The Effects of Relaxing Fiscal Rules on Political Budget Cycle: A Difference-in-Discontinuities Analysis on Italian Municipalities[1]

Pasquale Giacobbe[a], Patrizia Ordine[b], Giuseppe Rose[a2]

[a]Dept. of Economics, Statistics and Finance, University of Calabria, Italy

[b]Dept. of Business Administration and Law, University of Calabria, Italy

[2]Corresponding author. Email: giuseppe.rose@unical.it. Phone: +39-0984-492446. Address: Department of Economics, Statistics and Finance, Via P. Bucci Cubo 1C, 87036 Rende (CS), Italy.

Abstract

We investigate if the presence of fiscal rules might limit the insurgence of Political Budget Cycle (PBC) in investment spending at municipal level. Data based on balance sheets of the Italian municipalities are explored over the period 1999-2012. According with some existing studies we investigate the effect of the Domestic Stability Pact (DSP) and we rely on the fact that this tax rule since 2001 is not binding for municipalities under 5,000 inhabitants. Our main contribution consists in exploiting this quasi-experimental setting by means of a difference in discontinuities estimation strategy to obtain unbiased estimates. Compared to existing results we find that those municipalities not constrained anymore by the DSP increase their pre-electoral capital expenditure only one year before the elections. We provide evidence that involved investments are mainly those producing immediately-visible effects, which is consistent with an opportunistic use of public expenditure targeted to gain electoral consensus.

Keywords: Political Budget Cycle, Fiscal Constraints, Difference-in-Discontinuities.

JEL Codes: H72, D72.

1 Introduction

The idea that there is some dependence between the business cycle and the political cycle is nowadays a consolidated fact in economic literature. It is generally recognized that the analysis of economic policy should further explore incentives and the political and institutional constraints which influence the authorities' behavior. Over the years, the attention of scholars has shifted gradually from the study of the *Political Business Cycle* (Kalecki [1943], Nordhaus [1975], Hibbs [1977]), i.e., the pre-electoral manipulations implemented through the use of monetary policy instruments, to a more particular situation known as *Political Budget Cycle* (PBC) (Rogoff [1990], Drazen and Eslava [2010], Shi and Svensson [2006]). This indicates a periodic fluctuation in fiscal policy implemented by governments in proximity to election period. The PBC may look like an increase in public spending (total or just some of its components); an increase in the budget deficit or a reduction in tax revenue in the electoral year.

The presence of PBC suggests the idea that politicians in office pursue goals that are different from the social welfare maximization. From a macroeconomic point of view, PBC can heavily impact on public debt and budget deficit. Financial unsustainability of public finances in many countries orig-

inates from sub-national imbalances. Instability in the expenditures and in the deficit level leads to inefficiency in the allocation of resources, which is harmful to the entire national economic system. From a social welfare point of view, the existence of pre-electoral manipulations in the public spending, implemented by the politicians in office in order to maximize their probability of re-election, is a symptom of an inefficient use of the fiscal instruments. Many countries have adopted fiscal rules in order to regulate the local administrations and to curb the incentives to accumulate debt. As defined in Kopits and Symansky (1998), fiscal rules consist in a permanent numerical constraint on fiscal policy defined in term of an indicator of overall fiscal performance such as the government deficit, debt or expenditures. Despite their widespread application over the world, there is no consensus on fiscal rules' effects in increasing fiscal stability. Estimating the effect of fiscal rules is a complicated task. In particular, the leading threat to the internal validity of the analysis derives from endogeneity issue: the country that introduces a tax rule (or adopt more burdensome constraints), for example, may be the one with a greater preference for balanced public finances.

The Italian case represents an interesting testing ground because many fiscal rules have been implemented at sub-national level. In particular, the Eu-

ropean Stability and Growth Pact has been introduced at local level through the so-called Domestic Stability Pact (DSP). Since 2001, municipalities with fewer than 5,000 inhabitants have been excluded from its fiscal constraints, mainly for scale-economies reasons. This last aspect allows exogenous grouping of Italian municipalities into two sub-classes, greatly reducing the fears of endogeneity.

This paper is sheds further light on PBC by providing new evidence of the presence of pre-election trends in public spending and on the effect that the DSP had on this phenomenon. We remark that Bonfatti and Forni (2019) analyze the connections between elections and DSP so that our paper is closely related to this study. Notwithstanding, our study presents an empirical strategy able to cope with some concerns that may affect the existing results. In particular, it must be recognized that the study of Bonfatti and Forni (2019) implements a comparison between expenditure in the years before election (aggregated in a single group) against expenditures in the electoral year. Then they look apply a difference in differences strategy to evaluate if the presence of DSP affect the considered difference. Furthermore, to support their result the authors propose a Regression Discontinuity Design as well. We believe that the presented evidence cannot be considered informative

about the effect of fiscal rules on PBC for three orders of reasons.

The first one is the interpretation of difference between expenditure in the elections' years and those in all other years as informative of the presence of PBC. Indeed, such a difference can simply arise because of the establishment of the new administration which typically generates some frictions in appointing members of the executive committee and municipal councilors. In such a contest this difference is likely to be much more pronounced in unconstrained municipalities than in constrained ones and this does not necessarily imply the presence of PBC. Indeed, a proper PBC should be detected by looking at expenditures incurred during the year just before elections compared with the those arising in other years of the electoral cycle (Repetto, 2018).

The second reason arises because of a methodological issue, that is, the difference-in-differences analysis presented by the authors is crucially exposed to the risk of a failure of the common-time-trend assumption. The common trend assumption is likely to fail in the considered case simply because larger municipalities can often hinge on the presence of economies of scale which my imply different dynamics of local expenditures (again, see Repetto, 2018).

The third concern arising from the existing analysis is related to the Regression Discontinuity result presented by the authors to support their

difference-in-differences results. Indeed, the authors are fully aware of the potential failure of the common time trend assumption discussed just above, so that they corroborate their difference-in-differences analysis using a Regression Discontinuity (RD) approach on the 5,000 inhabitants threshold and then considering only municipalities of a similar size. However, it must be reckoned that the use of a RD design in the considered frame is actually adding an additional source of bias. In short, the same threshold is used by the Italian law to generate a shift in mayor's wage. Since a higher wage could imply a different selection of mayors - which in turn can potentially shape the use of public resources to improve the probability of re-election - this generates a potential confounder which does not permit a clear-cut causal interpretation of the effect of the DSP on PBC.

In order to overcome the caveats discussed above and to derive unbiased evidence on the opportunistic use of public expenditure made by incumbent politicians we proceed as follows. Firstly, we do not aggregate pre-electoral years into a unique group. Instead, we consider them separately and we focus our main attention on the year just before the elections to detect the presence of PBC. Secondly, in order to detect if municipality constrained by fiscal rules have a smaller PBC' size than unconstrained ones, we present a difference-

in-discontinuities study which in our particular case has the advantage of being exposed neither to the possible failure of common trend nor to the presence of potential confounders (Grembi, Nannicini and Troiano, 2013). In this perspective, the presented study is designed to get rid of potential confounders and it provides a more robust interpretation of the results.

Our estimates show that when aggregating years before elections in one group and by comparing them with the electoral year, capital expenditure behave in an identical manner independently if a municipality is subject to the DSP. This result is in sharp contrast with that presented by Bonfatti and Forni (2019). Furthermore, when splitting pre-electoral years, we find that actually only in the year right before elections there is a substantial jump in capital expenditure in municipalities unconstrained by the DSP when compared with the other years of the electoral cycle. The estimated effect is of about 230 euros per capita which is about a half of that argued by Bonfatti and Forni (2019).

In order to detect what type of investment is driving this phenomenon, we push forward the analysis by disaggregating capital expenditure. The results show that most of the increase in public expenditure is directed toward investments that produce 'immediate visible' effects, i.e., investments in roads

maintenance, sport and social activities and waste disposal. Capital expenditures in education, local police, tourism and administration are not characterized by any significant differences with respect to municipalities constrained by fiscal rules. This result supports the idea that larger investments might mirror some opportunistic behavior of incumbent politicians.

