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João Pereira dos Santos, José Tavares and Pedro C
Vicente

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Abstract

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JEL Classification: C93, D72, H70

Keywords: Voter mobilization, ATMs, Portugal, Local Elections

João Pereira dos Santos - joaorpereirasantos@gmail.com
Nova School of Business and Economics

José Tavares - jtavares@novasbe.pt
Nova School of Business and Economics and CEPR

Pedro C Vicente - pedro.vicente@novasbe.pt
Nova School of Business and Economics

Can ATMs Get Out the Vote?
Evidence from a Nationwide Field Experiment[Ψ]

João Pereira dos Santos[1]
Nova School of Business and Economics (Nova SBE)

José Tavares[2]
Nova School of Business and Economics (Nova SBE), and Centre for Economic Policy Research (CEPR)

Pedro C. Vicente[3]
Nova School of Business and Economics (Nova SBE), NOVAFRICA, and BREAD

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Abstract

We report on a large-scale field experiment to assess ATMs (automatic teller machines) capacity to "get out the vote". This is a heretofore unexploited method. Our experimental design used the universe of functioning ATMs in Portugal. We randomly selected a set of treatment civil parishes, where a civic message took over the totality of ad time, which we compare with a set of control areas. The campaign we follow was active for three days before and during the 2017 local elections. Although we do not achieve statistical significance on a stable but small average treatment effect, when we consider the intensity of treatment, results show a statistically significant increase in the likelihood of voting. Placebo tests using turnout rates in previous elections strengthen our interpretation. We ran a post-treatment survey around ATMs located in two neighbouring civil parishes, one treated, the other not. We found a sizeable difference in recall.

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I. Introduction

Low and declining levels of voter turnout constitute a fundamental problem for democracies, raising questions of legitimacy and representativeness, as well as challenging the idea of political accountability. Why a rational individual would spend time and resources to become informed and vote constitutes a classical puzzle, which has attracted a significant body of work in economics and political science.[4] In this context, studies examining which factors influence electoral participation have gained relevance. Observational studies, as surveyed in Cancela and Geys (2016), have addressed the question by establishing positive correlations of voter turnout with campaign expenditures and election closeness. In a more recent generation of studies, surveyed by Gerber and Green (2017), experimental methods have allowed researchers to credibly estimate the causal effects of specific interventions. Randomized field experiments, taking place unobtrusively in real-world settings, are better designed to address inference identification problems such as self-selection, strategic targeting, or unobserved confounders. This literature documents large impacts of relatively expensive personal contact and of interventions activating peer pressure.

This paper contributes to the literature on electoral participation using experimental methods by conducting an experiment which uses the highly-granular universe of ATM (automatic teller machines) terminals in Portugal. We aim at determining whether low-cost, impersonal reminders which emphasize the idea of civic duty, when exhibited in the days

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[4] Several distinct theories have tried to rationalize the decision of voting. According to rational choice theory, the positive expected utility from participating is associated with the possibility of one's vote being decisive or pivotal – typically, a probability close to zero. See Downs (1957), and Dhillon and Peralta (2002) for a survey. A more general approach contemplates ideological and valence elements to voter's preferences, as in Fedderson and Pesendorfer (1997). The leading alternative to these instrumental voting models are ethical models, starting with Riker and Ordeshook (1968). This strand of the literature argues that voters derive utility from the act of turnout (through a general sense of duty), separate from the consequences of their vote, as discussed, for instance, in Feddersen and Sandroni (2006). According to Hillman (2010), voting creates positive expressive utility, independent from the outcome, derived from a conception of civic duty or expressive confirmation of identity.

leading to local elections, can mobilize voters to vote, and if yes, by how much. The ATM network in Portugal, *Multibanco*, is known to be a credible communication channel, associated with high levels of security, performance and reliability. Besides account information and withdrawals, the ATM network has the largest number of functionalities worldwide – 60 innovative operations including mobile top-ups, the possibility of buying transportation and music festival tickets, as well as performing instantaneous interpersonal transfers between accounts of different individuals, and paying for an array of government taxes and licences.[5] It is one of the largest interbank networks within Europe, operating over 12,700 terminals and processing over 75 million transactions worth €4.8 billion per month.[6] To put into context, in 2017, there were more than 21,18 million of payment cards (Banco de Portugal, 2019) for a population of about 10,31 million citizens (Statistics Portugal).

Our ATM treatment was implemented in a randomly selected sample of municipalities, where a "get out the vote" (GOTV) advertisement reached potential voters using ATM machines. This message was activated during the two and a half days leading up to the election, in three different moments: before and after ATM users introduced their banking card (around 3 seconds), while they waited to withdraw cash (around 6 seconds), and while they waited to perform other operations (around 6 seconds).

We combine official turnout records for treated and control civil parishes (*freguesias*)[7] with descriptive information provided by the ATM company on cards, operations, and withdrawals. We account for potential confounding factors using detailed socio-economic and political information for a cross-section of more than 1700 civil parishes. One week after the local elections, we conducted a follow-up survey in

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[5] A proof of the credibility and granularity of the Multibanco system is the 2011 public discussion of its potential use as a voting network (see https://www.rtp.pt/noticias/economia/voto-simplex-via-caixas-multibanco-distinguido-no-movimento-milenio_n430575).

[6] The only competitor of the dominant *Multbanco* network has 300 terminals, concentrated in tourist areas and thus directed at non-voters. See https://www.publico.pt/2017/01/02/economia/noticia/euronet-a-unica-alternativa-a-tradicional-rede-multibanco-da-sibs-ja-tem-300-caixas-em-portugal-1756507.

[7] Civil parishes (*freguesias*) are the lowest local administrative unit in the country.

neighboring treated and control parishes in Lisbon, interviewing more than 200 ATM users, in order to gauge whether they recalled the treatment messages.

We find no statistical significance impact of the treatment *per se*, but our results on the intensity of treatment, for either the entire campaign period or the weekend period (knowing that the election was on a Sunday), show the campaign is responsible for a statistically significant 0.1 percentage-point increase in the average likelihood of voting. Our findings are robust to three alternative measures of user intensity: number of cards used, operations conducted, and withdrawals. Placebo tests using previous election turnout rates show no impact whatsoever of the intensity of treatment on turnout rates.

The application of field experiments to the study of electoral participation traces its origins in the early contributions by Gosnell (1927) and Eldersveld (1956). However, this literature was only re-activated in the late 1990s. In this context, a plethora of (i) communication modes and (ii) message contents to encourage citizens to go to the polls were studied using field experiments.

