

# Inter-temporal Scapegoats: Government Turnover and Fiscal Adjustment

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## Abstract

This paper studies how new governments use previous administrations as scapegoats to implement fiscal adjustment plans. Highly indebted governments often need the intervention of third parties to re-finance its debt. However, these interventions often require the elaboration of a fiscal consolidation program. Ongoing incumbents are tacitly committed to previous fiscal decisions and therefore, they could be reluctant to publicly accept the need for an adjustment. Conversely, by virtue of an agreement yielding third-party financing, new governments can carry out a back-loaded adjustment, which results in a smoother transition to fiscal stability. To test this hypothesis, we exploit a policy introduced by the Spanish national government that offered indebted municipal governments the possibility of agreeing on an adjustment program and a smoother re-payment profile (vis-a-vis a front-loaded adjustment). Using a close election-regression discontinuity design, we show consistent evidence that ongoing incumbent governments are roughly 30% less likely to agree on a fiscal consolidation program with the national authorities. We explain this difference in terms of electoral incentives and different stigma associated with presenting an adjustment plan for ongoing incumbents and newcomers. We provide evidence on the consequences of such decisions.

*Keywords:* Adjustment plans, Arrears, Fiscal Consolidation.

*JEL classification:* G31, G32

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## 1. Introduction

Fiscal consolidation and stabilization programs are policy tools used by governments to solve recurring fiscal imbalances. They solve an inter-temporal problem: the gap between revenues and spending is too large to be sustained into the future either because of increases in financing costs, reduced financing options or the fear of inflationary pressures. While many actors in an economy are exposed to the type, timing and opportunity of stabilization programs, it is ultimately governments who choose how to go about implementing these adjustments. This has led to a literature on the political economics of stabilization and fiscal reform (for surveys of this vast literature see for example [Alesina 2018](#); [Mahmalat and Curran 2018](#)).

Much of this literature analyzes how political constraints shape the timing of fiscal adjustments, with special attention to the factors that lead forward looking political actors to delay the implementation of welfare enhancing stabilization policies (see [Alesina and Drazen 1991](#)). A related but separate question relates to how the costs of stabilization are distributed over time, in a context in which governments can choose among a menu of options that front-load or back-load these costs. This is particularly relevant given that supra-national actors such as the IMF, or ECOFIN in the context of the European Great Recession, can offer financing options to attenuate the immediate shock of adjustment, usually subject to an agreement between governments and the financing bodies.

One important question in this regard is who implements the adjustment. Governments under new leadership may have different incentives than ongoing incumbents because they may not be constrained by political commitments imposed by previous fiscal decisions. This will be the subject of this paper. We will first rationalize why a new leadership may choose a different path of adjustment. Specifically, we present a dynamic political economic model of fiscal adjustments in which new parties in power are more likely to agree with a third party on an adjustment plan that allows a smoother transition to fiscal stability. Importantly, we show this is the case in a context in which parties do not differ in either their policy preferences or their inter-temporal discount rates.

We then take this hypothesis to the data in a context in which we can deploy state-of-the-art methods to identify our parameter of interest. We do so by leveraging data on a Spanish government plan that offered a menu of two different adjustment mechanisms to indebted

local governments. The Supplier Payment Plan (*Plan de Pago a Proveedores*) or SPP, was introduced in 2012 to deal with mounting arrears of local governments with their suppliers. The program deployed financial resources of roughly 3% of Spanish GDP to pay suppliers, thus converting the commercial debt of Spanish municipalities to a syndicated loan backed by the national government. Two options were given to municipalities in order to repay this loan: they could file an adjustment plan to the ministry of finance which, if approved, had advantageous conditions, including a two year grace period, and eight additional years for municipalities to repay the loan and interest. Alternatively, if no adjustment plan was presented, the loan repayment would be immediately enforced through retention of the transfers that the national government uses to fund local governments, and it would be completely executed within five years. Thus local governments can choose between a fiscal consolidation program leading to a smoother repayment scheme or a front-loaded adjustment. In this sense, the example is formally similar to that of a country facing financing constraints and the option to obtain third party financing subject to an agreed fiscal consolidation plan.

By exploiting quasi-experimental variation in the identity of the party in power, we study whether new governments are more likely to agree on an adjustment plan that allows for smoother transition to fiscal consolidation. For this purpose, we use a close-election regression-discontinuity design that enables us to avoid confounders such as the level of debt, the strength of economic shocks and local demographic conditions when identifying the effect of incumbency on the pace of stabilization. Our estimation strategy also allows us to test whether our findings are driven by differences across partisan lines. The resulting estimates indicate a large and significant difference in the type of adjustment between new and ongoing governments: new governments are roughly 30 percentage points more likely to agree on an adjustment plan resulting in a smoother transition. We interpret this as evidence that ongoing governments are constrained by their previous tenure in office when requesting external support to finance that transition.

Our paper contributes to the literature on the political economics of macroeconomic policy.<sup>1</sup> Specifically, we contribute to our understanding of how political constraints affect when and how fiscal stabilization is carried out. As highlighted in [Alesina and Drazen \(1991\)](#), and a large subsequent literature, the timing of fiscal adjustment will be influenced by the

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<sup>1</sup>See for example the surveys in [Persson and Tabellini 1999](#); [Alesina and Passalacqua 2016](#); [Yared 2019](#). Empirical work in this field is vast. Relevant examples include [De Haan and Sturm \(1994\)](#)

strength of the executives, the timing of elections or a government's connections with multilateral financing institutions (see also [Alesina, Ardagna, and Trebbi 2006](#) and [Barro and Lee 2005](#)). Our contribution to this literature is two-fold: in the first place, we study how political constraints shape the type of adjustment that is carried out, by showing incumbent governments may be less willing to agree on a fiscal consolidation program with third party financing – thus resulting in a front-loaded adjustment – even when a more flexible financing alternative is available. This is important because the success of fiscal adjustment is often shaped by its speed.<sup>2</sup> Secondly, we deploy a close election regression-discontinuity design that allows us to credibly identify our parameter of interest under relatively mild assumptions, using tools that are standard in the applied micro literature in political economics. In this, we distinguish ourselves with much of the empirical work in macroeconomic stabilization which has typically used panel cross-country regressions to test the extant hypotheses.

Our empirical analysis exploits a particular policy addressing the issue of local government arrears with suppliers. This connects our paper with a series of studies focusing specifically on the fiscal causes and economic consequences of this type of government financing. Arrears suppose a form of forced government financing ([Diamond and Schiller, 1987](#)). According to [Flynn and Pessoa \(2014\)](#), they arise from temporary shocks inducing government liquidity shortages or from more persistent phenomenon resulting from weaknesses in a country's public financial management system.<sup>3</sup> Because arrears affect cash flows to suppliers, they result in detrimental impacts on firm performance and growth (see for example [Checherita-Westphal, Klemm, and Viefers \(2016\)](#)). Our empirical analysis studies a large scale policy directed to the elimination of local government arrears and the way in which these governments responded to this policy.

The specific hypothesis tested in our paper is that new parties in power are more likely to agree to an adjustment plan. This links our work with the accounting literature on big bath earning management and CEO turnover. Several studies – including [Graham, Harvey, and Rajgopal \(2005\)](#); [Bornemann, Kick, Pfingsten, and Schertler \(2015\)](#); [Ali and Zhang \(2015\)](#) – emphasize how incoming CEOs tend to overstate current earnings and understate previous earnings when arriving to a new firm in an effort to bolster their reputation. This is con-

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<sup>2</sup>As argued in [DeLong, Summers, Feldstein, and Ramey \(2012\)](#) and [Blanchard and Leigh \(2013\)](#).

