

Public Costs vs Private Gain: Assessing the Effect of Alternative Information Treatments on Electoral Accountability

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Trabajo preparado para su presentación en el 9 Congreso Latinoamericano de Ciencia Política, organizado por la Asociación Latinoamericana de Ciencia Política (ALACIP).
Montevideo, 26 al 28 de julio de 2017.

Abstract

Do voters punish candidates with records of misuse of public funds? I address this question in the context of the 2008 and 2012 municipal elections for mayor and City Council legislator in Brazil. I use a unique dataset listing all candidates with accounts rejection records by any of the 34 Brazilian Audit Courts between 2004 and 2012 and electoral data. I test the effect of having accounts rejected on subsequent electoral returns. To test this effect I use matching and difference-in-difference. Results show evidence that voters punish both candidates for mayor and City Council legislator in most elections.

1. Introduction

In democratic polities, electoral accountability is a key mechanism to oust corrupt elites from government. Despite the successful transitions to democracy in great part of the developing world, this mechanism has often failed to remove corrupt elites both at the national and sub-national level. This paradox has stimulated a number of empirical studies on electoral accountability and corruption.¹ The number of observational studies has remained relatively limited as compared to the growth of studies using field and survey experiments.² This can be explained by the practical difficulties that hamper the growth of observational studies: researchers need to identify and collect data of elections with a significant number of candidates facing corruption accusations for prior office holding. These data are often hard to find and its collection requires significant time and effort. Given these limitations, it is not surprising that there are no observational studies testing the effect of malfeasance accusations on electoral outcomes for both candidates in legislative and executive offices in the same electoral context.

This is the first study -to the author's knowledge- to examine electoral punishment to candidates with malfeasance records in elections for both legislative and executive office. It uses an original dataset that lists all candidates for mayor and City Council legislator with records of accounts rejection by any of the 34 Brazilian Audit Courts between 2004 and 2012. A few prior studies have analyzed the effect of corruption on subsequent electoral returns for legislative office at the national level (Peters and

¹There is a large number of studies tackling this question, including Rundquist, Strom & Peters (1977), Klasnja & Tucker (2013), Andiuza et al. (2013), Ferraz & Finan (2008), Chang, Golden & Hill (2010), Weitz-Shapiro & Winters (2013), Costas-Pérez, Solé-Ollé & Sorribas-Navarro (2012), Palau & Davesa (2013), Botero et al. (2015), Weitz-Shapiro & Winters (2015a, 2015b), Pereira & Melo (2015), Weitz-Shapiro & Winters (2013).

²Among the exceptions we should include Ferraz & Finan (2008), Andiuza et al. (2013), Pereira & Melo (2015), Peters and Welch (1980), Chang et al. (2010), Pereira, Renno & Samuels (2011).

Welch 1980, Chang, Goldman & Hill 2010, Pereira, Renno & Samuels 2011) and for executive office at the municipal level (Ferraz & Finan 2008, Costas-Pérez et al. 2012, De Figueiredo, Hidalgo & Kasahara 2010, Chong et al. 2015, Pereira & Melo 2015) but this is the first study to analyze this issue in the same electoral context for both executive and legislative office, and the first one to study electoral accountability for legislative office at the sub-national level. It takes advantage of an electoral system for legislative office -open list proportional representation- that allows voters to select among candidates within the same party³. Hence, they can avoid selecting candidates with accounts rejection without the need to shift their party of choice.

In addition, I study the role of additional factors that have been listed as moderators in prior scholarship. In particular, I test whether the availability of local media increases electoral accountability, whether accountability diminishes as -incumbent-candidates have better records of social provision, and whether candidates with accounts rejected receive fewer campaign donations.

The econometric analyzes are complemented with interviews with Audit Court members and local candidates to investigate how this information is publicized. Interviews were conducted in four Brazilian states, two in the relatively more advanced Southeast region and two in the relatively less developed Northeast.⁴ I aim to reconstruct to what extent and by what channels voters learn about these decisions.

2. Previous Studies

A majority of studies on electoral accountability towards corrupt candidates suggest

³Voters can choose either one party as a whole or an individual candidate within the party, but most voters select individual candidates

⁴The four states are Pernambuco and Ceará in the Northeast and Rio de Janeiro and São Paulo in the Southeast.

that they receive an electoral punishment (Ferraz and Finan 2008, Pereira, Renno and Samuels 2011, Chong et al. 2015, Winters & Weitz-Shapiro 2013, Weitz-Shapiro & Winters 2015a, 2015b, Klasnja & Tucker 2013, Pereira & Melo 2015), although this doesn't necessarily prevents their reelection (Peters and Welch 1980)⁵. This finding seems to hold for national legislative elections (Peters and Welch 1980, Chang, Golden & Hill 2010) and for local executive office (Ferraz & Finan 2008, Pereira & Melo 2015, Chong et al. 2015).

However, there is currently no scholarly consensus on whether punishment is affected by contextual factors such as media attention on corruption accusations and incumbent candidate's records of social provision. Ferraz and Finan (2008) find that voters are more likely to punish incumbents who received negative audits in Brazilian local elections in municipalities with at least one local radio (the most influential media in the majority of Brazilian municipalities). Similarly, Chang, Golden, and Hill (2010) find that electoral punishment towards Italian legislators accused of corruption since 1948 was virtually nonexistent until the early 1990s, when electoral accountability increased as a result of more media coverage of corruption scandals. Those studies suggest that media attention is a key factor in promoting electoral accountability.

Winters & Weitz Shapiro (2013) use a survey experiment in Brazil to test the "trade off" hypothesis (i.e. that voters are willing to condone corrupt candidates with good record of social provision) versus the "information hypothesis" (i.e. that voters will punish those candidates if they have sufficient information on the corruption records). They find that voters do punish corrupt incumbents regardless of their social provision records. This finding is challenged by Pereira & Melo (2015) in a study on the effect of negative audits on electoral outcomes in one Brazilian state.

⁵In contrast, Banerjee et al (2010) find no punishment effect in India, while De Figueiredo, Hidalgo & Kasahara (2010) find that only one of two competing candidates with corruption antecedents receive electoral punishment

They find that public spending decreases the negative impact of corruption on re-election likelihood (the “trade off hypothesis”). They also find that existence of local radios doesn’t significantly decrease reelection chances of corrupt incumbents.

Observational studies are better suited to test the information hypothesis, as in both field and survey experiments the researcher is providing the treatment to subjects. With the only exception of Pereira & Melo (2015) those studies suggest that media has a prominent role. In particular, in the Brazilian context, Ferraz and Finan (2008) argue that local radios have a key role in making information on corruption accessible to the public. However, we also know that in Brazilian municipalities local radios are often owned or controlled by local political elites (Boas & Hidalgo 2011, Boas 2014). If mayors with negative audits are the owners of local radios, then they will make sure that either information on those records is not accessible to the public, or they will use the media to make their case against the procedures or findings of those audits.

A different hypothesis, posited by Pereira, Renno & Samuels (2011), is that corrupt incumbents see their share of campaign donations reduced. This would be an alternative channel by which those candidates receive an electoral punishment. They test this hypothesis in the context of federal legislative elections in Brazil and find that corrupt incumbents suffer a significant loss in their campaign donations.

