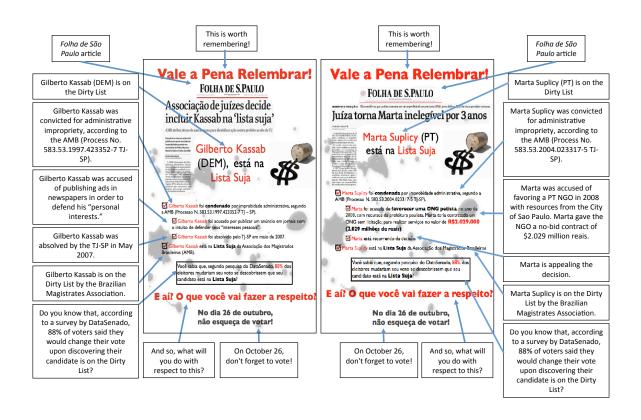# When Do Voters Punish Corrupt Politicians?

Supplementary Appendix

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Appendix 1: The Fliers

Folha de São Paulo article

Gilberto Kassab (DEM) is on the Dirty List

Gilberto Kassab was convicted for administrative impropriety, according to the AMB (Process No. 583.53.1997.423352-7 TJ-SP).

Gilberto Kassab was accused of publishing ads in newspapers in order to defend his "personal interests."

Gilberto Kassab was absolved by the TJ-SP in May 2007.

Gilberto Kassab is on the Dirty List by the Brazilian Magistrates Association.

Do you know that, according to a survey by DataSenado, 88% of voters said they would change their vote upon discovering their candidate is on the Dirty List?

This is worth remembering!

And so, what will you do with respect to this?

On October 26, don't forget to vote!

On October 26, don't forget to vote!

And so, what will you do with respect to this?

This is worth remembering!

Folha de São Paulo article

Marta Suplicy (PT) is on the Dirty List

Marta Suplicy was convicted for administrative impropriety, according to the AMB (Process No. 583.53.2004.023317-5 TJ-SP).

Marta was accused of favoring a PT NGO in 2008 with resources from the City of Sao Paulo. Marta gave the NGO a no-bid contract of $2.029 million reais.

Marta is appealing the decision.

Marta Suplicy is on the Dirty List by the Brazilian Magistrates Association.

Do you know that, according to a survey by DataSenado, 88% of voters said they would change their vote upon discovering their candidate is on the Dirty List?

Appendix 2: Sampling Procedure

In selecting the group of precincts in the randomization group, we made a number of decisions based on our substantive interests and logistical constraints. We chose 400 of São Paulo's 1,759 precincts utilizing a constraint optimization algorithm that operated as follows:

(1) selected a relatively even mix of precincts based on the vote choice in previous elections. The specific covariates are discussed in greater detail in Section 5.2.

(2) chose precincts to maintain a relatively even mix of poor, lower middle class, and middle class precincts.

(3) maximized the distance between the treatment and control groups in order to minimize the potential for cross-over violations.

(4) selected the smallest polling locations in order to maximize statistical power.

(5) limited the geographic areas of polling locations to the north, east, and south zones of São Paulo. Due to budget constraints, the delivery company we used to deliver the fliers limited us to three geographic zones in São Paulo. These three zones best satisfied the other criteria on

which we selected the precincts in the randomization group.

(6) included precincts in areas with a high penetration of individual household units with individual mailboxes. We intentionally avoided areas with a high percentage of high-rise and mid-rise apartment buildings, because of the high likelihood of fliers not being delivered by doormen or other personnel who would control access to the buildings.

To reduce the risk of interference across experimental units, we ensured that precincts in the study were not closer than half a mile from other precincts in the study.[1]

After ensuring some amount of distance between the experimental precincts, we grouped them into blocks of two based on longitude, latitude, PT vote share in the 2004 mayoral elections, and PT vote share in the 2006 presidential elections. More specifically, we matched precincts to their nearest neighbor on a Mahalanobis distance metric. Within blocks, each precinct had an equal probability of being selected into treatment.