Communication modes tested in the literature range from the highly personal to the highly impersonal: results suggest that impersonal and passive methods of contact are less effective at mobilizing voter turnout than personal interactions. For example, Gerber and Green (2000) found that nonpartisan face-to-face canvassing increased turnout in an uncontested American election by five to eight percentage points, compared to less than 1 percentage point for live phone calls and mailings.[8] Message contents tested in the literature explored various dimensions like social norms, explicit peer pressure, and reciprocity. In an influential study of American elections, Gerber et al. (2008) highlight that, even in one-way communications, showing citizens their voting record, or that of their neighbours, which is

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[8] This relative effectiveness has been replicated in local (Green et al. 2003) and federal elections in the U.S. (Nickerson et al., 2006). The findings of Green and Gerber (2000) have been contested by Imai (2005) who demonstrates that telephone canvassing increased turnout by five percentage points while employing matching techniques (see Green and Gerber, 2005, for additional debate). In Europe, Bhatti et al. (2016) show that the effects of door-to-door canvassing are substantially smaller than the ones found for the U.S.

likely to activate existing social norms related to peer pressure, can render campaigns more effective.

A number of one-way means of GOTV contact were also tested in the literature. Dale and Strauss (2009) show that text messages on mobile phones reminding recipients that the election day approaches can succeed in increasing turnout of registered voters, that is, those that have signalled their interest in voting. Other modes include radio – Panagopoulos and Green (2008), newspapers – Gerber et al. (2009), street signs – Panagopoulos (2009), TV – Gerber et al. (2011), and social media platforms such as facebook or whatsapp – Enríquez et al. (2019). Although this literature became most developed for the US, a number of different geographical contexts have expanded the scope and range of interventions studied.[9] Our experiment has the benefit of estimating the impact of a low-cost one-way mode of communication – through ATM messaging, on the full universe of voters in Portugal, while using a message that targets the social norm of civic duty related to electoral participation.

The remainder of the paper is organised as follows. Section II addresses the methods and data whereas Section III presents and discusses the empirical results. Section IV describes a recall field experiment and examines the results. Section V concludes.

II. Institutional background

A democratically elected local administration exists in Portugal since the 1976 Constitution came into force, identifying three administrative divisions in the country

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[9] Other examples of randomized voter mobilization applications include studies in the U.K. (John and Brannan, 2008), Mexico (Chong et al., 2014 and Enríquez et al., 2019), São Tomé and Principe (Vicente, 2014), Nigeria (Collier and Vicente, 2014), Sweden (Nyman, 2017), Mozambique (Aker et al., 2017), Perú (León, 2017), and France (Pons and Liegey, 2018). Large-scale partisan interventions have also been analysed in Benin (Wantchekon, 2003), Italy (Kendall et al., 2015), and France (Pons, 2018). Recent quasi-experimental studies have also looked at different types of voter mobilization: Barone et al. (2015) and Ellingsena and Hernæsb (2018) looked at the case of access to digital/cable TV in Italy and Norway (respectively). Using similar methodologies, Shue and Luttmer (2009) for the US, and Hodler at al. (2015) for Switzerland, analyze the impacts of different voting technologies.

(Articles 235-262): civil parishes (*freguesias*), municipalities (*municípios*), and administrative regions (*regiões administrativas*). Civil parishes are the lowest administrative unit, ruled by an executive body, civil parish board (*junta de freguesia*), and a deliberative body the civil parish assembly (*assembleia de freguesia*). Local elections are exogenously fixed every four years for the civil parish assembly, whose winner is elected president of the civil parish.[10] The lists are closed, and the seats assigned according to the D' Hondt proportionality method. Unlike in national legislative elections, independent lists are allowed to run.

Before 2013, the 308 municipalities were subdivided into 4259 civil parishes. However, In the aftermath of bailout negotiations with the International Monetary Fund, the European Central Bank and the European Commission, the Portuguese government was forced to reduce the number of these units according to Law 11-A/2013 of 28 January 2013. This way, the number of parishes was reduced from 4259 to 3091.

Our field experiment took place in the days leading up to the 2017 municipal elections, October 1, 2017. Figure 1 presents turnout rates for this election and the 3091 civil parishes. We exclude from our experimental sample all civil parishes with no ATM machine in the days before the 2017 local election.

[Insert Figure 1 here]

III. Experimental design

III. 1. Treatment

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[10] Simultaneously, elections are held for Municipal Town Halls (*Câmara Municipal*), and Municipal Assemblies.

Our treatment consisted on the exhibition, on all ATM machines of treated civil parishes, of an advert reminding voters that voting is a civic duty, as well as reminding them of the election day.[11] This happened just before and on the election day for a period of three days, between Friday and Sunday (the election day), until 3 p.m. So, in succession, the messages pointed "Vote is a Civic Duty – Vote Sunday" presented Friday, "Vote is a Civic Duty – Vote Tomorrow" presented Saturday, and finally, "Vote is a Civic Duty – Vote Today" presented on election day.[12] The advertisements are shown in Figure A1 of the Appendix to this paper. We obtained authorization to use the official layout – images, lettering, and official seal of the National Electoral Commission. ATMs in control civil parishes displayed publicity for TV soap-opera and car commercials.

III. 2. Sampling, randomization, and measurement

We restrict our attention to the 1704 civil parishes that have at least one ATM, a geographical area comprising more than 90% of the population of Portugal according to the 2011 census. The allocation of treatment and control conditions to the set of civil parishes followed a standard randomization procedure in two steps: (i) we first formed blocks of two civil parishes within each municipality, conditional on observables; (ii) we then randomly assigned the treatment and control conditions to civil parishes within each block. The referred observables, allowing for *a priori* balance between treatment and control, were: voters density (i.e., the number of registered voters divided by the civil parish area), the number of well-functioning ATM devices, the number of commercial bank agencies, the turnout rate for the previous local elections in 2013, and a term limit dummy

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[11] Dale and Strauss (2009) show that, for certain citizens, a noticeable reminder is enough to drive them to cast a vote.
[12] Nickerson (2007) presents evidence on timing effects, namely that phone calls made more than one week before the election are ineffective.

variable taking value one if the civil parish president cannot run for another term.[13] As voter turnout tends to be highly persistent, controlling for pre-treatment records of the outcome variable is especially important, as pointed in McKenzie (2012). Figure 2 shows the spatial allocation of treatment and control groups.

[Insert Figure 2 here]

During the 63 hours of the treatment, our campaign reached more than 1.5 million unique cards in 682 civil parishes.

III. 3. Data

Outcome variables, including the number of registered and actual voters for the 2017 local elections and for previous elections, are obtained from official turnout records for civil parishes. These data are combined with treatment assignment and descriptive information provided by the ATM company on three treatment intensity measures: the number of cards, the number of operations, and the number of withdrawals. Recall that withdrawals are just one of the possible operations that can be done in the Portuguese ATM network.[14] All these numbers do not include foreign credit or debit cards. We are able to distinguish between number of operations during the three days of the campaign and during the weekend of the elections. We also collected data on a series of potential socio-demographic, political, and economic controls. Table 1 presents the descriptive statistics of our sample.

