Accountability, Political Capture and Selection into Politics*

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Abstract

We estimate the effects of political accountability on the selection of politicians when accountability mechanisms are prone to political capture. Using a comprehensive dataset that records characteristics of candidates for mayor in the last three local elections in Perú, and a close election sharp regression discontinuity design, we compare candidates running for mayor in districts where the incumbent was ousted from office through a recall referendum in the previous electoral term with those who run in districts where the recall referendum failed by a small margin. Candidates in municipalities where the incumbent was recalled are less educated, have less experience in elected offices and in the public sector, and are younger. These findings are consistent with a framework where potential candidates learn about an accountability mechanism which is prone to capture, distorting the main objectives of improving the quality of government, and instead discouraging high quality candidates to run. The negative selection of candidates is partially offset by voters, who elect the best politician out of a lower quality pool of candidates.

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1 Introduction

In most democratic systems, different mechanisms and institutions can be used to increase voter's control over politicians', e.g., re-election incentives, free press, impeachment and recall mechanisms, etc. The objective of these institutions is to improve government quality and public good provision by both disciplining elected politicians or punishing the inefficient or corrupt ones (Persson and Tabellini (2000), Barro (1973) and Ferejohn (1986)). These mechanisms do not only have effects over politicians' actions, but also on their selection: by holding them accountable, they affect the expected value of office (see eg. Besley (2007).) However, in countries with low state capacity, where accountability institutions are at risk of being captured or manipulated by political elites or special interest groups, these objectives can be distorted. For example, if the press is controlled by economic elites, it can highlight information that punishes efficient and honest politicians, which could discourage potentially good candidates to run for office, but who might have otherwise considered the post in the future.

In this paper, we study how accountability institutions affect the type of politicians who decide to run for office, and show the way in which these institutions can lead to a negative selection when they are prone to capture. Using a comprehensive dataset on the characteristics and background of candidates running for district mayor in the last three rounds of municipal elections in Peru, we show that candidates in municipalities where the previous mayor was ousted from office through a recall referendum have on average lower levels of education, less experience in elected office and in the public sector, and are younger. These results are consistent with a framework where potential candidates have imperfect information about the recall process, and they update their beliefs on the probability of a politically motivated recall when they observe one in their district. This, in turn, affects their expected returns from office. Our results show that despite the negative selection of candidates, elections still play an important role, and the negative effects on the pool of candidates are mostly offset by voters, who select the most qualified politicians among a lower quality pool.

Our estimation strategy uses a close election regression discontinuity design, comparing the characteristics of candidates who decide to run for mayor in districts where the incumbent lost a recall referendum by a small margin with those running in places where the mayor barely survived the recall. While having a mayor recalled from office should not affect the probability that the next one is recalled, it affects the expected value of office for potential candidates if candidates are uninformed about the recall process, its consequences, and the extent to which the process is politically captured. By having a mayor recalled in the district, they learn and update their beliefs (as in e.g. Avis, Ferraz, and Finan (2017).) In this framework, high ability politicians and those who derive a high level of utility from providing public goods refrain from running, lowering the quality of the pool of candidates.

Our results show that having a mayor ousted through a referendum in the previous period causes a reduction in the quality of candidates running for mayor in the current term: candidates in treated municipalities have about half a year less education, are 21 percent less likely to be university educated, and instead the proportion of candidates with only secondary education is higher. Looking at other dimensions that are presumably correlated with politicians' quality, we find that candidates in municipalities where a mayor was recalled also have less experience in elected office, and in particularly, have 0.4 less years serving as district mayor, have less experience working in the public sector, and are less likely to have served in a party office. Finally, these candidates are 0.5 years younger. Overall, these results suggest that high ability candidates are selecting out of the race, leaving the entrance clear for new comers to politics, who are of lower ability.

Recall referenda are a direct democracy institution that allows voters to hold politicians accountable outside the regular election terms. This accountability mechanism is used around the world in countries as diverse as Uganda, Colombia, Poland, the US, and Ecuador (Serdült and Welp (2012)). In Peru, recall referenda are widely used at the local level (Welp (2015)). For example, in the 2010 electoral period, 20 percent of mayors in the country faced a recall election, of which one fourth were ousted from office. Importantly, it has been documented that recall referenda are often used as a political tool, with candidates who lost a previous election often being the promoters of recall processes. In general, an increase in accountability allows voters to punish low quality and corrupt politicians, therefore reducing their expected term length and generating a positive selection. However, the political use of the accountability mechanism generates that high valence and policy-motivated candidates may also be punished by voters, regardless of their performance, deterring some of them from running for office, and generating a negative selection. When accountability institutions are at risk of being captured, as is often the case in countries with low state capacity, well-intended institutions can backfire.

Analyzing the heterogeneity of the treatment effects, we show suggestive evidence that the negative selection of candidates is larger in districts where the main promoter of the recall referendum is a politician who ran for office in the past. On the other hand, this selection is unaffected by the previous mayor's performance, as measured by the percent of the budget executed. These findings bolster the idea that the negative selection is mainly driven by politically motivated recalls, which affects the potential candidates' perceptions about the probability of being recalled. We also find that candidates with a higher opportunity cost (as measured by their predicted wages) are more likely to be deterred from running for office. Our results are not driven by pre-existing differences in the characteristics of the incumbents or their opponents, time-variant characteristics of the political situation of the district at the moment of the recall referendum, or related to the absence of an incumbent mayor in municipalities where she was recalled.

Finally, in our empirical analysis, we investigate whether having a lower quality pool of candidates leads to lower quality elected mayors. Our findings, though suggestive due to a reduced sample size, show that elections mostly offset the negative effect of recalls on the candidate pool, and elected mayors in treated areas are only slightly less educated than those who win the election in districts where a mayor barely survived the recall referendum.

Peruvian municipalities provide an ideal setting for studying the effects of accountability institutions on candidate selection. First, unlike other contexts where information on the characteristics of politicians is only released for the ones who get elected, the national electoral office collects and publishes detailed data on all candidates running for any public office, from the presidency down to the municipal council. These data allow us to look not only at the effects on the number of candidates and political competition, as previous studies, but importantly to who decides to run for office and who is deterred, emphasizing those characteristics that are likely to cause better performance in office, as education and previous experience in the public and private sector (Besley, Montalvo, and Reynal-Querol (2011), Besley, Pande, and Rao (2005), Martinez-Bravo (2017)). Second, it is not often the case that one can observe variation in accountability at the local level, and when one does, it is not easy to disentangle between observed or unobserved factors that determine the level of accountability and other outcomes that one wants to study.[1] In our setting, close results in recall elections allow us to identify the effect of being exposed to (and learning from) an accountability institution that can be used for political purposes, and therefore causes a shorter expected term in office. Finally, recall referenda in Peru are an institution that is at risk of being captured by political interest groups, a claim supported by anecdotal and statistical evidence, allowing us to shed light on the mechanisms that explain why accountability can lead to a negative selection of candidates.

Our work contributes and bridges the literatures studying the effects of voter control mechanisms and the one analyzing the motivations and selection of politicians. First, we contribute to the literature looking at the broad question of politicians' motivations and selection. In an early paper, Diermeier, Keane, and Merlo (2005) estimate a model of the behavior of members of the US Congress, and simulate the effects of imposing term limits. They find that term limits substantially increase early voluntary exit from the House. Dal Bó et al. (2017) document several stages of the selection of politicians using extremely detailed and rich data from Sweden. Their findings demonstrate that politicians are on average smarter than the rest of the population, but are representative in terms of their social background, and that material and intrinsic motives matter for selection. In this paper, we show empirically a specific mechanism that affects the selection of politicians, which sheds light on their motivation for running for office.

[1] Notable exceptions of random variation in accountability can be found in Ferraz and Finan (2008), Ferraz and Finan (2011), Avis, Ferraz, and Finan (2017) and Litschig and Zamboni (2016).

Second, a large body of theoretical literature shows that increases in accountability allow voters to discipline politicians, for instance in the form of reelection incentives, term limits, information availability etc. Barro (1973) and Ferejohn (1986) in their seminal work highlighted the relevance of the information asymmetry between voters and politicians.[2] Most political agency models predict that these information asymmetries have effects on the incidence of both moral hazard and adverse selection, however the empirical work analyzing the effects of accountability institutions have focused on the former.[3] In a recent paper, Avis, Ferraz, and Finan (2017) show that Brazilian mayors exposed to a random audit are less likely to engage in corruption or miss-management. As the model in this paper shows, despite the fact that audits are independent draws, and being audited should not affect the probability of this happening again, mayors are miss-informed and when an audit takes place, they update their priors. The main hypothesis presented in our paper is in a similar vein, and assumes that mayors do not have perfect information about the probability of having a politically motivated recall, and update their believes when they observe a mayor being recalled in their municipality.[4]

The selection of politicians who decide to run for office is as important as their behavior, since their honesty, competence and motivation determine the quality of public policies implemented, either directly (Martinez-Bravo (2017), Besley, Montalvo, and Reynal-Querol (2011), Besley, Pande, and Rao (2005)) or through its effects on political competition and more generally on the political equilibrium (Besley (2007), Acemoglu, Egorov, and Sonin (2013), Besley, Persson, and Strum (2010).) Few empirical papers so far have looked at the effects of accountability institutions on the selection of candidates. Alt, Bueno de Mesquita, and Rose (2011) empirically disentangle the effort and selection effects of term limits for state governors in the US, finding that part of the disappearance of the effect of term limits on gubernatorial performance over time is explained by low performing politicians failing to get reelected or choosing not to run. Fisman, Schulz, and Vig (2017) look at the effects of financial disclosure laws on the selection of candidates in India. Using the staggered imple-

[2]Besley (2007) and Persson and Tabellini (2000) provide great reviews of these models.

[3]Besley and Case (1995) and Ferraz and Finan (2011) estimate the impact of term limits on the performance of governors and mayors in the US and Brazil, respectively, providing empirical evidence that lame ducks are more likely to have worse performance in office and higher incidence of corruption. List and Sturm. (2006) study term limits in US elections and find that they affect the expected quality of incumbents and environmental policy. Ferraz and Finan (2008) investigate how the release of information on corruption audits affects the reelection prospects of politicians in Brazil, Besley and Burgess (2002) study the effects of press availability on government responses in India, while Bobonis, Fuertes, and Schwabe (2016) look at the impact of timely corruption monitoring on corruption levels. Finally, Casey (2015) analyzes the effects of information availability on redistributive politics.

