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RE-ELECTION, FISCAL RULES AND FEDERALISM: EVOLUTION OF ELECTORAL INCENTIVES IN BRAZIL

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ABSTRACT

This paper discloses the effect of reelection on the fiscal behavior of incumbents. We use regression discontinuity design (RDD) to compare the expenditures and revenues of first and second term mayors in close elections between 2005 and 2020. The results indicate a recent trend of increasing the seasonality of budgetary political cycles over the analyzed period, with greater concentration of revenues and expenditures in the electoral years in municipalities with first-term mayors who faced competitive elections, especially in intergovernmental transfers, personnel expenses, other current expenses and investments, concentrated in the functions of education, sports and leisure. Therefore, this study underscores the necessity for enhancing the Fiscal Responsibility Law and the Electoral Law in a manner that would restore their original capacity to oversee public expenditure during electoral periods. Morover, we highlight the importance of addressing solutions to the current context of federative imbalances.

Keywords: Political budget cycles. Term limits. Electoral control. Fiscal rules. Fiscal federalism.
JEL: D72, H77, C14.

SUMMARY

1. INTRODUCTION

More than two decades since the introduction of re-election and the end-of-term restrictions of the Fiscal Responsibility Law and the Electoral Law, Brazil has already accumulated vast experience, data and *insights* into the relationship between electoral incentives and budget management. In this context, this study broadly and systematically investigates the evolution and functioning of these institutes in the federative reality of Brazilian municipalities, by comparing the fiscal behavior of first and second term mayors in close elections between 2005 and 2020.

To this end, we used the quasi-experimental method of discontinuous regression (*Regression Discontinuity Design* - RDD) in order to investigate the causal effect of electoral incentives on public spending - of various types and functions - and obtaining budget revenues (especially transfers) during the term of office, in the context of Brazilian fiscal federalism and the restrictions imposed by the LRF and the Electoral Law. In order to observe the evolution of these strategies, the analysis is divided into two periods: 2005 to 2012 and 2013 to 2020. The results apply to municipalities in which elections were decided by a small margin, although they may provide more general insights into electoral incentives.

In the first period (2005 to 2012), it was found that first-term mayors spend more than second-term mayors, especially in the years leading up to the elections, in a probable strategy of bringing forward spending to avoid non-compliance with the end-of-term rules of the LRF and the Electoral Law and to signal good fiscal behavior in an election year, as Klein and Sakurai (2015) have already found for 2001 to 2008. This pattern is especially evident in personnel expenses, other current expenses and investments, as well as in spending on health, education, urban planning, sports and leisure.

However, from 2013 to 2020, the results began to show a greater concentration of spending by first-term mayors in the election year itself, compared to second-term mayors, both in terms of total spending and specific items in which the strategy of anticipation was previously found, with this pattern being seen in the education, sports and leisure, legislative and administration spending functions. This evidence would indicate a reduction in the ability of the LRF and the Electoral Law to smooth out budget cycles over the last few years in municipalities with first-term mayors.

In terms of revenue, first-term mayors received more current revenue than second-term mayors in the years before the elections, especially in terms of intergovernmental current transfers. In the case of current transfers from agreements, these were concentrated in the election year and, to a lesser extent, in the year before the elections.

In the second period, the differences in receiving resources on behalf of first-term mayors were again concentrated in the election year for current intergovernmental transfers, especially those from the Union, and for capital transfers from agreements, including those from the states. While total intergovernmental capital transfers were higher in the year of the national elections (second year in office). This concentration of transfer revenues in election years for municipalities with first-term mayors would also explain part of the higher spending in this period, as a mere result of the financial flow of funds released by the Union and States, in the current logic of Brazilian fiscal federalism, in which municipalities are highly dependent on these transfers.

Thus, the scenario outlined by the results points to an increase in budget cycles due to the re-election in recent terms of municipalities with tight elections, which undermines the fiscal stability of sub-national entities and whose causes are linked to aspects of the effectiveness of fiscal rules and the functioning of fiscal federalism.

From the first point of view, the importance of fiscal term limitation rules for balancing public accounts is evident, in order to smooth out electorally motivated budget cycles, as predicted by the literature[1]. In this sense, it is necessary to rethink and harmonize the current legal framework in order to revitalize the power of the end-of-term rules of the LRF and the Electoral Law to curb the strategic use of the budget concentrated in election years.

With regard to fiscal federalism, the study's intuitions once again turn to the problem of the Brazilian federative pact: municipalities that are highly dependent on resource transfers, whose distribution criteria seem to be increasingly motivated by political aspects, generating problems of unpredictability for local management and discontinuity of multi-level public policies, which also tend to deepen federative imbalances. At this point, it is worth reflecting on the institutional circumstances that led to this politicization, as well as possible ways of providing greater predictability and stability to the flow of transfers to sub-national entities. Possible ideas include the establishment of a medium-term fiscal framework and other mechanisms for intergovernmental coordination and cooperation on fiscal policy, as well as measures to promote transparency and accessibility of fiscal management, in order to reduce the asymmetry of information between incumbents and voters.

This article is organized into five sections. The next section briefly reviews the literature on political cycles, electoral control and term limits. Chapter three presents the institutional

1 Rose (2006) and Schneider (2010); Ferreira (2005) for the Brazilian case.

context in which the analyses are carried out, followed by the chapter that presents the empirical analysis, describing the data, the empirical strategy and the results, with brief reflections on end-of-term fiscal rules and Brazilian fiscal federalism. Finally, the last section draws the study's conclusions.

2. LITERATURE ON POLITICAL CYCLES, ELECTORAL CONTROL AND TERM LIMITS

The influence of the electoral process on the fiscal behavior of governments is the focus of detailed analysis in political economy through the models of electoral control and political cycles. Both start from the assumption of temporary asymmetry of information between voters and incumbents, but reach opposite conclusions about the incentives that elections generate for rulers when it comes to conducting their fiscal policy, while the term limits literature[2] investigates the differences in incentives between rulers who may or may not be re-elected.

The part of the literature that studies the effects of electoral control[3] argues that the first-term incumbent, under the sieve of voter control, would have greater incentives to govern in a fiscally responsible manner and thus maximize their chances of re-election. Elections would act as a brake on these opportunistic strategies of the rulers, forcing them to align themselves with the preferences of the voters, in order to reduce the problem of moral hazard in the first term, postponing means of extracting private income to the second term[4]. On the other hand, governors in their second term would be more inclined to increase public spending, as they no longer have electoral incentives or the obligation to bear the negative fiscal consequences generated by this strategy, given the impossibility of being re-elected.

The other part of the literature that studies political budget cycles points to greater use of the budget manipulation strategy to generate favorable economic conditions in periods close to elections by first-term incumbents[5], under the intuition that it would be worthwhile to increase

2 Nogare and Ricciuti (2011), Nakaguma and Brender (2006), Klein and Sakurai (2014).

3 Barro (1973), Ferejohn (1986), Peltzman (1992), Besley and Case (1995), Drazen and Eslava (2010), Ferraz and Finan (2011), Rizqiyati and Setiawan (2022).

4 It is based on the assumption of "voters as fiscal conservatives" that the average voter would be averse to increases in public spending, especially during election periods, punishing incumbents who use this strategy, a behavior that has been verified to a greater extent in developed countries and consolidated democracies (Peltzman, 1992).

5 According to Rogoff and Sibert (1988), competence is seen as the ability to provide a given level of public services with fewer resources. According to the author, there is a separating equilibrium, in which the competent ruler manipulates the budget in the pre-election period in order to signal his ability and enjoys seigniorage revenues after the elections, while the less skillful one fails to achieve fiscal policy with electoral success.

revenues and expenditures with greater visibility and greater voter preference in order to signal competence for re-election, even assuming the sacrifice of dealing with the fiscal effects of this strategy in the second term. This would give rise to the cyclical patterns of fiscal performance observed empirically in various countries, both in terms of an increase in public revenue and spending[6] and a change in its composition towards spending that is more visible to voters[7].