The structure of the paper is as follows. Section 1 highlights existing literature on PBC and on the effects of fiscal rules. Section 2 discusses the institutional frame while the econometric strategy is illustrated in Section 3. Section 4 presents the data and Section 5 discusses the results. Some concluding remarks are highlighted in Section 6.

2 Literature Review

Since the seminal paper of Rogoff (1990), PBC phenomenon attracted researchers' attention from both empirical and theoretical perspectives. In general, the PBC indicates a periodic fluctuation in fiscal policy implemented by governments nearby the election period. Drazen and Eslava (2010) and Shi and Svensson (2006) contribute to the understanding of the main mechanisms that can give rise to fluctuations of public expenditure during the

legislature. The PBC may look like an increase in the budget deficit associated to an increase in public spending (total or just some of its components) or/and to a reduction in tax revenue in pre-electoral years with the aim of boosting the re-election chance of the politicians in office. The presence of PBC suggests the idea that politicians pursue goals that are different from the social welfare maximization. Indeed, the existence of pre-electoral manipulation in public spending is clearly a symptom of an inefficient use of fiscal instruments which can be harmful to the entire national economic system.

Several studies have empirically investigated the occurrence of PBC. Bonfatti and Forni (2019), Repetto (2018) and Cioffi et al. (2012), consider the Italian case and they find evidence of pre-electoral manipulation in current spending. Ordine et al. (2022) recently looked at Italian data too, showing that the gender composition of the political body can affect the occurrence and the size of the PBC. The Brazilian, Colombian, Danish, Greek, Israelite, Portuguese and Russian cases are presented in Sakurai and Mezes Filho (2008), Drazen and Eslava (2010), Aaskoven (2018), Chortareas et al. (2018), Baskaran et al. (2016), Veiga and Veiga (2007) and Akmedov and Zhuravskaya (2004) respectively. In particular Sakurai and Mezes Filho (2008) find that higher pre-electoral public expenditures are beneficial to

incumbent mayors. Drazen and Eslava (2010) find evidence that the composition of public expenditure changes as elections approach. Aaskoven (2018) find cycles of a smaller scale in relatively new municipalities and this evidence is considered consistent with a signaling model as in Rogoff (1990). Chortareas et al. (2018) provide evidence of both increased expenditures and excessive borrowing before elections. Baskaran et al. (2016) argue that high dependence on central government transfers exacerbates political budget cycles. Veiga and Veiga (2007) show that in pre-electoral periods the composition of total expenditure changes going toward highly visible investments. Finally, Akmedov and Zhuravskaya (2004) discuss the importance of using high-frequency data to avoid underestimation of the size of the cycle.

3   Administrative Aspects of Italian Municipalities

The decentralization of Italian government includes three levels: regions, performing functions related to the provision of health services; provinces, mainly involved in road maintenance and environmental protection; municipalities, administrating a broad spectrum of services ranging from public

lighting, urban road maintenance, waste disposal, local transport to social assistance and primary school[1].

Municipal decision-making bodies are: the mayor (*Sindaco*); the Executive Committee (*Giunta comunale*) appointed and chaired by the Mayor, and the Municipal Council (*Consiglio comunale*), endowed with legislative power. From the financial side, for instance, the Mayor and the Executive Committee propose the annual budget and any other change related to local fiscal policy (e.g. tax rates), which, in turn, need to be approved on electoral basis by the Municipal Council.

The Stability and Growth Pact, introduced in 1997 between EU member States, has been implemented in Italy also at sub-national level through the so-called *Domestic Stability Pact* (DSP) with the aim to make local governments more accountable[2]. Constrained and unconstrained municipalities can accumulate debt, but if they encounter fiscal distress they must go through a special procedure of budget consolidation (*Piano di Risanamento*). DSP's rules are revisited every year (see Table 1). Initially, the budget rules have been set in terms of budget deficit (*budget balance target*). The main variable under control was the *fiscal gap*, defined as municipal deficit net of transfers

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[1] About 8,100 municipalities are framed within 110 provinces and 20 regions.
[2] Law No. 448/1998.

and debt service[3]. Since 2005, these rules have been expressed in terms of expenditures growth rate, indeed, the target variable was the total expenditure dynamics and investments and current expenditure have been included among the aggregates subject to constraints. The constraint on investment spending, although somehow relaxed, was also extended in the 2006 formulation of the DSP. From 2007, budget rules have been expressed again in terms of fiscal gap (Chiades and Mengotto [2013]).

The punishment for not complying with the DSP includes penalties such as: i) 5 percent cut in the annual transfer from central government; ii) ban on municipalities hires and iii) 30 percent cut on reimbursement and non-absenteeism bonuses for the municipal administration's employees (Grembi et al. [2016]). Cities complying with DSP, instead, benefit from a reduction on interest for loans from the central government[4]. In 2008 more severe penalties, such as a restrictions to borrowing for investment, reinforced cut in central government grants and an automatic 30% cut in the wage paid to mayors and municipal councilors, have been introduced for not comply-

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[3]The use of this variable grounds on the fact that mayors are not accountable for expenses on interest (mostly depending on previous loan contracts) and do not manage revenues from transfers (raised by the central government).

[4]Municipalities' debt can be financed through: i) bonds' emission (*Buoni Obbligazionari Comunali*); ii) loans from *Cassa Depositi e Prestiti* (a central administrative agency) and from private banks.

ing municipalities (Coviello et al. [2021]). Since 2001, municipalities with fewer than 5,000 inhabitants have been excluded from the rules of the DSP. Smaller municipalities, in fact, may be disadvantaged by economies of scale in managing the municipal government and fiscal constraints can be excessively burdensome for them. In 2013-2015, the exemption threshold was reduced from 5,000 to 1,000 inhabitants. Finally, in 2015 the DSP has been replaced with new budget balance rules for all municipalities.

3.1 Electoral Rules

Local political bodies are elected every 5 years. An official decree of the Minister of Internal Affair establishes the election date for all municipalities in an election year. This date may fall among any Sunday between the period April 15th - June 14th, thus, Italian local elections are usually held in the first half of the year. Despite this exogenous legislative mechanism, several elections have been held in advance due to local government crisis and subsequent early resignations of politicians in office. Then, since municipalities can be in a different time point of the electoral cycle, staggered local elections are observed.

The electoral system assumes different characteristics if the municipality

has or not a population lesser than 15,000 inhabitants. Below this threshold a simple plurality system is applied and each candidate can be supported only by a single list. Over this threshold, candidates may be supported by more than one list, and, if none of the candidates reaches the absolute majority of the votes at the first round, a round-off takes place. Below the 15,000 inhabitants threshold, the list supporting the winning candidate receives two-thirds of the council seats, while above this threshold, the lists supporting the elected mayor get 60 percent of the seats. The size of municipal bodies also depends on the population level: the Municipal Council (*Consiglio co-munale*) can range from 12 to 60 members, while the members' number of the Executive Committee (*Giunta comunale*) ranges from 4 to 16. From 1993 onwards, the mayors cannot remain in office for more than two consecutive terms, unless (from April 1999) there is an early interruption of the mandate for reasons other than early resignations and, in any case, before half their term has expired. Recently, re-eligibility for a third consecutive term is only permitted in municipalities with a population of less than 3,000 inhabitants[5].

As summarized in Table 2, in addition to the fiscal and electoral rules and to the size of municipal decision-making bodies, wages paid to the mayor and

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[5]Law 56/2014.

to the members of the executive committee depend on population thresholds too.[6]

4   Identification Strategy

The description of the institutional setting poses important issues regarding the identification strategy and the estimation procedure. As we just argued, two different policies (i.e. treatments), namely, the fiscal constraints imposed by the DSP and the wage of the mayor (and of the executive committee's members), sharply change at the 5,000 inhabitants threshold. This means that a standard regression discontinuity design would confound the effects of these two policies, providing a biased estimation of the (local) average treatment effect. On the other hand, one might be tempted to adopt a difference-in-differences approach by exploiting the fact that, since 2001, municipalities below 5,000 inhabitants threshold are exempted from DSP rules. In this setting, it would be possible to split municipalities between the canonical treatment and control groups and to exploit the before/after 2001 variation to recover the average treatment effect of relaxing fiscal rules on the desired

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[6]Gagliarducci and Nannicini (2013), for instance, demonstrate how the wage increase at 5,000 inhabitants brought more educated citizens to join politics, recording better performance once elected.

variables. Unfortunately, also this approach is not suitable since smaller municipalities (below 5,000 inhabitants) are on different trend than bigger ones (above 5,000 inhabitants) as regards public policy outcomes, and this might imply a potential violation of the underlying assumption of parallel trends.