[4]Our results are also consistent with a story where the salience of politically motivated recalls increases with a recent recall of a mayor in the district, which in turn affects potential candidates' perceived probability of being ousted from office due to political grievances. Recent events have been shown to affect the perceived probability of the event happening again in the near future. For example, flood insurance sales spike right after a hurricane, or air ticket sales decrease after a plane accident.

mentation of disclosure laws, they find that potentially corrupt politicians self-select out of the electoral race. Danielle, Cavalcanti, and Galletta (2017) analyze the effects of the disclosure of information about corruption in Brazil on the selection of politicians, demonstrating that parties play a large role in selecting candidates based on the information that is known about them. In our analysis, we directly observe the characteristics of all candidates running for the mayor seat. In examining newspaper entry in Italian municipalities, Drago, Nannicini, and Sobbrio (2014) do not find an effect on political selection. Unlike these papers, we analyze an accountability institution that is used for political purposes, which distorts its objectives and hence generates negative selection.[5]

More closely related to the predictions of agency models, as well as highlighting the importance of considering endogenous selection into politics (in the spirit of the citizen candidate models, e.g. Osborne and Silvinski (1996) and Besley and Coate (1997)), a group of papers analyze the effects of monetary incentives on politicians' selection and performance. Ferraz and Finan (2016) and Gagliarducci and Nannicini (2013) use detailed data on the characteristics of candidates running in local elections, and exploit regression discontinuity designs to identify the effects of politicians' salaries on their selection and their actions once in office in Brazil and Italy, respectively. Both papers find that higher wages generate a positive selection of politicians. Further, they manage to separate the incentive and selection effects, and document better performances of politicians who receive higher wages.[6] Brollo et al. (2013) study how additional resource revenues from natural resources affect political corruption and the quality of politicians. Their findings show that larger transfers increase corruption and reduce the average education of candidates for mayor. Beath et al. (2016) use a randomized control trial in Afghanistan to look at the effects of different electoral processes on the selection of politicians. They show formally and empirically that representatives elected in elections with a single multi-member district have higher educational levels and less extreme policy views.[7] Similar to these papers, we use detailed data on candidates to analyze the effects of a treatment that affects the expected value of office. In the context we analyze, potential candidates exposed to a successful recall of the local mayor in the previous electoral period have a lower expected length of term. To some extent, our results also complement those from Dal Bó and Rossi (2011), who show the effects of different length in office on the

[5]Malesky, Schuler, and Tran (2012) use an experiment to explore the effects of legislative transparency on the performance of Vietnamese parliamentarians. They find that, unlike in a democratic setting, co-optation and limited power sharing in an authoritarian regime, which would normally increase accountability, can have negative consequences in terms of curtailed participation.

[6]Pique (2017) also evaluates the impact of mayors' salaries, and using the same data sources as our paper, documents that higher wages do not affect the selection of politicians, but have a robust negative effect on public investment performance.

[7]Galasso and Nannicini (2011), Galasso and Nannicini (2017), Galasso and Nannicini (2015) analyze the effects of electoral rules on the selection of politicians, emphasizing the role played by political parties in this selection process. Also related, the model in Caselli and Morelli (2004) explains the persistence of bad politicians in office.

performance of legislators in Argentina, holding selection constant. We add to this literature by documenting that institutions intended to increase citizen control of politicians can have negative consequences when they are likely to be captured by specific interest groups.

The paper is organized as follows. The next section introduces the institutional background and provides details on recall elections in Peru. Section 3 describes our main data sources, and in Section3.3 we lay out our empirical strategy. Section 4 presents our main reduced form results, while in Section 6 we provide evidence supporting our main hypothesis. Finally, Section 7 summarizes our evidence and concludes.

2 Institutional Background

2.1 Local Governments in Perú

Municipalities (districts) are the lower administrative level in Peru. The highly decentralized structure of the country gives a significant amount of decision power to municipalities, which execute a large share of the national budget, and are in charge of basic public good provision, e.g. street pavement, local security, trash collection, street cleaning, as well as management of education and health services. Since 2002, municipalities have recorded a five-fold increase in their budgets, now accounting for more than 20 percent of the national budget and around 45 percent of Peru's total public investment budget (Pique (2017)).

District mayors and their councilors are elected for four year terms with the option of reelection. The mayor is elected by a first past the post system.[8] The political landscape at the local level is extremely fragmented, with a significant number of candidates running for independent parties (i.e. citizen candidates), which have few links outside the district and are often seen as an election vehicles centered around the candidate, rather than an ideology or political program (see eg. Bland and Chirinos (2014).) For example, in the 2014 municipal elections, the average district had 7.26 candidates running for office, and only 36.9 percent of them represented a national political party.

2.2 Recall Elections

Peruvian citizens have the right to recall any local elected official (mayors, councilors, and regional presidents, but not MPs or the president). The introduction of this direct democracy mechanism in the 1993 Constitution followed a set of similar democratizing reforms in other Andean countries (Colombia, Ecuador, Bolivia) and emulated ones already existing elsewhere in the world (eg. US, Poland, Uganda, among others.) The main objective of this institution is

[8]The mayor's party automatically gets a majority of seats in the council, with the rest of seats being assigned to the other political parties, proportional to their vote shares. Mayors are full time employees that receive a wage, while councilors are paid by the number of hours they serve in the council.

to hold politicians accountable on a more constant basis, rather than only in regular election times. Detractors argue that direct democracy mechanisms imbedded in a representative democracy undermine governance, keeping incumbents occupied in constant campaigning to avoid being recalled, and provide incentives to invest in projects with a shorter time scope, rather than larger reforms, which take longer to materialize.

A recall referendum can be called in the second or third year of the mayor's term. To initiate a recall procedure, the promoter has to (i) buy a "recall kit," which includes the official forms to collect signatures from supporters,[9] (ii) name the authorities subject to the recall and provide a reason,[10] and (iii) collect valid signatures of 25 percent of the eligible voters in the jurisdiction.[11] Figure 1 shows the timing of elections, and the steps required to call a recall referendum.

When the signature threshold is achieved, the national electoral commission (JNE) calls for a recall referendum. Voters are able to vote for the recall of each individual authority under scrutiny. An incumbent is recalled if (i) turnout is at least 50 percent, and (ii) at least 50 percent plus one of the valid votes are cast in favor of recalling the authority. Despite the cumbersome procedure, recall referenda are very common in Peruvian politics. Between 1997 and 2013, there have been more than 20,000 recall attempts (kits purchased), and more than 5,000 officials have faced a recall referendum in 45 percent of all districts in the country (747 out of 1645 districts.)[12]

[9]The representative of the recall petition has to be registered in the district where she wants to recall an incumbent and must have no outstanding fines. The cost of purchasing a recall kit is relatively low, at about US$30.

[10]Multiple names can be included in the petition, e.g. the mayor and a group of councilors. The proposer needs to present an argument backing up the reasons for the recall attempt, but she does not need proof. No recall attempt has been stopped because of an invalid reason so far. Welp (2015) mentions that "Quintanilla (2013) cites as the most common reasons to activate a recall in 2012 were (more than one reason could be given): (1) The lack of fulfillment of the working plan and/or electoral promises (143 requests); (2) The misuse of resources or funds for private gains (119 requests); (3) Bad management or moral incapacity (114 requests); (4) Nepotism, abuse of power and/or usurpation of functions (110 requests); (5) Lack of transparency, lack of accountability, does not convene cabildos (city councils) (79 requests); (6) Does not execute public works or does so inadequately, does not finish or execute non-prioritized works (49 requests); (7) Does not respect agreements made through participatory budgeting, does not call for participatory budgeting or executes works not approved for in the participatory budget (47 requests); (8) Does not supervise local management (46 requests); (9) Negligence (42 requests); and (10) Non-Fulfillment of duties (39 requests)."

[11]The signatures submitted are examined by the national registry (RENIEC, a national level, technical and independent institution,) which checks for their validity, e.g. if the name, signature and finger print match the records, if the person is registered in the district where the recall is to take place, if he/she has not signed for other recall petition, etc. Once the signatures are checked, RENIEC gets back to the proposers and lets them know the final percentage of valid signatures. In cases in which this percentage falls below 25 percent of eligible voters, they have the chance to submit extra batches of signatures, which are checked until a pre-established deadline arrives, or the threshold is achieved.

[12]Peru is the country in the world where recall referenda are used most often, followed by the US and Poland, where this institution has been in place for more than 100 and 25 years, respectively. Welp (2015) reports that "recall referendums have become one of the most intensively used mechanisms of citizen participation in South America, particularly in the Andean countries. To give just a few examples, between 2008 and 2010 more than 700 recall attempts were registered in Ecuador of which more than 100 resulted in a referendum. Hundreds of

When a mayor is recalled, unless at least one third of the council is also recalled, the first councilor from the list takes office until the next regular election cycle. On the other hand, if the mayor and at least a third of the council are recalled, there are new elections, and the elected mayor serves in office until the original term is done (this does not happen often though). In practice, this means that the new mayor is in power for less than two years.

While this direct democracy mechanism is intended to increase accountability, devolving power to voters outside the regular electoral cycle and enabling them to punish inefficient or corrupt politicians, it has been documented that it is often used as a political tool. Given the large number of candidates running for office and the absence of run-off elections, it is not uncommon that mayors are elected with a very low percentage of votes. In the 2014 election, the average mayor was elected with 35.1 percent of the votes, and in districts with above median political competition (as measured by the number of candidates), this number goes down to 29.4% percent.

After a mayor is elected, it is therefore not hard to put together a coalition between loosing candidates that have enough support to promote a recall referendum (Bland and Chirinos (2014).) For example, as the JNE shows, in the 2012 recall cycle, 22 percent of the promoters of a recall referendum were candidates who lost in the preceding election. If one considers that many times politicians have political operators representing them as the official person promoting the recall (eg. as was the case of the the 2013 recall referenda in Lima), we should expect the true number to be even larger. These statistics, on top of the fact that the number of recall referenda has varied widely across years, add to the uncertainty any candidate has about the probabilities of being subject to a recall referenda due to political grievances, and regardless of their performance in office.

In Table 1, we regress the presence of a recall referendum on different covariates that presumably predict recall elections, namely, the observable characteristics of the mayor and variables describing the political scenario of the election (turnout, number of candidates and win margin). After including in the regression district and election fixed effects, the only variables that have predictive power are those related to the level of political competition: recall elections are more likely to take place after a close election, and in districts where turnout was higher (though the magnitude of the latter is small). Importantly, none of the mayor's characteristics have economically or statistically significant effects on the probability of a recall election taking place (except for gender). This is consistent with the claim that the recall referenda are used as a political tool, rather than as a citizen control mechanism to punish corrupt or low performing politicians.[13]

attempts have been registered in Bolivia since 2012 and Colombia has seen a large number of recall attempts since its legal introduction in 1991, including a process against the Mayor of Bogota, Gustavo Petro, in 2012. The mechanisms is also provided in some Mexican states and Argentine provinces."

[13]In a similar analysis, considering the correlates of having a mayor recalled, the same set of political variables are still strong predictors of the recall, however, the educational level of the mayor and her characteristics are

Presumably, the political objective of a recall referendum is to weaken the incumbent for a future election. In districts where a recall petition was initiated through a signature collection, the incumbent runs for reelection in 79.7 percent of cases (compared to 68 percent, where there was no signature collection at all). Incumbents who faced a referendum and survived it, run for reelection 72 percent of the times, and 18 percent of them win the reelection. In contrast, 48 percent of incumbents who were recalled do run for reelection, but only 4.8 percent of them win these elections (see Appendix Table 13.) Hence, it seems that recall referenda are used as a political strategy to weaken the incumbent's electoral profile.

