Salience and Accountability: School Infrastructure and Last-Minute Electoral Punishment[i]

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August 2020

Abstract

Can seemingly unimportant factors influence voting decisions by making certain issues salient? We study this question in the context of Argentina's 2015 presidential elections by examining how the quality of the infrastructure of the school where citizens were assigned to vote influenced their voting choice. Exploiting the quasi-random assignment of voters to ballot stations located in different public schools in the City of Buenos Aires, we find that individuals assigned to schools with poorer infrastructure were significantly less likely to vote for Mauricio Macri, the incumbent mayor then running for president. The effect is larger in low-income areas - where fewer people can afford private substitutes to public education - and in places where more households have children in school age. The effect is unlikely to be driven by information provision, since information on public school infrastructure was readily available to parents before elections. An alternative interpretation is that direct exposure to poor school infrastructure at the time of voting makes public education - and the poor performance of the incumbent - more salient.

JEL classification: D72, D91, H41

Keywords: Elections, Salience, School Infrastructure, Education, Argentina.

1 Introduction

Being informed about government actions is crucial for voters to correctly evaluate politicians and punish or reward them come election time. Yet, though information about government performance is widely available, evidence suggests that voters do not always translate it into useful knowledge. For example, they can mistakenly infer politicians' quality from their performance (e.g., attributing the effect of luck to effort (Leigh, 2009; Campello and Zucco, 2016)), or can be swayed by seemingly irrelevant factors such as the order or position of the names on the ballot (Blom-Hansen et al., 2016; Cervellati et al., 2021).

Whether these lapses are due to the frictional costs associated with information processing or to the existence of mental gaps (Handel and Schwartzstein, 2018), the form and context in which information is presented to voters is also likely to matter. Indeed, prior evidence suggests that information provided in a more visible way and at the appropriate time may have a large effect on individuals' decision-making process (Robinson and Torvik, 2005; Mani and Mukand, 2007; DellaVigna, 2009; Harding and Stasavage, 2013).

In this paper we investigate the possibility that exposure to information about government performance at the time of voting affects electoral choices by making certain issues more salient. Focusing on the issue of public education and school infrastructure quality, we study whether voters assigned to vote in schools with poorer infrastructure are less likely to support the incumbent. Specifically, we test the hypothesis that being directly exposed to the poor state of public schools at the time of voting makes the issue of public education more salient and voters more likely to punish the incumbent government for its inadequate performance in the provision of this key public good.

Our analysis focuses on the presidential elections held in Argentina in 2015 which, for various reasons, represent a particularly suitable context to study this question. First, one of the main candidates running for president was Mauricio Macri, who was the mayor of Buenos Aires prior to the election. As mayor, Macri had been in charge of the city's public school system during the eight years before the election, and was hence responsible for the state of local public schools. Indeed, the issue of public education, and the promise of more investments in public schools, had been a cornerstone of Macri's campaign for mayor and then for president.[1] Furthermore, the improvement of Buenos Aires' public education system during his tenure was regularly praised throughout his presidential campaign.[2]

The second aspect, which is key to our identification strategy, concerns the way Argen-

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[1]Macri's commitment to improve the quality of Argentina's early education system and to build 3,000 new kindergartens once elected president, received extensive media coverage during the 2015 campaign. See for example: this link.

[2]See, for instance: this link.

tinian voters are assigned to vote in particular polling stations located in schools. Each of Argentina's 24 electoral districts is divided into small sub-districts, or *circuitos* (average area: 1.2 km^2), and within each *circuito*, voters are assigned to polling stations based on the alphabetical of their last name. Exploiting the quasi-random nature of this procedure, we try to gauge the causal impact of exposure to school infrastructure by comparing the electoral behavior of voters assigned to schools in good vs. bad infrastructural conditions within the same *circuito*. What is crucial for our identification strategy is that the distribution of last names is not systematically correlated with the quality of school infrastructure within a *circuito*. Indeed, even if the frequency of certain last names was correlated with some observable or unobservable voter characteristics (e.g., if last names starting with the letter "A" were more common among rich than among poor people), we would still identify a causal effect as long as these characteristics are not systematically correlated with school quality within a *circuito* (e.g., if voters with last names starting with "A" are not assigned to schools with better infrastructure).

To corroborate this assumption, using data on voters' age and gender at the ballot station level, we document that, at least along these dimensions for which information is available, voters assigned to schools with good infrastructure are similar to those assigned to schools with poorer infrastructure.

Since the quasi-random assignment is at the school level (rather than at the school-quality level), it is still possible that school's infrastructure is correlated with other variables relevant to voting decisions, and that our estimation might capture the effect of these characteristics. To alleviate this concern, in all our regressions we control for several key school characteristics: the average housing prices of the blocks around the school (which captures the quality of the amenities in the surroundings of the school), and three measures of distance/accessibility to the school (i.e., number of bus/metro stations within a 0.5km of the school, and the average distance of the school from the center of the *circuito*).

Following this approach, and using comprehensive polling-station level data for the entire city of Buenos Aires, we find that voters assigned to "poor-infrastructure" schools are significantly less likely to support Macri than those voting in "good-infrasctructure" ones. On average, exposure to poor school infrastructure is associated with a decrease in Macri's vote share of 0.22 percentage points.[3] The effect is mainly concentrated in areas populated by voters who value or benefit disproportionately from public schools. These include low-income circuits, where fewer people can afford private substitutes to public education (effect

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[3]To provide some context to interpret this figure, the last pre-election polls reported between 11% and 20% of voters being undecided. Eventually the race was very close, with Macri prevailing by less than 2 percentage points.

between 0.49-0.53 p.p.), and areas with a higher share of households with school-age children (0.52-0.60 p.p.). The effect reaches its peak – 0.58-0.67 p.p. – in places that present both of these characteristics.

Since the groups that are most affected by the experience at the polling booth are precisely those that are more likely to be aware of the quality of public schools in their community even *before* the election, it seems unlikely that the effect may be solely driven by the availability of new information. An alternative interpretation is that experiencing poor school infrastructure so vividly minutes before casting their ballot could have made the issue more salient to voters at a crucial moment, increasing their propensity to punish the incumbent.

We find no effect of school infrastructure quality on both voter turnout and on the proportion of invalid votes. The null-effect on turnout is reassuring that the effect is indeed driven by exposure to school infrastructure and not by other confounds, since voters could only witness the quality of the school premises once they had reached the voting booth. To the extent that invalid ballots are considered a form of protest vote (Power and Garand (2007)), this null effect indicates, instead, that voters directed their disappointment with the quality of public schools specifically towards the former mayor and not towards the political establishment in general. Taken together, these findings support the view that making information about public policy salient can have a significant impact on the way voters evaluate government performance and, ultimately, on their ability to keep elected officials accountable.

Our paper lies at the intersection of two strands of literature. First, it relates to previous work on the impact of contextual factors on voting decisions (see among others Miller and Krosnick, 1998; Koppell and Steen, 2004; Berger et al., 2008; Shue and Luttmer, 2009; Marcinkiewicz, 2014). Unlike these contributions, however, we ascribe the documented effect not to confusion or unconscious factors. Rather, we attribute this to the increased salience of the issue of public education which is triggered by the infrastructure quality of the school where individuals vote. In this regard, our findings also relate to the literature on the effect of limited attention and salience on consumer and investor behavior (surveyed in DellaVigna, 2009). These contributions document that, when individual attention is scarce, even a small amount of information presented at the appropriate time can have a disproportionate effect on individual decisions.[4] Our paper documents that inattention and salience also impact voting decisions.

Second, our paper relates to the literature on electoral accountability and retrospective voting (Besley, 2007; Banerjee et al., 2011; Casaburi and Troiano, 2015; Duggan and Martinelli, 2017; Casas et al., 2017). This body of work has documented that informing voters

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[4]For example, DellaVigna and Pollet (2009) show that stock prices react more strongly to information published at times when people are less distracted by other events.

about government performance can have a considerable impact on electoral decisions (Ferraz and Finan, 2008; Chong et al., 2014; Drago et al., 2014; Larreguy et al., 2015; Dias and Ferraz, 2017). Our results qualify these findings by showing that information on incumbent performance is especially effective when provided at the time voters make their decision. Altogether, we show that contextual factors matter even for rational voters.

The remainder of the paper is structured as follows: Section 2 explains the institutional background, Section 3 describes the data, Section 4 discusses the empirical strategy, Section 5 presents the main results and interpretation. Section 6, concludes.

2   Institutional Background

2.1   Presidential Elections

Argentina is a presidential democracy in which the president is directly elected by popular vote. To become president a candidate must obtain a qualified majority of 45% or obtain at least 40% of the votes with a difference of 10% or more over the runner-up. If none of these conditions is met, a runoff election is held between the top two candidates and the one obtaining more votes is elected president. Voting is compulsory for anyone aged 18 to 69. Therefore, turnout is typically high.

In 2011, a new system to elect candidates running in the general elections was introduced. The new system, called PASO, requires parties to select candidates through open primaries. Primaries for all parties are held simultaneously. The setting is identical to that of a general election, with the difference being that parties can present more than one candidate (though many do not). The candidate that obtains the simple majority within each party is selected to represent it in the general election. Only parties that obtain more than 1.5% of the votes in the PASO are eligible to participate in the general election. Since participation in the PASO is compulsory and turnout is high, these elections are considered, by parties and the media alike, almost as important as the general election which typically takes place a few months later.