To identify the casual effect of relaxing fiscal rules on PBC and to overcome the drawbacks mentioned above, we exploit the difference-in-discontinuities approach proposed by Grembi et al. (2016). Basically, this estimation strategy combines the exogenous attribution to the treatment (DSP) depending on being below/above the 5,000 inhabitants population threshold with the before/after variation (fiscal rules relax after 2001). In this way, the confounding effect arising from the politicians' wage increase at the same population threshold is disentangled.

Following Cioffi et al. (2012) Repetto (2018) and Ordine et al. (2022), our main dependent variable is capital expenditure as its largest and most important amount is represented by investments. We remark that we do not focus on current expenditures since these mainly consist of particularly rigid balance sheet items, such as compensation of employees and interests on debt. Furthermore, in the literature capital expenditures are considered as the most appropriate tool to implement *targeted spending strategies* aimed at

increasing the amounts of those investments that can affect the probability of re-election (Drazen and Eslava [2010]). This approach is also supported by the fact that in Italy municipal administrations do not have a high degree of control over local revenues[7]. Municipalities have a limited power of taxation and there are few tax rates that can be manipulated by majors since transfers by the central government play a primary role on local economic-financial equilibriums.[8]

4.1 The Difference in Discontinuities Setup

Our main variable of interest, $Y_{i,t}$, is per-capita capital spending. The baseline difference-in-discontinuities specification is as following:

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\begin{aligned}
Y_{i,t} = & \sum_{k=0}^{p} \left(\alpha_k P_{i,t}^{*k} \right) + Z_{i,t} \sum_{k=0}^{p} (\gamma_k P_{i,t}^{*k}) + .. \\
& ..Ele_{i,t} \left[\sum_{k=0}^{p} \left(\delta_k P_{i,t}^{*k} \right) + Z_{i,t} \sum_{k=0}^{p} (\zeta_k P_{i,t}^{*k}) \right] + .. \\
& ..\beta' \mathbf{X}_{i,t} + \mu_i + \lambda_r \times \tau_t + \varepsilon_{i,t}
\end{aligned}
\tag{1}
$$

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[7]While about 10 percent of total public expenditure is managed by Italian municipalities, their own revenues cover just the 20 percent of the financial needs.

[8]On the revenues side, municipalities can just manage a real estate tax on properties (ICI - *Imposta Comunale sugli Immobili*) and a surcharge on personal income tax (IRPEF - *Imposta sul Reddito delle Persone Fisiche*).

where $P_{i,t}$ represents the normalized running variable (5,000 - population threshold). The first line in eq. (1) contains the standard difference-in-discontinuities specification as in Nannicini et al. (2013) and it includes polynomials of order p in the normalized running variable and its interactions with the treatment indicator, $Z_{i,t}$, equals to one for municipalities exempted from the DSP and zero otherwise. The second line of eq. (1) allows us to obtain the difference-in-discontinuities estimation of the effect on PBC of relaxing fiscal rules for municipalities smaller than 5,000 inhabitants from 2001 onwards. Here, the normalized running variable and its interaction with the treatment indicator are furtherly interacted with a set of dummies, $Ele_{i,t}$, targeting each year of the electoral cycle:

$$Ele_{i,t} = \begin{cases} Ele_{i,t}^{-3} = 1 \text{ Three years before election} \\ Ele_{i,t}^{-2} = 1 \text{ Two years before election} \\ Ele_{i,t}^{-1} = 1 \text{ One year before elections} \\ Ele_{i,t} = 1 \text{ Election year} \\ Ele_{i,t}^{+1} = 1 \text{ One year after election} \end{cases}$$

As in Ordine et al. (2022), we use this modelling approach of the elections timing to detect the effect on capital expenditure at the beginning of the new

electoral cycle, where the politicians in office could have changed.

A set of municipal, mayor-level and political controls are included in the vector $X_{i,t}$. Among the determinants of capital expenditure, mayors' characteristics are controlled through some variables explicitly counting for age, gender and education. Resignations are accounted by adding two further dummy variables assuming value 1, respectively, if a term ended early and if a commissioner is in office. Furthermore, a proper indicator captures if a mayor is subjected to term limited and thus non re-eligible in the next electoral competition. In addition to the normalized population as running variable, we control for the demographic dimension by adding the population density expressed as number of inhabitants per km^2.

Municipality fixed effect, μ_i, captures local level unobservable determinants of our outcome of interest. τ_t counts for the year effects. Potential geographic differentials in the various areas of the country are taken into account by means of a Region-year interaction, $\lambda_r \times \tau_t$. $\varepsilon_{i,t}$ is the idiosyncratic error term which includes all unobserved factors. Economic variables such as total revenues; their disaggregation by categories; deficit and debt are not added in the regressions for avoiding endogeneity's concerns arising from reverse causality relation among mentioned variables which could threats the

internal validity of the proposed analysis[9].

In applying regression discontinuity design different estimation strategies can be exploited. As summarized by Lee and Lemieux (2010), the choice is between the application of a non-parametric local linear regression running on a restricted window around the threshold where the sharp discontinuity applies (Grembi et al., 2016; De Benedetto and De Paola, 2019), or a polynomial regression exploiting the full sample (Bonfatti and Forni, 2019). We use polynomial regression in light of some of its advantages in our specific case of interest: i) first and foremost, since we linearly interact the cut-off point with our PBC index, in this way it is possible to get a direct estimates of the difference-in-discontinuity parameter at the threshold catching the effect of relaxing fiscal rules in small municipalities on pre-electoral fluctuations in public spending; ii) through the choice of proper polynomials any non-linearity can be easy handled; iii) it provides a straightforward way to control for unobserved heterogeneity by including municipal, regional and yearly fixed effects.

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[9]Capital expenditures and total revenues exhibit a correlation of about 90 percent.

5 Data

Our study is grounded on a data set of 6,700 Italian municipalities (out of about 8,100). Municipalities belonging to special autonomy Regions (*Regioni a Statuto Speciale*) have been excluded because they are allowed to set their own fiscal and electoral rules.[10]

Two different data sources have been used to construct the final data set. Revenues and expenditures data have been extracted from (annual) municipalities' balance sheets provided by the Ministry of Internal Affairs.[11] These data also report information on local elections and mayors' characteristics (gender, age and years of schooling). Data from National Statistical Office (*ISTAT*) are used to obtain demographic and geographic controls for municipalities. The time-span we consider is 1999-2012.

Figure 1 shows average current and capital expenditures and their variation over time. As expected, current expenditure appears to be constant over time, with an average value of about 752 euros per capita. Capital expenditure shows a slightly more fluctuating trend (decreasing after 2003) with an average value of about 485 euros per capita. These series are deflated and

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[10]Special autonomy Regions are: *Friuli-Venezia-Giulia; Sardinia; Sicily; Trentino-Alto-Adige* and *Valle d'Aosta*.

[11]These data are deflated to 2005 euros using data from FRED (St. Louis) GDP deflator.

expressed in per-capita terms and they do not reveal the presence of any sort of trend.

Figure 1 about here

Figure 2 plots the path of capital expenditure for constrained and non constrained municipalities. From this figure it appears a slightly higher pick in capital expenditures for municipalities unconstrained by the DSP only two years after the DSP introduction, while in general the two series move following a similar decreasing path.