3 Data and Empirical Strategy

3.1 Data Sources

For the empirical analysis, we put together data from different sources. Our main outcome variables are compiled from www.Infogob.com.pe, a government website that publishes electoral information, and in particular, they publish candidates' Curriculum Vitae (*Hoja de vida*). We scraped the website to assemble a novel and comprehensive dataset with the characteristics of candidates who ran for mayor in the 2002, 2006, 2010 and 2014 elections.

Despite the differences in the format and level of detail provided in the original datasets for different years, we compute a series of consistent variables related to the candidates' schooling: (i) ever attended to the university, (ii) attended only a technical education center, (iii) attended up to secondary school, (iv) attended at most primary school. From these variables, together with information on whether each level of schooling was completed or not, plus the number of years of schooling at the post secondary level, we impute the number of years of education.[14] Additionally, the dataset includes information on the candidates' work and political experience as well as political party service, from where we can compute the number of years of experience in (i) elected public office (mayor, councilor or regional counselor), (ii) the position of mayor, (iii) service in party office, as well as (vi) whether a candidate is a member of a national political party, (v) has work experience in the public sector or (vi) private sector. Finally, we obtained information on the candidates' demographic

also statistically significant in the regressions and the signs are in the expected directions. This shows that even in the cases in which the recall election was politically motivated, voters punish low ability politicians. These results are shown in Appendix Table 12.

[14] In accordance with the Peruvian educational system, we impute 6 and 5 years of education if a candidate completed primary or secondary education, respectively. For attending but not graduating from primary or secondary school, 4 and 3 years of education are imputed, respectively. To avoid mistakenly giving too much weight to individuals who stretched their degrees beyond the regularly required degree period, we assign caps on the maximum amount of years for post secondary degrees. Finally, for the rare cases where the years studied for post secondary degrees are not reported, we impute years of education as follows. First, attending or completing university are imputed as 4 or 6 years of education. Second, attending or completing technical education are coded as 1 or 3 years of education.

characteristics, e.g. gender and age.[15]

While candidates are not legally mandated to submit their CVs to the national electoral office, conditional on reporting it, the information has to be truthful or else they could face legal charges. The coverage of our dataset is large: we have information on educational attainment for 94.7 percent of candidates running in the 2014 election, and 93.9, 84.8, 84.1 for those in contention for the mayor's seat for 2010, 2006 and 2002, respectively.[16]

Finally, we obtained from the national electoral office (ONPE) information on all relevant political outcomes at the district level, namely, the list of candidates running for each election, their party affiliations and vote shares. These data allowed us to compute the win margin of the elected mayor. Additionally, they also gave us access to data on the number of kits bought to attempt a recall, the names of the authorities who they attempt to recall, the name and ID number of the person who filed the recall petition, and whether a recall referendum took place in a district (and its date), and its outcome.

3.2 Descriptive statistics

As mentioned in Section 2, recall referenda are fairly common in Peru. Figure 2 shows the incidence of recall referenda over the last three electoral periods. Recalls have been attempted (i.e., "kits" purchased) in 35 to more than 60 percent of districts, with a clear upward trend in time. These attempts have been successful in about 35 percent of cases in each period, meaning that between 10 to 20 percent of districts in the country had a recall referenda, leading to between 2 to 6 percent of districts having a recalled mayor. Our main analysis sample is drawn from the subset of districtsXelections in which a recall referendum was held. Overall, the statistics from Figure2 reinforce the fact that there is wide time variation in the incidence of recall referenda, and that the probability of being recalled is quite uncertain for candidates who decide to run for election.

Table 2 provides the basic descriptive statistics of our data, both for the full sample, and for the restricted sample of districtsXelections in which the vote share in favor of recalling the mayor was around the 50% threshold.[17] Candidates running for mayors in Peruvian municipalities have a relatively high level of education. 39 percent of candidates in our RD sample attended university, and they have on average 13.6 years of education. Similarly, around 11 percent of candidates during the analysis period have primary education or less

[15] While the CVs online have fields for filling out previous convictions or open trails, and wealth, these are seldomly filled, and therefore we can't use them for our analysis.

[16] While the website does not provide a direct link to the CVs of candidates running for the 2002 elections, we do have the list of their ID numbers. The information for the 2002 candidates is taken from the CVs reported in subsequent elections. Our main analysis is centered on the characteristics of candidates running in the 2006, 2010 and 2014 elections, and we use the information from 2002 for robustness and validity checks.

[17] To select this sample, in our preferred specification, we use the optimal bandwidth proposed by Imbens and Kalyanaraman (2012) for regression discontinuity analyses.

while around 30 percent have only attended secondary education. Those candidates that end up elected as mayors have on average extremely similar educational levels. In terms of their previous experience, elected mayors are also similar to the ones facing a recall election. They have on average 1.2 years of experience in elected office, which mostly comes from having experience as mayors in the past.

Finally, for both candidates and elected mayors, a relatively low number (around 40 percent) belong to a political party that nationally competes in elections. The fact that the majority of candidates runs for a regional or local party or movement illustrates the fragmentation of the political and party system in Peru, in particular at the municipal level. In this context, individuals matter more than party platforms, emphasizing the significance of their qualifications, experience and personality for local politics and public goods provision. Demographically, candidates and mayors are of similar average age (46 years). The share of women among those who get elected into office is half the share among all candidates that compete in municipal mayoral elections.

In the last rows of Table 2, we present a brief overview of five variables at the district level. These consist of political and electoral outcomes, such as the number of candidates that run for the office of mayor, the win margin (in percentage points) of the elected candidate, a standardized measure of political competition and the election turnout. Table 2 draws a clear picture of the nature of Peruvian municipal elections. The elections are strongly contested, with on average more than 7 candidates running for mayor. The level of political competition, measured by the distribution of vote shares among candidates, indicates the severity of competition for mayoral positions. The average win margin, of around 8 percentage points, appears at first glance relatively large in comparison to the number of candidates and the proxy for political competition. However, a closer look at the distribution conveys a more nuanced view. 50 percent of electoral races were decided by at most 6 percentage points and at the top the win margin is significantly reduced. For instance, the average win margin for the 50 percent closest electoral races is below 3 percentage points, for the the most competitive third of elections the win margin drops even below 1.9 percentage points. In conjunction with the other electoral measures and the high level of voter mobilization (around 85 percent of all registered voters participate in elections), this demonstrates that elections for mayoral office are in many instances extremely competitive and often decided by a marginal number of votes.

3.3 Empirical Strategy

The empirical strategy identifies the causal effect of having a mayor recalled in your district in the past electoral term on the selection of politicians who decide to run for office. To do this, we compare candidates running for the mayor position in elections where a mayor

was barely ousted from office in a referendum, with those in which the mayor survived the recall referendum by a small margin. Our identification strategy uses a sharp regression discontinuity design (Lee and Lemieux (2010), Imbens and Lemieux (2008)), and relies on the assumption that districts in which the mayor was barely ousted are similar in observable and unobservable characteristics to those in which the mayor barely managed to stay in office.

Our main regression equation is as follows:

$$Y_{ijt} = \alpha + \beta Recalled_{jt-1} + \gamma f(VoteShare_{jt-1}) + \varepsilon_{ijt} \quad (1)$$

where, Y_{ijt} are characteristics of candidate i running for office in district j in election t. In our main regressions, these characteristics include their educational level, years of experience in private and public office, as well as demographic characteristics. Our main interest lies in β, the coefficient associated with having a mayor recalled in electoral term $t-1$. The running variable is the share of votes in favor of the recall, and thus we include in all of our regressions a flexible polynomial of this variable $f(VoteShare_{jt-1})$. Our preferred specification uses a local linear regression with triangle kernel weights. Finally, ε is the error term, which we cluster at the level of the treatment, districtXelection level.

Given that we are comparing candidates in elections where a recall election was barely won or lost, our analysis sample is restricted to district-election observations in which a recall election was held. In addition, we only consider observations at the district-election dimension for which the vote share in favor of the recall is close enough to the threshold, and present robustness checks for multiple bandwidths, i.e. $VoteShare_{jt-1} \in [0.5 - \epsilon, 0.5 + \epsilon]$, where ϵ is determined with optimal bandwidth selection procedures. In our preferred specification, we use optimal bandwidths based on Imbens and Kalyanaraman (2012), but in the appendix, we also present results with the bandwidths as suggested by Calonico, Cattaneo, and Titiunik (2014) as well as results with 3 percentage points as bandwidth.

4 Results: Accountability and Candidate Selection

4.1 Candidate Education and Experience

Figure 3 shows graphically our main results using non-parametric plots with breaks at the 50 percent vote share. As is clear from the graphical evidence, candidates who run in elections in districts where a mayor was recalled in the previous electoral period have less years of education, are less likely to have attended university, and more likely to only have attended up to secondary education.

In Table 3, we formally test for the magnitude and significance of the observed effects from Figure 3, showing the results of regression equation (1). Panel A shows our preferred specification, in which we run the regression discontinuity using a local linear regression for the

running variable, and triangle kernel weights. All results are shown restricting the sample to an optimal bandwidth (following Imbens and Kalyanaraman (2012)) but they are not sensitive to the choice of bandwidth.[18]The main message from the graphical evidence holds: candidates running in districts with higher salience of the recall institution have 0.5 less years of education, and are 21 percent less likely to have attended university. The proportion of candidates with just a technical education center diploma is unchanged, but there is a sharp increase of 23 percent in the proportion of candidates who only have attended secondary education. Panel B of Table 3 shows a specification check in which instead of using a weighted local linear regression of the running variable, we use only a linear polynomial, and the results remain unchanged. As another specification check, we use a cubic polynomial in Panel C, and the main quantitative results hold, but we loose statistical power as we increase the degree of the polynomial. Generally, the qualitative and quantitative results are not sensitive to the choice of bandwidth or polynomial specification.

More educated leaders have been shown to cause better public good provision and economic growth. Exploiting a natural experiment in Indonesia, Martinez-Bravo (2017) shows that villages with a head who has an additional year of education are more likely to have available more health centers, doctors and safe drinking water. Using data from southern India, Besley, Pande, and Rao (2005) show that the educational level of the village heads is correlated with lower levels of corruption. In a cross country setting, Besley, Montalvo, and Reynal-Querol (2011) document that the exogenous removal of a highly educated head of state has a negative impact on economic growth.

While there seems to be a robust relationship between the leader's educational level and economic performance, a leader's quality is a multidimensional concept. Our data allow us to look at other characteristics that are also presumably related to the mayor's performance in office, beyond educational attainment. Using our preferred specification from Panel A in Table 3, the results in Table 4 show the selection effects for the candidates' experience before deciding to stand for office and their demographic characteristics.