This paper provides a new empirical test on the information and campaign donations hypotheses for both local legislative and executive elections and on the trade off hypothesis for local executive elections (which is the office that can claim credit on public spending).

3. Accounts Rejection in Brazilian Municipal Governments

Audit Courts' role is sanctioned by the Brazilian constitution, and consists in controlling the use of public funds at all levels of public administration, including the three government branches. Although formally they take part in the legislative branch, they operate as quasi-independent judicial authorities, enjoying secure tenure until retirement (similar to the judicial authorities), and operate with procedures similar to the judicial bodies, such as right of reply and collegial decision making (Melo, Pereira and Figueiredo 2009: 1224).

All local governments -as well as the federal and state governments- are required to annually present reports of their use of public funds to show that they have been used according to the norms and procedures of public administration. Accounts submitted to the Audit Courts can be approved, approved with reservations, or rejected. Decisions are reached by a body of board members.

Mayors have the most important responsibilities in managing the municipal funds and consequently are particularly subjects of oversight by the Audit Courts. The most frequent cases of account rejection for mayors are: a) failure to comply with the laws requiring to spend at least 25% of municipal total expenditures in education and at least 15% in public health; b) over-expenses, no-bid purchases and use of fake receipts; c) mismanagement of pension funds; d) failure to present accounts to the Audit Court⁶.

The president of the City Council has various specific responsibilities audited by the Audit Courts. In particular, they are responsible for setting the annual expenses of the Council in accordance to the law, for managing the contributions to social pen-

⁶This enumeration is drawn from interviews with various Audit Court board members across four states in Brazil (interview with Ramalho 2016, interview with an anonymous board member of the State of Pernambuco Audit Court 2015, interview with Ponte 2015, interview with Massa 2015).

sions of city councilmen, for setting their salaries, and for managing the funds of the Council — although each city councilmen might manage funds allocated specifically for him. These responsibilities might render them subject to accounts rejection for the following reasons: a) exceeding the limit of annual expenses of the City Council, which should range between 5 and 8 percent of total municipal income⁷; b) exceeding the allowed limit on the annual salaries of city councilmen -also established by law-; c) failing to pay or provide proof of contribution to the social pensions of city councilmen; d) over-expenses, no-bid purchases and use of fake receipts in the use of Council funds for purchases or hiring staff.

In addition, all city councilmen might be subject to accounts rejection for the use of City Council funds provided for specific duty related expenses. The most common cases of account rejection for city councilmen are: a) over-expenses, no-bid purchases and use of fake receipts; b) exceeding reasonable expenses in hiring staff; c) use of public funds in travel expenses for trips unrelated to their City Council duties⁸.

In case of a Court decision to reject accounts, there are five possible instances of appeal to reconsider the decision. Once all possibilities of appeal have been exhausted, the rejection of accounts is considered definitive. In the case of mayors, this decision needs to be confirmed by 2/3 of the City Council (the Audit Court's decision is labeled a "pre-assessment").

There are two pieces of legislation that affect candidates' eligibility for office after accounts rejection. The first one is a law passed in 1990 which sanctions that all citizens who had definitive accounts rejection by an Audit Court (i.e. there are no

⁷The annual budget of the municipal council is in practice determined by the council. While the mayor in theory can reject the municipal council budget this does not happen in practice. Hence, municipal councils have few incentives to abide to the constitutional limit (Mendes 2009).

⁸Interview with Ramalho 2016, interview with an anonymous board member of the State of Pernambuco Audit Court 2015, interview with Ponte 2015, interview with Massa 2015, interview with an anonymous board member substitute of the State of Pernambuco Audit Court 2015.

possibilities of appeal) due to an act of administrative mismanagement that involves intention are ineligible for 8 years⁹. In the case of mayors, this restriction only applies when the Audit Court's decision was confirmed by 2/3 of the City Council. More recently, in 2012, the Supreme Court determined the constitutionality of the recently sanctioned "Clean Records" law, which extends non eligibility for all officials who had accounts rejected by the Audit Court's collegial board, that is, in any instance even before all possible appeals have been exhausted.

Had these laws been effectively imposed, electors wouldn't have the choice to select a candidate with antecedents of accounts rejection. In practice, however, candidates have various ways to circumvent this restriction using different legal subterfuges. First, the candidacy to be banned should be impeached by the Electoral Tribunal, the Electoral Prosecutor's Office (*Ministério Público Eleitoral*), a political party or another candidate within 5 days of request of registration of candidacy to the Electoral Tribunal (Wargas Neto 2010). Once that period has passed, the candidate is eligible if his candidacy was not contested.

Second, even if the accounts rejection exhausted all possibilities of appeal in the Audit Court, the candidate can appeal the formal aspects of the decision to the Judiciary¹⁰ (Wargas Neto 2010: 9). While the Judiciary reconsiders the decision, the impeachment of the candidacy is annulled and the candidate will be able to run for office, as the final decision will usually take place after the election. The raising of the impeachment takes place regardless of the merits of the demand, so candidates can present an appeal with any argument on the eve of the election and often the final decision of justice (which might attain the annulment of the votes received by

⁹According to the jurisprudence of the Superior Electoral Tribunal of Brazil this act should involve an administrative wrongdoing involving intentionality, affecting the public interest, seeking a private advantage of the official, which might be non material (Wargas Neto 2004: 11).

¹⁰In this case, the Judiciary cannot overrule the Courts decision based on its content, but it can object the procedural mechanisms followed to reach such decision.

the candidate) takes place long after, which obviously undermines the effectiveness of the whole process (Wargas Neto 2010: 13).

Various Audit Court members confirmed in interviews with the author that it is not hard for a candidate to appeal their decision using a variety of arguments, as long as the appeal doesn't involve the substance of the Court's decision but rather the formal procedures of it¹¹. As an experienced local politician explains, the candidate might argue, for instance, that a specific document was not accepted in his defense under the Audit Court; this would be enough to open a process under the Judiciary -which will probably take years- and will temporarily annul the Audit Court's decision, allowing him to run in the election (interview with an anonymous legislator in the State Assembly of Ceará 2015). Some of the concepts used in the legislation required for ineligibility are rather vague, such as administrative incapability, leaving another possible subterfuge for appeals to the Judiciary (interview with Massa 2015). Candidates can also argue that the administrative action for which they were charged was not intentional (interview with an anonymous board member substitute of the State of Pernambuco Audit Court 2015, interview with Pimentel 2015). Within the Judiciary tends to prevail the idea of presumption of innocence and hence candidacies tend to be accepted (interview with Massa 2015). However, some candidates refrain from appealing to the Judiciary as they could find it difficult to follow the required judicial procedures while at the same time running the campaign (interview with Ramalho 2016).

