UNDERSTANDING THE GENERAL EQUILIBRIUM EFFECTS OF COMPULSORY VOTING ON POLICY: EVIDENCE FROM PERU*

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Abstract

There is overwhelming evidence of a positive effect of compulsory voting laws on overall turnout, and that this effect is stronger among uninformed voters. However, findings are mixed in terms of partisan voting and policy outcomes. We argue these mixed findings are explained by the effects of compulsory voting on candidate realignment across parties. In contexts where the return to party labels is not as high, candidate realignment is less likely and political parties are more likely to cater to these new yet relatively uninformed voters. However, in contexts where some parties are relatively weak, candidates switch to parties with stronger labels, which likely leads to no change in policy. We present evidence for our theoretical argument by exploiting rich candidate and electoral data and exogenous variation in the timing and level of fines of a compulsory voting law across Peruvian municipalities.

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1 Introduction

Compulsory voting is perceived as equalizing electoral participation across all voters, thereby incentivizing politicians to cater policy toward poorer or marginalized citizens who tend to vote at lower rates (Lijphart, 1997; Blais, 2006). Compulsory voting is usually enforced by monetary fines, which are effective at inducing turnout among disadvantaged citizens (Hooghe and Pelleriaux, 1998; Blais, 2006; Jaitman, 2013; Singh, 2015; Hoffman, León and Lombardi, 2017; León, 2017). However, evidence of the fines' effect on partisan voting and policy outcomes is more ambiguous. While all studies document a turnout effect, only some show that this leads to changes in vote shares and types of policies implemented (Fowler, 2013; Bechtel, Hangartner and Schmid, 2016), and just as many find no effect on downstream voting or policy outcomes (Ferwerda, 2014; Hoffman, León and Lombardi, 2017; León, 2017).

A possible explanation for these mixed findings is that the voters induced to turn out are not voting their preferences since they are relatively uninformed (Selb and Lachat, 2009; Singh, 2016; León, 2017; Singh and Roy, 2018) and do not acquire political information when induced to vote (Loewen, Milner and Hicks, 2008; De Leon and Rizzi, 2014). In this context, the politicians who benefit from compulsory voting are not those that cater to the preferences of the citizens induced to vote, but rather are those with a comparative advantage in exploiting those voters' lack of information. This advantage can originate from greater citizen knowledge about certain candidates or from candidates running on better-known party labels.

Assessing the underlying reasons behind compulsory voting's effect or lack thereof on policy outcomes is then challenging. Uninformed voters induced to turn out might indeed be more likely to cast a vote for those who have a comparative advantage in attracting them. However, these politicians might internalize the preferences of the new supporters and change their policy platforms to accommodate them. We argue that whether compulsory voting leads candidates to internalize the preferences of the citizens induced to vote depends on general equilibrium effects on candidate realignment, which in turn depends on the relative strength of party labels.

We theorize that local candidates with different levels of popularity choose a party on which to run from among a set of parties that vary in label strength due to differences in their records (Aldrich, 2011) or the popularity of their prominent national leaders. Parties with a stronger label provide local candidates an informational advantage, but less flexibility to cater to local voters' interests since these parties need to appeal to a wider electorate. In contrast, parties with a weaker label impose fewer restrictions on the policies that local candidates can offer. Locally popular candidates might therefore choose to run under parties with a weaker label in order to better represent the preferences of their electorate. However, they might reassess this decision once new yet relatively uninformed voters, who are more likely to vote based on strong party labels, are induced to vote.

We study the effect of compulsory voting, which we conceptualize as an increase in turnout of uninformed voters. Compulsory voting might lead to two different outcomes depending on the effect on candidate realignment across parties. On the one hand, in contexts where the return to party labels is not as high, there should be no local candidate realignment. This, in turn, should lead to competition for the new voters' electoral support and result in policy platforms that are better aligned with these voters' preferences. On the other, in contexts where label strength varies across parties, candidates who are relatively better-known to the new yet uninformed voters might switch to parties with a stronger label, since they can no longer afford to forgo the informational advantage that strong labels provide. As a result, compulsory voting might not lead to changes in policy platforms.

To test our theoretical argument, we use detailed candidate, electoral and party platform data from the 2006, 2010 and 2014 Peruvian local elections, and exploit the specifics and timing of an electoral reform that modified the fines used to enforce compulsory voting. The new law, implemented just days before the 2010 local election, established three new levels of fines depending on the district where voters resided, on average increasing the level of fines relative to 2006. Specifically, whether a district is assigned to a high, moderate or low fine respectively depends on whether the non-poor, poor, or extremely poor population share is the highest. Us-

ing a regression discontinuity design (RDD), our baseline estimates exploit plausibly exogenous variation in whether citizens are subject to a high as opposed to a moderate fine.[1]

More importantly, due to the timing of the law's implementation, the political supply of both candidates and policy platforms remained unaffected by the fine change in the 2010 local election, but could change in the subsequent 2014 election. The timing of the reform then allows us to assess, first, the extent to which the citizens induced to vote are more likely to vote for parties with stronger labels and locally better-known candidates when the political supply remains fixed in the 2010 election. Second, in the subsequent 2014 election, we can assess general equilibrium changes in the local political supply resulting from higher fines, and study how those changes affect politician performance and party platforms in local races across parties with varying label strength.

Our RDD results show higher turnout in the districts where citizens are subject to a high as opposed to a moderate fine in the 2010 local election. Results also indicate no effect of a higher fine on spoiled votes, suggesting the possibility that the fines influenced electoral outcomes. In this context, our theory suggests that, all else equal, a higher fine should lead to greater electoral support in the short-term both for local candidates who are relatively more known to voters and for national versus regional parties. The comparison between national and regional parties is ideal for our theory since, while national parties enjoy stronger labels originating from a longer record (Aldrich, 2011) and their association with prominent national leaders, regional parties are more likely to better represent the preferences of local electorates, as our text analysis of party platforms corroborates. However, since our theory also highlights that only relatively better-known candidates can afford to run for a regional party, the overall short-term effect of a higher fine on electoral support for national parties is ambiguous, as it is for relatively more popular candidates. In contrast, we find support for our unambiguous prediction that, in the short-term, a higher fine should lead to greater electoral support for candidates that were both better known

[1] There are only a few districts around the discontinuity in which citizens are subject to a high versus a low fine. Results in Appendix Table A1 show no differences in outcomes across districts with a moderate versus low fine, which is likely driven by the smaller difference between the two fines.

and ran with a national party at the time of the introduction of the higher fine. Those candidates exhibit electoral support that is 5 percentage points (pp) higher in districts with a high fine.

When local political supply could react to the reform in the 2014 election, we observe that the greater turnout and the null effect on spoiled votes persists. However, our theory predicts a shift in electoral support from regional to national parties because relatively better-known candidates that can no longer risk running with a regional party should switch to national parties.[2] Consistent with this prediction, our results suggest that the electoral support of national parties is 9 pp higher in districts with a high fine, while the support for regional parties is 11 pp lower in those districts. Moreover, the positive effect on national parties is driven by candidates who ran and lost with regional parties in the previous election, while the negative effect on regional parties is driven by politically inexperienced candidates. Altogether these findings strongly support the notion that in contexts where some parties enjoy stronger labels, relatively small increases in turnout by uninformed voters might garner these parties large electoral gains as a result of candidate realignment.

Lastly, providing further support for our theory, this switch in electoral support did not generate a relative change in the national parties' policy platforms in districts with high fines.[3] Text analysis of platforms shows that the differences between national and regional parties' platforms found in 2010, irrespective of whether they had high or moderate fines, did not change in high-fine districts in 2014. Specifically, results suggest that in 2010, national parties put more weight on issues that are more relevant to urban voters relative to regional parties in all districts, and these policy differences endured through 2014.

[2] These are the candidates that ran but lost in the 2010 election.

[3] We do not study policy implementation by elected officials since it is only available for winning candidates. However, recent research in other contexts documents congruence between parties' platforms and the policies they implement once in office (Thomson et al., 2017; Lutz, forthcoming).

2 Related literature

We build on a large literature that takes advantage of differential implementation or repeal of compulsory voting laws to study the effects on both turnout and downstream electoral outcomes and policy. The vast majority of research has found that compulsory voting increases turnout (Blais, 2006), and does so particularly among poorer or more relatively marginalized sectors of society, including women, and voters with lower skills, income and education (Hooghe and Pelleriaux, 1998; Jaitman, 2013; Singh, 2015; Hoffman, León and Lombardi, 2017; León, 2017).[4]

When we consider the subsequent policy impacts of the changed composition of the electorate, however, the evidence is mixed. Due to the increase in voting by relatively poorer voters, the rise in turnout generated by compulsory voting has been found to benefit both left parties' vote shares and leftist policies in Australia (Fowler, 2013) and Switzerland (Bechtel, Hangartner and Schmid, 2016). However, others have found no policy effect from the change in the electorate induced by compulsory voting. In Austria, increased turnout did not impact party vote shares (Ferwerda, 2014; Hoffman, León and Lombardi, 2017) or government spending (Hoffman, León and Lombardi, 2017).

One potential explanation for the lack of a policy impact is that voters who turn out in response to compulsory voting are politically uninformed (Hoffman, León and Lombardi, 2017). The few papers that specifically test for this mechanism find that the voters who are mobilized to vote are precisely those who are relatively uninformed and uninterested in politics (Selb and Lachat, 2009; Singh, 2016; León, 2017; Singh and Roy, 2018). Moreover, there is weak evidence regarding whether people induced to vote are more likely to seek out political information, with Shineman (2018) finding a positive effect in the United States, but Loewen, Milner and Hicks (2008) and De Leon and Rizzi (2014) respectively showing no effect in Brazil and Canada, and Sheppard (2015) showing a weak cross-country association between compulsory voting and citizens' political knowledge.

[4] The one exception is Cepaluni and Hidalgo (2016).

We build on this work and argue that the mixed findings regarding compulsory voting's impact on policy are not sufficiently explained by the fact that the voters induced to turn out are likely uninformed. We theorize and empirically demonstrate that whether there are downstream effects on policies depends on differences in label strength across parties and candidate re-alignment over time.

3 Theoretical framework

We consider a theoretical framework where voters prefer policy platforms that cater to their local needs. Voters are risk averse and thus also prefer candidates that are better known and that run under the umbrella of parties with stronger labels. However, the extent to which voters prefer candidates that offer more certain platforms depends on whether they are informed or uninformed, with the latter standing to gain more from the informational certainty that those candidates provide. Risk-averse voters might then prefer candidates that offer more certain policies even if the policies are far from their ideal point (Larreguy, Marshall and Snyder, 2018), and more so when they are uninformed.

Local candidates can compete under the umbrella of one of two party types, regional and national, which vary along two dimensions, policy platform and label strength. National parties restrict their local candidates from catering policies to their voters since those parties must also attract the national median voter. However, national parties offer a stronger label to their candidates since they enjoy a longer record (Aldrich, 2011). The extent to which candidates benefit from a strong party label depends on how well-known they themselves are to voters, with better-known candidates having less to gain from the stronger label that national parties provide.

We analyze the introduction of differing fines to enforce compulsory voting in this simple framework of political competition. We consider that higher fines increase the extent to which uninformed voters turn out. We can easily see a microfoundation for this behavior if we assume that risk-averse voters only turn out if their preference for a candidate is larger than the cost

of voting (see, for example, Arias et al. 2018). In the short- and medium-term, districts where citizens are subject to a higher fine should then see a larger turnout, while the effect on spoiled votes is unclear. Uninformed voters could simply spoil their votes by casting a blank or null vote (Singh, 2019), or they could cast a vote based on how well they know the candidates and on the strength of the candidates' party label.

Hypothesis 1 *In the short and medium term, a higher fine should lead to an increase in turnout but have an ambiguous effect on spoiled votes.*

To analyze the effect of a higher fine on electoral support, we first examine the case where the political supply remains fixed in the short run since candidates are not able to switch either the party under which they run or the policy positions they offer. Conditioning on a null effect of a higher fine on spoiled votes, the short-term effects on the electoral support for national and regional parties should also be ambiguous (i.e., positive, negative or null). While the uninformed citizens that are induced to vote should be more likely to vote for national parties whose label is stronger (Aldrich, 2011), candidates who are better-known locally might be more likely to run under regional parties, increasing the likelihood that those uninformed voters support regional parties. The short-term effect on the electoral support for locally better-known candidates is also ambiguous for the same reason. In contrast, there should be an unambiguous increase in the electoral support for better-known candidates running under the umbrella of a national party, because the two mechanisms - voters' preference for better-known candidates and their preference for national parties - are now operating in tandem.

Hypothesis 2 *In the short term, a higher fine should lead to an increase in the electoral support for better-known candidates in national parties.*

In the medium run, when the local political supply in terms of both candidates' choice of party type and the policy positions they offer is allowed to react to a higher fine, the predictions of our theoretical framework depend on the relative strength of party labels and consequent candidate realignment across parties. On the one hand, in contexts where the relative strength

of party labels is similar, local candidates from regional parties might be able to continue to run under the umbrella of their parties, while offering a policy platform catered toward the uninformed new voters. As a consequence, candidates from national parties might have to react by also steering their proposed policies towards the preferences of these voters. As a result, the introduction of compulsory voting should lead to better representation of the preferences of the voters induced to vote.

On the other hand, in contexts where national parties enjoy a stronger label, relatively better-known candidates from regional parties might have no other choice than to switch to national parties if they want to stand a chance at winning the election. This gain of electoral support via attracting candidates who are locally better-known to the relatively uninformed new voters will not necessarily induce national parties to cater to the preferences of these voters. Consequently, the introduction of compulsory voting should not lead to better representation of the preferences of the voters induced to vote. This second scenario better describes the Peruvian context of weak regional parties, especially relative to national parties, as we detail below.

Hypothesis 3 *In the medium term, in a context of relatively weak regional parties, a higher fine should lead to an increase in the electoral support for national parties at the expense of regional parties.*

Importantly, our theory suggests that this relative increase in electoral support for national parties should be driven by the switch to national parties of those relatively better-known candidates running with regional parties at the time of the introduction of a higher fine.[5] These candidates can no longer afford to risk running under the umbrella of a regional party once relatively uninformed voters, who are more likely to vote on the basis of a strong party label, are induced to turn out by a higher fine.[6]

[5]The candidates moving from regional to national parties after the introduction of a higher fine should not necessarily be those that are best-known to local voters, since they may still be able to afford to remain with regional parties.

[6]Our theoretical framework does not require extremely sophisticated candidates that understand uninformed voters will join the electorate as a result of the fine and that those voters are more likely to vote for national parties. Instead, it is enough that after losing the 2010 elections, candidates who ran with regional parties realize that in the 2014 elections they will be more competitive with national parties that have stronger party labels.

Hypothesis 4 *In the medium term, in a context of relatively weak regional parties, the increase in the electoral support for national parties as a result of higher fines should be driven by relatively better-known candidates switching from regional to national parties.*

Lastly, our theoretical argument indicates that, in a context of relatively weak regional parties, the candidates benefiting electorally from higher fines should not cater their policies to the voters induced to turn out. In particular, we should not observe that, when subject to higher fines, national parties propose policy platforms in local races closer to those of regional parties, which offer policies closer to the preferences of the new voters.