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[13] Veiga and Veiga (2018) study the impact of the 2013 introduction of mayoral term limits on turnout and show that presence of term-limited incumbents has a positive impact on voter participation. For more information about the impact of this reform on incumbency advantage and local fiscal policy choices see Fonseca (2017) and Fonseca (2019), respectively.

[14] In 2017, withdrawals accounted for less than 30% of the operations in *Multibanco* (Banco de Portugal, 2017).

[Insert Table 1 here]

Besides the variables considered as part of the randomization procedure, we will add a vector of socio-demographic covariates to our analysis. Education is one of the strongest predictors of voter turnout, so we include the shares of both the population with no primary education and with tertiary education. We use the unemployment rate and the mean value withdrawn in ATMs on September 2016 as proxies for the economic environment.[15] Both the education measures and the unemployment rate were obtained from the 2011 census operation of the Portuguese National Institute of Statistics (*INE*).

Our analysis will also consider a vector of institutional variables. Political competition has been shown to positively affect turnout, as in Gerber et al. (2017) and others.[16] We take two variables proxying for local competitiveness: the percentage difference in the vote on the two largest parties in the 2013 local elections, i.e., the winning margin in those elections, and the number of candidates in the 2017 municipal election. We also include whether the incumbent mayor has independently run for office and the share of leftist mandates in the Municipal Assembly as defined in the 2013 elections. These variables are provided by *Direção Geral Autarquias Locais* (*DGAL*).

Balance tests on the variables described in this subsection are presented in Table A1 of the Appendix to this paper: they show that randomization was successful in creating comparable treatment and control groups.

III. 4. Econometric specifications

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[15] Martins and Veiga (2012), using panel datasets covering all mainland municipalities, from 1979 to 2005, and cross-sections of civil parishes for 2011 show that turnout in legislative and local elections react to the state of the economy.
[16] This is consistent with evidence from lab experiments. Levine and Pelfrey (2007), Duffy and Tavits (2008), Agranov et al. (2017) find that a higher chance of being pivotal, as in smaller elections or when elections are closely contested, leads to higher voter turnout.

We estimate the intent-to-treat (average treatment effects) impact of the campaign using the following specification:

$$Turnout\ Rate_{im} = \alpha_m + \gamma.Treatment_i + \beta.X_i + \varepsilon_i \qquad (1)$$

where the outcome variable is the ***Turnout Rate*** for the 2017 local elections, determining who will become president of the civil parish board. i denotes a Civil Parish. α_m includes binary variables for each of the 308 Portuguese municipalities (denoted by m). ***Treatment*** is a binary indicator that takes value one if the civil parish was treated. γ is our coefficient of interest, capturing the effect of being assigned to the treatment group. It captures both the direct impact of the campaign on voters who saw it with potential indirect spillover effects stemming from interactions between voters who have seen the campaign with those who have not seen the campaign, in the same or in another civil parish. X is a vector of covariates including the stratification controls, as well as the socio-demographic and institutional variables specified above. ε_i accounts for robust standard errors given that the unit of observation and the unit of randomization are the same.

As it is the case in several GOTV efforts, our campaign does not reach everyone assigned to the treatment group, and may reach people in the control group as a spillover effect. This happens because some of the voters in the treated civil parish may not use the ATM machines, nor interact with people who use them. In fact, it could happen that some of these voters are users of ATM machines in control locations (e.g., where they work, study, or shop). At the same time, voters in non-treated civil parishes, may have used ATM machines in treated civil parishes. As pointed out by Arceneaux and Nickerson (2009), "the failure to treat problem does not bias the estimates of the empirical model (…), because random assignment ensures that (within sampling variability) the treatment and control

group have an equal proportion of contactable individuals." Nevertheless, while the intent-to-treat effect allows us to evaluate the effects of a program, it is not suitable to estimate the behavioural response of individuals to the actual program intervention. Both these possibilities, if real in our experiment, contribute to bias treatment effects towards zero. Some of the robustness tests we show below will attempt to minimize the extent that these biases are at work.

We also estimate the following equation taking into account three measures of campaign intensity:

$$Turnout\ Rate_{im} = \alpha_m + \gamma_1\ Treatment_i + \gamma_2\ Intensity_i + \gamma_3\ Treatment_i * Intensity_i + \beta\ X_i + \nu_i$$

(2)

where we consider three different measures of *Intensity* provided by the ATM company: the number of cards, the number of operations, and the number of withdrawals. γ_3 is our coefficient of interest, which tests whether more intensely treated civil parishes are associated with significantly higher turnout rates. Control variables are particularly important in this setting. This is the reason we selected a set of control variables that features prominently in non-experimental turnout studies.

Finally, we run a specification to examine whether ATM users j recalled seeing the campaign in two contingent civil parishes as follows:

$$Recall_j = \gamma.Treatment_j + \beta.X_j + \varepsilon_j \qquad (3)$$

here *Recall* is a binary indicator taking value one if the subject recognizes the image of the campaign. γ is our coefficient of interest. X is a vector of control variables such as gender, age, self-reported education level, and self-reported interest in politics. We present the summary statistics for these variables in Table A2 of the Appendix to this paper.

IV. Results

IV.1 Average treatment effects

In Table 2 we present the results for the intent-to-treat estimates from equation (1). Across specifications, our findings suggest that treatment causes an increase in turnout of around 0.1 percentage points, although it never reaches standard levels of statistical significance. It is reassuring to see that the magnitude of the effect is stable as controls are added across specifications, at the same time that the precision of the treatment effect increases.

[Insert Table 2 here]

IV.2 Heterogeneous effects and Robustness

We now focus on estimating how the intensity of treatment affects voter turnout, making use of information provided by the ATM company, including the number of cards, operations, and withdrawals by civil parish. In addition to the binary treatment variable, we now include, successively, these three different indicators of intensity of ATM usage during the campaign, as well as the interaction term between intensity and treatment. Table 3 presents estimates for equation (2) using information on the intensity of treatment for the entire campaign period. The odd columns show results for the 308 municipalities, whereas even columns show similar results after adding the vector of stratification and additional controls.

Our results in Table 3 suggest that the wide use of ATMs can be a powerful tool for mobilizing voters. Taking into account the average ATM usage for the sample of civil parishes, our results translate into an increase in the average likelihood of voting by 0.1 percentage points. These results are statistically significant and stable across the three proxies of intensity of ATM usage.