Figure 2 about here

In order to elaborate a more detailed comparison and to take into account changes in economic variables potentially related to the demographic dimension, we divide our sample into three sub-categories using 5,000 and 15,000 inhabitants thresholds and we report the average of some relevant variables in Table 3. In this table it is worthwhile to note the wide difference in the level of capital expenditure between municipalities below 5,000 inhabitants, exempted from DSP rules, and those between 5,000 and 15,000 inhabitants, subjected to DSP (576.25 vs 274.41 per-capita euros). Municipalities with

more than 15,000 inhabitants show the same average capital expenditure as those between 5,000 and 15,000 inhabitants. Instead, the gap between municipalities of different size is less pronounced and more balanced when looking at current expenditures. Regarding the revenues side, we can note that the tax levy is more homogenous. As expected, small municipalities get more resources from central government through transfers and they resort more to borrowing and non-tax. A huge gap is registered in the use of disposals as revenue instrument: 426.43 euros for small municipalities and about 196 euros for the bigger ones.

The results in the descriptive statistics about revenues and spending, seem to confirm the local public finance theory's predictions, according to which, as the demographic dimension increases, efficiency gains should be achieved.

For having an homogenous sample in term of fiscal rules constraints, in our empirical analysis we first restrict our observations to the period 1999-2004 while robustness exercises will be run over the full period covered of our data (1999-2012).[12] We are aware that investment expenditures were not directly targeted from the DSP over this sub-period, on the other hand, since

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[12]We emphasize as this is the longest data extension that can be analyzed to answer our questions. In fact, in 2013 the exemptions from the DSP have been granted only for municipalities under 1,000 inhabitants; in 2015 the DSP has been completely replaced by a new set of fiscal rules.

municipalities can borrow for investment purposes, by binding the deficit level (and, implicitly, the fiscal gap), a forceful, even though indirect, constraint is imposed on capital expenditures as well (Chiades and Mengotto [2013]).

6   Results

6.1   The effect of relaxing fiscal rules on current expenditure and PBC

We start our empirical exercises by applying the difference-in-discontinuity regression over the period 1999-2004. Main results are reported in Table 4 (Panel A). As we argued before, we want to initially focus on this subsample because in this period the constraints imposed by the DSP are pretty stable in terms of the main target variable (*fiscal gap*).

In column 1, since there is no interaction with the electoral cycle's dummies, the estimated equation is a standard difference-in-discontinuities so that eq. (1) assumes the form:

$$Y_{i,t} = \sum_{k=0}^{p} \left(\alpha_k P_{i,t}^{*k} \right) + Z_{i,t} \sum_{k=0}^{p} (\gamma_k P_{i,t}^{*k}) + \beta' \mathbf{X}_{i,t} + \mu_i + \lambda_r \times \tau_t + \varepsilon_{i,t} \qquad (2)$$

Interestingly, at first glance, no significant difference in discontinuities is detected. In other words, it seems that there is no difference in investment expenditure after the relaxing of DSP in 2001 for municipalities below and above 5,000 inhabitants and this result appear to be at odds with that of Bonfatti and Forni (2019).

In columns 2-6 of Table 4 (Panel A) we turn our attention on the presence of difference in discontinuities conditional upon each specific year of the electoral cycle ($Ele_{i,t}$). Interestingly, these estimates show a huge difference in discontinuities only for the pre-election years ($Ele_{i,t}^{-1}$). Thus, the higher discretion in local investment expenditures coming from the relaxing of the DSP constraints for municipalities with less than 5,000 inhabitants has brought to a huge peak in capital expenditure only in the years right before elections with respect to bigger municipalities. This discontinuity, statistically significant at 5%, ranges around 220-232 euros per-capita. Such an evidence is consistent with an opportunistic mechanism where the incumbent tries to signal his competence through investment expenditure in order to boost his re-election chance. The estimated effect is shown in Figure 3.

Figure 3 about here

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In this figure, the vertical axis report the difference between the pre-electoral year's capital expenditure (per capita) before and after the cancellation of the DSP for municipalities with less than 5,000 inhabitants. This difference is run against the municipality size considering a threshold at 5,000 inhabitants and a bandwidth of 1,500 on both sides of it. The main result is that capital expenditures in the pre-electoral year raised significantly more after having relaxed fiscal rule in affected municipalities than in unaffected ones.

In Panel B of Table 4, the same analysis is run over the years 1999-2012. The uncovered phenomenon is confirmed over the full period where the DSP was in force. Point estimates, in this case, record smaller magnitudes as this effect is driven by the decreasing path in local capital expenditure (Figure 2).

In order to test if the pre-electoral peak in investment expenditure is somehow financed by reducing for instance current expenditure, in Table 5 eq. (1) is run with this variable as dependent one. The results here suggest a global negative effect of relaxing DSP constraints for smaller municipalities on current expenditure. This discontinuity appears very stable over the entire electoral cycle, suggesting that this is quite a structural fact rather

than a crowding out effect for financing investment expenditure. This result is confirmed on 1999-2004 sample (Panel A) as well as on the full one (1999-2012, Panel B). Nonetheless, it is important to point out how current expenditure has been heavily targeted by the DSP since this kind of public spending has been detected as one of the main factors behind excessive local fiscal distress. In addition to that, our results on the absence of electoral cycle in local current expenditure tag along with other recent empirical findings on the Italian case (Ordine et al. [2022]).

6.2 Disaggregating Capital Expenditure

In the previous paragraph we provided some evidence on the presence of a PBC in local investment expenditure in the form of an upward peak detected only in pre-election years. To move a step forward and to shed light on potential more sophisticated opportunistic behaviors in local investments' management, in Tables 6.1-6.4 we report the results obtained through the estimations of eq. (1) where, instead of the overall amount of capital expenditure, we disaggregated by functions dividing it in seven different groups: roads and territory; justice and local police; education and culture; sport, social and development; administration; services; tourism. Indeed, a proper

PBC is more likely to emerge, and with a larger magnitude, in those type of investments more visible for voters while those not producing effects in the very short run should not be characterized by any electoral fluctuations. The analysis of the PBC in disaggregated by functions investment of Italian municipalities has been recently investigated by Repetto (2018) as regards the effects of informative shocks, and Ordine et. al (2022), concerning the economic consequences of the introduction of gender quotas on different types of local investments. To the best of our knowledge, no previous studies investigated the consequences of fiscal rules on the composition of local investment expenditure of Italian municipalities and their relation with the PBC.[13] Therefore, the analysis of the potential crowding-out effects driven by re-election purposes, not only between capital and current expenditures, but also between different categories of capital expenditures (i.e. different types of investments), caused by the introduction of fiscal rules is an issue that deserves attention and needs to be better addressed in the literature.

Given the robustness of our estimates, we report the results over the full length of our sample (1999-2012). The obtained results confirm targeted spending mechanisms toward most visible investments such as roads and ter-

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[13]Bonfatti and Forni (2019) just focus on the total amount of capital expenditure.

ritory (Table 6.1, Panel A). This capital spending includes new roads, roads'
maintenance, public lighting and rubbish collection and, differently than for
the case of total capital expenditure, a global discontinuity of 72.88 per-capita
euros is detected (column 1). The PBC analysis confirms a wide effect in the
pre-election year: relaxing fiscal rules for municipalities below 5,000 inhab-
itants since 2001 has brought to a raise in roads and territory investment
expenditure of 283.6 per-capita euros with respect to larger municipalities.
Instead, as reported in Panel B, investments for local police and justice do
not show neither a global discontinuity (column 1) nor any clear PBC effects
(columns 2-6).

In Table 6.2, Panel A shows how having lighter constraints in local fis-
cal policy gives raise to municipal investments in education and culture for
18,84 per-capita euros (column 1) in exempted municipalities with respect to
constrained ones. The estimated discontinuity for electoral cycle parameters
(columns 2-6) do not draw a clear PBC picture and only the parameter for 1
year after election (column 6) records a significant difference-in-discontinuity
estimate of 27.75 per-capita euros. This might mean that, at the beginning
of the local legislative term, the elected politicians in unconstrained munici-
palities raise investment in education more than those elected in constrained

ones. The aggregation of the investments for Sport, Social and Development (Panel B in Table 6.2) shows significant effects in the year just before elections (column 2) and in those after them, amounting at 58.36 and 38.59 euros, respectively. The behavior of this specific investments' aggregation seems thus to be coherent with a PBC, despite the size of these investments is much smaller than that characterizing expenditures for Roads and Territory reported in Table 6.1.

