Information Dissemination and Local Governments' Electoral Returns, Evidence from a Field Experiment in Mexico

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Abstract

Does information about local government's performance spark participation in local elections? Are more informed voters more likely to topple incumbents who govern badly? In this article we examine the effects of an information campaign on electoral participation and incumbent parties' vote share in the 2009 municipal elections in Mexico. For purposes of the study, we randomly assigned electoral precincts in twelve municipalities in the states of Jalisco, Morelos, and Tabasco in Mexico to one of four groups: the first group received information about municipalities' overall spending, the second group received information about distribution of resources to the poor, the third group received information about corruption, and the fourth group received no intervention. The information that was distributed was taken from reports produced by the Mexican Federal Auditor's Office. These reports, though public, are rarely used by media or political parties in local campaigns because the release date of the reports is not aligned with the timing of elections. Our results demonstrate that voters respond to information about excessive corruption by staying away from the voting booth. This drop in participation translates into losses for the incumbent party. Conversely, information about overall expenditure increases turnout and incumbent parties' vote share. The evidence thus far comes from one of the field experiments. We are in the process of analyzing the other two.

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1 Introduction

Does information about local government's performance spark participation in local election processes? Are more informed voters more likely to topple incumbents who govern badly? Policy makers are optimistic. A recent World Bank report champions information as "a tool to empower citizens in developing countries to hold their public agents accountable". Information flows, the report argues, not only enhance democratic participation but make democracy work for ordinary people. Meanwhile, scholars have found that correcting information asymmetries through the media promotes government responsiveness (Besley and Burgess 2002), diminishes the electoral success of corrupt incumbents (Ferraz and Finan 2008), contains opportunistic behavior (Besley, Pande and Rao 2005), and prevents widespread theft of public resources (Adsera et al. 2003, Khemani 2007, Reinikka and Svensson 2005).

Few of these studies, however, focus on the effect of information on political participation. Some emerging evidence paints a mixed picture. Krishna (2003), for instance, finds that information about local-level democracy in India is a strong determinant of local participation, whereas Banerjee et al. (2006) shows that informational campaigns in the same country are insufficient strategies to interest voters in public service provision. Even fewer studies specifically examine electoral participation. Indeed, most studies assume that informed voters are more likely to participate in elections (Feddersen and Pesendirfer 1999). However, information can cause electoral retribution in at least two ways. To "throw the rascal out", voters can cast a ballot in favor of the opposition or voters can abstain from voting at all. In countries with stable party systems, abstention will be appealing to voters who dislike corruption but their partisanship or policy preferences prevents them from voting for a different party than their own (Peters and Welch 1980). In contrast, in countries with a young party system, abstention becomes attractive to voters, both partisan and independents, when the challenger is as corrupt as the incumbent, since there would be nothing at stake in the election.

For our study, we employed new data and a field experiment to estimate the effect of information on voter turnout and incumbents' vote share in three municipal elections in Mexico between July and October 2009. In the design of the experiment, we took advantage of a recent constitutional reform that recognizes the authority of the Federal Auditor's Office to audit federal transfers to local governments. Audit reports contain reliable information about municipalities' use of federal money. Although the audits are public and posted on the Internet, they are rarely used by the media or political parties in electoral campaigns because the release date of the reports and the timing of elections are not aligned. To understand the effects of information, we collected data from the audit reports and conducted an information dissemination campaign in which electoral precincts were randomly assigned to one of three intervention groups or to a control group. In all intervention groups, the campaign's first message clarified what parts of service provision mayors are responsible for. In one intervention group, additional information was provided on the total amount of resources available to mayors to invest in public services and the percentage exercised by the end of the year. In a second group, the campaign included information about the percentage of total resources the municipality allocated to poor areas. In a third group, the campaign included information about the percentage of resources exercised with some form of irregularity such as over-invoicing, fake receipts, diverting resources, fraud, etc. For all groups, we collected information on the electoral outcomes, and in order to get a sense of voters' perceptions of corruption and local services provision, we conducted a survey post-intervention among voters in both treatment and control groups.

The findings show that the prevailing models of accountability have wrongly assumed that increased information is always a precursor of electoral participation. Instead, this article shows that in some contexts voters respond to information about excessive corruption by staying away from the voting booth. Information about extensive corruption lead to an eleven percent decrease in voter turnout. The drop in participation lead to a decrease in the incumbent party's vote share, although this last result is less precisely estimated. Information about the percentage of total resources exercised by the municipality had the

opposite effect of corruption.

Certainly, the generalizability of these results awaits more data collection. Mexican municipal elections combine a balloting system that excludes incumbent mayors due to single-term limits and an entrenched history of corruption. Although single-term limits are a rare institution in the US, the features of Mexican local politics are far from being an exception around the world. [2] Thus additional work is needed to understand the role of information in such restricted institutional settings.

The rest of the paper proceeds as follows: Section II presents background information on local elections in Mexico and the Federal Auditor's office. Section III lays out the design of the experiment. Section IV presents the data and the findings. Section V concludes.

2 Mayors, federal audits and elections in Mexico

Despite optimistic views about fiscal decentralization in Mexico, local government's performance has remained poor. In 2008, for example, more than eighty percent of local government's resources were spent either on the bureaucracy or were unaccounted for. [3]

Although elections should enable voters to discipline their representatives, the institutional framework in Mexico sets the deck in favor of political parties. Municipal authorities are elected to serve 3-year terms, and like all other elected officials, may not be reelected. Thus, the immediate fate of mayors is determined not by voters but by their political party. To reconcile the single-term limit with accountability, scholars have typically assumed that voters punish or reward the incumbent party for the corruption of mayors (Cleary 2005). There is, however, little systematic evidence that this is the case.