In this fashion, 1,572 candidates who run for City Councils in 2008 had their accounts rejected between 2008 and 2012 (out of a total number of 321,127 candidates

¹¹Interview with an anonymous official of the Public Ministry in the Municipal Audit Court of Ceará 2015, interview with an anonymous board member of the State Audit Court of Pernambuco 2015, interview with an anonymous state legislator in the State Assembly of Ceará 2015, interview with Pimentel 2015, interview with Massa 2015.

who run in the 2008 election); 510 of them attempted to re-run in the 2012 election (345 of them had been incumbents in the 2008 election); and 458 successfully registered to run in 2012. In the case of candidates for mayor, 1,027 candidates for mayor in 2008 had accounts rejected between 2008 and 2012 and 144 relisted in the 2012 election.

The number of candidates with records of accounts rejection in any given election doesn't restrict to incumbents. Candidates might have accounts rejected for any prior office holding -as the process of definitive accounts rejection might take several years-.

There are two institutional features of Audit Courts that might make them less effective in punishing corrupt mayors. First, a portion of these members are appointed by the state executive¹² -subject to the approval of a simple majority of the state legislature- with few restrictions, or by the legislature itself. Hidalgo et al. (2016) show that because many of these members are retired politicians with links to the local elites, they are less prone to reject municipal accounts¹³. This evidence is consistent with critics charging that the Audit Courts' design is ineffective (Hidalgo et al., forthcoming). This characteristic would potentially result in less punitive Courts (since some corrupt mayors might end up not being punished) but not biased towards prosecuting non-corrupt mayors (which could result in decisions of accounts rejection non credible for the public). Second, Melo, Pereira and Figueiredo (2009) show that the effectiveness of Audit Courts varies across states being positively related to power alternation and negatively related to voter volatility. This feature could make some state Audit Courts more effective in detecting corrupt politicians than others. This wouldn't affect their negative decisions' credibility (insofar as this feature doesn't result in non corrupt officials being sanctioned), but would make less credible their

¹²Or by the municipal executive in the few cases where there are specific Municipal Audit Courts.

¹³According to one interviewee this pro-government bias is more pronounced in the case of state governors than in the case of mayors (interview with Pacheco 2016).

positive decisions (to not reject officials' accounts).

4. Publicity of Audit Courts' Decisions

If electors are not aware of Audit Courts' decisions they will not punish condemned candidates. It is important, hence, to describe in detail how, and to what extent, Audit Courts' decisions receive publicity.

All Brazilian Audit Courts' sessions are open to the public and their most relevant decisions -such as those involving local governments' accounts- are published in their websites. In some states, all sessions are broadcasted online (interview with Ramalho 2016). In others, cases of larger public repercussion, such as those judging municipal governments' accounts, are broadcasted by local TV stations (interview with Ponte 2015).

Arguably, a more effective source of publicity comes from the Audit Courts' links with the media. Audit Courts often have specialized officials who work closely with the media on the diffusion of decisions that involve accounts rejection of elected officials (interview with Massa 2015, interview with Ramalho 2015, interview with Pimentel 2015). They daily select among all Courts decisions those that might be of interest for the press and submit them to local newspapers and radio stations. Audit Courts can also allocate specific budget for this purpose. For instance, the Audit Court of the state of Pernambuco has two weekly paid columns in the two main state newspapers. Those columns are used to inform the public on the main Audit Courts weekly decisions, including those affecting mayors' accounts (interview with an anonymous board member substitute in the State of Pernambuco Audit Court). As an Audit Court Board Member explains, the Courts are expensive public structures; therefore, they understand that one of their main tasks is to show the public that they have

a productive role for the community (interview with an anonymous board member substitute of the State of Pernambuco Audit Court 2015).

The media has a continuous interest in news involving elected officials' accounts rejection.¹⁴ Some outlets might even have specialized reporters who attend daily the Audit Court sessions covering the most relevant decisions (interview with an anonymous official of the Public Ministry of the Municipal Audit Court of Ceará 2015). Those specialized reporters often have their own blogs where they reprint and cover Audit Courts news with more detail (interview with an anonymous official of the Public Ministry of the Municipal Audit Court of Ceará 2015). Accounts rejection involving use of federal funds (in which case it is responsibility of the Federal Audit Court to reject accounts) typically reaches the national media. According to one interviewee, it is very common to see in the *O Globo* headlines (one of the main newspapers in Brazil) news involving decisions by the Federal Audit Court (interview with Barbosa de Souza 2016).

Radio stations are largely the most influential media outlet in Brazil, as newspapers have very low rates of circulation (Ferraz & Finan 2008). Even when TV might reach an even higher number of Brazilians (97.1 % as compared to 72.1 % of Brazilians with access to radios) the number of municipalities with local TV outlets is rather limited (only 4%) (IBGE 2014, Speck & Cervi 2015). Hence, those outlets will not include coverage of local events in most municipalities. In contrast, 67% of municipalities have their own radio station, which will typically cover local events (Speck & Cervi 2015).

Local radio stations have a very active role in the diffusion of news of accounts

¹⁴Interview with Ramalho 2015, interview with an anonymous official of the Public Ministry of the State Audit Court of Ceará 2015, interview with Pimentel 2015, interview with an anonymous legislator of the State Assembly of Ceará 2015, interview with Ponte 2015, interview with an anonymous board member substitute of the State of Pernambuco Audit Court 2015).

rejection of local governments (interview with an anonymous official of the Public Ministry of the Municipal Audit Court of Ceará 2015, interview with Pimentel 2015). Those stations have a multiplying effect on the diffusion of news on Audit Courts' decisions published in other outlets which might have a more limited circulation, such as newspapers or specialized blogs¹⁵. As one experienced local politician explains, blogs, social media, and newspapers are very active in publishing news on corruption and Audit Courts' decisions, and radio stations pick up those news and amplify the diffusion (interview with an anonymous official of the Public Ministry of the Municipal Audit Court of Ceará 2015).

However, these stations are often owned or controlled by local political bosses (Boas 2014, Boas & Hidalgo 2011), in which case those news will receive little diffusion. The degree of influence might be conditioned by the size of the municipality: larger municipalities have more media diversity; making it harder for any local boss to have complete control of it. According to various interviewees, when mayors from larger municipalities have accounts rejected, that news will receive substantive media attention, at least by some non controlled outlets (interview with Pimentel 2015, interview with an anonymous board member substitute of the State of Pernambuco Audit Court 2015). That news might even reach the main state outlets, such as state newspapers and local TVs (interview with an anonymous legislator of the State of Ceará Assembly 2015). In contrast, the diffusion of news of accounts rejection of mayors from smaller municipalities might be contingent upon the existence of radio stations owned or influenced by opponent politicians (interview with an anonymous official of the Public Ministry of the Municipal Audit Court of Ceará 2015).

Another important source of diffusion are blogs. Many specialized blogs (often

¹⁵Interview with an anonymous official of the Public Ministry of the Municipal Audit Court of Ceará 2015, interview with an anonymous legislator of the State Assembly of Ceará 2015, interview with Pimentel 2015, interview with Ramalho 2015.

owned by specialized journalists) regularly report on Audit Courts' publicly relevant decisions (interview with an anonymous official of the Public Ministry of the Municipal Audit Court of Ceará 2015, interview with Pimentel 2015). Although their public reach might be limited, they are a common source of information for radio stations, which multiplies the diffusion of those decisions (interview with an anonymous legislator in the State Assembly of Ceará 2015).