Appendix 3: Flier Delivery Logistics

In order to deliver the fliers, we hired a direct marketing firm with extensive experience delivering marketing and political propaganda for prominent multinational and local retailers and political candidates. The firm delivered the fliers from October 22-25, 2008 (over the four days prior to the election), and had a number of enforcement measures in place to make sure that the correct fliers were delivered to households.[2]

Unlike in the United States, Brazilian voters are allowed to choose any voting precinct within an electoral zone located where he or she resides. In 2008, the municipality of São Paulo had 1,759 precincts located in 57 electoral zones. Unfortunately, in Brazil, data is not publicly available for the precincts to which voters are zoned. We spoke to political consultants and experts in voting behavior who stated that approximately 70 to 95 percent of voters vote at the location closest to their house in São Paulo. As a result, we were unable to determine the precise households that belonged to the voting precinct. Voters are, however, only able to vote in the precinct in which they are registered. In determining the appropriate number of households to deliver fliers for a given precinct, we knew the number of voters that were
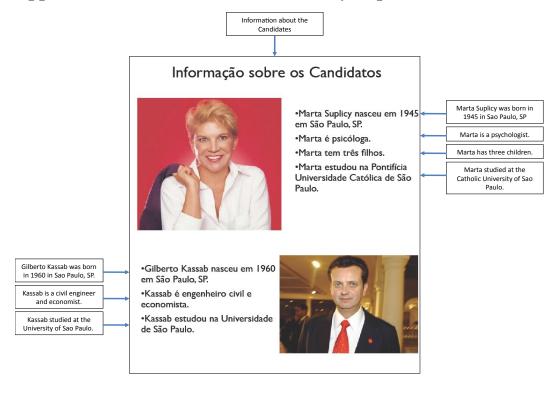
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1. It is true that despite our precautions, some interference (sometimes referred to as "SUTVA" violations) could have occurred. The most plausible scenario is that a resident in a treatment precinct could have informed a voter living in a control precinct about the content of the flier. While we think that such violations were likely to have been few given that the election occurred only a few days after the distribution of the fliers, any interference that did occur would most likely result in downwardly biased (towards zero) treatment effect estimates. Under the assumption that receiving a flier with negative information about the candidate would not induce voters to vote for the candidate, our treatment effect is a lower bound on the true average treatment effect. More precisely, if the effect of receiving the flier on whether or not a voter votes for the candidate is non-positive in both treatment households and control households that inadvertently receive the information on the flier through interference, then reported treatment effect estimates of the average treatment effect in the absence of interference are downwardly biased. Our estimates would only overstate the treatment effect in the unlikely scenario that the fliers had opposing effects, i.e. that the flier caused voters in treatment precincts to vote against the candidate and caused control households to vote for the candidate. For a precise formulation of bounds in the presence of interference, see Manski 2013.

2. First, the overwhelming majority of deliverers had worked with the firm previously, and had thus established a working relationship with the firm. Second, supervisors monitored deliverers and also performed random checks of mailboxes to ensure that the proper fliers were delivered. Third, delivery personnel carried hand radios and were monitored by a supervisor based at the office of the direct marketing firm. This supervisor had himself been a deliverer and had good local knowledge of the appropriate time it would take to complete a delivery route. Finally, the firm gave our research team unfettered access to monitor their work. We therefore conducted our own random checks of mailboxes to make sure the correct fliers were delivered and also accompanied the supervisors during the delivery.

registered to vote at the precinct. We knew that the average number of voters per household in São Paulo at the time of the election was 3.1. In order to be conservative in our estimate of households for a given precinct, we took the number of voters in the precinct, and divided the number by 2.8 to obtain the number of households within a precinct to which we would deliver fliers. We also delivered an additional ten percent of fliers because of the high likelihood of dilution in the immediate area of the precinct. The direct marketing firm maintained a current database with the number of individual houses per city block. The delivery firm located the 200 precincts in the treatment group, and gave maps to the deliverers so that they would "spiral out" from the precinct delivering all of the fliers with the precinct as the center of a radius. Supervisors dropped off delivery personnel at the voting precinct (which almost always was a school). In the weeks after the election, we also asked respondents in the treatment group the distance they lived from their voting precinct, and 63.9 percent stated that they lived 1 kilometer or less from their polling location, and 77.5 percent reported living less than 2 kilometers away from their polling location.