[2] In fact, the majority of democratic countries with term limits impose a single term rule. And most of countries where corruption is a problem have term limits either for chief of executive or congress (Johnson and Crain 2004)

[3] The bad performance of local governments is far from being just a Mexican phenomenon. While local governments are supposed to be better informed about local needs and are more likely to maximize productive efficiency due to electoral constraints, it is well documented that around the world local governments are often subject to elite capture, can engender unnecessary expenditure, and may fail to attract the active participation of the poor (Azfar and Livingston 2007, Banerjee et al. 2001, Bardhan and Mookherjee 1999, Dasgupta and Beard 2007, Hoddinott 2002, Johnson, Deshingkar and Start 2005, Mansuri and Rao 2004, Reinikka and Svensson 2004, Besley and Rohini Pande 2008, Duflo and Chattopadhyay 2005, Humphreys and Sandbu 2006, Stokes 2007, Dahlberg et al. 2006, Hines and Thaler 1995, Agrawal and Gupta 2005).

During their term, mayors are in charge of providing basic public services to the municipality, including garbage collection, sewage treatment, electricity, road construction and maintenance and public safety. Service delivery is rife with information asymmetries (Keefer 2007). The legacy of six decades of fiscal centralization left behind several misconceptions among voters. Among them, two of the most pervasive are that few resources flow to local governments and that state governors have the discretion to manipulate the amount and timing of what trickles down. Even if decentralization has changed the amount and allocation criteria of federal transfers, local governments commonly blame a higher level of government for the lack of service delivery. As a result, political responsibility is diluted, making it difficult for voters to hold their mayors accountable for the state of public services in their municipality.

The survey that we administered in the experimental precincts captured part of the distortions of information. First, a large number of survey respondents are confused about which level of government is responsible for the provision of services. For example, in Jalisco only forty-four percent of respondents identified correctly that mayors are responsible for the sewage systems. Similarly, only forty-two and forty-nine percent of respondents thought of mayors as responsible for the provision of clean water and public lighting, respectively. Respondents in Morelos and Tabasco are slightly more informed about this, but still about half of respondents are confused about mayors' responsibilities. Unsurprisingly, among the respondents who did not identify mayors as responsible for these services, the majority mentioned the governor, and a few of them mentioned the president. Second, most respondents think that mayors have insufficient resources to provide basic social services. In Jalisco, for example, only thirty percent of respondents agree that mayors have enough resources. In Morelos and Tabasco, forty-four and forty-one percent agree. Finally, perceptions of corruption are very high in all three states. Twenty-six percent of respondents feel that mayors use resources in an honest way in Jalisco, thirty-one percent in Morelos, and only ten percent in Tabasco. Table 1 summarizes survey respondents' perceptions about corruption.

[Table 1 here]

Clearly, Mexico is stuck in what Khemani (2007) describes as a "cycle of low performance and low expectations" in which voters do not expect politicians to be able to improve service delivery.

As an institutional response to the increasing misuse of federal resources, a constitutional reform in 1999 established the creation of the Federal Auditor's Office (ASF). The ASF is an auxiliary entity to the Lower House of Congress but has constitutionally-granted management autonomy and is able to issue monetary sanctions and initiate proceedings against public servants responsible for damages to the Treasury or state property. The Lower House of Congress appoints the Auditor for a term of eight years, renewable one time. In May 2009 an additional constitutional reform formalized the ASF's authority to audit the use of federal money in the hands of all public entities, including transfers to local governments. Since municipalities collect few taxes, federally funded programs represent the largest share of municipalities' income.

On a yearly basis, the ASF selects three to six municipalities in each state to be audited according to fixed criteria. In the selected municipalities, the ASF examines public accounts in search of accounting irregularities, deviations from guidelines outlined by the budget and program objectives, and misuse of resources. Moreover, the auditors inspect public works and physical investment to verify that expenditures are in accordance to the budget, specifications and costs stipulated in contracts. Throughout the audit, attention is paid to operation and control systems in place.

The reports by the ASF include detailed information on the amount of money the municipality received through each federal transfer scheme; capacity to administer the fund; kind, quality and number of projects; money spent by the end of the fiscal year and by the time of the audit; to what extent the goals and objectives of the fund were met; and any evidence of false accounting and resource diversion that was found. All audit reports are presented on March 31st to the Lower House of Congress and are made public at that time through posting on the Internet.

Although ASF reports contain reliable information about local government's perfor-

mance and most of their content is newsworthy, local media rarely picks up this information during campaigns and national media typically covers instances of misappropriation of public resources by federal agencies. By the time local elections occur (approximately three months after the release of the reports for the elections in this study), the ASF's massive and detailed reports are no longer on journalists' radar. Thus, corruption at the local level is not exposed even if the information is available and free.

3 Empirical Strategy and Data

The field experiment took place in 2009, when elections for congress and local governments were held concurrently in the states of Jalisco, Morelos, Estado de Mexico and Guanajuato in July, and Tabasco in October. [4] Among these states, we chose Jalisco, Morelos and Tabasco for three reasons. First, each of these states is located in a different geographical region. Since regional diversity is an important factor in Mexican politics, this combination of states allowed us to expand the generalizability of our results.