Hypothesis 5 *In a context of relatively weak regional parties, a higher fine should not lead national parties to propose policies in local races that are better aligned to those of the regional parties.*

4 Institutional background

4.1 Compulsory Voting and the Electorate in Peru

This paper focuses on elections at the most local level of government in Peru, the district, which are held every four years to elect mayors. As in elections at higher levels of government, all citizens between 18 and 70 years old are required to vote. Despite Peru's lax rule of law compliance overall, the enforcement mechanism for compulsory voting is strong and effective. Individuals receive an official stamp on their national ID card as proof of voting. To receive the stamp from the last electoral process, abstainers must pay a fine. Most services provided in Peru require presenting one's national ID card, and the law prohibits both public and private institutions from accepting ID cards as valid without the stamp from the last election.[7]

[7] Examples of just some of the services and bureaucratic processes that require voting stamps on ID cards are officially registering births or changes in marital status, participating in any administrative or judicial procedure, notarizing documents, signing contracts, opening bank accounts, taking out loans, and obtaining passports. See *Decreto Supremo 015-98-PCM* of April 23, 1998 for a complete list.

The abstention fine is calculated as a percentage of the Peruvian Tax Unit (PTU), a reference value used to calculate tax bases, deductions, and tax limits. The fine was uniform until August 2006, when Congress passed the law setting three different fine levels depending on each district's share of residents that fall into one of three poverty categories: extreme poverty, non-extreme poverty, and non-poor.[8,9] Districts where the share of the population that is extremely poor is larger than the shares of both non-extremely poor and non-poor residents are subject to a low fine equal to 0.5% PTU; districts where non-extreme poverty is the highest of the three categories pay a moderate fine equal to 1% PTU; and districts where non-poverty is highest are subject to a high fine equal to 2% PTU.[10] For reference, using the 2017 PTU which is about US$ 1250, fines were roughly US$ 6.25, US$ 12.50 and US$ 25 respectively. The National Elections Authority (*Jurado Nacional de Elecciones* - JNE) is responsible for applying this criterion based on the most recent census by the National Institute of Statistics and Information (*Instituto Nacional de Estadística e Informática* - INEI).

The November 2006 elections were the first to be held under the new law. The JNE issued the first classification of districts by fine level 23 days before the election.[11] This classification, however, did not actually follow the multidimensional poverty criteria established by the law. Inquiries with public officials at several government institutions suggest no one knows the criteria that were used to compute the classification, nor the poverty data used as an input. The JNE issued a second district classification two days before the October 2010 elections that did use the multi-dimensional criteria as the law established.[12] Importantly, León (2017) shows that the electorate quickly learned about the change in the fine levels.

The change in district classification between 2006 and 2011 led to an overall average increase in fine levels. Panel A in Table 1 compares classifications for all districts and highlights that the

[8] *Ley 28,859* of August 2, 2006.

[9] Poverty categories are mutually exclusive and depend on how household per capita consumption compares with the extreme poverty line (S/. 121.2 Peruvian Soles in 2017, approximately US$ 40) and the non-extreme poverty line (S/. 226 Peruvian Soles in 2017, approximately US$ 74).

[10] No other laws or policies use these same criteria for determining eligibility.

[11] *Resolución 4222-2006-JNE* of October 27, 2006.

[12] *Resolución 2530-2010-JNE* of October 1, 2010.

level of the fine increased for 963 out of the 1828 Peruvian districts (53%), remained unchanged for 783 (43%) and decreased for only 82 (4%). Hence, the average fine per district increased from US$ 10.90 to US$ 17.00 (56%). Panel B in Table 1 indicates that this average increase is even larger in the restricted sample in which we implement our regression discontinuity design. The level of the fine increased for 345 out of the 401 districts in our sample (86%), remained unchanged for 56 (14%), and no district saw a decrease. The average fine per district in our sample then increased from US$ 9.70 to US$ 20.70 (114%). The October 2014 elections used the same classification than in 2010. The only difference between the two elections was the updating of the PTU. Our analysis focuses on the 2010 and 2014 elections, and we use 2006 electoral results to show pre-treatment balance.

Table 1: Classification of districts by fine levels

Panel A: Full sample

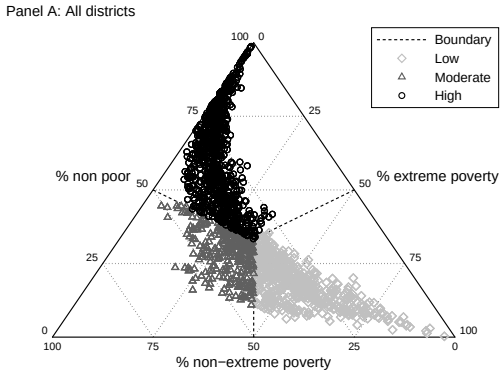
2010 Classification	2006 Classification			
	Low	Moderate	High	Total
Low	476	82	0	558
Moderate	202	123	0	325
High	174	587	184	945
Total	852	792	184	1828

Panel B: Restricted baseline sample

2010 Classification	2006 Classification			
	Low	Moderate	High	Total
Low	0	0	0	0
Moderate	83	53	0	136
High	105	157	3	265
Total	188	210	3	401

Figure 1 shows a triangular plot of Peruvian districts by poverty decomposition to illustrate each district's classification by fine level. The plot highlights the three clear linear boundaries between high-, moderate- and low-fine districts. The distribution of districts over the poverty decomposition space has a moon shape, where only a few districts fall between the high-fine and low-fine areas. This is a consequence of the naturally negative correlation between the

Figure 1: Triangular plot of Peruvian districts by poverty decomposition: Full Sample



Notes: Each observation represents one district. The location of each observation indicates the district shares of the extremely-poor, poor and non-poor population. The shape of each observation indicates the level of the corresponding electoral fine.

shares of extremely-poor and non-poor populations within a given district.

Also essential to our identification strategy is the fact that there was only a two-day window between when the JNE issued the new district classification and the 2010 election. The deadline for political parties to present candidates was ninety days before election day.[13] Once presented, political parties are not allowed to request changes to candidacies. The candidate list was therefore closed by the time the JNE issued the classification, meaning parties in the 2010 elections would have been unable to react to the new fine scheme. However, since the 2014 elections took place four years later under the same classification, political actors were potentially able to adapt to it.

This change in fines took place in a context where voters have little interest in politics and are largely uninformed. According to the JNE (2010), 67% of voters indicated having little or no interest in politics and 73% reported having received little or no information when deciding for whom to cast their vote. In light of previous work suggesting that compulsory voting laws tend to have a stronger effect among relatively uninterested and uninformed voters (Selb and Lachat, 2009; Singh, 2016; León, 2017; Singh and Roy, 2018), these figures highlight how Peru is

[13] Article 12 of *Ley de Elecciones Regionales* of March 15, 2002 and Article 10 of *Ley de Elecciones Municipales* of October 13, 1997.

a particularly good context in which to test our theoretical argument.

Furthermore, León (2017) randomly assigned information to Peruvian voters about the new fine level in their corresponding districts in 2010, and found a strong effect of information on turnout, which was larger among less informed voters. This is not surprising given that, according to the 2010 Latin American Public Opinion survey, voting in the 2006 presidential election is significantly associated with both whether respondents watch news often (p=0.003) and their level of education (p=0.004).[14] In informal interviews, mayoral candidates in the 2010 and 2014 elections agreed that the voters induced to turn out were less educated and informed than the voters that would have voted even in the absence of fines.

4.2 Political Organizations and Personalistic Leaders

Peruvian law recognizes national parties as well as more local versions of party organizations. At the regional level, these organizations are called regional movements.[15] Provincial and district party organizations also exist but play a minor role in the elections that are the focus of our study. For example, in the 2006 election, provincial and district-level parties garnered only 2.9% and 5.5% of the vote share respectively.

Though Peruvian politics was previously dominated by national parties, the late 1980s brought a weakening of the party system (Kenney, 2003; Seawright, 2012). Part of the decline of national parties was the result of the shift beginning in the 1980s away from party platform voting and towards personalistic voting, or voting based on the personal characteristics of the candidate (Seifert Bonifaz, 2014).

The gradual decline of the party system generated an increase in regional political organizations, which have slowly overtaken national parties in the number of candidates fielded and in their electoral success. By the 2014 elections, less than one half (42.1%) of candidates repre-

[14] We use an indicator for the 79% of respondents that voted in the second round, an indicator for the 72% of respondents that watch news daily, as opposed to a few times a week, a few times a month, rarely or never, and respondents' years of schooling.

[15] At the province and district level, they are termed local provincial and local district political organizations respectively. Throughout, for simplicity, we refer to all political organizations, either at the national or regional level, as political parties.

sented a national-level political party while about half ran on regional parties (51%). In the 2006 elections, regional movements won 34.7% of district mayoral races, though in 2010 and 2014 their success rate grew to 60.9% and 65.7% respectively.

One key explanation for regional parties' rise is national parties' inability to represent voters' needs and wants. National parties had a limited understanding of the reality of the regions and were rarely successful at convincing regional leaders to join the national party label (Dargent and Muñoz, 2010). Since many regions are geographically isolated, it made it hard for national parties to make meaningful contact with voters, enabling regional parties to rise and meet regional demands (De Gramont, 2010). Yet this is not to say that regional movements reflect party strength. Rather than acting as local versions of strong parties, these regional groups are poorly institutionalized, have short histories, and are more accurately described as "coalitions of independents," where party switching is rife (Zavaleta, 2014).

Another factor in the weakening of the party system is the increase in the relevance of individual leaders (Seifert Bonifaz, 2014), who are important determinants of the electoral performance of both national and regional parties. Many of the current national parties are more associated with a prominent leader than a policy platform. In many cases, regional parties have also become linked with a particular leader who is known to voters, and many candidates running on regional parties already have a personalized following they can draw on, such as by being leaders of social organizations or local entrepreneurs.

In contrast to regional parties, national parties' greater relative stability, together with a greater likelihood of being associated with prominent national leaders, endows them with stronger party labels. As a result, we expect them to be the likely beneficiaries of the votes of the uninformed voters that were induced to turn out as a result of higher fines.

Lastly, national parties naturally tend to cater to the immediate policy preferences of the national median voter, whose support they attempt to secure ahead of national-level races. In contrast, regional movements tend to target the needs of local voters to earn their support in the local-level races in which they specialize. This contention is supported by the results of our

text analysis, in which national parties tend to put less weight on local issues in their platforms in local races, relative to regional parties. The differentiation of platforms along this dimension is largely explained by the fact that Peruvian parties do not reflect a clear right-left divide. In the past, the major national parties had a well-defined ideological positioning that facilitated voter decision making (Colomer and Escatel, 2005). However, the platforms and political speech used in recent elections cast doubt on the ideological positioning of these national parties, which reflects a trend in Latin America of parties' shifting away from ideology and towards the personalistic reputation of the party leader.

5 Empirical design

In this section, we describe the data we use to construct our outcome variables, explain the empirical identification strategy, and provide a series of checks that support its validity.

5.1 Data sources and outcome variables

Our data largely comes from the National Elections Authority (*Jurado Nacional de Elecciones* - JNE). We use four main electoral outcomes from the 2006, 2010 and 2014 elections: turnout; percentage of spoiled votes, which combines blank and null votes; and regional and national parties' vote shares, respectively. We consider the percentage of spoiled votes because greater turnout would have no impact on overall electoral outcomes if the voters induced to turn out simply cast a blank or null vote. We focus on regional and national parties' vote shares since these are the two main party types, and they differ significantly in their party label strength.

We also use rich data on candidates' previous political experience. We assess the differential electoral support for candidates as a function of their participation in the previous election, distinguishing between winners and losers, as well as whether they ran under the same party as in the previous election. Similarly, we split the performance of national and regional parties across candidates who ran and did not run in the previous election, and for those who ran,

whether they won or lost. Though we consistently find no effects, we also examine differential electoral support as a function of other candidate characteristics in 2010 and 2014 (the data is not available for the 2006 election). To assess the validity of our identification strategy, we use various outcomes from the 2007 census and the Ministry of Education (*Ministerio de Educación del Perú* - MINEDU).

5.2 Identification strategy

We employ a regression discontinuity design (RDD) that exploits the discontinuous change in district-level fines. As explained in Section 4, whether a district is assigned to a low, moderate or high fine depends on whether its share of extremely-poor, non-extremely poor or non-poor population is highest. In Figure 1, each observation represents a district's fine level as a function of its poverty population shares.

We restrict our analysis to the districts close to the border that divides high and moderate fines, since the most plausibly exogenous variation in fine levels happens around the boundary, given that whether voters are subject to a high or moderate fine depends on whether the district's share of the non-extremely poor population is higher than the share of the non-poor population. We then define as the forcing variable the difference between these two shares, and conduct the following local linear regression:

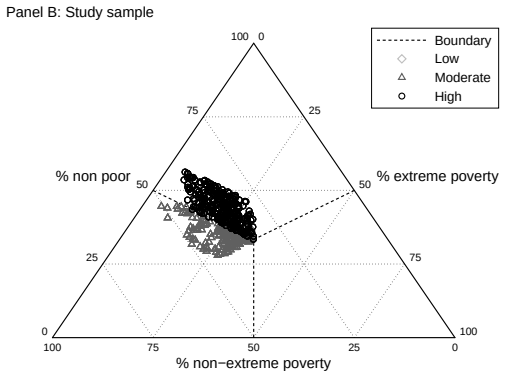
$$y_d = \alpha + \beta_1 high_d + \beta_2 distance_d + \beta_3 high_d \cdot distance_d + \epsilon_d, \tag{1}$$

where y_d is the outcome variable of interest in district d, $high_d$ is an indicator that voters in district d face a high as opposed to a moderate fine, and $distance_d$ is the difference between the share of the non-poor population and the share of the non-extremely poor population in district d. The forcing variable is $distance_d$ since positive values mean that districts are assigned to a high fine, while negative values signify assignment to a moderate fine. We cluster error terms by province to account for the fact that districts in the same province might not provide independent observations. Our parameter of interest is β_1, which captures the causal estimate of being

subject to a high versus a moderate fine.

We focus on the sample illustrated in Figure 2, which only includes districts subject to high or moderate fines within a bandwidth of 18 pp difference between the shares of the non-extremely poor and non-poor population and, to ensure common support, where the share of the extremely-poor population is less than the non-poor and non-extremely-poor shares[16] This bandwidth is the mode optimal bandwidth estimated by Calonico et al. (2017) for all of our outcomes. We also report results for bandwidths ranging from 14 to 22 pp, which is the range of optimal bandwidths across our outcomes.

Figure 2: Triangular plot of Peruvian districts by poverty decomposition: Baseline sample



Notes: See text for details on sample restriction relative to Figure 1.

Lastly, it is worth mentioning why our baseline results do not exploit the discontinuous change in fines at the other two boundaries. First, we do not compare high- to low-fine districts since there are very few districts along this boundary. Second, in Appendix Table A1, we compare districts subject to a low versus moderate fine, and we do not find statistically relevant differences. The lack of an effect is probably due to the small monetary difference between the low and the moderate fine (about US$ 6.25 versus US$ 12.50 respectively), which is half of the difference between the moderate and high fine (US$ 12.50 and US$ 25 respectively) that we study.

[16]Throughout the paper, we further exclude the 195 municipal districts that are provincial capitals because the mayors of these districts govern both the district and the province.

