

Voting Corrupt Politicians Out of Office?

Evidence from an Experiment in Paraguay*

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Abstract

This paper challenges the conventional wisdom that giving voters more power - both formally through the use of more “open” electoral systems, and informally through easier access to information about politicians’ wrongdoings - will necessarily result in them voting corrupt politicians out of office. First, focusing on a comparison between closed-list and open-list proportional representation systems, we show theoretically that opening the lists is likely to generate a large shift of vote shares in favor of the traditional, most corrupt parties. Second, we design a survey experiment to test these predictions in Paraguay, and find strong supporting evidence. Last, we do not find in our context that the lack of information about politicians’ wrongdoings is a major obstacle preventing voters to vote out corrupt politicians; if anything, we find that under the more open system, supporters of the incumbent party actually exhibit a “preference” for corrupt politicians.

Keywords: Corruption, Electoral systems, Information

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1 Introduction

Corruption is a major threat to economic and social development.¹ It also has the power to erode trust in political institutions, undermining the stability of political systems.² Among the many remedies suggested, electoral democracy is often mentioned as a way to generate a better selection of politicians and to discipline them by creating incentives for reelection.³ However, the literature has also established that democracy is no panacea and that depending on the context it is not necessarily conducive to less corruption (Stephenson (2015)).

This raises the question of how and in which circumstances democratic institutions may empower citizens and enable them to better control politicians. In particular, it has been emphasized that democratic elections may fail to curb corruption if information about wrongdoings is not forthcoming, either because there is no free press, or because voters don't pay attention to all the relevant information even when available. Second, even if voters have the relevant information, they still need to be able to act upon it. The specific design of electoral rules might make it more or less costly to punish corrupt politicians.

This paper challenges the conventional wisdom that giving voters more formal power - through more "open" electoral systems - and more information about politicians' wrongdoings will necessarily result in them voting corrupt politicians out of office. We focus on the comparison between closed- and open-list Proportional Representation (PR) systems. The two systems are quite similar in that they both involve party-lists with PR, but they vary in the degree in which they allow voters to express preferences about individual candidates.⁴ In this context, we make three main contributions.

First, we contribute to the theoretical debate about voters' formal control by highlighting a so far neglected countervailing effect of open-list systems. The conventional argument highlights the (positive) "within-list" consequences of opening the lists. Under a closed PR system, if a voter does not like the individual candidates running for her preferred party, for example because they are corrupt, "punishing" these candidates will entail not voting for that party. By contrast, more open PR systems, where a voter vote for a party-list but also for specific candidates within this list, can reduce the potential tension between

¹See Olken and Pande (2012) for a review of the related large body of work.

²Lagunes (2012), Rose-Ackerman (1999), Rose-Ackerman (2005), Seligson (2002), Anderson and Tverdova (2003).

³Kunicova and Rose-Ackerman (2005), Ferraz and Finan (2008).

⁴See the beginning of Section 3 for a detailed description of the two systems.

partisan identity and preferences for individual candidates, as she can vote for her preferred party, while voting against the candidates she does not like. If voters dislike corrupt politicians, open-list PR will thus allow them to vote the corrupt politicians out of office while still voting for their preferred party (Rose-Ackerman (2005), Stephenson (2015)). Building on a theoretical model of voter behavior in closed- and open-list PR systems, we show that keeping the political supply as given (that is, taking the strategies of parties and the quality of candidates as given), moving from a closed-list system to an open-list system is likely to increase the vote shares of the more corrupt parties.⁵

The intuition for this new “between-list” effect is as follows. Opening the lists is beneficial to lists that exhibit a large heterogeneity in terms of the subjective “quality” of the candidates, as perceived by the voters. Indeed, if all candidates on a list look the same to a voter, she will not be more likely to vote for this list under the open-list system than under the closed-list system. The option to exercise power is higher for lists featuring candidates that the voters like, but also candidates that the voters do not like. In a similar vein, opening the lists will also be beneficial for lists whose candidates are well-known to the voters (again, either as good or bad). These two facts generate a novel prediction about between-list vote transfers across electoral systems: they imply that corrupt incumbent parties are likely to benefit from opening the lists. Indeed, their candidates are well-known, and perceived as a more heterogeneous set than those of smaller challenger parties.⁶

Second, we test this prediction in a survey experiment conducted in Paraguay, an institutionally weak democratic country ranked consistently among the most corrupt in Latin America. Paraguay is an interesting country to study since it currently uses a closed list PR system to elect its members of parliament, but there is an ongoing debate in the country about a potential electoral reform to open the lists. Interestingly, one of the main arguments put forward by the advocates of the open-list reform is its expected ability to tackle corruption. Besides, Paraguay has recently been hit by a much mediated corruption scandal involving several senators from the two historical parties. We design a survey with

⁵Regarding potential countervailing effects, the previous literature has mostly pointed to the fact that opening the list might lead to fiercer intra-party competition, which might induce politicians to engage in more corrupt activities to secure their election (Stephenson (2015)). We discuss the link with our results further in the conclusion.

⁶Our model shares similarities with Blumenau, Eggers, Hangartner, and Hix (2017), who propose a model of voting under closed list and open list systems, showing that the latter is likely to benefit parties with more internal disagreement on key issues.

an embedded experimental part consisting of an hypothetical election under two PR systems: closed- (the status quo) and open-list, crossed with different types of information treatments about corruption involving candidates. The information treatments remind voters of this highly publicized corruption scandal. The survey is implemented on a sample of 2,641 Paraguayan individuals.

Consistently with our theoretical prediction, we find a large shift in vote shares towards large traditional parties when lists are opened, even though these parties are widely perceived as corrupt by voters. When opening the lists, the incumbent and the main challenger parties increase their vote shares by between 13 and 18 percents, while the vote share of smaller parties with candidates less well-known to the public drops by 28 percent and abstention by 18 percent.

Third, our experiment allows us to explore whether providing voters information about the wrongdoings of individual candidates affect their votes for parties and candidates. We find that our information treatments have relatively little impact on votes for parties and candidates under any system. We interpret this null result as suggesting that the lack of information is not the main obstacle preventing voters to vote against corrupt politicians. Besides, studying votes for individual candidates under the open system enables us to directly examine voters' preferences for individual candidates within a list. We provide suggestive evidence that, if anything, supporters of the incumbent party exhibit a "preference" for corrupt politicians. Supporters of the main challenger show the opposite preference.

Taken together, our results challenge the optimistic view that voters' information and formal control are necessarily helpful tools when fighting corruption.

The paper is structured as follows. The next Section reviews in more detail the literature on the impact of democratic institutions and voters' information on corruption and highlights our specific contributions to it. In Section 3, we then lay out a model of voter behavior in closed- and open-list PR systems and derive testable predictions. Section 4 describe the Paraguayan setting and Section 5 details our experimental design. We discuss the results from the experiment in Section 6. The last section concludes.

2 Literature Review and Contribution

Our paper fits in the large literature studying democracy and corruption. The optimistic view about democracy holds that free elections should allow voters to

vote corrupt politicians out of office. This threat to their reelection prospects should in turn prevent office-motivated politicians from engaging in corrupt activities. The implication is that democracies should be more immune to corruption than non-democratic countries. Summarizing a large literature, Stephenson (2015) concludes that there is little evidence supporting this claim. Indeed, he concludes that “long-established, fully-institutionalized democracies have lower levels of perceived corruption than other countries, but new democracies and partial democracies do not seem to have lower perceived corruption than do non-democracies. Indeed, some studies even find that new or partial democracies have (slightly) higher perceived corruption than do non-democracies” (p. 107). Within democracies, by and large, corrupt politicians are typically re-elected, even after convictions.

To explain this puzzle of a regular reelection of corrupt politicians, the attention has shifted to studying conditions, which, combined with democracy, are necessary for voters to effectively exercise control over corrupt politicians. A number of factors may undermine the disciplining effects of elections (Rundquist, Strom, and Peters (1977)). In particular, two important conditions have been identified: (i) The political setting may not allow them to punish corrupt politicians, either because they don’t have other viable alternatives or because the electoral system does not allow them to do so; (ii) Voters may lack the relevant information about politicians’ wrongdoings either for external (lack of access) or internal individual (memory limitations) reasons. Below, we review the literature and explain how our paper contributes to each of these two dimensions.

The role of electoral institutions

As noted by Rose-Ackerman (2005), electoral institutions differ in the opportunities they provide for legislators to engage in corrupt activities, and in the incentives and abilities for voters and opposition to monitor, unveil, and punish corrupt activities by incumbents. For example, comparing majoritarian and PR systems, Persson and Tabellini (2000) argue that voting over individual candidates (as in a majoritarian system) rather than over lists (as in a PR system) creates a direct link between the politicians performance and re-election. This, in turn, gives politicians incentives to avoid corruption (Persson, Tabellini, and Trebbi (2003)). Since open-list PR shares with plurality this feature of having voters vote directly on candidates, open-list PR should be superior to closed-

list PR. As summarized in Rose-Ackerman (2005) “plurality rule voting ought to do a better job at controlling corrupt political rent-seeking than PR, especially closed-list PR. (...) Because open-list PR systems share features of both closed-list PR and plurality systems, they occupy an ‘intermediate’ category in monitoring corrupt self-enrichment.” (page 54)

There are nevertheless a number of countervailing effects (Stephenson (2015)). Indeed, if voters have more power in open-list systems, party discipline is presumably stronger in closed-list systems (where candidates totally rely on parties to get elected). If parties are more effective than voters in disciplining politicians, one may expect more corruption in open-list systems. Besides, by inducing fiercer intra-party competition, open-list systems may induce politicians to engage in more unlawful activities in order to attract votes (instrumental corruption).⁷

Empirical studies that compare open- and closed-list PR reach inconsistent conclusions. Some find that closed-list PR systems are associated with higher perceived corruption than open-list systems (Chang and Golden (2007); Persson et al. (2003); Tavits (2007); Kselman (2011); Nyblade and Reed. (2008)), while others find that they have lower perceived corruption (Brown and Whitford. (2011) ; Potter and Tavits (2012)), and many studies fail to find evidence of a significant difference (Kunicova and Rose-Ackerman (2005); Serra (2006) ; Schleiter and Voznaya (2014)).

As reviewed above, the main argument in favor of open-list PR, compared to closed-list PR, is that it allows voters to directly, and individually, punish corrupt politicians. In our paper, we challenge this argument on two different grounds. First, we note that this argument implicitly assumes that voters vote for the same party under both systems. If one explicitly takes into account potential between-list effects, the picture might look quite different. A recent paper by Blumenau et al. (2017) argues that a move from closed- to open-list system is likely to be more favorable to parties with more internal disagreement.⁸ We propose a simple model of voter behavior which explores similar arguments in the case of corruption. We show in theory that opening the lists is likely to benefit the most

⁷Regarding this last point, Chang (2005) provides evidence that in post World War II Italy, the open-list PR system and uncertainty about their reelection probability induced incumbent legislators to look for illegal resources to finance their campaigns.

⁸They provide experimental evidence supporting this claim by conducting a survey experiment in the context of a hypothetical EU election in the UK. They show that using an open-list ballot shifts support from the UKIP party (a niche party defending Eurosceptic views) to the Eurosceptic candidates of the Conservative Party (which is internally divided on the European integration issue).

corrupt parties. This prediction is supported by our experimental findings, since opening the lists leads to a massive shift in vote shares towards large, traditional parties, even though these are massively perceived as corrupt by voters. Second, we find very little evidence in the Paraguayan context that voters dislike corrupt politicians and vote against them when given a chance. If anything, supporters of the incumbent party seems to exhibit a preference for corrupt senators.

The role of information

Within democracies, many studies using non-experimental data have examined the effects of corruption charges on electoral performance across a variety of countries and institutional settings. Almost all of them find null or very modest effects (Bagenholm (2013)⁹, Peters and Welch (1980) ; McCann and Dominguez (1998) ; Winters and Weitz-Shapiro (2012)). Chang, Golden, and Hill (2010) study the legislatures that sat in Italy's lower house between 1948 and 1994. They show that corrupt politicians were only punished by voters after the heavy media coverage of political corruption accompanying the Clean Hands operation in the early 1990s.¹⁰ Two other important exceptions are Ferraz and Finan (2008) and Melo, Pereira, and Figueiredo (2009)), who find large negative effects on the probability of reelection in Brazil when examining the effect of audits reporting corruption.

Recently, a few field experiments have provided conflicting results about the role of information. Banerjee, Kumar, Pande, and Su (2011) find that providing Indian voters with information induces higher turnout and higher vote shares for more qualified candidates. Chong, De La O, Karlan, and Wantchekon (2014) provide experimental evidence during local elections in Mexico that information decreases incumbent party support, but also decreases voter turnout and support for the challenger party. Arias, Larreguy, Marshall, and Querubin (2018) argue that whether voters punish or not politicians when learning new information on

⁹Using a dataset of 215 parliamentary campaigns in 32 European countries between 1981 and 2011, this paper shows that corruption scandals and allegations do have an impact on incumbent electoral prospects, but to a quite limited extend

¹⁰These authors use as a measure of corruption of individual legislators whether there had been a request to remove their parliamentary immunity in order to investigate possible criminal wrongdoings (one half of all the legislators they study were charged at least once). They show that in the first ten legislatures following 1948, being the target of such a request had no significant impact (or an extremely small impact) on their probability of being listed again in the next election, nor on the share of preference votes they received in the open-list system. It was only in the early 1990s that things dramatically changed and voters voted out corrupt incumbents, coinciding with the heavy media coverage of the Clean Hands operation.

wrongdoings depends on their prior beliefs and the direction of their updating. Their model is supported by information from Mexican municipal elections. So while information on corruption may in some cases increase accountability, it may not be sufficient as voters respond in complex ways depending on their beliefs and the constraints they face.

While all these papers use as dependent variables measures of turnout and vote shares at the precinct level, in this paper we study at the individual level how voters react to information about corruption, and how this information translates into their voting behavior. The fact that we have individual vote outcomes allows us to improve on previous studies by analyzing heterogeneity along a number of dimensions, including political preferences such as party attachment, education and income. This is crucial in the Paraguayan setting (and in many Latin-American countries, see for example Gonzalez Ocantos, de Jonge, and Nickerson (2014)), where vote buying, distrust and lack of information about the democratic system are likely to vary a lot across different demographic groups. We find relatively small effects of our information treatments, and conclude that voters appear to have good information on potential corruption among candidates. At least in our context, information does not seem to be the most important aspect affecting voters' behavior, a result probably related to the high volume of media coverage on important cases of corruption in Paraguay.

3 A Theoretical Comparison of Closed-list and Open-list Proportional Representation

In this section, we develop a simple model of voting under closed- and open-list PR systems.