Second, these states have different political compositions. In Jalisco, the right wing party (PAN) gained control of the majority of municipalities, as well as the state government, in 1994. Then in 1997, PAN won a majority in the State Congress. Prior to the 2009 elections, PAN governed 52 percent of the municipalities in Jalisco, including the four in our experiment. The second largest political force in the state of Jalisco was the PRI, which held control of 36 percent of the municipalities. In Morelos, PAN won control of the state for the first time in 2000. That same year, PAN won nine out of 33 municipalities. In 2006, PAN gained control of forty percent of the seats in the state Congress and the left wing party (PRD) controlled 37% of the seats, which relegated the PRI to the third political force. Prior to the 2009 elections, PAN was in control of 10 municipalities in Morelos, including two in our study: Cuernavaca and Cuautla. PRD held control of 15 municipalities, including Jiutepec in our experiment. Tabasco is one of the few remaining

[4] Nine other states had concurrent elections for congress, local and state governments. Since gubernatorial elections introduce a different dynamic to local elections, and this study is focused on the latter, we first restricted the study to states with elections only for congress and local governments.

states where the PRI has remained in control of the state government throughout the course of history. It wasn't until 1994 that the state Congress had representatives from any party other than the PRI. In 2003, when the left wing party gained widespread support nationally (as a result of the charismatic figurehead Manuel Lopez Obrador), the PRD won control of the majority of municipalities in the state. In the 2006 elections, however, PRD lost the lead they had gained over the PRI. Prior to the 2009 elections, PRI held control of ten municipalities in Tabasco, including one in our experiment (Centro), and the PRD held control of 7, including the remaining 4 municipalities involved in our study.

The third reason we selected to work in these states was that in pre-election polls the second political force (PRI in most cases) consistently held a firm lead, suggesting that the height of PAN's political power in Jalisco and Morelos and PRD's in Tabasco had passed. The two exceptions were PRI-controlled Centro in Tabasco and PRD-controlled Jiutepec in Morelos, where the incumbent parties held a firm lead throughout the campaign. Thus, there was little chance that our experiment would be decisive. [5]

In all three states, the themes that were most prevalent over the course of the campaigning were related to valence issues such as the economy, public safety, and the H1NI virus that caused panic around this time. In addition, PAN campaigns resonated with calls for continuity, while those of the PRI sought to convey a commitment to keeping campaign promises, meeting people's needs, and recovering the time lost during PAN and PRD administrations. PRI campaign messages, however, were vague. For instance, the slogan used throughout the country was "Mexico First, You First".

Another characteristic of the 2009 local elections was an unprecedented presence of political movements lead by civil society urging people to go to the polls but annul their ballot in order to send a message that no candidate is an acceptable choice. The other highly visible civil society campaign, particularly in Jalisco, called for *Alternancia* and urged people to vote for any party different from that of the incumbent's.

[5] In Tabasco, for instance, the PRI was ahead with 40 - 42 percent of vote intention. Throughout the course of the campaign, PRD was never able to gain a lead over the PRI in any 5 of the study municipalities. Include polls in Morelos and Jalisco.

While corruption was part of the campaigns in some instances, accusations of misuse of public resources were not evidenced using ASF reports reports. Rather, accusations often consisted of speculations about incumbent parties covertly lending unauthorized support to their candidate. For instance in Jiutepec, the incumbent party was accused of funding and distributing campaign propaganda with the PRD logotype. Tlajomulco, in Jalisco, was the only municipality where the challenger's campaign specifically focused on corruption with the slogan *Limpiar Tlajomulco* (Clean Up Tlajomulco).

3.1 Interventions

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The field experiment was motivated by the observation that voters, especially poor voters, have little information about resources that are assigned to their municipalities for service provision and public works. To test the effect of information on electoral behavior, this study took advantage of the recent constitutional reform that recognized the authority of the Federal Auditor's Office (ASF) to audit federal money transferred to municipal governments. One such transfer is the Fondo para la Infraestructura Social Municipal (Fund for Municipal Infrastructure, or FISM), which allocates federal money to the improvement of roads, water and electricity delivery, sewage systems, and other public infrastructure projects that are executed at the municipal level. Our survey reveals that among respondents, this transfer scheme is unknown. In Jalisco, only ten percent of respondents had heard of FISM at the time of the interview. In Morelos and Tabasco, only thirteen percent of respondents had heard of it.

With help from Innovations for Poverty Action, we distributed flyers with three types of information about municipalities' use of FISM. [6] All flyers clarified that the provision of infrastructure services is the responsibility of mayors. For the first intervention the flyer had additional information on the total amount of money granted to the municipality through the FISM transfer scheme and the amount of the fund spent by the end of the fiscal year.

[6] Flyer distribution is a mass communication strategy widely used in Mexico by public and private sectors due to its cost-effectiveness.

The second intervention had additional information about the percent of FISM directed to improving services for the poor. The third intervention included information on the percent of FISM spending that was unauthorized or was found to have irregularities in the accounting process, such as fake or no receipts, over-invoicing, incomplete public works and diversion of resources. All flyers included a subtle advocacy message suggesting that voters raise questions with their mayors on how transfers are used.

Information on municipal spending was collected from the public reports available on the ASF's website. The information collected for the study came from the 2007 auditing process, which was the most recent year available and corresponded to the term of the municipal government in office up to the 2009 elections. The flyer was designed in consultation with a locally-based graphic designer to maximize the possibility that voters read, believed and retained the information, and actually used it when deciding whether to vote and for which party to cast a ballot. The intervention dissociated the production of the information with its dissemination to establish credibility and political independence of the information disseminators. The final flyer designs also incorporated feedback gathered through two focus groups conducted in the state of Mexico. A sample of the flyers is included in the appendix. [7]

The distribution of the flyers was carried out by two independent firms approximately one week before the local elections. [8] Flyers were distributed to all households within the boundaries of a voting precinct, and were left in mailboxes, slipped under or wedged in the door or front gate, or taped to the entrance. In order to ensure that the flyers were being distributed according to protocol, there were various levels of supervision and monitoring in place. Teams of 4 or 5 distributors were assigned to a supervisor who monitored their activity and did no distribution herself. The supervisor's role was to ensure that the correct

[7] In the focus groups sessions, we asked for participants' overall impressions of the flyer drafts, including clarity of the message and its non-partisan nature. Also, we collected feedback on background and foreground color schemes, supporting graphics, layout, and other design decisions.