[Insert Table 3 here]

In face of our concern that there could be a downward bias in treatment effects due to a mismatch between voting and treatment locations for a share of the voters, we restrict our attention to the intensity derived from ATM usage during the weekend, when voters moving across parishes for employment reasons is more likely to be minimal. Table 4 presents results using weekend intensity measures and confirms our previous results.

[Insert Table 4 here]

For an easier interpretation of results, we compare the magnitudes for the mean and the median values of the three intensity measures. Figure 3 presents the results. We can see that point estimates for the total campaign period and weekend yield very similar results.

[Insert Figure 3 here]

In addition, we also run a battery of robustness exercises. First, we exclude the large urban areas of Lisbon and Oporto (in Table A3 of the Appendix to this paper), as well as the autonomous regions of Azores and Madeira (in Table A4 of the Appendix to this

paper). These specifications aim to disregard possible concerns with the result being driven by more urban areas or insular regions. The results remain unchallenged. Finally, we run a horse race to test if our main result is affected by differences in important control variables in the treatment and control areas. For that we modify equation (2) by adding an interaction term between the treatment status and selected control variables.[17] These results (reported in Table A5 of the Appendix to this paper) confirm the reliability of our findings.

IV. 3 Falsification tests

In Table 5 we present again estimates considering the intensity of treatment for the entire campaign period but use the turnout rates for (i) the 2014 European elections, (ii) the 2015 legislative elections, and (iii) the 2016 presidential elections as the dependent variable. This constitutes a placebo test for our parameters of interest. We find no statistically significant effect of the campaign on turnout using the alternative placebo dependent variables, further strengthening our interpretation of the results as causal, associated with the specific timing and scope of the nationwide field experiment.

[Insert Table 5 here]

IV.4 Results of the post-treatment recall survey

We conducted a post-treatment survey in eight ATMs in two contiguous civil parishes in Lisbon on Sunday October 8, 2017, one week after the local elections, between 10 a.m. and 1 p.m. One of the civil parishes belonged to the treatment group and the other

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[17] For space considerations, we present the results for the number of cards as our intensity measure. Results for the other intensity measures are available from the author's upon request.

to the control, respectively *Campo de Ourique* and *Estrela*. Figure 4 presents a map of the exact location of the eight ATMs, four in the treated and four in the control civil parishes.

[Insert Figure 4 here]

All individuals who used these ATMs in the referred period were approached by the enumeration team, leading to slightly less than 200 valid interviews. All enumerators received detailed training and advice on how to start and lead the questionnaire. Moreover, enumerators were not told about if they were in a treated or control area. The goal of this exercise was to assess whether there were significant differences in recall for treated and control groups. Enumerators confronted ATM clients with a visual copy of our campaign, asked whether they recalled seeing the image, and further collected information on socio-demographic characteristics of the interviewees such as age, gender, self-reported education level, and self-reported interest in politics.[18]

Table 6 presents the results using a linear probability model for the likelihood of recall using equation (3).[19] The results show a large and statistically significant difference in recall between the treatment and the control civil parishes.

[Insert Table 6 here]

Concluding Remarks

We conducted a field experiment that encompassed the entire universe of ATM machines in a country to assess whether treating a subset of civil parishes with a get out the

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[18] Table A2 of the Appendix to this paper presents the summary statistics for these control variables.
[19] We examined results using a Probit specification and obtained very similar outcomes.

vote message based on activating the social norm of civic duty delivers higher turnout. Portugal is an appropriate testing ground as there is an ATM system that is both virtually universal, and particularly credible – it is the base for a wide array of sensible financial and tax operations in the country. ATMs are so far an unexploited mode of communication for voter mobilization. All ATM users in treated civil parishes were subject to a message encouraging turnout based for three consecutive days leading to the day of the local elections in 2017. In the treated civil parishes, ATM users were exposed to no other message in ATMs, while in non-treated civil parishes voters were exposed to the usual advertisement messages. Taking into account the number of unique cards who saw our treatment (more than 1.5M) in the 63 hours of the campaign, the cost of reaching an additional potential voter was below 5 cents. Moreover, ATMs differ from other methods such as canvassing and phone calls, as they do not require long and expensive training costs.

While the estimated impact of treatment on turnout, despite the stability of the estimates, is not significant, results that consider the intensity of treatment measured by the number of ATM users, the number of operations and the number of withdrawals show a statistically significant effect on turnout. This is true for the whole treatment period, as well as for the weekend, where confounding effects are less likely. A placebo test using turnout for the previous election further strengthens our causal interpretation.

The short time frame for which the experiment was run, and the low-cost and wide dissemination of the communication tool suggest a great potential of ATMs for channelling get out the vote campaigns. In fact, as voting moves to electronic platforms in many countries, and ATMs represent a highly secure network with unique capillarity, one can envision that electoral communication and procedures can increasingly be taken to these networks.

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Figures

Figure 1. Turnout Rates (in %)

2017 Local Elections - Mainland Portugal
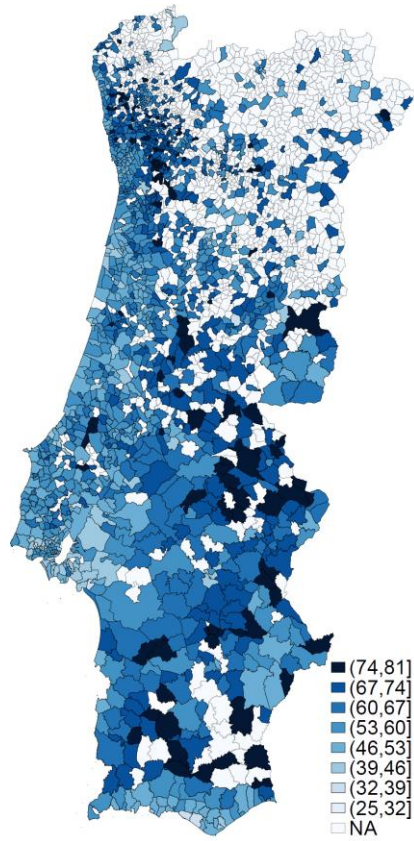
Figure 2. Treated vs. Control Civil Parishes