The main formal difference between closed- and open-list PR systems lies in how much power voters are given to decide who gets elected *within a list*. In a *closed-list system*, voters face party-lists, each presenting a set of pre-ordered candidates. The ranking of the candidates on the list is determined by the party. Each voter votes for one of these party-lists or abstains. Vote shares determine how many seats each party gets. Within each list, the rank of the candidates determines whether they are elected or not. In such a system, voters have no direct control over which candidates within the lists are elected. The only thing voters control is how many candidates get elected within each list.

In *open-list systems*, each voter votes for one party or abstains, and vote shares determine how many seats each party gets, just as in the closed list system. But voters can also (to some extent) determine which candidates within the list are elected by additionally casting votes for individual candidates. There is a wide variety of open list systems in practice, which differ in the rules determining how these votes for individual candidates can be cast. In particular, there are some variations in the maximal number of candidate votes the voter is allowed to cast: it can be one (e.g., Sweden, Denmark), some fixed number larger than one (e.g., post WWII Italy where the maximal number of votes was three or four), or there can be no limit (e.g., Latvia). Open list systems also differ in how much votes over candidates can overrule any pre-ordering of the candidates fixed by the parties.

In our experiment, we study an open-list system in which the voter can vote for any subset of candidates on the list, and votes for candidates fully determine who gets elected. We will mostly focus on this case in this theory section, but our model could be extended to study open-list systems that impose some constraints on the subset of candidates the voter can vote for.

3.1 Assumptions

Most of the existing literature emphasizing the potential adversarial effects of opening the lists as a tool against corruption has focused on the differences in incentives parties and candidates face under the two systems. Our model unveils another negative effect, which stems solely from voters' behavior. In order to analyze separately this new channel, we hold the characteristics and strategies of the parties and of the candidates fixed and identical under both systems.

Assume that a voter faces a choice between L parties, each presenting a list of K candidates. We assume that voters derive some intrinsic 'consumption utility' from supporting a party and/or candidates they like, and voting against candidates they do not like. We further assume that this expressive utility is independent of other voters' decisions.¹¹ Since we assume away any strategic interactions across voters, in the rest of this subsection we consider one individual voter in isolation.

Formally, we make the following assumptions:

¹¹Blumenau et al. (2017) and Pons and Tricaud (2018) show, using respectively experimental data and voters' behavior in real elections, that the expressive voting assumption performs well in explaining individual decisions.

ASSUMPTION 1 [ABSTENTION]: Whatever the system, we normalize to 0 the utility the voter gets if she abstains.

ASSUMPTION 2 [SUBJECTIVE RATINGS OF PARTIES]: The voter attaches a subjective value to each of the L parties. This value is independent of the specific candidates running on the party-list. It reflects the general congruence between the party and the voter, her personal history or any links she may have with this party. Denote by u^l the value attached to party l by the voter. We assume that u^l can take any real value, positive or negative, and that for any given party it is the same under both systems. A positive (negative) rating means that the voter likes (dislikes) this party.

ASSUMPTION 3 [SUBJECTIVE RATINGS OF CANDIDATES]: The voter attaches subjective values to each of the $L * K$ candidates running on the lists. For $l = 1, \dots, L$ and $c = 1, \dots, K$, we denote by q_c^l the “subjective value” attached to candidate c on list l . We assume that q_c^l can take any real value, positive or negative, and that for any given candidate it is the same under both systems. A positive (negative) rating means that the voter likes (dislikes) this candidate.

ASSUMPTION 4 [CLOSED LIST]: *Under the closed-list system*, the expressive utility the voter derives from voting for list l is given by:

$$U_{closed}^l = u^l + \left(\sum_{c=1, \dots, K} q_c^l \right). \quad (1)$$

In this system, when the voter votes for a list, she has no way to discriminate among candidates. Her utility is thus the sum of two components. The first component is her general utility for the party (u^l). The second component is the total (subjective) evaluation of the candidates on the list. The fact that the voter has to passively vote for all the candidates on the list is captured by the equal weight put on all candidates’ ratings. Note that the voter suffers a utility loss if some candidates on the list have a negative rating.

ASSUMPTION 5 [OPEN LIST]: *Under the open-list system*, the expressive utility the voter derives from voting for party list l and for a subset of candidates

\mathcal{C} on this list is given by:

$$U_{open}^{l,\mathcal{C}} = u^l + \left[(1 + \Psi^+) * \left(\sum_{\substack{c=1,\dots,K: \\ c \in \mathcal{C}}} q_c^l \right) \right] + \left[(1 - \Psi^-) * \left(\sum_{\substack{c=1,\dots,K: \\ c \notin \mathcal{C}}} q_c^l \right) \right]. \quad (2)$$

The first component is again her general utility for the party (u^l), as in a closed-list system. The second component is the sum of the ratings of the candidates she actively votes for on the list, weighted by some parameter ($1 + \Psi^+$), where we assume that $\Psi^+ \geq 0$. This captures the idea that the (positive or negative) utility derived from actively voting in favor of a candidate is larger in absolute value than the utility derived from passively voting for the same candidate in the closed-list system. The third component is the sum of the ratings of the candidates she votes against, weighted by another parameter ($1 - \Psi^-$), which is assumed to be positive but smaller than 1 ($1 \geq \Psi^- \geq 0$). The (positive or negative) utility derived from actively voting against a candidate is smaller in absolute value than the utility derived from passively voting for the same candidate in the closed-list system. Parameters Ψ^+ and Ψ^- can be interpreted as psychological parameters describing respectively how much the voter values being able to actively vote for, and against, individual candidates under the open-list system.

ASSUMPTION 6 [VOTER CHOICE]: Under each system, the voter identifies the list - and under the open-list system the subset of candidates within this list - yielding the highest utility. If this maximal utility is negative, she abstains; otherwise, she votes accordingly.

Remark 1: The subjective ratings of parties and candidates introduced in Assumptions 2 and 3 are voter-specific; they measure the congruence between the party/candidate and the voter. It is important to note that at this stage we make no specific assumptions regarding how these subjective ratings relate to objective characteristics of the parties and candidates, such as their level of corruption. In the standard argument in favor of open-list systems, the implicit assumption is that they correlate negatively with the candidates' level of corruption. In our model, we remain very general and do not make any such assumption.

It is also important to note that these subjective measures are impacted by the quality of the voters' information. If a voter only has imperfect and limited information about the specific candidates on the list, these evaluations

are to be interpreted as her expectations or best guess about these candidates. In Appendix C, we propose a formal derivation of these subjective evaluations, where we explicitly model the role of uncertainty and imperfect information.

This very simple model captures the main differences, from the voter perspective, between a closed- and an open-list system.¹² It makes some non trivial and novel predictions about the comparison between these two systems.

3.2 Predictions

Let us first describe the optimal vote choices implied by Assumption 6. In the closed-list system, the choice is quite straightforward, since it only entails comparing the utilities for parties defined in (1) and the utility for abstention (normalized to 0 according to Assumption 1).

In the open list system, the voter chooses to vote or abstain, but if voting for a party, she also chooses a subset of candidates from this party. We focus here on the open-list system where there is no limit on the number of candidate votes she can cast.¹³ It is straightforward from (2) that conditional on voting for party l , the voter should vote for all the candidates with a strictly positive evaluation ($q_c^l > 0$) and should vote against/not vote for any candidate with a strictly negative evaluation ($q_c^l < 0$). Regarding the candidates such that $q_c^l = 0$, she is indifferent between voting for them or not.

This simple remark illustrates that, *within lists*, opening the lists benefits candidates who receive a positive evaluation from a large number of voters, and hurts candidates who receive a negative evaluation from a large number of voters. In particular, if voters' ratings of candidates are negatively correlated with the candidates' level of corruption, this remark captures the standard argument in favor of open lists, namely that they give voters the opportunity to vote against "bad" corrupt politicians.

Let us emphasize that this "within-list" argument relies on the assumption that the voters vote for the same party in the two systems. Now, if one wants

¹²As already noted, our model shares some similarities with Blumeneau et al. (2016), with nevertheless some important differences. In particular, these authors assume that in a closed-list system voters care only about the party, while in an open-list system they vote based on the attractiveness of the candidates only. Our setting is somewhat more general in that, whatever the electoral system, voters care about the characteristics of both the party and the candidates.

¹³This is the system used in our experiment. We chose it for simplicity as we studied a population with relatively low literacy level, that had never voted with an open-list system before.

to fully evaluate the consequences of opening the lists, one also has to take into account the fact that voters may switch their party choices across systems, or to and from abstention. Our main contribution is to explicitly study these “between-list” effects.

To do so, we compute, for any list l , the maximum utility the voter can get from voting for list l under open-list. Denote it U_{open}^{l*} . As noted at the beginning of this section, conditional on voting for party l , the voter should vote for all the candidates with a strictly positive evaluation ($q_c^l > 0$) and should not vote for any candidate with a strictly negative evaluation ($q_c^l < 0$). Therefore one gets:

$$U_{open}^{l*} = u^l + \left[(1 + \Psi^+) * \sum_{\substack{c=1, \dots, K: \\ q_c^l > 0}} q_c^l \right] + \left[(1 - \Psi^-) * \sum_{\substack{c=1, \dots, K: \\ q_c^l < 0}} q_c^l \right]. \quad (3)$$

We can now compute the difference between the utility given by (3), and the utility a voter derives from voting for this same list under the closed-list system, given by (1):

$$U_{open}^{l*} - U_{closed}^l = 0 \text{ if } q_c^l = 0 \text{ for all } c \quad (4)$$

$$= \left[\Psi^+ * \sum_{\substack{c=1, \dots, K: \\ q_c^l > 0}} q_c^l \right] + \left[\Psi^- * \sum_{\substack{c=1, \dots, K: \\ q_c^l < 0}} |q_c^l| \right] \text{ otherwise.} \quad (5)$$

Formula (5) shows that whatever the list, the utility derived by the voter from voting for a list is at least as high in the open-list system than in the closed-list one. This result is quite intuitive. Indeed, in the open list system there is an increased weight in her utility of the value of the candidates the voter likes ($q_c^l > 0$), and a reduced weight of the value of the candidates she does not like ($q_c^l < 0$).

Since in both systems the value of abstention is normalized to 0 (Assumption 1) and a voter votes if and only if at least one list yields a positive utility (Assumption 6), our first proposition is that abstention should be (at least weakly) lower in the open list system than in the closed list system.

Proposition 1 (ABSTENTION): *Opening the lists should decrease abstention.*

Second, Formula (5) also shows that the increase in utility is likely to be

heterogeneous across lists. The difference is larger when the list has many candidates the voter likes (the $\sum_{c=1,\dots,K: q_c^l > 0} q_c^l$ term), but also interestingly when the list has many candidates the voter dislikes (the $\sum_{c=1,\dots,K: q_c^l < 0} |q_c^l|$ term). This leads to our main proposition:

Proposition 2 (BETWEEN-LIST EFFECTS): *Opening the lists benefits lists with candidates over which voters have strong preferences, either positive or negative.*

Proposition 2 shows that opening the lists is likely to increase the vote shares of highly heterogeneous lists. The finding about candidates with bad ratings is particularly interesting. If a voter likes a party but strongly dislikes some candidates on its list, under the closed list system, this voter might choose to abstain or vote for another party. When the lists are opened, the voter can now cross out politicians she does not like, which might induce her to cast a vote in favor of this initial list.

Proposition 2 has an interesting corollary in terms of information. Indeed, note that the level of information the voter has about the candidates on the lists is likely to affect the strength of voter preferences (i.e. the magnitude of the $|q_c^l|$). Remember that the q_c^l reflect the voters' subjective evaluation of the candidates. When a candidate is largely present in the media, or is well known to the voter because he/she has been in office for a long time, he/she is likely to generate strong views and feelings, either positive or negative, on the part of the voters. Opening the lists is likely to benefit lists composed of candidates about which voters are better informed, independently of their 'true' quality and of whether voters like them or not.

Proposition 2 states that opening the lists is likely to benefit heterogeneous parties (in the voters' eyes), with well-known candidates. Which are these parties in practice? In many contexts, these are likely to be the big, incumbent parties. First, bigger parties are likely to be more heterogeneous. Second, incumbent parties have more visible, better-known candidates. Indeed, candidates from the parties in power may enjoy more exposure in the media, either because they have been more active when in power or because they benefit from more campaign funds and relevant resources from their party.

In weak democracy contexts, where the incumbent parties are also often associated with the highest levels of perceived corruption, Proposition 2 implies

that these between-list effects of opening the lists are likely to benefit the most corrupt parties.

Remark 2: So far, we have considered the quality of the voters' information as fixed. Note that Formula (5) also yields interesting predictions regarding potential interactions between the electoral system and the arrival of new information. Depending on whether this new information increases or decreases the perceived heterogeneity of the candidates of the list, the interaction between the electoral system and new information can be positive or negative.¹⁴

Proposition 2, together with Proposition 1 about abstention, are the main novel predictions of the model. The next two sections describe in more details the political context in Paraguay and our experimental protocol. We then use our experimental setting to test these predictions.

4 The Paraguayan Context

4.1 The General Political Setting

Paraguay emerged from the longest-standing right-wing dictatorship in Latin America in 1989 (See Straub (2014) Straub, 2014, for an overview of the recent political history of Paraguay). It is a country with weak institutions, a very corrupt political class with large scale clientelism and widespread vote-buying at election time (Finan and Schechter (2012)). Public firms are the target of intense rent-seeking, for example in the case of the big dam Itaipú (See Straub (2015)). It has ranked consistently among the most corrupt countries in Latin America: in 2016 Paraguay ranked 123 out of 176 countries in Transparency International Corruption Index, and from 1998 - 2006 in the lowest 10 percent on Control of Corruption Indicators (WBGI).

Paraguay elects on national level a head of state - the president - and a legislature. The president is elected for a five-year term (universal suffrage). The National Congress (Congreso Nacional) has two chambers. The Chamber of Deputies (Cámara de Diputados) has 80 members, and the Chamber of Senators (Cámara de Senadores) has 45 members. All members of the Senate, which is the focus of this paper, are elected for a five-year term by closed party-list proportional representation, in a national circumscription.

¹⁴We formalize the predictions about the quality of information and its interaction with the heterogeneity of the lists in Appendix C.

Interestingly, there has been in recent years a discussion about opening the lists, in particular as a way to address corruption. Closed lists are referred to locally as “listas sábanas” (“blanket lists”, and are widely considered to favor corrupt candidates.¹⁵

Paraguay has long been characterized by a strong bipartism. The main party is Asociación Nacional Republicana (ANR), locally known as the Colorado (red) party. It has been in power since 1947, including the 35 years of the dictatorship of Alfredo Stroessner. The other historical party is the Partido Liberal Radical Auténtico (PLRA), known as the Liberal (blue) party. It has been the main opposition party for most of the period when the Colorado were in power. The only interruption in the ANR long-term incumbency was the 2008-2013 period. ANR was defeated in the 2008 presidential election by a coalition of opposition parties including the PLRA and social organizations led by a former Catholic bishop, Fernando Lugo. The Lugo government was removed through a constitutional coup in June 2012, when its former Liberal ally struck a deal with the Colorado representatives in Congress and grabbed the presidency. The Colorado party then won the 2013 presidential election and returned to power. In the 2013 election, the Colorado and Liberal parties together captured 71% of the seats in the Senate and 89% in the Chamber of deputies.