The explanation given by Jones, Meloni and Tommasi (2012) for the deterioration of the fiscal situation during electoral periods is that voters in federal countries, such as Argentina, Brazil and Russia, tend to demand more public spending - "*voters as fiscal liberals*" - because the way in which public goods and services are financed, mostly by central entities, removes the notion of their cost, as there is less direct contribution from local voters to their provision, a *free-riding* phenomenon.

In this federal context, Alt and Lassen (2006) opened up space for studies on the influence of fiscal federalism and the strategic allocation of discretionary transfers on local political cycles. Ferreira (2005) incorporates this logic into Rogoff's (1990) model, identifying that the ability to obtain more revenue from inter-federative transfers - motivated by party identification - can prevent political-budgetary cycles from leading to the choice of the most competent politician. In this context, there would be a peak in income and spending in the mayor's second year in office due to the voluntary transfers received from "higher" entities. In fact, Brollo and Nannicini (2011) found, in an RDD analysis for tight elections from 1999 to 2010, that mayors aligned with the President receive around 40% more discretionary transfers in the area of infrastructure in the years prior to elections, with a greater effect in the case of first-term mayors.

On the other hand, Rose (2006) and Schneider (2010) point to the absence or ineffectiveness of fiscal rules to curb this behavior as a determining factor in the phenomenon, since their analyses showed that strict and effective fiscal rules are important limiters of opportunistic political cycles. In this sense, Ferreira (2005) argues that the effectiveness of the LRF would be capable of cooling these cycles, providing a more balanced distribution of public spending over time. On the other hand, in the absence of the limitations of the LRF, there would be a tendency for major fiscal deterioration in the first term of office, especially in the last year of that term.

Studies and empirical evidence in Brazil reveal the complexity of this issue in a developing federalist country, in which the possibility of re-election was instituted in 1997 (Constitu-

6 These cycles occur more in "new democracies" (Brender and Drazen, 2005) and in developing countries (Shi and Svensson, 2006), although they also occur in developed countries (Alt and Lassen (2006)), and have been observed especially in investment and infrastructure spending.

7 Rogoff (1990) also predicts a change in the composition of public spending, increasing spending on the most visible elements whose benefits are perceived with a greater time lag.

tional Amendment - EC No. 16/1997) and end-of-term fiscal rules were inaugurated in the same period, by the Electoral Law (Law No. 9.504/1997) and the Fiscal Responsibility Law - LRF (Complementary Law - LC No. 101/2000).

Early studies in Brazil were more optimistic about the functioning of these institutes, indicating results that were more in line with the electoral control literature for periods close to their establishment. In general, better fiscal behavior of first-term incumbents was observed close to state-level elections[8], as well as greater electoral returns for more fiscally responsible governors. Even so, other researchers have found evidence of different pre-election manipulation strategies already in this initial period, extending to subsequent years.

In a panel of states between 1986 and 2002 and 1989 and 2004, the analyses by Nakaguma and Bender (2006, 2010) showed the occurrence of political budget cycles, with increases in total spending, tax revenues and fiscal deficits in election years, with such manipulations being rewarded above all by voters in states with less transparency. They indicated a reduction in the magnitude of these cycles over the period analyzed, which could be attributed to voter learning and the evolution of fiscal and democratic institutions.

At municipal level, Mendes and Rocha (2004) already found evidence in the 2000 municipal elections that voters tended to reward spendthrift mayors, reinforcing the hypothesis that municipal voters appear to be "*fiscal liberals*", as well as those with a greater capacity to obtain transfers. Sakurai and Menezes-Filho (2008) also verified, for the years 1988 to 2000, the effectiveness of the strategy of increasing current expenditure in the year of the elections and capital expenditure in the years prior to the elections, given the longer maturation period for investments, which is also identified by Klein (2010) for the 2000 and 2004 elections.

The strategy of changing the composition of spending was identified between 2001 and 2008. Klein and Sakurai (2015) found, using a GMM balanced panel, that first-term mayors change the composition of the budget in election years, concentrating on spending that is more visible to voters (decreasing current expenditure and increasing capital expenditure), and reducing local taxes, despite there being no significant differences in fiscal performance between first and second terms. The authors concluded that first-term incumbents, although subject to incentives to carry out opportunistic strategies, had their impetus restricted by the need to signal their competence and by the rules imposed by the LRF for conducting fiscal policy, which were considered effective in the analysis.

There are several items of greater visibility to voters in which electoral cycles have been

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identified. From 1990 to 2005, Sakurai (2009) shows electoral cycles in spending on health, sanitation, welfare, housing, urban planning and transportation. The increase in health spending in the 2000 and 2004 elections is confirmed by Novaes and Mattos (2010) - to a greater extent by mayors running for re-election than second-term mayors or mayors not running for re-election - while the increases in spending on education and investments in election years is corroborated by the analysis of Videira and Mattos (2011), from 1997 to 2008, with *spillovers* to neighboring municipalities. In this sense, Orair, Gouvêa and Leal (2014) found a tendency for investments to expand in periods prior to municipal elections, with party and alignment influences, between 2002 and 2011, which also occurs at state level from 2003 to 2014 (Gonçalves, Funchau and Bezerra Filho, 2017), and in small municipalities, with up to 5,000 inhabitants, between 2001 and 2012 (Gerigk and Ribeiro, 2018), but not in large municipalities, with over 500,000 inhabitants, between 2005 and 2016, despite showing cycles in personnel expenses (Gralack, Gerigk and Ribeiro, 202). Meanwhile, the increase in social spending was mapped by Pereira, Lucas and Resende Filho (2020), in a municipal panel from 2005 to 2012, identifying political cycles in the implementation of the Bolsa Família Program (PBF), in the sense of increasing the supply of the program in electoral periods between 2.0% and 141.8%, with greater intensity in the North, Midwest and Northeast regions.

Other evidence indicates that the channels through which opportunistic electoral strategies are developed go beyond the election year, extending to periods before and after the election in a very distributed way, including as a way of adjusting to the limitations of the LRF and the Electoral Law. On this point, Sakurai and Menezes-Filho (2011) found, for the years 1989 to 2005, an increase in current spending both in the year of the elections and in the year before and after them. This strategy could explain the results obtained by Marciniuk (2016) who, when analyzing data from Brazilian municipalities between 2001 and 2012, concluded that first-term mayors who run for re-election have better primary result indicators than second-term mayors and those who don't run, by obtaining a greater volume of voluntary transfers and reducing spending on personnel and investments, despite increasing social spending. In other words, the greater anticipation of spending by first-term mayors would allow them to obtain better results in terms of fiscal indicators, signaling competence to voters.

Analyses with extensions to more recent years - including periods after 2012 - confirm the existence of political budget cycles, with manipulation of specific items of voter preference and greater flow of resources especially in election years.

Manipulations during electoral periods remained clear. The increase in investments and loans in the year of municipal elections was evidenced by Crispim *et al* (2021) between 2000 and 2016, with intensity dependent on alignment with other levels of government. Schettini and Terra (2019) were the first to show these cycles through discontinuous regression, specifically in contributions to the Public Servants' Pension Scheme (RPPS) on gross remuneration in the election years of 2004, 2008, 2012 and 2016. They found that first-term mayors would reduce contributions to the RPPS in the election year, and that this strategy would increase their chances of re-election. Bartoluzzio and Anjos (2020) found that, in municipal elections from 2004 to 2016, voters rewarded increased investments as long as their impact was within acceptable deficit limits. From 2000 to 2016, Magdaleno, Leutenschlage and Wink Jr (2022) observed that increases in spending on health, leisure, education and social protection also led to a greater likelihood of re-election in certain cases.

Finally, from a financial point of view, Fiirst *et al*. (2019) identified that municipalities in Paraná from 2013 to 2016 had a higher financial performance in election years, which would allow the manager to use this surplus as one of the sources of funds to cover the opening of additional credits, with greater scope to increase spending close to the elections. This result was corroborated by Rocha, Araújo and Brunozi Jr. (2021), with evidence of a better fiscal situation in election years and a subsequent drop in the following year.

