

# DISTRIBUTIVE POLITICS – THE CASE OF PORTUGUESE MUNICIPALITIES<sup>1</sup>

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## Abstract

In this paper, electoral and financial data of Portuguese municipalities (1992-2005) is used to investigate if political alignment between central government and local government brings financial benefit to local government. A regression discontinuity design is used, in order to distinguish between pure partisan transfers and the effect of political alignment. Municipalities aligned with the central government are shown to receive almost 20% higher discretionary transfers. Two possible motivations for this bias in transfers are tested: extra transfers in the year preceding a municipal election prove to increase the vote share of incumbents; likewise, success in local elections increases the vote share in national elections.

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<sup>1</sup> This paper is still a work in progress. Comments are welcomed. Please do not cite.

## 1 – INTRODUCTION

Two hypotheses have shaped the current thinking on distributive politics, the hypothesis that areas where elections are closer receive more funding from the central government [see Linbeck and Weibull (1987)]; and the hypothesis that central government officials attempt to transfer more funds to areas where their party receives the most support [Cox and McCubbins (1986)]. In this paper, I will provide evidence in favor of a third possibility, that areas where the local government is politically aligned with the central government receive higher transfers than areas where local government is not aligned. The difference between this hypothesis and the standard partisan theory is that central government politicians are not simply trying to reward the constituents of areas where they receive significant support, but instead are transferring more funds to areas where they have political control, even if only by one vote. There are logical reasons to think that politicians in control of central government will act in this way. First, central government leaders probably want to keep their local leaders happy<sup>2</sup>, and transferring more funds to the aligned local governments accomplishes this in two ways: having more funds will probably help local leaders get reelected, as it will make possible for them to show more accomplishments to their constituents; having more funds at their disposal by itself tends to increase the happiness of bureaucrats and politicians<sup>3</sup>. A second reason is success in national elections. Even if national party leaders do not care about local party leaders and their support, they might still want to increase their likelihood of reelection, if winning local elections provides momentum for the party in the national elections. I will explore these reasons for benefiting the aligned local authorities in the later sections of this paper.

Methodologically, this paper is different from the previous empirical literature in distributive politics, as the tool of regression discontinuity is used. A regression discontinuity design aims at identifying a discontinuity in an otherwise continuous relation between two variables. In the case of this paper, the dependent variable is the

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<sup>2</sup> Why do national party leaders care about keeping their local leaders happy? Two main possibilities – local party leaders will be invaluable in campaigning for the national party, and support from local party leaders is necessary for any current national party leader to keep control of the party in future internal elections.

<sup>3</sup> See Niskanen (1975) for a theoretical discussion of this idea.

level of transfers to local governments and the explanatory variable is the vote differential in local elections between the party in power nationally and its closest competitor. In the absence of discontinuity, the relation between the transfers and the vote differential should be smooth and continuous, possibly increasing, if partisan theories of distributive politics are to be believed. But if political alignment between the local governments and the central government is crucial for the transfer decision of central government, there should be a discontinuity at the point where the party in power narrowly wins the election, e.g. when the vote difference between the party in power nationally and its closest competitor in the local election is 0. This methodology will, therefore, be crucial to distinguish between my hypothesis that central government seeks to favor local governments with which it is politically aligned, from the hypothesis that central government will want to favor areas where it has more supporters. Solé-Ollé and Sorribas-Navarro (2006) look at the effect of political alignment in transfers to Spanish municipalities, and find that aligned municipalities receive higher transfers, but they do not control for the vote differential between the party in control of the upper government and its competitors, and therefore cannot be certain that their results are due to political alignment and not due to upper government privileging municipalities where it has more support.

Regression discontinuity is a remarkably robust tool that also helps address the issue of endogeneity between local election results and transfers to local governments, as posed in Larcinese et al. (2008). It is plausible to think that municipalities where the party in power just loses the election are on average similar to municipalities where the party in power just wins the election, and therefore, if there is a differential in transfers received between the former and the latter, this points toward a causal relation between the party in power nationally winning the local election and the extra transfers enjoyed by the municipality.

Portugal is a good setting for this research for several reasons. First, Portugal has a level of local government – the municipality – that simultaneously manages a substantial share of the public resources and is directly elected by local voters. Second, Portuguese elections are highly partisan both at the central and local level, and therefore it is easy to ascertain the political alignment between local leaders and central

government leaders. Finally, a scientific study of this type of distributional question in the Portuguese case, to the best of my knowledge, has never been done before; therefore, any result obtained will add to the current body of knowledge, increasing our understanding of this type of phenomena.

The results found in my analysis are striking. Municipalities politically aligned with the Portuguese government received on average 19% higher discretionary transfers than other unaligned municipalities. As a control, the same methodology was used to infer if formula based transfers were also affected by political alignment, and in that case, the effect was not present.

The paper is structured in the following way: section 2 presents the previous empirical literature on distributive politics; section 3 provides a political overview of Portugal, with particular emphasis in the political setting of Portuguese municipalities; section 4 describes the data and the empirical strategy used in detail; section 5 presents the empirical results; in section 6, the possible motives for the central government providing higher transfers to municipalities with which it is aligned are discussed and some of them are put to the test; finally, in section 7, I present my concluding remarks.

## **2 – PREVIOUS LITERATURE**

The evidence for the impact of political variables in the transfers received by local authorities is mixed. Most of the empirical literature on distributive politics has concentrated on testing two hypotheses: the hypothesis that areas where elections are closer receive more funding from the central government [see Linbeck and Weibull (1987)]; and the hypothesis that central governments tend to privilege areas where they receive more support [Cox and McCubbins (1986)].

Berry et al. (2009) found evidence in favor of both hypotheses. Using a panel of all US districts from 1984 to 2004, they find that districts represented by congressmen that are of the same party as the president receive more federal funds than other districts, but do not find similar evidence of higher funding to districts represented by congressmen of the same party as the majority in the congress, to districts represented by congressmen of the same party as committee chairmen, or to districts where the president

enjoyed a higher vote margin in the elections. They also find evidence that districts with close races receive more federal transfers. Ansolabehere and Snyder (2006) examine the transfers from US states to counties between 1957 and 1997, finding little evidence that counties where elections are usually close or have high volatility of support for parties receive more state transfers. On the other hand, they find evidence in favor of the partisan theory, as counties where the party in control of state legislature and governor has a higher vote share tend to receive more funds. Dahlberg and Johansson (2002) find exactly the opposite in their study of an ecological grant program from the Swedish central government to municipalities. They find that municipalities with more swing voters are more likely to receive the ecological grant, but do not find strong evidence that the level of local support for the party in power nationally affects the probability of a municipality receiving a transfer. Milligan and Smart (2005) look at the allocation of regional development grants in Canada, in the period from 1988 to 2001. Some of their regression specifications show evidence that districts represented by congressmen of the party in power nationally receive more development grants, but do not show evidence that districts with closer elections receive more grants, while another of their specifications shows the opposite result. The only constant in all their specifications is that being represented by a cabinet minister has a positive impact in the transfers a district receives.

Larcinese et al. (2008) criticize most of the empirical work done in distributive politics, due to the reliance on election results to explain the transfers received by local authorities, since election results might be endogenously determined together with transfers to local authorities. They go on to test the swing voter, battleground and partisan hypotheses on the allocation of transfers to US states between 1978 and 2002, using variables constructed from survey data as controls for how many swing voters exist in a state, how close the number of supporters of each party is in a state and what proportion of partisans there actually are in each state. They argue that these survey based variables are preferable to variables constructed from election results because they do not suffer from the same type of endogeneity. They find no support for the swing voter and battleground hypotheses, while finding evidence in favor of the partisan supporters' hypothesis, as states with more supporters of the incumbent president tend to receive more federal transfers.

The three following papers deal with issues similar to the one I am exploring in this article. Larcinese et al. (2006) look at federal transfers to states in the period from 1982-2000. They find that states that favored the incumbent president in past elections received more federal transfers than those that did not. Of particular interest to what I aim to investigate, they also find that states where the governor is aligned with the US president received more federal transfers than the other states. Arulampalam et al. (2008), using a panel of the 14 bigger Indian states between 1974 to 1997, find that districts that are aligned (i.e., districts where the majority voted for the party in power nationally) and whose elections were close receive bigger central government transfers than districts where neither happens. They only test this joint hypothesis, and not the two aspects separately, because they are attempting to test the theoretical model they developed, and that was the only testable implication coming from their model. The results of this paper are related to mine, as they find that it is more financially rewarding for a district to be aligned with the central government in the vote for the state congress than in the vote for the national congress, highlighting the importance attributed by parties in power nationally to the control of local governments. Finally, Solé-Ollé and Sorribas-Navarro (2006), find that Spanish municipalities aligned with upper-levels of government received more transfers than municipalities which are not aligned. Their results are very similar to mine, but, unlike the analysis presented in this article, they control only for alignment or not, not for the vote shares of parties, and therefore it is not possible to distinguish if their results are due to the standard partisan theory – the higher the support, the higher the transfers – or due to a genuine effect of political alignment.