Besides these two main parties, the two other parties which won Senate seats in the 2013 election were the Frente Guasú (Concentración Nacional Frente Guasú - FG), led by former president Lugo, and Partido Democrático Progresista (PDP), with 5 and 3 seats respectively. These two smaller parties both run on more progressive, anti-corruption platforms.

Political life is generally characterized by a low degree of public involvement, with little knowledge of- and volatile trust in- political institutions.¹⁶ Interestingly, results from opinion polls and from our own survey (see Table 4 and related discussion below) show that the two main parties are perceived as equally corrupt. Nevertheless, voters’ identification to their party of choice is also quite strong, often across many family generations.

¹⁵See for example a compilation of news articles on the topic in the newspaper ABC: <http://www.abc.com.py/tag/listas-sabana-9228.html>, and the site of an association fighting for opening of lists: <https://asofueralistasabana.blogia.com/2014/101105-la-lucha-por-el-desbloqueo-de-listas-en-el-paraguay.php>.

¹⁶As shown in “Latinobarometro Informe Flash Paraguay 1995-2012” (2012), the belief that the government favors the common good went from 7 to 43% after left-wing candidate Fernando Lugo’s election in 2008, and back down to 18% in 2011.

4.2 The Bogado Scandal: “The Golden Nanny”

Our experimental design uses a corruption scandal involving the Congress that was elected in April 2013. Following the publication of information on public institutions payrolls in November 2013, a number of high-profile corruption scandals involving members of Congress erupted. Senators who had abused the public servant law to obtain numerous remunerations for their family and friends were exposed. Yet the Senate refused to lift the parliamentary immunity to allow for the judicial investigation of one of its members called Victor Bogado (Colorado) by a short margin (23 Senators out of 45 voted against lifting Bogado’s immunity).¹⁷ The case, known as “niñera de oro” (“Golden Nanny”), involved Bogado’s “nanny”, who had two simultaneous very well-paid full time jobs, in Congress and in the State company Itaipú. Contrasting with the usual apathy of Paraguayan citizens, these facts spurred an unusually strong public outburst of indignation, both in social networks and in the street. A striking and unprecedented reaction was that numerous shops in capital city Asunción posted signs saying that the 23 senators who voted against lifting immunity were not welcome there. This eventually led the Senate to revert its decision.

A noteworthy feature is that this scandal involved in quite similar terms the two main political parties, the governing Colorado party (ANR) and the main opposition liberal party (PLRA), as senators from both of them voted to protect their colleague (excluding Bogado himself, 13 were from the ANR¹⁸ and 9 from the PLRA). In that sense, the impact is unlikely to be the simple expression of one-sided political preferences.¹⁹

5 Experimental Design

Our survey was run during the Spring of 2015, that is, two years after the elections that took the Colorado party back to power, and one year after the Bogado scandal (See Figure 1).

¹⁷See Figures A4 and A5 for lists of all Senate members and of those who voted to protect Bogado, respectively.

¹⁸From them two later left the party and were listed as independent at the time of our experiment

¹⁹The legal aspects of the Bogado scandal are still unresolved as of 2019, Bogado was reelected in the 2018 Senate election, and given the weakness of the Paraguayan judiciary, it is likely to go on for a few more years.

5.1 Description of the Protocol

The voting experiment consisted of:

1. A randomized “scandal reminder” treatment about the Bogado scandal (randomization at the respondent level), followed by:
2. Two hypothetical Senatorial elections, where all the respondents were asked to vote under two alternative voting systems: closed-list system (the prevailing one in Paraguay) and open-list system.

The two hypothetical elections

Regarding the hypothetical elections, respondents were asked to take part into two straw votes to elect their senators. We used the lists of candidates who actually run in the 2013 election.²⁰ In the closed-list election, voters could choose one of the lists or abstain. In the open-list election, they could similarly choose one of the lists (or abstain), and had the added option of crossing out one or more names on that list. To respect the secrecy of the votes, respondents were invited to move away from the interviewer while they were filling in the ballots. Once they had completed the two ballots, they put them inside sealed envelopes and handed them back to the interviewer.²¹ Appendix A presents the experimental materials and protocol.

The “scandal reminder” treatment

As for the “scandal reminder” treatment, before the hypothetical elections took place, we presented all respondents with a 3 pages-long news booklet. The first two pages were common for all participants: the first page was about a young Paraguayan player being recruited by the top European soccer team FC Barcelona and the second one was about ‘7 Cajas’, a Paraguayan movie which obtained international recognition. Information was randomized at the third page. The control group was presented with the pictures and names of all the Senators elected in the 2013 election. We had two treatments containing different

²⁰In the 2013 Senate election, there were 22 lists of 45 names each. To avoid too long ballot forms, we restricted the choice set to the four main lists (Colorado, Liberal, Frente Guasú (FG), PDP), and to the 20 first candidates in each list. All the candidates actually elected in 2013 were on our experimental lists.

²¹Closed lists was the voting system presented first to the individuals, given that it is the current system in Paraguay and hence is well known to the participants. Even if raising usual ordering effect concerns, we believe that this order helped a population not familiar with abstract thinking to ground the voting idea for the posterior explanation of the open list system.

reminders about the corruption scandal involving Senator Bogado. Treatment 1 - Treatment Corruption - was a simple reminder of the fact that 23 senators voted against removing impunity, and hence tried to stop the judicial trial against Bogado. The names and pictures of these senators were given. Treatment 2 - Treatment Corruption Social -, together with the pictures of the 23 senators, highlighted the social punishment this scandal generated, in the form of these senators not being allowed into some public places or businesses. (See Appendix A for a copy of the news booklets)

5.2 Field Setting

A pilot involving the authors and the team of enumerators was conducted in March 2015. The final survey was implemented between April and June 2015 in two areas of Paraguay: the capital Asunción and the rural area of Caaguazú (See Figure 2). The final database includes 1,547 individuals in Asunción, and 1,094 in Caaguazú. Table B1 presents the comparison of our sample with the 2015 National Household surveys, for the two regions separately, showing that the subsamples are reasonably representative at the regional level. Table B2 shows that respondents in the rural area of Caaguazú are significantly poorer, less educated, and more likely to speak mostly Guaraní, the local indigenous language.

The randomization of the information treatment was done in the office by computer.²² In each area, we selected neighborhoods and streets, and enumerators walked in every other house and applied the corresponding questionnaire(s), with either the control, treatment 1, or treatment 2 news booklets. Table 1 shows that our sample is well balanced across treatments.

5.3 Sample Descriptive Statistics

Before turning to the experimental results, it is useful to summarize a few of our survey outcomes on the political environment of Paraguayan households. Note that to avoid priming respondents about political facts or beliefs prior to the experiment, the questions we report about in this subsection were asked after

²²More specifically, the study was randomized at two levels. First, information treatments were randomized at the household level. Second, there was randomization of the treatment within couples, whenever the spouse of the main respondent was present and accepted to take part in the survey. Overall, we have 446 households (18%) for which survey answers and voting results of both members are available.

the information was provided and the experimental votes were performed. We therefore present here our main statistics separately for control and treatments groups.

First, our sample illustrates the strong party connections mentioned when describing the Paraguayan context in Section 4. As shown in Table 2, 85% of individuals in our sample are affiliated to one of the two main political party (65% to the ANR, and 20% to the PLRA). Of these, about half declare feeling identified to their party. Affiliation and identification for the other parties included here (FG and PDP) is almost non-existent, at 1% and 3% respectively. Note that almost half the respondents mention ‘party family tradition’ as an important factor explaining how they choose to vote.

Second, Table 3 presents striking statistics on corruption. When asked whether they have heard about corruption in the country in the last year, 89% of respondents respond positively (independently of the treatment); 20% declare having personally suffered from it at least once, in most cases from either the police of the justice system. As a result, they have very low regard for most of their institutions. Between 80 and 90% of the individuals surveyed consider the politicians, the justice, and the police to be quite or very corrupt. Other institutions such as the army, the media, and the Catholic church do not fare well either. Regarding specific political parties, note that above 85% of the respondents perceive the Colorado and the Liberal parties as quite or very corrupt. The percentage is lower (but still quite high around 70%) for the smaller parties FG and PDP.

Third, despite these very negative assessments, corruption does not seem to deter voters from traditional parties from supporting them: 82% of respondent who voted for the ANR in the 2013 presidential election consider it to be quite, or very corrupt (Table 4). The equivalent number is 84% for the PLRA, while it decreases to 46% and 25% respectively for the FG and the PDP.

6 Results

The main predictions of our model pertain to the between-list effects of electoral systems. Proposition 2 states that opening the lists should benefit the lists of big heterogeneous parties with candidates over which voters have strong preferences, while hurting small parties and reducing abstention (Proposition 1). In the Paraguayan context, the big traditional parties are the Colorado and the Liberal. Other parties are significantly smaller and have a relatively short trajectory,

meaning that except for their leaders, their candidates are generally not known by the public.

Regarding the interactions between the electoral system and the information treatments, Remark 2 noted that the model predicts the sign of the interaction to be ambiguous, depending on how the treatments affect the intensity of voters' preferences for individual candidates on the different lists.

In the first part of this results section, we take these predictions to our experimental data. We find strong support for our main between-parties predictions: whatever the information treatment, opening the lists favor big corrupt parties - and the Colorado incumbent party in particular.

In the second part of this results section we focus on within-parties candidates heterogeneity. We use our experimental data to assess in the Paraguayan context the validity of the implicit assumption in favor of open-list systems according to which voters dislike corrupt politicians. According to this argument, in contexts in which electoral institutions allow voters to individually punish corrupt politicians, the lack of information would be the main obstacle preventing voters to exert control. Moving to candidate-level votes in the open-list system, we analyze the determinants of voters' preferences. We show that this hypothesis is not supported in our data, at least for the supporters of the incumbent party. Information treatments have very little effects, and voters tend to vote more for more corrupt candidates.

6.1 Between-Parties Vote Decisions

Our main outcome of interest is how the choice among the four alternative political parties and the abstention is influenced by the opening of lists. In Figure 3 we present the percentage of respondents voting for the Colorado party (ANR), the Liberal party (PLRA), the two smaller parties (FG and PDP) grouped together, and abstaining, for the control group under each system.

Consistently with Propositions 1 and 2, large parties obtain significantly more votes under the open-list system, while small parties get less votes, and less respondents chose to abstain.

To analyze in more detail how vote decisions between parties vary with the electoral system and the provision of information, we estimate a general specification of the form:

$$y_{is} = \alpha + \beta \text{System}^{Open} + (\text{System}^{Open} * T_i^j)' \gamma + \theta_i + u_{is} \quad (6)$$

where y_{is} denotes individual i vote decision under system $s = \{closed; open\}$, i.e. the individual choice about the party for which to vote (the two smaller parties FG and PDP are grouped together), or whether to abstain.²³ System^{Open} is a dummy variable that takes value one for the choices under the open list system, and T_i^j is a vector of dummy variables for the different informational treatments $j = \{T^1; T^2\}$ (with T^1 being the simple Treatment Corruption, and T^2 the Treatment Corruption Social). All specifications include voter fixed effects θ_i .

Panel A in Table 5 presents the results from estimating Equation (6). The estimations confirm that in the control group, there is a significant positive effect of the open-list system on votes for the incumbent (Colorado party) and the main challenger (Liberal party). The Colorado party gets an additional 6.5 pp. in votes, a 13% increase, while the liberal party gets an additional 2.5 pp. votes, a 18% increase. On the other hand, small parties loose 6.6 pp., a 28% decrease, and abstention decreases by 2.3 pp., a 18% decrease, although this last change is not significant.

Clearly, open lists favors large parties, by triggering a transfer of votes from small parties and from previously abstaining voters. Interestingly, this is true despite the fact that the vast majority of voters perceive these parties to be corrupt, as mentioned above (see Table 4).

Finally, interaction effects between the open list system and the treatments reveal how the effects above are affected by the provision of information on candidates involved in the Bogado scandal. For the Colorado party, there is an additional vote-increasing effect of the two treatments, amounting to between one fifth and one third of the basic open-list effect in the control group, although it is not statistically significant.²⁴

For the Liberal party, there is a vote-reducing effect of the treatment Corruption in the open system, while for small parties there is negative effect of the treatment Corruption Social, which roughly corresponds to the transfer of votes to the Colorado party.

In Appendix B, Tables B5 to B8 provide some heterogeneity checks by interacting the system and the treatment variables with the following voters' characteristics: age, region, main language spoken, and education. These results,

²³Abstention decisions are treated as an option in its own right. Alternative specifications in which abstention is treated as missing and the sample is restricted to votes for one of the parties are shown Table B3 in Appendix B. Results about increasing support for the largest parties are very similar.

²⁴Note that these effects become marginally significant when the sample is restricted to votes for one of the parties (and abstention is treated as missing); see Table B3 in the Appendix.

which should be considered as suggestive, indicate that the between-list effect favoring big lists is consistently stronger among younger, capital-city based, more educated, Spanish- rather than Guaraní-speakers. The more striking results are those related to education and language, which show that there is almost no effect of opening the lists among the less educated and non-Spanish speaking population, a finding that may point to cognitive barriers when it comes to dealing with an new electoral system.

When focusing on the predictions of the model regarding both the direct impact of the electoral system, and its interactions with the two treatments, we favor within voter specification (6) that allows us to control for any unobserved voter characteristics. However, note that this specification does not allow for the estimation of the direct effect of the treatments T_i^j , as the treatment status does not vary within individuals. To that purpose, we also estimate an alternative specification replacing voter fixed effects with a vector of individual socioeconomic and location controls X_i :

$$y_{is} = \alpha + \beta \text{System}^{Open} + (\text{System}^{Open} * T_i^j)' \gamma + T_i^j \lambda + X_i' \delta + u_{is} \quad (7)$$

These controls include marital status, language spoken (Spanish, Spanish and Guaraní, Guaraní only), gender, a dwelling index, a household goods index, age, and education.²⁵ All specifications include also interviewer and region fixed effects.

Panel B in Table 5 presents the results from estimating equation (7). Note first that results about the direct effect of the electoral system and its interactions with information treatments are very similar to those reported in Panel A. Now, regarding the direct effect of the two treatments under the closed-list system, Panel B shows a very small direct effect of the information treatments. Apart from some negative impact on votes for the Liberal party and some positive impact for small parties of the treatment Corruption Social, no significant changes in voting behavior for the main parties is generated by the reminders of the Bogado scandal under the closed-list system. We come back below, when analyzing the within-list effect of opening lists, to the interpretation of this null result.