2017 Local Elections - Mainland Portugal
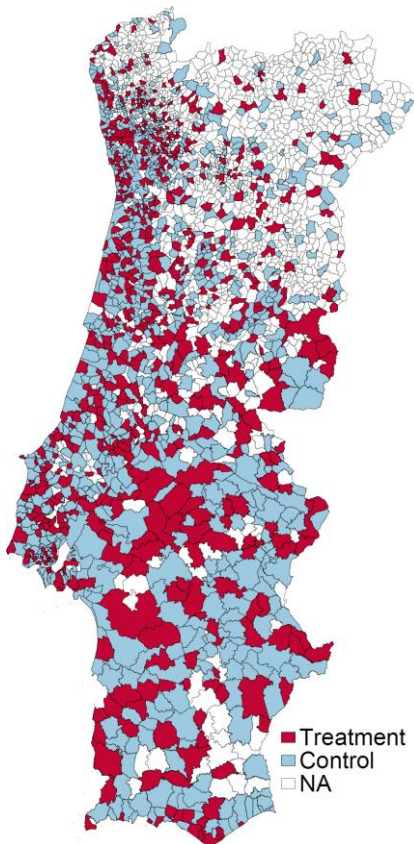
Figure 3. Interpretation of Intensity Effects: Mean and Median
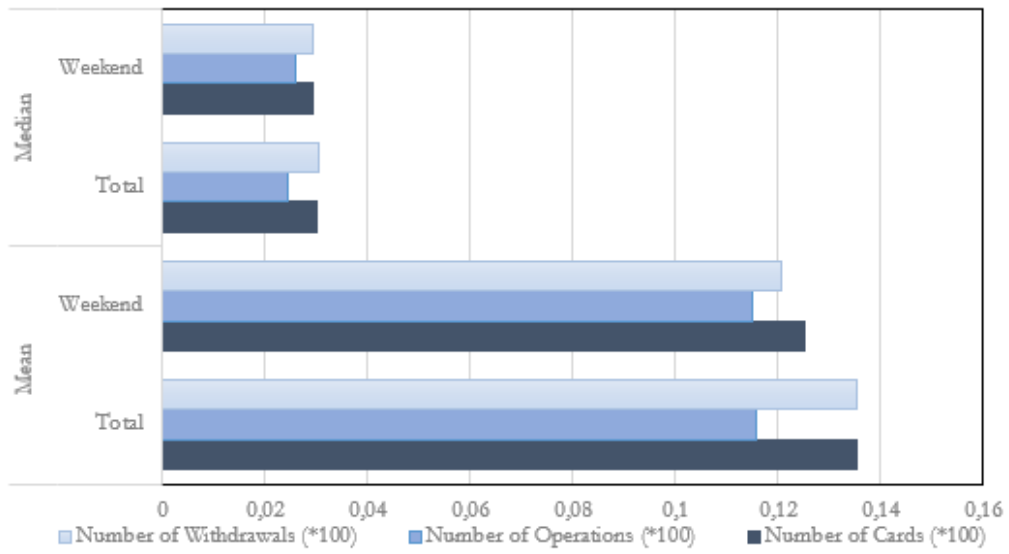
Figure 4. Recall: Treated and Control ATMs
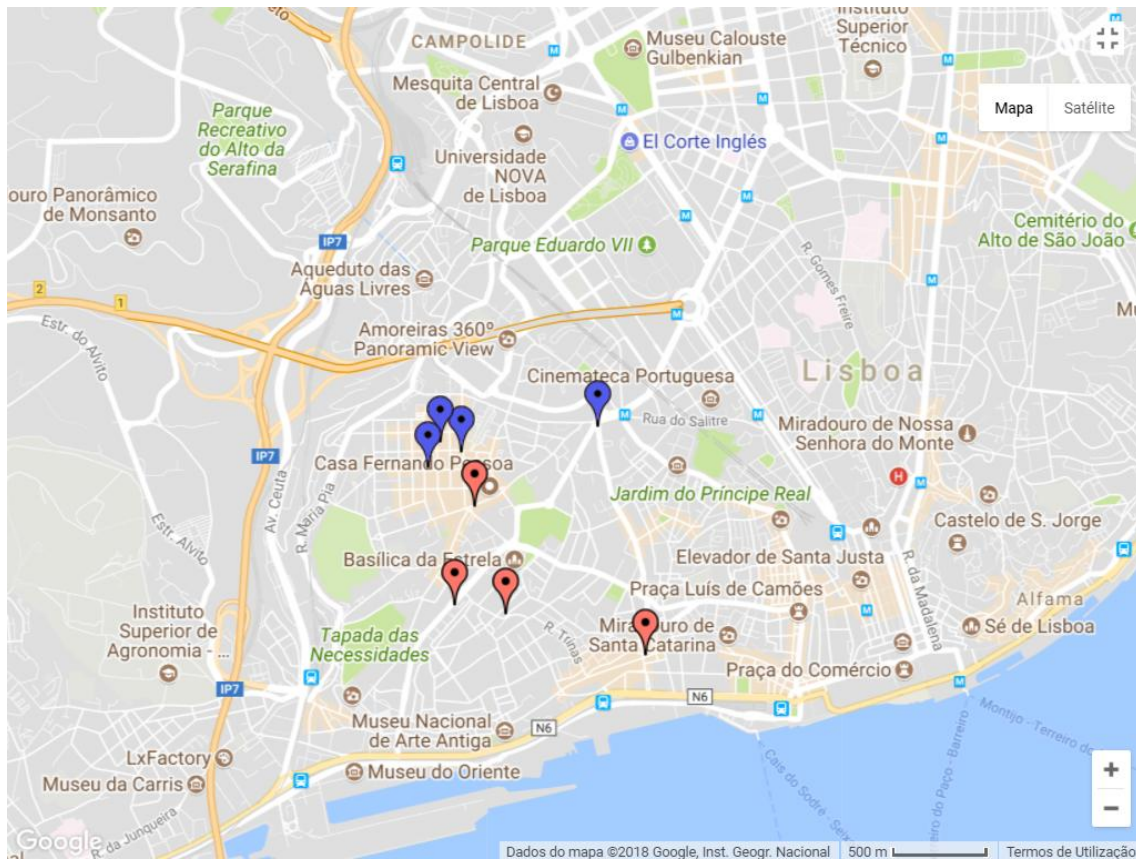
Note: Treated ATMs (*Campo de Ourique* civil parish) in Blue and Control ATMs (*Estrela* civil parish) in Red.