As a result of the imprecision with which we were able to deliver the treatment, we believe that our treatment effects most likely underestimated the impact of the treatment. While the vast majority of voters assigned to a given precinct live in the immediate vicinity of the precinct's polling station, the small number of voters who live far from the polling station—most likely because they never bothered to change their registration after moving—would not have received the flier. Furthermore it is possible that some of the residents who received fliers actually voted in a control precinct, which would further attenuate our estimate. Because we do not have precise data on which voters no longer live near their precinct's polling station, we can only estimate an "intent-to-treat" effect that is likely to be lower in magnitude than the effect among those who actually received the flier.

Appendix 4: Placebo Flier for the Survey Experiment

Appendix 5: Balance on Baseline Variables (N=400)

Variable	Mean Diff	Standard Error	t-Test p-Value	KS-test p-Value
Number of Registered Voters	-298.38	133.42	0.03	0.09
PT Mayor Vote % (2004)	-0.32	0.98	0.74	0.54
PT Pres. Vote % (2006)	0.07	1.12	0.95	0.86
PT Congress Vote % (2006)	-0.06	0.72	0.93	0.99
PSDB Congress Vote % (2006)	0.32	0.63	0.62	0.14
1st Round Suplicy Vote % (2008)	-1.10	1.37	0.42	0.54
1st Round Kassab Vote % (2008)	0.14	0.74	0.86	0.79
1st Round Blank Vote % (2008)	-0.02	0.08	0.78	0.92
1st Round Invalid Vote % (2008)	-0.07	0.08	0.41	0.79
1st Round Turnout % (2008)	0.20	0.32	0.52	0.18
PT City Council Vote % (2008)	-0.65	0.83	0.43	0.54
PSDB City Council Vote % (2008)	0.86	0.60	0.15	0.33
DEM City Council Vote % (2008)	0.22	0.44	0.62	0.47

Appendix 6: Legal and Ethical Issues

We faced some legal and ethical issues in carrying out this project, and responded by having a number of safeguards in place. The concerns involved legal and ethical issues not only in Brazil, but also in the United States.

We received funding from the University of California, Berkeley, and Yale University to carry out the project. Both are non-profit (501(c)(3)) institutions that are prohibited from engaging in political advocacy. We inquired with Yale Law School's Non-Profit Organizations Clinic to make sure that we complied with this restriction, and drew on the experience of previous electoral field experiments done in the United States as a precedent for complying with this prohibition. This prohibition partly factored into our choice of São Paulo as the site where we conducted the field experiment. We not only performed the intervention in a place where both candidates had corruption convictions, but we chose the run-off election so as not to have effects on the vote shares of other candidates that could affect the outcome of the election. We also obtained approval from human subjects committees at Berkeley and Yale.

Polls immediately prior to the election from prominent organizations such as Datafolha and Ibope showed that Kassab had roughly a twenty percentage point lead over Suplicy. Our treatment of 187,177 households reached an estimated six to seven percent of the electorate of São Paulo. Even if every voter responded to the treatment, we believe the likelihood of the field experiment affecting the overall outcome was extremely unlikely. Though to our knowledge there were no prior electoral field experiments of this sort conducted in Latin America, we examined the findings of electoral field experiments conducted in other regions. The largest treatment effect for this sort of project that we found was slightly below nine percentage points (Gerber, Green, and Larimer 2008; Gerber and Green 2008). In addition, we delivered the fliers immediately prior to the election (from October 22 until October 25, 2008) to minimize the likelihood of the information spreading to other areas, and also to decrease the chances of the parties reacting strategically to the experiment. While in São Paulo, we sought counsel from an election lawyer to make sure we were in compliance with Brazilian electoral laws. The lawyer assured us that so long as we were not affiliated with any candidate or party, we would

be in compliance with the Brazilian Electoral Code. We also sought the opinion of a former electoral judge, who felt that the study was in compliance with local laws. Finally, we informed an electoral judge of the research design and also gave him the fliers prior to the launch of the field experiment.

References

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