²⁵In Appendix B, we provide results from a multinomial logit (Table B4). The results are robust to this alternative specification.

6.2 Within-List Vote Decisions

We turn now to the analysis of within-parties vote decisions in the context of the open list system, in order to understand better voters' motivations. Contrary to the hypothesis that voters punish corrupt candidates if afforded the opportunity, we find that here they tend to vote more for more corrupt candidates, at least in the case of the supporters of the incumbent party. In addition, information treatments appear to have very little effect.

To understand preferences for candidates' characteristics, and in particular whether voters cross corrupt politicians more, we use that fact that in the open-list system, voters have the opportunity to cross the candidates they do not like. On average, colorado voters crossed 2.59 candidates (std. 2.41) and liberal voters crossed 2.67 candidates (std. 2.27). Table B10 in the Appendix shows the number of crosses received by each candidate, by treatment status of the voters. We see in this Table that there are two outliers: Bogado (candidate 117) was crossed by more than half of the voters of the Colorado party in the Open list system, and that Juan Carlos Galaverna (candidate 111), who had been at an scandal for personal reasons on the months before the experiment took place, was crossed by 70 percent of the voters. These shares are not statistically different across control and treatments. On the Liberal party is it interesting to observe that candidates that had not been elected (starting with candidate 211) receive significantly less crosses than the candidates that have occupied public office and are hence identifiable by the voters. For the smaller parties, the number of crosses is smaller (1.98 and 2.1 respectively).

In addition, to elicit more precisely voters' preferences, we collect detailed information on the two main parties candidates' characteristics. These include gender, seniority in congress, whether they were elected in 2013, conditional on being elected whether it was the first time, and their rank on the list. Regarding specifically public exposure and corruption, we collect a set of measures of how well-known they are, and of the extent to which they are tied to corruption in the media as of the end of 2015. These include the number of Google mentions of their name, the number of Google mentions of their name together with the word 'corruption', the number of mentions of their name, and of their name with the word 'corruption', in two main local newspapers (ABC Color, and Ultima Hora), and whether they are present on Facebook and on Twitter. Candidate-level variables are summarized in table B9 in the Appendix. Candidates have

been in the Senate for 8 years on average. Only 15 percent of the incumbent party candidates are women, against 31 percent for the Liberal party. Finally, there is large variation in the public profile of candidates. While a large majority is active on facebook, and about half of them on Twitter, some are very visible on media and online, while other are completely absent

Our first outcome of interest is whether a given candidate got crossed more often when he had been exposed by the information treatments. We run the following specification:

$$Cross_{ij} = \alpha + (Exposed_j * T_i^j)' \delta + (Y_j^{Corr} * T_i^j)' \rho + \theta_i + \theta_j + u_{ij} \quad (8)$$

where $Cross_{ij}$ takes value 1 when voter i crosses candidate j and 0 otherwise, $Exposed_j$ is a dummy for candidates exposed in the experiment, i.e., those pertaining to the senators who voted to protect Bogado, Y_j^{Corr} are candidates' corruption mentions in the media defined below, and T_i^j are information treatments as above.

Given the inclusion of both voters and candidates fixed effects, θ_i and θ_j , the first interaction, $Exposed_c * T_i^j$, captures, within-voters and within-candidates, whether information treatments lead voters to cross exposed candidates more than non-exposed ones.

This allows us to test a more general effect of the treatments in making corruption more salient, through the second interaction $Y_c^{Corr} * T_i^j$, where Y_c^{Corr} are candidates' corruption mentions in the media.

The results from estimating equation (8) on the subset of voters who voted respectively for the Colorado and the Liberal party, are in Table 6, panels A and B. In panel A, column 1, we find no effect of exposing Colorado candidates through the treatments on the likelihood that voters cross their names. In columns 2 to 4, this null effect extends to the possibility of the treatments making corrupt behavior more salient. In panel B, column 1 also shows the absence of treatment effect for voters of the Liberal party in the open system. In columns 2 and 4, however, there is some support for the treatments making corruption more salient and leading voters to cross candidates with more mentions of corruption more often.

These results rule out an effect of the treatments, and are broadly consis-

tent with voters having good previous knowledge of candidates' quality.²⁶ In support of this claim, data collected in our survey shows that Paraguayans are well informed: 86% declare following the news on a daily basis, mostly through television. Regarding politics, an overwhelming majority of the respondents to our survey were aware of the facts presented to them, even though these were at least one year old at that point: 89% of the control group was well aware of the previous Senate election outcome, and 88% of those in the Corruption treatment and 91% in the Corruption Social treatment had heard about the news they were showed (Table B11 in the Appendix).

Note that results presented in Table 6 do not, however, allow us to observe basic determinants of voters' crossing behavior, which would hold across all candidates. To get a more general sense of voters' motivation, we run the following specification:

$$Cross_{ij} = \alpha + (X_j)' \delta + (Y_j^{Corr})' \rho + \theta_i + u_{ij} \quad (9)$$

where compared to specification (8) we have removed candidates' fixed effects to be able to evaluate the direct impact of the characteristics X_j described above on the likelihood of voters crossing specific candidates. We are particularly interested in the results for the corruption proxies Y_j^{Corr} measured through the number of mentions in the media and internet.²⁷

The results are in Table 7, panel A, for the Colorado party. We present specifications including the absolute number of media mentions, as well as the number of mentions of the name of the candidates in association with corruption. In column 1, the media is internet (Google mentions), while in columns 2 and 3, we use the two local newspapers, and in column 4 we use an index of these two newspapers to address the fact that they may have different focus or ideological orientation.

In addition, all specifications include the following candidates' characteristics: their rank on the list, gender, experience in Congress, whether they were newly elected in 2013, a dummy variable capturing whether they were exposed in the experiment (the '23'), and dummy variables for their social media presence on Facebook and Twitter. Finally, we control for the two outliers mentioned before, Bogado and Galaverna.

²⁶This is further supported by the fact that crosses of Victor Bogado himself do not increase with the treatments.

²⁷All variables are standardized z-scores.

Most variables produce consistent results regardless of the type of media used in the specifications. Candidates ranked higher in the list, and those having more experience in the Senate, are crossed more often. Candidates with a social media presence are also crossed more. It is also noteworthy that Colorado voters appear to cross more women candidates.

Regarding general media mentions, we find in column 1 that candidates with more frequent Google mentions are crossed more often, while the contrary holds in columns 2 to 4 for newspaper mentions. It is likely that Google mentions, which are much more frequent, capture a more general exposure effect similar to the other variables described above, while local newspapers have a very strong focus on corruption cases.

The main effect that stands out is that overall Colorado voters cross corrupt candidates *less* (controlling for the general degree of exposure), as shown by the consistently negative and significant coefficients of both the ‘Name + corruption’ and the ‘Exposed’ variables. These results are robust to varying the type of media (Google, local newspapers) and to controlling for the range of candidates attributes and outliers.²⁸

The results for the Liberal party, on the other hand, are very different, as shown in panel B of Table 7. Voters consistently cross corrupt candidates more, as shown by the positive sign of the ‘Name + corruption’ and the ‘Exposed’ variables. In addition, the gender effect mostly disappears, and the exposure effect is less robust.

Finally, these within-list results on voters’ preferences may help inform the between-list effect of opening lists. Specifically, the fact that the treatments generate an additional positive effect under the open list system on votes expressed in favor of the Colorado party, but a negative one on votes for the Liberal party could be related to the specific divergent preferences of these two groups. As Colorado voters are less likely to cross corrupt candidates in general, reminders of the scandal may have increased the values they attach to individual candidates on their party list, while for Liberal voters, these values are instead decreased.

²⁸Additional controls for the first, second, and last positions on the list have no specific effect.

7 Conclusions

The standard argument for opening the lists in proportional systems is that it is generally desirable to give voters more “control”, by designing institutions allowing them to punish individual politicians. When electoral institutions formally give them this opportunity, the literature points to information as the main obstacle to exercising this formal control.

In this paper, we develop a formal model and design a field experiment to assess these hypotheses. Our model unveils a so far neglected adversarial effect of the opening of lists. It highlights that it is likely to favor incumbent corrupt parties, by enhancing the value of their list regardless of the absolute quality of the candidates themselves. Our experimental data largely support these new predictions.

In addition, we question the usual assumption according to which voters would punish corrupt candidates if informed of their behavior and/or afforded the ability to do so by the electoral system. While we find that this may hold for the main opposition party voters, it clearly fails to do so for supporters of the incumbent party, who appear to “like” corrupt politicians and are not affected by informational treatments.

Our experimental results are supported by the outcome of the 2018 election, which took place at the time of completing this paper. Together, the Colorado and the Liberal party obtained 31 of the 45 Senate seats. Among the “23” Senators that had been involved in the Bogado scandal, 16 were running for reelection, 10 for the Colorado party and 6 for the Liberal party. Of these, 9 were reelected, 7 Colorados and 2 Liberals. The reelection rates of exposed candidates (70 percent for Colorados vs. 33 percent for Liberals) are consistent with the former having a “preference” for corruption. Moreover, two Senators from the Colorado party, who belonged to the “23” and had been dismissed or forced to resign a few months before the election following public scandals, were successfully reelected.

The revealed preference of voters of the incumbent party for corrupt candidates means that the increase in votes received by this party is compounded by a reshuffling of candidates within the list in favor of the most corrupt ones. Together, these effects cast a negative light on open-list systems as a tool against corruption.

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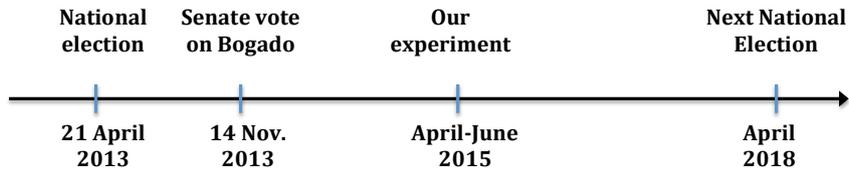


Figure 1: Timing

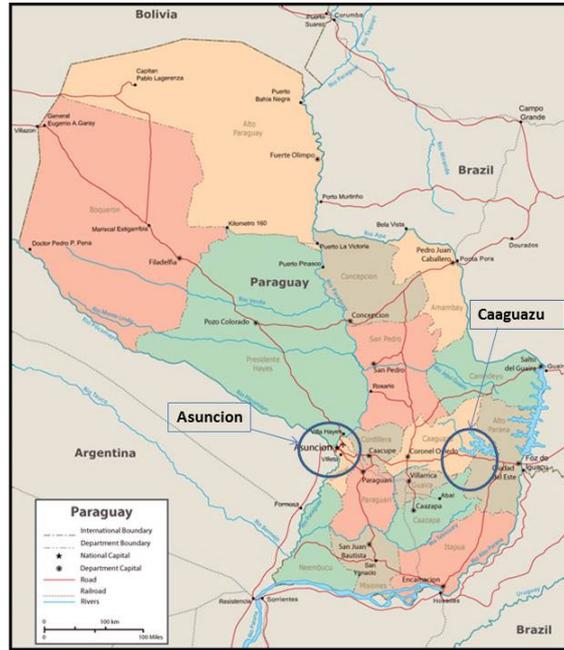


Figure 2: Map of the experimental regions.

Table 1: Comparison of treatment and control samples

Panel A: Individual characteristics													
	Control			Information Corruption			Information Corruption + Social			Comparison C-TC		Comparison C-TCS	
	#Obs	Mean	Sd	#Obs	Mean	Sd	#Obs	Mean	Sd	P-value	Difference	P-value	Difference
<i>Gender</i>	1306	0,636	0,481	674	0,642	0,480	661	0,648	0,478	0,788	0,006	0,625	0,011
<i>Age</i>	1306	47,179	16,816	674	47,156	16,613	661	47,339	15,874	0,977	-0,023	0,839	0,160
17-35 years old	1306	0,311	0,463	674	0,295	0,456	661	0,281	0,450	0,475	-0,016	0,178	-0,029
36-50 years old	1306	0,277	0,448	674	0,297	0,457	661	0,290	0,454	0,361	0,020	0,536	0,013
51-65 years old	1306	0,243	0,429	674	0,239	0,427	661	0,280	0,449	0,820	-0,005	0,081	0,036
More than 66 years old	1306	0,168	0,374	674	0,169	0,375	661	0,148	0,356	0,969	0,001	0,251	-0,020
<i>Marital Status</i>													
Single	1306	0,163	0,370	674	0,169	0,375	661	0,156	0,363	0,732	0,006	0,679	-0,007
Married	1306	0,404	0,491	674	0,417	0,493	661	0,424	0,495	0,588	0,013	0,411	0,019
Widow	1306	0,083	0,276	674	0,077	0,267	661	0,080	0,272	0,668	-0,006	0,848	-0,003
Separated	1306	0,077	0,267	674	0,085	0,278	661	0,092	0,290	0,574	0,007	0,255	0,015
Union	1306	0,273	0,445	674	0,252	0,435	661	0,248	0,432	0,331	-0,020	0,245	-0,024
<i>Language</i>													
Guarani	1306	0,240	0,427	674	0,218	0,413	661	0,248	0,432	0,282	-0,022	0,680	0,008
Guarani & Spanish	1306	0,630	0,483	674	0,623	0,485	661	0,601	0,490	0,759	-0,007	0,202	-0,030
Spanish	1306	0,130	0,337	674	0,159	0,366	661	0,151	0,359	0,082	0,029	0,199	0,021
<i>Residence</i>	1306	0,858	0,350	674	0,853	0,354	661	0,858	0,350	0,789	-0,004	0,990	0,000
<i>Education</i>													
Primary School	1306	0,504	0,500	674	0,491	0,500	661	0,508	0,500	0,592	-0,013	0,851	0,004
Basic Education	1306	0,167	0,373	674	0,191	0,394	661	0,192	0,394	0,175	0,024	0,165	0,025
Middle Education	1306	0,237	0,425	674	0,217	0,412	661	0,204	0,403	0,317	-0,020	0,105	-0,032
University	1306	0,093	0,290	674	0,101	0,301	661	0,095	0,294	0,555	0,008	0,848	0,003
<i>Vote in 2013</i>	1306	0,936	0,244	674	0,921	0,269	661	0,938	0,241	0,209	-0,015	0,895	0,002
<i>Perception of Democracy</i>	1306	0,155	0,362	674	0,160	0,367	661	0,127	0,333	0,781	0,005	0,093	-0,028

Panel B: Household characteristics

	Control			Information Corruption			Information Corruption + Social			Comparison C-TC		Comparison C-TCS	
	#Obs	Mean	Sd	#Obs	Mean	Sd	#Obs	Mean	Sd	P-value	Difference	P-value	Difference
<i>HH Property Rights</i>	1306	0,847	0,360	674	0,856	0,351	661	0,812	0,391	0,586	0,009	0,052	-0,034
<i>Land Property Rights</i>	1306	0,074	0,262	674	0,080	0,272	661	0,080	0,272	0,643	0,006	0,641	0,006
<i>HH Size</i>	1306	4,502	2,310	674	4,531	2,349	661	4,513	2,308	0,788	0,030	0,918	0,011
<i>Dwelling Index</i>	1306	0,010	1,806	674	-0,023	1,746	661	-0,037	1,802	0,694	-0,033	0,585	-0,047
<i>HH Goods Index</i>	1306	-0,041	2,164	674	0,075	2,122	661	-0,035	2,146	0,255	0,116	0,953	0,006

The variable Gender is a dummy that values 1 when the person is a woman. The variable Residence is also a dummy and values 1 if the person resides in the same locality since at least 5 years. Education refers to the highest grade reached. The variable "Vote in 2013" is a dummy that values 1 if the person voted in 2013. "Perception of democracy" values 1 if the person thinks democracy functions good or very good in Paraguay. Regarding HH characteristics, the variable "HH Property Rights" is a dummy that values 1 if the person has the ownership of the place he/she lives, "Land Property Rights" is a dummy that values 1 if the person has the ownership of other asset such as land. "HH Size" refers to the total number of members in the household. "Dwelling Index" is an index about the physical conditions of the household, it is done using the Principal Components Analysis (PCA) taking into account the following variables: type of house, ceiling of the house, floor, wall, access to water, bathroom type of drain, kitchen type of drain, access to electricity. "HH Goods Index" is a household asset index and it is done using PCA taking into account if the house has: radio, TV, fridge, kitchen, laundry, video/DVD, boiler, air conditioning, cable TV, cellphone, PC/laptop, microwave, electric oven, car/van, truck, motorbike, bike. The p-values presented are from the mean difference tests between C (Control), TC (Corruption) and TCS (Corruption and social punishment) treatments.