### **3 – PORTUGUESE POLITICAL OVERVIEW**

Portugal was governed by an authoritarian regime between 1926 and 1974, headed for most of its duration by António Oliveira Salazar. Discontent, due to the ongoing colonial war and lack of democracy, led to a military coup in 1974, the “Carnation Revolution”, which resulted in the restoration of democracy in Portugal.

Regular elections have been held ever since, parliamentary and local elections every four years, presidential elections every five years. Portugal is a parliamentary

republic, and therefore the executive and legislative power mostly lies with the party who wins the parliamentary elections. Since 1974, only two parties have won the parliamentary elections<sup>4</sup>, the *Partido Social Democrata* (PSD), a center right party, and the *Partido Socialista* (PS), a center left party. Two other small parties have consistently been represented in the parliament, and also have won a significant share of municipal elections: the *Partido Comunista Português* (PCP), a communist party, and the *Partido Popular* (PP, formerly CDS – *Centro Democrático e Social*), a conservative right-wing party.

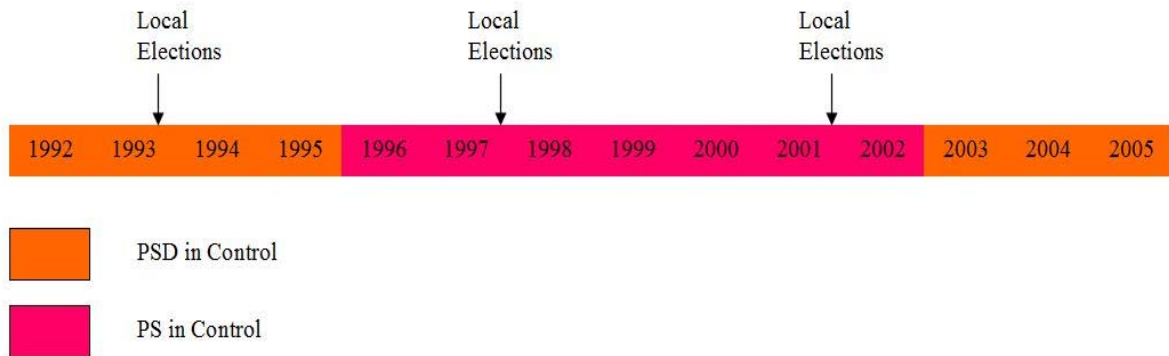
Due to the lack of local financing data that is disaggregated enough for previous years, the relevant period in my analysis ranges from 1992 to 2005. The timeline of parliamentary and local elections relevant for this period was:

- October 1991 – PSD wins the parliamentary elections.
- December 1993 – local elections.
- October 1995 – parliamentary elections take place, resulting in a victory of PS.
- December 1997 – local elections.
- October 1999 – parliamentary elections take place, PS wins again.
- December 2001 – local elections. Due to the very poor performance of PS in these local elections, António Guterres, Prime Minister of Portugal and PS leader, resigns from his position, leading to the dissolution of the parliament.
- March 2002 – parliamentary elections take place, won by PSD.

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<sup>4</sup> Nevertheless, both parties have needed to form coalitions with smaller parties, to obtain a majority sufficient for governing the country.

## Timeline of Portuguese Elections



As this timeline shows, there are three distinct periods of control of the Portuguese parliament and government (1992-1995 by PSD, 1996-2002 by PS, 2003-2005 by PSD) in this sample, and four different sets of local governments in place (1992-1993, 1994-1997, 1998-2001 and 2002-2005). Hence, there is plenty of variation in the alignment between local governments and national government within this period of time. PS was considered the party in power nationally for the year of 2002, because PS was still in control for a few months after the national budget was approved.

### Portuguese Municipalities

Portugal is subdivided for administrative purposes at three levels – districts, municipalities and civil parishes.

Districts are the relevant geographic constituency for the Portuguese parliament elections, and are headed by a district governor, directly appointed by the central government. The scope of action of this level of government is small, with a role mainly in coordinating the action of local police and civil protection forces.

The governments of municipalities and civil parishes enjoy a broad scope of action, as their responsibilities include socio-economic development, spatial planning, and ensuring that local populations have access to education, health care and public services in general. Municipalities and civil parishes' governments are elected every four

years in a party-lists proportional representation system (where the D'Hondt method is applied to calculate the number of seats for each party). Although they formally have similar roles, municipalities serve a much bigger role in practice than civil parishes, as they manage much more financial resources and, of particular interest to our analysis, municipalities, as a whole, receive a much bigger share of the funds devoted to local authorities by the central government than civil parishes (e.g., in 2005 civil parishes as a whole only received a little over 8% of what municipalities as a whole received in formulaic transfers from the central government). Municipalities are also, historically, the most consistent subdivision of the Portuguese territory. For these reasons I chose the municipality as the relevant unit of study in this article.

Direct transfers from the Portuguese central government and the European Union accounted for approximately 44% of the total revenue of municipalities in 2005. These transfers can be divided into three main components:

- Formulaic transfers – The majority of the transfers received by Portuguese municipalities from the central government are given according to formulas, which take into account the population of the municipalities, the area of the municipality, the percentage of children in school age, the percentage of elderly, and the per capita purchasing power in the municipality, among other factors. Between 1992 and 1998, these transfers were grouped in one fund called “*Fundo de Equilíbrio Financeiro*”, but in 1999 this fund was extinguished, and two new funds came about in place of it: the “*Fundo Geral Municipal*” and the “*Fundo de Coesão Municipal*”. Finally, in 2001, a third fund was created, the “*Fundo Base Municipal*”. Formulaic transfers account for approximately 68% of total transfers received by municipalities during the period of my sample.
- Transfers from the EU – European Union funds are designated to promote the socio-economic development of areas below the EU average. Municipalities have to apply to these funds in a project basis, and the decision of what projects receive the EU is made by cabinets under the tutelage of the central government (known as “*Comissões de C ordenação e Desenvolvimento Regional*”). These funds account for 17% of the transfers received by municipalities in the period of analysis.

- Other transfers – Transfers from the central government to municipalities should, in principle, be limited to the formula based transfers described above. Nevertheless, if exceptional conditions arise, government ministries and municipalities might reach bilateral agreements for direct funding of the municipalities by these ministries. These “other transfers” accounted for approximately 15% of all money transferred to municipalities in the period of my analysis. Most of the empirical analysis and discussion in the pages ahead of this article will center in the effect of political control in these “other transfers”, as their discretionary character makes them a perfect method of political targeting.

Local elections are held every four years. At the municipal level, voters are called upon to choose their representatives in the municipal chamber and in the municipal assembly.

The municipal assembly features all presidents of civil parishes in the municipality, in addition to candidates elected by the voters. The total number of elected representatives in a municipal assembly varies from municipality to municipality, but is bound by two constraints: the number of elected representatives in the municipal assembly cannot be more than three times the number of alderman, but also has to be more than the number of civil parishes in the municipality. The municipal assembly is the legislative body of the municipality, but unlike the national parliament, the municipal assembly only has five regular meetings per year, and its members are only paid a presence fee for each session, not a monthly salary.

The municipal chamber is the executive body of Portuguese municipalities. It is composed of 5 to 17 aldermen – depending on the population of the municipality – elected proportionally from the lists competing in the elections. The head of the most voted list is assigned the role of municipal chamber president. These aldermen are paid, and therefore should be seen as professional public officials. Presidency of the municipal chamber is the most prestigious, and probably also the most powerful, position in a Portuguese municipality, so I will use the control of the presidency of a municipal chamber as the key political variable for most of my analysis.

Lists for both the municipal chambers and the municipal assemblies are highly partisan (it was not even legal to form independent lists until the local elections of 1997), and therefore it is straightforward to establish their alignment with national parties.

#### **4 – DATA AND EMPIRICAL STRATEGY**

Portugal is currently divided in 308 municipalities, 278 in continental Portugal and 30 in the insular autonomous regions of Azores and Madeira. Three of the municipalities in continental Portugal have only existed since 1998, and therefore will be excluded from the analysis.

Data referring to the Municipal Elections of 1989, 1993, 1997 and 2001 was found on the website <http://www.stape.pt>, which belongs to the department of the Portuguese Ministry of Internal Administration responsible for electoral management.

Revenue data for 305 Portuguese municipalities for the period of analysis was provided by the department of the Portuguese government in charge of publishing financial information of local governments - *Direcção Geral das Autarquias Locais*. The availability of revenue data disaggregated between formulaic transfers, other transfers and European transfers to the municipalities was the main driver of the time frame chosen in this paper. Revenue information for the years after 2006 is not yet available, and therefore I could not include the more recent years in my analysis.

Graphs 1-3 and table 1<sup>5</sup> show the shape and key facts of the distribution of the three types of transfers. Clearly, formulaic transfers are the lion share of the resources transferred to municipalities, but the weight of both European transfers and discretionary “other transfers” is substantial. It should also be noted that all the distributions are skewed to the left, showing that a few municipalities received considerably more transfers than the average municipality.