[8] The municipal elections in Jalisco and Morelos were held on Sunday July 5, 2009. Flyer distribution in Jalisco took place from Friday, June 26th through Tuesday, June 30th. Flyer distribution in Morelos took place from Saturday, June 27th through Tuesday, June 30th. The municipal elections in Tabasco will be held on Sunday, October 18th. Flyer distribution will likely take place from Friday, October 9th and go through the 13th or 14th.

flyer was being distributed in a given precinct, that the boundaries of the precincts were being respected, and that flyers were being properly placed in the households. In Morelos and Tabasco, a GPS monitoring system was in place to ensure that flyer distributors were within precinct limits. In addition, staff from Innovations for Poverty Action supervised the distribution process in all states. Although there were a couple of instances where protocol was not being followed correctly in the beginning of the distribution, steps were taken to correct errors. Overall, flyering was done according to the protocol specifications.

Regarding the randomization process, each state was allocated 50 precincts per treatment. The randomization was blocked by municipality. STATA was used to generate a random number for each precinct by municipality. Precincts were ranked by the random number. The first N precincts were chosen to be part of treatment 1, the next N precincts were chosen to be in treatment 2, and the next N precincts were part of treatment 3. The rest of the precincts were part of the control group. N was set in proportion to each municipality's number of registered voters.

To determine the sample size, we ran power calculations based on the aggregate historical elections results. There is no prior study on the effect of information in Mexico, but previous studies on voting behavior find effect sizes of around five percent (De La O 2007). Outside Mexico, GOTV campaigns in the US have been found to have effects of around 9-10 percent. An effect of this size corresponds to about a half of the standard deviation in our sample. In the sample size calculations, we took into consideration the fact that because the states' electoral institutes report the outcome measures we could increase the size of the control group at no expense. Since the unit of analysis was the voting precinct, allocation concealment to participants was not an issue. Randomization and assignment to treatment were implemented by the principal investigators. Principal investigators were not blinded to group assignment. For logistical reasons, the two firms distributing the flyer were informed about the group assignment one week before the intervention.

In total, 150 electoral precincts were randomly assigned to each of the 3 interventions, for an anticipated total of 450 treated precincts. Due to challenges in the field, particularly

in Tabasco, some precincts failed to receive full treatment. In Jalisco, ninety-seven percent of precincts received full treatment, two percent received partial treatment and only one percent received no treatment (or treatment level is unknown). In Morelos eighty-nine percent of precincts received full treatment, one percent received partial treatment, and ten percent were not treated. In Tabasco, we faced many more challenges in terms of field logistics than in the other two states. Approximately sixty percent of precincts were fully treated, twenty percent were partially treated, and twenty percent failed to receive any treatment in Tabasco. [9]

4 Results

[Table 2 here]

Table 2 describes the baseline characteristics of the 1,298 precincts in the experiment in Jalisco. Census data is not reported at the precinct level. In order to compute precincts' socio-demographic characteristics, we matched precincts to their villages (or blocks in urban areas) using GIS. Because precincts and villages do not correspond one-to-one, socio-demographic characteristics at the precinct level are the average of the villages' demographics.. Column 1 of Table 2 displays means for the control group, while columns 2-4 present the means for each treated group. The stars indicate whether a given treatment group's mean significantly differs from the control group mean after controlling for municipality fixed effects. All standard errors are clustered at the municipality level.

Precincts in the experiment belong to municipalities with diverse rankings in the 2005 human development index, which takes into account infant mortality rates, school enrollment rates, per capita income and a health index. While Guadalajara (the capital of Jalisco) is ranked in 34th place out of 2,454 municipalities in the country, Tonala (just two hours away from the state capital) is ranked 307th. Tlaquepaque and Tlajomulco are in between with ranks of 178 and 254, respectively.

[9] Adverse events included assault of flyer distributors, obstacles such as gated neighborhoods, high population density and hard-to-reach areas in a highly rural area where there is lack of infrastructure connecting remote clusters of homes to main roads and village centers.

Panels A and B document precinct average with respect to socioeconomic characteristics and past electoral behavior. Illiteracy, in average, tends to be low across precincts (2%). Twenty-one percent of precinct residents, however, did not complete primary school. In terms of infrastructure, six percent of precinct households have no sewage system and seven percent have no access to clean water. On average, five percent of households have no electricity, though most have cement floors. Finally, close to nine percent of households have no refrigerator.

As in the rest of the country, municipalities in the experiment are characterized by high inequality (not shown in Table 2). While the average precinct shows a good record in terms of education and household infrastructure, among the poorest deciles, illiteracy rates increase to fifteen percent, incompletion of primary school increases to forty percent, households without sewage systems or clean water increase to twenty-five percent and sixty percent, respectively. Households without electricity increase to twenty percent and without cement floor to twenty five percent. Among the poorest deciles, thirty five percent of precinct households have no refrigerator.