In view of this multiplicity of studies, with different temporal and thematic clippings and limitations in terms of causal inference, the literature still lacks a broader and more systemic analysis of the Brazilian experience with re-election and with the term limitation rules in force in the federative context. There is also room for research into the evolution of the functioning of these institutes over time, based on the theoretical basis presented above and an empirical strategy constructed from a credible source of exogenous variation in electoral incentives. This is what is proposed in this study, whose contextualization below introduces the complexity of the context of analysis.

3. INSTITUTIONAL CONTEXT

Brazil is considered a "young" democracy with a presidential system that adopts federalism at three levels: the Union, states and municipalities. Despite the large number of competencies shared between the entities, it is the municipal government that is responsible for providing public services of local interest, which is why the mayor is seen as the person most responsible for government performance as perceived by the population. However, the municipality is highly dependent on inter-federative transfers[9] , which are divided into mandatory (with constitutional or legal provision) and discretionary (resulting from agreements and parliamentary amendments), with the dynamics of the latter modality being highly dependent on political-party alliances with actors at federal and state level, as explained by Brollo and Nannicini (2011), Marciniuk (2016) and Ferreira (2005).

In recent years, significant institutional changes have affected the logic and flow of this distribution of resources to municipalities. Firstly, since Constitutional Amendment 86/2015 there has been a strong process of strengthening the power of the legislature over the budget, with an increasing share of discretionary federal resources allocated by parliamentarians, based on party-political criteria, which changes the profile and timing of transfers (Faria, 2022). For example, the creation of the special transfers modality sought to circumvent the bureaucracy and delay in releasing funds from agreements by transferring them directly to the accounts of states and municipalities indicated by parliamentarians. Secondly, the ban on private campaign financing by the Federal Supreme Court (STF) in 2015 also affected the functioning of the financial flow for elections, increasing the incentive for incumbents to use the budget for electoral reasons, including inter-federative transfers, since the flow of private resources for this purpose was interrupted. Thus, these changes indicate a tendency to increase the share of intergovernmental transfers distributed according to electoral criteria.

Elections take place on fixed dates every four years, and the possibility of re-election for a further term came about with Constitutional Amendment No. 19 of 1997, and has been possible since the 2000 elections. Since then, there have been no significant changes to the rules on term limits. It is also important to note that the municipal elections take place two years after the federal and state elections, following this intercalation: in the second year of the mayors' term, elections take place at federal and state level.

During the same period in which re-election was allowed, two laws were also enacted with the aim of restricting the opportunistic behavior of incumbents at the end of their term: the Electoral Law (Law No. 9.504/1997) and the Fiscal Responsibility Law - LRF (Complementary Law No. 101/2000).

The Electoral Law imposed restrictions on public officials on the assignment or use of movable or immovable public property, as well as materials or services funded by the gover-

9 Which account for 80% of primary revenue in small municipalities and 51% in medium and large municipalities, according to data from the National Confederation of Municipalities, available at: https://cnm.org.br/storage/noticias/2023/Links/15082023_Estudo_Crise_Municipios_Agosto2023%20(1).pdf. Accessed on 03/10/2023.

nment; and on the free distribution of public goods and services, in situations that could affect equality of opportunity between candidates[10]. Specifically, in the three months before the elections, increases in spending on personnel and institutional publicity for the acts, programs, works, services and campaigns of public bodies; the receipt of voluntary transfers; the contracting of artistic shows paid for with public funds and the appearance of candidates at inaugurations of public works are prohibited[11]. Failure to comply with these prohibitions implies that the candidate's registration or diploma will be revoked, as well as a fine, doubled for each repeat offense. Furthermore, it is characterized as an act of administrative improbity[12].

The LRF, on the other hand, prohibits (i) contracting obligations that extend into subsequent years without sufficient cash availability, in the last two quarters[13] ; (ii) increasing spending on personnel in the last 180 days of the term of office of the head of the executive branch or with installments to be paid in subsequent years[14] , (iii) obtaining loans in the last 120 days[15] ; and (iv) credit operations in anticipation of budget revenues (ARO) in the last year of the term of office[16] .

The LRF also established a series of fiscal indicators (primary result, for example) and limits on personnel spending and indebtedness throughout the term of office, with a view to aligning the incentives of government leaders with the principles of responsible management of public accounts.

In any case, experts point out that the current tax framework has been exhausted due to the excessive constitutionalization of tax rules in a dysfunctional process, without proper harmonization with existing rules, which deepens the inconsistencies, incoherencies and contradictions of the system[17] , in addition to the complexity added by the STF's decisions on federalism (Echeverria and Ribeiro, 2018). In a study carried out by the OECD with 15 federations,

10 Article 73, II and IV of the Electoral Law. Paragraph 10 of this article clarifies that this free distribution is prohibited during the election year.

11 Art. 73, V and VI, 75 and 77 of the Electoral Law. In the case of voluntary transfers, the exceptions are funds intended to fulfill a pre-existing formal obligation to carry out work or services in progress and with a fixed schedule, and those intended to deal with emergency situations and public calamities. There is also a ban on committing, in the first half of the election year, advertising expenses that exceed six times the monthly average of the amounts committed and not canceled in the last three years preceding the election (Art. 73, VII).

12 Art. 73, §§5 to 7, of the Electoral Law.

13 Art. 42 of the LRF. Failure to comply with this rule is a crime under Art. 359-C of the Penal Code, which carries a penalty of imprisonment of one to four years.

14 Art. 21, II, III and IV, "a)", of the LRF.

15 Articles 24, §4, and 31, §3, of the LRF provide for the immediate application of punishments when the limit for personnel expenditure and indebtedness is exceeded in the first four months of the last year of the term of office, namely: prohibition from receiving voluntary transfers, obtaining guarantees from other entities and contracting credit operations.

16 Art. 38, IV, "b)", of the LRF.

17 By 2022, there were already 80 budget rules in the Constitution, 70 in complementary laws and 21 in National Congress resolutions (Couri, 2023).

Brazil is the country with the most robust fiscal framework and the most incoherent (Blöchliger and Kantorowicz, 2015). There are proposals to harmonize and consolidate tax rules in a new public finance code, but there is no prospect of approval in the short term.

4. EMPIRICAL ANALYSIS

This section presents the data used in the analysis, the empirical strategy and its justifications, as well as the results achieved and brief reflections on the current fiscal rules and the current model of fiscal federalism.

4.1 Description of the database

This analysis uses data from Brazilian municipalities whose mayors ran for re-election between 2005 and 2020, covering a total of four terms in office and four regular elections in which re-election was already possible (2008, 2012, 2016 and 2020). The starting point is 2005, due to a series of changes in fiscal data implemented by the budget reform, with a change in the functional-programmatic classification and, therefore, a break in the historical series during the 2001-2004 term.

From the Electoral Data Repository[18], of the Superior Electoral Court, information was collected on the candidates for the municipal elections in the period under analysis and on the mayors elected for their respective terms, including the margin of votes[19], whether they were in their first or second term, party, gender, age, education and alignment with the governor and the president. Table 1 presents data on re-election in Brazilian municipalities for the 2000-2020 elections, showing that 38% to 77% of first-term mayors ran for re-election (with a consistent drop since 2004), while only 47% to 66% of these were actually re-elected:

18 Available at: http://www.tse.jus.br/eleicoes/estatisticas/repositorio-de-dados-eleitorais. Accessed on 02/03/2023.

19 Obtained through the difference in the fraction of votes between the incumbent and their best opponent (second or first place). Thus, the margin will be positive if the incumbent wins the election and negative if they lose. The cutoff is set at zero (c=0). Municipalities in which there was a tie or with supplementary elections were excluded from the sample.

Table 1 - Re-election in municipalities from 2000 to 2016

	2000	2004	2008	2012	2016	2020
First-term mayors	5.407	3.418	4.134	3.456	4.218	4.612
Incumbents who ran for re-election	3.732	2.433	3.197	2.511	2.706	1.741
Incumbents re-elected	2.135	1.368	2.131	1.388	1.279	975
Number of observations	5.407	5.555	5.521	5.529	5.568	5.587

Source: own elaboration based on TSE data.