Our results demonstrate that candidates who decide to stand for elections in municipalities where a recall referendum recalled the incumbent in the previous period have less years of experience in elected office (not significant), and in particular, they have 0.4 less years serving as a district mayors, and there is suggestive evidence that they are less likely to have experience holding an office in a political party (0.2 years less, not statistically significant.) Importantly, having a recalled mayor in the past does not have differential effects on the proportion of

[18]The differences between the sample sizes used in the different regressions is due to the optimal bandwidth obtained, which go between 3 and 8 percentage points above and below the threshold. In the Appendix, we show the main regressions for alternative bandwidth specifications, namely the one suggested in Calonico, Cattaneo, and Titiunik (2014) (Appendix Table 14), or an arbitrary bandwidth, smaller than the others, of 3 percentage points above and below the threshold (Appendix Table 15). All the results are quantitatively and qualitatively similar.

candidates affiliated with national political parties. Panel B of Table 4 bolsters these results. Candidates in the treatment group are 11 percentage points less likely to have any experience working in the public sector (from a base of 55 percent), and they are one and a half years younger.[19]

Overall, the results indicate that candidates who decide to run in elections after a mayor was recalled are not only less educated, but they also seem to be new entrants to politics and to the public sector in general: they have less experience in elected office, have less experience working in the public sector and are younger.

4.2 Robustness and Specification Checks

The identification assumption in our empirical design is that observations at both sides of the threshold are comparable along observable and unobservable characteristics. Figures 4 through 8 show the continuity tests for different districtXelection observable characteristics. We focus on variables related to (i) the educational level (Figure 4), and (ii) previous experience and characteristics (Figure 5) of the incumbent during the period when the recall referendum took place, (iii) variables related to the political process in the previous electoral period (Figure 6), and (iv) educational level and the characteristics of the runner up in the previous electoral period (Figure 7 and 8, respectively). There are no significant jumps along the threshold in most of the variables of interest.

A second important assumption of a regression discontinuity designs is that there is no sorting into the treatment. One indication that units could be sorting into the treatment is that the density of observations is discontinuous at the threshold (McCrary (2008)). Figure 9 shows a graphical depiction of the McCrary (2008) test, and as expected, the density of observations is continuous around the 50 percent vote share threshold. This ensures that selection into treatment should not be a concern.

One concern with identification is that the effects of having a recall referenda are persistent over time, and therefore we could have districts in which the quality of candidates for mayor is decreasing systematically, and this could be driving the results. This amounts to a violation of the parallel trends assumption in a difference in differences setting. To alleviate this concern, in Table 4 we present a placebo test, where we test if the presence of a recall referendum in $t-2$ affects the selection of candidates running for mayor in period t. Notice that this test significantly reduces our sample size, since the inclusion of a lag of our treatment variable

[19]Using an alternative identification strategy, in a previous version of the paper, we show similar quantitative and qualitative results when comparing candidates running in a district that had a recall referendum with districts where no referendum took place. The identification strategy for these results exploit the discontinuity provided by the number of signatures needed to hold a recall referendum, and does within district and within election comparisons, through the inclusion of district and election fixed effects. This identification strategy is weaker than the one shown for the main results of this paper since opposers had the chance of submitting signatures to the electoral office multiple time, thus generating a larger mass of observations at one side of the discontinuity and raising concerns about selection into the treatment. These results are available upon request.

effectively forces us to restrict the analysis to only two electoral periods. The results show that the main effects of a recall in $t-1$ are similar, both in magnitude and statistical significance, to the ones in Table 3.[20]

Overall, the set of robustness and specification checks implemented provide assurance that our results are not driven by selection, and that there is a causal relationship between having a recalled mayor in the district in the previous electoral period and the quality of the candidates that decide to run for office.

5 What Drives the Negative Selection of Candidates?

How could it be that an institution that increases voters' ability to hold politicians accountable while in office generates a negative selection of candidates? As mentioned in Section 2, recall elections in Peru have been shown to be often used as a political tool, with losers in the previous electoral period (some times) being the promoters of recall elections. Further, the strongest predictor of the presence of a recall election is the closeness of the regular municipal election, rather than the municipality or incumbent's characteristics (see Table 1).

We argue that having a mayor recalled in a certain municipality updates potential candidates' priors about the probability that they are recalled from office for political reasons, and unrelated to their performance, as in the model presented in Avis, Ferraz, and Finan (2017).[21] An increase in the perceived probability of being recalled decreases the expected value of office, and therefore affects the selection of candidates. [22] For example, if we think that candidates are heterogeneous in their ability, a reduction in the expected value of office will make some high opportunity cost candidates look for an alternative (more profitable) option. Alternatively, if the motivation for running for office relies on the utility derived from public good provision, a reduction in the expected length in office (and therefore the time to provide public services) will generate a differential selection along this dimention as well.

While there could be other mechanisms at play in this selection process, in this section, we provide evidence that the incentives, given by the expected rents from office for potential candidates, are the main mechanism driving the reduced form effects shown above. We first test whether the main effects shown in Section 4 are driven buy politically motivated

[20] Note that these regressions are run using a linear polynomial, since the local linear regressions with kernel weighting do not allow for the inclusion of additional controls in the regression.

[21] It is important to note that having a mayor recalled in a district does not affect the probability of the next mayor being recalled (especially in locations where the recall was decided by a small margin of votes), since this probability should reflect voters' preferences. However, our argument is based on candidates' learning about the probability of a politically motivated event.

[22] An alternative interpretation with similar reduced form predictions is that the salience of the accountability institution, and more specifically, politically motivated recalls, raise the perceived probability of being removed from office. This is consistent with evidence showing that people overestimate the probability of an event right after it has occurred, e.g. sales of flood insurance increase after a hurricane, or attendance to a certain beach is reduced after a shark attack.

recall referenda. Testing for a hypothesis involving the *intentions* of the recall promoters is inherently difficult, therefore we proxy for this using data on whether the recall petition was initiated by someone who was a political contender in the previous electoral period. In Panel A of Table 6 we show the results of our baseline regression, interacting the main treatment variable with a dummy for whether the recall petition was initiated by a former political contender. While the evidence shown is suggestive due to lower statistical power, we see that a large share of the main effect of the presence of a recalled mayor on the educational level of the candidates running in the next election is driven precisely by those elections where the recall was promoted by a political opponent.

Our hypothesis implies that the negative selection should be driven by elections where the potential candidates perceive that they could be recalled from office regardless of their performance. In Panel B of Table 6, we indirectly test this implication by interacting our main treatment variable with a proxy for the performance in office of the previous incumbent. We proxy the performance of the incumbent who faces a recall referendum with the percentage of the budget that she ends up spending at the end of the year. While imperfect, this is commonly used in the popular press as an indicator of performance.[23] The results in Panel B show that the negative selection of candidates is unrelated to the performance of the incumbent in office, since the coefficient of the interaction is small in magnitude and statistically insignificant.

An additional piece of evidence consistent with our main hypothesis is presented in Table 7, where we check if it is indeed the case that potential candidates with high ability, and therefore high opportunity cost, are the ones who are self-selecting out of the electoral race. In the absence of data on the opportunity cost of the candidate, we assume that the wage that one would earn in the private sector represents one's opportunity cost. We use information from the Peruvian LSMS (ENAHO) to generate a predicted wage in the private sector for each candidate. To do this, we run a Mincer regression on the LSMS data for people who report working in the private sector, and use as regressors all the variables that are also available on the candidates' CVs (age, age squared, gender, rural/urban, and education dummies). Using the coefficients from this regression, we generate a value of the opportunity cost for each candidate, which we use as the dependent variable in the regressions in Table 7. Depending on the functional form assumptions, the results show that candidates running for office in districts that had a mayor recalled in the previous term have a lower opportunity cost of between 4 and 9 percent.

[23] Budget execution is typically low, and it is not rare to see that a local government manages to spend only half of their budget by the end of th fiscal year. For some examples of press reports highlighting this issue and explicitly taking the percent of the budget execution as a proxy for performance, see: https://elcomercio.pe/lima/invirtio-obras-distrito-contamos-155429 or http://larepublica.pe/sociedad/1155111-regiones-y-municipios-no-pudieron-gastar-todo-su-presupuesto-este-ano

5.1 Alternative Mechanisms

While many alternative mechanisms are consistent with our reduced form results from Section 4, in this subsection we provide evidence rejecting some of these potential mechanisms.

First, in districts where there is a lower quality mayor, the chances that voters oppose the mayor in a referendum are higher, and thus opponents have larger incentives to campaign for a recall. This implies that districts with low quality mayors are more likely to loose a recall election, introducing concerns about omitted variables and selection. However, as we have seen in Figures 4 and 5, incumbents in districts at both sides of the threshold are similar in terms of their educational achievement, previous job experience and demographics. In Figure 9, we showed that the density is continuous around the threshold, and therefore candidates are differentially sorting at the threshold. Further, in Panel A of Table 8 we include in our preferred specification controls for the characteristics of incumbent mayors (educational level, experience, age and gender), and our main results are not only qualitatively similar, but also the magnitude of the coefficients is very stable (though, some coefficients are no longer significant).

Second, the flip-side of the previous argument is that the presence of a strong incumbent who has high chances of being reelected might provide more incentives for proponents to campaign against the mayor, and therefore weaken the incumbent's reelection prospects. If high quality incumbents decide not to run for office because they have been recalled, while other low quality incumbents who barely survived a recall referendum are still up for reelection, we would mechanically have a lower quality pool of candidates in places where a mayor was recalled. To deal with this concern, Panel B of Table 8 excludes from the regression sample all incumbents, and the results are robust to this exclusion.

Third, certain political scenarios might increase the chances of a successful recall and at the same time deter specific types of candidates to run for election. For example, when an election was more contested, the chances of a successful recall are higher, and promoters will work harder to get the mayor recalled. Again, all available political controls are balanced across the threshold (Figure 6), and including these variables in the main regression (Panel A in Table 9) do not significantly affect our results.

Fourth, some people could be better at running campaigns to recall mayors. If politically motivated recalls are run by those who lost previous elections, we should expect that including these characteristics affect the main estimates. First, we observe that the characteristics of the runner-ups are continuous across the threshold (Figure 7 and 8), and including these characteristics in the main regressions keep the results unchanged (Panel B in Table 9).

Finally, an alternative hypothesis explaining our results is that political competition determines the quality of candidates who run for office. Lower quality politicians are deterred from running when an incumbent is in the race. Instead, when the incumbent looses the recall

election, they face an open seat election and decide to run for office. Unfortunately, we are unable to to test empirically this conjecture, since only 4.8 percent of recalled mayors run for office. However, it is unlikely that this hypothesis explains our results. Unlike in the US, incumbents in Peru do not seem to have a incumbency advantage. While between 60 and 80 percent of mayors run for reelection, an astonishingly low proportion of those get reelected (18-20 percent).