Table 2: Links to political parties

	Control	Information Corruption	Information Corruption + Social	C-TC	P-value C-TCS	TC-TCS
Affiliated Colorado -ANR	65 %	66 %	66 %	0.4655	0.5156	0.9491
Affiliated Liberal - PLRA	21 %	20 %	20 %	0.6449	0.5673	0.9194
Affiliated Small Parties	1 %	1 %	1 %	0.2880	0.4994	0.7163
Total affiliated to a party	86 %	86 %	86 %	0.8582	0.9644	0.9078
Identified with Colorado - ANR	32 %	29 %	31 %	0.2172	0.4917	0.6367
Identified with Liberal - PLRA	12 %	10 %	9 %	0.1642	0.0768	0.7261
Identified with Small Parties	3 %	4 %	3 %	0.6860	0.9629	0.6981
Total identified with a party	47 %	43 %	43 %	0.0606	0.0774	0.9317
Contributed with money to the party:	4 %	3 %	4 %	0.2075	0.8427	0.1966
Important factors to vote for a candidate						
Party Family tradition	47 %	48 %	46 %	0.6128	0.7637	0.4837
Will improve health system	90 %	91 %	90 %	0.7133	0.7807	0.5744
Will improve schools	91 %	92 %	91 %	0.6331	0.7582	0.4944
Will give me a job	60 %	59 %	57 %	0.7254	0.1998	0.4173
Will give money if vote for him	7 %	8 %	5 %	0.1378	0.3504	0.0376
Will improve job opportunities	90 %	90 %	89 %	0.7235	0.6312	0.4692
Is religious	44 %	44 %	46 %	0.8095	0.5039	0.4289
Vote in 2013 presidential election						
Voted Colorado - ANR in 2013	59%	60%	59%	0.6277	0.8831	0.7702
Voted Liberal - PLRA in 2013	19%	18%	20%	0.6613	0.6286	0.4231
Voted FG or PDP in 2013	4%	6%	5%	0.1890	0.5826	0.5212

The p-values presented are from the mean difference tests between C (Control), TC (Corruption) and TCS (Corruption and social punishment) treatments. The panel "Important factors to vote for a candidate" is measured in a scale of 1 "not important" to 4 "very important". In terms of percentage, this variable takes the value 1 when the individual choose 3 or 4 and zero, otherwise.

Table 3: Corruption

	Control	Information Corruption	Information Corruption + Social	C-TC	P-value C-TCS	TC-TCS
Heard about corruption:						
Heard about corruption case: Which type?	89 %	88 %	88 %	0.2251	0.3828	0.7756
National level politicians	87 %	86 %	87 %	0.3885	0.7068	0.6782
Municipal/ local politicians	83 %	82 %	83 %	0.3199	0.7240	0.5831
Police	83 %	84 %	82 %	0.9682	0.5167	0.5503
Justice	82 %	78 %	79 %	0.0366	0.2590	0.4165
Health services	71 %	67 %	70 %	0.1290	0.7730	0.2903
Civil registry	42 %	37 %	39 %	0.0498	0.3560	0.3689
Corruption or electoral fraud	73 %	70 %	69 %	0.2312	0.0606	0.5536
Suffered personally the event:	20 %	20 %	17 %	0.8892	0.1138	0.1305
Votes and political corruption						
Politicians in general	91 %	91 %	92 %	0.9485	0.5257	0.5407
Justice	88 %	87 %	88 %	0.7090	0.6232	0.4527
Police	89 %	88 %	87 %	0.3599	0.1898	0.7330
Journalists	18 %	20 %	16 %	0.4520	0.1893	0.0716
Army	46 %	46 %	44 %	0.9416	0.3785	0.4832
Media owners	37 %	38 %	35 %	0.8322	0.3841	0.3464
Catholic Church	27 %	25 %	28 %	0.6034	0.4935	0.2958
Politicians in Government	92 %	90 %	92 %	0.2890	0.9429	0.3320
Politicians in Municipality	88 %	88 %	89 %	0.8470	0.7216	0.6327
<i>On political parties:</i>						
Colorado -ANR	86 %	83 %	85 %	0.1098	0.9383	0.1934
Liberal - PLRA	88 %	87 %	87 %	0.3904	0.4452	0.9369
Frente Guasú - FG	70 %	67 %	66 %	0.2969	0.0946	0.5843
PDP	69 %	66 %	64 %	0.2123	0.0469	0.5209

The p-values presented are from the mean difference tests between C (Control), TC (Corruption) and TCS (Corruption and social punishment) treatments. The panel "Perception about corruption" is measured in a scale of 1 "no corrupt" to 4 "very corrupt". In terms of percentage, this variable takes the value 1 when the individual choose 3 or 4 and zero, otherwise. For the case of the panel "Important factors to vote for a candidate" is measured in a scale of 1 "not important" to 4 "very important". In terms of percentage, this variable takes the value 1 when the individual choose 3 or 4 and zero, otherwise.

Table 4: Perception on political corruption

		ANR	PLRA	FG	PDP
		(1)	(2)	(3)	(4)
Vote 2013	ANR	82%	90%	76%	73%
	PLRA	94%	84%	64%	64%
	FG	96%	96%	46%	53%
	PDP	77%	92%	58%	25%
Total number of votes		1545	467	154	13

The variable *Vote 2013* refers to the vote in the last Presidential election in this year as stated by respondents. The Perception of corruption is measured in a scale of 1 "not corrupt" to 4 "very corrupt". To translate in percentages, this variable takes the value one when the individual choose 3 or 4 and zero otherwise. The variable Total number of votes presents the votes per party during the presidential elections of 2013.

Table 5: **Between-Parties Vote Decisions**

Panel A: Voter fixed effects				
	Colorado	Liberal	Small parties	Abstention
	(1)	(2)	(3)	(4)
Open system	0.0648*** (0.011)	0.0250*** (0.007)	-0.0664*** (0.009)	-0.0234*** (0.009)
System*TC	0.0208 (0.018)	-0.0326*** (0.012)	-0.0085 (0.016)	0.0204 (0.015)
System*TCS	0.0146 (0.018)	0.0062 (0.013)	-0.0286* (0.016)	0.0079 (0.015)
Constant	0.4923*** (0.005)	0.1411*** (0.004)	0.2352*** (0.005)	0.1314*** (0.004)
Observations	5,185	5,185	5,185	5,185
Number of voters	2,609	2,609	2,609	2,609
R-squared	0.038	0.008	0.050	0.003
Panel B: Voter individual controls				
	Colorado	Liberal	Small parties	Abstention
	(5)	(6)	(7)	(8)
Open system	0.0655*** (0.019)	0.0247* (0.014)	-0.0675*** (0.015)	-0.0227* (0.012)
TC	0.0027 (0.023)	-0.0000 (0.017)	0.0139 (0.019)	-0.0166 (0.015)
TCS	-0.0046 (0.023)	-0.0300* (0.017)	0.0282+ (0.019)	0.0065 (0.015)
System*TC	0.0213 (0.033)	-0.0357+ (0.024)	-0.0063 (0.026)	0.0207 (0.021)
System*TCS	0.0173 (0.033)	0.0035 (0.024)	-0.0239 (0.026)	0.0031 (0.022)
Constant	0.4951*** (0.025)	0.1641*** (0.018)	0.2300*** (0.020)	0.1108*** (0.016)
Observations	5,185	5,185	5,185	5,185
Number of voters	2,609	2,609	2,609	2,609
R-squared	0.066	0.017	0.053	0.084

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, + p<0.15. Individual controls included: Married, Guaraní speaker, gender, dwelling index, household goods index, age and education. The variables TC (Corruption) and TCS (Corruption and social punishment) correspond to the treatments. The specifications in Panel B include Interviewer fixed effects.

Table 6: **Within-list Vote decisions: treatment effects**

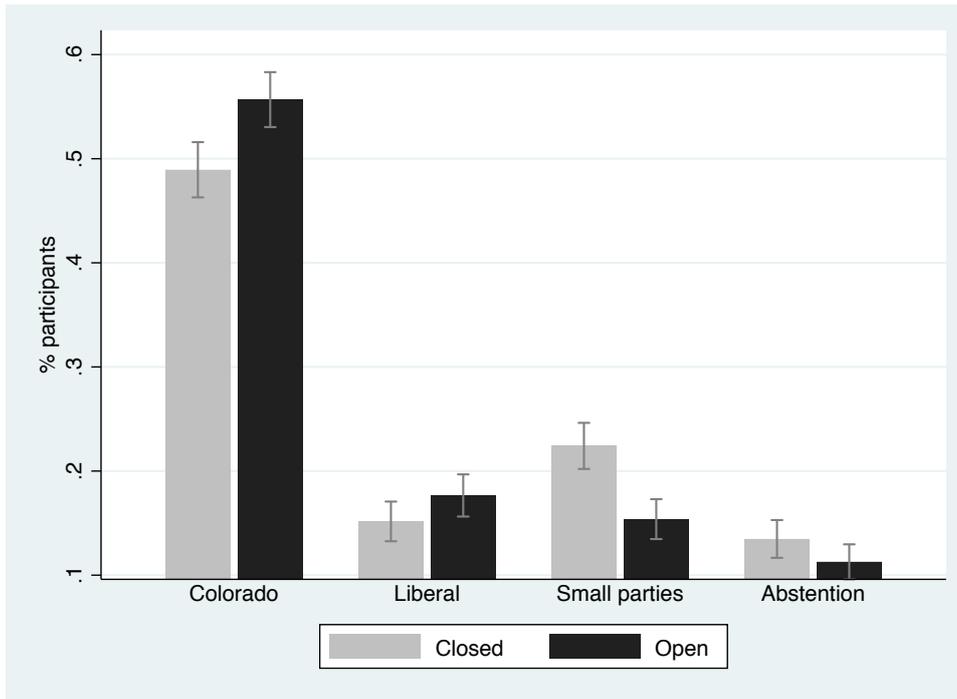
Panel A: Colorado					
	Google	ABC	UH	Media index	
	(1)	(2)	(3)	(4)	(5)
Exposed*TC	0.0133 (0.010)	0.0173 (0.012)	0.0110 (0.012)	0.0140 (0.010)	0.0122 (0.011)
Exposed*TCS	0.0132 (0.010)	0.0125 (0.012)	0.0110 (0.011)	0.0117 (0.010)	0.0112 (0.011)
(Name)*TC		0.0056 (0.008)	-0.0029 (0.005)	-0.0028 (0.005)	-0.0039 (0.006)
(Name)*TCS		-0.0051 (0.008)	0.0005 (0.004)	-0.0013 (0.005)	-0.0006 (0.006)
(Name+Corruption)*TC		-0.0063 (0.008)	-0.0015 (0.019)	0.0015 (0.005)	0.0012 (0.008)
(Name+Corruption)*TCS		0.0026 (0.008)	-0.0119 (0.019)	-0.0016 (0.005)	-0.0034 (0.008)
Observations	31,060	31,060	31,060	31,060	31,060
R-squared	0.302	0.302	0.302	0.302	0.302
Number of voters	1553	1553	1553	1553	1553
Number of candidates	20	20	20	20	20
Panel B: Liberal					
	Google	ABC	UH	Media index	
	(6)	(7)	(8)	(9)	(10)
Exposed*TC	0.0098 (0.023)	0.0259 (0.027)	0.0131 (0.028)	0.0210 (0.024)	0.0144 (0.024)
Exposed*TCS	0.0279 (0.024)	0.0384 (0.025)	0.0183 (0.028)	0.0316 (0.025)	0.0207 (0.025)
(Name)*TC		-0.0397* (0.021)	-0.0016 (0.014)	-0.0171 (0.013)	-0.0381** (0.017)
(Name)*TCS		-0.0254 (0.020)	0.0033 (0.015)	-0.0163 (0.014)	-0.0167 (0.019)
(Name+Corruption)*TC		0.0463* (0.024)	0.0043 (0.005)	0.5241** (0.229)	0.7592*** (0.216)
(Name+Corruption)*TCS		0.0449** (0.023)	-0.0021 (0.005)	0.5495** (0.237)	0.4478* (0.234)
Observations	8,800	6,600	7,920	7,480	7,480
R-squared	0.205	0.205	0.203	0.205	0.205
Number of voters	440	440	440	440	440
Number of candidates	20	15	18	17	17

Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$, + $p < 0.15$. The dependent variable corresponds to the *Share of party voters crossing candidate i* in the open system. *Media index* corresponds to the average of the mentions in newspapers ABC and UH. The variable Corruption is defined as the number of times a senator was mentioned in news related to corruption. The variable Exposed is a dummy that takes value 1 if that candidate was involved in the Bogado voting scandal presented in the experiment. The specifications also include voter and candidates fixed effects. The variables TC (Corruption) and TCS (Corruption and social punishment) correspond to the treatments.