Panel A in Table 6.3 reports a negative global effect of DSP on investments for administration (column 1) in small municipalities. In particular, it seems that local governments in municipalities with less than 5,000 inhabitants after 2001, cut such capital expenditure at the beginning of the electoral cycle (1 after election) and 2 years before elections in order to create fiscal space for financing more useful investment a in re-election perspective. Finally, Panels B in Table 6.3 and Panel A in Table 6.4 show estimates for investments in Services and Tourism respectively. No statistically significant impact of relaxing the DSP is detected.

6.3 Disaggregating Revenues

The estimates in Tables 7.1-7.4 show the impact of relaxing fiscal rules on revenues. We disaggregate revenues according to disposals, borrowing, services, transfers, tax and non tax revenues. The most remarkable evidence is that only disposals of assets - which are most under mayors' control - record a pre-electoral fluctuation of 283,6 euros per-capita. This can be interpreted as a financing tool for opportunistic expenditure, despite this is also consistent with the idea that some assets are sold before the elections in order to gain votes and political consensus.

7 Conclusions

In this paper we investigate if fiscal rules are able to cope with the insurgence of PBC. Our empirical strategy is grounded on a difference-in-discontinuities approach, which is targeted to improve the existing evidence on the topic. Our main results show that in municipalities not exposed to fiscal rules no difference arises between capital expenditure in the elections' year compared with pre-electoral ones vis-a-vis with municipalities bounded by fiscal constraints. This result is in sharp contrast with that presented by Bonfatti and

Forni (2019) whose estimates are likely to be exposed to some confounding effects. Instead, we detect statistically significant difference in capital expenditure only in the year right before elections compared to other years, which show that - after relaxing fiscal rules - expenditures increase at the municipal level only in this specific stage of the electoral cycle. The estimated effect is about a half of that reported in Bonfatti and Forni (2019). To push further existing evidence, we disaggregate capital expenditure and we replicate our econometric exercise looking at different type of investments. Results show that when fiscal rules become less binding, a proper PBC arises only for investments in immediately-visible items such as roads' maintenance, waste disposal and social activities, while other balance sheets' items such as education, administration and police remain unaffected.

In terms of policy our results point toward the use of fiscal constraints to limit the opportunistic use of public expenditure made by incumbent politicians. In principle, such limitations could take place only the year right before elections and narrowed down only to some specific balance sheets' items.

A topic we did not investigate is if the opportunistic reaction to fiscal rules changes according the gender composition of the municipal council and

to the mayor's gender. These aspects are left to future researches.

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Figure 1: Local Public Spending
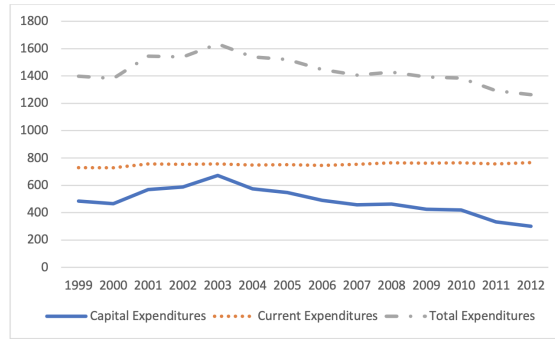
Notes: Data are in per-capita terms and expressed in 2005 euros, deflated through St. Louis FED GDP deflator. Municipalities from Italian special Regions are excluded from the sample.

Figure 2: DS Municipalities vs Non DSP Municipalities
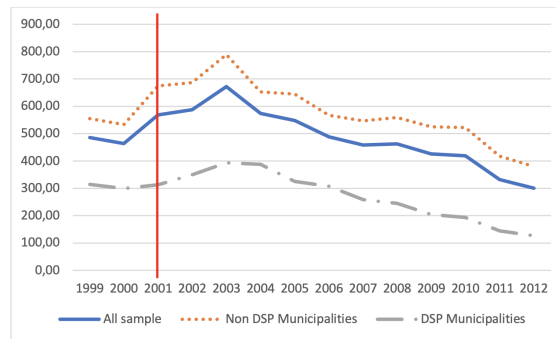
Notes: Data are in per-capita terms and expressed in 2005 euros, deflated through St. Louis FED GDP deflator. The vertical red line indicates the introduction of Domestic Stability Pact's exemptions for municipalities under 5,000 inhabitants since 2001. Municipalities from Italian special Regions are excluded from the sample

Figure 3: Difference-in-Discontinuites for Capital Expenditure's Electoral Cycle
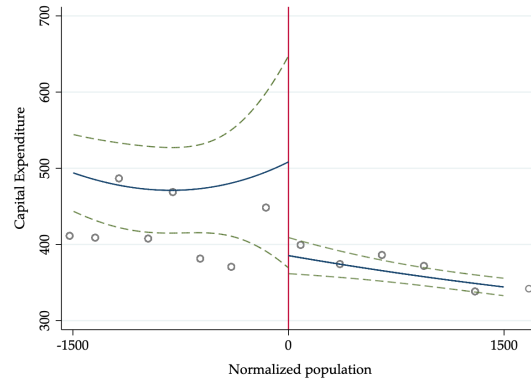
Notes: Vertical axis: difference of yearly post-rule (i.e., 2001, 2002, 2003, and 2004) per-capita capital expenditure in the pre-election years and yearly pre-rule (i.e., 1999 and 2000) per-capita capital expenditure for non pre-election years. Horizontal axis: actual population size minus 5,000. The central line is a spline third-order polynomial fit; the lateral lines represent the 95 percent confidence interval. Scatter points are averaged over intervals of 50 inhabitants.

Table 1: Domestic Stability Pact (DSP): Timing and Targets.

Year	Fiscal target	Constrained municipalities
1999	Fiscal gap	All
2000	Fiscal gap	All
2001	Fiscal gap	> 5,000 inh.
2002	Fiscal gap	> 5,000 inh.
2003	Fiscal gap	> 5,000 inh.
2004	Fiscal gap	> 5,000 inh.
2005	Total expenditure	> 5,000 inh.
2006	Current expenditures	> 5,000 inh.
	Capital expenditures	
2007	Fiscal gap	> 5,000 inh.
2008	Fiscal gap	> 5,000 inh.
2009	Fiscal gap	> 5,000 inh.
2010	Fiscal gap	> 5,000 inh.
2011	Fiscal gap	> 5,000 inh.
2012	Fiscal gap	> 5,000 inh.
2013	Fiscal gap	> 1,000 inh.
2014	Fiscal gap	> 1,000 inh.
2015	Fiscal gap	> 1,000 inh.

Notes: Fiscal target refers to the main variable targeted by the rules of the DSP. This target has been changed over years, rather than kept constant. The numerical value (binding range) of the fiscal target, expressed as growth rate, has been modified as well. Constrained municipalities labels which cities received limitations in their fiscal policy.
Source: Chiades and Mengotto (2013), Grembi et al. (2016).

Table 2: Local Government Policies and Population Thresholds.

Population	Mayor's Wage	Executive Committee's Wage	Executive Committee's Size	City Council's Size	Electoral System
< 1,000	1,291	15%	4	12	Single
1,000 - 3,000	1,446	20%	4	12	Single
3,000 - 5,000	2,169	20%	4	16	Single
5,000 - 10,000	2,789	50%	4	16	Single
10,000 - 15,000	3,099	55%	6	20	Single
15,000 - 30,000	3,099	55%	6	20	Runoff
30,000 - 50,000	3,460	55%	6	30	Runoff
50,000 - 100,000	4,132	75%	6	30	Runoff
100,000 - 250,000	5,010	75%	10	40	Runoff
250,000 - 500,000	5,784	75%	12	46	Runoff
> 500,000	7,798	75%	14 -16	50 - 60	Runoff

Notes: Population expresses the number of resident inhabitants as measured in the last available census. Mayor's wage is the monthly gross wage measured in Euros at 2000 prices. Executive Committee's wage is a fixed percentage of the wage of the Mayor. Executive Committee's size stands for the maximum number of officials that can be appointed in the municipal government by the mayor. City Council's size is the number of seats available in the municipal council.
Source: Gagliarducci and Nannicini (2013), Grembi et al. (2016).