5.2 Candidate Entry or Exit?

Candidates running in elections after a mayor was recalled in a referendum are, on average, less educated and have less experience in the public sector, and the evidence from Section 5 suggests that the effect runs through a reduction in the expected term length, which differentially affects the incentives to run for different types of politicians. One question that remains is whether it is indeed the case that high quality candidates who would have otherwise run are not entering the race, or instead that lower quality candidates are entering the race.

To look into this question, as well as how the political landscape is affected in districts that had a recall election in the previous period, in Table 10 we analyze the effects of having a recalled mayor on turnout, the number of candidates, win margin, and political competition. Voter participation in elections does not change significantly after a recall referendum. The results in Column (2) show that the number of candidates in these elections do not change significantly either, suggesting that there is a reshuffling in the candidate pool: while high ability candidates are being deterred from running, some low-ability ones are entering races that they would have otherwise not participated in. Consistent with the entry of low ability candidates in the pool, we observe that the the win margin does not change, and if anything the recall of a mayor in the previous period make races tighter.

6 Do Recall Referenda lead to Lower quality Mayors?

Does the lower average quality of the pool of candidates imply that the elected mayor will also be of lower quality? To explore this question, we run a similar analysis as before, comparing the characteristics of elected mayors in districts that had a mayor recalled or not in the past. The results of this analysis are reported in Table 11. Surprisingly, the results show that elected mayors do not have lower levels of education. If anything, they are slightly more likely to have a higher proportion of secondary educated mayors, but this difference is not statistically significant.

Panels B and C of Table 11 explore the effects on past political and job experience, as well as other characteristics. Overall, we do not see that having a mayor recalled in the past leads to elected mayors who have lower experience in public office. If anything, there is some

weak evidence that elected mayors are younger and are less likely to have worked in the public or private sector. Despite the lower average quality of the pool of candidates, it seems like elections still serve as a mechanism to elect high quality politicians.

7 Summary and Discussion

All democratic systems have mechanisms intended to allow citizens to hold politicians accountable for their actions in office. The basic form of accountability are reelection incentives, through which voters punish or reward politicians with reelection depending on their performance. However, accountability institutions not only affect the behavior of politicians while in office, but also have an effect on potential politicians' decision of whether to run for office or not.

Most of the empirical literature analyzing the effects of accountability institutions have focused their attention on their discipling effects. Unlike these studies, in this paper we analyze how accountability affects the selection of politicians (candidates), and highlight the pervasive effects generated by the capture of accountability institutions by political interest groups. We study the effects of recall referenda in Peru, a direct democracy mechanism that allows voters to recall elected mayors from office, and compare the characteristics of candidates who decide to run in election in districts that had a mayor recalled from office in the previous term with those who run in districts where the mayor was not recalled. The fact that a mayor was recalled in a referendum in a district increases the perceived probability that, if elected, one could be ousted from office independent of one's performance, therefore reducing the expected term length.

We identify our results using a close election regression discontinuity design. Our results show that candidates who run in districts that had a recall referendum in the last period are of lower quality, as measured by their educational attainment and previous experience. In particular, they have about half a year less education, are 8 percentage points less likely to have attended university, and instead attended only up to secondary education. They are also less likely to have held elected office in the past, and in particular to have served as mayor. Likewise, these candidates have a lower likelihood to have worked in the public sector and are slightly younger. All in all, the results suggest that having a recalled mayor in the past lowers the quality of the candidate pool, while new entrants to politics are more likely to run.

How could it be that an institution that increases citizen control over politicians generates a negative selection? We provide anecdotal and statistical evidence that recall elections are often used as a political tool, with candidates who lost the elections in the previous period being the promoters of the recall election. If this is the case, the probability of being ousted is independent of the elected mayor's performance or honesty, hence discouraging politicians who have a high opportunity cost or who are committed to a certain policy agenda.

Finally, we analyze whether the availability of an average pool of candidates of poorer quality lead to the election of lower quality mayors. Our results show that despite having a pool of candidates that is on average lower, elections are still doing their job, and voters select the best out of the available candidates, hence mayors in districts where an incumbent was recalled in the previous period have similar levels of education or experience to those who run in district where the mayor barely survived the recall referendum.

Our results have far reaching consequences for the design of citizen control mechanisms. While these institutions are supposed to increase the chances that voters exert control over public and elected office, and deter poor quality and corrupt politicians from standing for office, when they are at risk of being captured, their initial objectives can be distorted, leading to a poorer quality of the government and public service provision. These institutions should incorporate safeguards to prevent capture. For example, as in the cases of presidential impeachment, promoters have to present plausible evidence of miss-management or poor performance, which is evaluated before proceeding to the vote. These types of mechanisms could help avoid the political use of an otherwise well intended mechanism of citizen control.

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Figure 1: Timing for Recall Referenda

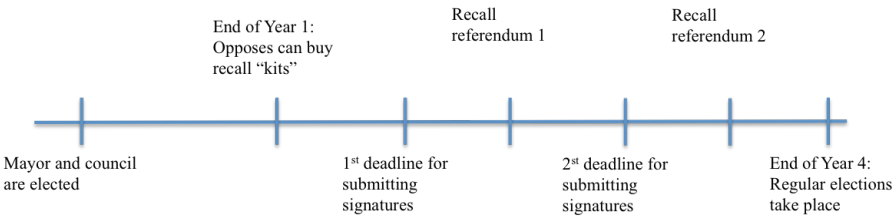
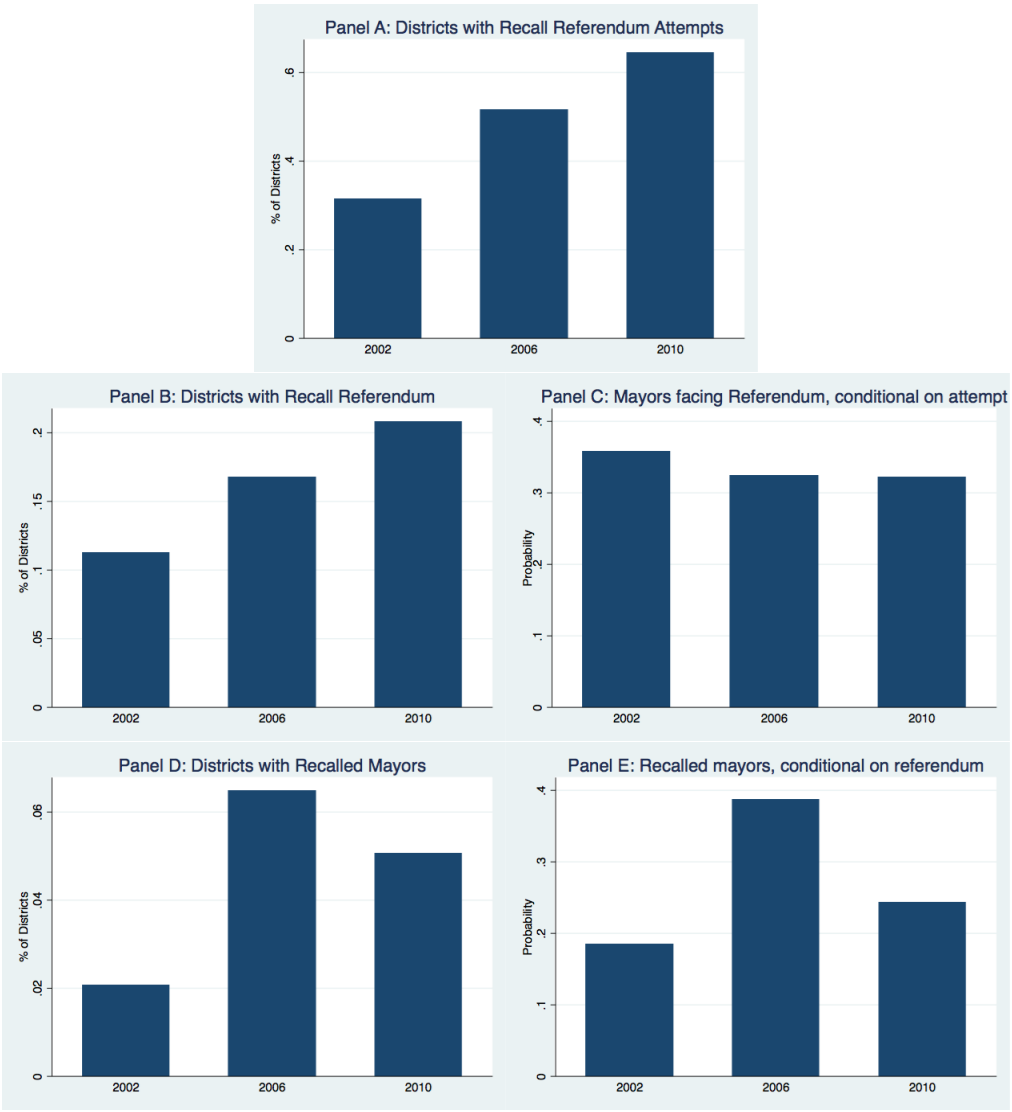
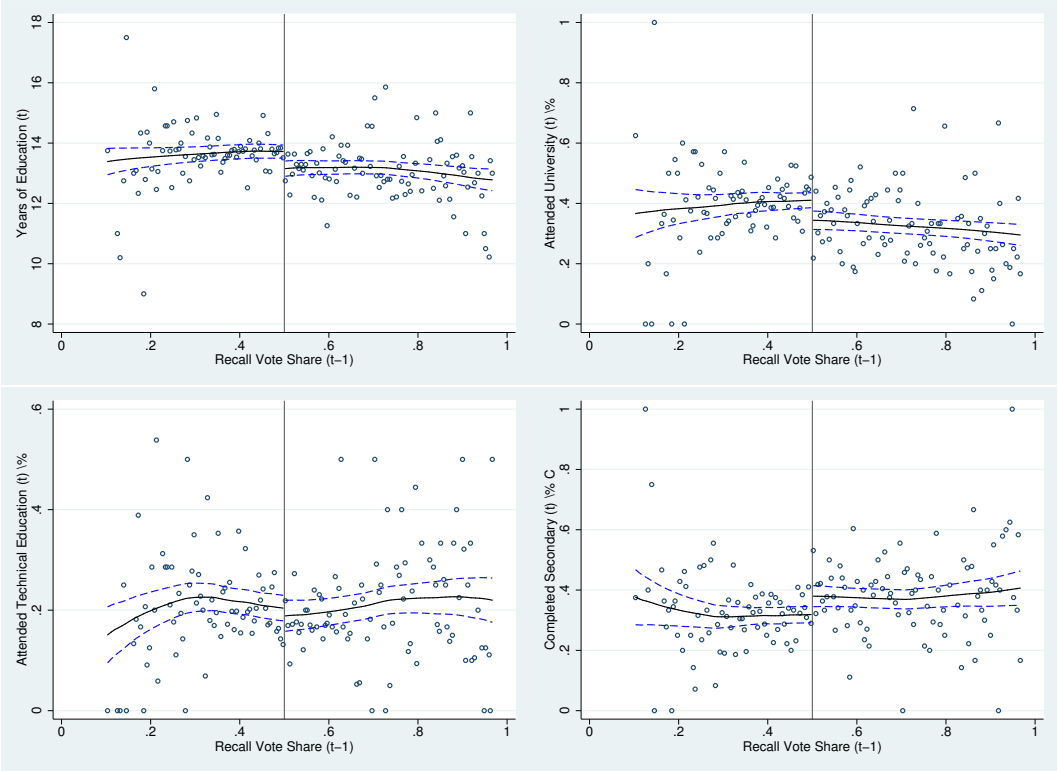