Table 2 shows that the percentages of municipalities with tight elections at the bottom (margins of 5, 10 and 20% [20]) are similar over the time period analyzed, with a slight drop from 2008 onwards:

Table 2 - Municipalities with tight elections

Election year	Margin less than 5%	Margin less than 10%	Margin less than 20%
2004	22,35%	42,59%	70,01%
2008	24,94%	47,44%	75,84%
2012	24,49%	45,54%	72,98%
2016	20,23%	20,23%	63,81%
2020	19,73%	19,73%	64,03%

Source: own elaboration based on TSE data.

The fiscal variables were obtained from the National Treasury Secretariat, specifically the Brazilian Public Finance database (Finbra), through the Accounting Data Collection System (SISTN) and the Brazilian Public Sector Accounting and Fiscal Information System (Siconfi). From 2005 to 2012, information was extracted from the municipalities' annual accounts statements in the annual consolidated database[21]. From 2013 onwards, the same data was extracted from Siconfi itself, in the Annual Accounts Statements (DCA)[22].

20 In general, it was observed that the optimal band selection algorithm selected margin windows of between 5 and 20%.

21 Available at: https://www.tesourotransparente.gov.br/publicacoes/finbra-dados-contabeis-dos-municipios-1989-a-2012/2003/26 . Accessed on: 20/05/2023. In the Access spreadsheets, the data was extracted from the "Consultation Expenditure", "Consultation Revenue" and "Dfuncao" tabs.

22 Available at: https://siconfi.tesouro.gov.br/siconfi/pages/public/consulta_finbra/finbra_list.jsf. Accessed on 20/05/2023. The information on municipal expenditure and revenue was obtained specifically from appendices I-C (Budgetary Revenue), I-D (Budgetary Expenditure) and I-E (Expenditure by Function).

With the implementation of Siconfi in 2014 for data from 2013 onwards, data collection was automated and there was mandatory unification of the charts of accounts in accordance with the Chart of Accounts Applied to the Public Sector (PCASP), which made the data more reliable, despite various limitations in filling in the data, such as those shown by the Ranking of the Quality of Accounting and Fiscal Information in Siconfi[23]. Due to this structural break, it was decided to divide the analysis into two periods (2005 to 2012 and 2013 to 2020), in order to allow for more accurate comparisons. The tax items selected for analysis are those that are linked to some kind of restriction under the LRF and the Electoral Law or that are more likely to be manipulated according to the literature[24]. These variables are analyzed in real *per capita* terms and deflated by the Broad Consumer Price Index (IPCA) at 2021 prices.

Finally, the socio-economic variables come from the databases of the Brazilian Institute of Geography and Statistics (IBGE), specifically the Demographic Census[25] and the National Program of Continuous Household Sample Surveys (PNAD)[26]. These are used at historical values to test comparability between municipalities whose mayors obtained a voting margin close to zero, as explained below.

4.2 Empirical strategy

As an empirical strategy, the *regression discontinuity design* (RDD) technique is used to analyze the isolated causal effect of electoral incentives on different expenditure and revenue items between 2005 and 2020. This period covers four municipal terms: 2005-2008, 2009-2012, 2013-2016 and 2017-2020. As already mentioned, we will divide the analysis into two periods: 2005 to 2012 and 2013 to 2020.

The method consists of comparing the fiscal performance of municipalities in which the

23 Available at: https://ranking-municipios.tesouro.gov.br. Accessed on 19/09/2023.

24 As for restrictions, personnel expenses are related to restrictions on increasing spending in the last three months of the last term of office and in the last 180 days; spending on consumables and other services from individuals and legal entities, to restrictions on the transfer of materials and services funded by public resources; free distribution expenses, to the ban on the transfer of free distribution materials, especially in election years; financial investments, to the impossibility of transferring movable and immovable property; expenditure on investments and works and installations, due to the restriction on attending inaugurations and public works; expenditure on communications, due to the ban on increasing spending on advertising, especially in election years and in the last three months of the year; expenditure on culture and leisure, due to the impossibility of contracting shows with public funds in the three months before the election; income from intergovernmental transfers and agreements, due to the ban on receiving voluntary transfers in the last three months; and income from credit operations, due to the restrictions on loans.

25 Available at: https://www.ibge.gov.br/estatisticas/sociais/trabalho/22827-censo-demografico-2022.html. Accessed on 10/04/2023.

26 Available at: https://www.ibge.gov.br/estatisticas/sociais/populacao/9127-pesquisa-nacional-por-amostra-de-domicilios.html. Accessed on 10/04/2023.

mayors won by very little (going into a second term) with those in which the mayors lost by very little (a new first-term mayor came in), in order to capture the isolated effect of electoral incentives on budget management, based on a credible source of exogenous variation in electoral incentives. The use of this technique aims to overcome the problem of endogeneity caused by omitted variables. In this case, by comparing first and second term mayors, we were unable to capture the influence of unobservable variables, such as political experience and ability or economic crises, which can generate bias and reduce the reliability of the results. In other words, any differences found in the volume of expenditure and income between first and second terms in descriptive analyses, panel analyses or other econometric techniques could be explained to a greater or lesser extent by these omitted variables, undermining the accuracy of the results.

In this case, the RDD improves the internal validity of the empirical strategy, since it accommodates the problem of omitted variables (which vary or not over time) from a source of exogeneity inherent to the electoral process. Following Lee (2008) and Fowler and Hall (2014), the method works as a quasi-experiment, since the outcome of winning or losing close elections would be determined by random and exogenous factors, and similar municipalities can be compared in all other respects except for the fact that some have first-term mayors while others are being governed by second-term mayors in close elections. For this reason, this strategy has been widely used and accepted in term limit analyses, especially in Brazil, whose electoral rules apply indeterminately and a priori in all 5,568 municipalities[27].

In this case, estimation via RDD sharp is appropriate, as all the municipalities whose incumbents obtained a positive vote margin have mayors in their second term, while those whose margin was negative have mayors in their first term, with a clear discontinuity around the cut-off.

Let X_i the incumbent's margin of victory in the municipal elections i; D_i the treatment dummy, which has a value of 1 when the margin is positive and 0 when it is negative; and Y_i the fiscal analysis variables, with $Y_i(1)$ in the case of municipalities with mayors in their second term (with treatment) and $Y_i(0)$ those whose mayors are in their first term (without treatment). From this, we can see that the treatment effect on the average is given by $E[Y_i(1)-Y_i(0)]$.

Thus, as there is a discontinuous change in treatment status from X_i=0 it is possible to obtain the local causal effect close to the margin:

$$E\,[X_i=0] = lim_{\varepsilon\downarrow 0}\; E\,[X_i = \varepsilon] - lim_{\varepsilon\uparrow 0}\, E\,[X_i=\varepsilon]$$

27 Some of the studies that used RDD are: Ferraz and Finan (2011), Brollo and Nannicini (2011), Schettini and Terra (2019), Castro, Mattos and Patriota (2021).

Local regressions are applied on both sides of the cut, obtaining the difference between their estimators and checking whether the results are statistically significant. In this analysis, non-parametric models are used, which run algorithms to determine the band that minimizes the quadratic error, with first and second order polynomials, as guided by Lee and Lemieux (2010) and Gelman and Imbens (2019)[28].

In this study, RDD analyses are carried out for various expenditure and revenue items, for the entire term of office (four years - A1 to A4); for the year after the elections (first year of office - A1); for the intermediate year (second year - A2); for the year before the elections (third year - A3); for the election year (fourth year - A4) and for non-election years (A1 to A3). In this way, it will be possible to assess any differences in fiscal behavior over the course of the term of office that might result from the different incentives that affect first- and second-term mayors in tight elections.