Table 7: **Within-list vote decisions: candidates characteristics**

Panel A: Colorado				
	Google	ABC	UH	Media index
	(1)	(2)	(3)	(4)
Name	0.0472*** (0.004)	-0.0249*** (0.003)	-0.0508*** (0.004)	-0.0534*** (0.004)
Name+corruption	-0.0433*** (0.003)	-0.0682*** (0.009)	-0.0077*** (0.002)	-0.0216*** (0.004)
Rank	-0.0058*** (0.000)	-0.0050*** (0.000)	-0.0054*** (0.000)	-0.0046*** (0.000)
Gender	0.0735*** (0.008)	0.0748*** (0.009)	0.1124*** (0.009)	0.0840** (0.009)
New in senate	-0.0678*** (0.006)	-0.0758*** (0.005)	-0.0604*** (0.005)	-0.0761*** (0.005)
Years in congress	-0.0032*** (0.000)	-0.0008* (0.000)	0.0060*** (0.001)	0.0021*** (0.000)
Exposed	-0.0038 (0.005)	-0.0809*** (0.006)	-0.0758*** (0.005)	-0.0949*** (0.006)
Facebook	0.0606*** (0.006)	0.0299*** (0.006)	0.0034 (0.007)	0.0061*** (0.007)
Twitter	0.0372*** (0.005)	0.0481*** (0.005)	0.0271*** (0.005)	0.0404*** (0.005)
Bogado	0.3583*** (0.014)	0.4077*** (0.014)	0.4166*** (0.014)	0.4068*** (0.014)
Galaverna	0.5456*** (0.014)	0.4327*** (0.016)	0.3547*** (0.017)	0.3698*** (0.017)
Observations	31,060	31,060	31,060	31,060
R-squared	0.294	0.293	0.296	0.293
Number of voters	1553	1553	1553	1553
Number of candidates	20	20	20	20
Panel B: Liberal				
	Google	ABC	UH	Media index
	(5)	(6)	(7)	(8)
Name	0.0017 (0.011)	-0.0178** (0.008)	-0.0504*** (0.006)	-0.0706*** (0.009)
Name+corruption	0.0772*** (0.013)	0.3301*** (0.107)	1.0970*** (0.132)	1.1240*** (0.152)
Rank	-0.0073*** (0.002)	-0.0115*** (0.002)	-0.0094*** (0.002)	-0.0113*** (0.002)
Gender	0.0551*** (0.018)	-0.0330* (0.018)	-0.0474* (0.024)	-0.0362 (0.022)
New in senate	0.0723* (0.042)	0.0895*** (0.025)	0.0319 (0.038)	0.0928*** (0.033)
Years in congress	0.0122*** (0.002)	0.0094*** (0.001)	0.0069*** (0.002)	0.0086*** (0.002)
Exposed	0.0989*** (0.027)	0.0694*** (0.022)	0.0962*** (0.021)	0.1109*** (0.023)
Facebook	-0.0714*** (0.023)	-0.0507** (0.022)	-0.0890*** (0.019)	-0.1186*** (0.023)
Twitter	-0.0440*** (0.014)	0.0254* (0.014)	0.0773*** (0.019)	0.0658** (0.016)
Observations	6,600	7,040	7,040	6,600
R-squared	0.197	0.180	0.191	0.197
Number of voters	440	440	440	440
Number of candidates	15	16	16	15

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, + p<0.15. The dependent variable corresponds to the *Share party voters crossing candidate i* in the open system. *Media index* corresponds to the average of the mentions in newspapers ABC and UH. Corruption is defined as the number of times a senator was mentioned in news related to corruption. Gender is a dummy that takes value 1 when is a women. Exposed is a dummy that takes value 1 if that candidate was involved in the Bogado voting scandal presented in the experiment. Variables Facebook and Twitter present the percentage of candidates using these social networking sites. The specifications also include voter fixed effects.



The Figure presents percentages of respondents voting for the Colorado (ANR) party, the Liberal (PLRA) party, the small (FG and PDP) parties, and abstaining. The bars represent the 95% confidence intervals.

Figure 3: Parties votes under alternative electoral systems - Control group

Appendix A - Experimental Materials.

Voting Protocol

Voting was always done with the participant alone in the room, standing apart from the interviewer, to allow for privacy. Here is the transcript of how the systems were presented to the participants. This presentation was preceded by a reminder of the academic nature of the activity, of the guarantee of confidentiality, and of the right of the participant not to answer a question and/or stop the questionnaire. The interviewers had a Guaraní translation to ensure homogeneity of the explanation given across languages.

1. In the current system in Paraguay,
 - (a) Each voter votes for the list of a political party. Each party obtains a number of seats in the Senate proportional to the number of votes obtained, and
 - (b) Given the number of seats of each party, the candidates to the Senate enter in the order indicated by the party on the electoral list.

Please look with attention at the form I am showing you. In it you can see the four principal parties that participated in the Senate elections on April 21, 2013.

Please, vote marking on the form your choice (one of the parties or abstention). When you have made your choice, please fold the form and introduce it in the envelope.

2. There has been a debate in Paraguay about the possibility of opening the electoral lists. The idea is to reform the electoral system so that the voters can vote not only for a party, but also express their opinion on the candidates inside the party lists.

Imagine the voting system was as follows:

- (a) Each voter votes for the list of a political party. Each party obtains a number of seats in the Senate proportional to the number of votes obtained, and
- (b) When the voter chooses a party list, he/she can also cross out one or more names of candidates that he/she wants to take out of the list.

In this system, to cross out one or more candidates' names does not change anything for the party, which obtains the same number of seats in the Senate. The only thing the system does is to take the crossed candidates down the list and take the ones that were not crossed up the list.

We now ask you to proceed to vote with this system. In the form I am handling to you, you have to first mark the party you want to vote for or abstention. Once you have marked the list you want to vote for, you can cross one or more candidates' names inside this list.

When you have made your choice, please fold the form and introduce it in the envelope.

CANDIDATOS A SENADORES DE LA NACION

MARCAR CON BOLÍGRAFO DENTRO DEL RECUADRO LA CANDIDATURA DE SU PREFERENCIA

LAS LISTAS ESTÁN CERRADAS Y NO PUEDEN SER ALTERADAS O MODIFICADAS

1
LILIAN SAMANIEGO
PARTIDO COLORADO
A.N.R.

MARQUE AQUÍ

Lilian G. Samaniego
Luis A. Castiglioni
Arnoldo Wiens
Mirta L. Gusinky
Julio Cesar Velazquez
Oscar Gonzalez Daher
Gustavo J. Alfonso
Enrique F. Bacchetta
Silvio A. Ovelar
Julio A. Quiñonez
Juan Carlos Galaverna
Derlis A. Osorio
Blanca Ovelar
Mario Abdo Benitez
Oscar R. Salomon
Juan Dario Monges
Victor A. Bogado
Nelson D. Aguinagalde
Carlos Nuñez
Oscar Campuzano

2
BLAS LLANO
PARTIDO LIBERAL
RADICAL AUTÉNTICO
P.L.R.A.

MARQUE AQUÍ

Blas A. Llano
Emilia P. Alfaro
Ramon Gomez
Carlos A. Amarilla
Zulma R. Gomez
Enzo Cardozo
Julio Cesar Franco
Luis A. Wagner
Blanca B. Fonseca
Miguel Abdon Saguier
Fernando A. Silva
Maria Mignarro
Roberto R. Acevedo
Francisco J. Rivas
Corina Gonzalez
Modesto L. Guggiari
Silvio Nunez
Nelson Segovia
Ruffino Palmerola
Gloria Escobar

40
FERNANDO LUGO
CONCERTACIÓN NACIONAL
FRENTE UNIDO
F.U.

MARQUE AQUÍ

Fernando A. Lugo
Carlos A. Filizzola
Sixto Pereira
Esperanza Martinez
Oscar H. Richer
Belarmino Balbuena
Victor Bareiro
Juan De Dios Acosta
Celsa Ramirez
Jose Parra
Ernesto Benitez
Alberto R. Alderete
Carmen Sanchez
Saturnino O. Ruiz
Ceferino O. Sostoa
Adolfo G. Gimenez
Estanislao Barreto
Juan Carlos Ayala
Francisco Garcia
Pedro B. Espinoza

100
ARNALDO GUZZIO
PARTIDO DEMOCRÁTICO
PROGRESISTA
P.D.P.

MARQUE AQUÍ

Arnaldo E. Giuzzio
Desiree G. Masi
Pedro Santa Cruz
Alcides D. Wood
Jorgelina Candia
Sixto R. Escobar
Gladys Santa Cruz
Ricardo A. Lugo
Gloria E. Granado
Ramon A. Caballero
Dilia Z. Albawi
Alba L. Cabrera
Ricardo E. Morales
Blanca Ayala
Celina Vera
Felix A. Valdez
Celsa Quiñonez
Eduardo Chenu
Antonio Alfonso
Jose Alcaraz Salcedo

Abstención

MARQUE AQUÍ

Descargo de responsabilidad: Este material está destinado exclusivamente para fines académicos y de investigación científica.

Figure A1: Voting form - Closed list.

CANDIDATOS A SENADORES DE LA NACIÓN
MARCAR CON BOLÍGRAFO DENTRO DEL RECUADRO LA CANDIDATURA DE SU PREFERENCIA
PUEDA TACHAR LOS NOMBRES DE LOS CANDIDATOS QUE QUIERE SACAR DE LA LISTA

1
LILIAN SAMANIEGO
PARTIDO COLORADO
A.N.R.

MARQUE AQUÍ

LILIAN G. SAMANIEGO
LUIS A. CASTIGLIONI
ARNOLDO WIENS
MIRTA L. GUSINKY
JULIO CESAR VELAZQUEZ
OSCAR GONZALEZ DAHER
GUSTAVO J. ALFONSO
ENRIQUE F. BACCHETTA
SILVIO A. OVELAR
JULIO A. QUINONEZ
JUAN CARLOS GALAVERNA
DERLIS A. OSORIO
BLANCA OVELAR
MARIO ABDO BENITEZ
OSCAR R. SALOMON
JUAN DARIO MONGES
VICTOR A. BOGADO
NELSON D. AGUINAGALDE
CARLOS NUÑEZ
OSCAR CAMPUZANO

2
BLAS LLANO
PARTIDO LIBERAL
RADICAL AUTÉNTICO
P.L.R.A.

MARQUE AQUÍ

BLAS A. LLANO
EMILIA P. ALFARO
RAMON GOMEZ
CARLOS A. AMARILLA
ZULMA R. GOMEZ
ENZO CARDOZO
JULIO CESAR FRANCO
LUIS A. WAGNER
BLANCA B. FONSECA
MIGUEL ABDON SAGUIER
FERNANDO A. SILVA
MARIA MIGNARRO
ROBERTO R. ACEVEDO
FRANCISCO J. RIVAS
CORINA GONZALEZ
MODESTO L. GUGGIARI
SILVIO NUNEZ
NELSON SEGOVIA
RUFFINO PALMEROLA
GLORIA ESCOBAR

40
FERNANDO LUGO
CONCERTACIÓN NACIONAL
FRENTE UNIDO
F.U.

MARQUE AQUÍ

FERNANDO A. LUGO
CARLOS A. FILIZZOLA
SIXTO PEREIRA
ESPERANZA MARTINEZ
OSCAR H. RICHER
BELARMINO BALBUENA
VICTOR BAREIRO
JUAN DE DIOS ACOSTA
CELSA RAMIREZ
JOSE PARRA
ERNESTO BENITEZ
ALBERTO R. ALDERETE
CARMEN SANCHEZ
SATURNINO O. RUIZ
CEFERINO O. SOSTOA
ADOLFO G. GIMENEZ
ESTANISLAO BARRETO
JUAN CARLOS AYALA
FRANCISCO GARCIA
PEDRO B. ESPINOZA

100
ARNALDO GUZZIO
PARTIDO DEMOCRÁTICO
PROGRESISTA
P.D.P.

MARQUE AQUÍ

ARNALDO E. GUZZIO
DESIREE G. MASI
PEDRO SANTA CRUZ
ALCIDES D. WOOD
JORGELINA CANDIA
SIXTO R. ESCOBAR
GLADYS SANTA CRUZ
RICARDO A. LUGO
GLORIA E. GRANADO
RAMON A. CABALLERO
DILIA Z. ALBAWI
ALBA L. CABRERA
RICARDO E. MORALES
BLANCA AYALA
CELINA VERA
FELIX A. VALDEZ
CELSA QUINONEZ
EDUARDO CHENU
ANTONIO ALFONZO
JOSE ALCARAZ SALCEDO

Abstención

MARQUE AQUÍ

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Figure A2: Voting form - Open list.



Figure A3: Information booklet, pages 1 and 2.



Figure A4: Information booklet: control group.



Figure A5: Information booklet: information treatments.

Appendix B - Descriptive Statistics and Additional Results

Table B1: Sample representativeness, comparison with national household survey

	Caaguazú		Asunción	
	<i>Sample</i>	<i>2015 EPH</i>	<i>Sample</i>	<i>2015 EPH</i>
Individual characteristics				
Gender	67.28%	53.00%	61.80%	50.00%
Education				
Primary School	71.76%	68.81%	34.91%	32.80%
Basic Education	14.53%	12.73%	20.36%	29.26%
Middle Education	9.60%	12.69%	31.35%	36.58%
University	4.11%		13.38%	
Household characteristics				
<i>HH Property Rights</i>	89.58%	87.34%	80.16%	69.14%
<i>House connected to water</i>	64.00%	68.94%	99.00%	99.00%
Radio	80.62%	74.65%	94.31%	86.6%
TV	92.69%	87.35%	98.38%	97.7%
Fridge	82.54%	82.56%	96.25%	94.2%
Kitchen	63.53%	50.39%	93.67%	84.4%
Laundry	70.20%	69.03%	82.74%	80.9%
Video/DVD	25.05%	20.61%	52.17%	49.2%
Air Conditioning	11.43%	13.54%	53.72%	50.9%
TV Cable	18.01%	27.39%	51.65%	62.4%
Cellphone	84.37%	87.55%	83.65%	95.6%
Computer/Laptop	18.28%	13.54%	52.42%	50.9%
Electric Oven	29.71%	35.74%	57.01%	51.5%
Motorbike	66.54%	69.25%	31.03%	20.8%
Education and health services				
Health Insurance:				
IPS	12.36%	12.19%	39.24%	31.95%
No insurance	84.89%	85.66%	51.52%	43.36%
Type of school:				
Public	96.50%	95.18%	68.71%	43.07%
Private	3.50%	4.82%	17.52%	37.46%
Subsidized			12.80%	19.47%

EPH: Encuesta Permanente de Hogares 2015. The variable Gender is a dummy that values 1 when the person is a woman.