Figure 2: Incidence of Recall Referenda



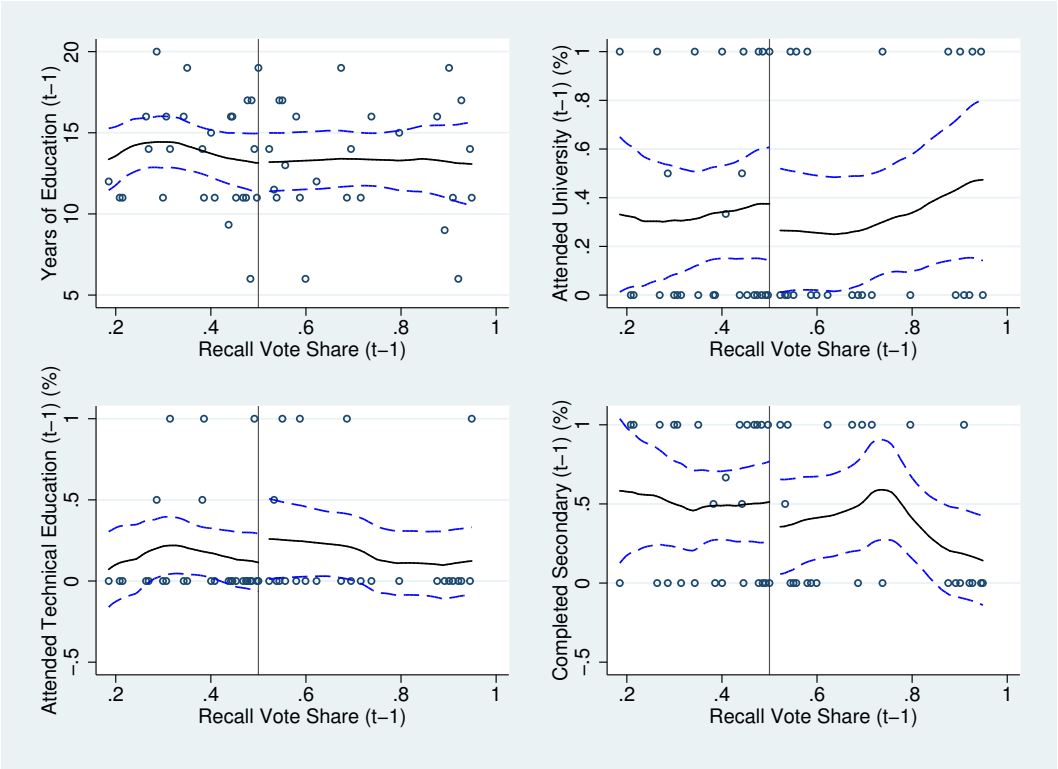
Notes: The figures show for each electoral term (A) the proportion of districts in which a recall kit was purchased in order to initiate a recall process against the incumbent mayor, (B) the proportion of districts in which the incumbent mayor faced a recall referendum, (C) the conditional probability of having a recall referendum on the mayor if a recall kit was purchased, (D) the proportion of districts in which the mayor was recalled, and (E) the conditional probability of an incumbent mayor being recalled if a recall referendum took place.

Figure 3: Non-Parametric RD Plot: Candidate's Education



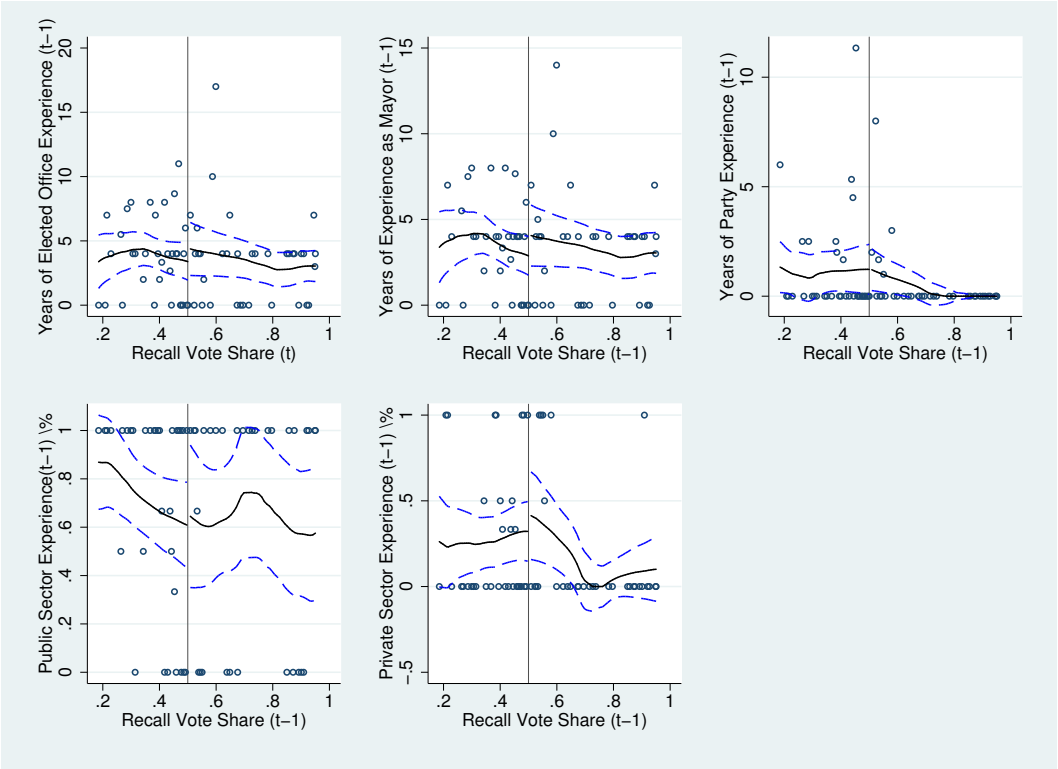
Note: The figures show the results from kernel-weighted local polynomial smoothing plots with epanechnikov kernels and the 95% confidence intervals for our main outcome variables.

Figure 4: Continuity Test: Incumbent's Education



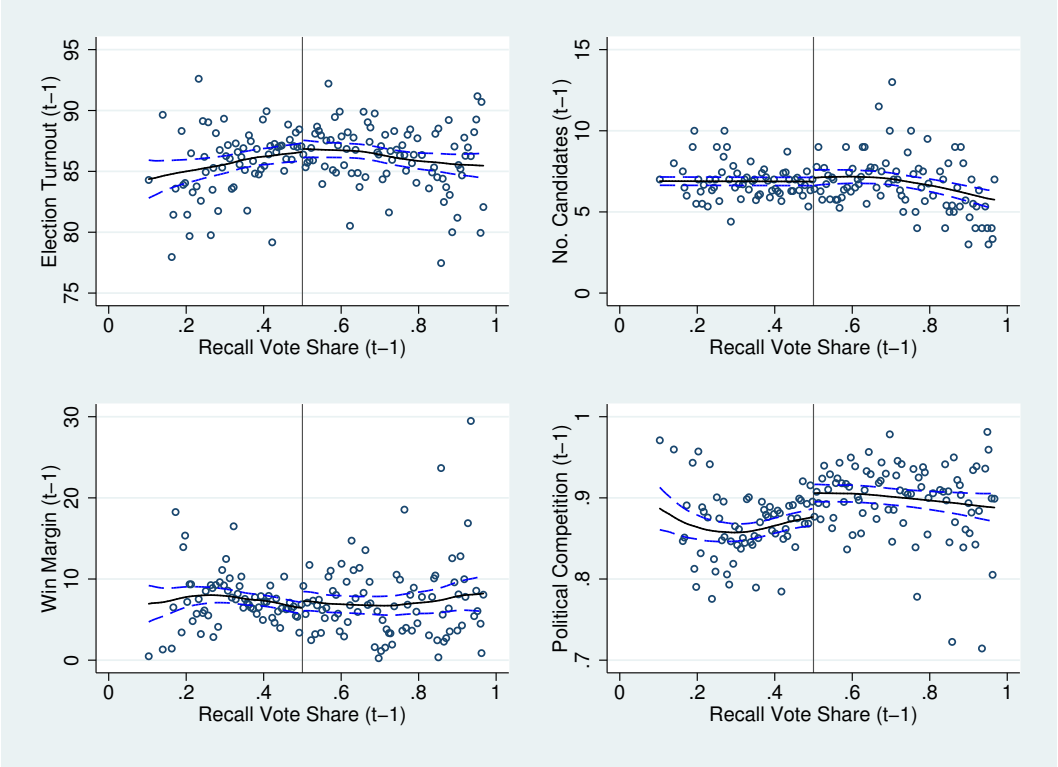
Note: The figures show the results from kernel-weighted local polynomial smoothing plots with epanechnikov kernels and the 95% confidence intervals for incumbents' education.

Figure 5: Continuity Test: Incumbent's Experience



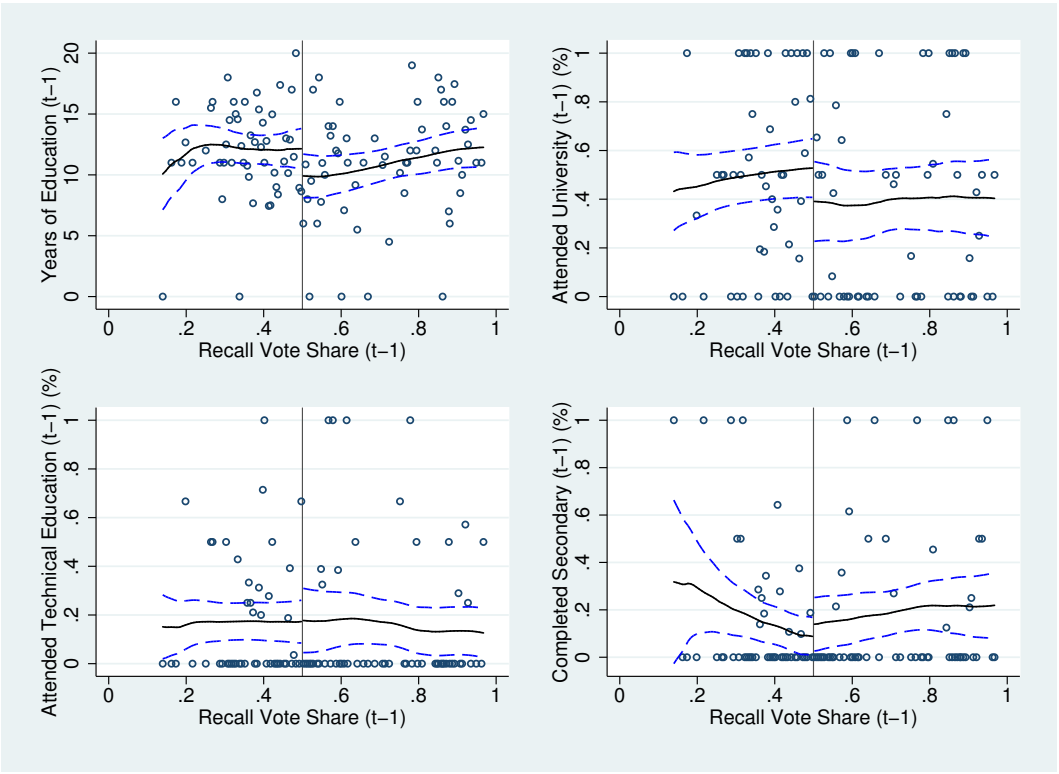
Note: The figures show the results from kernel-weighted local polynomial smoothing plots with epanechnikov kernels and the 95% confidence intervals for incumbents' experience.