To highlight the importance attached to the political control of a municipality, a regression discontinuity design<sup>6</sup> will be used to estimate the impact of winning the

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<sup>5</sup> All graphs and tables are presented at the end of the paper.

<sup>6</sup> See Lee and Lemieux (2009) for an overview of the regression discontinuity methodology.

presidency of the municipal chamber on the funds received by a municipality. The model to be estimated is the following:

$$LT_{i,t} = \theta_i + \tau_t + \beta A_{i,t} + F(M_{i,t}) + \Omega' Z_{i,t} + \varepsilon_{i,t}$$

$$\text{where } F(M_{i,t}) = \begin{cases} \delta_1 M_{i,t} + \delta_2 M_{i,t}^2 + \delta_3 M_{i,t}^3, & \text{if the municipality is aligned} \\ \delta_4 M_{i,t} + \delta_5 M_{i,t}^2 + \delta_6 M_{i,t}^3, & \text{otherwise} \end{cases}$$

$LT_{i,t}$  = Logarithm of per capita transfers to municipality  $i$  in year  $t$

$\theta_i$  = Municipality fixed effect

$\tau_t$  = Year fixed effect

$A_{i,t}$  = Binary variable, assuming value 1 if the municipality is aligned with the party in power nationally, 0 otherwise

$M_{i,t}$  = Margin of victory/loss of the party in power in the municipal election – this variable is constant for periods of four years, in between elections

$Z_{i,t}$  = Other time changing characteristics of the municipality

$\varepsilon_{i,t}$  = Random error term

In my regression discontinuity design, the forcing variable is the margin of victory/loss of the party in power and will be constructed in two steps: when the party in power has won the municipal chamber elections, the variable is simply the difference between the percentage vote of the party in power nationally and the percentage vote of the second party with most votes; when the party in power nationally did not win the municipal chamber elections, the variable is defined as the difference between the percentage vote of the party in power nationally and the percentage of vote of the party who won the municipal chamber elections. Often times this variable does not reflect the difference between the party who finished first in the elections and the party who finished second, because, quite often, the party in power nationally finishes bellow second in the municipal chamber elections.

The use of regression discontinuity is motivated by the objective of distinguishing between central government leaders who want to reward their supporters, by transferring

more money to areas where it has more support, regardless of politically controlling those areas or not, from central government leaders who want to privilege areas that their party controls. If we were in the presence of the first situation, transfers would be increasing in the vote share of the party in power, but we would not necessarily expect those transfers to suddenly jump when the party in power nationally also gets control of a municipality; in the second case, we would expect that winning or losing the election, even if by only 1%, can have a great influence in the transfers received by a municipality. The regression discontinuity design I use in this article is flexible enough to allow for distinction between these situations. A two-sided cubic function of the margin of victory/loss of the party in power nationally in the local municipal elections is used to control for the influence of the margin of victory/loss. By allowing a non-symmetrical relationship between the vote margin and transfers in regard to political alignment, this specification is flexible enough to warrant the inference that if a discontinuity in the relation between margin of victory/loss and transfers occurs at the point where the party in power wins the election (margin of victory/loss = 0%), this is a result of control of the municipality by the party in power nationally and not just a spurious result due to the functional form chosen to control for the margin of victory/loss.

As a result of the regression discontinuity design used, it should also be emphasized that the relation between political alignment and transfers to municipalities is not ambiguous due to the type of endogeneity criticized in Larcinese et al. (2008). A possible discontinuity of the function relating transfers to margin victory/loss at 0% must be driven by a causal effect of political alignment between the municipality and central government on the transfers received by municipalities, as, for values close to 0%, the outcome of the election should be seen as essentially random, given that the party in power nationally cannot precisely control the outcome of the election.

To take into account the systematic differences between municipalities, municipal fixed effects are included in all specifications. This increases the credibility of the results presented, as the coefficients are identified through within variation (i.e., by the change through time of the margin of victory/loss of the party in power and the change of alignment of the municipality) instead of through cross-sectional variation, which could lead to a case of comparing apples and oranges (e.g., some municipalities, which tend to

vote more for the party in power, might systematically receive higher funds, but this might not be caused by political alignment, but rather be the result of something specific to the municipality, like exceptional poverty). To ensure asymptotic consistency of the estimated standard errors, clustering was done at a municipal level, for each period in between elections (municipal or national). Therefore, there was a cluster for each municipality for each of the following periods: 1992-1993, 1994-1995, 1996-1997, 1998-2001, 2002, and 2003-2005.

In table 2, the regressions with per capita transfers as dependent variable are presented. In columns 1 and 2, discretionary “other” transfers are the dependant variable. The first specification only includes as explanatory variables the political alignment between local and central government and the margin of victory/loss of the party in power, while the second also includes controls for the population of the municipality and the formulaic transfers per capita received by the municipality. The inclusion of formulaic transfers as a control for discretionary transfers is desirable because, by design, formulaic transfers react automatically to social changes in municipalities (e.g., change in the unemployment rate, the poverty rate, or in the proportion of elderly), and these types of changes are very likely to also influence the discretionary transfers received by municipalities. There should be no endogeneity problem in including formulaic transfers in the regression of discretionary transfers because the rule determining formulaic transfers is *a priori* decided, and therefore exogenous to other factors influencing discretionary transfers. Rules governing formulaic transfers are changed infrequently, and, when changed, the new rules apply to all municipalities, making it difficult to use this type of transfers to target specific municipalities. In column 3, a regression of the formulaic transfers in the political variables considered in column 1 is presented. This regression, together with graph 4, provides evidence for the lack of relation between formulaic transfers and the political variables considered in this paper. Finally, in the regressions of columns 4 and 5, the dependant variable is the level of European transfers per capita. The specifications of columns 4 and 5 are identical to the specifications of columns 1 and 2, respectively.

## 5 – EMPIRICAL RESULTS

In table 2, column 2, the main result of this paper is presented. Other transfers per capita to municipalities are approximately 19% higher when the party in control of a municipality coincides with the party in control of the national parliament and government. This is a substantial advantage for these municipalities – municipalities received on average €72 on other transfers per capita in 2005, meaning that municipalities controlled by the party in power nationally received approximately €14 per capita more than other municipalities. In order to better illustrate what this imbalance means in practice, consider the following exercise: municipalities had on average 34,000 citizens in 2005; therefore, a medium sized municipality controlled by the party in power received on average €476,000 more in other transfers than municipalities who were not aligned. In a country where the annual minimum wage in 2005 was €5,600, this kind of disparity is substantial – this fictional, average-sized municipality could, using these extra transfers, hire 85 extra minimum wage workers full-time. Looking at the results of column 2, it is clear that formulaic transfers, which provide a good measure of the need for transfers to a municipality, prove to be good predictors of the “other” transfers received by a municipality; an increase of 1% in the formulaic transfers received by a municipality is accompanied by a 1.2% increase in the discretionary transfers received by the municipality. On the other hand, it appears that population growth does not seem to play a separate role in the attribution of discretionary transfers. Graph 4<sup>7</sup> shows that the margin of victory/loss of the party in power does not seem to play a big role in the attribution of other transfers to municipalities – the difference in amount of other transfers received is clearly motivated by the victory or loss of the party in power nationally within the municipality.

Column 3 of table 2 shows that control of a municipality by the party in power nationally does not significantly affect the formulaic transfers received by a municipality. This result is probably not surprising, given that the formulas used to attribute these

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<sup>7</sup> For this graphical representation of the regression results, the dependent variable was first stripped of its yearly and municipal averages; then, this transformed dependent variable was averaged within 20 intervals, ordered by the explanatory variable – the margin of victory/loss by the party in power. Each of the open dots seen in Graph 4 is the average of one of these intervals. The solid line is the representation of the predicted value of the dependent variable using the regression results of column 1 in table 2.

transfers are the same for every municipality, and usually remain unchanged for many years. Even if a party in power desired to target these types of transfers to its own constituencies, it would be difficult, given that both major parties have good support across most of the country and different demographics. Graph 5 shows that, not only is there no discontinuity associated with a win in the municipality chamber for the party in power, but also that the winning/losing margin of the party in power does not seem to influence the formulaic transfers received by municipalities, even when allowing for a two-sided cubic effect of the margin in these transfers.

Finally, the regressions of columns 4 and 5 show that alignment of a municipality with the party in power, perhaps surprisingly, did not play a big role in the attribution of European transfers, as coefficients associated with the binary variable representing alignment are not significant. On the other hand, per capita European transfers seem to be biased in favor of municipalities with bigger populations and also towards municipalities who receive more formulaic transfers. While there is no significant impact of the victory or loss of a municipality by the party in power on the European transfers received by a municipality, Graph 3 shows that there is a significant tendency for municipalities where the party in power wins by a broader margin to receive more European transfers than in municipalities where this winning margin is less significant. A symmetrical effect related to the losing margin of the party in power does not seem to be present.