2.2   The 2015 presidential election

The PASO elections were held in Argentina in August of 2015, while the first and second round of the general elections took place in October and November respectively. Eleven parties ran in the PASO; of these six obtained enough votes to run in the general election. The main competing parties are described in the Appendix, while Figure A1 reports the results of both elections at the national level.

One of the main candidates was Daniel Scioli, running for the *Frente para la Victoria* (FpV), the party that controlled the federal government since 2003. The main opposition candidate was Mauricio Macri, mayor of the City of Buenos Aires since 2007, who ran for the moderate center-right party *Cambiemos*. Hence, the citizens of the City of Buenos Aires could choose to punish or reward Macri through their vote in the 2015 elections.

Both elections were close: in the PASO, FPV obtained 38% of the votes against 30% for *Cambiemos*. In the first round of the general election, FPV obtained 37% of the votes against 34% for *Cambiemos*. In the runoff, *Cambiemos* won the election with 51.3% of the votes against FPV's 48.7%.

2.3 The role of mayors

Argentina is a federal democracy with three levels of government: federal, provincial and municipal. There are 23 provinces which are ruled by governors who are directly elected. In addition, the City of Buenos Aires is an autonomous jurisdiction which is identical in every aspect to a province and it is governed by an elected mayor.[5]

Following a series of reforms carried out in the early 1990's, the provision of key public goods and services was largely decentralized from the federal government to local governments. In the domain of education, 44% of high schools were managed by the federal government prior to the reform, while by 1994 virtually all schools fell under the jurisdiction of the provincial governments and of the City of Buenos Aires.[6]

As a consequence, spending in education has become one of the most significant items in provinces' budgets, accounting for about a third of total spending (Rivas and Dborkin, 2018). In Buenos Aires, in particular, education represents the largest spending item, even larger than health care.

The poor quality of school infrastructure has traditionally been a source of concern for the citizens of Buenos Aires, and public education has generally been a key issue in the local political debate and in the campaign promises of mayoral candidates. For example, in 2007, one month before taking office as mayor, Mauricio Macri conducted a survey on school infrastructure in Buenos Aires. It concluded that two thirds of the schools in the city were in critical conditions. The results of the survey attracted extensive media coverage,[7] which pressured the city council to declare a state of "infrastructural emergency", which was approved in the first week of Macri's administration.

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[5]The City of Buenos Aires is distinct and independent from the Province of Buenos Aires. We will henceforth use Buenos Aires to refer to the City of Buenos Aires.

[6]See this link.

[7]See for instance this link.

Although conditions in the schools of Buenos Aires have improved since, the issue is still relevant for most citizens. Almost every year since 2007, massive teacher strikes and student demonstrations have taken place in Buenos Aires demanding better infrastructure.[8]

2.4   The voting process

Argentina is divided into 24 electoral districts, which are divided into sections, which in turn are split into small sub-districts (*circuitos*). Within each *circuito*, citizens are assigned to vote in a specific polling booth, located in classrooms within a school.

Buenos Aires (which has a voting population of 2.5 million people) is divided into 167 *circuitos*. These comprise over 7,300 polling booths located in about 800 schools (or "precincts").[9]

Each polling station hosts a fixed number of registered electors. Within each *circuito*, voters are assigned to a given polling station based on the alphabetical order of their last names (see Casas et al., 2017). Hence, within a *circuito*, the allocation of voters to schools is quasi-random. Within a given election year, the allocation of voters to polling stations does not change between the PASO and the general election, and between the first and second round of the latter.

3   Data and sample

Our analysis focuses on the 2015 Argentinian presidential elections and uses information from both the PASO and the two rounds of the general election. Due to data availability, we restrict our focus to Buenos Aires which, nonetheless, represents a suitable context of analysis since one of the presidential candidates was, until right before the election, the city's mayor. Electoral data is available from the *Cámara Nacional Electoral* (CNE), the federal agency responsible for the organization of elections. Data include information on: i) the total number of registered voters, ii) the number of voters by polling station, iii) the number of valid votes cast, iv) the number of votes cast for each party and each candidate in each election and round.

Our main dependent variable is the share of votes cast for Macri over total valid votes. We focus on polling stations located in public schools since these are the only ones for which systematic information about the quality of school infrastructure is available. Panel A of Table 1 reports the descriptive statistics at the school level separately for the PASO and for each round of the general election.[10]

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[8]These demonstrations attracted much attention from local and national media alike. See for instance the following links: 1, 2, and 3.

[9]Appendix Figure A2 shows the boundaries of the *circuitos* (lines) and the location of the schools (dots).

[10]The original electoral data contained a few extreme values most likely due to entry errors. To address this

Our main regressor of interest is the quality of school infrastructure. We use data gathered by the Directorate General for School Infrastructure in the second half of 2015, which cover a sample of 456 public schools distributed in 158 *circuitos*. The data include information on the name of the school, the address, and a score for the quality of the school's infrastructure on a 4-point scale (i.e., Very bad, Bad, Good, Very good). Unfortunately, no information is available regarding the specific infrastructural problems present in each school, namely on how visible they might have been to a casual observer.

Table 1 reports the descriptive statistics of the electoral results by quality of school infrastructure (Panel B). In the main analysis we collapse the school quality data to two categories, defining school quality as "Good" ("Very Good" or "Good") or "Bad" ("Very bad" or "Bad"). The two categories of schools appear to be evenly scattered in most of the areas of the city (see Appendix Figure A3). This aggregation is motivated by the fact that the proportion of schools defined as "Very good" or "Very bad" is quite small (11% and 14% respectively) and, thus, these types of schools are not present in most *circuitos* (see Appendix Figure A4). That said, for robustness we also present the results using the four different levels of quality.[11]

In our analysis we also use individual-level data for all voters registered in Buenos Aires including information on the polling station they were assigned to, their gender, and, only for male voters, their age. We use this information - available from the official registry of voters eligible for the 2015 Buenos Aires local elections - to confirm that gender and age are balanced with respect to the infrastructural quality of the schools where voters are assigned to vote.

Our final data set results from the combination of electoral data at the polling-station level and data on infrastructure at the school level. We also include a series of controls at the school level to enrich the analysis and perform robustness checks. First, to proxy for the average wealth of the area in which the school is located, we compute the average selling price of dwellings in the block around the school based on data from early 2016 available from one of the largest online real estate online marketplaces in Argentina (www.properati.com). In the absence of information regarding each voter's address, we proxy for the distance between voters and the school to which they were assigned to vote by computing the average distance

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issue, we exclude data from polling stations in which Macri's vote share was two standard deviations or more above or below the average of the other polling stations in the same school, which amount to approximately 2% of the sample (1% for each tail). The results, available upon request, remain very similar when using the complete data set, which suggests that potential errors are randomly distributed relative to the treatment.

[11]The average number of schools per *circuito* is 3.9 (st. dev.: 1.9). The share of bad quality school per *circuito* is 0.504 (st. dev.: 0.5). Public school infrastructure quality varies considerably within *circuitos*, including in the wealthiest ones. Indeed, even in *circuitos* with above-median income, the share of bad-quality schools is 36%.

of each school to the centroid of the *circuito*. This variable captures the idea that a randomly drawn individual will be farther away from schools located away from the *circuito*'s center.

We also use data from the latest Argentinian Census (2010) to measure household characteristics at the level of the *circuito*. In particular, we compute the proportion of children in school age per household, a relevant variable that can potentially mediate the effect of school infrastructure on voting choices.Additional descriptive statistics at the *circuito*, school and polling booth level are displayed in Table A1 (Appendix).

Finally, to control for the presence of electoral monitors we collected comprehensive data on the number of monitors representing each party in each polling station in every election round. This information is available from the *Poder Judicial de la Nación*.

4 Empirical Strategy

To identify the causal effect of exposure to poor school infrastructure quality on voting, we exploit the random assignment of voters to schools within a *circuito*, which allows us to compare the behavior of voters with similar characteristics that were assigned to vote in schools with different infrastructure quality. The following equation summarizes our econometric strategy:

$$Macri_{psct} = \alpha BadQuality_s + \lambda X_s + \Lambda X_p + \eta_c + \gamma_t + \epsilon_{psct} \tag{1}$$

$Macri_{psct}$ represents the share of valid votes cast for presidential candidate and former mayor Mauricio Macri in polling station p located in school s in *circuito* c in election/round t. $BadQuality_s$ is a dummy variable for whether the school s where polling station p is located has poor infrastructure. X_s is a set of school-level controls including the average housing price in the block where the school is located, and the various measures of accessibility/distance to the school described above. X_p is a set of polling station-level controls including the number of registered voters, the share of male voters, and their average age. η_c and γ_t are *circuito* and election/round fixed effects, respectively. We cluster standard errors by school, since this is the level at which the relevant treatment varies.