One of the main events by which Courts' decisions are publicized take place shortly before the elections. Three months before each election all federal, state and municipal Audit Courts are required by law to provide the regional Electoral Tribunals with a list of all present and former officials -including candidates in the current election- whose accounts have been definitively rejected during the previous 8 years (as they might be subject to the ineligibility law). These lists are made public in the Audit Courts' websites.

More importantly, the publication of these lists is a major event for all media¹⁶. According to one Audit Court board member, it is one of the top news on the media agenda during the publication time (interview with Ponte 2015); as another Audit Court board members puts it: "it is part of the electoral climate" (interview with an anonymous official of the Public Ministry of the Municipal Audit Court of Ceará 2015). Radio stations often read out loud the lists in their broadcasts, and if there is any member of the local government in that municipality this will arguably be covered if there is a local radio run by a member of an opponent party (interview with an anonymous official of the Public Ministry of the Municipal Audit Court of Ceará 2015). In some states, the Audit Courts' presidents are interviewed on TV where

¹⁶Interview with an anonymous official of the Secretary of External Control of the Federal Audit Court 2016, interview with Ponte 2015, interview with an anonymous official of the Public Ministry of the Municipal Audit Court of Ceará 2015, interview with an anonymous mayor of a municipality in the State of Ceará 2015, interview with an anonymous board member substitute of the State of Pernambuco Audit Court 2015.

they explain the significance of the list (interview with an anonymous board member substitute of the State of Pernambuco Audit Court 2015). As one mayor from a small municipality in the Northeast explains, “the media love those lists” (interview with a mayor of a municipality in the State of Ceará 2015).

Media attention to those lists is in part a product of the civil society mobilization through demonstrations and collection of signatures to promote the enactment of the “Clean Records” law¹⁷ (interview with Pimentel 2015, interview with Massa 2015, interview with Ponte 2015, interview with an anonymous official of the Public Ministry of the Municipal Audit Court of Ceará 2015, interview with Pacheco 2016). The lists of candidates with accounts rejected became popularized as the “dirty records” lists, and candidates in that list became known as “dirty records candidates”, undermining their reputation (interview with Pacheco 2016). According to one Audit Court prosecutor: “Now people pay a lot of attention to the lists of “dirty records”, politicians have much more pressure” (interview with Massa 2015).

Political campaigns are another important form of diffusion, as challengers will discredit incumbents with records of accounts rejection (interview with an anonymous legislator of the State Assembly of Ceará 2015) and will provide the media with information on incumbents’ negative records (interview with Ponte 2015). The accusation that the mayor used a certain amount of funds for a specific project without justification becomes part of their toolkit to attack incumbents (interview with an anonymous legislator of the State Assembly of Ceará 2015, interview with Ponte 2015, interview with an anonymous assistant of a city councilman in the city of Recife 2015).

¹⁷On the civil society mobilization leading to the enactment of the “Clean Records” Law see Doin et al. (2012)

5. Hypotheses

In the following sections I present results for the econometric analyzes. I test the following hypotheses:

Hypothesis 1: Candidates with accounts rejected have their share of votes reduced and are less likely to be reelected.

Hypothesis 2: Electoral accountability is higher in municipalities where there are local radio stations available.

Hypothesis 3: Electoral accountability decreases when the incumbent candidates with accounts rejected have positive records of public spending.

Hypothesis 4: Candidates with accounts rejected receive fewer campaign donations.

6. Data

6.1 Treatment and Outcome Variables

The treatment is a definitive accounts rejection by any of the 34 Brazilian Audit Courts when the official exhausted all possible appeals; which is prior to the City Council vote (in the case of mayors). The total number of candidates with accounts rejected in the mayoral elections is 611 (in the 2012 election) and 658 (in the 2008 election). The total number of candidates for City Council with accounts rejected is 1,767 (in the 2012 election) and 1,307 (in the 2008 election). As outcome variables I use the

percentage of valid votes and a binary variable indicating if the candidate was elected.

6.2 Interaction Terms

For the interaction terms on local media I use a dummy indicating whether the municipality has at least one local radio AM, and another dummy indicating if the municipality has at least one local radio FM. For the interaction term on public spending I use data on the total per capita spending on education, health, transportation and housing at the municipal level from the National Secretary Treasury (*Secretaria do Tesouro Nacional*). Because only incumbent mayors can claim credit for the use of public spending, this interaction is only used in the analyses restricted to incumbent mayors.

6.3 Independent Variables

The independent variables included in the models are candidate's party, state, three dummy variables indicating if the candidate was incumbent in the 2008, 2004, or 2000 election, age, gender and education, all factors that arguably can have an impact on electoral outcomes. An additional campaign spending variable (relative to the total municipal spending) is included in specific models -and omitted in others-. Its inclusion will be specified in each analysis. For the analysis of city councilmen I include a dummy indicating if the candidate belongs to the same party than the elected mayor and a dummy indicating if he or she belongs to a party that is part of the ruling coalition.

7. Methods

To estimate the effect of accounts rejection on electoral outcomes I use two different estimators: matching with difference-in-difference and regression analysis. The difference-in-difference provides an estimation of the difference between “treated” candidates (i.e. candidates with accounts rejected) and “non-treated” candidates in the 2012 and 2008 election; that is, before and after the treatment of interest. To match candidates along a set of covariates I use propensity score matching, which measures the conditional probability of exposure to a treatment for the observed covariates (Rosenbaum 2010). While in the pre-matching analysis we expect that the units’ conditional probability of being part of the treatment or control group differs, we match on a set of covariates to ensure that the treatment and control group will only differ in the treatment of interest. This quasi-experimental design results in potentially better estimates, as it compares trends in both treatment and control groups before and after the inclusion of the treatment. This analysis uses a smaller sample of “treated” candidates as this sample is restricted to those who had a first accounts rejection between 2008 and 2012 (before the election) and run in both elections. Because this sample includes only candidates with accounts rejection between 2008 and 2012 the diffusion is likely to be more salient in voters’ mind at the time of the election, potentially leading to higher treatment effects.

A potential problem for the difference-in-difference estimate is that Audit Courts can publicize decisions to reject accounts that could be appealed -and hence are not definitive- over the course of various years. The entire institutional process leading to a definitive accounts rejection takes many years. This means that prior to 2008 some voters may have learnt about Audit Courts decisions, even if those decisions were not definitive. This institutional feature results in treatments that could be

conceptualized as a series of “dosages”; that is, information released over the course of various years. As a consequence, the treatment effect in the difference-in-difference analysis could be underestimated (as the pre-treatment estimate would contain some “dosage” of treatment).

For this reason I include regression analysis, which doesn’t require to identify any pre-treatment estimate (and hence could provide a better model for a treatment released over the course of the years). In addition, regression analysis can use larger samples leading to more statistical power, as it also includes “treated” candidates with accounts rejected prior to 2008. Regression analysis also allows to estimate both the treatment effect for a complete sample of candidates and also for a sample restricted to only incumbents — this restriction is not possible in the difference-in-difference given the reduced sample size¹⁸. The regression analysis is also used to assess the effect of interaction terms.