<sup>3</sup>[Chiades, Greco, Mengotto, Moretti, and Valbonesi \(2019\)](#) study the case of arrears by Italian sub-national governments and document how a reduction in intergovernmental transfers led local governments to accumulate substantial arrears with suppliers.

nected to our work because the mechanism we emphasize here is similar: new governments can use the adjustment plan as a tool to signal that the previous government had mismanaged the government's resources. This resource is not available to long-term incumbents and that could explain the differences in behavior we observe in our empirical analysis.

The rest of the paper is structured as follows: section 2 presents the data we use in the estimation. Section 3 discusses the institutional setting and consequences of the SPP on municipal budgets. Section 4 presents our core empirical analysis and results and section 5 concludes.

## **2. Data**

To conduct our analysis, we build a municipal panel with yearly information for the period 2008-2015, combining data from several sources.

Municipal data on adjustment plans is obtained from the Tribunal de Cuentas. Data on arrears were obtained from the Instituto de Crédito Oficial (ICO), which channeled the payment of arrears from the central government to suppliers in 2012.

Data on yearly municipal budgets is obtained from the database on local authority budgets published by the Ministerio de Hacienda y Administraciones Públicas. These include information on revenues and spending disaggregated by spending category during the period 2008-2015. This disaggregation includes variables such as government transfers, revenues for different taxes, or total spending. Also from the Ministerio de Hacienda y Administraciones Públicas we take the outstanding debt by municipality, available since 2009.

Electoral results for Spanish municipalities in the 2007, 2011 and 2015 local elections are obtained from the Spanish Ministerio del Interior. This information includes electoral results both municipal level results for all running parties and the list of all candidate parties for every municipality. Data from Estadística del Padrón Continuo include yearly information on population and population by age categories for all the sample period.

Merging data from these sources, we construct a panel of municipalities for the period 2008-2015 including the vote shares obtained by all parties, adjustment plans and arrears, information on municipal spending and revenues, outstanding debt and other municipal characteristics.

Due to budget data availability, to conduct our main analyses we restrict our sample to municipalities with populations above 250 inhabitants in electoral years.

Municipal descriptives for our sample are presented in tables 1 and 2. In Table 1 we present the mean and standard deviation for several variables in 2011. We include population, outstanding debt per capita, total spending and revenues per capita, arrears per capita and the fraction of municipalities ruled by the biggest political parties in Spain: the centre-left Partido Socialista (PSOE) and the center-right Partido Popular (PP). Panel A shows the information for all municipalities in Spain, panel B includes municipalities that participated in the SPP but did not do an adjustment plan, and panel C includes municipalities that participated in the SPP and carried out an adjustment plan. The average population of all municipalities in our sample is 5.8 thousand inhabitants. Accumulated arrears per capita are on average similar for municipalities that do not do an adjustment plan (333 euros) and for municipalities that do an adjustment plan (364 euros).

Table 2 compares averages of several variables across municipalities in which the challenger (column 1) or the incumbent (column 2) won the elections in 2011. Column 3 shows whether there are significant differences among these two groups for each variable. The variables are analogous to those showed in Table 1, but we add the fraction of municipalities that conduct an adjustment plan. We observe that municipalities ruled by the challenger have lower spending and revenues per capita, are more often ruled by PP rather than by PSOE, and exhibit a higher probability to do an adjustment plan. In particular, 74.6% of the municipalities in which the challenger won the elections did an adjustment plan, while 66.8% of those in which the incumbent won do an adjustment plan. All these figures evidence that municipalities ruled by challengers or incumbents can intrinsically be different. Thus, in the empirical analysis section we will discuss how to proceed to achieve a clean causal identification.

### **3. Institutional Setting**

#### *3.1. Spanish Municipalities and Mayors*

Our unit of analysis are Spanish municipalities. In 2011 there were a total of 8,116 municipalities, each of them ruled by a separate local government. Municipalities are the lowest level of territorial administration in Spain and have autonomy in managing their interests as recognized in the Spanish constitution (Article 140). Municipal financing is based on local taxes – the largest of which are a property tax and a business tax – and transfers from the national and regional governments. The functions of the municipal government are

**TABLE 1**  
**SUMMARY STATISTICS**

Panel A: All municipalities		
	Mean	Std. dev
Population	5814.50	47427.97
Outstanding Debt pc	251.33	416.43
Total Spending pc	1369.38	1078.49
Total Revenues pc	1374.78	1343.14
Arrears pc	167.03	407.81
Party PP	0.46	0.50
Party PSOE	0.28	0.45
Number Obs	8114	
Panel B: Municipalities No Adj. Plan		
	Mean	Std. dev.
Population	4472.17	24311.26
Outstanding Debt pc	264.59	411.01
Total Spending pc	1448.27	1132.00
Total Revenues pc	1415.76	1134.21
Arrears pc	332.95	692.06
Party PP	0.44	0.50
Party PSOE	0.36	0.48
Number Obs	1337	
Panel C: Municipalities Adjustment Plan		
	Mean	Std. dev
Population	11838.51	78259.99
Outstanding Debt pc	363.07	343.73
Total Spending pc	1143.09	646.78
Total Revenues pc	1120.27	610.58
Arrears pc	364.14	414.59
Party PP	0.46	0.50
Party PSOE	0.32	0.47
Number Obs	2283	

*Notes:* This table reports means and standard deviations for each variable by municipality. It also reports total number of observations. Panel A shows summary statistics for all municipalities in Spain, including those without arrears in 2011. Panel B shows summary statistics for municipalities that did not do an adjustment plan. Panel C shows summary statistics for municipalities that followed an adjustment plan. We do not provide a separate panel for the municipalities without arrears in 2011 since they are not used in our main analyses. The descriptives shown are for the year 2011.

partly dependent on size but encompass waste disposal, water and sewage services, lighting, transport network upkeep, public parks, and, crucially, the provision of some local public services.<sup>4</sup>

Municipalities are governed by a municipal council (pleno municipal) and a mayor (alcalde). Municipal council members are directly elected by residents of the municipality. Municipal elections are held every four years. The electoral system varies with population. We focus on municipalities with more than 250 inhabitants, which use a single-district, closed

<sup>4</sup>See details in law number 7/1985 (April 2nd 1985). *Ley reguladora de las bases del régimen local.*

**TABLE 2**  
**DESCRIPTIVES AND T-TESTS**

	Mean differences and T-test		
	Challenger	Incumbent	Difference
Population	12569.563	10974.101	1595.462
Outstanding Debt pc	346.910	336.455	10.455
Total Spending pc	1010.466	1125.667	-115.201***
Total Revenues pc	991.009	1108.272	-117.263***
Arrears pc	330.379	304.230	26.149
Party PP	0.549	0.429	0.121***
Party PSOE	0.184	0.421	-0.237***
Adjustment Plan	0.746	0.668	0.078***

*Notes:* This table reports means in 2011 for several variables for municipalities in which the challenger won the elections in 2011 (column 1), and municipalities in which the incumbent won the elections in 2011 (column 2). The last column shows the difference in means for the two groups and its significance. \*, \*\*, and \*\*\* represent 10%, 5%, and 1% significance levels, respectively.

list, proportional electoral system.<sup>5</sup> In these municipalities, council seats (from a minimum of 7 to a maximum of 57 in Madrid) are assigned following the D’Hondt rule featuring a 5% vote share entry threshold. The municipal mayor is elected by the council under a majority rule. If the most voted party obtains the majority of the seats, it can appoint the mayor directly. If a single party does not obtain a majority, there is a coalition building period in which candidates need to secure the support of the council to be elected. If no candidate can secure this support, the candidate from the most voted party is appointed as mayor. In a cross-country comparative analysis of local government leaders, [Mouritzen and Svara \(2002\)](#) classify Spanish mayors as strong, where a strong mayor is “an elected official who is the primary political leader of the governing board and possesses considerable executive authority”. In the remainder of the paper, the ruling party refers to the party of the mayor.