To demonstrate the validity of the model, it is necessary to carry out two main tests of the identification strategy. The first of these is suggested by McCrary (2008): to confirm that there is no manipulation, it must be verified that there are no discontinuities in the attribution variable (margin of victory) at the cutoff (Xi=0). This is because random variation is a direct consequence of the agents' inability to control the assignment variable around the cut-off. The second test is proposed by Lee (2008), also called the covariance test, and refers to the analysis of the lack of discontinuity in the predetermined and observable characteristics of the municipalities before and after the *cut-off*. The idea is to show that the municipalities around the cutoff are truly comparable, with no significant differences in other characteristics that could bias the measurement of the treatment effect. In this study, the test was applied to the socio-economic[29], political[30] and fiscal[31] variables of the municipalities.

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28 The standard optimal bandwidthselection procedure (mserd - MSE-optimal bandwidth selector), estimation robust to heteroscedasticity and the triangular kernel distribution were used in the analyses

29 GDP (2012), Log population (2012), HDI (2010), Gini index (2010), IFDM (2012), % urban population (2010), % elderly (2010), % economically active population (Census - 2010), Population density (Census - 2010), Illiteracy rate (18 or +) (Census - 2010), % aged 18 or over with complete secondary education (Census - 2010), Per capita income (2010), % women (Census - 2010), % access to piped water (Census - 2010), % adequate sanitary drainage (Census - 2010), % electric lighting (Census - 2010), % garbage collection (Census - 2010), Unemployment rate 2010.

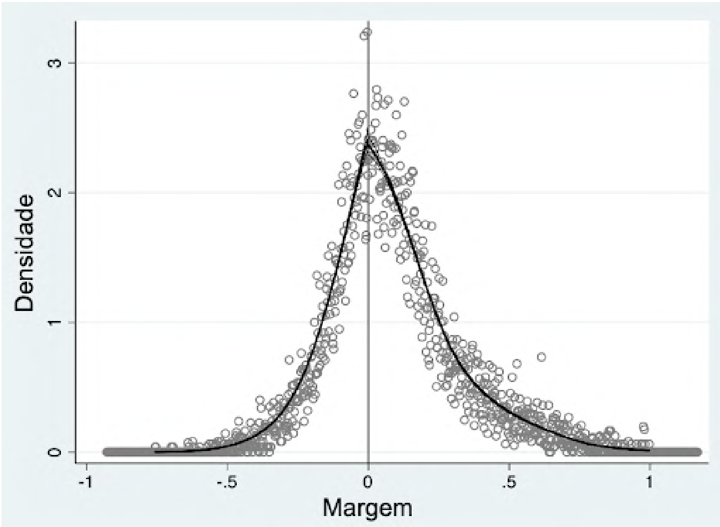
30 Characteristics of the mayor: Age (TSE - 2000 to 2020); Sex - proportion of men (TSE- 2000 to 2020); Schooling - proportion of mayors with complete secondary education and complete higher education (TSE- 2000 to 2020); President's party coalition (TSE- 2000 to 2020); Governor's party coalition (TSE- 2000 to 2020).

31 Fiscal variables for 1997 (the year before the re-election amendment): total expenditure, primary result, total revenue, current expenditure, capital expenditure, intergovernmental transfers.

4.3 Results

Initially, the tests of the identification strategy demonstrated the suitability of the proposed analysis and the data collected for the method used. Figure 1 visually shows the continuity of the margin, corroborated by the non-significant result of the density RDD on the vote margin[32].

Figure 1 - Histogram of the margin of victory from 2005 to 2020



Source: own elaboration based on TSE data.

The covariance test did not identify any discontinuities in the pre-determined and observable characteristics of the municipalities, except for the age of the mayor variable, which was incorporated into the regressions as a control. Table 3 shows the results of the analysis[33]. This shows that cities close to the cutoff (margin=0) have very similar socioeconomic, political and fiscal characteristics, allowing statistical comparison between them.

32 The P-value of rddensity was 0.68, i.e. not significant at 10%, confirming that there is no evidence of discontinuity in the cut.

33 In order to better adjust to the socio-economic data - generally from 2010 or 2012 - the margin of victory of the elections closest to the analysis was used (2012 margin). In the same vein, the regressions with fiscal variables from 1997 used the margin closest to the sample (2004) as the assignment variable. These choices followed the analysis of Lehmann and Matarazzo (2018). As there was data on the mayors' characteristics for all elections, the analysis was carried out with the margin of all the elections in the period (2008, 2012, 2016 and 2020).

Table 3 - Analysis of covariates

Assignment variable	Analysis variable	Coefficient	Standard Deviation	No. of observations
Margin 2012	GDP	-68898111.1	(-0.35)	2327
	Population log	-0.0381	(-0.24)	2327
	MHDI	0.000786	(0.07)	2325
	Gini index	-0.00653	(-0.62)	2327
	IFDM	0.00639	(0.34)	2305
	% Pop. Urban	5.007	(1.56)	2325
	% Pop. Elderly	-0.0732	(-0.15)	2325
	% Pop. Econom. Active	-1.418	(-0.95)	2325
	Log of population density	0.0144	(0.06)	2325
	Illiteracy rate	-0.989	(-0.61)	2325
	% Pop. High school	1.986	(1.53)	2325
	Per capita income	1.084	(0.03)	2325
	% Prop. Women	0.130	(0.56)	2325
	Total population	-7970.7	(-1.07)	2325
	% Pop. with piped water	0.337	(0.14)	2325
	% Pop. with Toilet	1.317	(0.39)	2325
	% Pop. households c. energy	-0.392	(-0.33)	2325
	% Pop. Households with garbage collection	-1.378	(-0.78)	2325
	Unemployment rate	0.937	(1.35)	2325
Margin 2008, 2012, 2016 and 2020	Sex	0.0262	(1.06)	12116
	Age	2.441***	(3.30)	12079
	Completed high school or more	0.0334	(1.02)	12106
	Completed high school or more	0.00371	(0.09)	12106
	Alignment with the President	0.0274	(1.41)	12120
	Alignment with the Governor	0.0550	(1.94)	12120
Margin 2004	1996 deficit	12.15	(1.47)	961
	Total revenue for 1996	0.103	(0.71)	961
	Tax revenue from 1996	0.807	(1.91)	955
	Current transfers 1996	0.0750	(0.54)	960
	Credit operations in 1996	-0.513	(-0.67)	248
	Income from assets in 1996	-0.238	(-0.32)	459
	Capital transfers 1996	0.155	(0.24)	611
	Transfer of Union funds from 1996	0.818	(0.65)	325
	Transfer of state capital from 1996	-1.346	(-1.46)	255
	Total expenditure for 1996	0.117	(0.78)	961
	Current expenditure 1996	0.131	(0.89)	959
	Investments in 1996	0.499	(1.80)	958

Note: p<0.001 is represented by ***, p<0.05 by ** and p<0.1 by *. Results robust to heteroscedasticity were used.

The results presented below are in reais *per capita*, updated to 2021 prices. The value of the coefficients means the difference in the average spending and income received by first- and second-term mayors close to the cutoff, obtained from the local regressions on both sides. Thus, when the coefficient is negative, it means that first-term mayors who won in close elections spend more or receive more revenue than second-term mayors who were narrowly re-elected, while a positive coefficient implies the opposite logic, with higher spending and revenue by these second-term mayors compared to first-term mayors.

Firstly, the results of the analysis of expenditure classified by group of nature of expenditure and by function are presented. This is followed by an analysis of revenue classified by nature of revenue. Tables 4, 5 and 6 provide a simplified summary of the results, to make them easier to interpret. They include only the smallest coefficients (in reais per capita) of the significant results with p-values of up to 10% obtained in the discontinuous regressions of polynomials 1 and 2. It should be noted that all the results presented below are restricted to municipalities whose elections were decided by a small margin of votes (generally between 5 and 20%).