Regarding HH characteristics, the variable “HH Property Rights” is a dummy that values 1 if the person has the ownership of the place he/she lives, and “House connected to water” takes value 1 when the house is connected to local water system. On Health Insurance, IPS is a dummy that takes value 1 if the person is covered by the Instituto Paraguayo de Salud. Type of school refers to the education center of the children in the HH, if any.

Table B2: Comparison of Asunción and Caaguazú samples

Panel A: Individual characteristics

	Caaguazú			Asunción			Comparison	
	#Obs	Mean	Sd	#Obs	Mean	Sd	P-value	Difference
Gender	1094	0.673	0.469	1547	0.618	0.486	0.004	0.055
Age	1094	45.279	16.182	1547	48.581	16.636	0.000	-3.302
17-35 years old	1094	0.331	0.471	1547	0.277	0.448	0.003	0.054
36-50 years old	1094	0.305	0.461	1547	0.271	0.445	0.058	0.034
51-65 years old	1094	0.227	0.419	1547	0.269	0.444	0.014	-0.042
More than 66 years old	1094	0.137	0.344	1547	0.182	0.386	0.002	-0.045
Marital Status								
Single	1094	0.141	0.348	1547	0.178	0.383	0.010	-0.038
Married	1094	0.454	0.498	1547	0.383	0.486	0.000	0.072
Widow	1094	0.065	0.246	1547	0.092	0.289	0.012	-0.027
Separated	1094	0.071	0.257	1547	0.091	0.288	0.069	-0.020
Union	1094	0.269	0.444	1547	0.256	0.437	0.462	0.013
Language								
Guaraní	1094	0.467	0.499	1547	0.073	0.260	0.000	0.394
Guaraní & Spanish	1094	0.514	0.500	1547	0.697	0.460	0.000	-0.183
Spanish	1094	0.019	0.137	1547	0.230	0.421	0.000	-0.211
Residence	1094	0.829	0.377	1547	0.876	0.330	0.001	-0.047
Education								
Primary School	1094	0.718	0.450	1547	0.349	0.477	0.000	0.368
Basic Education	1094	0.145	0.353	1547	0.204	0.403	0.000	-0.058
Middle Education	1094	0.096	0.295	1547	0.314	0.464	0.000	-0.218
University	1094	0.041	0.199	1547	0.134	0.341	0.000	-0.093
Vote in 2013	1094	0.872	0.334	1547	0.976	0.153	0.000	-0.104
Democracy	1094	0.182	0.386	1547	0.127	0.333	0.000	0.055

Panel B: Household characteristics

	Caaguazú			Asunción			Comparison	
	#Obs	Mean	Sd	#Obs	Mean	Sd	P-value	Difference
<i>HH Property Rights</i>	1094	0.896	0.306	1547	0.802	0.399	0.000	0.094
<i>Land Property Rights</i>	1094	0.080	0.272	1547	0.075	0.263	0.605	0.005
<i>HH Size</i>	1094	4.507	2.228	1547	4.515	2.382	0.931	-0.008
<i>Dwelling Index</i>	1094	1.320	1.496	1547	-0.951	1.322	0.000	2.271
<i>HH Goods Index</i>	1094	1.215	1.697	1547	-0.875	2.009	0.000	2.090

The variable Gender is a dummy that values 1 when the person is a woman. The variable Residence is a dummy and values 1 if the person resides in the same locality since at least 5 years. Education refers to the highest grade reached. The variable "Vote in 2013" is a dummy that values 1 if the person voted in 2013. "Perception of democracy" values 1 if the person thinks democracy functions good or very good in Paraguay.

Regarding HH characteristics, the variable "HH Property Rights" is a dummy that values 1 if the person has the ownership of the place he/she lives, "Land Property Rights" is a dummy that values 1 if the person has the ownership of other asset such as land. "HH Size" refers to the total number of members in the household. "Dwelling Index" is an index about the physical conditions of the household, it is done using the Principal Components Analysis (PCA) taking into account the following variables: type of house, ceiling of the house, floor, wall, access to water, bathroom type of drain, kitchen type of drain, access to electricity. "HH Goods Index" is a household asset index and it is done using PCA taking into account if the house has: radio, tv, fridge, kitchen, laundry, video/dvd, boiler, air conditioning, cable tv, cellphone, PC/laptop, microwave, electric oven, car/van, truck, motorbike, bike.

Table B3: **Between-parties vote decisions - Abstention equal to missing**

Panel A: Voter Fixed effects			
	Colorado	Liberal	Small parties
	(1)	(2)	(3)
Open system	0.0529*** (0.010)	0.0283*** (0.007)	-0.0812*** (0.010)
System*TC	0.0298* (0.017)	-0.0412*** (0.013)	0.0114 (0.017)
System*TCS	0.0323* (0.017)	-0.0094 (0.013)	-0.0230 (0.017)
Constant	0.5691*** (0.005)	0.1635*** (0.004)	0.2675*** (0.005)
Observations	4,546	4,546	4,546
R-squared	0.045	0.009	0.065
Number of voter	2,415	2,415	2,415

Panel B: Voter individual Controls			
	Colorado	Liberal	Small parties
	(4)	(5)	(6)
Open system	0.0565*** (0.020)	0.0231+ (0.016)	-0.0796*** (0.017)
TC	-0.0096 (0.025)	-0.0032 (0.019)	0.0129 (0.021)
TCS	-0.0021 (0.025)	-0.0326* (0.019)	0.0347* (0.021)
System*TC	0.0400 (0.035)	-0.0365 (0.027)	-0.0034 (0.029)
System*TCS	0.0226 (0.035)	0.0056 (0.027)	-0.0282 (0.029)
Constant	0.5579*** (0.026)	0.1844*** (0.020)	0.2576*** (0.022)
Observations	4,546	4,546	4,546
R-squared	0.052	0.019	0.072
Number of voter	2,415	2,415	2,415

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, + p<0.15. Individual controls included: Married, Guaraní speaker, gender, dwelling index, household goods index, age and education. The specifications in Panel B include Interviewer fixed effects. The variables TC (Corruption) and TCS (Corruption Social) correspond to the treatments.

Table B4: **Effect of system on control - multinomial Logit**

	Colorado		Liberal		Small parties	
Open System	1.3652** (0.172)	1.3734** (0.175)	1.4056** (0.211)	1.4124** (0.214)	0.8402 (0.123)	0.8414 (0.124)
Constant	3.7353*** (0.323)	2.1698*** (0.495)	1.1353 (0.119)	0.6625+ (0.183)	1.6882*** (0.163)	1.3506 (0.356)
Voter controls	No	Yes	No	Yes	No	Yes
Observations	2570	2570	2570	2570	2570	2570

Multinomial logit, reference abstention. Odds-ratios reported.

Robust standard errors (cluster district) in parentheses. *** p<0.01, ** p<0.05, * p<0.1, + p<0.15

Individual controls included: Married, Guaraní speaker, gender, dwelling index, household goods index, age and education. The specifications also include Interviewer and District fixed effects.

Table B5: **Age (Cutoff = 47)**

	Colorado	Liberal	Small parties	Abstention
	(1)	(2)	(3)	(4)
Open system	0.0536*** (0.016)	0.0138 (0.011)	-0.0467*** (0.014)	-0.0208+ (0.013)
System*Age	0.0204 (0.021)	0.0203 (0.015)	-0.0359* (0.019)	-0.0049 (0.018)
System*TC	0.0032 (0.027)	-0.0105 (0.019)	-0.0101 (0.024)	0.0174 (0.023)
System*TC*Age	0.0326 (0.036)	-0.0406+ (0.025)	0.0026 (0.032)	0.0054 (0.031)
System*TCS	-0.0013 (0.027)	0.0188 (0.018)	-0.0317 (0.024)	0.0142 (0.022)
System*TCS*Age	0.0314 (0.036)	-0.0233 (0.025)	0.0042 (0.032)	-0.0124 (0.031)
Constant	0.4923*** (0.005)	0.1411*** (0.004)	0.2352*** (0.005)	0.1314*** (0.004)
Observations	5,185	5,185	5,185	5,185
R-squared	0.040	0.009	0.052	0.004
Number of voter	2,609	2,609	2,609	2,609

Robust standard errors (cluster district) in parentheses. *** p<0.01, ** p<0.05, * p<0.1, + p<0.15. Age is a dummy that takes value 1 when the age is less than 47 years old (*mean* of the variable Age). The specifications of the tables include fixed effect. The variables TC (Corruption) and TCS (Corruption Social) correspond to the treatments.

Table B6: **Region**

	Colorado	Liberal	Small parties	Abstention
	(1)	(2)	(3)	(4)
Open system	0.0340** (0.016)	0.0075 (0.011)	-0.0774*** (0.015)	0.0358*** (0.014)
System*Region	0.0527** (0.021)	0.0298** (0.015)	0.0187 (0.019)	-0.1012*** (0.018)
System*TC	0.0463* (0.028)	-0.0075 (0.019)	-0.0321 (0.025)	-0.0067 (0.023)
System*TC*Region	-0.0435 (0.037)	-0.0429* (0.025)	0.0408 (0.033)	0.0457+ (0.031)
System*TCS	0.0149 (0.028)	0.0150 (0.020)	-0.0091 (0.025)	-0.0208 (0.024)
System*TCS*Region	-0.0005 (0.037)	-0.0151 (0.025)	-0.0333 (0.033)	0.0489+ (0.031)
Constant	0.4924*** (0.005)	0.1411*** (0.004)	0.2352*** (0.005)	0.1313*** (0.004)
Observations	5,185	5,185	5,185	5,185
R-squared	0.041	0.010	0.052	0.019
Number of voter	2,609	2,609	2,609	2,609

Robust standard errors (cluster district) in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$, + $p < 0.15$. Region is a dummy that takes value 1 if the area is Asunción, and 0 for the case of Caaguazú. The specifications of the tables include fixed effect. The variables TC (Corruption) and TCS (Corruption Social) correspond to the treatments.

Table B7: **Language**

	Colorado	Liberal	Small parties	Abstention
	(1)	(2)	(3)	(4)
Open system	0.0853*** (0.012)	0.0349*** (0.008)	-0.0709*** (0.011)	-0.0493*** (0.010)
System*Language	-0.0853*** (0.025)	-0.0415** (0.017)	0.0188 (0.022)	0.1080*** (0.021)
System*TC	0.0127 (0.020)	-0.0428*** (0.014)	0.0062 (0.018)	0.0238 (0.017)
System*TC*Language	0.0289 (0.043)	0.0424 (0.030)	-0.0652* (0.038)	-0.0061 (0.036)
System*TCS	0.0161 (0.021)	-0.0039 (0.014)	-0.0305+ (0.019)	0.0183 (0.017)
System*TCS*Language	-0.0036 (0.042)	0.0418 (0.029)	0.0072 (0.038)	-0.0455 (0.035)
Constant	0.4924*** (0.005)	0.1411*** (0.004)	0.2352*** (0.005)	0.1313*** (0.004)
Observations	5,185	5,185	5,185	5,185
R-squared	0.046	0.011	0.051	0.020
Number of voter	2,609	2,609	2,609	2,609

Robust standard errors (cluster district) in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$, + $p < 0.15$. Language is a dummy that takes value 1 when the people only speak Guaraní, and 0 when they speak Guaraní and Spanish. The specifications of the tables include fixed effect. The variables TC (Corruption) and TCS (Corruption Social) correspond to the treatments.

Table B8: **Education**

	Colorado	Liberal	Small parties	Abstention
	(1)	(2)	(3)	(4)
Open system	0.1182*** (0.018)	0.0331*** (0.013)	-0.0875*** (0.016)	-0.0638*** (0.015)
System*Education	-0.0797*** (0.022)	-0.0121 (0.015)	0.0315+ (0.020)	0.0603*** (0.019)
System*TC	0.0037 (0.032)	-0.0526** (0.022)	0.0143 (0.028)	0.0346 (0.027)
System*TC*Education	0.0268 (0.039)	0.0294 (0.027)	-0.0340 (0.035)	-0.0222 (0.033)
System*TCS	-0.0405 (0.033)	0.0135 (0.023)	-0.0110 (0.029)	0.0379 (0.027)
System*TCS*Education	0.0822** (0.039)	-0.0100 (0.027)	-0.0266 (0.035)	-0.0456 (0.033)
Constant	0.4924*** (0.005)	0.1411*** (0.004)	0.2352*** (0.005)	0.1314*** (0.004)
Observations	5,185	5,185	5,185	5,185
R-squared	0.043	0.009	0.051	0.008
Number of voter	2,609	2,609	2,609	2,609

Robust standard errors (cluster district) in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$, + $p < 0.15$. Education is a dummy that takes value 1 when is reported Primary school and/or Basic education (from 7 to 9 grade), as the maximum levels of education, and 0 when the people finished High school, technical (middle) education and/or went to the University. The specifications of the tables include fixed effect. The variables TC (Corruption) and TCS (Corruption Social) correspond to the treatments.

Table B9: Candidates characteristics

	Mean	Sd	Max	Min
Total sample				
Google (Name)	249,651	188,144	580,000	1730
Google (Name + corruption)	99,997	132,107	438,000	172
ABC (Name)	3,179	3,525	14,325	0
ABC (Name + corruption)	450	1,599	9779	0
UH (Name)	78	76	286	0
UH(Name + corruption)	11	52	321	0
Gender	22%	0.422	1	0
New in senate	31%	0.467	1	0
Years in congress	7.78	6.694	22	0
Elected	80%	0.405	1	0
Exposed	53%	0.506	1	0
Facebook	78%	0.417	1	0
Twitter	45%	0.504	1	0
Colorado				
Google (Name)	239,490	164,875	488,000	15200
Google (Name + corruption)	88,700	133,247	434,000	1920
ABC (Name)	3,662	3,795	14,325	36
ABC (Name + corruption)	262	499	2269	7
UH (Name)	82	65	277	13
UH(Name + corruption)	19	71	321	0
Gender	15%	0.366	1	0
New in senate	40%	0.503	1	0
Years in congress	7	6.704	22	0
Elected	95%	0.224	1	0
Exposed	60%	0.503	1	0
Facebook	80%	0.410	1	0
Twitter	45%	0.510	1	0
Liberal				
Google (Name)	262,352	218,753	580,000	1730
Google (Name + corruption)	115,013	133,658	438,000	172
ABC (Name)	2,643	3,221	12,702	0
ABC (Name + corruption)	658	2,280	9779	0
UH (Name)	75	89	286	0
UH(Name + corruption)	3	4	14	0
Gender	31%	0.479	1	0
New in senate	19%	0.403	1	0
Years in congress	9	6.768	22	0
Elected	65%	0.489	1	0
Exposed	45%	0.510	1	0
Facebook	76%	0.437	1	0
Twitter	45%	0.510	1	0

The variables Google (Name) refers to the number of times the candidates was mentioned in this web browse. The variable Google (Name+Corruption) refers to the number of times the candidate was mentioned in topics of corruption in this web browser. The variables ABC (Name) refers to the number of times the candidates was mentioned in the website of the newspaper *ABC*. The variable ABC (Name+Corruption) refers to the number of times the candidate was mentioned in topics of corruption in the website of the newspaper *ABC*. The variables UH (Name) refers to the number of times the candidates was mentioned in the website of the newspaper *Última hora*. The variable UH (Name+Corruption) refers to the number of times the candidate was mentioned in topics of corruption in the website of the newspaper *Última hora*. Gender is a dummy that takes value 1 when is a women. The variables Facebook and Twitter present the percentage of candidates using these social networking sites. The variable Exposed is a dummy that takes value 1 if that candidate was involved in the Bogado voting scandal presented in the experiment.