In terms of electoral variables, in the 1997 and 2003 non-concurrent local elections, the PAN received an average of forty-five and forty-two percent of the vote in the experimental precincts. In the 2000 and 2006 local elections, which were concurrent with presidential elections, the PAN received forty-seven and forty-six percent of the vote, respectively. The second political force in the state, prior to 2009, was the PRI. Among the experimental precincts, the PRI got thirty, thirty-nine, forty-two and thirty-six percent of the vote in the 1997, 2000, 2003 and 2006 elections. Finally, the third force in the state is the PRD with an average vote share of fifteen, five, three, and eight percent. Participation rates in non concurrent elections averaged fifty-eight and fifty-four percent in 1997 and 2003 and fifty-seven and sixty-one percent in the concurrent elections of 2000 and 2006.

The baseline characteristics summarized in Table 2 are balanced across the three treatment groups and the control group. There are no significant differences across groups with respect to primary school completion rates; access to sewage systems, electricity, clean

water; flooring material; or whether a household owns a refrigerator. Neither are there differences in precincts' electoral behavior, with two exceptions. First, precincts in the first treatment group have a one percent higher illiteracy rate. Second, precincts in this same treatment group voted at higher rates for the PRD in 2003.

In summary, while baseline characteristics are fairly well balanced across the four groups, there are two systematic differences between precincts in the first treatment. In the analysis that follows we present evidence of the effect of the interventions with and without direct controls for baseline characteristics.

With respect to the information revealed by the audit reports, the first surprising fact is that in the three states we ran the study, mayors spend considerably less money than what they receive from the federal transfer. For instance, in Jalisco mayors spend an average of about half the money at their disposal. In Morelos and Tabasco, mayors spend on average ten percent more than in Jalisco, but still spend far less than what they are assigned. By regulation, mayors are supposed to use the FISM transfer to improve service delivery in poor areas of their municipality. The audit reports show that in Morelos and Tabasco, mayors stay close to the regulation by allocating ninety-three and ninety-nine percent of the money to public works that benefit the poor. In Jalisco, mayors follow the rule less closely, spending an average of seventy-two percent of FISM on services for the poor. Finally, with respect to corruption, the audits show that among the municipalities in Jalisco, an average of fifty-seven percent of the total resources transferred through FISM was exercised with some form of irregularity. In Morelos and Tabasco, the audit reports reveal that corruption was less widespread than in Jalisco, with an average of ten and six percent of funds exercised with irregularities, respectively. These numbers are summarized in Table 3.

[Table 3 here]

4.1 Empirical results from the experiment in Jalisco

How do voters respond to different information regarding the performance of their municipal government? Before presenting the results of the experiment, we describe some interesting

facts about precincts in the comparison group. In the 2009 elections, participation rate reached its lowest point, dropping from fifty-eight percent in 1997 to fifty percent. PAN's vote share, which had been stable at around forty-five percent since 1997, dropped to thirty-three percent. Conversely, PRI's vote share increased from thirty percent in 1997 to forty-two percent in 2003, and to forty-seven percent in 2009. The PRD remained the weakest political force. Compared to the 2003 non-concurrent local election, in 2009 the PRD's vote share remained stable at three percent.

These numbers reflect the overall discontent among precincts in the control group governed by PAN and confirm the resurgence of the PRI as the stronger political force. These trends, however, do not tell us about the forces that generate this outcome. Did voters punish the PAN for their perceived levels of corruption? What to voters dislike more - corruption or lack of administrative capacity? Did voters take into account their perceptions on and information about corruption when deciding to cast their ballot? The experimental results shed light on these questions.

Our main experimental results are presented in tables 4 and 5. Each column reports the coefficient estimates on dummy variables for the three treatment groups from a regression of the form

$$y = \beta_0 + \beta_1(T_i) + \beta_j(M_j) + u \tag{1}$$

where y is the outcome, and T_i are indicator variables for the three treatment groups. Municipal fixed effects, M, are included because randomization was clustered by municipality. Demographic variables -literacy rates, share of precinct households with incomplete primary schooling, without sewage systems, without electricity, with no clean water, without cement flooring and without refrigerators-are used to control for differences in pre-treatment characteristics in columns 3 and 4. Mostly the inclusion of these variables increases the precision of the estimates. Clustered standard errors at the municipality level are reported in parentheses under each estimated coefficient.

Comparisons between precincts in treatment group T and precincts in the control group

identify the effect of releasing different types of information on electoral outcomes. Following Ferraz and Finan (2008), we expect that the effects of the interventions will depend on the level of corruption, lack of administrative capacity and redistribution exposed in the information. At high levels of corruption, we expect the effect of information to be negative, whereas at low levels of corruption we expect the effect to be positive. The argument for this is that at high levels of corruption, it is more likely that voters underestimate the amount of resources diverted by corruption. Conversely, at low levels of corruption, it is more likely that voters overestimate the degree of corruption. Once information is revealed, voters may find reasons to reward their government if they find that they had overestimated its corruption, or they my find reasons to discipline their representatives if they had underestimated the extent of corruption (Ferraz and Finan 2007). To allow for the effect of treatment to vary depending on the level of corruption, we added to model 1 the interaction between the treatment group and the level of corruption reported by the ASF.

$$y = \beta_0 + \beta_i(T_i) + \beta_2(T_i * information_i) + \beta_3(information_i) + \beta_j(M_j) + u \qquad (2)$$

where $information_i$ is the percent of FISM exercised for treatment group 1, the percent of FISM allocated to poor areas for treatment group 2, and the percent of FISM exercised with irregularities for treatment group 3. In this model β_2 estimates the causal effect of information, conditional on the municipality level of corruption. In columns 2-4, we list the F-statistic and p-value for the joint significance of β_i and β_2.