Table 3: Descriptive Statistics.

	All sample	Pop.⩽ 5,000	5,000<Pop.⩽ 15,000	Pop.> 15,000
Expenditures				
Investment expenditure	484.90	576.25	274.41	274.58
	(713.04)	(813.90)	(292.59)	(317.44)
Current expenditure	752.41	795.58	621.71	716.74
	(458.89)	(520.62)	(224.37)	(225.39)
Total expenditure	1,440.33	1,587.30	1,057.89	1,188.87
	(1,078.71)	(1,217.40)	(482.64)	(532.37)
Revenues				
Tax	364.73	362.06	357.02	403.89
	(192.66)	(208.06)	(148.63)	(148.06)
Transfers	245.66	280.44	153.95	186.67
	(188.52)	(203.06)	(110.48)	(112.30)
Borrowing	120.19	128.40	93.58	119.18
	(217.70)	(234.58)	(161.50)	(190.43)
Non-tax	180.92	191.21	152.71	166.16
	(166.01)	(179.62)	(127.57)	(118.87)
Disposals	356.42	426.43	195.85	198.81
	(599.19)	(685.90)	(249.11)	(287.50)
Services	109.70	116.90	88.80	102.56
	(98.80)	(106.64)	(73.04)	(78.22)
Total revenues	1,428.29	1,573.69	1,048.76	1,181.46
	(1,089.65)	(1,231.99)	(480.44)	(532.14)
Political features				
Mayor is a male	0.90	0.90	0.90	0.92
	(0.30)	(0.30)	(0.30)	(0.27)
Age of mayor	50.56	50.55	50.41	51.06
	(9.80)	(10.09)	(9.09)	(8.88)
Years of schooling of mayor	14.42	14.02	15.15	15.96
	(3.53)	(3.60)	(3.21)	(2.91)
Term not ended regularly	0.09	0.07	0.11	0.24
	(0.29)	(0.25)	(0.31)	(0.42)
Term limited mayor	0.38	0.40	0.36	0.32
	(0.49)	(0.49)	(0.48)	(0.47)
Geographic characteristics				
Population	7,394.85	1,822.33	8,467.82	49,166.65
	(42,703.24)	(1,288.09)	(2,690.20)	(136,285.37)
Pop. density (inh./km2)	313.56	146.19	507.22	1189.27
	(669.34)	(248.84)	(594.21)	(1,631.40)
Observations	93,816	66,015	19,491	8,310

Notes: Data refer to the period 1999-2012. Averages taken over the groups specified in the column headings (standard deviations are in parentheses). Balance sheet quantities are expressed in per-capita terms and in 2005 euros deflated through St. Louis FED GDP deflator.

Table 4: Difference in Discontinuities: Capital Expenditure.

Panel A: 1999-2004

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1) Invest. exp.	(2) Invest. exp.	(3) Invest. exp.	(4) Invest. exp.	(5) Invest. exp.	(6) Invest. exp.
Conventional	38.76	9.67	-105.00	220.20**	53.37	26.59
	(38.82)	(96.61)	(71.16)	(92.08)	(50.92)	(56.34)
Robust	51.58	20.25	-94.14	232.4**	65.32	39.41
	(47.58)	(101.2)	(76.03)	(97.15)	(58.61)	(62.55)
h	1,524.3	1,526.9	1,528.3	1,646.9	1,543.6	1,541.7
Mean of dep. var.	449.00	449.00	449.00	449.00	449.00	449.00
Obs.	6,218	6,231	6,242	6,797	6,317	6,307

Panel B: 1999-2012

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1) Invest. exp.	(2) Invest. exp.	(3) Invest. exp.	(4) Invest. exp.	(5) Invest. exp.	(6) Invest. exp.
Conventional	18.43	-55.17	-104.3	180.4*	11.99	40.10
	(33.77)	(90.50)	(63.76)	(93.06)	(42.49)	(37.79)
Robust	24.95	-49.42	-99.01	186.2*	17.90	48.32
	(41.15)	(94.25)	(67.77)	(97.82)	(49.04)	(44.29)
h	1,524.3	1,526.9	1,528.3	1,646.9	1,543.6	1,541.7
Mean of dep. var.	370.25	370.25	370.25	370.25	370.25	370.25
Obs.	15,899	16,081	16,122	16,447	16,122	16,179
Controls	Y	Y	Y	Y	Y	Y
Year Effects	Y	Y	Y	Y	Y	Y
Year-Region Effects	Y	Y	Y	Y	Y	Y
Municipality Effects	Y	Y	Y	Y	Y	Y

Notes: Dependent variable is per-capita capital expenditure expressed in 2005 euros. Diff-in-disc estimates of the impact of relaxing fiscal rules on Political Budget Cycle (PBC) in capital expenditure expressed in 2005 euros. In columns 2-6, population threshold is interacted with each electoral cycle's dummies. Municipalities between 1,500 and 15,000 inhabitants. In panel A data are restricted to the period 1999-2004. Panel B reports estimated results over the full length (1999-2012).
* p <0.1; ** p<0.05; *** p<0.001.

Table 5: Difference in Discontinuities: Current Expenditure.

Panel A: 1999-2004

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1)	(2)	(3)	(4)	(5)	(6)
	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.
Conventional	-43.15***	-36.87**	-71.77**	-52.54***	-35.35**	-62.23***
	(10.99)	(17.23)	(29.51)	(18.40)	(14.47)	(16.00)
Robust	-49.99***	-43.24**	-78.65**	-60.42***	-42.37**	-68.66***
	(13.85)	(18.87)	(32.90)	(20.13)	(16.75)	(17.95)
h	1171.1	1,164.4	1,169.9	1,169.7	1,166.2	1,171.1
Mean of dep. var.	660.43	660.43	660.43	660.43	660.43	660.43
Obs.	4,798	4,769	4,791	4,791	4,779	4,798

Panel B: 1999-2012

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1)	(2)	(3)	(4)	(5)	(6)
	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.
Conventional	-52.00***	-55.04**	-84.91**	-31.26	-46.20***	-55.10***
	(13.38)	(23.49)	(38.88)	(22.27)	(17.80)	(15.54)
Robust	-58.48***	-61.26**	-91.27**	-37.64	-52.53**	-61.30***
	(16.57)	(25.11)	(41.02)	(23.96)	(20.70)	(18.28)
h	1,053.9	1,040.9	1,040.4	1,047.3	1,056.6	1,049.4
Mean of dep. var.	654.17	654.17	654.17	654.17	654.17	654.17
Obs.	9,946	9,825	9,825	9,894	9,980	9,916
Controls	Y	Y	Y	Y	Y	Y
Year Effects	Y	Y	Y	Y	Y	Y
Year-Region Effects	Y	Y	Y	Y	Y	Y
Municipality Effects	Y	Y	Y	Y	Y	Y

Notes: Dependent variable is per-capita current expenditure expressed in 2005 euros. Diff-in-disc estimates of the impact of relaxing fiscal rules on Political Budget Cycle (PBC) in capital expenditure below 5,000 inhabitants after 2001. In columns 2-6, population threshold is interacted with each electoral cycle's dummies. Municipalities between 1,500 and 15,000 inhabitants. In panel A data are restricted to the period 1999-2004. Panel B reports estimated results over the full length (1999-2012).

* p <0.1; ** p<0.05; *** p<0.001.

Table 6.1: Difference in Discontinuities: Disaggregated Capital Expenditure.