## **PSD and PS**

Do the two major Portuguese parties act differently in regard to attributing government transfers? Table 3 shows that a clear difference is present in the data. The period where PSD was in power nationally (1992-1995 and 2003-2005) is driving the results in terms of how beneficial the alignment with the party in power is. While municipalities won by PSD, with PSD in power, received 32% more discretionary transfers than other municipalities, municipalities won by PS, with PS in power, only received 2% more discretionary transfers than other municipalities. Currently, I do not have a good hypothesis to justify this inequity, but it should be noted that in the last twenty years, PSD has systematically outperformed PS in terms of municipal elections,

even though PS has been slightly dominant in terms of national elections; perhaps PSD has been reaping the benefits of favoring their municipalities, while PS leaders have been averse to follow suit. This is an area that I would be interested in further researching.

## 6 – REPERCUSSION OF TRANSFERS AND LOCAL ELECTIONS

The results in the previous section raise the question: why would the national leadership of majority parties be concerned with the results of local elections? As mentioned in the introduction, possible explanations for this behavior are:

- National leaders of the party in power want to keep their local leaders happy and therefore favor them in the amount of discretionary transfers. These extra funds might directly contribute to the happiness of local leaders by giving them control of a larger budget. Moreover, these extra funds can please local leaders, if they increase their chances of re-election. This latter hypothesis will be tested in this section.
- National leaders might not directly care for the satisfaction of local leaders, but they still might want to win local elections, as the local elections might provide momentum for the ensuing national elections. This hypothesis will also be tested in this section.

To test the hypothesis that extra discretionary transfers might increase the voting share of incumbents in municipal elections, the following model<sup>8</sup> will be used:

$$\Delta VS_{i,t} = \alpha + \beta_1 LOT_{i,t} + \beta_2 LOT_{i,t-1} + \beta_3 LOT_{i,t-2} + \beta_4 LOT_{i,t-3} + \varepsilon_{i,t}$$

$\Delta VS_{i,t}$  = Difference in the vote share of incumbents between the election at time t and the election at time t – 4

$LOT_{i,t}$  = Logarithm of per capita discretionary transfers to municipality i in year t

$\varepsilon_{i,t}$  = Random error term

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<sup>8</sup> Municipal and yearly averages were subtracted from the explanatory variable to ensure that the results are motivated by within variation.

The effects of transfers in different years of the municipal election cycle were considered separately, as there is reason to believe that they might have a differential impact in voting outcomes. For instance, if voters do not formulate their voting decisions in a very backward-looking fashion, it might be expected that a recent extra level of spending by the municipality (possibly financed by a recent extra level of transfers) would influence the decision to vote for the incumbent more than an extraordinary level of spending some years before. The results of the regression are presented in Table 4.

Looking at the regression results, it seems that the level of transfers in the first three years after a municipal election does not sway voters in favor of or against the incumbent municipal leaders, as the three coefficients are not significantly different from zero. On the other hand, excess transfers in the year of the election<sup>9</sup> result in a statistically significant, albeit small in absolute terms, increase in the vote margin of the incumbent; an increase of 10% in the discretionary transfers during this final year results in a 0.2% higher winning margin for the incumbent municipal president. These results provide some evidence supporting the hypothesis that transfers to municipalities can influence municipal election results.

Once incumbency is established, does it provide momentum for the ensuing elections? It surely does for the next municipal elections. The regression warranting this conclusion tests the following model<sup>10</sup>:

$$M_{i,t}^{PSD} = \tau_t + \beta PSD_{i,t-4} + G(M_{i,t-4}^{PSD}) + \varepsilon_{i,t}$$

$$\text{where } G(M_{i,t}^{PSD}) = \begin{cases} \delta_1 M_{i,t}^{PSD} + \delta_2 (M_{i,t}^{PSD})^2 + \delta_3 (M_{i,t}^{PSD})^3, & \text{if the municipality is controlled by PSD} \\ \delta_4 M_{i,t}^{PSD} + \delta_5 (M_{i,t}^{PSD})^2 + \delta_6 (M_{i,t}^{PSD})^3, & \text{otherwise} \end{cases}$$

$M_{i,t}^{PSD}$  = Margin of victory/loss of PSD in the municipal elections at year t

$\tau_t$  = Year fixed effect

$PSD_{i,t}$  = Binary variable, assuming value 1 if PSD is in control of the municipality, 0 otherwise

<sup>9</sup> Municipal elections always occur close to the end of a calendar year.

<sup>10</sup> I will present the model based on the PSD case, but the same approach was followed in the PS case.

$\varepsilon_{i,t}$  = Random error term

Regression discontinuity is used here for the same type of reasons as in the analysis of transfers – it allows the separation of the incumbency effect from the effect of having won the previous elections by a higher margin; moreover, regression discontinuity reduces the endogeneity problem, at least in relation to identifying the effect of incumbency. Also, year fixed effects are used to absorb the differences in support across the board for the parties in different years, but municipality fixed effects are not included because these would confuse the interpretation of the results<sup>11</sup>. Results are presented in Table 5.

The results are unambiguous. Incumbency results in a 12.2% higher winning margin for PSD municipal presidents in the ensuing elections, while it increases the winning margin by 9.1% for PS municipal presidents. Graphs 7 and 8 show the relation between vote margin in an election and vote margin in the previous election for PSD and PS, respectively. These results are in line with those obtained by Lee (2001) in his analysis of the US congress (Lee used a similar regression discontinuity design in his paper).

Success in municipal elections clearly translates into success in the ensuing municipal elections. Could the same be true in relation to the next parliamentary elections? To test this hypothesis I first opted for a regression discontinuity design very similar to the one employed in the previous regression, but the regression discontinuity design did not prove to fit the data significantly better than a simple linear slope of the margin of victory<sup>12</sup>, and therefore I will concentrate the subsequent analysis in the case of a simple linear slope. The model to be tested is the following:

$$VS_{i,t}^{PSD} = \theta_i + \tau_t + \beta M_{i,t}^{PSD} + \varepsilon_{i,t}$$

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<sup>11</sup> Without municipality fixed effects, the coefficient associated with incumbency will measure how much incumbency increases the vote margin enjoyed by a party, while if municipality fixed effects were included, the coefficient would measure how much incumbency increases the vote margin of a party over its average vote margin in the municipality

<sup>12</sup> Look at Graphs 9 and 11 for comparison in the PSD case, and Graphs 10 and 12 for comparison in the PS case.

$VS_{i,t}^{PSD}$  = Vote share of PSD in the first parliamentary elections after t

$\theta_i$  = Municipality fixed effect

$\tau_t$  = Year fixed effect

$M_{i,t}^{PSD}$  = Margin of victory/loss of PSD in the municipal elections at year t

A fixed effects regression is performed here, as it allows interpreting the  $\beta$  coefficient as the effect of having an extraordinary good result in the municipal election on the deviation of the vote share in the national legislative elections from the inter-temporal municipal average. This is more useful than simply looking at the relation between winning margin in the municipal election and vote share in the national election, with no regard for the municipal average results in both elections, as a correlation of this type can be caused by some municipalities always favoring the same party in both types of elections, even if the municipal elections results do not sway more voters in favor of well performing parties in the next national elections. Results for both the simple slope regression and the regression discontinuity design are presented in Table 6.

The impact of a party exceeding its usual performance in a local election on its vote share in the ensuing national election is rather small, but nonetheless, statistically significant. A 20% higher vote margin favoring PSD in municipal elections leads to, approximately, a 1% increase in the vote share of PSD in the ensuing national legislative elections. In the case of PS, a 15% higher vote margin in municipal elections is enough to raise the vote share of PS in the next national elections by 1%. The lack of a significant effect of municipal incumbency on the outcomes of national elections goes against part of the reasoning put forward in this paper to justify why central government leaders would monetarily privilege municipalities with which they are aligned. Nevertheless, the statistically significant impact of municipal election outcomes in national election outcomes shows that it is justifiable for national leaders to give some consideration to municipal election results.

## 7 – CONCLUSION

The regression discontinuity design employed in this paper allows the conclusion that political alignment between local governments and the national government financially benefits municipalities. Aligned municipalities received approximately 20% higher discretionary transfers than non-aligned municipalities. Increase in the winning margin of the party in power did not seem to affect transfers beyond the effect of alignment, challenging the common partisan theory of distributive politics, which asserts that the higher the support in an area, the higher the transfers received by this area. On the other hand, alignment did not influence formulaic transfers, as these are based in formulas identical for all municipalities, and are therefore not easily targetable to aligned municipalities. In order to study the global validity of these results, I am interested in applying the same methodology to other countries. One possible next project will be using regression discontinuity to investigate if transfers from the US Federal Government to states are influenced by political alignment between the state governors and the US President or alignment between state governors and the US Congress.