5.3 Assessing the validity of the RDD

Two main assumptions must hold for the RDD to deliver causally identified estimates of high versus moderate fines. First, there should be no sorting around the discontinuity. Sorting could occur if the National Institute of Statistics and Information manipulated the 2007 census figures ahead of the 2010 district classification issued by the National Elections Authority. We find this possibility extremely unlikely given the independence of these two agencies. A McCrary (2008)'s density test in Appendix Figure A1 confirms this lack of manipulation.

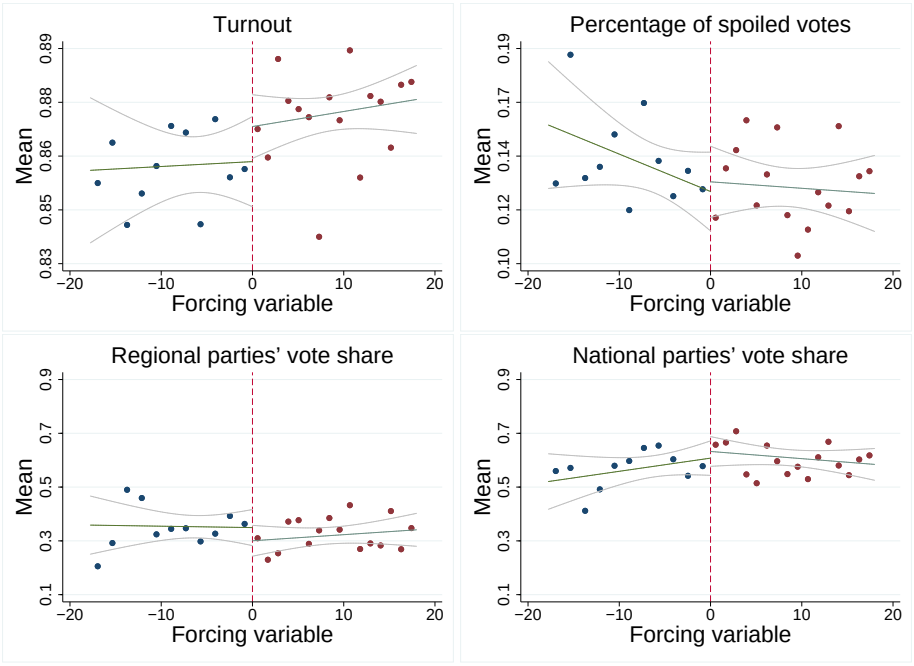
Second, other covariates should vary smoothly at the boundary that separates the districts subject to high and moderate fines. To assess this assumption, Table 2 shows that our main electoral outcomes of interest—turnout, spoiled votes, and regional and national parties' vote shares—are balanced across these districts in 2006. Figure 3 visually confirms this balance across 2006 electoral outcomes. Table 3 assesses balance across 18 other variables from the 2007 National Census. Consistent with chance, only 1 out of 18 coefficients is statistically significant at the 10% confidence level. Overall, these results suggest that the two necessary assumptions hold, thereby providing strong support for the validity of our RDD design.

Table 2: RDD estimates of the effect of a high fine on 2006 electoral outcomes

	Turnout	Percentage of spoiled votes	Regional parties' vote share	National parties' vote share
	(1)	(2)	(3)	(4)
High fine	0.0098	0.0041	-0.0490	0.0248
	(0.0074)	(0.0116)	(0.0439)	(0.0401)
Observations	400	400	400	400
R-squared	0.0276	0.0084	0.0055	0.0096
Baseline mean	0.8585	0.1302	0.3494	0.6077
N Clusters	123	123	123	123

Notes: Balance on pre-treatment electoral outcomes across districts with high and moderate fines for the baseline sample. Baseline mean is that of moderate-fine districts. Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

Figure 3: RDD plots of the effect of a high fine on 2006 electoral outcomes



Notes: Balance in pre-treatment outcomes around the cutoff for determining fines. Solid circles are local averages of each outcome. Black lines are local linear regressions to each side of the cutoff using district-level data. Gray lines depict 95% confidence intervals.

6 Results

We first analyze the short-term effects of a high versus moderate fine on 2010 electoral outcomes, where differences in abstention fines across districts should have affected turnout, as well as the voting behavior of those induced to turn out. However, the political supply, both in terms of candidates and their party platforms, should not have been affected. We then analyze the medium-term effects on electoral outcomes in 2014, when the political supply was able to react to the change in fines. Table 4 summarizes the mapping of the hypotheses in Section 3 to the result tables.

Table 3: RDD estimates of the effect of a high fine on 2007 census variables

	Population	Women	Age	Public water network	Public sewage network	Public electricity network
	(1)	(2)	(3)	(4)	(5)	(6)
High fine	-3,086.4094	-0.0088*	-0.2266	0.0045	-0.0019	-0.0114
	(1,975.8607)	(0.0049)	(0.6233)	(0.0519)	(0.0190)	(0.0451)
Observations	407	407	407	407	407	407
R-squared	0.0086	0.0139	0.0249	0.0246	0.0483	0.0697
Baseline mean	8,783	0.4893	28.3310	0.2336	0.1060	0.4795
N Clusters	125	125	125	125	125	125

	Cellphone	Overcrowding	No health insurance	Spanish native speaker	Years of education	Has ID Document
	(7)	(8)	(9)	(10)	(11)	(12)
High fine	-0.0264	-0.1362	-0.0143	-0.0182	-0.1933	-0.0015
	(0.0230)	(0.1005)	(0.0273)	(0.0523)	(0.1371)	(0.0059)
Observations	407	407	407	407	407	407
R-squared	0.0890	0.0611	0.0534	0.0258	0.1150	0.0262
Baseline mean	0.0992	2.2613	0.5757	0.8630	5.3894	0.9389
N Clusters	125	125	125	125	125	125

	Altitude of population centers	Longitude of population centers	Latitude of population centers	Rural population centers	Andes regions	Amazon regions
	(13)	(14)	(15)	(16)	(17)	(18)
High fine	275.9736	-0.1428	-0.2574	0.0297	-0.1501	-0.0016
	(264.0183)	(0.5866)	(0.6943)	(0.0213)	(0.0989)	(0.0751)
Observations	407	407	407	407	407	407
R-squared	0.0221	0.0063	0.0251	0.0152	0.0408	0.0148
Baseline mean	2,003	-76.2745	-8.5607	0.9127	0.6366	0.2820
N Clusters	125	125	125	125	125	125

Notes: Balance on pre-treatment district characteristics across districts with high and moderate fines for the baseline sample. Baseline mean is that of moderate-fine districts. Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

Table 4: Mapping of hypotheses to results

Empirical prediction	Hypothesis	Results
Short- and medium-term effect on turnout and spoiled votes	H1	Tables 5 and 8
Short-term effect on electoral support for better-known candidates in national parties	H2	Tables 6 and 7
Medium-term effect on electoral support for national and regional parties	H3	Table 8
Medium-term effect on electoral support for better-known candidates	H4	Tables 9 and 10
Medium-term effect on policy platforms	H5	Table 11

6.1 Effect of higher fines on 2010 election outcomes

Table 5 and Figure 4 present the estimates of the short-term effect of a high versus a moderate fine on turnout, percentage of spoiled votes, and regional and national parties' vote shares. Supporting H1, the results indicate an effect on turnout but not on spoiled votes. In contrast to work on other contexts (Singh, 2019), this null finding suggests that the voters induced to turn out by a larger fine did not simply cast a blank or null vote. We also see no statistically significant effect on regional and national parties' vote shares, on which our theory has no unambiguous predictions since both better-known candidates and national parties should benefit electorally from a high fine, but only better-known candidates can afford to run under regional parties.

We then assess the effect on the vote share of better-known candidates.[17] Since we do not have information on voter knowledge about candidates, we look at the electoral support for candidates who ran in the previous election, and who therefore should be better known to voters. However, being better known might not be necessarily good if the candidate's reputation is bad. We assess this possibility by examining the support for candidates but differentiating between whether those candidates won or lost, thereby capturing differential candidate reputations originating from the previous election. Moreover, we account for whether candidates ran with the same party in both 2006 and 2010. In the absence of candidate realignment due to a change in abstention fines, worse performing incumbents are more likely to lose the support of their parties, and thus those who switch likely demonstrate a worse reputation originating from the period in between elections.[18] Importantly, when studying the effect of higher fines once the political supply is allowed to react in the 2014 election, we can no longer use such proxies since they are endogenous to the change in the fines.

On average, the effect of a higher fine on the electoral support for better-known candidates should be ambiguous. The results in Table 6 show a positive effect. Specifically, we find that the

[17] Throughout the paper the causal interpretation of heterogeneous effects should be done with the usual caution. However, reassuringly, Appendix Table A7 shows no overall differential effect of a high, as opposed to a moderate, fine across a host of 2010 and 2014 candidate characteristics.

[18] Our data indicates that incumbent candidates who switch parties fare significantly worse than in the election that first brought them to office.

electoral support for candidates that also ran in the 2006 election is 8 pp larger in districts with a higher fine. Moreover, this effect is largely driven by incumbent candidates who decided to or were allowed to run again with the same party as before.

Next, we test the prediction in H2 that locally better-known candidates from national parties should unambiguously benefit from a higher fine when the political supply is fixed. To that end, we differentiate between the vote for national and regional parties distinguishing whether the candidate ran in the past, and if so, whether they won or lost. Results in Table 7 provide support for H2 since a higher fine only had a significantly positive (5-pp) effect on the votes for incumbents running with a national party.

Appendix B shows that the baseline results of the short-term effect of a high fine on 2010 electoral outcomes and candidate and party performance are robust to various alternative specifications, including using different bandwidths and the non-paramteric approach and optimal bandwidth suggested by Calonico et al. (2017). Moreover, supporting our interpretation of these heterogeneous effects, Appendix Table A7 shows no overall differential effect of a high fine across several candidate characteristics in 2010. Lastly, we study the effect of a moderate as opposed to a low fine. Since the difference in fine levels is significantly smaller, we expect a smaller or null effect. As expected, results in Appendix Table A1 show no statistically relevant differences in 2010 and 2014 electoral outcomes across districts subject to a moderate as opposed to a low fine.

6.2 Effect of higher fines on 2014 election outcomes

We next analyze the medium-term effects of a high versus a moderate fine on 2014 electoral outcomes. As opposed to 2010 when the political supply was fixed, in 2014 the supply was able to react to the different fine levels. Providing further support for H1, the results in Table 8 and Figure 5 indicate that the effect of higher fines on turnout persists after two elections.[19] More importantly, in contrast to the 2010 results, but consistent with H3, in 2014 there is significantly

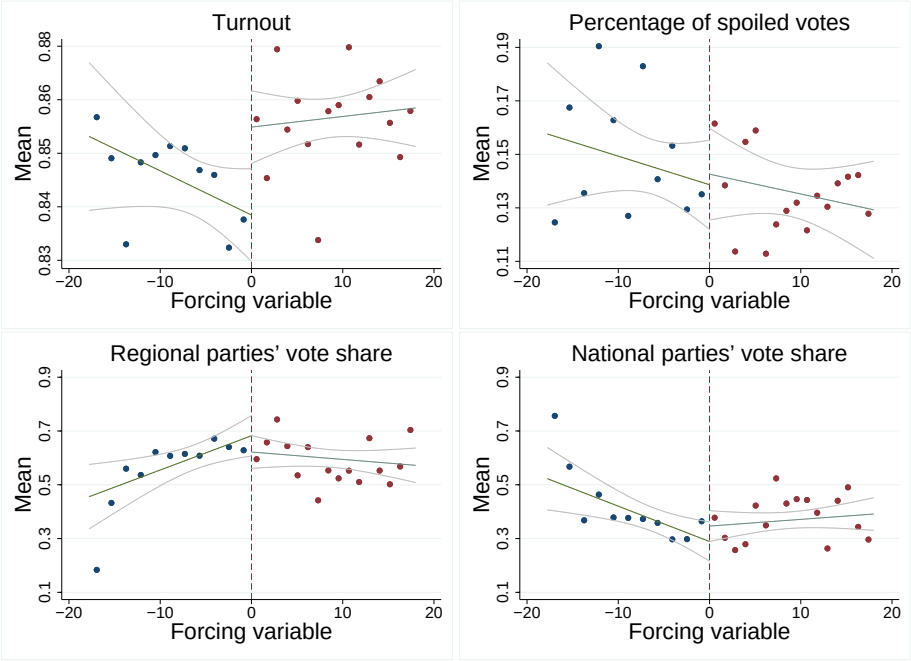
[19] As in 2010, we observe no effect of a higher fine on spoiled votes.

Table 5: RDD estimates of the effect of a high fine on 2010 electoral outcomes

	Turnout	Percentage of spoiled votes	Regional parties' vote share	National parties' vote share
	(1)	(2)	(3)	(4)
High fine	0.0214**	0.0039	-0.0604	0.0573
	(0.0084)	(0.0126)	(0.0501)	(0.0468)
Observations	403	403	403	403
R-squared	0.0454	0.0076	0.0193	0.0221
Baseline mean	0.8360	0.1387	0.6823	0.2891
N Clusters	124	124	124	124

Notes: Treatment effect on electoral outcomes across districts with high and moderate fines for the baseline sample. Baseline mean is that of moderate-fine districts. Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

Figure 4: RDD plots of the effect of a high fine on 2010 electoral outcomes



Notes: The figure shows graphical tests for discontinuities of the cutoff for determining fines. Solid circles are local averages of each outcome. Black lines are local linear regressions to each side of the cutoff using district-level data. Gray lines depict 95% confidence intervals.

larger electoral support for national parties and lower support for regional parties in districts with a high as opposed to a moderate fine. This effect is sizable: in districts with a higher fine, the electoral support for regional parties is 11 pp lower, 9 of which accrued to national parties.

Worth noting, these magnitudes are significantly larger than the effect on turnout, which is

Table 6: RDD estimates of the effect of a high fine on 2010 electoral support according to candidates' past electoral experience

Panel A: Same party	Candidate in previous election	Elected in previous election	Lost in previous election
	(1)	(2)	(3)
High fine	0.0778**	0.0598***	0.0179
	(0.0304)	(0.0216)	(0.0237)
Observations	403	403	403
R-squared	0.0180	0.0182	0.0078
Baseline mean	0.0828	0.0226	0.0602
N Clusters	124	124	124
Panel B: Different party	**Candidate in previous election**	**Elected in previous election**	**Lost in previous election**
	(4)	(5)	(6)
High fine	-0.0129	0.0301	-0.0431
	(0.0556)	(0.0284)	(0.0406)
Observations	403	403	403
R-squared	0.0002	0.0137	0.0078
Baseline mean	0.3744	0.0843	0.2902
N Clusters	124	124	124

Notes: Treatment effects on electoral support according to candidates' previous electoral experience across districts with high and moderate fines for the baseline sample. Each dependent variable is the sum of the vote share of the corresponding candidate type. Panel A focuses on candidates that ran in the previous election with the same party, and Panel B on the candidates that ran in the previous election with a different party. Baseline mean is that of moderate-fine districts. Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

consistent with candidate realignment. If there was no candidate realignment and, for example, all voters induced to turn out voted for national parties, we should observe that the entire 2.71 pp increase in turn out accrued to national parties and no change in the vote share for regional parties. However, since we instead see a much larger increase for national parties, while also a drop in vote share for regional parties, this suggests that the change in votes is mostly explained by candidate realignment, as we next show.

