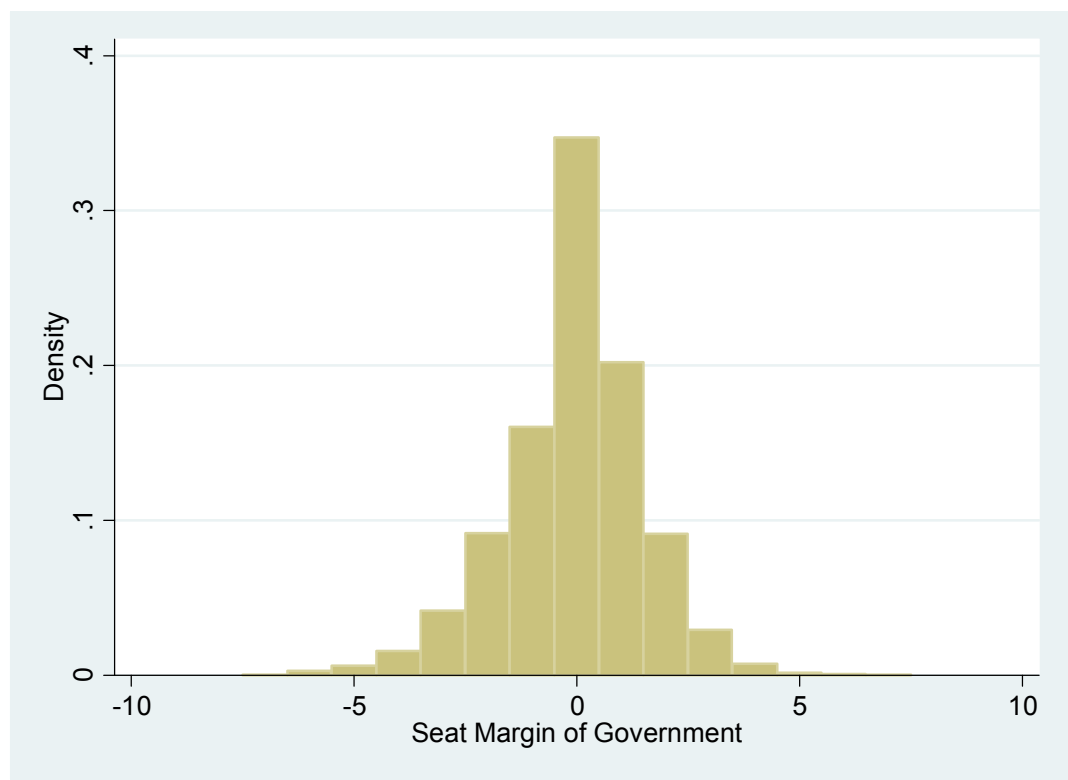


Figure 3. Average Fiscal Deficit by Type of Government



Tables

Table 1. Summary Statistics

	Large and Small Municipalities			Large municipalities only		
	All	Treatment (Majority Governments)	Control (Non-Majorities)	All	Treatment (Majority Governments)	Control (Non-Majorities)
Fiscal Deficit	0.76 (8.032)	0.676 (8.166)	1.023 (7.596)	0.915 (7.635)	0.923 (7.718)	0.898 (7.454)
Seat margin	0.031 (1.264)	0.571 (0.796)	-1.662 (0.931)	-0.063 (1.489)	0.714 (0.927)	-1.759 (0.992)
Treatment	0.758 (0.428)	1 (0)	0 (0)	0.686 (0.464)	1 (0)	0 (0)
Population	8767.247 (61074.78)	7516.918 (66481.84)	12693.21 (39312.49)	13878.45 (77323.02)	13045.82 (88598.42)	15700.07 (43402.69)
Size of municipality council	10.563 (4.514)	9.976 (4.179)	12.401 (5.006)	12.770 (4.502)	12.327 (4.329)	13.736 (4.718)
Incumbent is Popular Party	0.394 (0.489)	0.439 (0.496)	0.249 (0.433)	0.373 (0.484)	0.436 (0.496)	0.236 (0.4249)
Incumbent is Socialist Party	0.411 (0.492)	0.402 (0.491)	0.439 (0.497)	0.431 (0.495)	0.418 (0.493)	0.459 (0.498)
Observations	7111	5390	1721	4391	3011	1380

Table 2. RDD estimates. Sample of municipalities with more than one thousand inhabitants.
Dependent variable: Fiscal Deficits

VARIABLES	1	2	3	4	5
	All	Incumbent Vote Share 30-70	Incumbent Vote Share 35-65	Incumbent Vote Share 40-60	Incumbent Vote Share 45-55
Treatment (Majority Government)	1.0576* [0.627]	1.3902** [0.681]	1.2354* [0.736]	1.9412** [0.936]	1.4124 [1.579]
Seat margin	-0.5898*** [0.219]	-0.7965*** [0.264]	-0.5363* [0.300]	-0.7995* [0.451]	-0.7406 [0.693]
Size of municipality council	-1.0270*** [0.280]	-0.9529*** [0.279]	-0.9147*** [0.304]	-0.9496** [0.423]	-1.2352** [0.524]
Incumbent is Popular Party	-1.2156 [1.030]	-0.9502 [1.140]	-0.5911 [1.557]	0.0941 [1.841]	-0.8255 [2.433]
Incumbent is Socialist Party	-0.4724 [0.931]	-0.4701 [1.030]	-0.0022 [1.390]	0.8921 [1.650]	0.7582 [2.222]
Constant	13.0481*** [2.926]	11.8800*** [2.967]	8.9166** [3.663]	7.6058 [4.999]	12.1147* [6.806]
Year dummies	Yes	Yes	Yes	Yes	Yes
Municipality Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	7,111	6,586	5,730	4,394	2,537
R-squared	0.076	0.075	0.08	0.078	0.105
Number of municipalities	4,459	4,258	3,864	3,231	2,091

Standard errors clustered by municipality in brackets

*** p<0.01, ** p<0.05, * p<0.1

Table 3. RDD estimates. Dependent variable: Fiscal Deficits

	1	2	3	4	5
	All	Incumbent Vote Share 30-70	Incumbent Vote Share 35-65	Incumbent Vote Share 40-60	Incumbent Vote Share 45-55
VARIABLES					
Treatment (Majority Government)	1.7772** [0.736]	2.1010** [0.813]	1.7136** [0.854]	2.8805*** [1.088]	1.9135 [1.904]
Seat margin	-0.8265*** [0.237]	-1.0638*** [0.283]	-0.8906*** [0.311]	-1.2508*** [0.455]	-0.5137 [0.783]
Size of municipality council	-0.9366*** [0.322]	-0.8764*** [0.311]	-0.6885** [0.332]	-0.7194 [0.458]	-1.2984** [0.587]
Incumbent is Popular Party	-0.0327 [1.270]	0.5319 [1.426]	1.3186 [1.890]	1.626 [2.675]	-2.7255 [2.538]
Incumbent is Socialist Party	0.5875 [1.143]	0.87 [1.239]	1.2779 [1.616]	1.6239 [2.318]	-1.4069 [1.927]
Constant	13.2988*** [3.965]	13.1291*** [4.431]	10.4987** [4.682]	8.5103 [5.685]	20.4050** [8.712]
Year dummies	Yes	Yes	Yes	Yes	Yes
Municipality Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	4,391	4,108	3,629	2,853	1,667
R-squared	0.129	0.133	0.137	0.13	0.164
Number of municipalities	2,727	2,624	2,401	2,058	1,353

Standard errors clustered by municipality in brackets

*** p<0.01, ** p<0.05, * p<0.1