Panel A: Roads and Territory

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1) Invest. exp.	(2) Invest. exp.	(3) Invest. exp.	(4) Invest. exp.	(5) Invest. exp.	(6) Invest. exp.
Conventional	59.03*	-66.95	31.61	273.6***	26.42	44.59
	(35.11)	(115.40)	(57.70)	(105.80)	(45.51)	(35.13)
Robust	72.88*	-53.06	42.84	283.6***	38.64	56.26
	(40.11)	(117.10)	(60.17)	(108.10)	(49.69)	(39.69)
h	818.5	818.1	812.6	816.3	812.2	811.5
Mean of dep. var.	207.42	207.42	207.42	207.42	207.42	207.42
Obs.	7,537	7,537	7,481	7,526	7,481	7,471

Panel B: Justice and Local Police

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1) Invest. exp.	(2) Invest. exp.	(3) Invest. exp.	(4) Invest. exp.	(5) Invest. exp.	(6) Invest. exp.
Conventional	-1.06	-2.83*	-2.52	0.84	-0.66	-1.54
	(1.37)	(1.57)	(2.67)	(1.66)	(1.15)	(1.89)
Robust	-1.20	-2.99*	-2.66	0.70	-0.80	-1.71
	(1.70)	(1.74)	(2.94)	(1.88)	(1.47)	(2.18)
h	1,481.9	1,471.7	1,470.1	1,456.1	1,485.3	1,467.5
Mean of dep. var.	1.42	1.42	1.42	1.42	1.42	1.42
Obs.	14,011	13,909	13,902	13,755	14,066	13,880
Controls	Y	Y	Y	Y	Y	Y
Year Effects	Y	Y	Y	Y	Y	Y
Year-Region Effects	Y	Y	Y	Y	Y	Y
Municipality Effects	Y	Y	Y	Y	Y	Y

Notes: DiFf-in-disc estimates of the impact of relaxing fiscal rules on Political Budget Cycle (PBC) in disaggregated by functions capital expenditure below 5,000 inhabitants after 2001. In each Panel, the dependent variable is a specific category of percapita capital expenditure expressed in 2005 euros. In columns 2-6, population threshold is interacted with each electoral cycle's dummies. Municipalities between 1,500 and 15,000 inhabitants.

* p <0.1; ** p<0.05; *** p<0.001.

Table 6.2: Difference in Discontinuities: Disaggregated Capital Expenditure (*continued*).

Panel A: Education and Culture

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1)	(2)	(3)	(4)	(5)	(6)
	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.
Conventional	14.83*	3.89	9.12	13.06	13.85	23.61**
	(7.89)	(14.17)	(14.93)	(15.56)	(9.39)	(11.87)
Robust	18.84**	7.77	13.00	16.77	17.87	27.75**
	(9.31)	(14.89)	(15.70)	(16.44)	(10.57)	(13.14)
h	1,059.4	1,064.3	1,052.2	1,060.8	1,063.3	1,067.8
Mean of dep. var.	45.59	45.60	45.60	45.60	45.60	45.60
Obs.	9,973	10,009	9,891	9,978	9,998	10,030

Panel B: Sport, Social and Development

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1)	(2)	(3)	(4)	(5)	(6)
	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.
Conventional	19.25	21.22	-27.17	54.80**	12.20	35.03**
	(11.96)	(22.36)	(19.01)	(27.78)	(16.18)	(14.56)
Robust	22.85	24.54	-23.64	58.36**	15.77	38.59**
	(14.92)	(23.90)	(20.80)	(29.61)	(19.06)	(17.29)
h	1398.6	1,397.9	1,443.9	1,372.1	1,382.2	1,438.8
Mean of dep. var.	55.11	55.11	55.11	55.11	55.11	55.11
Obs.	13,236	13,224	13,616	12,985	13,080	13,585
Controls	Y					Y
Year Effects	Y					Y
Year-Region Effects	Y					Y
Municipality Effects	Y					Y

Notes: Diff-in-disc estimates of the impact of relaxing fiscal rules on Political Budget Cycle (PBC) in disaggregated by functions capital expenditure below 5,000 inhabitants after 2001. In each Panel, the dependent variable is a specific category of percapita capital expenditure expressed in 2005 euros. In columns 2-6, population threshold is interacted with each electoral cycle's dummies. Municipalities between 1,500 and 15,000 inhabitants.

* p <0.1; ** p<0.05; *** p<0.001.

Table 6.3: Difference in Discontinuities: Disaggregated Capital Expenditure (*continued*).

Panel A: Administration

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1) Invest. exp.	(2) Invest. exp.	(3) Invest. exp.	(4) Invest. exp.	(5) Invest. exp.	(6) Invest. exp.
Conventional	-26.70**	-14.01	-43.60*	-7.81	-15.37	-42.87**
	(13.40)	(18.74)	(27.30)	(33.59)	(19.80)	(19.30)
Robust	-30.55**	-17.60	-46.87*	-11.14	-19.23	-46.93**
	(15.30)	(20.11)	(28.35)	(34.49)	(21.23)	(21.07)
h	905.8	905.1	906.5	897.7	905.1	902.5
Mean of dep. var.	60.29	60.29	60.29	60.29	60.29	60.29
Obs.	8,485	8,485	8,492	8,389	8,485	8,446

Panel B: Services

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1) Invest. exp.	(2) Invest. exp.	(3) Invest. exp.	(4) Invest. exp.	(5) Invest. exp.	(6) Invest. exp.
Conventional	-3.98	-11.33	-18.70	-0.035	3.80	-1.72
	(8.03)	(10.89)	(25.88)	(15.52)	(7.40)	(7.90)
Robust	-2.28	-9.83	-16.93	1.56	5.47	-0.04
	(10.38)	(12.60)	(27.19)	(16.69)	(9.48)	(10.11)
h	887.4	888.6	893.9	885.9	885.9	884.3
Mean of dep. var.	9.63	9.63	9.63	9.63	9.63	9.63
Obs.	8,283	8,293	8,344	8,270	8,270	8,258
Controls	Y	Y	Y	Y	Y	Y
Year Effects	Y	Y	Y	Y	Y	Y
Year-Region Effects	Y	Y	Y	Y	Y	Y
Municipality Effects	Y	Y	Y	Y	Y	Y

Notes: Diff-in-disc estimates of the impact of relaxing fiscal rules on Political Budget Cycle (PBC) in disaggregated by functions capital expenditure below 5,000 inhabitants after 2001. In each Panel, the dependent variable is a specific category of percapita capital expenditure expressed in 2005 euros. In columns 2-6, population threshold is interacted with each electoral cycle's dummies. Municipalities between 1,500 and 15,000 inhabitants.

* p <0.1; ** p<0.05; *** p<0.001.

Table 6.4: Difference in Discontinuities: Disaggregated Capital Expenditure (*continued*).

Panel A: Tourism

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1)	(2)	(3)	(4)	(5)	(6)
	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.
Conventional	5.21	-7.32	7.46	14.79	3.31	5.01
	(3.64)	(5.45)	(5.67)	(16.63)	(3.37)	(3.75)
Robust	5.74	-6.73	7.99	15.17	3.89	5.64
	(4.25)	(5.81)	(5.90)	(16.83)	(3.99)	(4.45)
h	1019.6	1,015.5	1,025.3	1,014.3	1,021.1	1,023.7
Mean of dep. var.	6.62	6.62	6.62	6.62	6.62	6.62
Obs.	9,575	9,531	9,634	9,525	9,594	9,613
Controls	Y	Y	Y	Y	Y	Y
Year Effects	Y	Y	Y	Y	Y	Y
Year-Region Effects	Y	Y	Y	Y	Y	Y
Municipality Effects	Y	Y	Y	Y	Y	Y

Notes: Diff-in-disc estimates of the impact of relaxing fiscal rules on Political Budget Cycle (PBC) in disaggregated by functions capital expenditure below 5,000 inhabitants after 2001. In each Panel, the dependent variable is a specific category of percapita capital expenditure expressed in 2005 euros. In columns 2-6, population threshold is interacted with each electoral cycle's dummies. Municipalities between 1,500 and 15,000 inhabitants.

* p <0.1; ** p<0.05; *** p<0.001.

Table 7.1: Difference in Discontinuities: Disaggregated Revenues.