[Table 4 here]

Table 4 displays the experimental results for participation rates, and focuses on incumbent vote share outcomes. For ease of exposition, we first discuss the findings presented in the tables regarding corruption, and subsequently discuss our findings regarding lack of administrative capacity, and redistribution to the poor.

As expected, precincts exposed to information about corruption turned out at the same

rate as precincts in the control group (Column 1). However, once the level of corruption is taken into account, the release of information leads to a six percentage point decrease in turnout, a finding that is statistically significant at the five percent level (Column 3). The effect is slightly larger when demographic controls are excluded (Column 2). Because just fifty percent of voters in the control group turned out to vote, the average effect of releasing information about corruption in, for example, precincts within Tlajomulco, where the municipality spent all the money with irregularities, is an eleven percent drop in voter turnout. Alternatively, in precincts located in Guadalajara, where about half of the money was spend with irregularities, turnout remained similar to the control group. This first finding suggests that learning about excessively high levels of corruption demobilizes voters.

Our next finding shows that just releasing basic information about the percent of resources spent by the municipality has no effect on participation rates. Once the actual percent of FISM spent by a municipality is taken into consideration, however, the effect of releasing information leads to an average increase in turnout of two percentage points.. For precincts in Tonala, where the municipality spent almost all the money, the effect represents a four percent increase in turnout, when compared to a base of fifty percent turnout rate in the control group. Conversely, for precincts in Tlajomulco, where the municipality only spent ten percent of the money available, the effect represents a drop of six percent in voter turnout.

Regarding the last treatment group, precincts with information about the percent of FISM resources directed towards the poor turned out to vote at two percentage point higher rates when all the FISM resources were spent on the poor. This information had no effect on turnout when half of the FISM money was directed to the poor. These results, however, are not statistically significant. In summary, the evidence reported thus far suggests that voters are more sensitive to information about corruption than information about overall spending and redistribution. On one hand, exposure to higher levels of corruption decreases participation rates. On the other hand, exposure to high levels of spending modestly increases turnout. These findings lead us to question whether or not incumbent parties

lost support as a consequence of disseminating information to voters on corruption in the previous administration.

[Table 5 here]

Table 5 displays the effects of the three treatments on the incumbent party's vote share. The dependent variable is change in incumbent party's vote share from the 2003 to the 2009 local elections. As before, column (1) shows that, unconditional on the level of corruption, expenditure and redistribution, precincts in the three treatment groups voted at the same rate as the control group for the incumbent party. The remaining columns in Table 5 allow for the effect of information to vary with the level of corruption, expenditure and redistribution.

The effect of information on incumbent parties' vote share decreases as the level of corruption increases , although this result is only significant at the ten percent level (Column 6). The estimates imply that information has a modest positive effect of two percent around corruption levels of fifty percent, and information decreases the incumbent's vote share by seventeen percentage points around corruption levels of a hundred percent (a six percentage point decrease off a base of thirty-three percent).

While information about extensive corruption decreases incumbent vote shares, information about higher levels of expenditures have the opposite effect. Among precincts in municipalities that spend all the FISM money, the effect of this information lead to a twelve percent increase in incumbent vote share (a four percentage point increase off a base of thirty-three percent). In contrast, the effect of information when the municipality spent ten percent of the FISM money is a thirteen percent decrease in incumbent party vote share. These results, however, are not statistically significant.

Finally, we identified a positive relationship between the amount of resources directed to the poor and incumbent parties' vote share.. Among precincts where all the FISM money was spent on the poor, incumbents' vote share was eight percent higher (a three percentage point increase off a base of thirty-three percent). Among precincts where about half of FISM money was directed to the poor, incumbents' vote share was one percentage point lower

(three percent). These results lose statistical significance once the demographic controls are included.

One conjecture that emerges from the evidence presented so far is that exposure to extensive corruption unambiguously decreases turnout levels and decreases the incumbent party's vote shares. Conversely, exposure to high levels of expenditures increases turnout and the incumbent party's vote share. The findings regarding incumbents' vote share, however, are less precise than the turnout results. Further evidence is needed to strengthen the second part of this conjecture.

5 Discussion

This paper explores the effects of different types of information about local government's performance on electoral behavior. Our analysis draws on three field experiments in Mexico, a country where local government officials, and all other elected officials, cannot be reelected. For purposes of the experiment, we randomly assigned electoral precincts to one of four groups. The first group received information about the amount of money transferred to the municipality for public service delivery and the percent of the transfer that was spent by the end of the year. The second group received information about the percent of the transfer that was spent to improve services in poor areas within the municipality. The third group received information about the percent of the transfer that was exercised with irregularities associated with corruption. The rest of the electoral precincts were part of the control group.

Our results so far indicate a robust and negative effect of dissemination of information about extensive corruption on voter turnout. The drop in participation translates into a decrease in the incumbent's vote share, although this last result is not statistically significant in all specifications. We also find that information about the amount of money spent has a converse effect. Precincts that were informed that the municipality exercised all the transfer turned out at higher rates than precincts without this information.

While these results reveal that in a Mexican context abstention and extensive corruption

go hand in hand, do they imply that voters dislike corruption? One interpretation of these results is that turnout rates fall because PAN partisans, while disappointed by the extensive corruption of the mayor, cannot see themselves casting a ballot for the PRI or PRD. An alternative interpretation is consistent with a one-dimensional model of party competition, where parties position themselves in a dimension related to corruption . If the exposure of the current mayor's corruption levels moves the parties closer together in this dimension , then voters will have little at stake in the election, and participation will decrease. Qualitative evidence suggests this may be part of the explanation. As one voter in Jalisco explained: "I do not see any differences in the political parties or candidates and for that reason I am not planning to go to the polls." These two interpretations are clearly not exclusive.