### 3.2. *Great Recession and Local Government Arrears*

The 2008-14 economic crisis had a most adverse effect on Spanish general government finances, taking the form of a significant increase in the budget deficit as well as in the public debt. For a full account of the crisis, see [Banco \(2017\)](#). One phenomenon associated with this deterioration in public finances was the significant increase in the time taken by governments to pay its suppliers. In particular, the total amount of consolidated general government payment obligations outstanding amounted to 87.3bn in 2011 (8.1% of GDP), according to the financial accounts of the Spanish economy, compared with 57.1bn in 2007

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<sup>5</sup>Municipalities with populations under 250 inhabitants have an open list system with voters able to express multiple preferences for different candidates. These municipalities will not be used in our analyses precisely because of this difference and its implications for our empirical strategy.



(5.3% of GDP). The increase in commercial debt over this period was common to all tiers of government, albeit mostly concentrated (around 75%) at the local and regional government levels.

As of December 2011, Spanish subnational governments (14 out of 17 regions, 4k out of 8k municipalities) accumulated expenditure arrears worth 28.5bn (2.7% of GDP), involving more than 5.5 million of unpaid bills in arrears from 150k suppliers.

At the local level, payables (including arrears) increased from 1.5% of GDP in 2005 to 2.6% of GDP in 2011, an all-time high in the time series going back to 1995 (Exhibit 1). The increase was mostly explained by a significant build-up of arrears (worth 9.8bn or 0.9% of GDP) over this period.

### *3.3. Spain's Supplier Payment Plan (SPP) and the Fiscal Adjustment Plan*

Given the weak financial situation of Spanish sub-national governments and their negative impact on corporates and ultimately on broader employment dynamics, the Spanish government adopted various measures in early 2012 aimed at improving regional and local finances, most notably (1) the so-called Supplier Payment Plan (Mecanismo de Pago a Proveedores) in 2012, aimed at clearing the stock of arrears accumulated by both regional and local governments until 2011; and (2) the regional government liquidity fund (Fondo de Liquidez Autonómica or FLA) for securing the normalization of payments to suppliers by regional governments from 2012 onwards. At the same time, new regulations aimed at structurally reducing the time taken by the general government (i.e, at the central, regional and local levels) to pay its suppliers were approved.

In this paper, we focus on the Supplier Payment Plan, which was instrumented through the creation of a State-owned vehicle, the so-called Fondo para la Financiación del Pago a Proveedores (FFPP) in early 2012.

On the liability side, the FFPP funded itself through a 30bn (which could be extended up to 35bn) syndicated loan granted by a pool involving the State-owned Instituto de Crédito Oficial (ICO) and most of the Spanish banks with contributions proportional to their respective market shares in Spain. Given the State-owned nature of the FFPP, the syndicated loan was guaranteed by the State, making it attractive for participating banks. At the same time, however, all FFPP's liabilities were consolidated as part of the central government financial debt. This resulted in a shift from commercial into financial debt.

On the asset side, the FFPP made payments directly to the suppliers of regional and

local governments, subrogating itself in their position as claimants against these subnational governments. As a result, unpaid commercial debt previously held by suppliers turned into financial debt in the hands of the central government (through the FFPP). Participation by the 8,000 Spanish local authorities was mandatory. Payments were made on three different dates: on 28 May 2012, 9.3bn were transferred directly to the suppliers of the 8,000 local governments; on 25 June 2012, 17.7bn were transferred directly to the suppliers of the 14 participating regions; and finally, on 30 July 2012, 0.3bn were transferred to the suppliers of local governments that had been left behind in the May payment. Overall, the Instituto de Credito Oficial (ICO), acting as the FFPP's paying agent, injected an amount of cash worth 27.3bn (2.5% of 2011 GDP) into the real economy.

Importantly, the intergovernmental funding provided by the central government (through the FFPP) to the regional and local governments was guaranteed by their share of State tax receipts. Funding costs for regional and local governments equaled the Spanish Treasury's funding cost plus a maximum spread of 145 basis points. These were quite favorable conditions compared to what regional and local governments could actually get by themselves in the capital markets.

In order to minimize moral hazard, regional and local governments were required to submit a fiscal adjustment program to the central government (back-loading). While regional and local governments complying with this requirement enjoyed funding with a maturity of 10 years with a 2-year interest-only grace period, funding provided to regional and local governments failing to meet this requirement was deducted from their share of State tax receipts over a 5-year period (front-loading).

As a result of fiscal adjustment (either in or out of a plan negotiated with the central government), Spanish municipalities brought their aggregate budget balance from a deficit of 0.4% of GDP in 2011 to a surplus of 0.1% in 2012, implying a 0.5% improvement in just one year, the largest fiscal adjustment recorded at the municipal level in the time series going back to 1995. With a sustained budget surplus of 0.1-0.2% of GDP since 2012, Spanish municipalities' aggregate financial debt has been reduced from over 4% of GDP in 2012 to 2.5% in 2017, implying a net reduction of more than 1.5% over five years.

### *3.4. Impact of SPP on Municipal Budgets*

In this section we discuss the impact of the different adjustment options available to municipalities with arrears. As discussed above, municipalities facing substantial arrears

in their payments to suppliers could choose between agreeing on an adjustment plan with the national government in exchange for a smoother transition to stabilization or an adjustment via the retention of inter-governmental transfers to these governments.

To investigate how this choice affected revenues, spending and tax rates set by municipal governments we exploit data on municipal data and municipal tax rates to estimate:

$$Y_{jt} = \alpha_j + \delta_t + \sum_{k=2008}^{2015} \omega_k R_j \times \mathbb{1}\{t = k\} + \epsilon_{jt} \quad (1)$$

where  $j$  indexes municipalities and  $t$  indexes years,  $\alpha_j$  is a municipality fixed effect  $\delta_t$  is a set of time effects, and  $R_j$  is an indicator taking value 1 if municipality  $j$  opted to go down the front-loaded route of using revenue retention by the central government to fund the debt transferred from their accumulated arrears. We consider three different outcomes  $Y_{jt}$ : the natural logarithms of central government transfer revenues per and total spending per capita, and the urban property tax rate levied by the municipality.