Table 9 focuses on the effect of a higher fine on the electoral support for different types of local candidates in 2014. It presents the treatment effects on the electoral support for candidates who ran in the previous election, and among those candidates, differentiates between those that won or lost. Moreover, it distinguishes these effects depending on whether the candidate ran in

Table 7: RDD estimates of the effect of a high fine on 2010 electoral support according to candidates' past electoral experience and party labels

Panel A: National party	Candidate in previous election	Not candidate in previous election	Elected in previous election	Lost in previous election
	(1)	(2)	(3)	(4)
High fine	0.0503	0.0071	0.0496**	0.0006
	(0.0384)	(0.0317)	(0.0217)	(0.0311)
Observations	403	403	403	403
R-squared	0.0208	0.0027	0.0251	0.0085
Baseline mean	0.1258	0.1632	0.0175	0.1084
N Clusters	124	124	124	124
Panel B: Regional party	**Candidate in previous election**	**Not candidate in previous election**	**Elected in previous election**	**Lost in previous election**
	(5)	(6)	(7)	(8)
High fine	0.0060	-0.0664	0.0373	-0.0313
	(0.0536)	(0.0542)	(0.0289)	(0.0384)
Observations	403	403	403	403
R-squared	0.0039	0.0118	0.0203	0.0097
Baseline mean	0.3182	0.3640	0.0829	0.2354
N Clusters	124	124	124	124

Notes: Treatment effects on candidates' electoral support according to their previous electoral experience across districts with high and moderate fines for the baseline sample. Each dependent variable is the sum of the vote share of the corresponding candidate type. Panel A considers candidates running with a national party, and Panel B those running with a regional party. Baseline mean is that of moderate-fine districts. Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

2014 with the same party type as in 2010. Consistent with H4, we observe that the candidates that benefit the most from a higher fine are those that changed party type between the 2010 and 2014 elections. Specifically, their electoral support is 14 pp larger in districts with a high fine.[20]

Among these candidates, those that benefit are not those that won (i.e., the incumbents), but rather those that lost the 2010 local election. This is in line with our theoretical argument that suggests candidates that switch should be those that, in the absence of a difference in fines, would take the risk and run with a regional party in order to implement policies closer to those

[20]Note that we are measuring when candidates switch party type, not only switch parties. One concern in the Peru context is, particularly given the weak party system, parties may change names from one election to the next, though these would not be cases of party switching since the change was not really to a different party. However, this is not a concern in our case, since we focus on changes in party type, specifically from a national to a regional party.

preferred by their local electorates. However, in districts with a higher fine, they are less able to afford to take the risk. In contrast, those that won in 2010 with regional parties should be more likely to continue taking the chance on their regional parties despite the presence of more uninformed voters that likely prefer a stronger party label.

To provide more conclusive evidence for H4, we need to establish that the candidates that changed party type between the 2010 and 2014 elections and benefited electorally the most from a higher fine are the ones driving the greater support for national parties in districts with higher fines. To assess this, in Table 10 we differentiate the effect of a higher fine on the electoral support for national and regional parties distinguishing between whether the candidate previously ran, and if so, whether they won or lost.

The estimates in Table 10 indicate that, effectively, the gain in electoral support by national parties as a result of higher fines is driven by candidates who lost in the previous election of 2010.[21] Moreover, consistent with our theoretical argument that relatively better-known candidates moved from regional to national parties, we see that a significant part of the loss in regional parties' electoral support is due to inexperienced candidates joining their ranks, who are likely replacing those that left for national parties. Specifically, a higher fine decreases the electoral support for regional party candidates without previous experience by 10 pp.

Results in Appendix B also show the robustness of the medium-term effect of a higher fine on 2014 electoral outcomes and candidate and party performance to using different bandwidths and the non-paramteric approach and optimal bandwidth suggested by Calonico et al. (2017). Moreover, supporting our interpretation of these heterogeneous effects, Appendix Table A7 shows no overall differential effect of a high fine across a host of 2014 candidate characteristics.

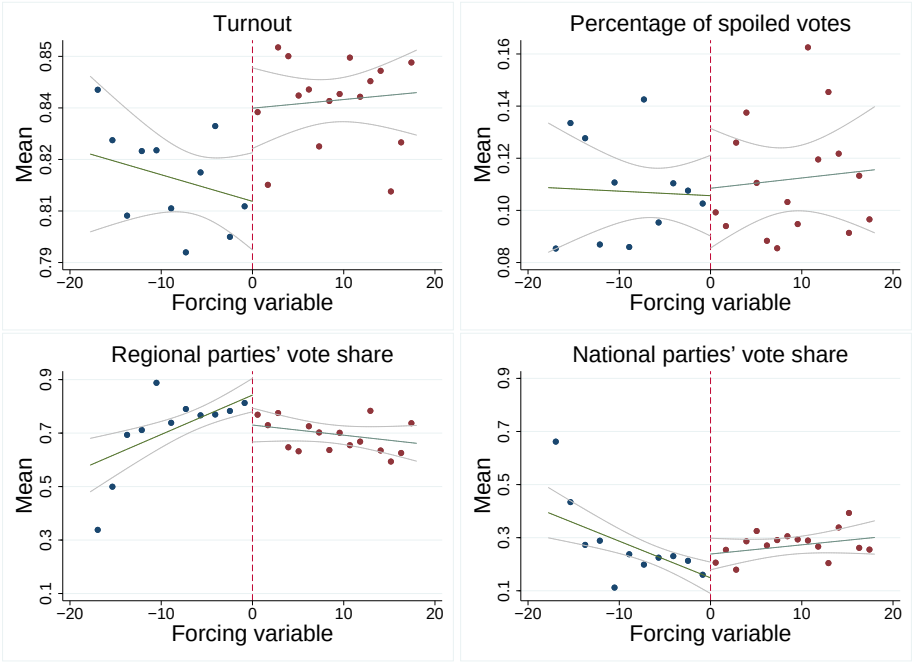
[21] At the risk of slicing the data too much, omitted results indicate that this gain in electoral support by national parties originating from the candidates that previously lost the election comes exclusively from those candidates that switched party.

Table 8: RDD estimates of the effect of a high fine on 2014 electoral outcomes

	Turnout	Percentage of spoiled votes	Regional parties' vote share	National parties' vote share
	(1)	(2)	(3)	(4)
High fine	0.0271**	0.0028	-0.1120**	0.0896**
	(0.0108)	(0.0149)	(0.0449)	(0.0449)
Observations	402	402	402	402
R-squared	0.0508	0.0012	0.0373	0.0321
Baseline mean	0.8078	0.1056	0.8421	0.1488
N Clusters	124	124	124	124

Notes: Treatment effects on electoral outcomes across districts with high and moderate fines for the baseline sample. Baseline mean is that of moderate-fine districts. Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

Figure 5: RDD plots of the effect of a high fine on 2014 electoral outcomes



Notes: The figure shows graphical tests for discontinuities of the cutoff for determining fines. Solid circles are local averages of each outcome. Black lines are local linear regressions to each side of the cutoff using district-level data. Gray lines depict 95% confidence intervals.

Table 9: RDD estimates of the effect of a high fine on 2014 electoral support according to candidates' past electoral experience

Panel A: Same party	Candidate in previous election	Elected in previous election	Lost in previous election
	(1)	(2)	(3)
High fine	-0.0755*	-0.0226	-0.0529*
	(0.0452)	(0.0263)	(0.0314)
Observations	402	402	402
R-squared	0.0170	0.0036	0.0231
Baseline mean	0.2270	0.0831	0.1439
N Clusters	124	124	124
Panel B: Different party	Candidate in previous election	Elected in previous election	Lost in previous election
	(4)	(5)	(6)
High fine	0.1461***	0.0204	0.1257***
	(0.0409)	(0.0286)	(0.0372)
Observations	402	402	402
R-squared	0.0274	0.0040	0.0310
Baseline mean	0.3038	0.1150	0.1888
N Clusters	124	124	124

Notes: Treatment effects on candidates' electoral support according to their past electoral experience across districts with high and moderate fines for the baseline sample. Each dependent variable is the sum of the vote share of the corresponding candidate type. Panel A focuses on candidates that ran in the previous election with the same party, and Panel B on the candidates that ran in the previous election with a different party. Baseline mean is that of moderate-fine districts. Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

6.3 Effect of higher fines on the policy platforms of national and regional parties

Up to now, consistent with our theoretical argument, our results indicate that when the political supply was allowed to react to a higher fine in 2014, relatively better-known local candidates switched from regional to national parties, which led to greater electoral support for national parties at the expense of regional parties. H5 further predicts that, in this scenario, a higher fine should not lead national parties to propose policies in local races that are better aligned to those of the regional parties, which are likely to better represent the needs of the local electorates.

To test this last prediction, we conduct text analysis of the platforms provided by all candi-

Table 10: RDD estimates of the effect of a high fine on 2014 electoral support according to candidates' past electoral experience and party labels

Panel A: National party	Candidate in previous election	Not candidate in previous election	Elected in previous election	Lost in previous election
	(1)	(2)	(3)	(4)
High fine	0.0730*	0.0166	0.0157	0.0573**
	(0.0408)	(0.0235)	(0.0227)	(0.0269)
Observations	402	402	402	402
R-squared	0.0326	0.0058	0.0068	0.0321
Baseline mean	0.0438	0.1051	0.0210	0.0227
N Clusters	124	124	124	124
Panel B: Regional party	Candidate in previous election	Not candidate in previous election	Elected in previous election	Lost in previous election
	(5)	(6)	(7)	(8)
High fine	-0.0138	-0.0982**	-0.0249	0.0111
	(0.0500)	(0.0484)	(0.0325)	(0.0468)
Observations	402	402	402	402
R-squared	0.0329	0.0145	0.0125	0.0203
Baseline mean	0.4761	0.3660	0.1803	0.2958
N Clusters	124	124	124	124

Notes: Treatment effects on candidates' electoral support according to their previous electoral experience across districts with high and moderate fines for the baseline sample. Each dependent variable is the sum of the vote share of the corresponding candidate type. Panel A considers the candidates running with a national party, and Panel B those running with a regional party. Baseline mean is that of moderate-fine districts. Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

dates in the 2010 and 2014 local elections.[22] Informal interviews with mayoral candidates in the 2010 and 2014 elections suggest that while they were in charge of developing platforms, they had to follow the party guidelines and statutes. We then expect party platforms to both reflect the party's policy choices and to significantly vary across party types. Using structural topic modeling (STM), we first identify the topics that are consistently estimated across three topic model specifications (10, 15 and 20 topics) and that are substantively meaningful (see more details in Appendix Section B). We identify five such topics: agriculture; citizen participation; geography and climate; urban issues; and territorial integration.

[22] We do not study the policies implemented by elected officials, which are only available for winning candidates. However, recent work, by Thomson et al. (2017) and Lutz (forthcoming), among others, shows that such policies are closely aligned with the platforms of those candidates in other contexts.

The STM package in R (Roberts, Stewart and Tingley, 2014; Lucas et al., 2015) outputs frequency-exclusivity (FREX) words associated with each topic, meaning words that are highly associated with the given topic but are largely unique to that topic. Appendix Table A8 shows the FREX words consistently associated with each of the topics across the three topic model specifications. Based in part on these FREX words, but more importantly on the reading of a representative sample of platforms, we identified the substantive meaning of these topics, which we describe below:

Agriculture: This topic focuses on agriculture, livestock and, to a lesser extent, fishing, as economic activities. Specifically, these platforms both describe the problems of economic development through agriculture, such as deficiencies in infrastructure and production technologies, as well as offer solutions.

Citizen Participation and Transparency: This topic speaks about the need for greater democratization of municipal governance. There is particular emphasis on improving citizen participation in municipal affairs in the participatory spaces established by law, with platforms describing the importance of citizen engagement in municipal planning processes. Platforms also describe how candidates intend to govern transparently following an 'open-door' approach, providing full access to public information.

Geography and Climate: This topic is the least identified of the five topics but broadly seems to emphasize the importance of dealing with climatic issues, often in Peru's Amazon forest.

Urban Issues: This topic describes the challenges and problems related to managing urban affairs. Citizen security and safety are the most frequently mentioned issues. The platforms often discuss the use of neighborhood watchmen and the need to forge better cooperation between municipal government and national police. Themes related to urban modernization are also mentioned frequently.

Territorial Integration: While this topic is less clearly identified than most others, it seems to refer to the territorial integration of the municipality. The platforms' concrete proposals describe the rural areas within districts where development projects are to be implemented and

the development challenges they face. The topic does not focus on rural issues per se, but rather, on the municipal government's targeting of the district's rural communities with development and infrastructure projects and investments.

We then use a difference-in-differences (DiD) specification within the regression discontinuity design to test whether the difference between the platforms of the national and regional parties changed from 2010 to 2014, and differentially so in high-fine districts. The dependent variables are the number of FREX words of the corresponding topic normalized by document length and an index of these variables across all topics. The regressors are indicators for whether the platform belongs to a national party, if it corresponds to the 2014 election, and whether the fine is high in the district, as well as the forcing variable, the interactions between all these indicators, and district fixed effects. The sample includes all platforms from political parties running in the districts in our baseline sample in these two elections.

Table 11 shows that platforms are substantively meaningful for national and regional parties. First, parties' platforms differ from each other in line with our expectations. Since their voters are closer to the urban national median relative to regional parties, national parties put more weight on issues more relevant to urban areas, such as challenges faced by urban centers and territorial integration, and less on rural issues, such as agricultural development. Second, parties' platforms evolve from one election to the other, as reflected by the change in the platforms' relative emphasis on most topics in the 2014 election.

More importantly, supporting H5, results in Table 11 indicate that the substantive differences between national and regional parties' platforms in 2010 neither decreased generally nor differentially in districts with high fines in 2014. In other words, after the 2010 election and in response to the new compulsory voting fines, our text analysis demonstrates that national parties did not change their policy offer to better reflect local needs and capture the new electorate, neither in general or differentially across high-fine districts.