Figure 6: Continuity Test: Political Variables



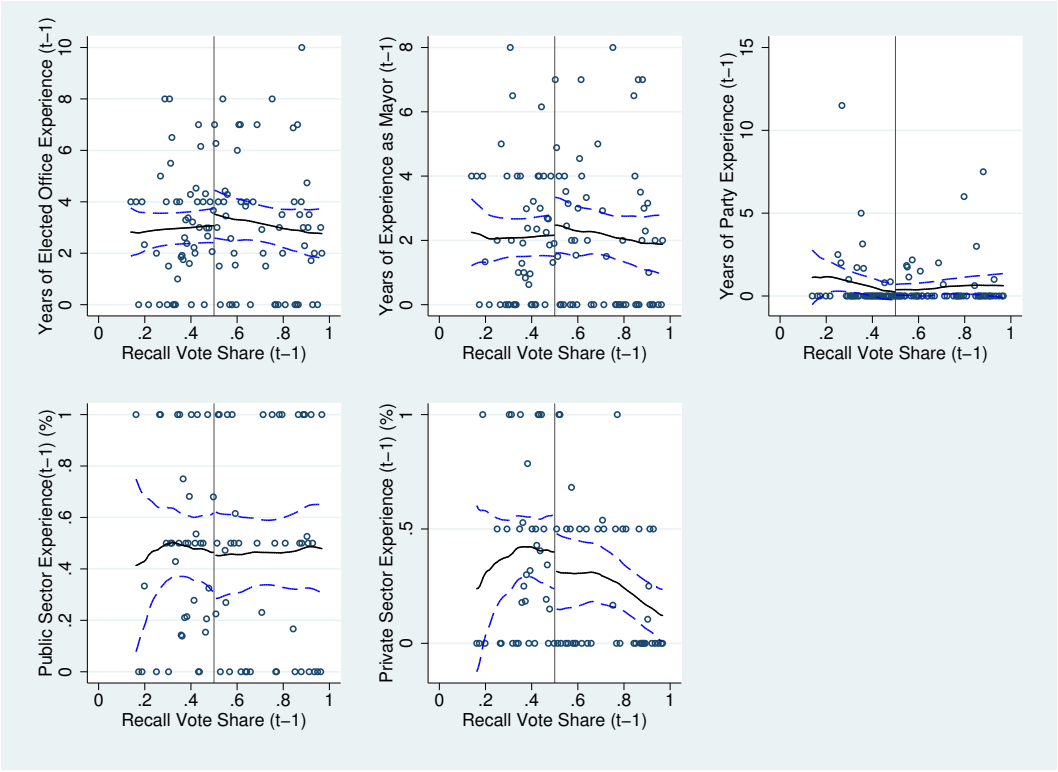
Note: The figures show the results from kernel-weighted local polynomial smoothing plots with epanechnikov kernels and the 95% confidence intervals for political variables.

Figure 7: Continuity Test: Runners Up, Education



Note: The figures show the results from kernel-weighted local polynomial smoothing plots and the 95% confidence intervals for the education of candidates who finished second or third in the previous election.

Figure 8: Continuity Test: Runners Up, Experience



Note: The figures show the results from kernel-weighted local polynomial smoothing plots and the 95% confidence intervals for the experience of candidates who finished second or third in the previous election.

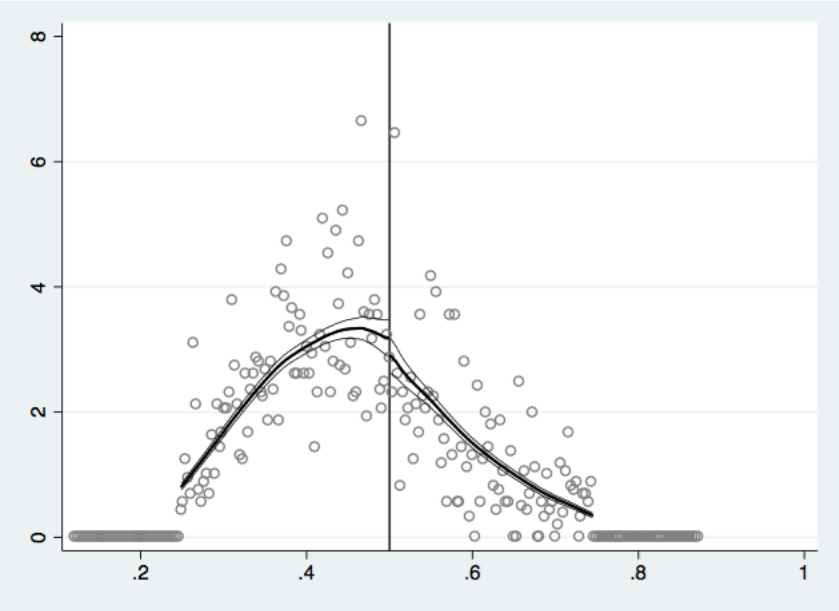
Table 1: Predicting Recall Elections

	Dependent Variable: Recall Referendum		
Political Variables			
Win Margin (%)	-0.0046***	-0.0046***	-0.0046***
	(0.0005)	(0.0005)	(0.0005)
Turnout (%)	0.0039***	0.0039***	0.0038***
	(0.0012)	(0.0012)	(0.0013)
Number of Candidates	-0.0037	-0.0038	-0.0039
	(0.0024)	(0.0024)	(0.0024)
Mayor's Characteristics			
University		-0.0128	-0.0076
		(0.0123)	(0.0155)
Technical		0.0055	0.0099
		(0.0197)	(0.0220)
Secondary		-0.0139	-0.0102
		(0.0144)	(0.0177)
Age			0.0000
			(0.0004)
Female			0.0587**
			(0.0278)
Public Sector Experience			-0.0068
			(0.0118)
Private Sector Experience			-0.0145
			(0.0124)
Num. years elected office			-0.0028
			(0.0026)
Num. years as mayor			-0.0004
			(0.0021)
Num. years party experience			0.0002
			(0.0032)
National Party Affiliation			-0.0049
			(0.0105)
Election FEs	Yes	Yes	Yes
District FEs	Yes	Yes	Yes
Observations	27816	27816	27816
Districts	1839	1839	1839
Mean Dep.	0.150	0.150	0.150

* p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors in parentheses.

Note: Clustered standard errors at the district*election level. Mayor's characteristics include the following variables on the mayor's experience and demographics: experience in the public and private sector, years of experience as mayor, years of experience in an elected office, years of experience in a party office, age and gender.

Figure 9: McCrary Density Test



Note: The figure shows the McCrary test for discontinuities in the density of the running variable (referendum vote share in favour of a recall of the mayor) at the 50% value (McCrary 2008). The estimated density is depicted by the thick black line.

Table 2: Descriptive Statistics

		Full Sample	RD Sample	Full Sample	RD Sample
		Winners' Characteristics		Candidates' Characteristics	
Primary or less	Mean	0.074	0.092	0.101	0.114
	N	6196	1005	40415	6956
Secondary	Mean	0.263	0.313	0.263	0.301
	N	6196	1005	40415	6956
Technical	Mean	0.181	0.189	0.175	0.191
	N	6196	1005	40415	6956
University	Mean	0.482	0.406	0.462	0.394
	N	6196	1005	40415	6956
Years of Education	Mean	14.097	13.722	14.058	13.637
	N	6268	983	39409	6707
Num. years elected office	Mean	2.606	1.808	1.563	1.255
	N	6474	1005	41318	6956
Num. years as mayor	Mean	1.384	1.391	1.191	1.050
	N	4291	611	26252	3971
Num. years party experience	Mean	2.055	1.325	1.035	0.788
	N	6474	1005	40396	6956
National Party	Mean	0.410	0.386	0.433	0.406
	N	6557	1011	42792	7153
Public Sector	Mean	0.630	0.578	0.588	0.555
	N	5056	995	33818	6719
Private Sector	Mean	0.417	0.436	0.445	0.450
	N	5056	995	33818	6719
Age	Mean	43.995	44.682	45.622	46.144
	N	6557	1011	42792	7153
Female	Mean	0.031	0.036	0.064	0.075
	N	6557	1011	42792	7153
		District Characteristics			
Number of Candidates	Mean	7.416	7.102		
	N	7313	1074		
Win Margin (%)	Mean	8.980	8.793		
	N	7247	1056		
Political Competition	Mean	0.868	0.895		
	N	7252	1059		
Turnout (%)	Mean	84.572	85.762		
	N	7312	1074		

Note: Information on incumbent's characteristics is taken from the CV data of political candidates in Peruvian municipal elections provided by government sources, as described in the Data section (3.1). The source for the district characteristics is the Peruvian national electoral office (ONPE). The four columns present the number of observations and the mean values of for the main dependent and control variables. Columns 1 and 2 show the characteristics of elected mayors for (i) the full sample and (ii) for the RD sample. Columns 3 and 4 show the characteristics of candidates running for mayor (iii) in the full sample and (iv) the RD sample. At the bottom of the table, district characteristics are presented for the (i) full sample and (ii) the RD sample.