Accounting for the number of individuals assigned to vote in a polling station allows to rule out any effect on voting of facing long queues and waiting times, which is common in Argentina. Controlling for the share of male voters and their average age should account for any idiosyncratic differences in the distribution of voters by gender and age between polling stations in schools with different infrastructure quality. Including other school-level controls is important since infrastructure quality could in principle correlate with other local

characteristics that can potentially influence voting decisions. In particular, controlling for the housing prices in the vicinity of a school should account for the impact on voters of passing by a wealthier or safer street on their way to voting, or of any other visible local amenity they may come across.[12] Controlling for how accessible a school accounts, instead, for the potential effect of a longer vs. shorter ride to the voting booth. *Circuito* fixed effects capture all observable and unobservable factors common to polling stations in the same *circuito*, while election/round fixed effects account for any aggregate shock in candidates' popularity in the PASO election and in each round of the general election.

We are also interested in exploring what segments of the voting population are more likely to be affected by exposure to poor school infrastructure. To this end, we estimate the following version of equation 1:

$$Macri_{psct} = \alpha BadQuality_s + \beta BadQuality_s * Z_c + \lambda X_s + \Lambda X_p + \eta_c + \gamma_t + \epsilon_{psct} \quad (2)$$

where Z_c represents some relevant observable characteristics of *circuito c* that can mediate the effect of school infrastructure quality on voting, such as income or having school-aged children. Hence, β, the coefficient of the interaction term, would capture whether the effect of poor school infrastructure is more pronounced in areas that are poorer and/or where there are more school-aged children. This is particularly important to test our hypothesis that individuals in such areas may value public school quality disproportionately and may drive the effect of school infrastructure on voting for Macri.

5   Results and interpretation

5.1   Validating the quasi-random assignment

Our identifying assumption is that, within the same *circuito*, the alphabetical order of voters' last names is orthogonal to the infrastructure quality of the school they are assigned to. It is important to note that, even if last names were correlated with some demographic characteristics of the voters, as long as these are not systematically related to school infrastructure quality, we would still identify the causal effect of the latter on voting.

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[12]Housing prices should capture the effect of any other government policy (e.g., better security, improved lighting or road conditions) that improves the welfare of current or prospective residents and that is reflected in the value of local properties. One potential issue relates to the possibility that the Macri's administration targeted certain areas with last-minute interventions to impress voters just before the election (e.g., repairing roads, increasing police patrolling). Yet, this would only threaten our identification if Macri targeted areas around high-quality schools disproportionately, which seems implausible since in these areas people would be more likely to vote for him in the first place.

To partially validate this assumption, we examine how a school infrastructure quality relates to the number, gender, and age of the voters assigned to polling stations located in the school. We also test whether infrastructure quality is related to other school level variables, i.e., the income in the area surrounding the school (proxied by house prices), and the distance of the school to the centroid of the *circuito*. The results of these tests, reported in Appendix Table A2, indicate that, overall, voters assigned to schools with better infrastructure quality are not significantly different from voters assigned to schools with poor quality, and that these are not systematically located in poorer or less accessible areas.[13] Though based on a rather limited set of variables due to data availability, these findings are reassuring that school infrastructure quality is generally unrelated to other voter or location characteristics that may influence voting choices in other ways.

5.2 School quality and voting

Panel A of Figure 1 shows the kernel density of Macri's vote share separately for polling stations located in schools with good and poor infrastructure quality. Panel B shows the kernel density for each of the four categories in the infrastructure quality classification which suggests that the relationship is monotonic. To further test for the relationship between school quality and voting, in Table 2 we estimate equations 1 and 2.

In the first five columns the dependent variable is the share of total valid votes cast for Macri. As a robustness check, in the following five columns we use as dependent variable the share of total valid votes cast for his coalition, *Cambiemos*. All regressions include electoral district fixed effects, round fixed effects, and school and polling stations controls.

The results in columns 1 and 5 confirm that electors voting in schools with low infrastructure quality are significantly less likely to support Macri. The average effect of voting in a bad-quality school as opposed to a good-quality one is about 0.2%.[14] In the first column of Appendix Table A3 we estimate the effect of infrastructure quality separately for the PASO election and for each round of the general election. Though the results are noisier due to the smaller sample size, the point estimate remains very similar for both rounds of the general election, while it is smaller for the PASO election whose stakes are much lower.

In the following columns we examine how the effect varies depending on voters' char-

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[13]We do find that poor-infrastructure schools are on average 80 meters closer to the centroid of the *circuito*. Yet, to the extent that a marginally *shorter* distance to the polling station should, if anything, *improve* voters' experience, this unbalance should not explain the lower support for the incumbent in poor-infrastructure schools.

[14]If quality is homogeneous within school, which polling station voters are assigned to within a school should be irrelevant. To confirm this, we divide polling stations within each school into quintiles, and estimate our baseline specification separately for each quintile. The results, summarized in Appendix Figure A5 confirm that Macri's vote share does not vary significantly withing schools.

acteristics at the electoral *circuito* level. First we test whether poor infrastructure quality had a different impact in areas with lower vs. higher income (proxied by average house price in dollars per square meter in the *circuito*). The relationship between income and the demand for public education - and hence the electoral punishment of the incumbent's poor performance in this domain - is *a priori* unclear. On the one hand, households with higher education - and higher income - may put a higher value on education and on the quality of public schools. On the other hand, wealthier families who are more likely to send their children to private schools may have less of a stake in the quality of public education.[15] In fact, richer taxpayers who do not use public schools may prefer *lower* spending in public education as opposed to other public goods and services they may benefit from.[16] Results in columns 2 and 7 support the second hypothesis, i.e., that the reaction to poor school quality is stronger among poorer individuals that have less access to private schools. Indeed, the effect is concentrated in *circuitos* with below-median income, where voting in a poor-quality school decreases Macri's vote share between 0.49% and 0.53%, while it is virtually zero in richer ones. We find consistent results when comparing electoral *circuitos* with different levels of education (columns 3 and 8), which is not surprising given the strong correlation between income and education at the *circuito* level (0.79 in our sample).[17]

We then examine how the effect varies with the number of school-age children per household. The results, reported in columns 4 and 9, indicate that poor school quality only affects voting in *circuitos* where families have an above-median number of school-age children. In these areas, voting in a poor quality school reduces Macri's vote share by between 0.52% and 0.60%.[18]

We test for the robustness of these findings to a series of checks. First, in Appendix Table A6, we show that the results remain largely unchanged when including different sets of controls. In Appendix Table A11 we also report the results without controlling for local average house price which, in principle, could itself be affected by school infrastructure quality(Neilson and Zimmerman (2014)). The fact that the results remain significant alleviates this

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[15]In the context of Argentina, access to private education varies drastically with income. According to official figures, 50% of all school-age children attend private schools; this percentage is 30 points higher for households in the top quartile of the income distribution than for those in the bottom quartile, even within the same neighborhood.

[16]See Epple and Romano (1996) and Stiglitz (1974) for a discussion about voting and the demand for public services when private alternatives are available.

[17]To test this, we define the dummy "Low Education" as taking value one if the average number of years of education of people in a *circuito* is below sample median.

[18]In Appendix Tables A4 and A5 we show the results using the four categories of infrastructure quality which confirm that the punishment increases as the quality of school worsens ("Very Good Quality" being the default category). These results should be taken with some caution since, in this case, within-*circuito* variation in school infrastructure quality is limited. Indeed, only few *circuitos* have schools in all four categories of infrastructure quality.

concern. In Appendix Table A8, we cluster standard errors by *circuito*, an approach which does not affect the significance of the results. In Table A9 we estimate our baseline specifications controlling for the number of monitors allocated to each polling station by *Cambiemos*, FPV, and all other parties, respectively. Previous research on Argentina indicates that the presence of electoral monitors can influence electoral outcomes (Casas et al., 2017). If the number of monitors of different parties in a school is in some way related to infrastructure quality, this could in principle influence our estimates. The results, which are very similar to the original ones, confirm that the effect of school infrastructure is unrelated to the presence of monitors.[19]

In Table 3, we further explore the heterogeneity of the effect by comparing *circuitos* across *both* the income dimension and the number of school-age children in the *circuito*. The results confirm that the effect of school quality on voting is concentrated and stronger in schools located in *circuitos* with lower income *and* more school-age children. For these schools, the effect is even more significant and larger in magnitude, i.e., between 0.58 and 0.67 percentage points depending on what dependent variable is used. These magnitudes are quite sizable especially considering the rather mild nature of the treatment which did not involve any direct information sharing or priming.

In Table 4 we test whether school quality affects turnout, a measure of political participation, as well as the share of invalid votes, a proxy for voters' attitudes towards the political establishment. With regard to the first outcome, we do not expect school quality to influence citizens' decision to turn out since one could be exposed to the quality of school infrastructure only once at the ballot station. In line with this hypothesis, we find no significant effect of school quality on turnout. Similarly, we find no tangible effect of school quality on the share of invalid votes cast. This result suggests that voters' disappointment with the poor quality of the school premises specifically translates into lower support for the incumbent mayor - directly responsible for local public education - and not into general disenchantment towards the political system.

Taken together our results indicate that: i) exposure to visible manifestations of poor public good provision can have a tangible impact on voting decisions, ii) this effect is stronger for individuals that are more likely to use public goods and have limited access to private substitutes, and iii) voters blame the poor public good provision specifically on the relevant incumbent politicians rather than on the entire political class.