With these questions in mind, we plan to analyze the effect of the dissemination campaign on challengers' vote shares. Moreover, in order to better understand when and why voters prefer to abstain when extensive corruption is exposed, in future studies we plan to test whether information has similar effects on turnout if it is communicated through channels other than NGOs, such as the media and political parties.

Our findings thus far have important implications for developing democracies. Scholars typically assume that information is critical for accountability and that informed voters are more likely to participate. Had we simply analyzed whether corrupt incumbents lose votes, we would have concluded the same. Our work, however, suggests that in countries where term limits and corruption abound, information and participation do not always move in the same direction. Among the precincts in this study, corrupt incumbent parties lost votes when voters were informed. This electoral punishment, however, was not the result of voters actively participating in the election. Rather, incumbents lost support because voters manifested their discontent by staying away from the voting booths.

In sum, information is clearly an important aspect of good governance. In the developing world, policy makers and scholars attach very high hopes to remedying information asymmetries. While exposing corruption and bad governments may induce accountability,

this articles suggests that we should carefully calibrate our expectations about how much increases in information can accomplish given the institutional constraints. Asymmetries of information may not fully explain the poor performance of democracies in the developing world (Keefer 2007). After all, "local informational campaigns cannot have a sustainable impact on public services unless they change incentives of politicians who ultimately have authority " (Khemani 2007).

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Table 1: Information and perceptions about corruption

	Jalisco	Morelos	Tabasco
A. Identified the municipal government as responsible for the provision of			
Clean water	42	56	46
Sewage	44	57	50
Public Light	49	57	57
B. Have heard of the Infrastructure Fund FISM			
	10	13	13
C. Thinks that mayors have enough resources to provide services			
	30	44	41
D. Thinks that the mayor used resources with honesty			
	26	31	10

Notes: This table reports summary statistics from the post-intervention survey. The percent of respondents is calculated for the 750 survey respondents. Column (1) presents the percentages for respondents in Jalisco, Column (2) corresponds to Morelos and Column (3) to Tabasco.

Table 2: Baseline Characteristics

	(1) Control	(2) Treatment 1	(3) Treatment 2	(4) Treatment 3
Socioeconomic characteristics				
Iliteracy	0.020	0.018 *	0.021	0.020
No Primary School	0.222	0.211	0.228	0.219
No Sewage	0.058	0.060	0.059	0.060
No Electricity	0.054	0.057	0.054	0.054
No clean water	0.076	0.074	0.067	0.083
No cement flooring	0.021	0.019	0.021	0.022
No refrigerator	0.088	0.091	0.089	0.090
Electoral behavior				
Turnout 2006	0.616	0.621	0.602	0.600
Pan 2006	0.462	0.452	0.461	0.461
Pri2006	0.368	0.376	0.364	0.368
Prd2006	0.082	0.087	0.081	0.082
Turnout 2003	0.541	0.550	0.537	0.531
Pan 2003	0.429	0.440	0.422	0.429
Pri 2003	0.423	0.429	0.416	0.414
Prd 2003	0.038	0.032 *	0.041	0.039

Notes: This table reports summary statistics from the baseline. The mean demographics and electoral behavior are presented for the 1268 electoral precincts in Jalisco. Column (1) presents the means for the control group, while columns (2)(4) report the means by the three experimental groups: percent FISM exercised, percent FISM allocated to the poor, percent FISM exercised with irregularities. Stars indicate a significant difference from other two groups, after controlling for municipality fixed effects. Standard errors are robust. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***.

Table 3: Information from the audit reports

	% exercised	% corruption	% poor
Jalisco	53	51	72
	(13)	(8)	(12)
Morelos	62	10	93
	(24)	(3)	(3)
Tabasco	59	6	99
	(35)	(7)	(1)

Notes: This table reports the information from the audit reports. Column (1) presents the average percentage of FISM resources exercised. Column (2) reports the average percentage of FISM resources spend with irregularities and Column (3) presents the average percentage of FISM allocated to poor areas. Standard errors are reported in parenthesis.

Table 4: The impact of information on turnout

	(1)	(2)	(3)
treatment 1	-0.00230	-0.0452	-0.0362**
	(0.0056)	(0.027)	(0.0098)
treatment 2	0.00804	0.0138	-0.0301
	(0.013)	(0.078)	(0.074)
treatment 3	-0.00750	0.0891**	0.0576**
	(0.0047)	(0.016)	(0.015)
treatment1Xinfo		0.0812	0.0545**
		(0.049)	(0.016)
treatment2Xinfo		-0.00815	0.0529
		(0.11)	(0.10)
treatment3Xinfo		-0.167***	-0.114**
		(0.026)	(0.024)
Precinct Controls			Yes
Municipality fixed effects	Yes	Yes	Yes
Constant	0.507***	0.507***	0.594***
	(0.00042)	(0.00062)	(0.015)
Observations	1298	1298	1297
R-squared	0.07	0.07	0.27
Fstat		40.86	35.71
p-value		0.0078	0.0094