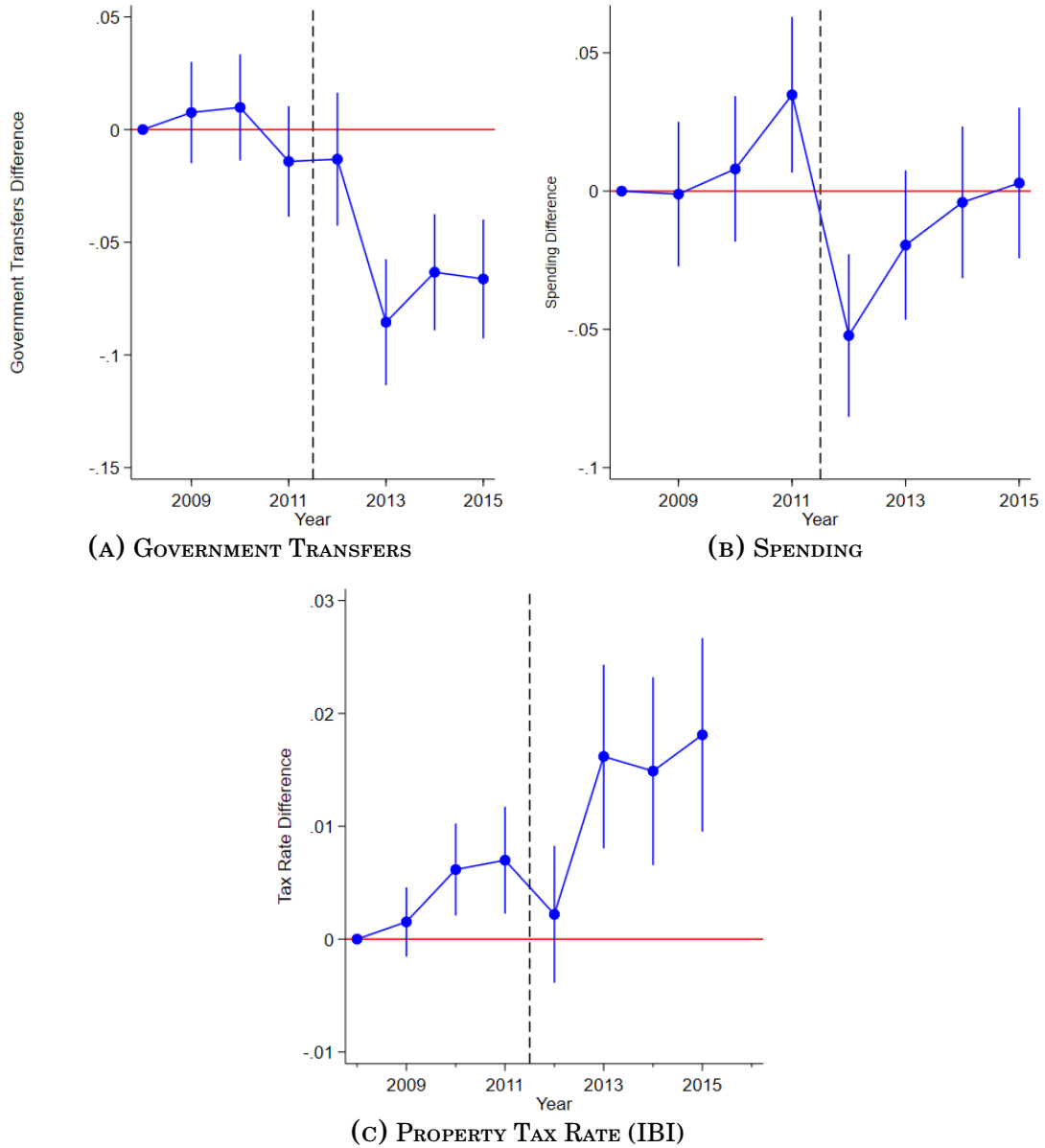
We estimate this equation using data of municipalities that had unpaid arrears, that is, municipalities that were forced to assume a syndicated loan by virtue of the SPP. As a result, the coefficients  $\{\omega_k\}_{k=2008}^{2015}$  can be interpreted as the differences between municipalities with  $R_j = 1$  and those with  $R_j = 0$ . That is, they tell us how the difference transfers, spending and taxes between municipalities choosing the front-loaded adjustment and the adjustment plan evolved over time.

Estimates of the sequences of coefficients are reported in Figure 1. In Panel A, we display coefficients for the difference in transfers. We observe that the difference in transfers was relatively stable before 2013 but suddenly became negative after this year, and stayed negative in the subsequent periods. We interpret this as arising from the revenue retention program itself. In the year after the SPP policy was passed, municipalities that opted for the front-loaded adjustment experience an abrupt decrease in the transfers provided by the central government.

How did this affect municipal spending? Panel B shows us a relative decline in municipal spending in 2012, which is consistent with municipalities adjusting their spending levels ahead of the change in transfers. The difference then converges back to 0 in subsequent years. How is it possible that municipalities experiencing a persistent reduction in transfers managed to recover spending levels so swiftly? Part of the answer may come from the 2012 adjustment itself. Yet another contributing factor is suggested by Panel C, where we observe

a sharp increase in relative property tax rates (IBI) for municipalities that opted for the front-loaded adjustments.

**FIGURE 1**  
**CONSEQUENCES OF GOVERNMENT RETENTION SCHEME**



Notes: These figures show point estimates and 95% confidence intervals for the effect of not presenting a plan on: the log of the transfers received from the central government (**Panel A**), the log of total municipal spending (**Panel B**), and the property tax rate (IBI) (**Panel C**), for years 2008-2015. All regressions include municipality fixed effects and year fixed effects. Figures plot the estimated coefficient for the interaction between a year dummy and a dummy takes value zero if the municipality presents an adjustment plan, and value one otherwise. Standard errors are clustered at the municipality level.

Collectively, the patterns displayed in the three panels in Figure 1 are consistent with the consequences of a front-loaded adjustment translated into both lower spending and higher

taxes. It is worth noting that these patterns cannot be given a causal interpretation unless we assume that fixed effects suffice to deal with potential differences between municipalities not only in levels but also over time. This is a rather strong assumption in our context. We present these results not to make a strong claim about the consequences of adjustment options for policy at the local level – this is not the point of the paper – but rather as suggestive evidence that the patterns we would expect to find if the front-loaded adjustment had bite on municipal finances is indeed observed in the data. That is, we see these patterns as largely descriptive, but nonetheless reassuring.

#### 4. Empirical Analysis: Tenure in Office and the Pace of Fiscal Adjustment

In this section we present an empirical analysis of how new and ongoing governments differ in their propensity to agree with a third party – in our case, the Spanish national government – on an adjustment plan that allows to smooth the pace of fiscal adjustment. Specifically, we study whether a newly elected party in power differs from re-elected governments in the way municipalities facing a substantial amount of arrears in payment to suppliers carry out their adjustment. We conduct this analysis by using information on the SPP.

##### 4.1. Empirical Strategy

We use a close-election regression discontinuity design (RDD) to induce exogenous variation on whether the party in power in a municipality after the 2011 election is different from the party in power before that election (i.e. usually the party elected in 2007). To do so, we create a running variable  $X_j$  for municipality  $j$ , defined as  $\Delta V_j \equiv V_j^C - V_j^I$  where  $V_j^I$  is the 2011 vote share of the party in power at the end of the 2007 term – i.e. just before the election – and  $V_j^C$  is the vote share of the most voted party in the 2011 election after removing the incumbent. From now on, we call these parties the *incumbent* and the *challenger*.<sup>6</sup> Note that  $\Delta V_j$  will take positive values if the challenger wins the 2011 local election and negative values otherwise.