Tables

Table 1. Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Dependent Variable (%)				
Turnout Rate 2017	61.222	9.266	34.61	89.154
Turnout Rate EU 2014	33.833	7.278	0	64.63
Turnout Rate Legislative 2015	56.17	7.591	22.423	80.335
Turnout Rate Presidential 2016	48.957	8.025	17.09	74.36
Experimental Variables				
Treatment	0.4	0.49	0	1
Intensity Measures: Total				
Number of Cards (*100)	22.573	49.317	0	532.59
Number of Operations (*100)	38.522	84.409	0	869.99
Number of Withdrawals (*100)	19.305	41.691	0	467.8
Intensity Measures: Weekend				
Number of Cards (*100)	12.525	26.317	0	259.34
Number of Operations (*100)	19.123	40.695	0	399.11
Number of Withdrawals (*100)	10.042	20.884	0	224.09
Stratification Controls				
Voters Density	512.904	1292.266	1.729	14081.45
Number of ATM Devices	7.006	14.334	1	162
Number of Commercial Banks	1.19	3.225	0	36
Turnout 2013 (%)	59.509	9.913	5.869	100
Term Limit Dummy 2017	0.086	0.28	0	1
Other Controls				
Socio-demographic and Economic				
Population Below 15 Share 2011 (%)	24.658	4.973	5.941	47.09
Population Above 70 Share 2011 (%)	16.532	7.335	3.564	54.525
New Citizens Share 2011 (%)	2.143	1.258	0	12.209
Until Primary Education Share 2011 (%)	39.4	8.03	17.087	78.96
Tertiary Education Share 2011 (%)	7.763	5.172	0.301	41.829
Mean Value September 2016	40162.93	82599.15	0	825553.8
Unemployment Rate 2011 (%)	12.395	3.920	0.990	31.299
Service Workers Share 2011 (%)	61.828	14.019	23.696	91.474
Fiscal and Political				
Transfer to Civil Parishes per capita	0.031	0.028	0	0.246
Winning Margin 2013 (%)	21.71	18.523	0.045	100
Number of Candidates 2017	3.585	1.303	1	10
Independent Mayor Dummy	0.098	0.297	0	1
Leftist Share 2013 (%)	48.924	22.586	0	98.587
Central Government Alignment Dummy	0.447	0.497	0	1

Note: N=1 703.

Table 2. Treatment Effects

	Turnout Rate 2017			
	(1)	(2)	(3)	(4)
Treatment	0.119	0.109	0.101	0.091
	(0.458)	(0.322)	(0.178)	(0.175)
Municipal dummies	No	Yes	Yes	Yes
Stratification Controls	No	No	Yes	Yes
Other Controls	No	No	No	Yes
Number of observations	1 703	1 703	1 703	1 703
Adjusted R2	0.001	0.574	0.870	0.876

Note: The dependent variable, Turnout Rate 2017, is measured in percentage terms. Treatment is a binary indicator that takes value one if all ATMs in the civil parish displayed the voting campaign. There are 308 municipal dummies. The vector of Stratification Controls includes registered voters' density, the number of ATM devices, the number of commercial banks in 2016, and turnout in 2013 municipal elections. The vector of Other Controls includes the share population below 15 years old in 2011, the share of population above 70 years old in 2011, the share of new citizens in 2011 (since 2007), the share of citizens with primary education and below in 2011, the share of citizens with tertiary education in 2011, the mean value withdrawn in ATMs in September 2016, the unemployment rate in 2011, transfers to civil parishes per capita, the winning margin share in 2013 Local Elections, the number of candidates in the 2017 local election, an independent mayor dummy for 2017, the share leftist votes in the 2013 local election, a central government alignment dummy. Robust standard errors are depicted in parenthesis. Stars indicate significance levels of 10% (*), 5% (**), and 1% (***).

Table 3. Intensity Effects: Entire Campaign

	Turnout Rate 2017					
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-0.244	-0.035	-0.232	-0.034	-0.254	-0.039
	(0.350)	(0.196)	(0.349)	(0.195)	(0.351)	(0.195)
Treatment * Number of Cards (*100)	0.016**	0.006**				
	(0.007)	(0.003)				
Number of Cards (*100)	-0.058***	-0.012				
	(0.006)	(0.010)				
Treatment * Number of Operations (*100)			0.009**	0.003**		
			(0.004)	(0.002)		
Number of Operations (*100)			-0.034***	-0.009		
			(0.003)	(0.006)		
Treatment * Number of Withdrawals (*100)					0.020**	0.007**
					(0.009)	(0.003)
Number of Withdrawals (*100)					-0.069***	-0.020
					(0.007)	(0.013)
Municipal Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Stratification Controls	No	Yes	No	Yes	No	Yes
Other Controls	No	Yes	No	Yes	No	Yes
N	1 703	1 703	1 703	1 703	1 703	1 703
Adjusted R2	0.617	0.876	0.618	0.876	0.619	0.876

Note: The dependent variable, Turnout Rate 20117, is measured in percentage terms. Treatment is a binary indicator that takes value one if all ATMs in the civil parish displayed the voting campaign. There are 308 municipal dummies. The vector of Stratification Controls includes registered voters' density, the number of ATM devices, the number of commercial banks in 2016, and turnout in 2013 municipal elections. The vector of Other Controls includes the share population below 15 years old in 2011, the share of population above 70 years old in 2011, the share of new citizens in 2011 (since 2007), the share of citizens with primary education and below in 2011, the share of citizens with tertiary education in 2011, the mean value withdrawn in ATMs in September 2016, the unemployment rate in 2011, transfers to civil parishes per capita, the winning margin share in 2013 Local Elections, the number of candidates in the 2017 local election, an independent mayor dummy for 2017, the share leftist votes in the 2013 local election, a central government alignment dummy. Robust standard errors are depicted in parenthesis. Stars indicate significance levels of 10% (*), 5% (**), and 1% (***).

Table 4. Intensity Effects: Weekend

	Turnout Rate 2017					
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-0.213	-0.034	-0.199	-0.030	-0.239	-0.041
	(0.351)	(0.197)	(0.351)	(0.196)	(0.355)	(0.197)
Treatment * Number of Cards (*100)	0.027**	0.010**				
	(0.013)	(0.005)				
Number of Cards (*100)	-0.109***	-0.038***				
	(0.010)	(0.014)				
Treatment * Number of Operations (*100)			0.017**	0.006*		
			(0.009)	(0.003)		
Number of Operations (*100)			-0.070***	-0.023**		
			(0.007)	(0.009)		
Treatment * Number of Withdrawals (*100)					0.036**	0.012**
					(0.017)	(0.006)
Number of Withdrawals (*100)					-0.138***	-0.052***
					(0.013)	(0.019)
Municipal Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Stratification Controls	No	Yes	No	Yes	No	Yes
Other Controls	No	Yes	No	Yes	No	Yes
N	1 703	1 703	1 703	1 703	1 703	1 703
Adjusted R2	0.620	0.876	0.619	0.876	0.621	0.876

Note: The dependent variable, Turnout Rate 20117, is measured in percentage terms. Treatment is a binary indicator that takes value one if all ATMs in the civil parish displayed the voting campaign. There are 308 municipal dummies. The vector of Stratification Controls includes registered voters' density, the number of ATM devices, the number of commercial banks in 2016, and turnout in 2013 municipal elections. The vector of Other Controls includes the share population below 15 years old in 2011, the share of population above 70 years old in 2011, the share of new citizens in 2011 (since 2007), the share of citizens with primary education and below in 2011, the share of citizens with tertiary education in 2011, the mean value withdrawn in ATMs in September 2016, the unemployment rate in 2011, transfers to civil parishes per capita, the winning margin share in 2013 Local Elections, the number of candidates in the 2017 local election, an independent mayor dummy for 2017, the share leftist votes in the 2013 local election, a central government alignment dummy. Robust standard errors are depicted in parenthesis. Stars indicate significance levels of 10% (*), 5% (**), and 1% (***).