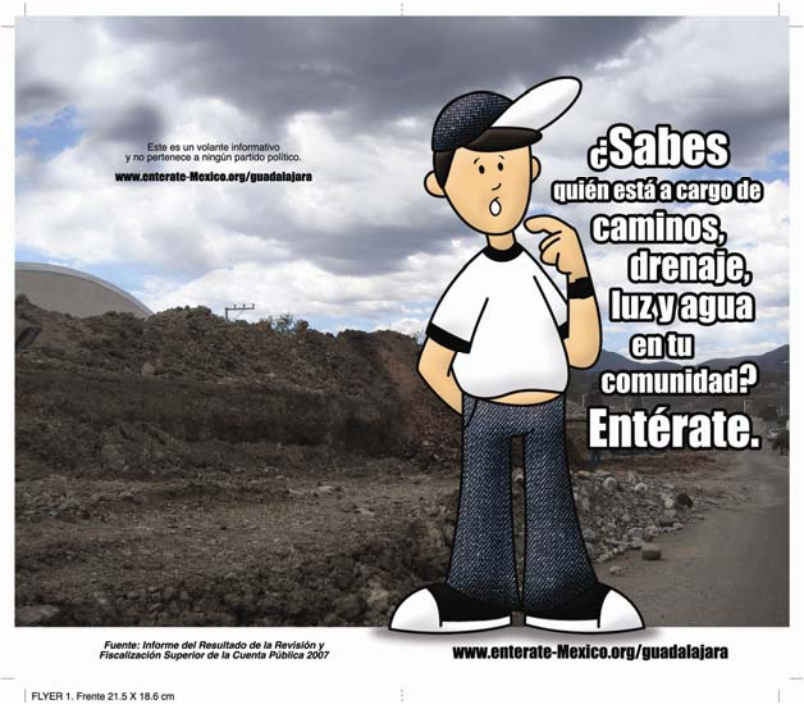
Notes: This table reports the effects of the three treatments on turnout. Each column gives the results of an OLS regression of the dependent variable (turnout) on indicator variables belonging to each experimental group. All regressions include municipality fixed effects. Column 3 includes literacy rate, share of the precinct's household with no primary school, no sewage, no electricity, no clean water, no cement flooring and no refrigerator. The last two rows report the F-stat and p-value for a test of the joint significance of the treatment 3 and its information. All standard errors are clustered at the municipality level. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***

Table 5: The impact of information on incumbent's vote share

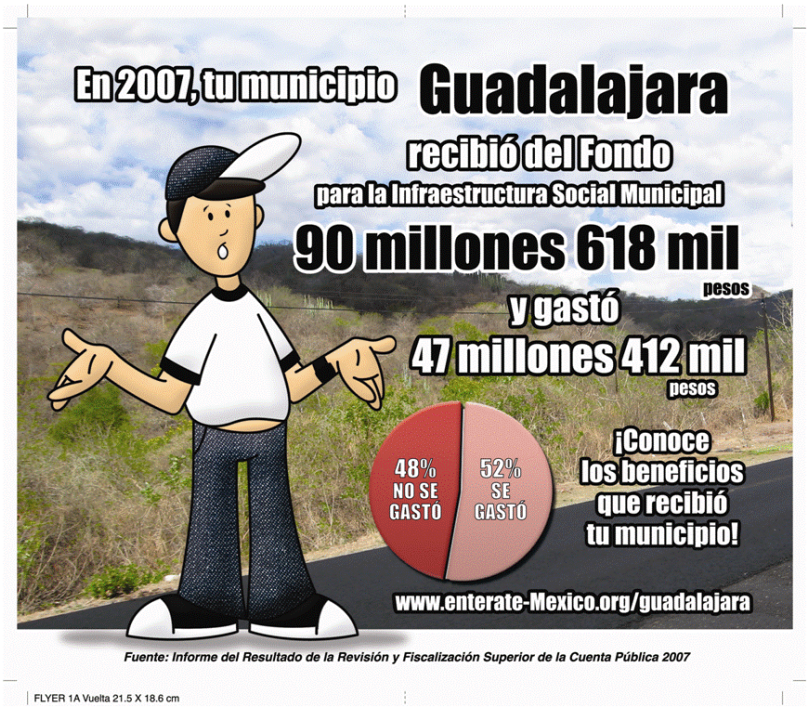
	(1)	(2)	(3)
treatment1	-0.0111	-0.0524	-0.0547
	(0.014)	(0.11)	(0.080)
treatment2	0.00709	-0.0481**	-0.0138
	(0.0041)	(0.0085)	(0.017)
treatment3	-0.00169	0.0525	0.0745
	(0.0061)	(0.057)	(0.037)
treatment1Xinfo		0.0781	0.0971
		(0.21)	(0.15)
treatment2Xinfo		0.0751**	0.0233
		(0.013)	(0.024)
treatment3Xinfo		-0.0940	-0.133
		(0.10)	(0.065)
Precinct Controls			Yes
Municipality fixed effects	Yes	Yes	Yes
Constant	-0.0969***	-0.0969***	-0.212***
	(0.00057)	(0.00048)	(0.015)
Observations	1266	1266	1266
R-squared	0.14	0.15	0.44

Notes: This table reports the effects of the three treatments on incumbent party's vote share. Each column gives the results of an OLS regression of the dependent variable on indicator variables belonging to each experimental group. All regressions include municipality fixed effects. Column 3 includes literacy rate, share of the precinct's household with no primary school, no sewage, no electricity, no clean water, no cement flooring and no refrigerator. The last two rows report the F-stat and p-value for a test of the joint significance of the treatment 3 and its information. All standard errors are clustered at the municipality level. Significance at the 10% level is represented by *, at the 5% level by **, and at the 1% level by ***

Appendix



Treatment 1



Treatment 2

Treatment 3