We use this running variable to estimate the effect of a dummy  $C_j$  taking value 1 if the municipality elects a mayor from new party on a dummy  $P_j$  taking value 1 if the municipality agrees on an adjustment plan to pay for its outstanding arrears. Spanish mayors are not

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<sup>6</sup>It is important to note that the word incumbent here refers to the 2007 incumbent and not the 2011 incumbent.

directly elected by voters but appointed by the elected council. Therefore, the probability having a new mayor ( $Pr(C_j) = 1$ ) does not jump from 0 to 1 when  $\Delta V_j$  crosses the threshold at zero – our RDD is fuzzy (Imbens and Lemieux, 2008). As a result, we estimate our parameter of interest by two-stage least square (2SLS). The estimating equations are:

$$C_j = \alpha_0 + \tau D_j + \pi_1 \Delta V_j + \pi_2 D_j \Delta V_j + v_j \quad (2)$$

$$P_j = \alpha_1 + \beta C_j + \rho_1 \Delta V_j + \rho_2 D_j \Delta V_j + u_j \quad (3)$$

Our parameter of interest is  $\beta$  which can be interpreted as the effect of having a new party in power on the probability of choosing an adjustment plan to Equations 5 and 6 correspond to our first- and second-stage, respectively. Variable  $D_j$  is defined as  $D_j = \mathbb{1}\{\Delta V_j > 0\}$  and is our instrument for  $C_j$ . The third and fourth terms in the right-hand side of both equations correspond to linear terms in the running variable, estimated separately on each side of the threshold.

Estimation of the parameter of interest is carried out using local linear regressions – with weights given by a triangular kernel – estimated using observations within a bandwidth of the threshold. The state-of-the-art in the estimation of these parameters uses the routine proposed in Calonico, Cattaneo, Farrell, and Titiunik (2017), which incorporates data-driven procedures to select the bandwidth, adjusted standard-errors to account for the bandwidth selector and as a bias correction procedure developed by the authors.<sup>7</sup> We discuss the robustness to both the bandwidth choice, the choice of kernel and the polynomial length used to adjust for the running variable in the robustness checks section.

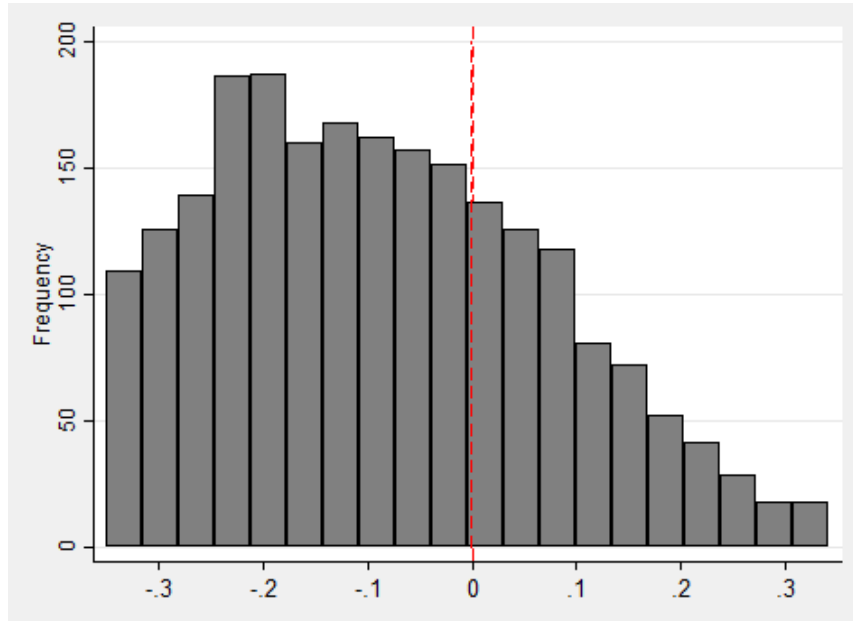
Before we can move to discuss our estimates for  $\beta$  we need to discuss the plausibility of some of the assumptions required for the validity of the regression-discontinuity design in our context. In the first place, we discuss the assumption of no manipulation. While parties influence electoral results through their actions, it is unlikely that they can perfectly manipulate electoral outcomes. We can provide evidence consistent with this notion by looking at the histogram of the running variable around the threshold, which we report in Figure 2. The formal statistical tests described in McCrary (2008) and Cattaneo, Jansson, and Ma

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<sup>7</sup>Details on these procedures can be found in Calonico, Cattaneo, and Titiunik (2014) and Calonico, Cattaneo, Farrell, and Titiunik (2017). In our case, implementation is carried out using the most recent version of the Stata `rdrobust` command.

(2020) yield large p-values of 65% and 76%, respectively, confirming perfect manipulation of the running variable is unlikely in our context.

**FIGURE 2**  
**HISTOGRAM OF RUNNING VARIABLE – VOTE MARGIN OF MUNICIPAL CHALLENGER**

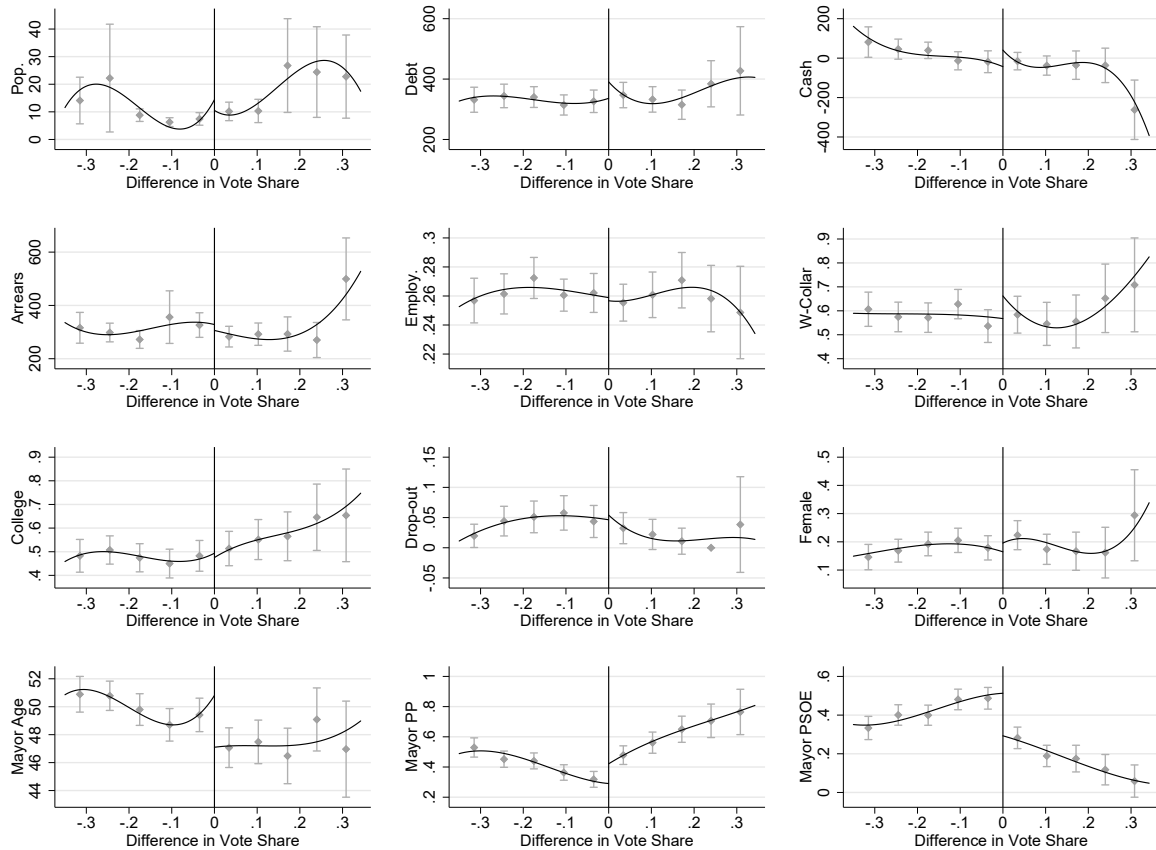


*Notes:* Histogram of running variable for values between -0.35 and 0.35. The p-value of the Cattaneo, Jansson, and Ma (2020) test of no manipulation is 76%.