The sample used in each estimate can be summarized as follows:

Matching and difference-in-difference:

Sampling frame: All candidates in the 2008 and 2012 elections.

Effective sample: Those who run in both elections.

Treatment group: Those with accounts rejected between 2008 and 2012.

Control group: All others.

¹⁸While in the difference-in-difference all “treated” candidates had accounts rejected between 2008 and 2012, those candidates are not necessarily incumbents, as the accounts rejection might be a product of an office holding prior to 2008. The interaction in the regression analyses -non reported-between incumbency and accounts rejection shows that incumbent candidates with accounts rejected suffer a stronger electoral punishment than non incumbents. The difference is significant in some models, although not in all models.

Regression analysis:

Sampling frame: All candidates in the 2008 and 2012 elections.

Effective sample: Candidates who run in 2008 and candidates who run in 2012 (the outcome measure is in each single election). Analyses with complete sample of candidates and with sample of incumbents only (specified in each model).

Treatment group: Those with accounts rejected between 2004 and 2008 (in analyses for the 2008 election) and those with accounts rejected between 2004 and 2012 (in analyses for the 2012 election).

Control group: All others.

8. The Effect of Accounts Rejection on Electoral Outcomes in Elections for Mayor

8.1 Matching and Difference-in-Difference

In table 1 I present pre and post matching balance statistics. It shows that matching significantly improved the covariate balance in most variables, with the exception of gender, which nonetheless still shows a relatively high p-value.

TABLE 1: Pre and Post-Matching Balance between Treatment and Control Groups

	Candidates for Mayor	
	Propensity Score	Matching
	Pre-Matching (P-Value)	Post-Matching (P-Value)
Candidate Spending/Municipal Spending	0.09	0.81
Incumbent (2008)	0.20	0.81
Incumbent (2004)	0.00	0.99
Incumbent (2000)	0.03	0.82
Age	0.01	0.43
Municipal Spending (2005-2008)	0.00	0.53
Male	0.72	0.33
Education University Complete	0.77	0.82
Education High School Complete	0.90	0.85
Education Primary School Complete	0.05	0.66
Education Reads and Writes	0.00	1.00
Party PMDB	0.17	0.86
Party PSDB	0.08	0.19
Party PT	0.31	0.41

In table 2 I present results for the difference-in-difference using percentage of valid votes as dependent variable. The estimate represents the electoral loss, in terms of percentage points, of “treated candidates” in the 2012 election (relative to their vote share in the 2008 election) minus the electoral difference in vote share of the “control candidates” in the 2012 election (relative to their vote share in the 2008 election). Results show a loss of 4.60 percentage points for candidates with accounts rejected. The magnitude of the difference is relatively high, although in the context of mayoral elections is lower than the average margin of difference of percentage votes between the winner and the second candidate. In the 2012 election the average percentage of votes for winners was 55.09 % with an average difference of 16 percentage points with the second. In the 2008 election the average percentage of votes for winners was 56.46 % with an average difference of 17.99 percentage points with the second. As we can see in table 2.3, accounts rejection doesn’t have a statistically significant effect on the likelihood of being reelected (with a sample of 119 matched candidates).

TABLE 2: Effect of Accounts Rejection on Vote Share

Candidates for Mayor		
Propensity Score Matching		
	Estimate	Standard Error
Accounts Rejection	-4.60**	1.98
Matched Observations	119	

Difference in Difference. Estimate measured as percentage of valid votes.

Abadie-Imbens Standard Error. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (two-tailed test).

TABLE 3: Effect of Accounts Rejection on Election Likelihood

Candidates for Mayor		
Propensity Score Matching		
	Estimate	Standard Error
Accounts Rejection	-0.06	0.06
Matched Observations	119	

Difference in Difference. Dependent Variable: Likelihood of Reelection.

Abadie-Imbens Standard Error. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (two-tailed test).

8.2 Regression Analysis

Tables 4 and 5 present various models using the samples of all candidates and incumbents only with candidates who had accounts rejected between 2004 and 2012. The candidate spending variable (with the campaign funds that the candidate spent in 2012 as a share of total campaign funds spent in that municipality) was omitted in all models as it might partially reflect changes in campaign donations, which are affected by the treatment (as discussed in section 10). The inclusion of these controls doesn't substantively modify these results (although generates a marginal reduction in the size of the treatment coefficients). In table 4 I estimate the effect of accounts rejection in reelection likelihood and vote share in the 2012 election. Model 1 in that table shows a statistically significant reduction in the reelection likelihood of candidates for mayor. Model 2 uses the candidate's vote share as the dependent variable, and shows a significant loss of 3.11 percentage points. Models 3 and 4 show similar analyses with the sample restricted to incumbents only, also showing a significant reduction in the likelihood of being reelected and in the percentage of valid votes.

Models 5 and 6 use an interaction between accounts rejected and existence of a local AM radio (Model 5) or FM radio (Model 6) with the sample of all candidates. None of these interactions are significant, suggesting that the existence of local media doesn't have a significant impact on the effect of accounts rejection on electoral outcomes. Model 7 uses an interaction between public spending and accounts rejected with the sample restricted to incumbents. Results show no significant interaction, suggesting that voters don't trade public spending for transparency.

TABLE 4: Effect of Account Rejection. Candidates for Mayor. 2012 Election.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Election	Vote Share	Reelection	Vote Share	Election	Election	Reelection
Accounts Rejected (2004-2012)	-0.49*** (0.15)	-3.23*** (1.23)	-0.70*** (0.21)	-3.40** (1.55)	-0.43** (0.17)	-0.49** (0.20)	-1.12* (0.70)
Municipal Spending	-0.00 (0.00)	-0.00*** (0.00)	0.00 (0.00)	0.00 (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00 (0.00)
Incumbent 2008	0.36*** (0.07)	7.93*** (0.59)	– –	– –	0.33*** (0.07)	0.33*** (0.07)	– –
Incumbent 2004	-0.18 (0.15)	-1.07 (1.23)	-0.30 (0.87)	-7.10 (6.26)	-0.12 (0.16)	-0.12 (0.16)	-0.08 (0.07)
Incumbent 2000	0.17 (0.14)	2.56** (1.09)	-0.07 (0.20)	-0.35 (1.43)	0.15 (0.14)	0.15 (0.14)	-0.07 (0.20)
Age	-0.03*** (0.00)	-0.29*** (0.03)	-0.03*** (0.00)	-0.32*** (0.04)	-0.03*** (0.00)	-0.03*** (0.00)	-0.03*** (0.00)
Gender (Male)	0.35*** (0.11)	2.00** (0.90)	0.52*** (0.17)	3.40*** (1.23)	0.34*** (0.12)	0.34*** (0.12)	0.52*** (0.17)
University Complete	15.0 (882.7)	25.9 (16.4)	14.7 (882.7)	23.0 (15.2)	15.1 (882.7)	15.1 (882.7)	14.7 (882.7)
High School Complete	15.2 (882.7)	25.5 (16.6)	14.9 (882.7)	24.1 (15.2)	15.2 (882.7)	15.2 (882.7)	14.9 (882.7)
Primary School Complete	15.0 (882.7)	25.9 (16.7)	14.6 (882.7)	24.4 (15.3)	15.0 (882.7)	15.0 (882.7)	14.6 (882.7)
Reads and Writes	15.1 (882.7)	29.1* (16.9)	14.9 (882.7)	20.5 (16.1)	15.1 (882.7)	15.1 (882.7)	14.9 (882.7)
Accounts Rejected * Radio AM					-0.28 (0.36)		
Accounts Rejected * Radio FM						0.10 (0.30)	
Accounts Rejected * Municipal Spending							-0.00 (0.00)
Intercept	-14.0 (882.7)	29.9* (17.1)	-13.9 (882.7)	35.7** (16.5)	-14.0 (882.7)	-14.0 (882.7)	-13.9 (882.7)
Incumbents Only	No	No	Yes	Yes	No	No	Yes
N	15,013	15,013	1,939	1,939	15,013	15,013	1,939
N Accounts Rejected	611	611	134	134	611	611	134