Two possible reasons for the privileging of aligned municipalities by national government leaders were tested in this paper. The hypothesis that transfers help local leaders win future elections proved sensible, but only when these abnormally high transfers are received by a municipality immediately before new local elections. The hypothesis that good performance in local elections builds momentum to the following national elections also receives some credit, although in this case alignment does not prove as crucial as simply having a higher vote share in local elections.

On an ending note, do people in office actually believe that the government skews transfers in favor of municipalities with which it is aligned? The answer is, as expected, partisan. In my private discussions with municipal officials of municipalities not affiliated with any of the two major Portuguese parties, they vouched in favor of my hypothesis, providing many anecdotal examples of how the government benefited municipalities controlled by its own party. On the other hand, municipal officials of municipalities controlled by the party of the current government guaranteed me that no such practice happens, some of them even telling me that they had a better relationship

with the government when the other big party was in power. It would be interesting to ask them again in a few years, when the party in power changes again, to see if they have changed their minds.

## BIBLIOGRAPHY

Ansolabehere, Stephen and James M. Snyder, Jr. 2006. "Party Control of State Government the Distribution of Public Expenditures". *Scandinavian Journal of Economics*, Vol. 108, No. 4: 547-569.

Arulampalam, Wiji, Sugato Dasgupta, Amrita Dhillon and Bhaskar Dutta. 2008. "Electoral Goals and Center-State Transfers: A Theoretical Model and Empirical Evidence from India". IZA discussion paper 3376.

Berry, Christopher R., Barry C. Curden and William G. Howell. 2009. "The President and the Distribution of Federal Spending". Harris School of Public Policy working paper 0904.

Dahlberg, Matz and Eva Johansson. 2002. "On the Vote-Purchasing Behavior of Incumbent Governments". *The American Political Science Review*, Vol. 96, No. 1: 27-40.

Larcinese, Valentino, James M. Snyder, Jr. and Cecilita Testa. 2008. "Testing Models of Distributive Politics Using Exit Polls to Measure Voter Preferences and Partisanship". STICERD – Political Economy and Public Policy Paper Series 19.

Larcinese, Valentino, Leonzio Rizzo and Cecilia Testa. 2006. "Allocating the U.S. Federal Budget to the States: The Impact of the President". *The Journal of Politics*, Vol. 68, No. 2: 447-456.

Lee, David. 2001. "The Electoral Advantage to Incumbency and Voters' Valuation of Politicians' Experience: A Regression Discontinuity Analysis of Elections to the U.S. House". NBER working paper 8441.

Lee, David and Thomas Lemieux. 2009. "Regression Discontinuity Designs in Economics". NBER working paper 14723.

Levitt, Steven D. and James M. Snyder, Jr. 1995. "Political Parties and the Distribution of Federal Outlays". *American Journal of Political Science*, Vol. 39, No. 4: 958-980.

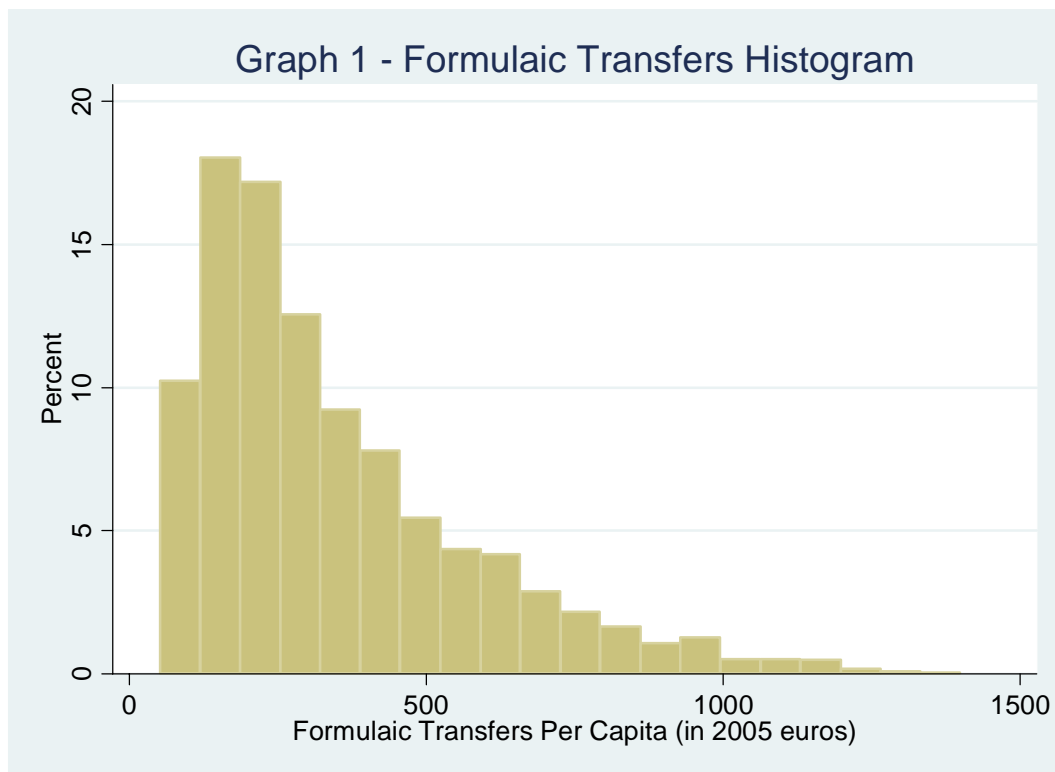
Milligan, Kevin and Michael Smart. 2005. "Regional Grants as Pork Barrel Politics". CESifo working paper 1453.

Niskanen, William. 1975. "Bureaucrats and Politicians". *Journal of Law and Economics*, Vol. 18, No. 3: 617-643.

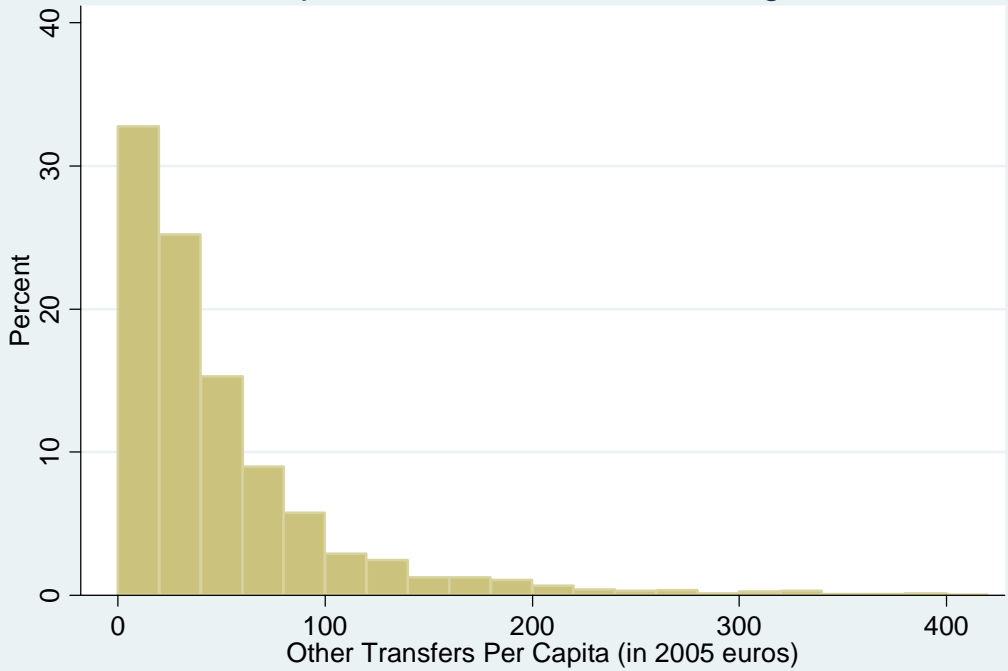
Solé-Ollé, Albert and Pilar Sorribas-Navarro. 2006. "The effects of partisan alignment on the allocation of intergovernmental transfers. Differences-in-differences estimates for Spain". IFIR Working paper 2006-09.