To further emphasize the validity of our research design, we illustrate covariate balancing at the threshold in Figure 3 and Appendix Tables A.2 and A.3. Crucially for our analysis, both the level of arrears, pre-electoral outcomes and municipal demographics vary smoothly across the threshold. We do, however, find a significant imbalance in the party in power. This results from the construction of our running variable. A positive value of the running variable indicates that the party that was in power during the 2007 period loses power in 2011. Because the socialist party held roughly half of the municipalities with populations above 250 inhabitants in 2007, this means that this party will be under-represented to the right of the threshold.

We follow a series of different strategies to account for this problem. In the first place, we provide additional estimates controlling for mayoral party fixed effects. We also report estimates where we fix the party in power during the 2007 period to either PP or PSOE, and show that this leads to analogous results. Finally, we consider an alternative estimation strategy where we estimate the effect of parties on the probability of presenting an adjustment plan. In all cases, we find that the identity of the party in power has no influence on the probability of agreeing on an adjustment plan with the central government.

**FIGURE 3**  
**COVARIATE BALANCING RDD**



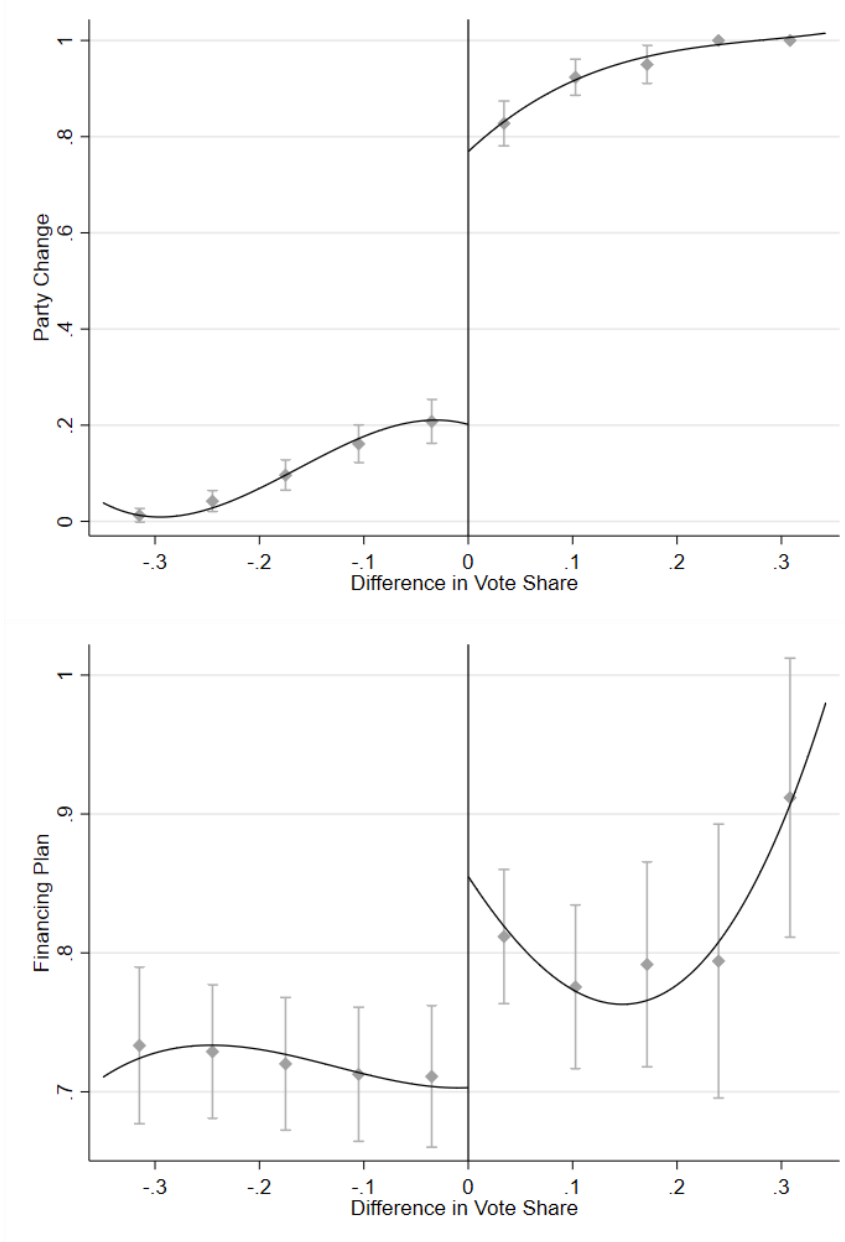
*Notes:* Horizontal axis represents the vote share difference between the challenger and the incumbent. From left to right and top to bottom the outcome variables are population, municipal public debt per capita, municipal cash holdings per capita, arrears per capita, fraction of employed population, fraction of white collar mayors, fraction of mayors with college studies, fraction of drop-out mayors, fraction of female mayors, mayors' age, fraction of municipalities ruled by PP, and fraction of municipalities ruled by PSOE. Solid lines represent third degree polynomials in the running variable estimated separately for positive and negative polynomials. Gray dots correspond to averages for bins of the running variable. Vertical lines correspond to 95% confidence intervals around these averages.

#### 4.2. Results

We illustrate our first-stage in the top panel of Figure 4. The horizontal axis represents our running variable and the vertical axis the probability of having a new party in power at the local level after the 2011 election. Third degree polynomials are estimated separately on both sides of the threshold. Gray dots correspond to averages of the dependent variable for different bins of the variable in the horizontal axis, and vertical lines correspond to 95% confidence intervals. We can observe a substantial jump in the probability of having a change in the party in power at the threshold. The gap in probability is roughly 0.5, indicating the design is fuzzy and not sharp.



**FIGURE 4**  
**PARTY CHANGES AND ADJUSTMENT PLANS: FIRST-STAGE AND REDUCED-FORM**



*Notes:* In both panels, the horizontal axis corresponds to the running variable, defined as the vote-share difference between the challenger and the incumbent. The **top panel** illustrates the first stage; hence, the vertical axis measures the probability that the challenger is appointed as mayor. The **bottom panel** plots the reduced-form. Solid lines represent third degree polynomials in the running variable estimated separately for positive and negative polynomials. Gray dots correspond to averages for bins of the running variable. Vertical lines correspond to 95% confidence intervals around these averages.