Table 5. Intensity Effects: Falsification Tests using Previous Elections

	Turnout Rate EU 2014			Turnout Rate Leg 2015			Turnout Rate Pres 2016		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Treatment	0.067	0.066	0.069	0.198	0.200	0.196	0.011	0.015	0.011
	(0.232)	(0.232)	(0.232)	(0.202)	(0.202)	(0.203)	(0.221)	(0.220)	(0.221)
Treatment * Number of Cards (*100)	0.004			0.002			0.005		
	(0.003)			(0.003)			(0.003)		
Number of Cards (*100)	0.001			0.006			-0.001		
	(0.009)			(0.009)			(0.011)		
Treatment * Number of Operations (*100)		0.002			0.001			0.003	
		(0.002)			(0.002)			(0.002)	
Number of Operations (*100)		0.003			0.007			0.003	
		(0.006)			(0.006)			(0.007)	
Treatment * Number of Withdrawals (*100)			0.004			0.003			0.005
			(0.003)			(0.003)			(0.004)
Number of Withdrawals (*100)			0.001			0.006			-0.003
			(0.013)			(0.012)			(0.014)
Municipality Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1 703	1 703	1 703	1 703	1 703	1 703	1 703	1 703	1 703
Adjusted R2	0.803	0.803	0.803	0.707	0.707	0.707	0.787	0.787	0.787

Note: The dependent variable, Turnout Rate 20117, is measured in percentage terms. Treatment is a binary indicator that takes value one if all ATMs in the civil parish displayed the voting campaign. There are 308 municipal dummies. The vector of Stratification Controls includes registered voters' density, the number of ATM devices, the number of commercial banks in 2016, and turnout in 2013 municipal elections. The vector of Other Controls includes the share population below 15 years old in 2011, the share of population above 70 years old in 2011, the share of new citizens in 2011 (since 2007), the share of citizens with primary education and below in 2011, the share of citizens with tertiary education in 2011, the mean value withdrawn in ATMs in September 2016, the unemployment rate in 2011, transfers to civil parishes per capita, the winning margin share in 2013 Local Elections, the number of candidates in the 2017 local election, an independent mayor dummy for 2017, the share leftist votes in the 2013 local election, a central government alignment dummy. Robust standard errors are depicted in parenthesis. Stars indicate significance levels of 10% (*), 5% (**), and 1% (***).

Table 6. Self-Reported Recall Results of the post-treatment recall survey

	Recall GOTV Campaign			Recall Any Campaign
	(1)	(2)	(3)	(4)
Treatment	0.113**	0.118**	0.092*	0.016
	(0.054)	(0.056)	(0.055)	(0.078)
Gender		0.078	0.063	-0.158**
		(0.058)	(0.061)	(0.077)
Age		0.002	0.002	0.004*
		(0.002)	(0.002)	(0.002)
Primary Education			-0.145	-0.093
			(0.152)	(0.222)
Secundary Education			-0.024	0.104
			(0.158)	(0.208)
Tertiary Education			0.022	0.142
			(0.154)	(0.202)
Low Interest in Politics			-0.035	0.034
			(0.072)	(0.095)
Medium Interest in Politics			-0.020	-0.063
			(0.105)	(0.123)
_cons	0.111***	-0.029	0.012	0.257
	(0.037)	(0.108)	(0.171)	(0.238)
Mean of Control Group	0.111	0.113	0.113	0.486
N	188	176	175	175
Adjusted R2	0.015	0.025	0.017	0.011

Note: The main dependent variable, Recall GOTV Campaign, is a binary indicator that takes value one if the ATM user reported to recall seeing our treatment message. Recall Any Campaign is a binary indicator that takes value one if the ATM user reported to recall seeing any advertising campaign in the ATM. Treatment is a binary indicator that takes value one if the ATM user was asked in one of the four ATMs in *Campo de Ourique*. The omitted categories in the control variables are No Primary Education and High Interest in Politics. Robust standard errors are depicted in parenthesis. Stars indicate significance levels of 10% (*), 5% (**), and 1% (***).

Appendix

Figure A1. Campaign (Treatment Message)

Table A1. Balance Tests

Variable	Treatment	Control	Difference (Std. Error)
Stratification Controls			
Voters Density	509.111	515.436	-6.324 (64.032)
Number of ATM Devices	7.029	6.991	0.038 (0.726)
Number of Commercial Banks	1.141	1.223	-0.082 (0.158)
Turnout 2013 (%)	0.595	0.595	0.000 (0.005)
Term Limit Dummy 2017	0.082	0.088	-0.006 (0.014)
Other Controls			
Socio-demographic and Economic			
Population Below 15 Share 2011 (%)	24.637	24.672	-0.035 (0.247)
Population Above 70 Share 2011 (%)	16.635	16.463	0.172 (0.365)
New Citizens Share 2011 (%)	2.139	2.146	-0.007 (0.063)
Until Primary Education Share 2011 (%)	39.559	39.293	0.266 (0.395)
Tertiary Education Share 2011 (%)	7.644	7.842	-0.198 (0.256)
Mean Value September 2016	40380.310	40017.870	362.436 (4177.158)
Unemployment Rate 2011 (%)	12.328	12.439	-0.112 (0.194)
Service Workers Share 2011 (%)	61.589	61.988	0.399 (0.699)
Fiscal and Political			
Transfer to Civil Parishes per capita	0.032	0.031	0.001 (0.001)
Winning Margin 2013 (%)	22.081	21.463	0.619 (0.916)
Number of Candidates 2017	3.563	3.599	-0.036 (0.064)
Independent Mayor Dummy	0.101	0.096	0.005 (0.015)
Leftist Share 2013 (%)	48.773	49.026	-0.253 (1.124)
Central Government Alignment Dummy	0.449	0.447	0.002 (0.025)

Note: Robust standard errors are depicted in parenthesis. Stars indicate significance levels of 10% (*), 5% (**), and 1% (***).