Panel A: Disposals

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1)	(2)	(3)	(4)	(5)	(6)
	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.
Conventional	-2.55	-146.30	-76.22	152.6**	-22.98	23.94
	(26.47)	(90.73)	(53.64)	(63.37)	(41.28)	(32.31)
Robust	5.52	-140.20	-68.47	152.6**	-15.54	31.87
	(31.52)	(92.91)	(55.45)	(65.44)	(46.18)	(36.81)
h	1,238.0	1,238.9	1,207.1	1,182.6	1,214.8	1,208.7
Mean of dep. var.	267.10	267.10	267.10	267.10	267.10	267.10
Obs.	11,640	11,640	11,351	11,093	11,416	11,358

Panel B: Borrowing

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1)	(2)	(3)	(4)	(5)	(6)
	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.
Conventional	-13.56	40.56	-25.32	-27.36	-22.48	-17.36
	(18.66)	(40.87)	(52.90)	(45.73)	(22.65)	(21.69)
Robust	-7.67	45.88	-19.45	-20.09	-16.91	-11.41
	(22.12)	(42.42)	(55.20)	(47.05)	(25.54)	(24.83)
h	1,098.0	1,103.5	1,102.4	1,095.5	1,101.1	1,090.1
Mean of dep. var.	110.00	110.00	110.00	110.00	110.00	110.00
Obs.	10,307	10,346	10,339	10,286	10,331	10,250
Controls	Y	Y	Y	Y	Y	Y
Year Effects	Y	Y	Y	Y	Y	Y
Year-Region Effects	Y	Y	Y	Y	Y	Y
Municipality Effects	Y	Y	Y	Y	Y	Y

Notes: Diff-in-disc estimates of the impact of relaxing fiscal rules on Political Budget Cycle (PBC) in disaggregated by functions revenues below 5,000 inhabitants after 2001. In each Panel, the dependent variable is a specific category of percapita capital expenditure expressed in 2005 euros. In columns 2-6, population threshold is interacted with each electoral cycle's dummies. Municipalities between 1,500 and 15,000 inhabitants.

* p <0.1; ** p<0.05; *** p<0.001.

Table 7.2: Difference in Discontinuities: Disaggregated Revenues (*continued*).

Panel A: Non-Tax

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1) Invest. exp.	(2) Invest. exp.	(3) Invest. exp.	(4) Invest. exp.	(5) Invest. exp.	(6) Invest. exp.
Conventional	-6.41	17.72	-27.86	19.91	-7.24	-12.41
	(9.26)	(15.18)	(25.18)	(17.03)	(11.55)	(10.90)
Robust	-10.05	13.87	-32.20	16.64	-11.19	-16.83
	(11.48)	(16.41)	(27.14)	(18.06)	(13.28)	(12.74)
h	1,570.0	1,546.8	1,526.8	1,577.4	1,572.4	1,520.4
Mean of dep. var.	156.70	156.70	156.70	156.70	156.70	156.70
Obs.	14,917	14,657	14,447	14,987	14,936	14,379

Panel B: Services

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1) Invest. exp.	(2) Invest. exp.	(3) Invest. exp.	(4) Invest. exp.	(5) Invest. exp.	(6) Invest. exp.
Conventional	-7.15	3.57	-8.71	-9.16	-9.17	-5.10
	(4.42)	(8.76)	(8.09)	(10.60)	(7.33)	(6.66)
Robust	-9.41*	1.51	-10.91	-11.36	-7.90	-7.37
	(5.22)	(9.24)	(8.59)	(10.95)	(7.87)	(7.35)
h	1,629.3	1,602.9	1,623.5	1,657.3	1,566.3	1,648.6
Mean of dep. var.	91.55	91.55	91.55	91.55	91.55	91.55
Obs.	15,487	15,229	15,429	15,788	14,845	15,694
Controls	Y	Y	Y	Y	Y	Y
Year Effects	Y	Y	Y	Y	Y	Y
Year-Region Effects	Y	Y	Y	Y	Y	Y
Municipality Effects	Y	Y	Y	Y	Y	Y

Notes: Diff-in-disc estimates of the impact of relaxing fiscal rules on Political Budget Cycle (PBC) in disaggregated by functions revenues below 5,000 inhabitants after 2001. In each Panel, the dependent variable is a specific category of percapita capital expenditure expressed in 2005 euros. In columns 2-6, population threshold is interacted with each electoral cycle's dummies. Municipalities between 1,500 and 15,000 inhabitants.

* p <0.1; ** p<0.05; *** p<0.001.

Table 7.3: Difference in Discontinuities: Disaggregated Revenues (*continued*).

Panel A: Tax

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1)	(2)	(3)	(4)	(5)	(6)
	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.
Conventional	-0.31	-8.19	-1.97	5.63	5.62	-3.47
	(4.36)	(12.47)	(8.22)	(8.65)	(6.24)	(6.09)
Robust	0.20	-7.57	-1.40	5.84	6.34	-2.68
	(5.22)	(12.89)	(8.72)	(9.10)	(6.96)	(6.81)
h	1,729.0	1,721.1	1,711.6	1,725.1	1,730.6	1,672.3
Mean of dep. var.	347.70	347.70	347.70	347.70	347.70	347.70
Obs.	16,617	16,520	16,421	16,584	16,637	16,003

Panel B: Transfers

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1)	(2)	(3)	(4)	(5)	(6)
	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.
Conventional	-13.16**	-39.75**	-18.83	-16.26*	-9.12	-5.27
	(6.63)	(17.17)	(11.69)	(8.78)	(8.25)	(8.83)
Robust	-11.63	-38.34**	-17.28	-14.54	-7.58	-3.66
	(7.88)	(17.70)	(12.53)	(9.41)	(9.28)	(10.07)
h	1,060.2	1,059.5	1,075.2	1,063.4	1,060.8	1,085.9
Mean of dep. var.	188.70	188.70	188.70	188.70	188.70	188.70
Obs.	10,015	10,010	10,145	10,036	10,015	10,227
Controls	Y	Y	Y	Y	Y	Y
Year Effects	Y	Y	Y	Y	Y	Y
Year-Region Effects	Y	Y	Y	Y	Y	Y
Municipality Effects	Y	Y	Y	Y	Y	Y

Notes: Diff-in-disc estimates of the impact of relaxing fiscal rules on Political Budget Cycle (PBC) in disaggregated by functions revenues below 5,000 inhabitants after 2001. In each Panel, the dependent variable is a specific category of percapita capital expenditure expressed in 2005 euros. In columns 2-6, population threshold is interacted with each electoral cycle's dummies. Municipalities between 1,500 and 15,000 inhabitants.

* p <0.1; ** p<0.05; *** p<0.001.

Table 7.4: Difference in Discontinuities: Disaggregated Revenues (*continued*).

Panel A: Total Revenues

	Baseline	3 Years Before Election	2 Years Before Election	1 Year Before Election	Election Year	1 Year After Election
	(1)	(2)	(3)	(4)	(5)	(6)
	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.	Invest. exp.
Conventional	-54.11	-72.10	-184.50***	126.60	-79.26	-53.32
	(34.94)	(94.99)	(70.38)	(89.32)	(48.49)	(41.36)
Robust	-62.11	-80.83	-192.00**	117.00	-88.82	-59.58
	(43.10)	(99.05)	(74.83)	(93.70)	(55.85)	(48.67)
h	1,759.7	1,743.8	1,734.5	1,660.1	1,783.9	1,723.1
Mean of dep. var.	1,178.60	1,178.60	1,178.60	1,178.60	1,178.60	1,178.60
Obs.	16,957	16,778	16,675	15,855	17,226	16,548
Controls	Y	Y	Y	Y	Y	Y
Year Effects	Y	Y	Y	Y	Y	Y
Year-Region Effects	Y	Y	Y	Y	Y	Y
Municipality Effects	Y	Y	Y	Y	Y	Y

Notes: Diff-in-disc estimates of the impact of relaxing fiscal rules on Political Budget Cycle (PBC) in disaggregated by functions revenues below 5,000 inhabitants after 2001. In each Panel, the dependent variable is a specific category of percapita capital expenditure expressed in 2005 euros. In columns 2-6, population threshold is interacted with each electoral cycle's dummies. Municipalities between 1,500 and 15,000 inhabitants.

* p <0.1; ** p<0.05; *** p<0.001.