The bottom panel of Figure 4 illustrates the reduced form effect of crossing the threshold on the probability of having an adjustment plan in place to smooth out the payment of the outstanding debt to suppliers. Other elements of the graph are analogous to those described in the top panel. The discontinuity at the threshold indicates that when the challenger wins

the election we observe an increase in  $Pr(P_j)$  of roughly 0.15.

We now turn to our main empirical results, which are the 2SLS estimates reported in Table 3.<sup>8</sup> Column 1 reports the effect on the probability of presenting a plan of a change in the party in power. The estimated effect of 0.3 is large and statistically significant, suggesting newly elected governments are less reluctant to agree on an adjustment plan than incumbents. The first-stage F-statistic of 126, reported in the Table foot, indicates that our instrument is strong. In this specification we add no controls.

Columns 2 through 4 in Table 3 are included to deal with the possibility that partisan differences at the threshold drive the result in column 1. In column 2 we include dummies for PP and PSOE incumbents, the log of accumulated arrears per capita up to 2012 and the age of the elected mayor as controls. The estimated coefficient continues to be large and statistically significant at conventional levels. Columns 3 and 4 estimate our specification after restricting the sample to municipalities where the incumbent was from PSOE and from PP, respectively. We continue to find large and significant effects for both sub-samples, indicating that both, incumbents from PP and PSOE are less likely to present an adjustment plan than their challengers.

TABLE 3  
LEADERSHIP CHANGE & ADJUSTMENT PLANS

	(1)	(2)	(3)	(4)
	Adjustment Plan	Adjustment Plan	Adjustment Plan	Adjustment Plan
Party Change	0.311*** (0.101)	0.275*** (0.0867)	0.276** (0.111)	0.413** (0.207)
Observations	1097	994	499	241
Bandwidth	.138	.161	.128	.147
First-stage Fstat	126	130	105	18
Controls	No	Yes	Yes	Yes
2010 Incumbent	All	All	PSOE	PP

*Note:* The table presents two states least squares estimates of the effect of a change in municipal government on the probability of presenting an adjustment plan. The first column includes no controls. The second column controls for the amount of arrears per capita, the mayor's age, and the mayor's party. The third column restricts the sample to municipalities in which the incumbent in 2010 was from PSOE, and the fourth column to municipalities in which the incumbent in 2010 was from PP. We report local linear regressions with triangular kernel and third degree polynomials fitted at the two sides of the threshold. \*, \*\*, and \*\*\* represent 10%, 5%, and 1% significance levels, respectively.

We interpret these results as indicating that the incentives to present an adjustment plan differ depending on whether the party in power is the same as the one in the previous periods. According to our interpretation, this difference is driven by the fact that a new

<sup>8</sup>First-stage coefficients reported in Appendix Table A.1.

TABLE 4  
MAYOR RE-ELECTED IN 2015

	(1) Re-elected	(2) Re-elected	(3) Re-elected
Incumbent 2010	0.151*** (0.0284)	0.147*** (0.0287)	0.129*** (0.0294)
Adjustment Plan	-0.0260 (0.0298)	0.0104 (0.0305)	0.0251 (0.0315)
Incumbent 2010#Adjustment Plan	-0.0552 (0.0353)	-0.0627* (0.0357)	-0.0618* (0.0363)
Constant	0.595*** (0.0246)	0.616*** (0.0250)	0.643*** (0.0619)
Observations	3,619	3,512	3,512
Controls	NO	YES	YES
Province FE	NO	NO	YES
$\alpha_2 + \alpha_3$ p-value	0	.01	.06

*Note:* The table shows OLS estimates with robust standard errors on the probability of re-election in 2015. The first coefficient is a dummy that takes value 1 if the mayor in 2011 after the election was the incumbent in 2010 and value zero otherwise. The second coefficient is a dummy that takes value one if the municipal government presents an adjustment plan, and value zero otherwise. The third coefficient is the interaction between the previous two. The last row shows the p-value for the total effect of repeating mandate in 2011 and presenting a financing plan on the probability of re-election in 2015. The first column includes no controls. The second column controls for population, outstanding debt, and arrears. The third column adds province fixed effects. \*, \*\*, and \*\*\* represent 10%, 5%, and 1% significance levels, respectively.

leadership can more successfully blame the previous incumbent for the need to perform the adjustment. Naturally, this interpretation implies that there is a differential cost of using an adjustment plan across incumbent and challenger. We can provide some suggestive evidence that this is indeed the case.

Using data on the outcome of 2015 elections, we estimate:

$$R_j^{2015} = \alpha_0 + \alpha_1 I_j + \alpha_2 P_j + \alpha_3 P_j \times I_j + \gamma X_j + u_j \quad (4)$$

where  $R_j^{2015}$  is a dummy taking value 1 if the party in power before the 2015 elections was re-elected,  $I_j$  takes value 1 if the party in power in 2011 after the elections was the same as the one in power in 2010 before the elections and  $X_j$  is a set of controls including population, debt per capita and outstanding arrears per capita in 2011. The coefficient of interest is  $\alpha_3$ , which indicates the differential re-election probability between incumbents that presented a plan and incumbents that did not present a plan (estimated conditional on presenting a plan). Naturally, the assumptions involved for causal interpretation of  $\alpha_3$  are quite strong in this context as presenting the plan is an endogenous decision by the government. Thus, we only interpret our findings as suggestive or descriptive in this context.

Estimates for the coefficients in equation 4 are provided in Table 4. We can observe that ongoing governments that agreed on an adjustment plan with the national government are roughly 6% less likely to be re-elected than those that did not present a plan. The effect is weakly significant, probably owing to the fact that re-election is an important but coarse measure of performance. By adding coefficients  $\alpha_2$  and  $\alpha_3$ , we obtain the total electoral effect for incumbents of presenting an adjustment plan. This effect is negative and significant, as indicated by the p-values in the foot of Table 4.

### 4.3. Robustness Checks

We now discuss several complementary results to illustrate the robustness of our findings. In the first place, we provide additional evidence to assuage remaining doubts about the role of partisan differences in determining adjustment plan take-up. To do so, we provide fuzzy RDD estimates for different sub-samples based on the party in power. These are reported in Table 5. In column 1 we restrict the sample to municipalities ruled by PSOE in 2011, after the elections. This case amounts to comparing municipalities where PSOE was either newly elected in 2011 or had been in power in (at least) the previous period. We observe a positive and significant coefficient of magnitude comparable to those reported in Table 5. This shows that mayors from PSOE who were challengers in the previous term are more likely to present an adjustment plan than mayors from PSOE who were incumbents. In column 2, we replicate this result for PP mayors. Again, mayors from PP that were challengers in the previous term are significantly more likely to present a plan than mayors from PP who were incumbents.

In columns 3 and 4 of Table 5, we report RDD estimates obtained for the sub-samples of municipalities with PSOE and PP challengers, respectively. Again, the effect of a change in mayoral party on the probability of presenting a plan is large and positive. Both challengers from PP and from PSOE are significantly more likely to present an adjustment plan than the incumbents in their respective municipalities.