These findings also shed light on the potential mechanism(s) through which the documented effect operates. In particular, the fact that the effect is stronger for voters that are

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[19]In addition, in Appendix Figure A6 we show that, in any election and round, the number of monitors from the main parties is balanced between higher and poorer quality schools.

more likely to use public schools suggests that it is not driven by pure informational update. Indeed, these individuals are also more likely to be exposed to and informed about school infrastructure before the election. To further test this hypothesis, in Column 5 of Table 2, we examine whether the effect is weaker in *circuito* where citizens vote in schools that are located, on average, closer to where they live. Indeed, to the extent that people are more likely to know and send their children to schools located closer to their homes, exposure to school quality on election day should provide less new information than for schools located farther away. We find no evidence that the effect varies with average distance to the schools which further confutes the information channel.

Another potentially relevant question is what parties benefited from the lower electoral support for Macri in schools with poor infrastructure quality. In Appendix Table A10 we estimate our main specification using vote share of other parties as dependent variable. We focus on the PASO election and the first round of the general elections since only two parties compete in the runoff. While no clear pattern emerges for the PASO, for the first round of the general election we find that voters upset by poor school infrastructure quality were not more likely to vote for the *FPV* - the federal incumbent party ideologically opposed to Macri whose candidate would eventually run against him in the run-off – nor for more radical leftist alternatives like *FIT*. Instead, voters in these schools were more likely to support the liberal alternative Progresistas and, to a lesser extent, the centrist independent party UNA, both of which had education at the core of their political platforms. This finding supports the view that, rather than reacting emotionally and converging on ideologically extreme options (as previously documented in other contexts, e.g., Healy et al., 2010) voters disappointed with Macri's performance turned to moderate parties that offered concrete alternative solutions in the area of public education.

Finally, we examine whether the effect of school infrastructure quality on voting was stronger where people had higher expectations for Macri. To do so, in Table A11 we augment our baseline specification to include an interaction term between school quality and vote share for Macri in the same *circuito* in the previous municipal elections held in 2011. We find no evidence that the effect is stronger in places that were more supportive of Macri four years before, and where, arguably, people had higher expectations about Macri's performance in all areas including public education.

Our findings are in line with existing theories of information frictions and mental gaps (Handel and Schwartzstein (2018)) according to which even readily available information may not translate into usable knowledge. The fact that school infrastructure quality becomes salient at the polling station right before votes are cast, ensures that voters pay attention and take this information into account when evaluating the incumbent's performance. Our

findings highlight that the form and the context in which information is presented is crucial, and that salient information provided at the right time may have a large impact on decision-making (DellaVigna (2009)). They also support the view that intervening on more visible policy items may be more effective at boosting government popularity than equally important but less noticeable policies (Mani and Mukand (2007), Harding and Stasavage (2013), Robinson and Torvik (2005)).

6 Conclusions

We examine whether and how voting choices are influenced by contextual factors that make certain issues more salient. Specifically, we study whether individuals assigned to vote in schools with poorer infrastructure quality were less likely to support the former mayor of Buenos Aires who ran for the presidential mandate and who had instructed public education policy in the city over the eight years preceding the election.

We find that individuals assigned to vote in schools with relatively poorer infrastructure are significantly less likely to vote for the outgoing mayor. The effect is larger in areas with lower income and a higher number school-age children, where families value public education and have less access to private schools. The magnitude of the effect is large considering the mild nature of the treatment, and is in line with previous findings on the electoral impact of more "intense" treatments involving explicit information-sharing and priming campaigns (Chong et al., 2014; Dias and Ferraz, 2017).

Our results indicate that voters can extract valuable information from seemingly unimportant elements which can in turn influence their evaluation of politicians' performance. They also highlight the power of contextual factors in making certain issues salient.

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Tables and Figures

Table 1: Electoral Descriptive Statistics

PANEL (A) - by round	Turnout (perc.)	Positive votes ratio (perc.)	Votes for Macri (perc.)	No. of Poll. Booths
PASO	73.1 (2.95)	98.1 (6.1)	40 (1.6)	4,331
1st Round	78.2 (2.99)	98.8 (4.7)	48.5 (1.7)	4,331
2nd Round	77.8 (2.99)	97.8 (4.2)	63.1 (1.9)	4,331
Pooled Elections	76.4 (2.99)	98.2 (5.5)	50.5 (1.8)	4,331
PANEL (B) - by type of school	Very Bad	Bad	Good	Very Good
No. of "precincts" (schools)	53	180	166	63
Turnout (percentage)	76.8 (7.3)	77 (6.2)	76.8 (7.1)	75 (6.9)
Positive votes ratio (percentage)	98.2 (3)	98.1 (2.0)	98.2 (1.4)	98.2 (1.2)
Votes for Macri (percentage)	45.7 (12.9)	49.2 (13.5)	51.6 (14.8)	53.7 (13.8)
No. of voters per polling station	346.4 (3.1)	346.5 (3.0)	346.9 (3.0)	346.8 (2.8)

Definitions Panel (A): Electors: total number of registered voters. Turnout: total number of votes for any candidate plus blank votes divided by the total number of registered voters. Positive votes ratio: total number of votes for any valid candidate divided by the total number of votes. Votes for Macri: number of votes cast for the candidate Mauricio Macri divided by the total number of valid votes. No. of Polling Booths: sum of all the polling booths in the sample. PASO: primary elections, 1st Round: first round of the general election, 2nd Round: runoff round of the general election. Mean values at the "precinct" (school) level in first rows, standard deviations in parentheses.

Definitions Panel (B): Turnout: total number of votes for any candidate plus blank votes divided by the total number of registered voters. Positive votes ratio: total number of votes for any valid candidate divided by the total number of votes. Votes for Macri: total number of votes cast for the candidate Mauricio Macri divided by the total number of valid votes. "Very Bad", "Bad", "Good", "Very Good" are the four different categories used to measure the infrastructure quality of schools.

Figure 1: **(A) Votes for Macri by School Quality Level (aggregated)**
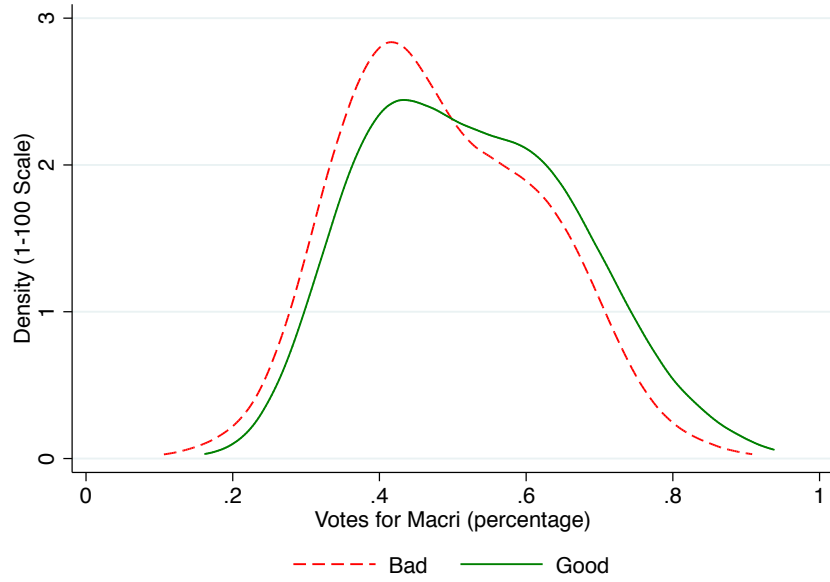
Bandwidth: 0.05. Votes are measured at the polling booth level, and the three rounds of elections are pooled.

(B) Votes for Macri by School Quality Level
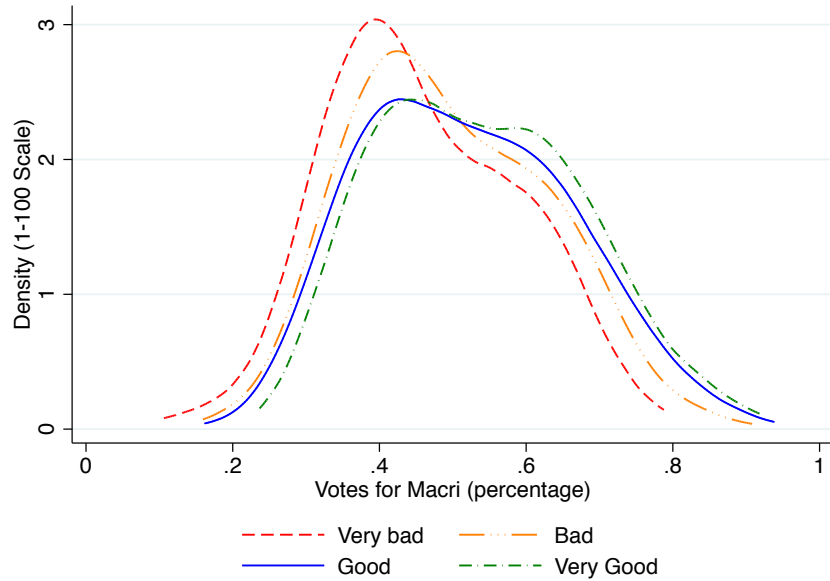
Bandwidth: 0.05. Votes are measured at the polling booth level, and the three rounds of elections are pooled.