4.3.1 Expenses

Table 4 summarizes the results for expenditure by group of nature of expenditure (GND):

Table 4 - Discontinuous regressions for expenditure by nature

Despesas por natureza	2005 a 2012						2013 a 2020					
	A1-A4	A1	A2	A3	A4	A1-A3	A1-A4	A1	A2	A3	A4	A1-A3
Despesa total	-302	-310	-295	-356		-368	-93				-236	
Despesas Correntes	-222	-276	-228	-297		-277	-134				-308	
Despesas c/ Pessoal	-96	-140		-122		-127					-132	
Juros e Encargos	-1,3											
Outras despesas correntes	-134	-130	-150	-167			-47				-120	
Consultoria	-2	-4	-4			-4	-4				-7	
Material de Consumo	-24					-37	-40				-91	
Material de Distrib. Gratuita							-15	-17	-16	-16	-14	-15
Passagens	-3					-4	-4					
Outros Serviços de P. Físicas	+17					+42	+12					
Outros Serviços de P. Jurídica	-124	-84	-110	-95	-74	-115						
Despesa de Capital	-78			-110		-85	-46				-79	-29
Investimentos	-88			-79		-99	-46				-90	-35
Obras e Instalações	-38					-54	-24				-56	
Equipamentos e material permanente	-26		-29	-28		-31	-21				-38	-9
Inversões financeiras					-2					+30		
Amortização da dívida	+5		+8	+8								

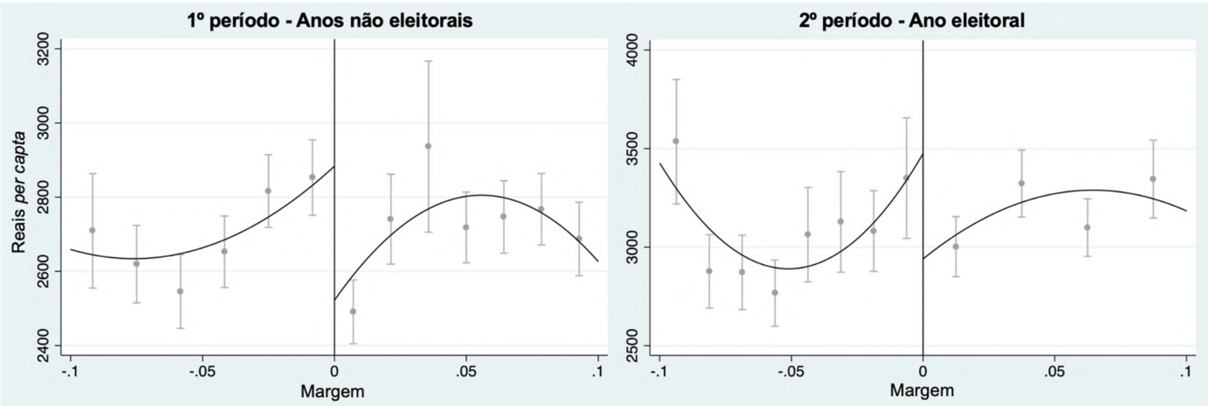
Source: own elaboration. Results in Reais *per capita*.

As for the differences in spending patterns, the results show considerable differences between the first and second periods. In the first period (2005 to 2012) there is a clear strategy of anticipating the spending of first-term mayors vis-à-vis second-term mayors: first-term mayors spend more in the years prior to the elections (first to third years in office), both in terms of total spending and in the specific items of current expenditure, specifically personnel costs and other current expenditure, and capital expenditure, especially investments. These results are in line with the theoretical predictions of Ferreira (2005) and the evidence found by Sakurai and Menezes-Filho (2011) and Klein and Sakurai (2015), of greater distribution of incumbent spending with electoral incentives aimed at respecting the end-of-term rules of the LRF and the Electoral Law and signaling competence to the voter, resulting in the better fiscal indicators observed by Marciniuk (2016).

Meanwhile, in the second period (2013 to 2020), the difference in spending patterns is concentrated in the election year in general terms and in these same types of expenditure. In other words, first-term mayors spend more in election years than second-term mayors, especially on personnel, other current expenses and investments, despite the fact that all of these expenses are related, albeit indirectly, to the restrictive end-of-term rules of the LRF and the Electoral Law, indicating a possible reduction in their effectiveness.

The graphs in figure 2 visually show the discontinuities in total spending in non-election years in the first period and election years in the second:

Figure 2 - RDD on total expenditure in election and non-election years



Source: own elaboration.

In general, in the context of tight elections, the governments of first-term mayors spend more than those of second-term mayors. However, second-term mayors spent more on other personal services in both periods (to a greater extent in the first), on debt amortization in the first period and on financial investments for the third year in the second period, which may indicate a tendency to clean up accounts and patronage. In most of the headings, there was a reduction in the difference in spending across the board (A1-A4) from the first period to the second, except for consultancy expenses and consumables.

Other complementary conclusions can also be drawn from the analysis. It can be seen that first-term mayors start to spend more on materials for free distribution during all the years of their government in the second period, despite the fact that the Electoral Law prohibits this practice, especially in the year of the elections. On the other hand, the item other legal services, which was used more by first-term mayors in all the years of their term initially, also loses relevance in the second period.

Moving on to the analysis of expenditure classified by function, Table 5 provides a better idea of the spending dynamics of the first and second terms in different areas of public activity.

Table 5 - Discontinuous regressions for expenditure by function

Despesas por função	2005 a 2012						2013 a 2020					
	A1-A4	A1	A2	A3	A4	A1-A3	A1-A4	A1	A2	A3	A4	A1-A3
Saúde	-69	-88	-50	-100		-84						
Trabalho	+3		+5			+3						
Educação	-80	-100	-102	-108		-92	-49				-93	
Cultura												
Cidadania												
Urbanismo			-41		+52	-25						
Habitação												
Saneamento	-16											
G. Ambiental												+6
Ciência/Tecnol.	+0,38						+24	+19				
Agricultura	-8						-19					
Org. Agrária												
Indústria	-1											
Comércio e Serv.												
Comunicações						-1,5			+4			
Energia												
Transporte							-38					-31
Desporto/Lazer	-8	-5		-16			-5				-11	
Enc. Especiais							-23					-28
Legislativa	-8						-10				-25	
Judiciária							+15					+18
Essenc. à Just.					-2		+18					
Administração											-71	
Segurança Púb.												
Assistência Soc.												
Previdência Soc.	-7					-12						

Source: own elaboration. Results in Reais *per capita*.

Once again, there is a pattern of anticipating the difference in spending between first and second terms in the first period and concentrating it in the election year in the second period, especially in spending on education, sports and leisure; there is an anticipation of spending in the first period on health and urban planning[34] . The greater concentration of spending in election years in the second period by first-term mayors also occurs for legislative and administrative

34 As we have seen, political cycles in these expenses had already been mapped by Sakurai (2009), Novaes and Mattos (2010) and Magdaleno, Leutenschlage and Wink Jr (2022).

functions, pointing to a more self-referential strategy of shifting the focus from local public policies to the public machine itself.

The results indicate that first-term mayors focus more spending efforts in both periods on education, sports and leisure, legislative functions and agriculture; in the first period on health, social security, urban planning, sanitation and industry; and in the second period on transportation, administration and special charges[35]. Second-term mayors, on the other hand, channel more spending in the first period to work and urban planning (in the last year of their term); in the second period to environmental management (in non-election years), communications (in the second year of their term), judicial functions and essential to justice; and throughout the period and increasingly to spending on science and technology. The growth of this last function may have been motivated by Constitutional Amendment 85 of 2015, which now allows the transposition, reallocation or transfer of resources from one programming category to another within the scope of these expenses without the need for legislative authorization, i.e. without transaction costs related to legislative control.

4.3.2 Revenue

The analyses of revenue by nature of expenditure are consolidated in Table 6, providing insights into the different flows of resources between first and second term municipalities.

35 They include expenses that cannot be linked to a good or service, such as debts, compensation, indemnities and the like.