***p<0.01, **p<0.05, *p<0.1 (two-tailed test). Standard errors in parenthesis

Models 1, 3, 5, 6 and 7: Logistic regression. Models 2 and 4: OLS.

All models include full state and party dummies.

In table 5 I present similar analyses for electoral and reelection outcomes in the context of the 2008 election. Here, in none of the models accounts rejection shows a significant coefficient. This suggests that contextual factors related to the 2012 elections -such as the mobilization for the enactment of the “Clean Records” law- might have facilitated the spread of information of candidates’ accounts rejection antecedents.

As can be seen in models 5 and 6, the radio AM and radio FM interactions have a positive coefficient and significant in the case of the latter. However, the coefficient of the effect of accounts rejection in municipalities with radio stations ($-0.11 + 0.39 = 0.28$) is not significant, with a standard error of 0.15. The interaction of accounts rejection and municipal spending is negative and significant, providing evidence against the trade off hypothesis. In model 7 the positive sign and significance of the accounts rejection coefficient has little substantive implications¹⁹.

¹⁹As suggested by Brambor, Clark and Golder (2006) this coefficient should be interpreted as conditional on the public spending interaction, and only true in the case when per capita public spending equals 0.

TABLE 5: Effect of Account Rejection. Candidates for Mayor. 2008 Election.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Election	Vote Share	Reelection	Vote Share	Election	Election	Reelection
Accounts Rejected (2004-2008)	0.05 (0.10)	0.62 (0.83)	0.05 (0.19)	-1.69 (1.43)	0.03 (0.11)	-0.11 (0.13)	0.47** (0.23)
Municipal Spending	-0.00*** (0.00)	-0.00*** (0.00)	0.00 (0.00)	0.00 (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
Incumbent 2004	1.15*** (0.05)	17.5*** (0.40)	– –	– –	1.51*** (0.05)	1.15*** (0.05)	– –
Incumbent 2000	0.01 (0.01)	6.60*** (0.71)	-0.40 (0.78)	-7.35 (6.40)	0.13 (0.08)	0.13 (0.08)	-0.30 (0.79)
Campaign Spending	0.00** (0.00)	-0.00*** (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00** (0.00)	0.00 (0.00)
Age	-0.02*** (0.00)	-0.18*** (0.01)	-0.04*** (0.00)	-0.37*** (0.04)	0.02*** (0.00)	0.02*** (0.00)	-0.04*** (0.00)
Gender (Male)	0.35*** (0.06)	2.13*** (0.51)	0.35** (0.15)	2.51** (1.15)	0.36*** (0.01)	0.36*** (0.06)	0.35** (0.14)
University Complete	-17.0 (240)	-11.7 (18.4)	0.09 (0.16)	-0.81 (1.26)	-16.9 (240)	-16.9 (240)	0.08 (0.16)
High School Complete	-17.0 (240)	11.0 (18.4)	0.24 (0.17)	-0.28 (1.32)	-16.9 (240)	-16.9 (240)	0.24 (0.17)
Primary School Complete	-17.1 (240.0)	11.2 (18.4)	0.24 (0.20)	-1.22 (1.55)	-17.1 (240)	-17.1 (240)	0.24 (0.20)
Reads and Writes	-16.9 (240.0)	-11.1 (18.4)	0.20 (0.41)	-2.99 (3.27)	-17.0 (240)	-16.9 (240)	0.22 (0.41)
Accounts Rejected * Radio AM					0.06 (0.23)		
Accounts Rejected * Radio FM						0.39** (0.19)	
Accounts Rejected * Municipal Spending							-0.00** (0.00)
Intercept	17.0 (240)	54.7*** (18.6)	2.47*** (0.82)	59.9*** (5.96)	17.0 (240)	17.0 (240)	2.49*** (0.82)
Incumbents Only	No	No	Yes	Yes	No	No	Yes
N	14,865	14,865	3,022	3,022	14,865	14,865	3,022
N Accounts Rejected	658	658	1928	195	658	658	195

***p<0.01, **p<0.05, *p<0.1 (two-tailed test). Standard errors in parenthesis

Models 1, 3, 5, 6 and 7: Logistic regression. Models 2 and 4: OLS.

All models include full state and party dummies.

9. The Effect of Accounts Rejection on Electoral Outcomes in Elections for City Council

9.1 Matching and Difference-in-Difference

In this section I consider the effect of accounts rejection on electoral outcomes for the sample of candidates for City Council. Table 6 shows the propensity score of being in the treatment group given the set of covariates. Propensity score matching provides good balance in all variables, and in all cases the p-value increases after matching, with the exception of the first category of education (reads and writes) which nonetheless still has a high p-value.

TABLE 6: Pre and Post-Matching Balance between Treatment and Control Groups
Candidates for City Council

	Propensity Score	Matching
	Pre-Matching	Post-Matching
	(P-Value)	(P-Value)
Spending	0.00	0.51
Incumbent (2008)	0.00	0.62
Incumbent (2004)	0.00	0.32
Incumbent (2000)	0.00	0.98
Age	0.00	0.67
Party Mayor	0.00	0.88
Coalition Mayor	0.00	0.84
Male	0.00	0.57
Education University Complete	0.00	0.24
Education High School Complete	0.07	0.93
Education Primary School Complete	0.00	0.96
Education Reads and Writes	0.76	0.63
Party PMDB	0.75	0.99
Party PSDB	0.00	0.90
Party PT	0.00	0.64

In Table 7 I present the results of the difference-in-difference. Results show a decrease in electoral returns of candidates with accounts rejected of 0.73 percentage points, and it is statistically significant (at the 0.01 level, two tailed test). In the context of highly competitive elections, this apparently small difference might be crucial. The average percentage of votes received by winning candidates in the 2012 election was 4.74%, while the average percentage of votes received by the non winning candidates who received the highest percentage of votes in each municipality is 3.99%. The average difference between winners and candidates who lost for the smallest margin is 0.75 percentage points. In the case of the 2008 election, the average percentage of votes for the winner is 4.90%, while the average percentage of votes received by the non winning candidates with the highest share of votes in each municipality is 4.20%. The average margin of victory was 0.7 percentage points. The loss of votes that can be attributed to the accounts rejection could make the difference between being elected or not.