Table 2: School Quality and Voting for Macri – Main Effect and Heterogeneity by Income or Density of School-Age Children

	(A)					(B)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Bad Quality	-0.25** (0.12)	0.02 (0.16)	-0.07 (0.15)	-0.011 (0.14)	-0.25** (0.12)	-0.28** (0.13)	-0.02 (0.16)	-0.06 (0.16)	-0.01 (0.15)	-0.24* (0.13)
Bad Quality × Poor		-0.52** (0.22)					-0.55** (0.23)			
Total Effect (Poor)		-0.52*** (0.18)					-0.57*** (0.19)			
Bad Quality × Low Ed.			-0.31 (0.21)					-0.32 (0.23)		
Total Effect (Low Ed.)			-0.38** (0.17)					-0.37** (0.18)		
Bad Quality × HDC				-0.55*** (0.21)					-0.63*** (0.22)	
Total Effect (HDC)				-0.56*** (0.18)					-0.64*** (0.19)	
Bad Quality × Distance					0.00 (0.003)					0.00 (0.004)
Obs.	12,626	12,626	12,626	12,626	12,626	12,626	12,626	12,626	12,626	12,626
R-Squared	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.92

Standard errors clustered at the school level in parentheses. Regressions include electoral *circuito* fixed effects, election round fixed effect, school and polling station controls as described in Section 4. (A): Definition of the dependent variable: total number of votes for Macri divided by the total number of valid votes (PASO election, first round of the general election and runoff of the general election). (B): Definition of the dependent variable: total number of votes for Macri or any other candidate in the Cambiemos Alliance divided by the total number of valid votes (PASO election). Total number of votes for Macri divided by the total number of valid votes (first round of the general election and runoff of the general election). "Poor": 1 if the average housing price in the *circuito* is below the median of the city, 0 otherwise. "Low Ed.": 1 if the proportion of individuals living in the *circuito* with less than a higher education degree is below the median of the city. "HDC" means "High Density of Children": 1 if the average proportion of households in the *circuito* with children between 0 and 15 is above the median of the city, 0 otherwise.

Table 3: School Quality and Voting for Macri – Main Effect and Double Interaction with Income and Density of School-Age Children

	(A)			(B)		
	(1)	(2)	(3)	(4)	(5)	(6)
Bad Quality (BQ)	-0.25**	0.08	-0.02	-0.28**	0.09	0.01
	(0.12)	(0.17)	(0.16)	(0.13)	(0.17)	(0.16)
BQ × Poor		-0.37			-0.31	
		(0.33)			(0.34)	
BQ × Low Ed.			0.03			-0.08
			(0.35)			(0.36)
BQ × HDC		-0.45	-0.82*		-0.47	-0.78
		(0.39)	(0.44)		(0.43)	(0.52)
BQ × Poor × HDC		0.14			0.06	
		(0.52)			(0.56)	
BQ × Low Ed. × HDC			0.27			0.14
			(0.58)			(0.65)
Effect on Poor + HDC		-0.60***			-0.62***	
Effect on Poor + LDC		-0.29			-0.21	
Effect on Not Poor + LDC		-0.37			-0.37	
Effect on Not Poor + HDC		0.08			0.09	
Effect on Low. Ed + HDC			-0.54***			-0.55***
Effect on Low Ed. + LDC			0.01			0.09
Effect on High Ed. + LDC			-0.02			0.01
Effect on High Ed. + HDC			-0.84*			-0.78
Obs.	12,626	12,626	12,626	12,626	12,626	12,626
R-Squared	0.83	0.83	0.83	0.83	0.86	0.86

Standard errors clustered at the school level in parentheses. All regressions include electoral *circuito* fixed effects, round fixed effect and the time-varying school controls described in Section 4. (A): Definition of the dependent variable: total number of votes for Macri divided by the total number of valid votes (PASO election, first round of the general election and runoff of the general election). (B): Definition of the dependent variable: total number of votes for Macri or any other candidate in the Cambiemos Alliance divided by the total number of valid votes (PASO election). Total number of votes for Macri divided by the total number of valid votes (first round of the general election and runoff of the general election). "Poor": 1 if the average housing price in the *circuito* is below the median of the city, 0 otherwise. "Low Ed.": 1 if the proportion of individuals living in the *circuito*, with less than a higher education degree is below the median of the city. "HDC" means "High Density of Children": 1 if the average proportion of households in the *circuito* with children between 0 and 15 is above the median of the city, 0 otherwise. "LDC" means "Low Density of Children": 1 if the average proportion of households in the *circuito* with children between 0 and 15 is below the median of the city, 0 otherwise.

Table 4: School Quality, Turnout and Valid Votes (%)

	(1)		(2)		(3)	
	Turnout	Valid	Turnout	Valid	Turnout	Valid
Bad Quality	0.09	0.005	0.08	0.007	-0.015	0.01
	(0.09)	(0.03)	(0.10)	(0.03)	(0.1)	(0.03)
Obs.	12,652	12,652	12,652	12,652	12,652	12,652
R-Squared	0.83	0.83	0.83	0.83	0.86	0.86

Standard errors clustered at the school level in parentheses. Set of controls per column: "(1)" includes electoral *circuito* fixed effects, election round fixed effects, school and polling station controls as described in Section 4. "(2)" includes electoral *circuito* fixed effects, election round fixed effects, number of electors per polling station and school controls as described in Section 4. It excludes the demographic characteristics of voters at the polling station level. "(3)" includes electoral *circuito* fixed effects and election round fixed effects. It excludes the number of electors per polling station and the demographic characteristics of voters at the polling station. It includes school controls as described in Section 4 Definition of the dependent variables: "Turnout" is the number of votes (valid or not) divided by the number of voters in a polling station. "Valid" is the number of valid votes divided by the number of votes in a polling station.

Appendix

Main Parties

Formally, eleven parties competed in the PASO (compulsory primary elections), although only six obtained at least 1.5% of the votes and therefore could compete in the general election:

Frente para la Victoria (FPV): Led by the incumbent President Cristina Fernandez de Kirchner. The party was in charge of the federal government from 2003 to 2015. It is the most recent faction of the Peronist party. The party had only one candidate in the PASO elections: Daniel Scioli.

Cambiemos: A coalition of three parties (UCR, CC and PRO) led by Mauricio Macri, who was the Mayor of the City of Buenos Aires from 2007 to 2015. The party is typically associated with the modern, center-right political trend. It had three candidates running against each other in the PASO elections: Mauricio Macri – who obtained the vast majority of the votes within the coalition – Ernesto Sanz and Elisa Carrió.

Unidos por una Nueva Alternativa (UNA): A coalition formed by the largest dissident Peronist, i.e. which is not aligned with the FPV. It is typically associated with a conservative center-right ideology. Two candidates ran for this party's nomination in the PASO elections: Sergio Massa and José de la Sota.

Progresistas: A progressive coalition, associated with the center-left. The party had only one candidate for the PASO elections: Margarita Stolbizer.

Compromiso Federal: A conservative/centrist faction of the Peronist party, but with a very specific regional origin in the province of San Luis, where the party has continuously governed since 1983. Alberto Rodriguez Saa was the party's only candidate in the PASO elections.

Frente de Izquierda y de los Trabajadores (FIT): A left wing coalition. The party presented two candidates for the PASO elections: Nicolas del Caño and Jorge Altamira.
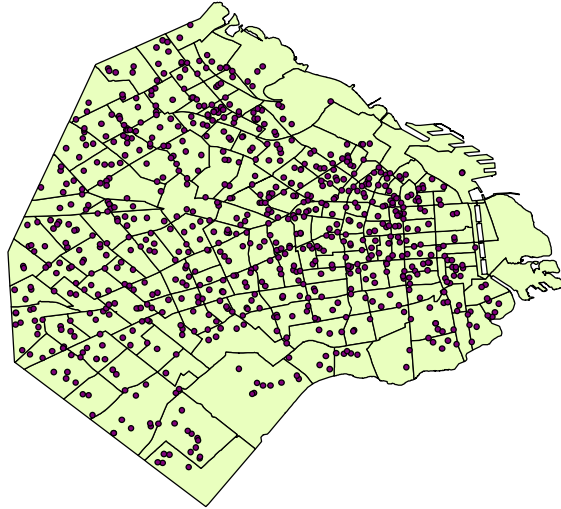
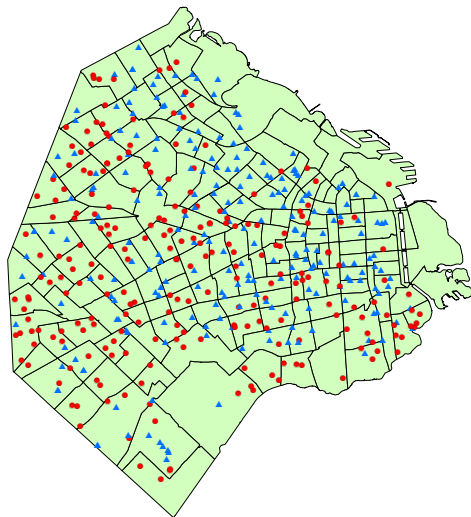# Figures