Table 6 - Discontinuous regressions for revenue by nature

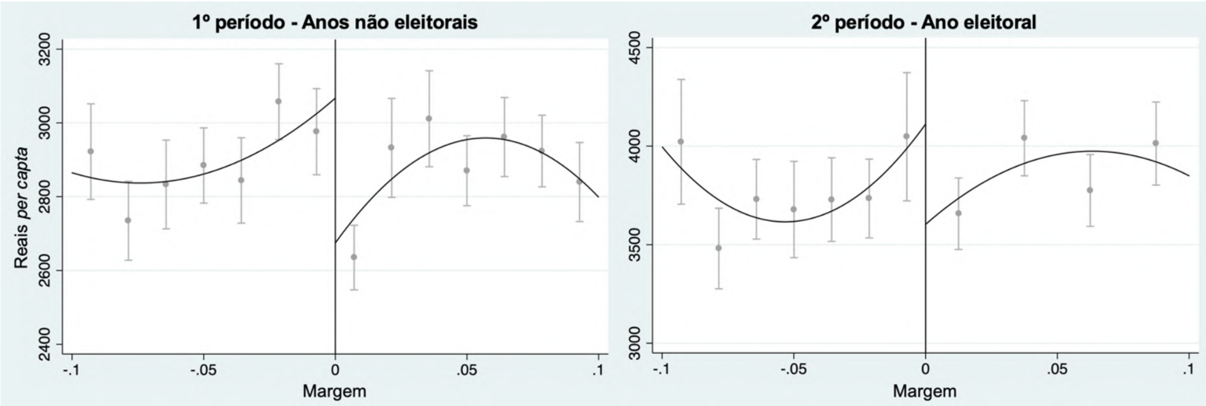
Receitas por natureza	2005 a 2012						2013 a 2020					
	A1-A4	A1	A2	A3	A4	A1-A3	A1-A4	A1	A2	A3	A4	A1-A3
Receitas Correntes	-359	-343	-334			-450						
Trasf. Correntes Intergovernamental	-289	-284	-278	-302							-338	
T. Corr. União	-108					-160					-218	
T. Corr. estados	-83					-128						
T. Corr. Convênios	-15			-16	-26	-10						
T. Corr. Conv. União												
T. Corr. Conv. estados	-7			-11			-5					
Transf. Capital intergovernamental							-21		-29			-18
T. Cap. União												
T. Cap. estados												
Transf. Cap. Convênios											-33	
T. Cap. Conv. União							-12					
T. Cap. Conv. estados								+19			-30	+13
Operações de crédito												

Source: own elaboration. Results in Reais *per capita*.

Firstly, in the area of revenue, we can also see that mayors with electoral incentives received resources dilusively in the years prior to the elections in the first period, and then concentrated this difference in the election year in the second period, specifically in current intergovernmental transfers, especially those from the Federal Government, which include, among other items[36], transfers to public consortia and parliamentary amendments. This result points to an increase in budget cycles in the face of re-election in recent terms, jeopardizing the predictability of fiscal management in municipalities with first-term mayors. Figure 3 shows these discontinuities:

36 The Union's current transfers to municipalities are made up of constitutional revenue sharing (FPM, ITR, IOF-Gold), compensation for the exploitation of natural resources (royalties, special participations and CFEM), transfers from various national fund-to-fund programs (SUS, FNAS, FNDE), compensation for ICMS exemption, transfers to public consortia and other current transfers.

Figure 3 - DDR on intergovernmental revenues



Source: own elaboration.

A second insight gained from these results is that inter-federative transfers may be politically motivated both in terms of party alignment[37] and electoral incentives: in general, first-term mayors receive more resources than second-term mayors, except for capital transfers via state agreements in the year following re-election. In the first period, these differences were statistically significant in current revenues, and also in capital revenues in the second period. This result corroborates the one initially identified by Brollo and Nannicini (2011), that mayors who do not face term limits receive more voluntary transfers, expanding this spectrum to intergovernmental transfers as a whole and not just those mediated by agreements.

This increased revenue from intergovernmental transfers may also result from the efforts of the mayor who narrowly won and may be re-elected (i) to obtain more voluntary transfers from agreements and/or parliamentary amendments; (ii) to resolve any problems involving blockages and delays in transfers (including mandatory transfers); (iii) to define levels of attributions and transfers of multi-level public policies, with better provision of important information to raise the criteria for transferring resources to municipalities (e.g.: number of children enrolled, local demand for medical care and tax equalization); and (iv) to challenge federal decisions in court (which impact on the attributions of municipalities without proper fiscal equalization). (e.g. number of children enrolled, local demand for medical and social assistance services); and (iv) judicial challenges to federal decisions (which affect the attributions of entities without proper fiscal equalization) and punishments which block the flow of transfers.

Thirdly, in the first period there was a greater ability on the part of first-term mayors to increase not only transfers, but current revenue as a whole, which includes taxes, fees, contri-

37 As identified by Brollo and Nannicini (2011), Marciniuk (2016) and Ferreira (2005) for voluntary transfers.

butions, property, agricultural, industrial and service revenue and current transfers. In other words, there could be a greater effort by first-term mayors who won in tight elections to collect more taxes, exploit more of the municipality's assets and/or boost local economic activities that generate public revenue.

A fourth point is that intergovernmental capital transfers are higher in the year of the national elections (the second year in office), while agreements of this nature are concentrated in the election year itself, especially those coming from the states, a pattern also observed in current revenues from agreements in the first period, only slightly earlier. In this context, it is possible to interpret that, in the context of tight elections, the release of agreements works more according to the logic of the municipal elections, while the other capital transfers revolve around the agenda and interests of the national and state elections, especially in the second period, which may be due to the increased control of the Legislature over the allocation of intergovernmental transfers.

Finally, the lack of significance of the regressions on the credit operations item indicates that the LRF's end-of-term limitations on indebtedness would be working, in terms of not generating different incentives for the first- and second-term mayors under analysis.

4.4 Reflections on end-of-term rules and fiscal federalism.

The results presented above deserve further reflection, both in terms of the effectiveness of the end-of-term limitations of the LRF and the Electoral Law, and in terms of the Brazilian federal context.

4.4.1 Effectiveness of end-of-term tax rules

As for the fiscal rules, the empirical evidence indicates that the current legal framework is less able to smooth out cycles resulting from re-election, imposing greater seasonality on the flow of public revenue and expenditure in the first term, with a consequent reduction in social welfare. In the first period, the LRF and the Electoral Law proved to be more effective in curbing spending increases and deficits in re-election years, as already identified by Klein and Sakurai (2015) through the strategy of anticipating and changing the composition of spending. However, the concentration of income and expenditure in the second period of the analysis points to a decrease in this effectiveness, with cycles deepening, as predicted by Ferreira

(2005), Rose (2006) and Schneider (2010). Some aspects of these rules that could be revised are discussed below.

Firstly, the limitations on increasing personnel expenses[38]. establish fixed periods for this increase that do not extend to every election year: three months before the elections in the case of the Electoral Law (July to October) and six months before the end of the term in the LRF (July to December). Thus, this increase in personnel spending by mayors seeking re-election may be concentrated in the first six months of their term. This is because the effectiveness of the punishments related to exceeding the limits for these expenses may be decreasing with the greater flow of revenue in the year of re-election, which increases the net current revenue (RCL) and, consequently, the limits themselves[39]. The same logic applies to the rule in article 42 of the LRF: the greater the flow of resources in the election year, the greater the fiscal space to assume obligations and make expenditures in that year, since the limit is linked to cash availability.

Secondly, the cycles in other current expenses[40], specifically in consultancy, consumables, free distribution and other services from individuals and legal entities, may indicate the ineffectiveness of the rules of the Electoral Law that prohibit the use or transfer of goods and services funded by the government. This lower effectiveness may result from (i) the difficulty of proving in practice that situations have occurred that affect equal opportunities between candidates, which is a requirement for punishment; and (ii) the lack of control by bodies with expertise in public finances, since non-compliance with these rules is analyzed by the Electoral Court.

Thirdly, there are no specific end-of-term rules for investments, with the Electoral Law prohibiting the incumbent from attending inaugurations of public works. Fourthly, the ban on voluntary transfers is also restricted to the three months before the election (July to October), while transfers are allowed in all other periods of the election year, which may explain the greater flow of current intergovernmental transfers and agreements in election years in the second period for first-term mayors. Finally, there is no evidence against the effectiveness of the rules on indebtedness and spending on advertising.