Table 3: Accountability and Candidates' Education

	Dependent Variable:			
	Years Edu	University	Technical	Secondary
	PANEL A: Local Linear Regression			
Recalled Incumbent in t-1	-0.5310**	-0.0839**	-0.0006	0.0795***
	(0.2080)	(0.0347)	(0.0312)	(0.0297)
Triangle Kernel	Yes	Yes	Yes	Yes
Observations	3597	3853	3479	3495
Mean Dep.	13.506	0.389	0.194	0.344
	PANEL B: Linear Polynomial Regression			
Recalled Incumbent in t-1	-0.5568**	-0.0650*	-0.0178	0.0797**
	(0.2554)	(0.0352)	(0.0279)	(0.0399)
Linear Polynomial	Yes	Yes	Yes	Yes
Observations	3597	3853	3479	3495
Mean Dep.	13.506	0.389	0.194	0.344
	PANEL C: Cubic Polynomial Regression			
Recalled Incumbent in t-1	-0.4566	-0.0858*	-0.0096	0.0542
	(0.3309)	(0.0470)	(0.0379)	(0.0550)
Cubic Polynomial	Yes	Yes	Yes	Yes
Observations	3597	3853	3479	3495
Number Districts	509	545	487	490
Mean Dep.	13.506	0.389	0.194	0.344

Note: Regression equations follow Equation (1) in the paper. In each regression, the sample considered is based on the optimal bandwidth, following Imbens and Kalyanaraman (2012). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Clustered standard errors at the district*election level.

Table 4: Accountability and Candidate Characteristics

	PANEL A			
	Dependent Variable:			
	Num. years elected office	Num. years as mayor	Num. years party experience	National Party Affiliation
Recalled Incumbent in t-1	-0.3058	-0.3749**	-0.2063	0.0212
	(0.2641)	(0.1645)	(0.1818)	(0.0403)
Triangle Kernel	Yes	Yes	Yes	Yes
Observations	2520	3792	3745	3457
Number Districts	366	505	498	453
Mean Dep.	1.341	0.891	0.598	0.394

	PANEL B			
	Dependent Variable:			
	Public Sector Experience	Private Sector Experience	Age	Female
Recalled Incumbent in t-1	-0.1133**	-0.0377	-1.5026*	0.0134
	(0.0508)	(0.0411)	(0.8331)	(0.0139)
Triangle Kernel	Yes	Yes	Yes	Yes
Observations	2093	2703	3069	4393
Number Districts	309	380	417	565
Mean Dep.	0.566	0.427	45.977	0.078

Note: Regression equations follow Equation (1) in the paper. In each regression, the sample considered is based on the optimal bandwidth, following Imbens and Kalyanaraman (2012). Panel A and B present local linear non-parametric regressions. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Clustered standard errors at the district*election level.

Table 5: Robustness Checks

	Dependent Variable:			
	Years Edu	University	Technical	Secondary
	Placebo: Recalled Mayor in t-2			
Recalled mayor in t-1	-0.5524**	-0.0628*	-0.0190	0.0776*
	(0.2571)	(0.0353)	(0.0280)	(0.0397)
Recalled mayor in t-2	0.0943	0.0620**	-0.0288	-0.0498
	(0.2548)	(0.0308)	(0.0263)	(0.0333)
Linear Polynomial	Yes	Yes	Yes	Yes
Observations	3597	3853	3479	3495
Number of Districts	509	545	487	490
Mean Dep.	13.506	0.389	0.194	0.344

Note: Regression equations follow Equation (1) in the paper. In each regression, the sample considered is based on the optimal bandwidth, following Imbens and Kalyanaraman (2012). Local linear non-parametric regressions. The regressions control for the lag of the explanatory variable. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Clustered standard errors at the district*election level.

Table 6: Mechanisms: Political Opponents and Performance in Office

	Dependent Variable:			
	Years Edu	University	Technical	Secondary
	PANEL A: Political Opponents preceding Election			
Recalled Mayor in t-1	-0.3056	-0.0365	-0.0101	0.0585
	(0.2607)	(0.0351)	(0.0276)	(0.0415)
Treated * Political Opponent in t-1	-0.5444*	-0.0456	-0.0218	0.0524
	(0.3062)	(0.0437)	(0.0307)	(0.0456)
Political Opponent in t-1	-0.1522	-0.0339	0.0089	0.0260
	(0.2165)	(0.0289)	(0.0211)	(0.0279)
Linear Polynomial	Yes	Yes	Yes	Yes
Observations	3707	4075	3666	3682
Number Districts	509	545	487	490
Mean Dep.	13.449	0.381	0.184	0.323
	PANEL B: Performance prior Recall			
Recalled mayor in t-1	-0.8607**	-0.1203**	-0.0248	0.1108*
	(0.3898)	(0.0588)	(0.0416)	(0.0613)
Recalled in t-1 * % Expense Budget Executed	0.0820	0.0188	-0.0061	-0.0039
	(0.1426)	(0.0269)	(0.0181)	(0.0278)
% Expense Budget Executed	0.0964	0.0121	0.0017	-0.0109
	(0.0915)	(0.0193)	(0.0121)	(0.0152)
Linear Polynomial	Yes	Yes	Yes	Yes
Observations	2717	2904	2642	2656
Number Districts	369	391	357	359
Mean Dep.	13.449	0.381	0.184	0.323

Note: Regression equations follow Equation (1) in the paper. In each regression, the sample considered is based on the optimal bandwidth, following Imbens and Kalyanaraman (2012). Linear polynomial regressions. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Clustered standard errors at the district*election level.

Table 7: Accountability and Opportunity Costs

	Dependent Variable: Predicted Wage (opportunity cost)	
Recalled Mayor in t-1	-60.2838*	-116.706*
	(31.0153)	(62.3686)
Linear Polynomial	Yes	No
Local Linear Regression	No	Yes
Observations	3223	3223
Number Districts	458	458
Mean Dep.	1235.925	1235.925

Note: Regression equations follow Equation (1) in the paper. In each regression, the sample considered is based on the optimal bandwidth, following Imbens and Kalyanaraman (2012). Opportunity costs are imputed based on Enaho survey data on income from individuals' primary job as well as information on observable characteristics that are also available in the mayoral candidates' CV data or can at least be created: age, age-squared, gender, their education level (which can be broken down into categories that correspond to our variables University, Technical, Secondary, or everything below), as well as a variable on whether they are from an urban or rural area. Column (1) presents linear polynomial regressions, in Column (2) we use a local linear non-parametric regression with triangle kernels. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Clustered standard errors at the district*election level.

Table 8: Robustness Checks

	Dependent Variable:			
	Years Edu	University	Technical	Secondary
	PANEL A: Controlling for Incumbent's Characteristics			
Recalled Incumbent in t-1	-0.4308	-0.0646*	-0.0058	0.0595
	(0.2649)	(0.0382)	(0.0346)	(0.0452)
Triangle Kernel	Yes	Yes	Yes	Yes
Mayor's Characteristics	Yes	Yes	Yes	Yes
Observations	3584	3840	3466	3482
Number Districts	508	544	486	489
Mean Dep.	13.493	0.387	0.195	0.345
	PANEL B: Controlling for Political Situation in t-1			
Recalled Incumbent in t-1	-0.4443*	-0.0735*	-0.0055	0.0728
	(0.2563)	(0.0376)	(0.0352)	(0.0451)
Triangle Kernel	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	3220	3448	3120	3132
Number Districts	507	543	485	488
Mean Dep.	13.477	0.385	0.195	0.348

Note: Regression equations follow Equation (1) in the paper. In each regression, the sample considered is based on the optimal bandwidth, following Imbens and Kalyanaraman (2012). Both Panels present local linear non-parametric regressions. Panel A controls for the incumbent's education, experience (political and work experience) and other characteristics (age, gender). Panel B drops incumbents who rerun for election from the sample. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Clustered standard errors at the district*election level.

Table 9: Robustness Checks

	Years Edu	University	Technical	Secondary
		Dependent Variable:		
		PANEL A: Dropping re-running Incumbents		
Recalled Incumbent in t-1	-0.4245	-0.0719*	-0.0150	0.0837*
	(0.2607)	(0.0374)	(0.0350)	(0.0465)
Triangle Kernel	Yes	Yes	Yes	Yes
Incumbents	No	No	No	No
Observations	3241	3469	3138	3150
Number Districts	509	545	487	490
Mean Dep.	13.477	0.384	0.195	0.349
		PANEL B: Controlling for Characteristics of Runners-up		
Recalled Incumbent in t-1	-0.4472	-0.0826**	-0.0127	0.0867*
	(0.2837)	(0.0409)	(0.0344)	(0.0509)
Triangle Kernel	Yes	Yes	Yes	Yes
Runners Up Characteristics	Yes	Yes	Yes	Yes
Observations	2500	2657	2449	2463
Number Districts	343	362	335	337
Mean Dep.	13.442	0.383	0.184	0.350

Note: Regression equations follow Equation (1) in the paper. In each regression, the sample considered is based on the optimal bandwidth, following Imbens and Kalyanaraman (2012). Both Panels present local linear non-parametric regressions. Panel A controls for the previous election's turnout, win margin and number of candidates for mayor, as well as the municipality's population. Panel B controls for the education, experience (political and work experience) and other characteristics (age, gender) of the two runners up in the preceding election. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Clustered standard errors at the district*election level.

Table 10: Accountability and Political Outcomes

	Dependent Variable:			
	Turnout	Candidates	Win Margin	Pol. Comp.
Recalled Incumbent in t-1	-0.7366	0.0914	-1.3117	0.0064
	(0.9772)	(0.3307)	(1.4519)	(0.0101)
Triangle Kernel	Yes	Yes	Yes	Yes
Observations	553	742	476	624
Number Districts	440	560	390	482
Mean Dep.	85.903	6.827	8.784	0.885

Note: Regression equations follow Equation (1) in the paper. In each regression, the sample considered is based on the optimal bandwidth, following Imbens and Kalyanaraman (2012). Local linear non-parametric regressions. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust to heterogenous and serially correlated standard errors.

Table 11: Accountability and Winners' characteristics

		PANEL A		
		Dependent Variable:		
	Years of Education	University	Technical	Secondary
Recalled Incumbent in t-1	-0.1557	-0.0442	-0.0743	0.1422
	(0.4469)	(0.0874)	(0.0603)	(0.0981)
Local Linear Reg.	Yes	Yes	Yes	Yes
Observations	662	808	741	507
Number Districts	518	610	572	417
Mean Dep.	13.814	0.406	0.204	0.320
		PANEL B		
		Dependent Variable:		
	Num. years elected office	Num. years as mayor	Num. years party experience	National Party Affiliation
Recalled Incumbent in t-1	-0.2320	-0.4170	-0.1587	0.0234
	(0.6526)	(0.4208)	(0.3841)	(0.0858)
Local Linear Reg.	Yes	Yes	Yes	Yes
Observations	572	750	584	435
Number Districts	455	565	463	362
Mean Dep.	1.937	1.676	0.664	0.375
		PANEL C		
		Dependent Variable:		
	Public Sector Experience	Private Sector Experience	Age	Female
Recalled Incumbent in t-1	-0.0403	-0.0985	-1.0264	0.0546
	(0.0772)	(0.0663)	(1.4998)	(0.0462)
Local Linear Reg.	Yes	Yes	Yes	Yes
Observations	522	670	539	661
Number Districts	430	526	432	516
Mean Dep.	0.605	0.404	44.258	0.050

Note: Regression equations follow Equation (1) in the paper. In each regression, the sample considered is based on the optimal bandwidth, following Imbens and Kalyanaraman (2012). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust to heterogenous and serially correlated standard errors.