Figure A1: Electoral Results at the National Level
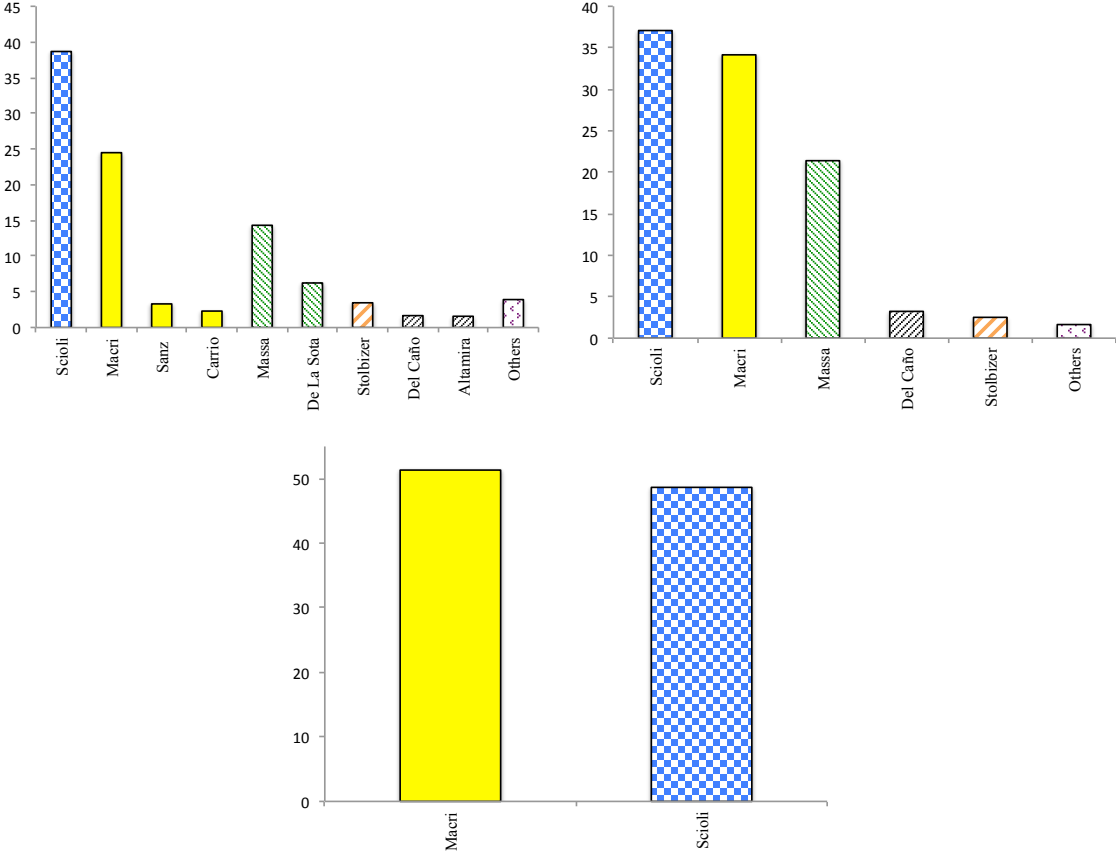
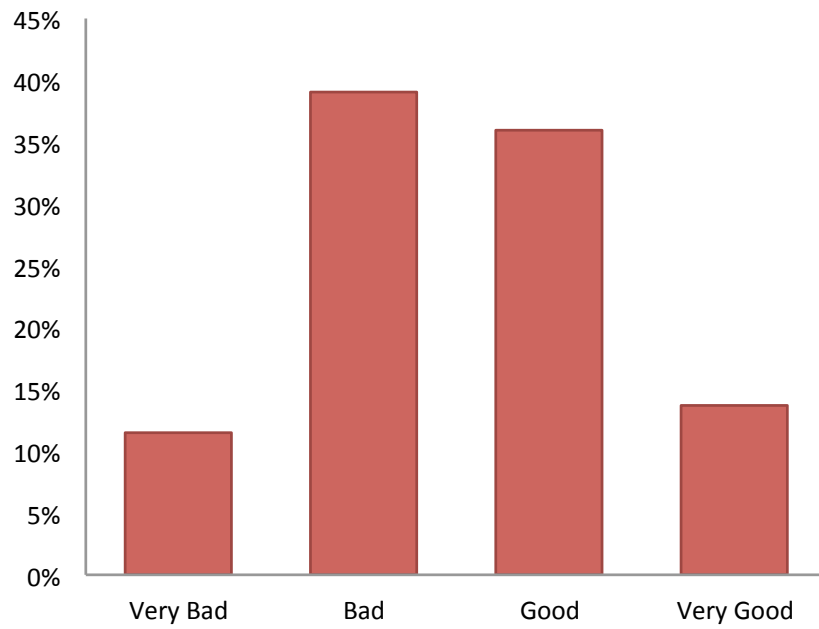Figure A2: Electoral *circuitos* and Schools in Buenos Aires

Source: Buenos Aires Data and La Nacion

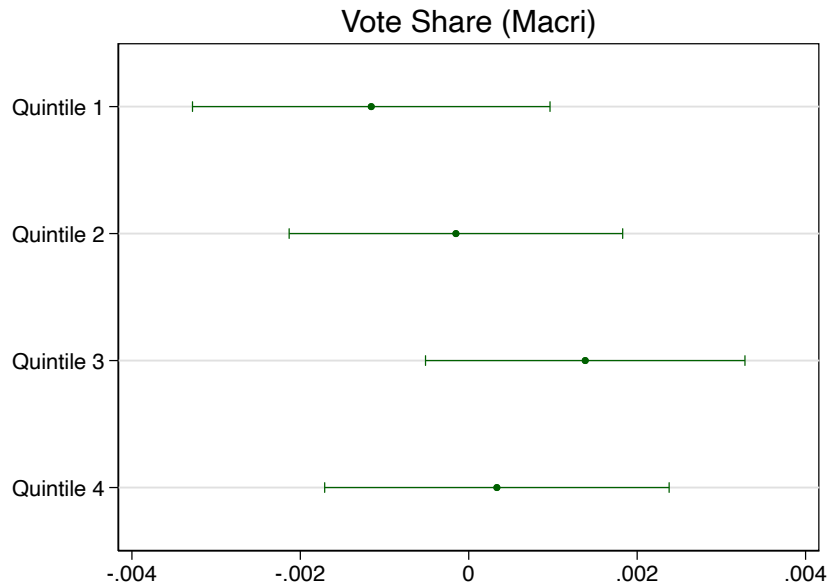Figure A3: Location of "High-Quality" and "Low-Quality" schools in Buenos Aires

Circles represent "bad" schools, triangles represent "good" schools.

Figure A4: Distribution of School Infrastructure Quality

Source: Ministry of Education, City of Buenos Aires

Figure A5: Voting for Macri and Polling Booth Number within School (by quintile)

Vote Share (Macri)

The point estimates (confidence: 95 %) are the result of estimating an equation of Macri's vote share on the polling booth numbers (grouped in quintiles by school). Each regression includes school fixed effects, round fixed effects and all the controls of the main regression of the paper. Standard errors are clustered at the school level. A "zero" point estimate means that, within school, the polling booth number does not determine the vote share. In other words, being assigned to vote in a "low number polling booth" or a "high number polling booth" (which, in turn, is determined by alphabetical order) is irrelevant in terms of support for Macri.

Figure A6: School Quality and Number of Electoral Observers by party
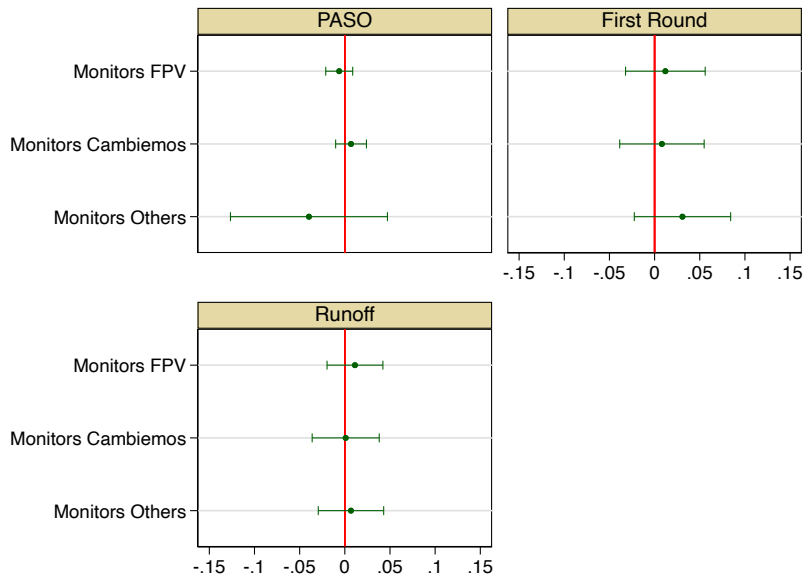
Each graph shows the point estimates (confidence: 95 %) of an individual regression at the polling booth level, of the number of monitors of *FPV*, *Cambiemos* and other parties("*Others*") on the Quality dummy. Each regression includes *Circuito* Fixed Effects. Standard errors are clustered at the school level.