**Table 1: Descriptive stats**

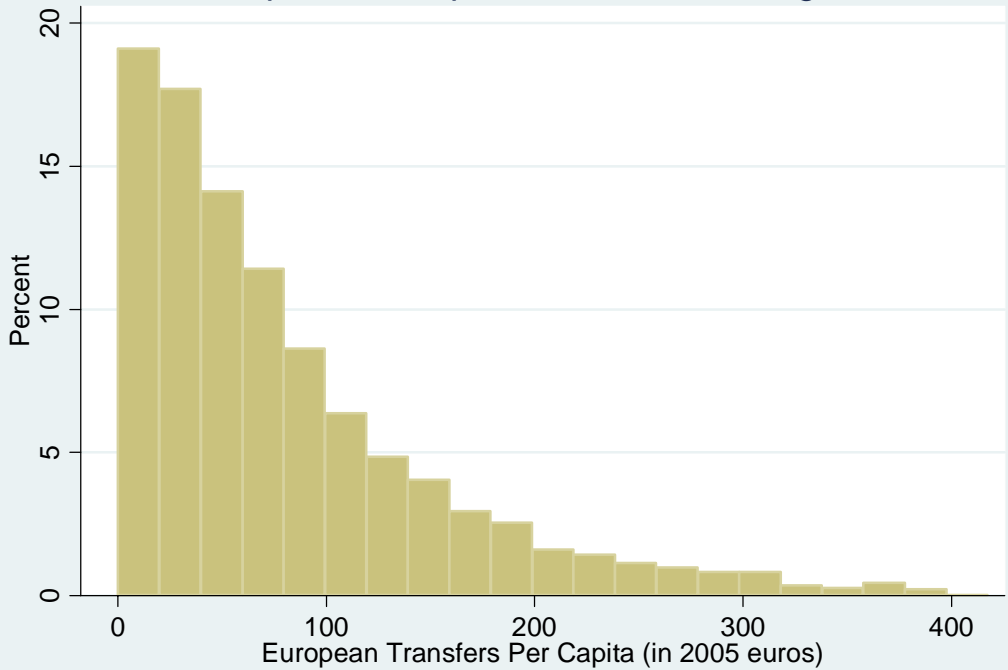
	Mean	Standard Deviation
Formulaic Transfers (2005 Euros)	5,005,486	4,407,943
European Transfers (2005 Euros)	1,219,155	1,460,033
“Other Transfers” (2005 Euros)	1,065,316	2,354,222
Formulaic Transfers Per Capita (2005 Euros)	359.41	287.85
European Transfers Per Capita (2005 Euros)	91.61	153.27
“Other Transfers” Per Capita (2005 Euros)	54.81	110.49
Municipalities Population	32,974	55,048



Graph 2 - Other Transfers Histogram



Graph 3 - European Transfers Histogram

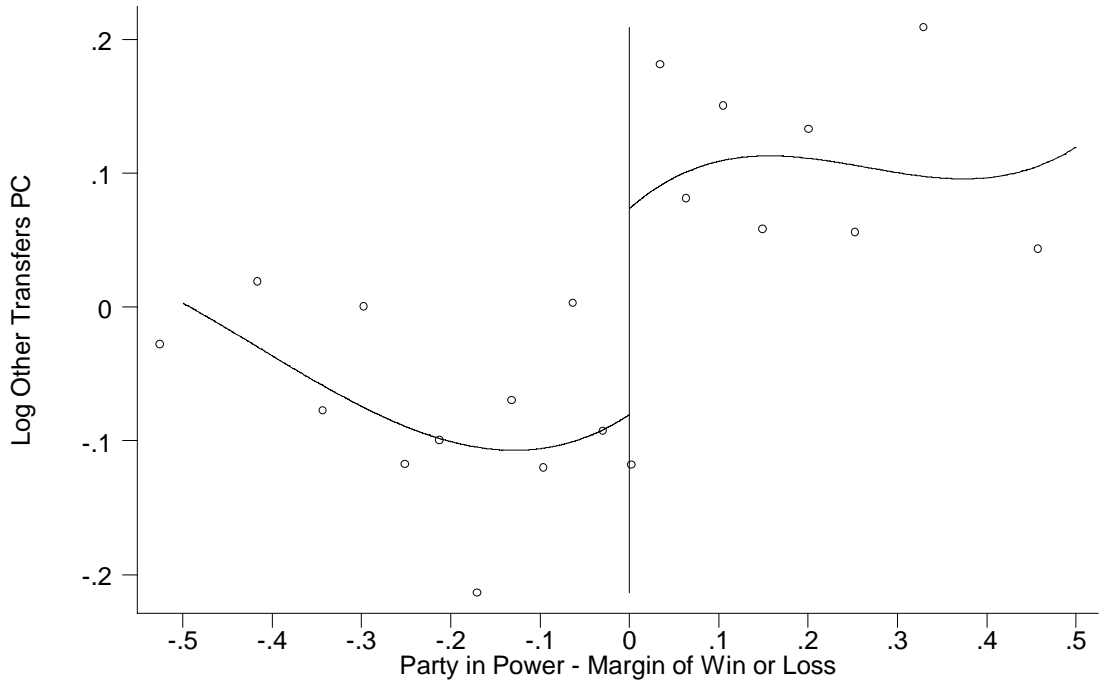


**Table 2: Effect of political alignment between party in power nationally and municipal government in transfers to municipalities**

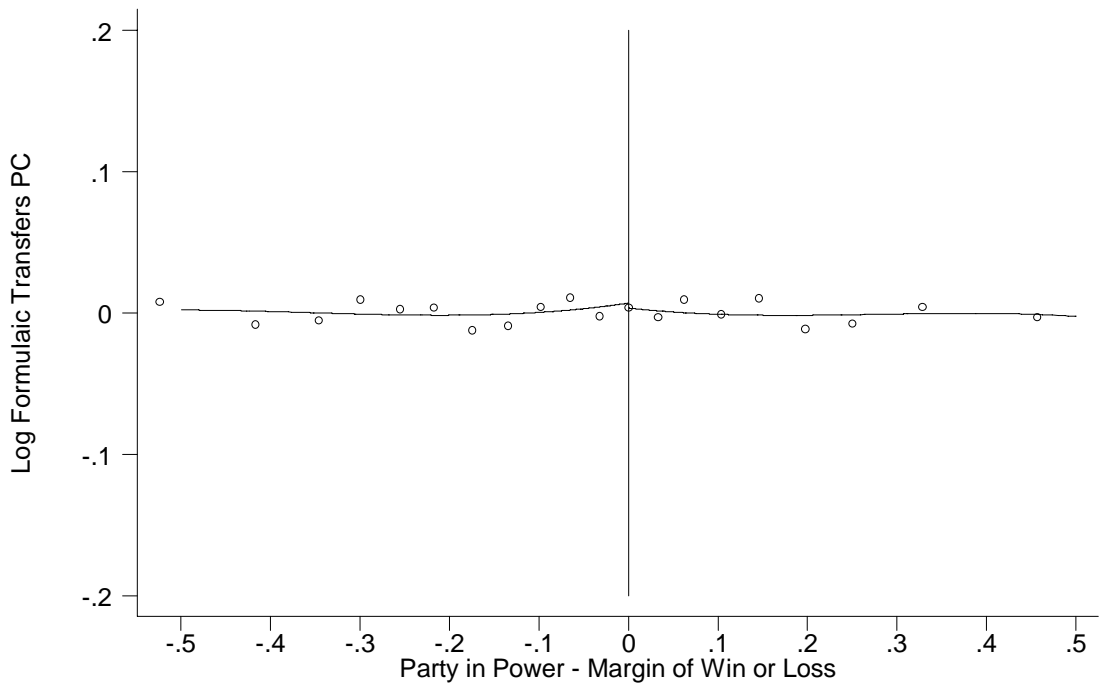
	(1)	(2)	(3)	(4)	(5)
Dependent Variable	Log Discretionary Transfers Per Capita, t	Log Discretionary Transfers Per Capita, t	Log Formulaic Transfers Per Capita, t	Log European Transfers Per Capita, t	Log European Transfers Per Capita, t
Municipality won by party in power, before t	.184 (.113)	.189* (.112)	-.004 (.012)	.020 (.110)	.020 (.106)
Log Municipality population, t	--	.099 (.589)	--	--	1.399* (.726)
Log Formulaic Transfers, t	--	1.203** (.384)	--	--	1.677** (.470)

Note: N = 4144 for rows 1 and 2, N = 4270 for row 3, and N = 3206 for rows 4 and 5. Regressions include a cubic transformation of the margin of victory/loss of the party in power nationally at t, in the municipal elections prior to t, as well as municipality fixed effects and year dummies. Estimated standard errors (in parenthesis) are consistent, with municipality-municipality government period-national government period clustered sampling. \*\* = p-value < 0.01; \* = p-value < 0.1.