Table 11: DiD estimates within the RDD of the effect of a high fine on the change in the difference in national and regional parties' platforms between 2010 and 2014

	Alpha index (1)	Agriculture (2)	Participation (3)	Geography and climate (4)	Urban (5)	Territorial integration (6)
National	0.0638**	-0.0016	0.0004	0.0002	0.0013***	0.0034***
	(0.0286)	(0.0010)	(0.0003)	(0.0004)	(0.0005)	(0.0012)
High fine x National	-0.0573*	-0.0001	-0.0001	-0.0007	-0.0006	-0.0011
	(0.0338)	(0.0011)	(0.0003)	(0.0005)	(0.0006)	(0.0015)
2014	0.0898***	-0.0021***	0.0011***	0.0003	0.0030***	0.0005
	(0.0199)	(0.0006)	(0.0003)	(0.0003)	(0.0004)	(0.0008)
National x 2014	-0.0261	0.0007	0.0006	-0.0008	-0.0006	-0.0008
	(0.0404)	(0.0012)	(0.0006)	(0.0006)	(0.0007)	(0.0019)
High fine x 2014	-0.0146	0.0003	0.0001	-0.0004	0.0004	-0.0014
	(0.0244)	(0.0008)	(0.0004)	(0.0004)	(0.0005)	(0.0011)
High fine x National x 2014	0.0110	-0.0007	0.0002	0.0011	0.0000	-0.0021
	(0.0482)	(0.0014)	(0.0008)	(0.0007)	(0.0009)	(0.0022)
Observations	5,187	5,187	5,187	5,187	5,187	5,187
R-squared	0.1222	0.2295	0.1253	0.1388	0.1629	0.1803
Number of Districts	407	407	407	407	407	407
Baseline mean	-.0604	.025	.0055	.0053	.0101	.0273
N Clusters	407	407	407	407	407	407
Linear combinations of relevant estimates						
National	0.0065	-0.0017***	0.0003	-0.0005*	0.0006**	0.0022**
+ High fine x National	(.0180)	(.0006)	(.0002)	(.0003)	(.0003)	(.0009)
National x 2014	-0.0151	0	0.0008	0.0003	-0.0005	-0.0029***
+ High fine x National x 2014	(.0264)	(.0008)	(.0005)	(.0004)	(.0006)	(.0011)

Notes: The indicator for whether the platform belongs to a district with high fine does not enter by itself because of the district fixed effects. Standard errors are clustered by district and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

7 Conclusion

Previous research has uncovered strong evidence that compulsory voting laws induce turnout, particularly among relatively disadvantaged citizens. However, results have been mixed when it comes to whether or not this altered electorate sparks downstream changes in partisan voting or on the policies ultimately implemented once politicians take office. We offer a novel theoretical explanation for these mixed findings and provide strong causally-identified support for our theory's predictions.

We begin from previous scholars' findings that the voters induced to turn out are relatively uninformed about politics. The politicians who stand the most to benefit from the potential electoral support of the new electorate are those who are more likely to be better known even among uninformed voters, either from their own popularity or because they run on parties with

strong party labels. In addition, politicians running in local races have to choose whether to align themselves with regional parties that offer the benefit of more flexibility in terms of offering policies more closely aligned to the local electorate, or national parties, whose advantage is informational thanks to a stronger party label. We theorize that in contexts where parties differ in party strength, local politicians will switch to national parties to take advantage of the stronger label and capture the votes of the new yet uninformed electorate.

We test our theoretical predictions in Peru, capitalizing on exogenous variation in the implementation timing and fine levels of the country's compulsory voting law. Immediately preceding the 2010 local elections, the law was modified to set differing district-level fines (low, moderate and high), with the amounts depending on each district's poverty level, but representing an average increase relative to the 2006 fines. Since the law was changed too close to the 2010 election, candidates were unable to modify the political supply in response. As a result, while we see a strong effect of a high as opposed to a moderate fine on turnout, we see no effect on other voting outcomes. However, in the next election in 2014, as our theory predicts, we find a general equilibrium change in that a higher fine not only effected turnout, but also led to a greater vote share of national parties at the expense of regional ones, as there was higher candidate switching from the latter to the former. Furthermore, we show that this effect on partisan vote share was not because of an informed policy preference, given that the differences between the policies offered by national and regional parties did not change between 2010 and 2014, either overall or differentially so in high-fine districts, as the text analysis of campaign platforms indicates.

Our theoretical argument and results contribute most directly to the literature on compulsory voting, reconciling previously mixed findings regarding the impact of compulsory voting laws on partisan voting and policy outcomes. Specifically, we present a novel theoretical argument and provide supporting empirical evidence that such an impact depends on the relative strength of party labels.

References

Aldrich, John Martín. 2011. Political Parties in and Out of Legislatures. In *The Oxford Handbook of Political Science*, ed. Robert E. Goodin. Oxford University Press.

Arias, Eric, Horacio Larreguy, John Marshall and Pablo Querubin. 2018. "Priors rule: When do malfeasance revelations help and hurt incumbent parties?" *NBER Working Paper No. 24888. https://www.nber.org/papers/w24888* .

Bechtel, Michael M., Dominik Hangartner and Lukas Schmid. 2016. "Does compulsory voting increase support for leftist policy?" *American Journal of Political Science* 60(3):752–767.

Blais, André. 2006. "What affects voter turnout?" *Annual Review of Political Science* 9:111–125.

Calonico, Sebastian, Matias D. Cattaneo, Max H. Farrell and Rocío Titiunik. 2017. "rdrobust: Software for Regression Discontinuity Designs." *Stata Journal* 17(2):372–404.

Cepaluni, Gabriel and F. Daniel Hidalgo. 2016. "Compulsory voting can increase political inequality: Evidence from Brazil." *Political Analysis* 24:273–280.

Colomer, Josep and Luis Escatel. 2005. "La dimensión izquierda-derecha en América Latina." *Desarrollo Económico* 45:123–126.

Dargent, Eduardo and Paula Muñoz. 2010. "Perú 2011: Continuidades y cambios en la política sin partidos." *Revista de Ciencia Política* 32:245–268.

De Gramont, Diane. 2010. "¿Se está quedando Lima detrás? Las elecciones regionales de noviembre de 2006 y el ascenso de los movimientos regionales en el Perú." *Revista Politai* 1:56–72.

De Leon, Fernanda Leite Lopez and Renata Rizzi. 2014. "A test for the rational ignorance hypothesis: Evidence from a natural experiment in Brazil." *American Economic Journal: Economic Policy* 6(4):380–398.

Ferwerda, Jeremy. 2014. "Electoral consequences of declining participation: A natural experiment in Austria." *Electoral Studies* 35:242–252.

Fowler, Anthony. 2013. "Electoral and Policy Consequences of Voter Turnout: Evidence from Compulsory Voting in Australia." *Quarterly Journal of Political Science* 8(2):159–182.

Hoffman, Mitchell, Gianmarco León and María Lombardi. 2017. "Compulsory voting, turnout, and government spending: Evidence from Austria." *Journal of Public Economics* 145:103–115.

Hooghe, Marc and Koen Pelleriaux. 1998. "Compulsory voting in Belgium: An application of the Lijphart thesis." *Electoral Studies* 17(4):419–424.

Jaitman, Laura. 2013. "The causal effect of compulsory voting laws on turnout: Does skill matter?" *Journal of Economic Behavior & Organization* 92:79–93.

JNE. 2010. "El Perfil del Elector Peruano." *Lima, Perú: Jurado Nacional de Elecciones. http://portal.andina.com.pe/EDPEspeciales/2011/perfil_elector_JNE.pdf* .

Kenney, Charles D. 2003. "The Death and Rebirth of a Party System, Peru 1978-2001." *Comparative Political Studies* 36(10):1210–1239.

Larreguy, Horacio, John Marshall and James Snyder. 2018. "Leveling the Playing Field: How Campaign Advertising Can Help Non-Dominant Parties." *Journal of the European Economic Association* 16(1).

León, Gianmarco. 2017. "Turnout, Political Preferences and Information: Experimental Evidence from Peru." *Journal of Development Economics* 127:56–71.

Lijphart, Arend. 1997. "Unequal Participation: Democracy's Unresolved Dilemma." *American Political Science Review* 91(1):1–14.

Loewen, Peter John, Henry Milner and Bruce M. Hicks. 2008. "Does compulsory voting lead to more informed and engaged citizens? An experimental test." *Canadian Journal of Political Science* 41(3):655–672.

Lucas, Christopher, Richard Nielsen, Margaret E. Roberts, Brandon M. Stewart, Alex Storer and Dustin Tingley. 2015. "Computer assisted text analysis for comparative politics." *Political Analysis* 23(2):254–277.

Lutz, Philipp. forthcoming. "Reassessing the gap-hypothesis: Tough talk and weak action in migration policy?" *Party Politics. https://journals.sagepub.com/doi/abs/10.1177/1354068819840776* .

McCrary, Justin. 2008. "Manipulation of the running variable in the regression discontinuity design: A density test." *Journal of Econometrics* 142(2):698–714.

Roberts, Margaret, Brandon M. Stewart and Dustin Tingley. 2014. "stm: R Package for Structural Topic Models." *Journal of Statistical Software* 10(2):1–42.

Seawright, Jason. 2012. *Party-System Collapse: The Roots of Crisis in Peru and Venezuela.* Stanford: Stanford University Press.

Seifert Bonifaz, Manuel. 2014. "Colapso de los partidos nacionales y auge de los partidos regionales: Las elecciones regionales y municipales 2002-2010." *Escuela de Gobierno y Políticas Públicas, Pontificia Universidad Católica del Perú* .

Selb, Peter and Romain Lachat. 2009. "The more, the better? Counterfactual evidence on the effect of compulsory voting on the consistency of party choice." *European Journal of Political Research* 48(5):573–597.

Sheppard, Jill. 2015. "Compulsory Voting and Political Knowledge: Testing a 'Compelled Engagement' Hypothesis." *Electoral Studies* 40(1):300–07.

Shineman, Victoria Anne. 2018. "If You Mobilize Them, They Will Become Informed: Experimental Evidence That Information Acquisition Is Endogenous to Costs and Incentives to Participate." *British Journal of Political Science* 48(1):189–211.

Singh, Shane P. 2015. "Compulsory voting and the turnout decision calculus." *Political Studies* 63(3):548–568.

Singh, Shane P. 2016. "Elections as poorer reflections of preferences under compulsory voting." *Electoral Studies* 44:56–65.

Singh, Shane P. 2019. "Politically Unengaged, Distrusting, and Disaffected Individuals Drive the Link Between Compulsory Voting and Invalid Balloting." *Political Science Research and Methods* 7(1):107–123.

Singh, Shane P. and Jason Roy. 2018. "Compulsory voting and voter information seeking." *Research & Politics* 5(1):1–8.

Thomson, Thomson, Terry Royed, Elin Naurin, Joaquín Artés, Rory Costello, Laurenz Ennser-Jedenastik, Mark Ferguson, Petia Kostadinova, Catherine Moury, FranÃğois Pétry and Katrin Praprotnik. 2017. "The Fulfillment of Parties' Election Pledges: A Comparative Study on the Impact of Power Sharing." *American Journal of Political Science* 61(3):527–542.

Zavaleta, Mauricio. 2014. "Coaliciones de independientes. Las reglas no escritas de la política electoral." *Encuentro Latinoamericano* 3(1):99–100.

A Online appendix for "Understanding the General Equilibrium Effects of Compulsory Voting on Policy: Evidence from Peru"

Contents

B Appendix: Robustness checks

Effect of higher fines on 2010 electoral outcomes

The results of the short-term effect of a high fine on 2010 electoral outcomes and candidate and party performance are robust to a series of checks. First, Figure 4 shows the RDD plots behind the positive results on turnout, and the null results on spoiled votes and electoral support for national and regional parties, demonstrating how the results are not an artifact of the specifications. Second, results in Panel A of Table A2 highlight the robustness of these results to considering the non-parametric approach and optimal bandwidth suggested by Calonico et al. (2017). Lastly, Figure A2 also shows how our estimates do not change when we consider bandwidth sizes ranging from 14 to 22 in intervals of 2. Again, the estimates of a higher fine on 2010 electoral outcomes are largely stable.

We then conduct a similar exercise, but focus on the effect of a higher fine on the 2010 electoral support for better-known candidates. Figure A4, Table A3, and Figure A5 show a robust and stable positive effect of a higher fine on the electoral support for incumbent politicians running in 2010 with the same party under which they were elected in 2006. Similarly, Figure A6, Table A4, and Figure A7 suggest a robust and stable positive effect of a higher fine on the electoral support for incumbent politicians from national parties in 2010.

Effect of higher fines on 2014 electoral outcomes

We also assess the robustness of the medium-term effect of a higher fine on the 2014 electoral outcomes. First, Figure 5 shows the plots behind the sizable effects on turnout and electoral support for national and regional parties. Second, Panel B of Table A2 assesses whether the effects are impacted by considering the approach suggested by Calonico et al. (2017). Lastly, Figure A3 shows how the estimates change when considering bandwidth sizes ranging from 14 to 22 in intervals of 2. All of these exercises demonstrate the robustness and stability of our estimates.

We then conduct similar exercises to show the robustness of our finding that the candidates that benefit the most electorally from a higher fine are those that change party type between local elections. Figure A8, Table A5, and Figure A9 suggest a robust and stable positive effect of a higher fine on the electoral support for those candidates. Similarly, Figure A10, Table A6, and Figure A11 support the robustness of the results that the electoral support gained by national parties as a result of higher fines is driven by the candidates who switch parties between elections.[23]

[23] Note that these estimates are not robust when following the approach suggested by Calonico et al. (2017). However, this finding is extremely at odds with the clear RDD plots Figure A10, and with Figure A11 that highlights the stability of the estimates to considering varying bandwidths. The puzzling estimates are likely to be explained by the fact that the optimal bandwidths in Calonico et al. (2017)'s approach consider data far away from the discontinuity, in contrast to our more conservative baseline bandwidth.

C Appendix: Tables

Table A1: RDD estimates of the effect of a moderate fine on 2010 and 2014 electoral outcomes

Panel A: Year 2010	Turnout	Percentage of spoiled votes	Regional parties' vote share	National parties' vote share
	(1)	(2)	(3)	(4)
Moderate fine	-0.0029	0.0072	0.0313	-0.0293
	(0.0087)	(0.0191)	(0.0553)	(0.0544)
Observations	374	374	374	374
R-squared	0.0024	0.0009	0.0107	0.0119
Baseline mean	0.8574	0.1559	0.6300	0.3431
N Clusters	113	113	113	113
Panel B: Year 2014	**Turnout**	**Percentage of spoiled votes**	**Regional parties' vote share**	**National parties' vote share**
	(5)	(6)	(7)	(8)
Moderate fine	0.0069	0.0041	0.0104	0.0001
	(0.0102)	(0.0167)	(0.0498)	(0.0487)
Observations	376	376	376	376
R-squared	0.0165	0.0097	0.0031	0.0056
Baseline mean	0.8203	0.1061	0.7372	0.2416
N Clusters	113	113	113	113

Notes: Treatment effects on electoral outcomes across districts with moderate and low fines for the sample of districts subject to moderate or low fines within a bandwidth of 18 pp difference between the share of a district's extremely poor and non-extremely poor population. Baseline mean is that of low-fine districts. Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

Table A2: Non–parametric RDD estimates of the effect of a high fine on 2010 and 2014 electoral outcomes

Panel A: Year 2010	Turnout	Percentage of spoiled votes	Regional parties' vote share	National parties' vote share
	(1)	(2)	(3)	(4)
High fine	0.0256***	0.0122	0.0062	-0.0290
	(0.0092)	(0.0141)	(0.0655)	(0.0646)
Observations	931	931	931	931
BW est. Left	13.70	9.06	9.10	7.98
BW est. Right	27.98	29.91	36.92	31.85

Panel B: Year 2014	Turnout	Percentage of spoiled votes	Regional parties' vote share	National parties' vote share
	(5)	(6)	(7)	(8)
High fine	0.0260**	0.0036	-0.0740	0.0846*
	(0.0120)	(0.0140)	(0.0486)	(0.0441)
Observations	935	935	935	935
BW est. Left	10.42	11.00	8.12	6.73
BW est. Right	26.82	23.77	30.84	30.62

Notes: Treatment effect on electoral outcomes across districts with high and moderate fines computed non-parametrically following Calonico et al. (2017). The sample includes all districts subject to high or moderate fines within the optimal bandwidth suggested by Calonico et al. (2017). Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