Tables

Table A1: Additional Descriptive Statistics

PANEL (A) - Circuito level	Mean	SD	Min	Max
Housing Prices (U$S/Sq. Meters)	2286	521	1127	4153
High Density of Children (HDC)	0.33	0.47	0	1

PANEL (B) - School level	Mean	SD	Min	Max
Housing Prices (U$S/Sq. Meters)	2212	654	733	5590
Distance to centroid (meters)	500	295	32	2325
Metro Stations (number)	0.50	0.96	0	7
Bus Stations (number)	40	18	9	113

PANEL (C) - Polling Booth level	Mean	SD	Min	Max
Age (years)	48.14	2.82	34.71	56.87
Male (proportion)	0.48	0.4	0.35	0.67

Definitions Panel (A): Housing Prices: average housing price at the *circuito* level, in dollars per square meter. High Density of Children: it is a dummy that takes a one if the proportion of children between 0 and 15 years old in the *circuito* is above the mean of the city. **Definitions Panel (B)**: Housing Prices: average housing price at the school block level (the four street segments of the block in which the school is located), in dollars per square meter. Distance to centroid:euclidean distance between each school and the centroid of the *circuito* in which it is located (in meters). Metro Stations: number of metro stations within a radius of five blocks from each school. Bus Stations: number of bus stops/stations within a radius of five blocks from each school. **Definitions Panel (C)**: Age: average age of the voters registered in the polling booth (in years). Male: proportion of male voters registered in the polling booth.

Table A2: School Quality: Balance Test

	No. Voters	Housing Prices	Distance	Metro Stations	Bus Stations	Age	Male
Bad Quality	-0.09	49	-80***	0.035	1.9	0.09	0.0007
	(0.07)	(70)	(35)	(0.05)	(1.2)	(0.065)	(0.012)
	[-0.03σ]	[0.07σ]	[0.27σ]	[0.03σ]	[0.06σ]	[0.002σ]	[0.0014σ]
Observations	12.958	12.958	12.958	12.958	12.958	531,272	1,100,374
R-Squared	0.03	0.03	0.03	0.03	0.03	0.03	0.03

Standard errors clustered at the school level in parentheses. Regressions include electoral *circuito* fixed effects. Housing prices are defined in dollars per squared meter. Distance is defined in meters. Metro and bus stations are in absolute numbers. Age is defined in years and is defined only for male voters. Male is a dummy that equals 1 if the voter is a male and 0 otherwise. Metro and Bus Stations are defined as the number of stations within a radius of 0.5km of each school.

Table A3: Voting for Macri and School Quality (by Election Round)

Panel A: PASO	Vote Share	Turnout	Valid
Bad Quality	-0.18	0.11	0.00
	(0.14)	(0.14)	(0.06)
Obs.	4,195	4,195	4,195
R-Squared	0.85	0.58	0.07
Panel B: First Round of the General Election			
Bad Quality	-0.27*	0.00	-0.04
	(0.15)	(0.11)	(0.04)
Obs.	4,220	4,220	4,220
R-Squared	0.90	0.62	0.10
Panel C: Runoff			
Bad Quality	-0.24	0.13	-0.04
	(0.16)	(0.10)	(0.05)
Obs.	4,237	4,237	4,237
R-Squared	0.88	0.62	0.20
Panel D: First Round of the General Election and Runoff			
Bad Quality	-0.27*	0.07	0.00
	(0.14)	(0.09)	(0.03)
Obs.	8,457	8,457	8,457
R-Squared	0.92	0.62	0.46

Standard errors clustered at the school level in parentheses. Set of controls per column: "Vote Share": total number of votes for Macri divided by the total number of valid votes. "Turnout" is the number of votes (valid or not) divided by the number of voters in a polling station. "Valid" is the number of valid votes divided by the number of votes in a polling station. All regressions include electoral *circuito* fixed effects, school and polling station controls as described in Section 4.

Table A4: Voting for Macri and School Quality: Heterogeneity by Income Level (Four-Point Quality Measure)

	(A)		(B)	
	(1)	(2)	(3)	(4)
Very Bad Quality	-0.55**	-0.18	-0.64**	-0.23
	(0.26)	(0.36)	(0.27)	(0.38)
Very Bad Quality × Poor		-0.76		-0.87*
		(0.50)		(0.52)
Very Bad Quality Total Effect (Poor)		-0.93***		-1.1***
		(0.36)		(0.37)
Bad Quality	-0.40**	-0.09	-0.42**	-0.05
	(0.19)	(0.23)	(0.20)	(0.25)
Bad Quality × Poor		-0.69*		-0.82
		(0.30)		(0.39)
Bad Quality Total Effect (Poor)		-0.77***		-0.88***
		(0.30)		(0.30)
Good Quality	-0.22	-0.12	-0.23	-0.09
	(0.17)	(0.21)	(0.18)	(0.23)
Good Quality × Poor		-0.24		-0.36
		(0.36)		(0.37)
Good Quality Total Effect (Poor)		-0.36		-0.45
		(0.28)		(0.29)
Obs.	12,626	12,626	12,626	12,626
R-Squared	0.92	0.92	0.92	0.92

Standard errors clustered at the school level in parentheses. Regressions include electoral *circuito* fixed effects, election round fixed effects, school and polling station controls as described in Section 4. (A): Definition of the dependent variable: total number of votes for Macri divided by the total number of valid votes (PASO election, first round of the general election and runoff of the general election). (B): Definition of the dependent variable: total number of votes for Macri or any other candidate in the Cambiemos Alliance divided by the total number of valid votes (PASO election). Total number of votes for Macri divided by the total number of valid votes (first round of the general election and runoff of the general election). "Poor": 1 if the average housing price in the *circuito* is below the median of the city, 0 otherwise. "Low Ed.": 1 if the proportion of individuals living in the *circuito*, with less than a higher education degree is below the median of the city.

Table A5: Voting for Macri and School Quality: Heterogeneity by Number of School-Age Children (Four-Point Quality Measure)

	(A)		(B)	
	(1)	(2)	(3)	(4)
Very Bad Quality	-0.55**	-0.04	-0.64**	-0.06
	(0.26)	(0.33)	(0.27)	(0.36)
Very Bad Quality × HDC		-1.1***		-1.24**
		(0.48)		(0.50)
Very Bad Quality Total Effect (HDC)		-1.1***		-1.3***
		(0.37)		(0.37)
Bad Quality	-0.40**	-0.11	-0.42**	-0.10
	(0.19)	(0.20)	(0.23)	(0.25)
Bad Quality × HDC		-0.78***		-0.96***
		(0.30)		(0.31)
Bad Quality Total Effect (HDC)		-0.89***		-0.92
		(0.31)		(0.31)
Good Quality	-0.22	-0.10	-0.23	-0.12
	(0.17)	(0.20)	(0.18)	(0.22)
Good Quality × HDC		-0.39		-0.38
		(0.36)		(0.37)
Good Quality Total Effect (HDC)		-0.49*		-0.50*
		(0.36)		(0.29)
Obs.	12,626	12,626	12,626	12,626
R-Squared	0.92	0.92	0.92	0.92

Standard errors clustered at the school level in parentheses. Regressions include electoral *circuito* fixed effects, election round fixed effects, school and polling station controls as described in Section 4. (A): Definition of the dependent variable: total number of votes for Macri divided by the total number of valid votes (PASO election, first round of the general election and runoff of the general election). (B): Definition of the dependent variable: total number of votes for Macri or any other candidate in the Cambiemos Alliance divided by the total number of valid votes (PASO election). Total number of votes for Macri divided by the total number of valid votes (first round of the general election and runoff of the general election). "HDC" means "High Density of Children": 1 if the average proportion of households in the *circuito* with children between 0 and 15 is above the median of the city, 0 otherwise.

Table A6: Voting for Macri and School Quality: Without Controls

	(A)			(B)			(C)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Bad Qual. (BQ)	-0.25** (0.12)	0.02 (0.16)	-0.011 (0.14)	-0.26** (0.13)	-0.02 (0.16)	-0.03 (0.14)	-0.26 (0.16)	-0.017 (0.15)	-0.026 (0.14)
BQ × Poor		-0.52** (0.22)			-0.50** (0.22)			-0.50** (0.21)	
Tot. Effect (Poor)		-0.52*** (0.18)			-0.52*** (0.17)			-0.52*** (0.18)	
BQ × HDC			-0.55*** (0.21)			-0.52** (0.21)			-0.54** (0.21)
Tot. Effect (HDC)			-0.56*** (0.18)			-0.55*** (0.18)			-0.56*** (0.18)
Obs.	12,652	12,652	12,652	12,652	12,652	12,652	12,652	12,652	12,652
R-Squared	0.83	0.83	0.83	0.83	0.86	0.86	0.83	0.83	0.83

Standard errors clustered at the school level in parentheses. Set of controls per column: "(A)" includes electoral *circuito* fixed effects, election round fixed effects, school and polling station controls as described in Section 4. "(B)" includes electoral *circuito* fixed effects, election round fixed effects, number of electors per polling station and school controls as described in Section 4. It excludes the demographic characteristics of voters at the polling station level. "(C)" includes electoral *circuito* fixed effects and election round fixed effects. It excludes the number of electors per polling station and the demographic characteristics of voters at the polling station. It includes school controls as described in Section 4. Definition of the dependent variable: total number of votes for Macri divided by the total number of valid votes (PASO election, first round of the general election and runoff of the general election). "Poor": 1 if the average housing price in the *circuito* is below the median of the city, 0 otherwise. "Low Ed.": 1 if the proportion of individuals living in the *circuito*, with less than a higher education degree is below the median of the city. "HDC" means "High Density of Children": 1 if the average proportion of households in the *circuito* with children between 0 and 15 is above the median of the city, 0 otherwise.