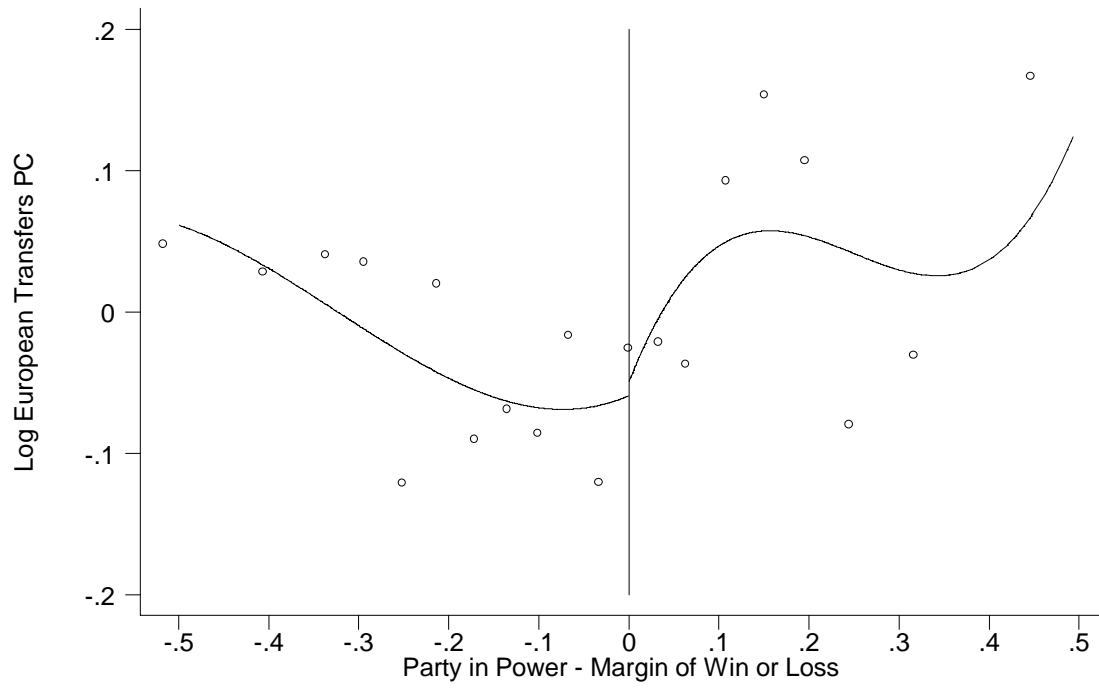
GRAPH 4 - Model 1



GRAPH 5 - Model 3



GRAPH 6 - Model 4



**Table 3: Effect of political alignment between party in power nationally and municipal government in transfers to municipalities – separated by party**

	(1)	(2)	(3)	(4)
Dependent Variable	Log Discretionary Transfers Per Capita, t – Years of PSD control	Log Discretionary Transfers Per capita, t – Years of PSD control	Log Discretionary Transfers Per Capita, t – Years of PS control	Log Discretionary Transfers Per Capita, t – Years of PS control
Municipality won by party in power, before t	.320 (.195)	.320* (.188)	.008 (.135)	.019 (.139)
Log Municipality population, t	--	1.079 (.763)	--	-1.027 (.986)
Log Formulaic Transfers, t	--	1.891** (.481)	--	.309 (.673)

Note: N = 2094 for rows 1 and 2, and N = 2072 for rows 3 and 4. Regressions include a cubic transformation of the margin of victory/loss of the party in power nationally at t, in the municipal elections prior to t, as well as municipality fixed effects and year dummies. Estimated standard errors (in parenthesis) are consistent, with municipality-municipality government period-national government period clustered sampling. \*\* = p-value < 0.01; \* = p-value < 0.1.

**Table 4: Effect of formulaic transfers in municipal election outcomes**

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	(1)
Dependent Variable	Difference of vote share in municipal elections, $t - (t-4)$
Log Discretionary Transfers, $t$	.020** (.005)
Log Discretionary Transfers, $t-1$	-.002 (.004)
Log Discretionary Transfers, $t-2$	.006 (.004)
Log Discretionary Transfers, $t-3$	-.005 (.004)

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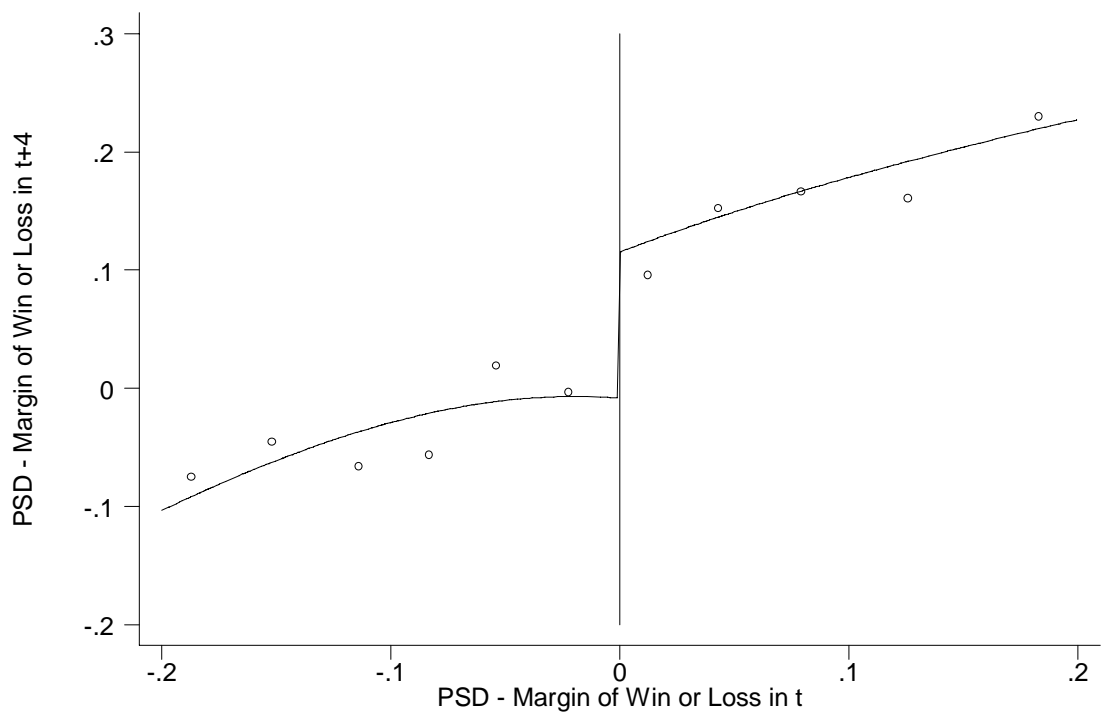
Note: N = 749. Estimated standard errors in parenthesis. \*\* = p-value < 0.01.

**Table 5: Incumbency effect in municipal elections**

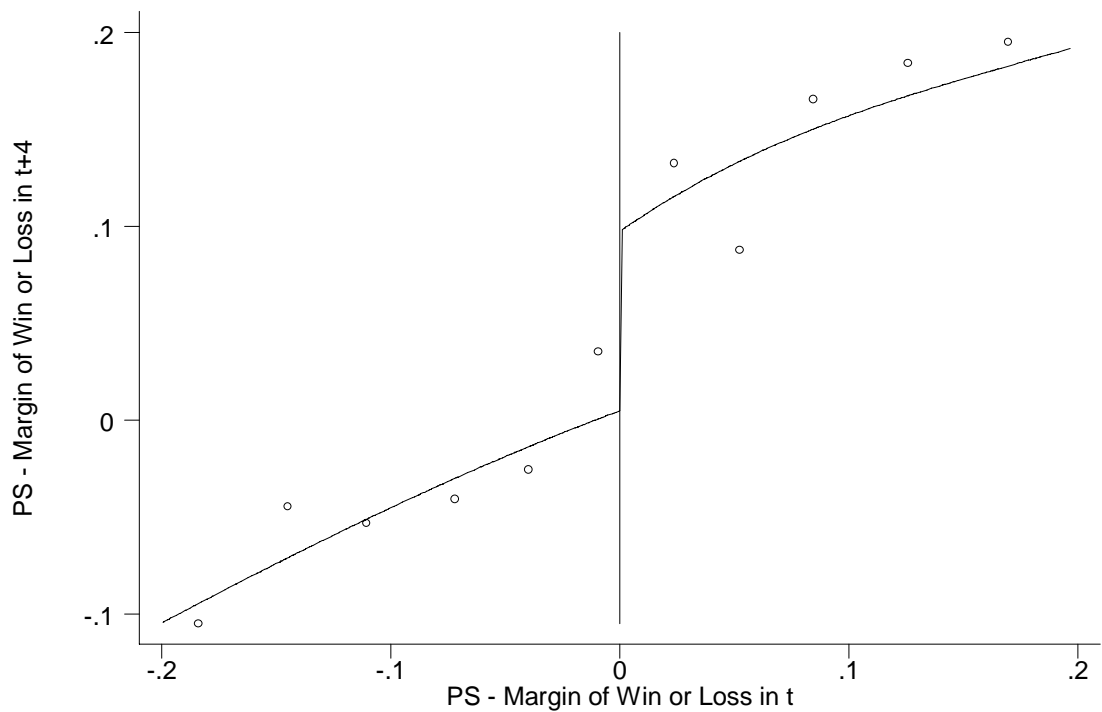
	(1)	(2)	(3)	(4)
Dependent Variable	PSD winning/losing margin in municipality, t + 4	PSD winning/losing margin in municipality, t + 4	PS winning/losing margin in municipality, t + 4	PS winning/losing margin in municipality, t + 4
Municipality won by PSD, t	.122** (.033)	.067** (.019)	--	--
PSD winning/losing margin in municipality, t	--	.720** (.037)	--	--
Municipality won by PS, t	--	--	.091** (.034)	.075** (.019)
PS winning/losing margin in municipality, t	--	--	--	.604** (.038)

Note: N = 915 in all rows. Regressions in columns 1 and 3 include a cubic transformation of PSD or PS margin of victory/loss in the municipal elections at t. All regressions include year dummies. Estimated standard errors in parenthesis. \*\* = p-value < 0.01.