Table A3: Non–parametric RDD estimates of the effect of a high fine on 2010 electoral support according to candidates' past electoral experience

Panel A: Same party	Candidate in previous election	Elected in previous election	Lost in previous election
	(1)	(2)	(3)
High fine	0.0521	0.0434**	0.0108
	(0.0340)	(0.0197)	(0.0261)
Observations	931	931	931
BW est. Left	10.72	10.89	10.74
BW est. Right	33.12	30.35	27.67
Panel B: Different party	**Candidate in previous election**	**Elected in previous election**	**Lost in previous election**
	(4)	(5)	(6)
High fine	0.0198	0.0229	-0.0167
	(0.0576)	(0.0335)	(0.0446)
Observations	931	931	931
BW est. Left	9.69	8.71	10.74
BW est. Right	28.99	21.75	31.36

Notes: Treatment effect on electoral outcomes across districts with high and moderate fines computed non-parametrically following Calonico et al. (2017). Each dependent variable is the sum of the vote share of the corresponding candidate type. Panel A focuses on candidates that ran in the previous election with the same party, and Panel B with a different party. The sample includes all districts subject to high or moderate fines within the optimal bandwidth suggested by Calonico et al. (2017). Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

Table A4: Non–parametric RDD estimates of the effect of a high fine on 2010 electoral support according to candidates' past electoral experience and party labels

Panel A: National party	Candidate in previous election	Not candidate in previous election	Elected in previous election	Lost in previous election
	(1)	(2)	(3)	(4)
High fine	0.0552	-0.0887*	0.0513***	-0.0066
	(0.0445)	(0.0464)	(0.0186)	(0.0345)
Observations	931	931	931	931
BW est. Left	8.53	6.71	7.88	11.75
BW est. Right	26.15	26.04	24.66	19.97
Panel B: Regional party	Candidate in previous election	Not candidate in previous election	Elected in previous election	Lost in previous election
	(5)	(6)	(7)	(8)
High fine	0.0105	0.0180	0.0233	0.0014
	(0.0606)	(0.0454)	(0.0305)	(0.0517)
Observations	931	931	931	931
BW est. Left	9.68	7.6	12.47	8.89
BW est. Right	29.51	34.15	24.22	19.57

Notes: Treatment effect on electoral outcomes across districts with high and moderate fines computed non-parametrically following Calonico et al. (2017). Each dependent variable is the sum of the vote share of the corresponding candidate type. Panel A considers the candidates running with a national party, while Panel B considers regional party candidates. The sample includes all districts subject to high or moderate fines within the optimal bandwidth suggested by Calonico et al. (2017). Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

Table A5: Non–parametric RDD estimates of the effect of a high fine on 2014 electoral support according to candidates' previous electoral experience

Panel A: Same party	Candidate in previous election	Elected in previous election	Lost in previous election
	(1)	(2)	(3)
High fine	-0.0306	0.0084	-0.0465
	(0.0618)	(0.0296)	(0.0411)
Observations	935	935	935
BW est. Left	6.35	6.05	8.34
BW est. Right	27.61	27.12	27.70
Panel B: Different party	**Candidate in previous election**	**Elected in previous election**	**Lost previous election**
	(4)	(5)	(6)
High fine	0.0138	0.0273	-0.0294
	(0.0709)	(0.0441)	(0.0608)
Observations	935	935	935
BW est. Left	5.66	9.25	4.78
BW est. Right	29.28	22.23	21.97

Notes: Treatment effect on electoral outcomes across districts with high and moderate fines computed non-parametrically following Calonico et al. (2017). Each dependent variable is the sum of the vote share of the corresponding candidate type. Panel A focuses on candidates that ran in the previous election with the same party, and Panel B with a different party. The sample includes all districts subject to high or moderate fines within the optimal bandwidth suggested by Calonico et al. (2017). Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

Table A6: Non–parametric RDD estimates of the effect of a high fine on 2014 electoral support according to candidates' past electoral experience and party labels

Panel A: National party	Candidate in previous election	Not candidate in previous election	Elected in previous election	Lost in previous election
	(1)	(2)	(3)	(4)
High fine	0.0460	0.0328	0.0158	0.0293
	(0.0346)	(0.0339)	(0.0219)	(0.0258)
Observations	935	935	935	935
BW est. Left	7.62	8.1	6.89	9.16
BW est. Right	26.39	32.18	24.76	24.22
Panel B: Regional party	Candidate in previous election	Not candidate in previous election	Elected in previous election	Lost in previous election
	(5)	(6)	(7)	(8)
High fine	-0.0054	-0.0629	0.0050	-0.0330
	(0.0634)	(0.0517)	(0.0454)	(0.0643)
Observations	935	935	935	935
BW est. Left	9.15	10.24	7.46	6.66
BW est. Right	24.58	25.74	28.51	22.54

Notes: Treatment effect on electoral outcomes across districts with high and moderate fines computed non-parametrically following Calonico et al. (2017). Each dependent variable is the sum of the vote share of the corresponding candidate type. Panel A considers the candidates running with a national party, and Panel B considers candidates running with a regional party. The sample includes all districts subject to high or moderate fines within the optimal bandwidth suggested by Calonico et al. (2017). Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

Table A7: RDD estimates of the effect of a high fine on 2010 and 2014 electoral support according to candidates' characteristics

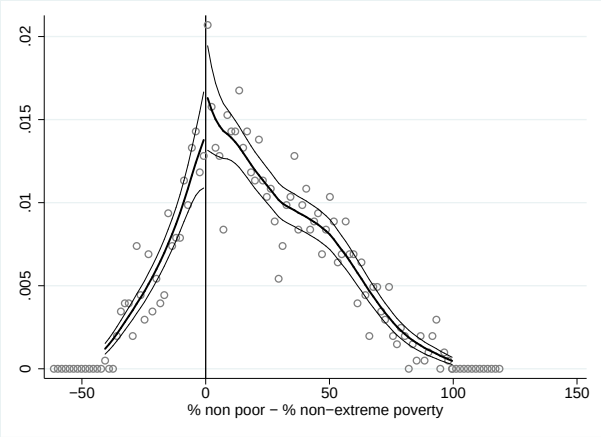
Panel A: Year 2010	Age	Woman	Residence index	Education index	Income index	Properties and assets	Public sector experience index	Private sector experience index	Party experience index
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
High fine	0.0973	-0.0141	0.0352	-0.0639	-0.2701	-126,837	0.1522**	-0.1051	0.0513
	(0.9460)	(0.0141)	(0.0639)	(0.0701)	(0.1944)	-151,656	(0.0694)	(0.0783)	(0.1404)
Observations	403	403	384	403	403	357	400	400	403
R-squared	0.0069	0.0273	0.0019	0.0067	0.0107	0.0069	0.0120	0.0122	0.0082
Baseline mean	43.83	0.04	0.09	0.35	0.12	220,823	0.22	-0.16	0.20
N Clusters	124	124	115	124	124	120	124	124	124

Panel B: Year 2014	Age	Woman	Residence index	Education index	Income index	Properties and assets	Public sector experience index	Private sector experience index	Party experience index
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
High fine	0.0452	0.0030	0.0352	-0.0912	-0.0621	-141,780	-0.0242	-0.0548	-0.1858
	(0.8362)	(0.0189)	(0.0666)	(0.0708)	(0.0471)	-93,352	(0.0843)	(0.0717)	(0.1742)
Observations	402	402	401	402	367	306	402	402	402
R-squared	0.0098	0.0065	0.0013	0.0088	0.0308	0.0139	0.0074	0.0089	0.0068
Baseline mean	44.97	0.04	0.06	0.41	0.14	288,960	0.55	-0.32	0.42
N Clusters	124	124	124	124	121	116	124	124	124

Notes: Treatment effects on candidates' characteristics across districts with high and moderate fines for the baseline sample. Each dependent variable is the weighted average of the characteristics of all the candidates running for a district, where the weights are the votes obtained by each of the candidates. Each index is constructed first using the alpha command in Stata on a number of closely related variables for each candidate, and then applying the weights on the resulting scales to obtain a district level variable. Missing observations in residence index, income index, properties and assets, public sector experience and private sector experience due to missing responses in reported candidates' CVs. Baseline mean is that of moderate-fine districts. Standard errors are clustered by province and reported below the coefficients in parentheses. *p<0.10 **p<0.05 ***p<0.01.

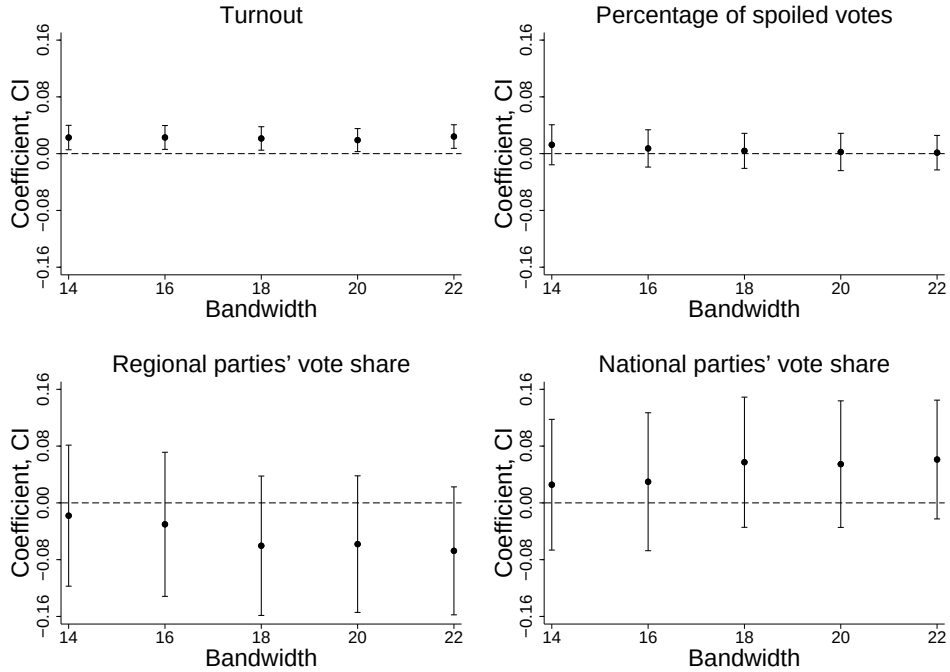
A Appendix: Figures

Figure A1: McCrary test



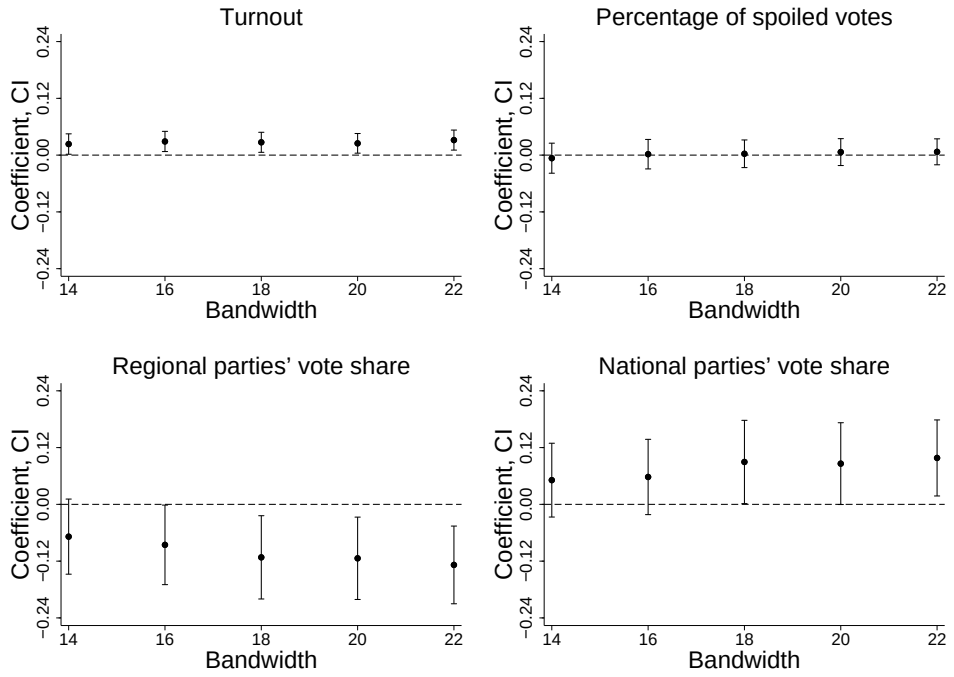
Notes: Density difference between districts subject to high and moderate fines. The discontinuity difference at the threshold is 0.161, with a standard error of 0.157.

Figure A2: Robustness to bandwidth choice of estimates of the effect of a high fine on 2010 electoral outcomes



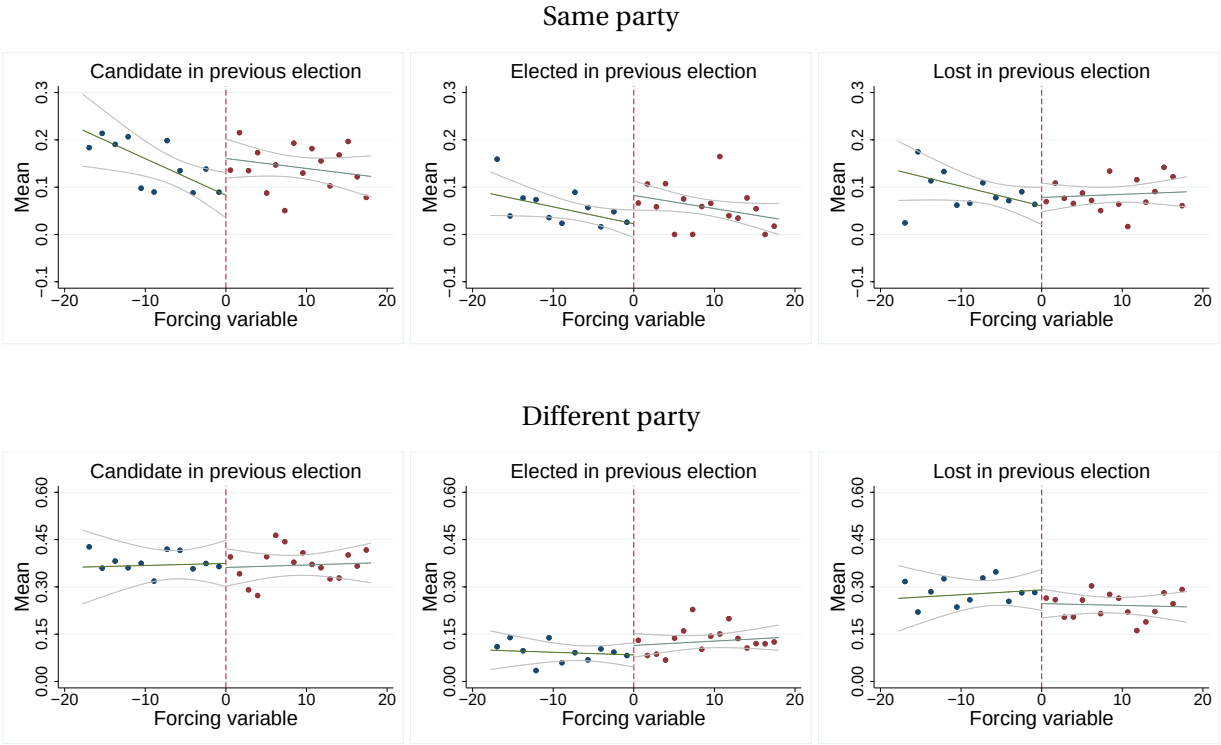
Notes: The figure shows high fine effect estimates at bandwidths increasing in intervals of ±2 around the preferred bandwidth of 18. Solid circles are point estimates, and solid lines depict 95% confidence intervals.