Table A2. Descriptive Statistics of the post-treatment recall survey

Variable	Mean	Std. Dev.	Min	Max
Dependent Variable				
Recall GOTV Campaign	0.188	0.391	0	1
Recall Any Campaign	0.506	0.501	0	1
Experimental Variable				
Treatment	0.596	0.492	0	1
Control Variables				
Gender	0.500	0.501	0	1
Age	51.949	15.977	19	91
Primary Education	0.152	0.360	0	1
Secundary Education	0.264	0.442	0	1
Tertiary Education	0.539	0.500	0	1
Low Interest in Politics	0.514	0.501	0	1
Medium Interest in Politics	0.232	0.423	0	1

Note: N= 175, corresponding to our preferred specification in Table 7. The omitted categories in the control variables are No Primary Education and High Interest in Politics.

Table A3. Intensity Effects: Robustness Check without Lisbon and Oporto

	Turnout Rate 2017					
Excluding:	**Lisbon and Oporto Municipalities**			**Lisbon and Oporto Districts**		
Treatment	-0.025	-0.022	-0.023	-0.190	-0.193	-0.181
	(0.199)	(0.199)	(0.199)	(0.225)	(0.224)	(0.225)
Treatment * Number of Cards (*100)	0.006*			0.014***		
	(0.003)			(0.005)		
Number of Cards (*100)	-0.011			-0.024		
	(0.010)			(0.016)		
Treatment * Number of Operations (*100)		0.003*			0.008***	
		(0.002)			(0.003)	
Number of Operations (*100)		-0.007			-0.016*	
		(0.006)			(0.010)	
Treatment * Number of Withdrawals (*100)			0.007*			0.015***
			(0.004)			(0.005)
Number of Withdrawals (*100)			-0.011			-0.013
			(0.016)			(0.021)
Municipality Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
N	1 673	1 673	1 673	1 390	1 390	1 390
Adjusted R2	0.876	0.876	0.876	0.863	0.863	0.863

Note: The dependent variable, Turnout Rate 20117, is measured in percentage terms. Treatment is a binary indicator that takes value one if all ATMs in the civil parish displayed the voting campaign. There are 308 municipal dummies. The vector of Stratification Controls includes registered voters' density, the number of ATM devices, the number of commercial banks in 2016, and turnout in 2013 municipal elections. The vector of Other Controls includes the share population below 15 years old in 2011, the share of population above 70 years old in 2011, the share of new citizens in 2011 (since 2007), the share of citizens with primary education and below in 2011, the share of citizens with tertiary education in 2011, the mean value withdrawn in ATMs in September 2016, the unemployment rate in 2011, transfers to civil parishes per capita, the winning margin share in 2013 Local Elections, the number of candidates in the 2017 local election, an independent mayor dummy for 2017, the share leftist votes in the 2013 local election, a central government alignment dummy. Robust standard errors are depicted in parenthesis. Stars indicate significance levels of 10% (*), 5% (**), and 1% (***).

Table A4. Intensity Effects: Robustness Check without Autonomous Regions

	Turnout Rate 2017					
Excluding:	**Azores and Madeira Autonomous Regions**					
Treatment	-0.071	-0.071	-0.078	-0.080	-0.080	-0.086
	(0.208)	(0.208)	(0.208)	(0.209)	(0.208)	(0.208)
Treatment * Number of Cards (*100)	0.006**			0.006**		
	(0.003)			(0.003)		
Number of Cards (*100)	-0.010			-0.010		
	(0.010)			(0.010)		
Treatment * Number of Operations (*100)		0.004**			0.004**	
		(0.002)			(0.002)	
Number of Operations (*100)		-0.008			-0.008	
		(0.006)			(0.006)	
Treatment * Number of Withdrawals (*100)			0.007**			0.008**
			(0.003)			(0.003)
Number of Withdrawals (*100)			-0.019			-0.018
			(0.013)			(0.013)
Municipality Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Social Support Controls	No	No	No	Yes	Yes	Yes
N	1 546	1 546	1 546	1 546	1 546	1 546
Adjusted R2	0.873	0.873	0.873	0.873	0.873	0.873

Note: The dependent variable, Turnout Rate 20117, is measured in percentage terms. Treatment is a binary indicator that takes value one if all ATMs in the civil parish displayed the voting campaign. There are 308 municipal dummies. The vector of Stratification Controls includes registered voters' density, the number of ATM devices, the number of commercial banks in 2016, and turnout in 2013 municipal elections. The vector of Other Controls includes the share population below 15 years old in 2011, the share of population above 70 years old in 2011, the share of new citizens in 2011 (since 2007), the share of citizens with primary education and below in 2011, the share of citizens with tertiary education in 2011, the mean value withdrawn in ATMs in September 2016, the unemployment rate in 2011, transfers to civil parishes per capita, the winning margin share in 2013 Local Elections, the number of candidates in the 2017 local election, an independent mayor dummy for 2017, the share leftist votes in the 2013 local election, a central government alignment dummy. Robust standard errors are depicted in parenthesis. Stars indicate significance levels of 10% (*), 5% (**), and 1% (***).

Table A5. Intensity Effects: Robustness Check Horse Race with (selected) Control Variables

	Turnout Rate 2017				
	(1)	(2)	(3)	(4)	(5)
Treatment	-0.022	0.129	-1.000	0.133	0.496
	(0.198)	(0.472)	(1.223)	(0.346)	(0.872)
Treatment * Number of Cards (*100)	0.007**	0.005*	0.007**	0.007**	0.007**
	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)
Number of Cards (*100)	-0.013	-0.012	-0.013	-0.014	-0.013
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Treatment * Voters Density	-0.000				
	(0.000)				
Treatment * Population Above 70 Share 2011		-0.010			
		(0.028)			
Treatment * Until Primary Education Share 2011			0.023		
			(0.031)		
Treatment * Tertiary Education Share 2011				-0.027	
				(0.040)	
Treatment * Service Workers Share 2011					-0.009
					(0.014)
Municipal Dummies	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes
N	1 703	1 703	1 703	1 703	1 703
Adjusted R2	0.876	0.876	0.876	0.876	0.876

Note: The dependent variable, Turnout Rate 20117, is measured in percentage terms. Treatment is a binary indicator that takes value one if all ATMs in the civil parish displayed the voting campaign. There are 308 municipal dummies. The vector of Stratification Controls includes registered voters' density, the number of ATM devices, the number of commercial banks in 2016, and turnout in 2013 municipal elections. The vector of Other Controls includes the share population below 15 years old in 2011, the share of population above 70 years old in 2011, the share of new citizens in 2011 (since 2007), the share of citizens with primary education and below in 2011, the share of citizens with tertiary education in 2011, the mean value withdrawn in ATMs in September 2016, the unemployment rate in 2011, transfers to civil parishes per capita, the winning margin share in 2013 Local Elections, the number of candidates in the 2017 local election, an independent mayor dummy for 2017, the

share leftist votes in the 2013 local election, a central government alignment dummy. Robust standard errors are depicted in parenthesis. Stars indicate significance levels of 10% (*), 5% (**), and 1% (***).