Table 8 uses likelihood to be elected as the dependent variable. Results also show a significant decrease in the likelihood of being elected for the candidates with accounts rejected.

TABLE 7: Effect of Accounts Rejection on Vote Share

City Councilmen		
	Propensity Score	Matching
	Estimate	Standard Error
Accounts Rejection	-0.73***	0.10
Matched Observations	458	

Difference in Difference. Estimate measured as percentage of valid votes.

Abadie-Imbens Standard Error. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (two-tailed test).

TABLE 8: Effect of Accounts Rejection on Election Likelihood

City Councilmen.		
	Propensity Score	Matching
	Estimate	Standard Error
Accounts Rejection	-0.09***	0.02
Matched Observations	458	

Difference in Difference. Estimate measured as percentage of valid votes.

Abadie-Imbens Standard Error. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (two-tailed test).

9.2 Regression Analysis

In table 9 I present results of various models using OLS and logistic regression testing the effect of accounts rejection on the electoral outcomes in the 2012 election. In

these analyses I exclude the variable candidate spending in the 2012 election to avoid introducing bias, since candidates with accounts rejected receive significantly fewer funds in this election (see results in section 10). The inclusion of this control doesn't introduce any significant changes in the results (beyond a marginal reduction in the size of the coefficients). Results show in the 7 models a significant reduction in the likelihood of being reelected and in the percentage of valid votes for candidates with accounts rejected. In models 5 and 6 the radio AM and FM interactions show no significant effect of accounts rejection on electoral outcomes.

TABLE 9: Effect of Accounts Rejection. 2012 Election. Candidates for City Council.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Election	Vote Share	Reelection	Vote Share	Election	Election
Accounts Rejected	-0.65***	-0.63***	-0.78***	-0.87***	-0.66***	-0.59***
(2004-2012)	(0.08)	(0.05)	(0.09)	(0.09)	(0.09)	(0.11)
Party Mayor	0.10***	0.13***	0.04	-0.01	0.06**	0.09***
	(0.02)	(0.01)	(0.03)	(0.02)	(0.03)	(0.03)
Coalition Mayor	0.30***	0.77	-0.03	0.84***	-0.03	-0.03
	(0.03)	(0.02)	(0.04)	(0.03)	(0.03)	(0.03)
Incumbent 2008	1.22***	1.30***	–	–	1.23***	1.23***
	(0.02)	(0.01)	–	–	(0.02)	(0.02)
Incumbent 2004	0.66***	0.64***	0.54***	0.53***	0.67***	0.67***
	(0.02)	(0.01)	(0.03)	(0.02)	(0.02)	(0.02)
Incumbent 2000	0.44***	0.33***	0.38***	0.33***	0.45***	0.45***
	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)
Age	-0.03***	-0.02***	-0.04***	-0.05***	-0.03***	-0.03***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Gender (Male)	0.82***	0.57***	0.28***	0.02	0.81***	0.81***
	(0.03)	(0.01)	(0.04)	(0.03)	(0.03)	(0.03)
Accounts Rejected					0.11	
* Radio AM					(0.19)	
Accounts Rejected						-0.10
* Radio FM						(0.16)
Intercept	-1.74***	1.09***	0.07	4.03***	-12.07	-12.09
	(0.66)	(0.32)	(1.08)	(0.88)	(81.93)	(81.87)
Incumbents Only	No	No	Yes	Yes	No	No
N	420,555	420,555	36,727	36,727	420,577	420,577
N Accounts Rejected	1,767	1,767	671	671	1,767	1,767

***p<0.01, **p<0.05, *p<0.1 (two-tailed test). Standard errors in parenthesis

Models 1, 3, 5, and 6: Logistic regression. Models 2 and 4: OLS.

All models include full state and party dummies and education as controls.

Models 5 & 6 include single interaction term as control (not reported).

In table 10 I use similar models for the 2008 City Council elections with the inclusion of the candidate spending variable. Results show a negative and significant effect of accounts rejection on electoral outcomes in all models except for models 3 (only significant at the .1 level) and 4, which are the models including incumbents only. Models 5 and 6 show a positive and significant interaction between both radio AM and FM and accounts rejection. Consequently, the significant and negative coefficients in the accounts rejected variable (i.e. -0.46 and -0.62) represent a decrease in the likelihood of reelection for candidates with accounts rejected in municipalities without an AM or FM radio respectively. In municipalities with radio AM or FM the size of the coefficient is close to zero in both cases (0.02 in model 5 and 0.03 in model 6) and non significant (as the size of the standard errors is 0.18 in the first case and 0.14 in the second case). This suggests that electoral punishment is stronger in municipalities where there is no local media, which contradicts prior studies.

TABLE 10: Effect of Accounts Reelection. 2008 Election. Candidates for City Council.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Election	Vote Share	Reelection	Vote Share	Election	Election
Accounts Rejected	-0.31***	-0.18**	-0.24*	-0.17	-0.46***	-0.62***
(2004-2008)	(0.09)	(0.08)	(0.12)	(0.11)	(0.12)	(0.13)
Party Mayor	0.15	0.26**	0.19	0.39***	0.19	0.19
	(0.11)	(0.10)	(0.13)	(0.13)	(0.12)	(0.13)
Coalition Mayor	0.46***	1.27***	0.36	1.21***	0.38**	0.37**
	(0.13)	(0.11)	(0.15)	(0.14)	(0.13)	(0.13)
Incumbent 2004	0.65***	0.93***	–	–	0.61***	0.62***
	(0.09)	(0.08)	–	–	(0.10)	(0.10)
Incumbent 2000	0.50***	0.59***	0.48***	0.65***	0.56***	0.56***
	(0.08)	(0.08)	(0.11)	(0.10)	(0.09)	(0.09)
Campaign Spending	8.30***	12.0***	4.87***	8.95***	8.15***	8.14***
	(1.12)	(0.88)	(1.12)	(1.01)	(1.18)	(1.18)
Age	-0.04***	-0.05***	-0.04***	-0.06***	-0.04***	-0.04***
	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Gender (Male)	0.46***	0.19	0.37**	-0.14	0.53***	0.53***
	(0.14)	(0.13)	(0.19)	(0.18)	(0.15)	(0.15)
Accounts Rejected					0.48**	
* Radio AM					(0.20)	
Accounts Rejected						0.65***
* Radio FM						(0.18)
Intercept	-12.1	5.13**	1.80***	7.37***	-12.1	-12.0
	(882.7)	(2.12)	(0.75)	(0.73)	(882.7)	(882.7)
Incumbents Only	No	No	Yes	Yes	No	No
N	321,137	321,137	37,136	37,136	321,137	321,137
N Accounts Rejected	1,307	1,307	710	710	1,307	1,307

***p<0.01, **p<0.05, *p<0.1 (two-tailed test). Standard errors in parenthesis

Models 1, 3, 5, and 6: Logistic regression. Models 2 and 4: OLS.

All models include full state and party dummies and education as controls.

Models 5 & 6 include single interaction term as control (not reported).