Figure A3: Robustness to bandwidth choice of estimates of the effect of a high fine on 2014 electoral outcomes



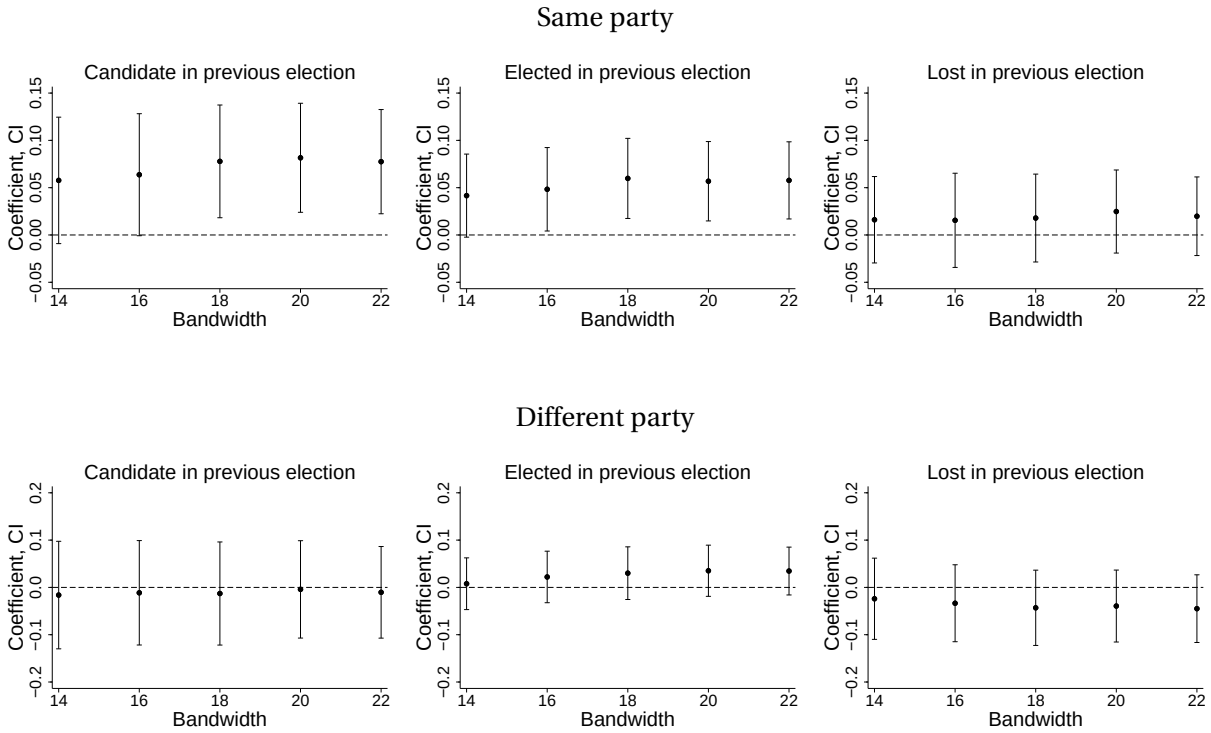
Notes: The figure shows high fine effect estimates at bandwidths increasing in intervals of ±2 around the preferred bandwidth of 18. Solid circles are point estimates, and solid lines depict 95% confidence intervals.

Figure A4: RDD plots of the effect of a high fine on 2010 electoral support according to candidates' past electoral experience



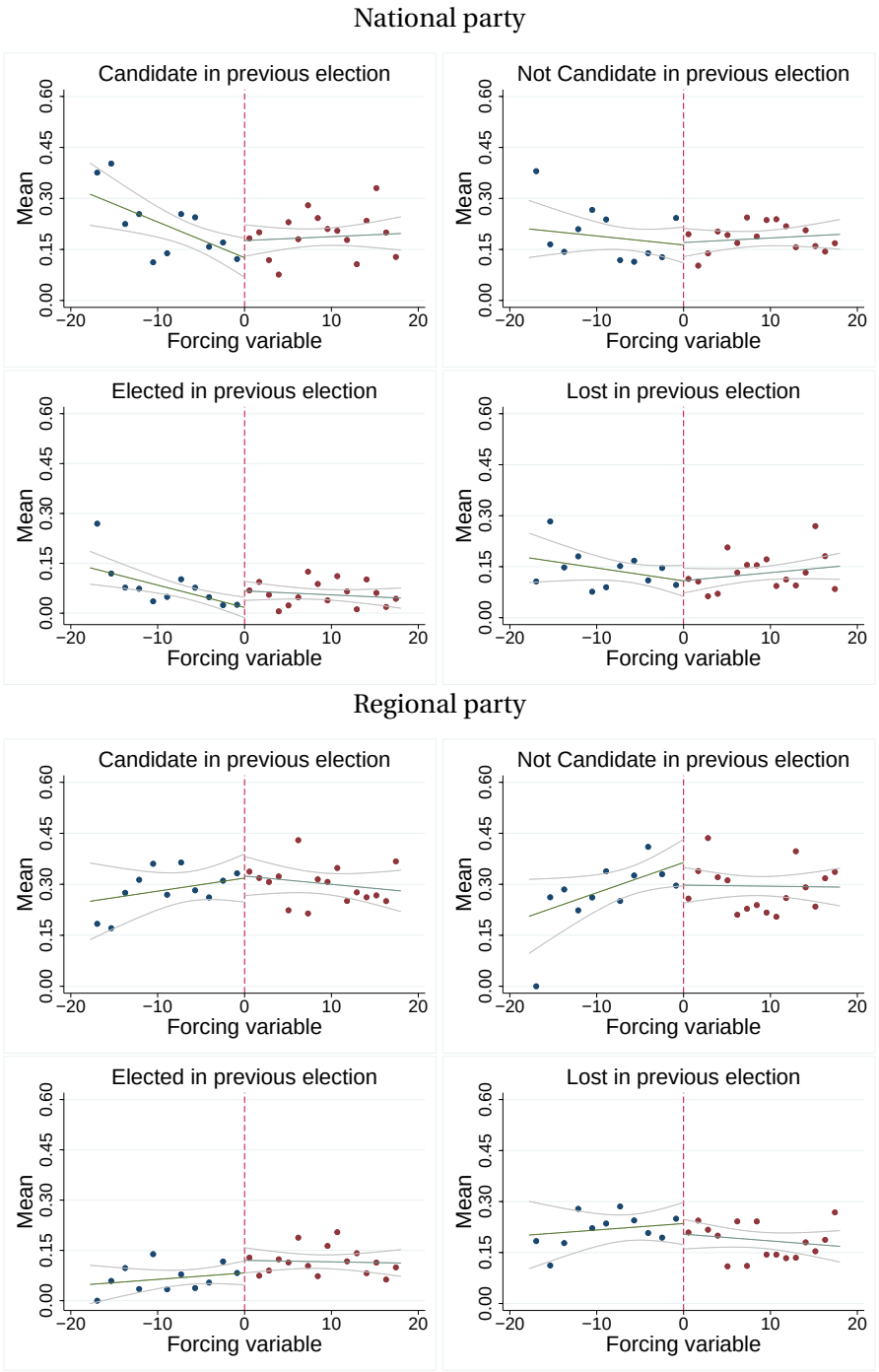
Notes: The figure shows graphical tests for discontinuities at the fine eligibility cutoff. Solid circles are local averages of each outcome. Black lines are local linear regressions to each side of the cutoff using district-level data. Gray lines depict 95% confidence intervals.

Figure A5: Robustness to bandwidth choice of estimates of the effect of a high fine on 2010 electoral support according to candidates' past electoral experience



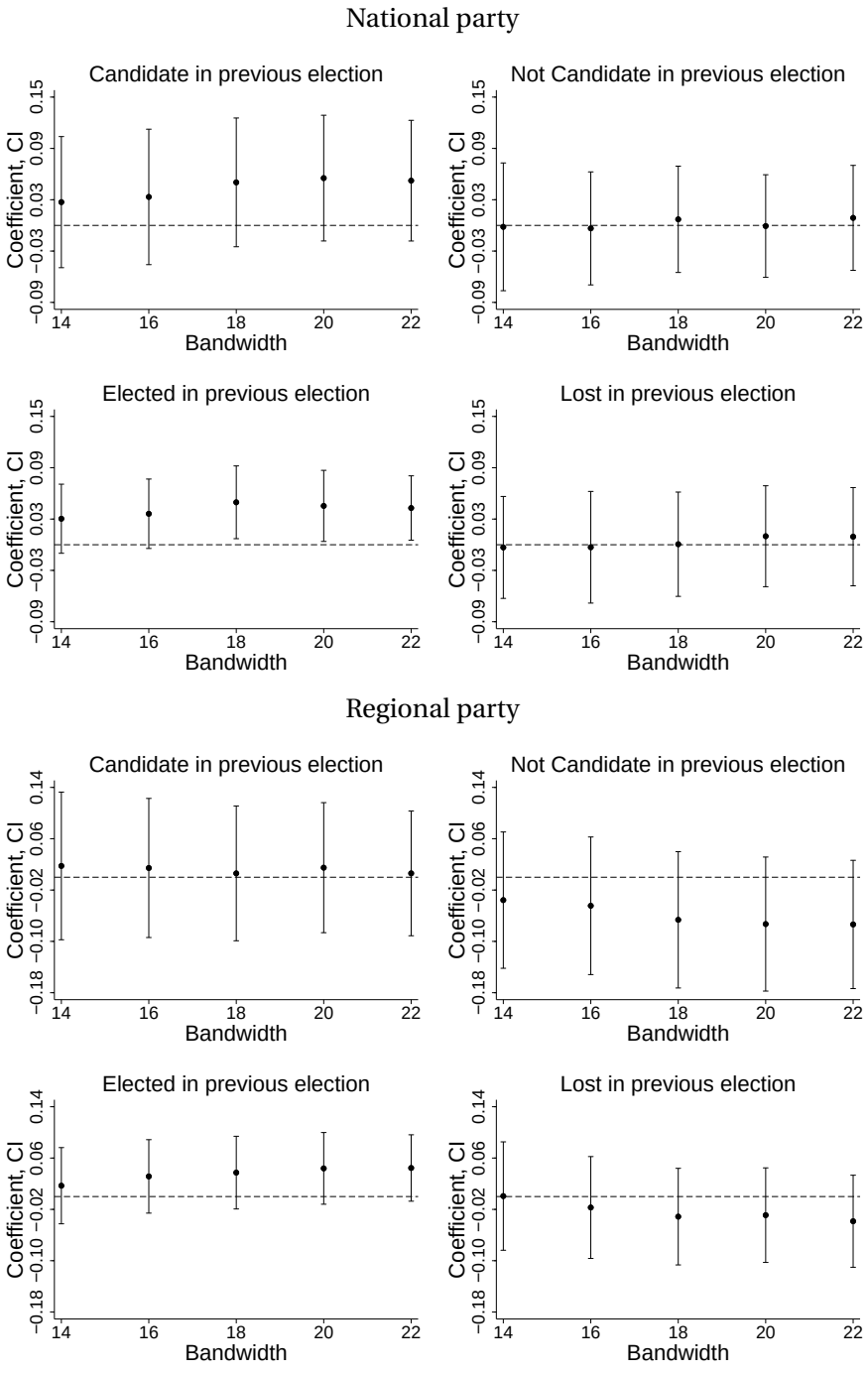
Notes: The figure shows high fine effect estimates at bandwidths increasing in intervals of ±2 around the preferred bandwidth of 18. Solid circles are point estimates, and solid lines depict 95% confidence intervals.

Figure A6: RDD plots of the effect of a high fine on 2010 electoral support according to candidates' past electoral experience and party labels



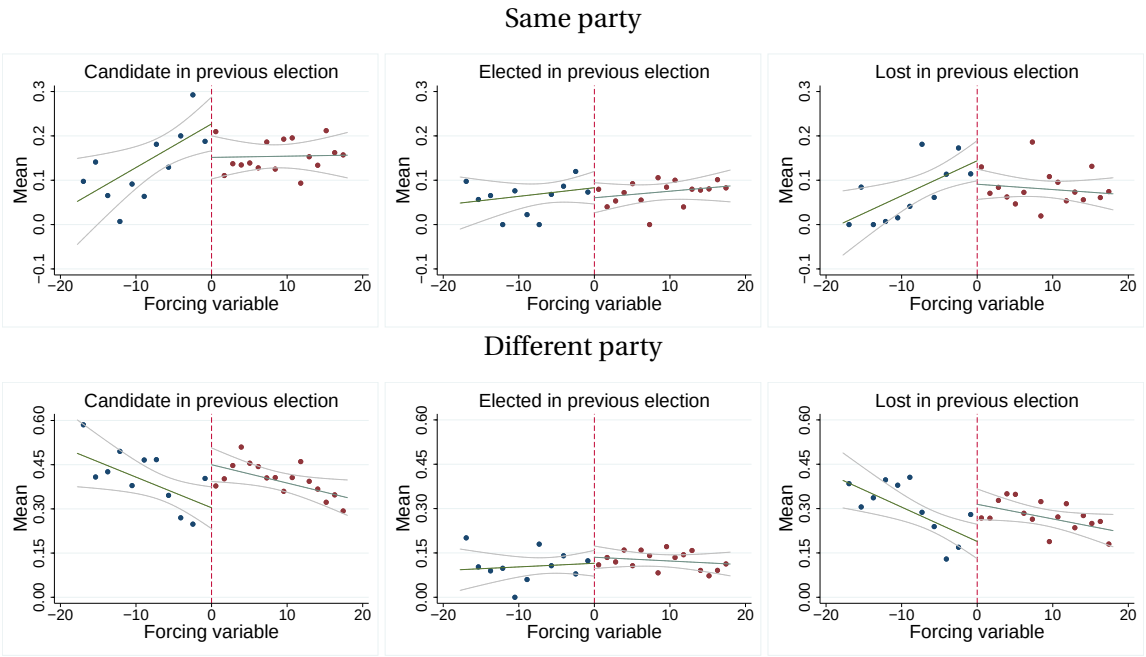
Notes: The figure shows high fine effect estimates at bandwidths increasing in intervals of ±2 around the preferred bandwidth of 18. Solid circles are point estimates, and solid lines depict 95% confidence intervals.