GRAPH 7



GRAPH 8

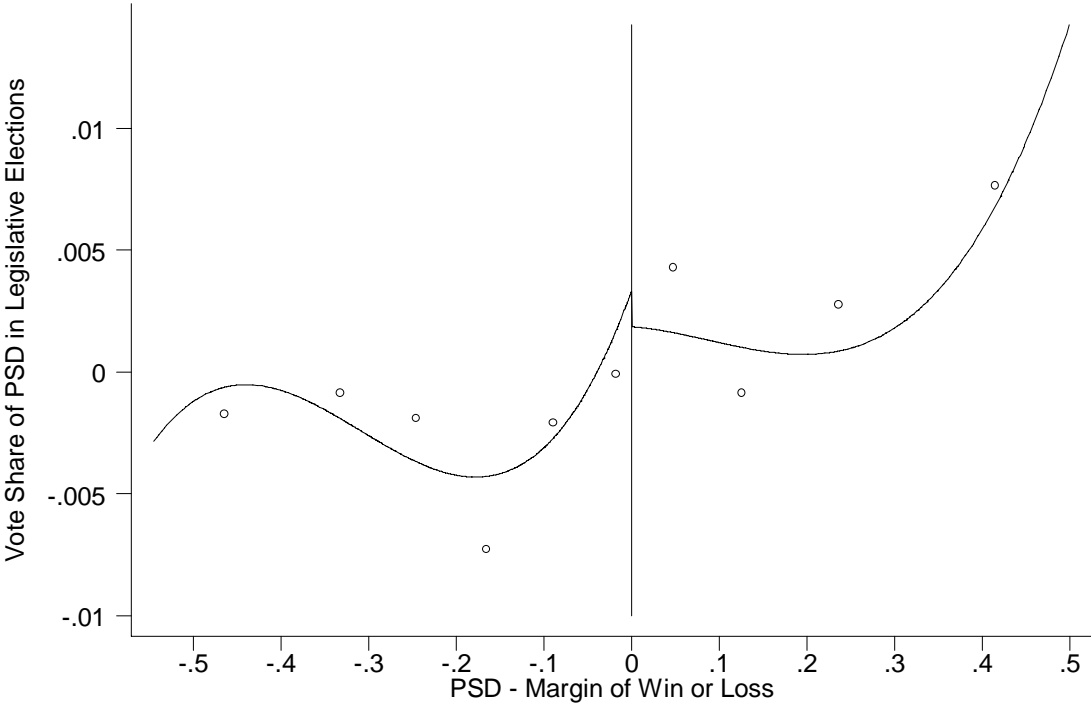


**Table 6: Effect of municipal elections in ensuing legislative elections**

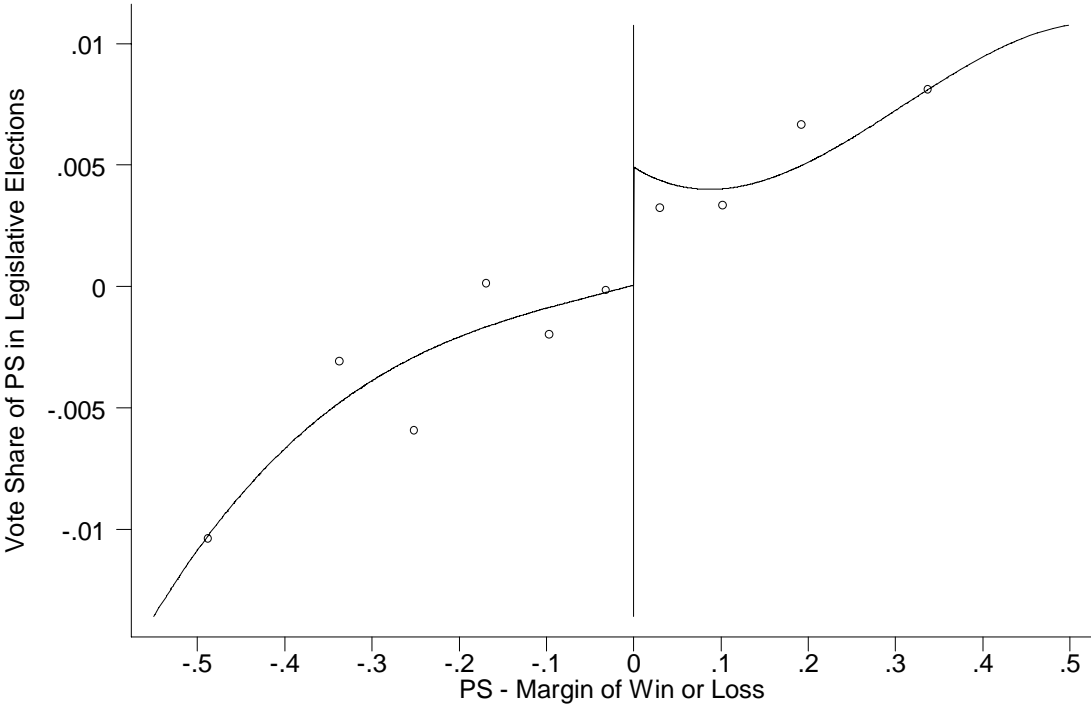
	(1)	(2)	(3)	(4)
Dependent Variable	Vote Share of PSD Parliamentary Election, after t	Vote Share of PSD Parliamentary Election, after t	Vote Share of PS Parliamentary Election, after t	Vote Share of PS Parliamentary Election, after t
Municipality won by PSD, t	-.002 (.006)	--	--	--
PSD winning/losing margin in municipality, t	--	.052** (.006)	--	--
Municipality won by PS, t	--	--	.006 (.006)	--
PS winning/losing margin in municipality, t	--	--	--	.068** (.006)

Note: N = 1220 in all rows. Regressions in columns 1 and 3 include a cubic transformation of PSD or PS margin of victory/loss in the municipal elections at t. All regressions include municipality fixed effects and year dummies. Estimated standard errors in parenthesis. \*\* = p-value < 0.01.

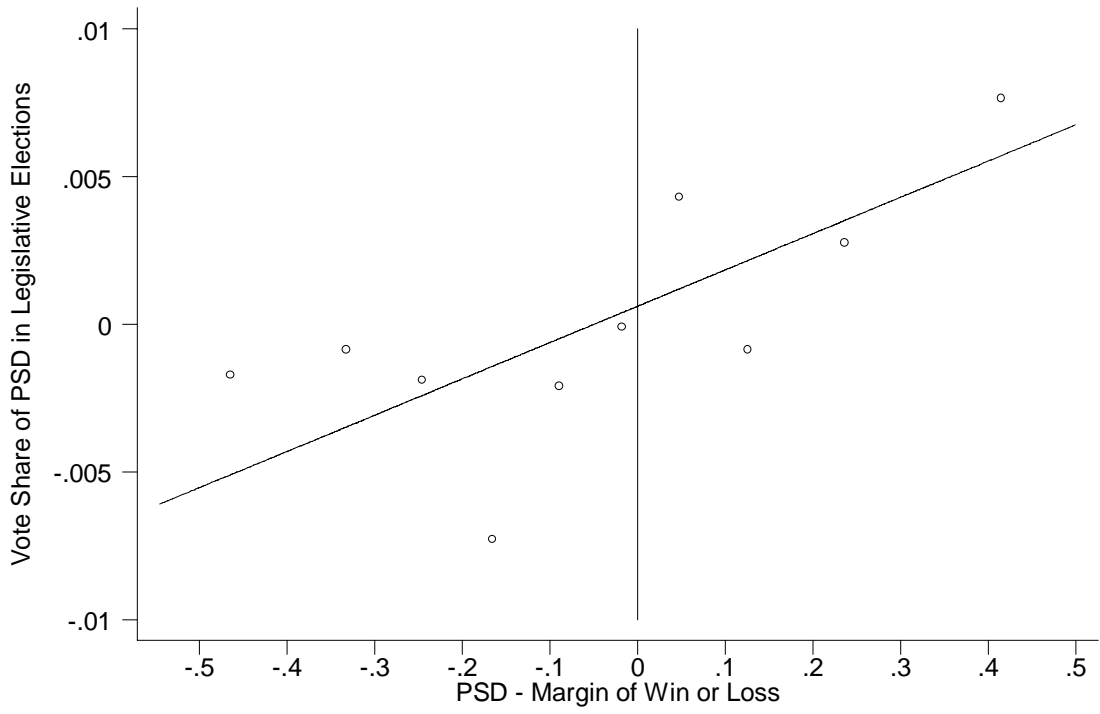
GRAPH 9



GRAPH 10



GRAPH 11



GRAPH 12