10. Effect of Accounts Rejection on Campaign Donations

Prior work suggests an elite based mechanism of accountability, as candidates facing corruption accusations can receive fewer campaign donations, which is likely to have an impact on the electoral outcomes (Pereira, Renno & Samuels 2011). In table 11 I present results using as dependent variable the percentage of campaign donations that candidates received (relative to total donations in their municipality) for both candidates for mayor and city councilman in the 2008 and 2012 elections.

Results show that only in the 2012 election there was a significant negative impact of accounts rejection on the percentage of campaign donations received by the candidate, although in the case of the city councilmen the magnitude of the coefficient is relatively small.

TABLE 11: Effect of Accounts Rejection on Campaign Donations. Elections 2008 and 2012

All Candidates for Mayor and City Councilman				
	Model 1	Model 2	Model 3	Model 4
	Mayor	Mayor	City Council	City Council
	2012	2008	2012	2008
Accounts Rejected	-7.08*** (1.67)	0.05 (1.19)	-0.22*** (0.08)	-0.31 (0.19)
Incumbent 2008	14.78*** (0.83)	–	2.05*** (0.20)	–
Incumbent 2004	0.01 (1.72)	15.32*** (0.60)	0.71*** (0.02)	1.15*** (0.20)
Incumbent 2000	5.58*** (1.52)	8.27*** (1.06)	0.33*** (0.02)	0.36* (0.18)
Age	-0.26*** (0.04)	-0.14*** (0.02)	-0.01*** (0.00)	-0.01 (0.01)
Gender (Male)	-0.99 (1.25)	-0.58 (0.75)	0.51*** (0.01)	-0.11 (0.29)
Intercept	57.13** (24.98)	40.91 (28.68)	0.34 (0.52)	4.17 (4.76)
N	15,013	14,865	420,555	321,137
N Accounts Rejected	611	658	1,767	1,307

***p<0.01, **p<0.05, *p<0.1 (two-tailed test). Standard errors in parenthesis.

All models include full state and party dummies and education as controls.

11. Discussion

Results presented in this study suggest that both candidates for mayor and for city councilman with accounts rejected receive an electoral punishment. Even in elections for relatively less salient offices, such as City Council legislator, at least a portion of the electorate is informed about the negative audits and responds by supporting an alternative candidate. This suggests that the selection mechanism is effective in sub-national elections. When electoral systems promote highly competitive elections -such as the elections for city councilman- even a small reduction in the share of votes could make the difference between being elected or not.

Besides voters' punishment, there are other selection mechanisms that play a significant role. First, candidates with negative audits often opt not to re-run in the next election. These candidates might be anticipating electoral losses or they might desist because of restrictions in the electoral laws. In either of these cases, the result is a better quality of representatives in local politics. Second, donors often decide not to support these candidates, which also contributes to the selection mechanism.

In addition, the diffusion of the candidates' negative records by the Audit Courts, the media, and by other candidates during the campaigns also contributes to this selection mechanism. The spread of information reinforces all other mechanisms of electoral accountability. First, it increases voters' awareness and their electoral punishment. Second, donors might also be influenced by this diffusion, either because they are less willing to support candidates with negative records, or because they assume that these candidates have fewer chances in the electoral game. Third, the diffusion might create pressure for candidates to retire from the electoral game, as they perceive that voters are aware of their offenses.

Results also show weak evidence for other factors listed as relevant in prior litera-

ture, such as the availability of local media, and incumbents' public spending. In the case of the former, the existence of local radios doesn't increase electoral punishment. Voters do not depend on those radios to receive information, which contradicts prior scholarship. The analyses also show weak support for the trade off hypothesis. Voters are not willing to condone incumbents with accounts rejected even if they show positive records of public spending.

It should be noted, however, that a potential selection bias could be affecting results, as candidates with accounts rejection records could decide not to re-run in order to avoid electoral punishment (Jucá, Melo, and Rennó 2016). As appendix A shows, candidates for mayor and for city councilman with accounts rejected have fewer chances of re-running. In future versions of this paper I plan to include an appropriate model to account for this bias.

Appendix A: Effect of Accounts Rejection on Likelihood to Relist

TABLE A.1: Effect of Accounts Rejection on the Possibilities of Re-listing for Reelection

Candidates for Mayor		
	Model 1	Model 2
	Coefficient	Coefficient
	(Std Error)	(Std Error)
Accounts Rejected	-0.80*** (0.10)	-0.31*** (0.11)
Vote share (2008)	0.04*** (0.00)	0.02*** (0.01)
Spending	-0.00*** (0.00)	0.00 (0.00)
Age	-0.02*** (0.00)	-0.02 (0.01)
Gender (Male)	0.07 (0.06)	0.30 (0.33)
University Complete	-10.47 (11.95)	0.97 (0.47)
High School Complete	-10.58 (11.95)	0.64 (0.48)
Primary School Complete	-10.86 (11.95)	- -
Reads and Writes	-10.90 (11.95)	-14.01 (664.52)
N	12,820	697

***p<0.01, **p<0.05, *p<0.1 (two-tailed test).

Model 1: Effect of account rejection on possibility of relisting for all candidates.

Model 2: Effect of number of processes of account rejection on possibility of re-listing.

Only candidates with accounts rejected.

Illiterate is the baseline category in models 1 and 2.

Primary Complete is the baseline category for model 2 (there are no illiterates in this sample).

TABLE A.2: Effect of Accounts Rejection on the Possibilities of Re-listing for Reelection

Candidates for City Council

	Model 1	Model 2	Model 3
	Coefficient	Coefficient	Coefficient
	(Std Error)	(Std Error)	(Std Error)
Accounts Rejected	-1.14*** (0.06)	-0.38*** (0.10)	-0.56*** (0.17)
Party Mayor	0.16*** (0.01)	0.34** (0.15)	-0.10 (0.24)
Coalition Mayor	-0.40*** (0.02)	-0.01 (0.15)	-0.15 (0.27)
Vote share (2008)	38.22*** (0.26)	4.88* (2.52)	7.11 (5.14)
Spending	-2.72*** (0.16)	1.14 (1.22)	0.59 (2.08)
Age	0.00 (0.16)	0.01 (0.01)	0.03*** (0.01)
Gender (Male)	0.14*** (0.01)	0.14 (0.18)	0.14 (0.33)
Education (University Complete)	0.34** (0.16)	12.5 (324.7)	-0.31 (0.36)
Education (High School Complete)	0.45*** (0.16)	12.3 (324.7)	-0.03 (0.34)
Education (Primary School Complete)	0.42*** (0.16)	12.12 (324.7)	
Education (Reads and Writes)	0.17 (0.16)	12.42 (324.7)	-1.23 (0.63)
N	321,137	1,572	510

***p<0.01, **p<0.05, *p<0.1 (two-tailed test).

Model 1: Effect of account rejection on possibility of relisting for all candidates.

Model 2: Effect of number of processes of account rejection on possibility of re-listing.

Only candidates with accounts rejected.

Model 3: Effect of number of processes of account rejection on possibility of being eligible.

Only candidates with accounts rejected.

Female is the baseline category for gender in the three models.

Illiterate is the baseline category in models 1 and 2.

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