Based on these reflections, we are not necessarily advocating a ban on this type of spen-

38 It should be noted that the growth in personnel expenses has been persistent over time, especially in small municipalities, which, on average, will spend 46.1% of total expenses on personnel in 2023, according to data from the National Confederation of Municipalities (CNM), available at: https://cnm.org.br/storage/noticias/2023/Links/15082023_Estudo_Crise_Municipios_Agosto2023%20(1).pdf. Accessed on 03/10/2023.

39 The RCL, as defined in Article 1(IV) of the LRF, is used to calculate these limits (personnel costs/RCL) and is calculated on the basis of the reference month and the previous eleven months.

40 By 2023, these costs had already reached 43.6% of total spending by municipalities, according to data from the CNM, available at: https://cnm.org.br/storage/noticias/2023/Links/15082023_Estudo_Crise_Municipios_Agosto2023%20(1).pdf. Accessed on 03/10/2023.

ding during all electoral years, regardless of the financial flow, but we are simply opening up space for a rethink of the current rules and proposing mechanisms that align incentives in order to reduce the seasonality of public revenues and spending, which could be reviewed within the scope of the Public Finance bills currently underway or in the New Public Finance Code, proposed by José Roberto Afonso and Leonardo Ribeiro (2022).

4.4.2 Fiscal Federalism

The results found in this study also reveal dissynchronies in the current model of Brazilian fiscal federalism. Evidence of an evolution in the pattern of income and expenditure towards greater concentration in election years in municipalities with first-term mayors would tend to aggravate the federal imbalances inherent in the current system.

Given the high dependence on inter-federative transfers by the municipalities[41], the greater seasonality of the transfer of resources - increasingly motivated by political-electoral criteria - reduces the predictability of local management and jeopardizes the continuity of ongoing public policies (especially education, sports and leisure, according to the results).

In this context, a desirable skill for municipal leaders seeking re-election would be to obtain greater amounts of resources from transfers, which may even prevail over fiscal competence, as predicted by Ferreira (2005) and Mendes and Rocha (2004). Proof of this is that the increase in revenue is rewarded at the ballot box at sub-national level[42], a strategy that is more visible to voters if carried out in the election year itself, thus being able to increase spending that the population prefers without necessarily incurring deficits or failing to comply with end--of-term rules. In other words, it signals both competence, in the sense of Rogoff (greater spending) and fiscal responsibility, as evidenced by Rocha, Araújo and Brunozi Jr. (2021)[43] , at the expense of an incoherent federative system which, in the logic of the tragedy of the commons and the hitchhiker's problem, generates a consistent increase in public spending at the sub-national level, with recurrent financial aid from the Union (either through ordinary channels or the Supreme Court[44]).

On the other hand, this situation also deepens federal imbalances by leading to differen-

41 80% of primary revenue in small municipalities and 51% in medium and large municipalities, according to data from the National Confederation of Municipalities, available at: https://cnm.org.br/storage/noticias/2023/Links/15082023_Estudo_Crise_Municipios_Agosto2023%20(1).pdf. Accessed on 03/10/2023.

42 Nakaguma and Brender (2006, 2010), Meneguin (2002), Mendes and Rocha (2004) and Marciniuk (2016).

43 In this way, it appeals to both "fiscal liberal" and "fiscal conservative" voters.

44 As verified by Echeverria and Ribeiro (2018).

tiated flows of resources between first and second term governments, making the functioning of municipal management and the implementation of local public policies and services dependent on the political moments in which the municipality finds itself. At this point, it is worth reflecting on the institutional circumstances that led to this politicization, as well as possible ways of providing greater predictability and stability to the flows of transfers to sub-national entities.

The increased participation of the legislature in the allocation of discretionary resources in intergovernmental transfers (parliamentary amendments allocated under the heading of other current transfers[45]) creates challenges for local management, as these are annual resources with no system to ensure the continuity of the flow of resources for certain public policies chosen by parliamentarians, as well as involving political and bureaucratic obstacles to their release. Thus, solutions involve establishing mechanisms that provide greater predictability and stability for transfers and clarity about the social choices made by parliamentarians.

On the other hand, there is also a need to improve inter-federative cooperation mechanisms so that there is proper equalization between revenues and obligations in a format that minimizes the transaction costs involved in this coordination. In the current model, federal legislation creates obligations for sub-national entities without proper analysis of the budgetary and financial impact and the provision of financing formats that guarantee continuous and sufficient flows of resources to cope with the new duties imposed. This scenario penalizes to a greater extent small municipalities with low institutional capacity, which do not have an adequate structure to position themselves in these decision-making processes and expose this increase in the seasonality of financial flows.

In this sense, the set of proposals related to the medium-term budget framework (MTEF), an institute established in art. 165, §§ 12 and 14, of the Federal Constitution/1988, are measures that could contribute to this federative issue. The first step - the medium-term fiscal framework - is already in force for the Federal Government (art. 11, § 5, II and VI, of LC 200/2023), addressing the problem of stability and continuity of public policies and government actions through the exercise of projections for the main fiscal aggregates and the estimation of the fiscal impact of the recommendations resulting from the evaluation of public policies, giving a multi-year horizon to fiscal and budgetary planning. Although applicable at the federal level, paragraph 6 of this provision allows states and municipalities to also adopt these practices.

Finally, measures that promote transparency and accessibility of fiscal management are

45 In 2022, the amount of these amendments already reaches R$13.24 billion among the R$79.5 billion in other current transfers, according to data from the CNM, available at: https://cnm.org.br/storage/noticias/2023/Links/15082023_Estudo_Crise_Municipios_Agosto2023%20(1).pdf. Accessed on 03/10/2023.

also important to reduce the asymmetry of information between incumbents and voters.

5. CONCLUSIONS

The novelty and systemic approach of the analyses carried out allowed for a better understanding of the institutes of re-election and the end-of-term rules in force in the Brazilian federal context. To this end, a comparative evaluation of the fiscal behavior of first and second-term mayors in close elections between 2005 and 2020 was carried out using a quasi-experimental technique (RDD).

The scenario outlined by the results points to a more recent trend of increased seasonality in political budget cycles, with a greater concentration of revenue and spending in election years in municipalities with first-term mayors who faced competitive elections, especially in intergovernmental transfers and agreements, personnel expenses, other current expenses and investments, concentrated in the education, sports and leisure functions. This process suggests possible causes related to the effectiveness of end-of-term fiscal rules and the current context of federal imbalances.

Firstly, the patterns of fiscal behavior identified in the analyses lead to the conclusion that the strength of the end-of-term rules of the LRF and the Electoral Law is deteriorating, in the sense of avoiding the concentration of spending in election years and thus smoothing out budget cycles. The specific analyses of each of these institutes that seem to be losing their effectiveness have made it possible to highlight points of distortion of incentives and address possible ways of restructuring and updating the fiscal framework in a more coherent, consistent and effective way.

The second conclusion reached involves reflections on Brazilian fiscal federalism. Given the high level of municipal dependence on resource transfers, the deepening of politically motivated budget cycles hampers proper local management, causing unpredictability and discontinuity in multi-level public policies. On the other hand, the differences identified in the receipt of resources between first and second terms tends to deepen federal imbalances between municipalities. Institutional changes related to greater predictability and stability of transfers resulting from parliamentary amendments, inter-federative cooperation mechanisms, the MTEF and fiscal transparency are paths that can contribute to a better financing structure for public policies, by avoiding discontinuities that jeopardize the provision of goods, services and public policies at the local level.

This article opens up space for future studies to develop an understanding of the impact of electoral incentives on fiscal behavior, both in more generalized analyses, broadening the scope of analysis to contexts with elections decided by a wide margin of votes, and in more segmented investigations, exploring differences in the size of the municipality, region, level of development, political party alignment, among other possibilities.

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