Table B10: Candidate crosses by treatment

Panel A: Colorado															
	Control		Information Corruption		Information Corruption + Social		Comparison C-TC		Comparison C-TCS		Comparison TC-TCS		Elected	Exposed	
	#Obs	Mean	#Obs	Mean	#Obs	Mean	P-value	Difference	P-value	Difference	P-value	Difference			
101	231	31%	122	30%	111	28%	0.909	- 0.003	0.395	- 0.025	0.517	- 0.022	1	0	
102	186	25%	95	24%	81	21%	0.729	- 0.009	0.108	- 0.044	0.263	- 0.034	1	0	
103	70	10%	33	9%	30	8%	0.620	- 0.009	0.419	- 0.015	0.776	- 0.006	1	0	
104	164	21%	83	20%	83	22%	0.734	- 0.009	0.854	0.005	0.648	0.014	1	1	
105	169	22%	82	21%	91	24%	0.650	- 0.012	0.499	0.018	0.325	0.030	1	1	
106	196	26%	111	27%	89	22%	0.658	0.012	0.179	- 0.037	0.117	- 0.049	1	1	
107	47	6%	36	9%	22	6%	0.073	0.030	0.703	- 0.006	0.066	- 0.035	1	1	
108	119	16%	68	17%	69	18%	0.560	0.014	0.508	0.016	0.943	0.002	1	1	
109	69	9%	46	12%	37	10%	0.164	0.027	0.768	0.006	0.352	- 0.021	1	1	
110	50	6%	26	7%	30	7%	0.908	0.002	0.574	0.009	0.699	0.007	1	1	
111	535	71%	278	70%	274	70%	0.784	- 0.008	0.786	- 0.008	1.000	0.000	1	0	
112	68	9%	29	8%	38	10%	0.520	- 0.011	0.503	0.012	0.253	0.024	1	0	
113	217	29%	116	29%	99	26%	0.775	0.008	0.396	- 0.024	0.320	- 0.033	1	0	
114	80	10%	51	13%	50	13%	0.176	0.027	0.167	0.028	0.973	0.001	1	0	
115	46	6%	24	6%	19	5%	0.823	- 0.003	0.309	- 0.015	0.475	- 0.012	1	1	
116	67	9%	47	12%	41	10%	0.087	0.032	0.373	0.016	0.493	- 0.016	1	1	
117	405	53%	225	56%	225	58%	0.379	0.028	0.177	0.043	0.676	0.015	1	1	
118	40	5%	19	5%	14	4%	0.765	- 0.004	0.162	- 0.019	0.315	- 0.015	1	1	
119	43	6%	21	6%	19	5%	0.831	- 0.003	0.390	- 0.012	0.561	- 0.009	1	1	
120	48	6%	18	5%	22	5%	0.264	- 0.017	0.516	- 0.010	0.677	0.007	0	0	

Panel B: Liberal															
	Control		Information Corruption		Information Corruption + Social		Comparison C-TC		Comparison C-TCS		Comparison TC-TCS		Elected	Exposed	
	#Obs	Mean	#Obs	Mean	#Obs	Mean	P-value	Difference	P-value	Difference	P-value	Difference			
201	104	37%	30	30%	46	43%	0.018	-0.144	0.775	-0.017	0.073	0.127	1	1	
202	61	24%	18	19%	24	22%	0.17	-0.073	0.411	-0.043	0.616	0.03	1	1	
203	39	16%	14	13%	18	17%	0.493	-0.031	0.961	0.002	0.528	0.033	1	1	
204	54	21%	25	26%	32	32%	0.773	0.016	0.124	0.083	0.314	0.067	1	0	
205	44	16%	16	17%	23	23%	0.614	-0.024	0.439	0.038	0.288	0.063	1	1	
206	48	18%	24	26%	27	25%	0.37	0.047	0.418	0.041	0.931	-0.006	1	1	
207	103	39%	43	44%	54	52%	0.886	0.009	0.162	0.085	0.3	0.076	1	1	
208	56	20%	32	33%	25	26%	0.091	0.093	0.699	0.02	0.279	-0.073	1	1	
209	28	11%	16	16%	15	14%	0.398	0.036	0.703	0.015	0.699	-0.02	1	1	
210	57	20%	17	18%	27	28%	0.202	-0.067	0.49	0.037	0.095	0.103	1	0	
211	17	6%	12	11%	9	9%	0.189	0.044	0.4	0.027	0.698	-0.017	1	1	
212	21	8%	17	18%	15	16%	0.025	0.089	0.077	0.067	0.696	-0.022	1	0	
213	29	12%	13	13%	11	11%	0.831	0.009	0.805	-0.01	0.7	-0.019	1	0	
214	17	6%	1	1%	9	9%	0.07	-0.047	0.244	0.036	0.012	0.083	0	0	
215	19	8%	2	2%	1	1%	0.058	-0.058	0.016	-0.07	0.526	-0.012	0	0	
216	13	5%	8	9%	5	5%	0.319	0.031	0.84	-0.006	0.328	-0.037	0	0	
217	17	6%	3	3%	5	5%	0.251	-0.033	0.622	-0.015	0.531	0.019	0	0	
218	12	5%	4	3%	5	5%	0.453	-0.02	0.964	-0.001	0.531	0.019	0	0	
219	12	4%	6	7%	5	5%	0.419	0.022	0.767	0.008	0.675	-0.015	0	0	
220	17	6%	6	7%	3	3%	1	-	0.208	-0.035	0.263	-0.035	0	0	

Panel A (Colorado) and B (Liberal) correspond to the number of crosses each candidate received from control, Treatment 1 and Treatment 2 group, respectively. The variable Exposed is a dummy that takes value 1 if that candidate was involved in the Bogado voting scandal presented in the experiment. The p-values presented are from the mean difference tests between C (Control), TC (Corruption) and TCS (Corruption and social punishment) treatments.

Table B11: Awareness of information booklet news

	Control	Information Corruption	Information Corruption + Social	C-TC	P-value C-TCS	TC-TCS
Total sample						
Heard news on Futbol:	34 %	35 %	35 %	0.5371	0.6805	0.8617
Heard news on Movie:	84 %	84 %	86 %	0.8647	0.1425	0.2521
Heard news on Senators:	89 %	88 %	91 %	0.6516	0.1565	0.1010
Importance of news: (1:"not at all"- 4:"very important")						
Futbol	2.65	2.59	2.58	0.1729	0.1138	0.8535
Movie	3.09	3.04	3.06	0.1842	0.4578	0.5925
Senators	2.40	2.43	2.58	0.5527	0.0001	0.0044
Asunción						
Heard news on Futbol:	38%	39%	38%	0.7756	0.8764	0.7029
Heard news on Movie:	95%	95%	96%	0.9270	0.5493	0.6537
Heard news on Senators:	96%	95%	97%	0.5139	0.2918	0.1362
Importance of news: (1:"not at all"- 4:"very important")						
Futbol	2.79	2.69	2.65	0.1077	0.0227	0.5597
Movie	3.36	3.31	3.32	0.2915	0.4206	0.8135
Senators	2.43	2.41	2.60	0.7398	0.0070	0.0109
Caaguazú						
Heard news on Futbol:	28%	30%	31%	0.5030	0.3725	0.8438
Heard news on Movie:	68%	69%	73%	0.8069	0.1319	0.2650
Heard news on Senators:	78%	77%	81%	0.9055	0.2483	0.2627
Importance of news: (1:"not at all"- 4:"very important")						
Futbol	2.46	2.46	2.49	0.9175	0.6590	0.6358
Movie	2.71	2.66	2.70	0.3941	0.8072	0.5706
Senators	2.37	2.46	2.55	0.1361	0.0044	0.1924

The Table shows the percentages of participants that had heard about the information provided in each page of the information booklet. The p-values presented are from the mean difference tests between C (Control), TC (Corruption) and TCS (Corruption and social punishment) treatments.

Appendix C - A formal Derivation of the Subjective Evaluations of the Candidates

In this appendix, we propose a formal derivation of the updating of voters' subjective evaluations of the candidates, in order to disentangle more clearly the role played by the a priori heterogeneity of the lists and the specific information about the candidates.

Assumptions about voters' information: Consider list l . Denote by x_c^l the "true" value of candidate c for the voter. It is the value she would assign to this candidate, were she perfectly informed. In a situation where she is only imperfectly informed about the characteristics and the history of the candidates, we assume that the voter will form some expectations about the value of these candidates based on two types of information: (i) the party a candidate belongs to; (ii) some candidate-specific information she might have gathered in the past.

Let us start with the former. We assume that the voter's a priori beliefs on the candidates' values from list l follow i.i.d. normal distribution with mean 0 and standard deviation s^l . The distribution of these a priori beliefs are the same for all candidates in the party. It summarizes the general information the voter has about this party. We will interpret s^l as the *a priori heterogeneity* in the party. For example, a large party that is well known to encompass a large variety of ideological views will have a large s^l , whereas a party which mainly focuses on one single issue will have a low s^l .

Besides this general information about the party, the voter also has the opportunity to learn some specific information about the candidates on the list. It might be obtained through the electoral campaign, or because some candidates have already served in the government or in past legislatures, or because they have been exposed in the media for whatever reasons (including some corruption scandals). We will capture this candidate-specific information by assuming that the voter receives a signal y_c^l that is informative about the value to her of candidate c . More specifically, we will assume that: $y_c^l = x_c^l + \epsilon_c^l$, where ϵ_c^l is normally distributed with mean 0 and standard error σ_c^l (the ϵ_c^l are assumed to be independently distributed across candidates). The smaller σ_c^l , the higher the quality of this candidate-specific signal. Note that we allow the informativeness of the signals to vary with the candidates. Indeed, within the same list, some candidates might have served longer terms in the past, or have received more

exposure in the media than others.

Under these assumptions, given her general information about the party and conditional on the candidate-specific signal y_c^l , the voter updates her beliefs about the value of candidate c , and at the time of the vote, the expected rating is:

$$q_c^l = \frac{(s^l)^2}{(s^l)^2 + (\sigma_c^l)^2} * y_c^l. \quad (10)$$

The updated value q_c^l is a convex combination of the prior (0) and the signal (y_c^l). If $\sigma_c^l \rightarrow +\infty$ (no candidate-specific information), the updated value coincides with the prior (0), and if $\sigma_c^l \rightarrow 0$ (perfect candidate-specific information), the updated value coincides with the signal, which itself coincides with the candidate value (x_c^l).

Votes under closed list and open list systems: In the closed list system, if a voter votes for a list, she has to vote for all the candidates on the list. By contrast, in the open list system, the best choice is to vote only for candidates with a positive (expected) ratings (q_c^l). The difference between the maximal utility a voter can derive from voting for list l under the open list system and the utility she derives from voting for this same list under the closed list system is given by formula (5) in the main text. Substituting for the expression of q_c^l given in (10), one gets:

$$U_{open}^l * - U_{closed}^l = \sum_c \left(\frac{(s^l)^2}{(s^l)^2 + (\sigma_c^l)^2} * (\Psi^+ * \max[y_c^l, 0] - \Psi^- * \min[y_c^l, 0]) \right) > 0. \quad (11)$$

Expression (11) confirms that whatever the true quality of the candidates and whatever the signals, participation should be higher under the open list system than under the closed list system.

Comparative statics: To derive some comparative statics with respect to the a priori heterogeneity of the list (s^l) and the precision of the signal of the candidates' quality ($1/(\sigma_c^l)^2$), we compute the ex ante expectation of quantity (11). Note that at this ex ante stage, $y_c^l = x_c^l + \epsilon_c^l$ is normally distributed with mean 0 and variance $(s^l)^2 + (\sigma_c^l)^2$. Noting that:

$$E[\max(y_c^l, 0)] = \frac{\sqrt{(s^l)^2 + (\sigma_c^l)^2}}{\sqrt{2\pi}} = -E[\min(y_c^l, 0)], \quad (12)$$

one gets that, in expectation, the difference in utility of voting for a given list under open and closed list systems, denoted ΔU , is:

$$\Delta U = \frac{\Psi^- + \Psi^+}{\sqrt{2\pi}} * \sum_c \frac{(s^l)^2}{\sqrt{(s^l)^2 + (\sigma_c^l)^2}}. \quad (13)$$

Computing the partial derivatives yields:

$$\frac{\partial(\Delta U)}{\partial((s^l)^2)} = \frac{\Psi^- + \Psi^+}{2\sqrt{2\pi}} * \sum_c \frac{(s^l)^2 + 2(\sigma_c^l)^2}{((s^l)^2 + (\sigma_c^l)^2)^{3/2}} > 0, \quad (14)$$

$$\frac{\partial(\Delta U)}{\partial(\sigma_c^l)^2} = -\frac{\Psi^- + \Psi^+}{2\sqrt{2\pi}} * \sum_c \frac{(s^l)^2}{((s^l)^2 + (\sigma_c^l)^2)^{3/2}} < 0, \quad (15)$$

$$\frac{\partial^2(\Delta U)}{\partial((s^l)^2)\partial(\sigma_c^l)^2} = \frac{\Psi^- + \Psi^+}{4\sqrt{2\pi}} * \sum_c \frac{(s^l)^2 - 2(\sigma_c^l)^2}{((s^l)^2 + (\sigma_c^l)^2)^{5/2}}. \quad (16)$$

we can now state the following claim:

Claim: *In expectation, the difference in utility of voting for a given list under open and closed list systems is increasing with a priori heterogeneity of the list $((s^l)^2)$ and with the precision of the signals on the candidates $(1/(\sigma_c^l)^2)$.*

This claim provides support for our main prediction. Indeed, the incumbent party is characterized by a presumably large a priori diversity and good information on candidates. It should be the list that benefits the most from opening the lists. By contrast, the small parties are a priori less diverse and voters have poor information on their candidates. In relative terms, they should lose from opening the lists.

Remark: Note that the sign of the interaction effect between heterogeneity and candidate-specific information is ambiguous (see the sign of the cross derivative in (16)). Increasing the precision of the signals on a candidate interacts positively with the a priori heterogeneity of the list only at relatively low joint levels of heterogeneity and precision (condition $(s^l)^2/(\sigma_c^l)^2 < 2$ in (16)).