Figure A7: Robustness to bandwidth choice of estimates of the effect of a high fine on 2010 electoral support according to candidates' past electoral experience and party labels



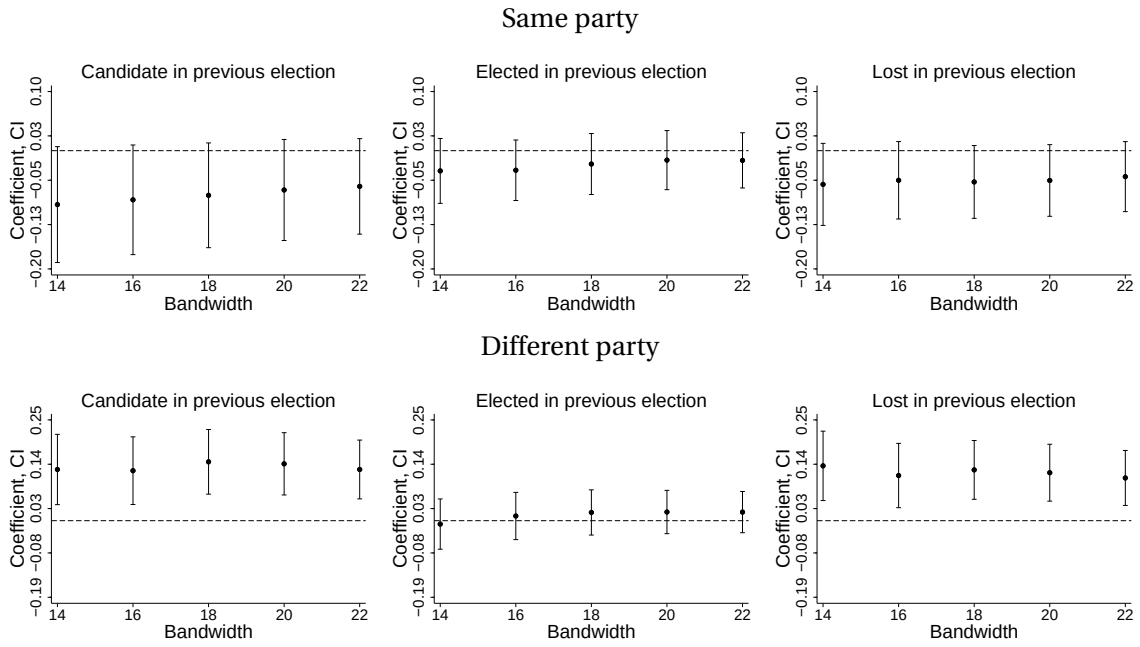
Notes: The figure shows high fine effect estimates at bandwidths increasing in intervals of ±2 around the preferred bandwidth of 18. Solid circles are point estimates, and solid lines depict 95% confidence intervals.

Figure A8: RDD plots of the effect of a high fine on 2014 electoral support according to candidates' past electoral experience



Notes: The figure shows graphical tests for discontinuities at the fine eligibility cutoff. Solid circles are local averages of each outcome. Black lines are local linear regressions to each side of the cutoff using district-level data. Gray lines depict 95% confidence intervals.

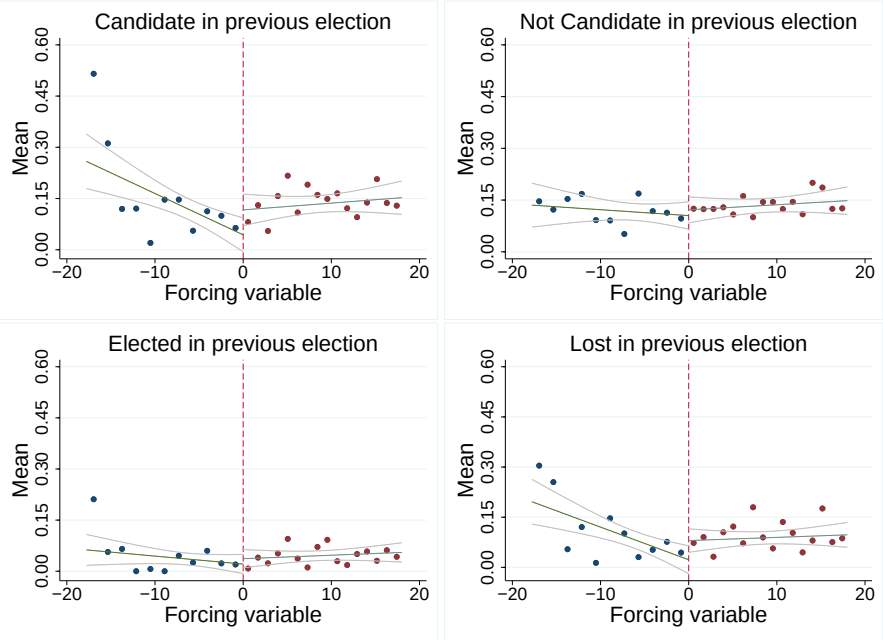
Figure A9: Robustness to bandwidth choice of estimates of the effect of a high fine on 2014 electoral support according to candidates' past electoral experience



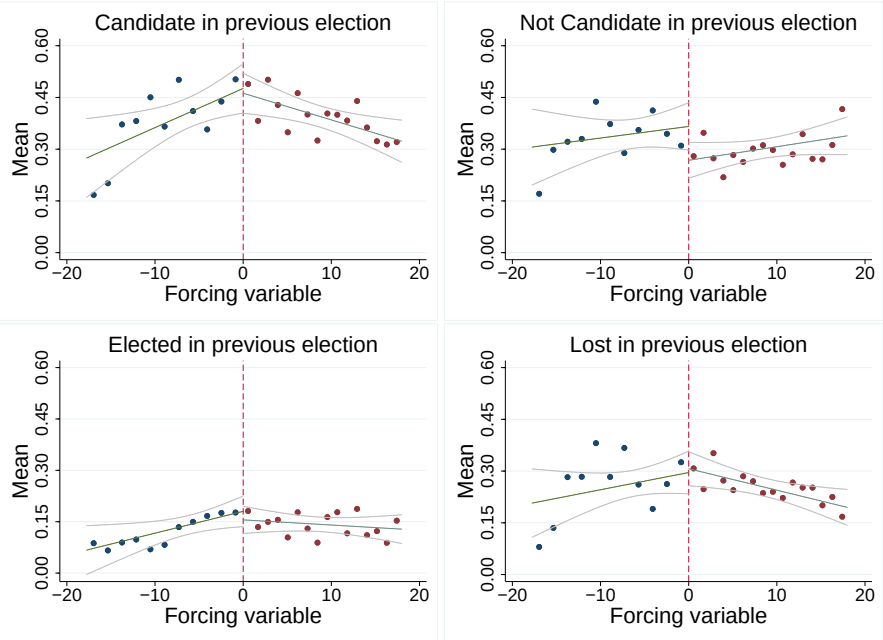
Notes: The figure shows high fine effect estimates at bandwidths increasing in intervals of ±2 around the preferred bandwidth of 18. Solid circles are point estimates, and solid lines depict 95% confidence intervals.

Figure A10: RDD plots of the effect of a high fine on 2014 electoral support according to candidates' past electoral experience and party labels

National party

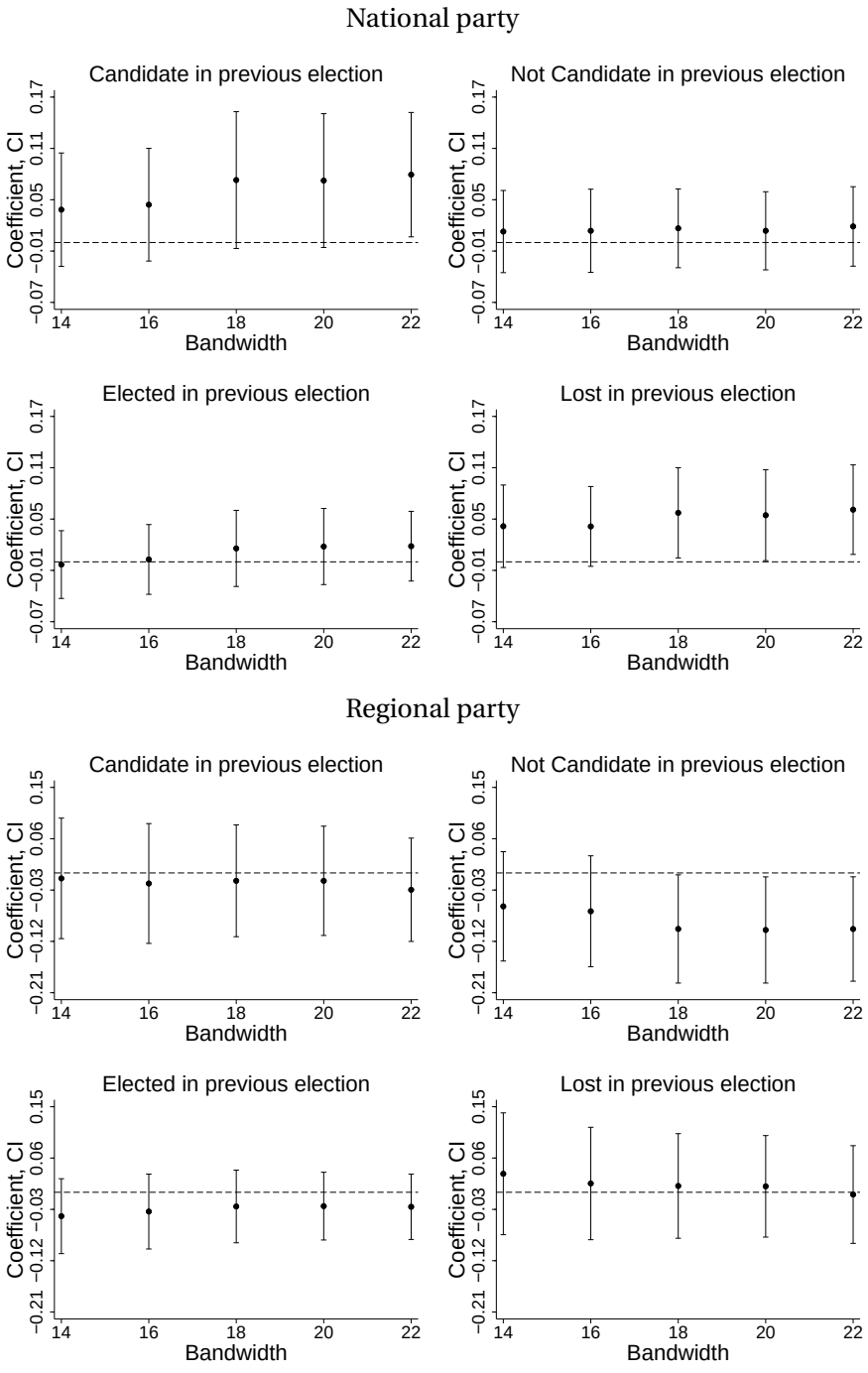


Regional party



Notes: The figure shows high fine effect estimates at bandwidths increasing in intervals of ±2 around the preferred bandwidth of 18. Solid circles are point estimates, and solid lines depict 95% confidence intervals.

Figure A11: Robustness to bandwidth choice of estimates of the effect of a high fine on 2014 electoral support according to candidates' past electoral experience and party labels



Notes: The figure shows high fine effect estimates at bandwidths increasing in intervals of ±2 around the preferred bandwidth of 18. Solid circles are point estimates, and solid lines depict 95% confidence intervals.

B Appendix: Text Analysis of Candidate Campaign Platforms

All candidates running for elected office in Peru are required to present a campaign platform (*Plan de Gobierno*) that addresses four main thematic areas: economic, institutional, social, and environmental-territorial. They are submitted to the National Elections Authority (*Jurado Nacional de Elecciones* - JNE), who then uploads the platforms onto its online database, called Informed Vote (*Voto Informado*). The site has been designed to provide easy access to information about candidates, including their education and professional experience, declaration of income and assets, any pending legal cases, and the campaign platforms of their parties for each particular race. For the 2006 elections, providing a campaign platform was voluntary, and compliance was unsurprisingly well below 100%. It was only beginning in 2010 that the JNE enforced the provision of party platforms, thus our text analysis covers only the 2010 and 2014 elections.

We received directly from the JNE the full set of campaign platforms from all the parties of all the district mayoral candidates across the 2010 and 2014 elections. The total documents included in the text analysis across the two election years is 22,214 (11,105 from 2010 and 11,109 from 2014). Across both elections, 3.19% of the platforms from valid candidates are missing, either because the candidate could not be matched to the list of file names provided by the JNE, the JNE did not provide the platform, or most commonly, the document was corrupted or in a format that was incompatible with text analysis.

In addition to standard cleaning of the corpus (convert to lower-case letters, remove punctuation and numbers, strip extra white space, and conduct word stemming in Spanish), we removed names of regions, provinces and districts, the paternal and maternal last names occurring in the 2014 candidate list, and the 200 most common first names in Peru according to Peru's National Registry of Identification and Civil Status (*Registro Nacional de Identificación y Estado Civil*- RENIEC). We also identified two- and three-word compound words like 'participatory budgeting' and 'civil society' and manually set them to one word so they would not be considered as separate terms in the analysis.

To analyze the text, we employ structural topic modeling (STM) using the STM package in R (Roberts, Stewart and Tingley, 2014; Lucas et al., 2015). The only document metadata used was election year (2010 or 2014). We allow for the way candidates talk about a particular topic to vary by election year (year is thus a 'content covariate' in STM language). This was substantively important because, across time periods, candidates are likely using different words to talk about the same topic, and we wanted to make sure we identify the topic even if the vocabulary candidates use to discuss it varies across election years. The most common strategy in STM is to allow for covariates to affect prevalence, or how frequently a topic is discussed in a given document. But a priori there is no reason to assume this to be the case with our particular covariate, year.

In STM, the researcher sets the number of topics to be identified across the entire corpus, then documents are modeled as being composed of a mixture of those set number of topics. Because the number of topics is arbitrarily established by the researcher, one key task is to evaluate and select a particular model to be used. In our strategy, we ran 10, 15 and 20 topic models and compared the content of the estimated topics to identify and only use the topics that were common across all three models.

We identified six such topics and explored their meaning by looking at the words associated with each. While these words can give a strong idea of topic meaning, we followed standard

best practice and read a selection of the original campaign platform documents to further flesh out and confirm topic meanings within and across models. One of the six initially identified topics turned out to not be substantially meaningful, as the STM estimation had merely grouped together documents that frequently mentioned the legal regulations surrounding the electoral process. By the end of the process, we had identified five topics that were both substantively meaningful and which had the same meaning across the three different models: Agriculture, Citizen Participation, Geography and Climate, Urban Issues. and Territorial Integration.

Next, we developed a measure of the degree to which a platform discussed each of these topics. The STM program outputs estimates of topic proportions per document, but using these proportions in our regressions has the drawback that they are estimates with uncertainty, not precise values. Instead, we identified words that are unique to the topic, then calculated the frequencies of the words per document, normalized by the document length, and used those values. The STM program generates what it calls frequency-exclusivity (FREX) words for each topic, meaning words that are both frequent and exclusive to the topic. For our analysis, we use the words from within the top 15 FREX words for each topic that are common across all three models (Table A8 shows these words).

Table A8: FREX Words Common Across All Three Models

Topic	**FREX Words**
Citizen Participation and Transparency	vecin, participvecinal, edilici, diseñ, limpiez, necesit, imperi, racionaliz, parametr, inmoral
Urban Issues	socied, garant, quer
Territorial Integration	caseri, adquisicion, anex, comput, call, construccion
Agriculture	genet, crianz, past, animal, vacun
Geography and Climate	rio, especi, temperatur, epoc, precipit, humed, sec

Notes: Words listed are word stems in Spanish.