Table A7: Voting for Macri and School Quality: Heterogeneity by Income and Number of School-Age Children
(Excluding Average House Price)

	(A)					(B)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Bad Quality	-0.25**	-0.05	-0.13	-0.06	-0.24**	-0.28**	-0.07	-0.12	-0.06	-0.23*
	(0.12)	(0.16)	(0.16)	(0.15)	(0.12)	(0.13)	(0.16)	(0.16)	(0.15)	(0.12)
Bad Quality × Poor		-0.4*					-0.43*			
		(0.22)					(0.23)			
Total Effect (Poor)		-0.46***					-0.51***			
		(0.17)					(0.18)			
Bad Quality * Low Ed.			-0.20					-0.20		
			(0.21)					(0.22)		
Total Effect (Low Ed.)			-0.34**					-0.32*		
			(0.17)					(0.17)		
Bad Quality × HDC				-0.42**					-0.50**	
				(0.20)					(0.22)	
Total Effect (HDC)				-0.49***					-0.57***	
				(0.18)					(0.18)	
Bad Quality × Distance					0.00					0.00
					(0.003)					(0.004)
Obs.	12,626	12,626	12,626	12,626	12,626	12,626	12,626	12,626	12,626	12,626
R-Squared	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.92

Standard errors clustered at the school level in parentheses. Regressions include electoral school fixed effects, election round fixed effect, school and polling station controls as described in Section 4, except the average selling price of dwellings. (A): Definition of the dependent variable: total number of votes for Macri divided by the total number of valid votes (PASO election, first round of the general election and runoff of the general election). (B): Definition of the dependent variable: total number of votes for Macri or any other candidate in the Cambiemos Alliance divided by the total number of valid votes (PASO election). Total number of votes for Macri divided by the total number of valid votes (first round of the general election and runoff of the general election). "Poor": 1 if the average housing price in the *circuito* is below the median of the city, 0 otherwise. "Low Ed.": 1 if the proportion of individuals living in the *circuito* with less than a higher education degree is below the median of the city. "HDC" means "High Density of Children": 1 if the average proportion of households in the *circuito* with children between 0 and 15 is above the median of the city, 0 otherwise.

Table A8: Voting for Macri and School Quality: Heterogeneity by Income and Number of School-Age Children (Clustering Standard Errors by *Circuito*)

	(A)					(B)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Bad Quality	-0.25*	0.02	-0.07	-0.011	-0.25*	-0.28*	-0.02	-0.06	-0.01	-0.24*
	(0.14)	(0.16)	(0.16)	(0.14)	(0.14)	(0.13)	(0.16)	(0.16)	(0.15)	(0.13)
Bad Quality × Poor		-0.52**					-0.55**			
		(0.23)					(0.24)			
Total Effect (Poor)		-0.52***					-0.57***			
		(0.19)					(0.20)			
Bad Quality × Low Ed.			-0.31					-0.32		
			(0.21)					(0.25)		
Total Effect (Low Ed.)			-0.38*					-0.37*		
			(0.19)					(0.20)		
Bad Quality × HDC				-0.55**					-0.63***	
				(0.22)					(0.24)	
Total Effect (HDC)				-0.56***					-0.64***	
				(0.20)					(0.22)	
Bad Quality × Distance					0.00					0.00
					(0.003)					(0.004)
Obs.	12,626	12,626	12,626	12,626	12,626	12,626	12,626	12,626	12,626	12,626
R-Squared	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.92

Standard errors clustered at the *circuito* level in parentheses. Regressions include electoral *circuito* fixed effects, election round fixed effect, school and polling station controls as described in Section 4. (A): Definition of the dependent variable: total number of votes for Macri divided by the total number of valid votes (PASO election, first round of the general election and runoff of the general election). (B): Definition of the dependent variable: total number of votes for Macri or any other candidate in the Cambiemos Alliance divided by the total number of valid votes (PASO election). Total number of votes for Macri divided by the total number of valid votes (first round of the general election and runoff of the general election). "Poor": 1 if the average housing price in the *circuito* is below the median of the city, 0 otherwise. "Low Ed.": 1 if the proportion of individuals living in the *circuito* with less than a higher education degree is below the median of the city. "HDC" means "High Density of Children": 1 if the average proportion of households in the *circuito* with children between 0 and 15 is above the median of the city, 0 otherwise.

Table A9: Voting for Macri and School Quality: Heterogeneity by Income and Number of School-Age Children
(Controlling for the Number of Monitors)

	(A)					(B)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Bad Quality	-0.26**	-0.00	-0.08	-0.03	-0.27**	-0.26**	-0.03	-0.06	0.00	-0.25**
	(0.12)	(0.15)	(0.15)	(0.14)	(0.12)	(0.13)	(0.16)	(0.16)	(0.15)	(0.12)
Bad Quality × Poor		-0.53**					-0.54**			
		(0.22)					(0.23)			
Total Effect (Poor)		-0.54***					-0.54***			
		(0.17)					(0.18)			
Bad Quality × Low Ed.			-0.32					-0.32		
			(0.21)					(0.23)		
Total Effect (Low Ed.)			-0.40**					-0.39**		
			(0.17)					(0.18)		
Bad Quality × HDC				-0.54**					-0.58***	
				(0.21)					(0.22)	
Total Effect (HDC)				-0.57***					-0.58***	
				(0.18)					(0.19)	
Bad Quality × Distance					0.00					0.00
					(0.003)					(0.004)
Obs.	12,594	12,594	12,594	12,594	12,594	12,594	12,594	12,594	12,594	12,594
R-Squared	0.91	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.92	0.92

Standard errors clustered at the school level in parentheses. Regressions include electoral school fixed effects, election round fixed effect, school and polling station controls as described in Section 4. Additionally, they include three variables controlling for the number of monitors in each polling booth/election: the number of monitors from *Cambiemos*, the number of monitors from *FPV* and the number of monitors from other parties. (A): Definition of the dependent variable: total number of votes for Macri divided by the total number of valid votes (PASO election, first round of the general election and runoff of the general election). (B): Definition of the dependent variable: total number of votes for Macri or any other candidate in the Cambiemos Alliance divided by the total number of valid votes (PASO election). Total number of votes for Macri divided by the total number of valid votes (first round of the general election and runoff of the general election). "Poor": 1 if the average housing price in the *circuito* is below the median of the city, 0 otherwise. "Low Ed.": 1 if the proportion of individuals living in the *circuito* with less than a higher education degree is below the median of the city. "HDC" means "High Density of Children": 1 if the average proportion of households in the *circuito* with children between 0 and 15 is above the median of the city, 0 otherwise.

Table A10: Voting for Other Parties and School Quality

PASO

	Macri	Cambiemos (others)	FPV	UNA	Progresistas	Compromiso Federal	FIT
Bad Quality	-0.18	0.00	0.12	0.06	0.07	0.01	-0.01*
	(0.13)	(0.06)	(0.15)	(0.11)	(0.9)	(0.3)	(0.06)
Observations	4,220		4,220	4,220	4,220	4,220	4,220
R-Squared	0.90		0.83	0.69	0.43	0.13	0.34

First Round of the General Election

	Cambiemos		FPV	UNA	Progresistas	Compromiso Federal	FIT
Bad Quality	-0.27*		0.02	0.08	0.09*	0.01	0.06
	(0.15)		(0.13)	(0.10)	(0.5)	(0.1)	(0.05)
Observations	4,220		4,220	4,220	4,220	4,220	4,220
R-Squared	0.90		0.83	0.69	0.43	0.13	0.34

Standard errors clustered at the school level in parentheses Definition of the dependent variable: total number of votes for each party divided by the total number of valid votes. In the PASO election, "Cambiemos (others)" includes the votes of the two other candidates (Carrio and Sanz) in Cambiemos' electoral coalition. Set of controls includes electoral *circuito* fixed effects, election round fixed effects, school and polling station controls as described in Section. 4. The description of each party is detailed in Section 6.

Table A11: Voting for Macri and School Quality
(Interaction with support for Macri in 2011 Municipal Elections)

	(A)	(B)	(C)
Bad Quality	-0.25**	-0.27**	-0.27**
	(0.12)	(0.13)	(0.13)
Bad Quality × Macri's Vote Share 2011 (Municipal Election)	-0.00	-0.00	-0.00
	(0.02)	(0.02)	(0.02)
Obs.	12,652	12,652	12,652
R-Squared	0.92	0.92	0.92

Standard errors clustered at the school level in parentheses. Set of controls per column: "(A)" includes electoral *circuito* fixed effects, school and polling station controls as described in Section 4. "(B)" includes electoral *circuito* fixed effects, number of electors per polling station and school controls as described in Section 4. It excludes the demographic characteristics of voters at the polling station level. "(C)" includes electoral *circuito* fixed effects. It excludes the number of electors per polling station and the demographic characteristics of voters at the polling station. It includes school controls as described in Section 4. Definition of the dependent variable: total number of votes for Macri divided by the total number of valid votes (PASO election, first round of the general election and runoff of the general election). Macri's Vote Share 2011 (Municipal Election) is Macri's vote share in the 2011 municipal election, at the *Circuito* level.