We can also modify our research design to look specifically at whether a party is more or less likely to present an adjustment plan to smooth out the payment of arrears. We do so for both PSOE and PP, which are the two parties that control most municipalities in Spain

**TABLE 5**  
**LEADERSHIP CHANGE & ADJUSTMENT PLANS - ROBUSTNESS CHECKS**

	(1)	(2)	(3)	(4)
	Ajustment Plan	Ajustment Plan	Ajustment Plan	Ajustment Plan
Party Change	0.319** (0.129)	0.420** (0.178)	0.230** (0.0952)	0.325*** (0.118)
Observations	562	419	820	561
Bandwidth	.201	.188	.254	.143
Controls	Yes	Yes	Yes	Yes
Sample	PSOE Mayors	PP Mayors	PSOE Challengers	PP Challengers

*Note:* The table presents two states least squares estimates of the effect of a change in municipal government on the probability of presenting an adjustment plan. The first column restricts the sample to municipalities ruled by PSOE in 2011, after the elections, the second column to municipalities ruled by PP after the elections, the third column to municipalities with a PSOE challenger and the fourth column municipalities with a PP challenger. We report local linear regressions with triangular kernel and third degree polynomials fitted at the two sides of the threshold. \*, \*\*, and \*\*\* represent 10%, 5%, and 1% significance levels, respectively.

since the late 80s (including the 2011-2015 period). For this purpose, we estimate:

$$M_j^p = \alpha_0 + \tau D_j^p + \eta_1 \Delta V_j^p + \eta_2 D_j \Delta V_j^p + v_j \quad (5)$$

$$P_j = \alpha_1 + \beta M_j^p + \phi_1 \Delta V_j^p + \phi_2 D_j \Delta V_j^p + u_j \quad (6)$$

Where  $M_j^p$  is a dummy taking value 1 if municipality  $j$  appointed a mayor from party  $p = \{\text{PSOE, PP}\}$  after the 2011 election,  $\Delta V_j^p$  is the vote margin for party  $p$  in municipality  $j$  in that election and  $D_j^p \equiv \mathbb{1}\{\Delta V_j^p > 0\}$ .<sup>9</sup> Estimation is carried out in the same way as in the case of our main RDD exercise, using the local linear methods in the routine described in [Calonico, Cattaneo, Farrell, and Titiunik \(2017\)](#). The parameter of interest  $\beta^p$  measures whether party  $p$  is more or less likely to opt for an adjustment plan. Results for this exercise are reported in Table 6. Columns 1 and 2 report the effect of having a PP mayor on the probability of and adjustment plan, and columns 3 and 4 report the effect of having a PSOE mayor on the probability of having an adjustment plan. Columns 2 and 4 include our usual set of covariates. We find insignificant effects across the board for both parties. The absolute values of the point estimates is at most 1/8 the effects reported in Table 3, providing conclusive evidence that our main effect of interest is not driven by partisan differences in the propensity to submit an adjustment plan to the central government.

<sup>9</sup>  $\Delta V_j^p$ , the vote margin for party  $p$ , is the difference in vote shares between party  $p$  and the most voted party in  $j$  after excluding  $p$ . We restrict our attention to municipalities in which  $p$  is either the mayor, or the opposition leader.

**TABLE 6**  
**PARTY MAYOR & ADJUSTMENT PLAN**

	(1)	(2)	(3)	(4)
	Adjustment Plan	Adjustment Plan	Adjustment Plan	Adjustment Plan
Party Change	-0.00807 (0.0989)	-0.0453 (0.0989)	0.0346 (0.0896)	0.0333 (0.0823)
Observations	1215	977	1575	1333
Controls	No	Yes	No	Yes
Instrumented Var.	PP Mayor	PP Mayor	PSOE Mayor	PSOE Mayor
p-value	0.935	0.647	0.700	0.686
Bandwidth	0.190	0.189	0.227	0.237

*Note:* The table presents two stages least squares estimates of the effect of a PP / PSOE mayor on the probability of presenting an adjustment plan. The first two columns instrument for a PP mayor. The first column adds no controls, while the second column controls for arrears per capita and mayor's age. The third and fourth columns instrument for a PSOE mayor. The third adds no controls, while the fourth controls for arrears per capita and mayor's age. We report local linear regressions with triangular kernel and third degree polynomials fitted at the two sides of the threshold. \*, \*\*, and \*\*\* represent 10%, 5%, and 1% significance levels, respectively.

## 5. Conclusions

On April 2012, Mariano Rajoy – recently elected to preside over the Spanish government – stated the budget his government was presenting to Parliament was “tough, unpleasant and liked by no one”. The budget itself cut public spending by 27 billion euros, introduced widespread pay freezes for public employees and significant tax hikes, and was aligned with the demands of the ECOFIN, which by that time, agreed on rescuing the Spanish banking system. Rajoy promptly stated that if his socialist predecessor “had fulfilled its commitments” the budget he had presented wouldn't have been so tough.<sup>10</sup>

This example is one of many in which newly elected governments justify a fiscal adjustment by recourse to the errors of their predecessors. We study this process in this paper, by carrying out an empirical analysis yielding causal estimates of the relationship between government turnover and the probability of agreeing on an adjustment plan for municipalities carrying out adjustments during the Spanish Great Recession. Our results have important implications regarding when governments may be amenable to agree with multilateral financing institutions on a plan that allows for a smoother transition to budget stabilization.

<sup>10</sup>See for example <https://www.eleconomista.es/economia/noticias/3874071/04/12/Rajoy-los-presupuestos-son-desagradables-pero-la-alternativa-era-infinitamente-peor.html>, and <https://www.lavanguardia.com/economia/20120330/54279770166/presupuestos-generales-del-estado-2012.html>.

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## Appendix A. Appendix Figures & Tables

TABLE A.1  
FIRST-STAGES - LEADERSHIP CHANGE

	(1)	(2)	(3)	(4)
	Party Change	Party Change	Party Change	Party Change
Challenger wins Election	0.560*** (0.0498)	0.600*** (0.0526)	0.640*** (0.0624)	0.529*** (0.123)
Observations	1215	960	629	203
Bandwidth	.155	.154	.173	.122
First-stage Fstat	126	130	105	18
Controls	No	Yes	Yes	Yes
2007 Incumbent	All	All	PSOE	PP

Note: First-stage estimates. \*, \*\*, and \*\*\* represent 10%, 5%, and 1% significance levels, respectively.

TABLE A.2  
SECOND STAGE - COVARIATES MUNICIPALITY

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Pop.	Mayor PP	Mayor PSOE	Debt	Cash	Arrears	Employ.
Party Change	1.917 (5.475)	0.273** (0.114)	-0.404*** (0.112)	67.03 (79.11)	45.79 (110.1)	-20.54 (98.63)	-0.00732 (0.0291)
Observations	1225	1153	1103	1294	1263	1157	1084
p-value	0.726	0.016	0.000	0.397	0.677	0.835	0.802
Bandwidth	0.157	0.146	0.139	0.170	0.168	0.147	0.136

Note: Two stage least squares estimates. \*, \*\*, and \*\*\* represent 10%, 5%, and 1% significance levels, respectively.

TABLE A.3  
SECOND STAGE - COVARIATES MAYOR

	(1)	(2)	(3)	(4)	(5)
	Mayor Age	W-Collar	College	Drop-out	Female
Party Change	-5.102** (2.321)	0.136 (0.124)	-0.0176 (0.138)	-0.00145 (0.0505)	0.0527 (0.0857)
Observations	903	853	717	1046	1234
Clusters	1132	1277	979	1405	1234
p-value	0.028	0.276	0.898	0.977	0.538
Bandwidth	0.144	0.167	0.124	0.185	0.159

Note: Two stage least squares estimates. \*, \*\*, and \*\*\* represent 10%, 5%, and 1% significance levels, respectively.