Can More Information Lead to More Voter Polarization? Experimental Evidence from Turkey

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Abstract

There is limited knowledge on the use of information for political persuasion in weak democracies. This study estimates the effect of a partisan door-to-door information campaign on voter behavior in Turkey and uses the campaign to test for a polarized electorate in a high stakes election. The campaign took place before a landmark referendum that was initiated by the incumbent party after the coup attempt in July 2016. The referendum was on institutional changes to weaken constraints on the executive branch. The door-to-door campaign was carried out by the party opposing the referendum and I designed the implementation of the campaign as a randomized experiment. In this campaign, the opposition party gave uniform information on poor economic performance and increased terrorist activity under the incumbent's leadership to more than 130,000 voters. I show that voters, despite being exposed to the same campaign, diverged further in their vote choice on aggregate, leading to a significant increase in political polarization. The opposition failed to use an information campaign to increase its average vote share because it lacked the necessary data to target the subset of constituents that responded to the campaign in its favor.

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1 Introduction

Democratic norms are in decline - civil liberties and political rights around the globe have deteriorated for eleven consecutive years (Freedom House, 2017). The erosion of these measures runs counter to a priori expectations that circumstances would improve: the number of democracies had doubled within the past five decades and information is increasingly available to voters due to a growing and diverse set of media sources. Numerous studies have shown that with more access to information, through channels such as higher newspaper circulation and radio penetration, citizens are more likely to hold politicians accountable (Dréze and Sen, 1989; Besley and Burgess, 2002; Ferraz and Finan, 2008; Snyder and Strömberg, 2010). Similarly, other studies have found that direct communication on policy outcomes, like information campaigns or debates, can lead citizens to have more accurate beliefs on the position of politicians and increase political accountability (Banerjee et al., 2010; Kendall et al., 2015; Bidwell et al., 2016).

On the other hand, increasing information availability is also believed to polarize voters, offering a possible explanation for the backsliding of democratic norms (Gentzkow and Shapiro, 2011; Sunstein, 2001; Mullainathan and Shleifer, 2005; Downs, 1957). Among the various factors that can drive polarization, there are theoretical studies and lab experiments showing that voter disagreement can increase and even persist in response to the same signal.[1] In the context of Turkey, I provide some of the first experimental field evidence showing that exposure to the same door-to-door information campaign polarized the electorate.

The campaign took place before a landmark referendum that was initiated by the incumbent party after the chaotic coup attempt in July 2016. The referendum was on institutional changes to weaken constraints on the executive branch. The campaign was implemented by the party opposing the referendum. From their perspective, a door-to-door campaign was a channel by which they could bypass high media censorship and directly give information on policy outcomes to voters.

[1]For example, in Piketty's (1995) model, people with different social origins can maintain different views on redistribution and the effectiveness of individual effort over the long-run, even if they experience the same income levels. Most of this literature is theoretical and provides both Bayesian, (Dixit and Weibull (2007); Andreoni and Mylovanov (2012); Acemoglu et al. (2016); Loh and Phelan (2017); Benoit and Dubra (2016)) and non-Bayesian mechanisms (Lord et al. (1979); Fryer et al. (2017)) to explain this behavior. There are also lab experiments in the psychology literature, such as the study by Lord et al. (1979), and the economics literature, Andreoni and Mylovanov (2012). Fryer et al. (2017) provide evidence using an online experiment.

There is limited evidence on the effectiveness of partisan information campaigns in countries like Turkey, which is considered an illiberal democracy and, at the time of this study, had a governance ranking lower than that of Pakistan, Bangladesh, and Kenya. Studies that have evaluated partisan campaigns have been concentrated in liberal democracies, despite the fact that illiberal democracies are one of the most common forms of governance today(Bidner et al., 2015; Mukand and Rodrik, 2017; DellaVigna and Gentzkow, 2010). Moreover, understanding the relationship between information availability, electoral competition, and political accountability is a salient issue in weak democracies, like Turkey, where media censorship is high. Conducting research on information availability and political accountability in these regimes is difficult because administrative data is scarce and fieldwork requires precaution.[2] For example, the experiment in this study took place during a period of low national security and mass arrests.

Despite the tumultuous period, the experiment was strategically timed to take place during an important period of institutional change. The referendum was held less than a year after the coup attempt with just a few months notice.[3] Therefore, the timing of this study provides an opportunity to measure the impact of an information campaign on a significant policy choice and to test for a polarized electorate in a high stakes context using administrative vote share data.

During the campaign, volunteer canvassers from the opposition party went door-to-door to provide information to all registered voters in a group of neighborhoods that I randomly selected. The opposition party's strategy in this campaign was to give voters information on poor economic performance and increased terrorist activity under the governance of President Recep Tayyip Erdoğan, the incumbent. Voters were also told to choose "No" in the referendum, against weakening constraints on the incumbent. A door-to-door campaign was a channel by which the party opposing the referendum could bypass media censorship and directly give information on policy outcomes to voters.

Though voters were exposed to the same information campaign, they could interpret it in different ways. I had access to a survey showing that Erdoğan supporters attributed

[2]Turkey is a fitting context to study the relationship between information, political polarization, and the backsliding of democratic norms. Across countries, Turkey ranks second in absolute decline in an index of civil liberties and political rights over the past decade (Freedom House, 2017). Figure 1 shows the decline in civil liberty and political rights rankings globally and in Turkey over the past decade.

[3]The possibility of a referendum had been discussed for a number of years, but its timing was unknown. The coup attempt was viewed as a catalyst to hold the referendum.

poor conditions to factors they believed to be outside the leadership's control; such as, the attempted coup, the U.S. elections, and the global recession. Opposition supporters instead blamed the incumbent party. In this example, voters have different views on why conditions are poor, but they can have a similar noisy signal on policy outcomes, like the economy. When uncertainty is multidimensional, a negative signal about the economy can shift voters with identical preferences and priors on the level of economic conditions, but heterogeneous priors on why the economy is poor, to have either higher or lower support for the incumbent. Opposing vote choices in response to the same signal can then be explained in the following framework with rational Bayesian voters. Upon receipt of a signal that conditions have deteriorated, some voters who planned to vote "No," but had relatively more uncertainty on whether external factors are to blame, can switch to a "Yes" vote.[4] Upon receipt of the very same signal, some voters who planned to vote "Yes," but had relatively more uncertainty on whether leadership quality is to blame can switch to a "No" vote. Both types of voters converge their posterior beliefs to the signal on worsened policy outcomes, but make different policy choices. In this suggested framework, voters will change their planned vote choice in response to new information if they are moderate, as determined by a small differential in mean priors between the two factors affecting vote choice.

Before the randomization, I grouped neighborhoods by quartiles of the difference in vote share between Erdoğan's party and the opposition party in previous elections. This method ensured that both treatment and control groups had a mix of both moderately and strongly partisan neighborhoods. I could then test whether the campaign only had an effect where the concentration of moderate voters was highest. I also pre-specified a test of the treatment effect in each quartile to detect whether the campaign had both a positive and negative effect on the "No" vote share depending on past partisanship.

I find that the information campaign only changed vote choice in moderate areas. In moderate areas where the opposition was stronger, the information increased the "No" vote share by 1.8 percentage points (2.6 percent). In moderate areas where the opposition was weaker, the information *decreased* the "No" vote share by 3.7 percentage points (5.9 percent).

The effect of the information campaign on turnout was close to zero in each quartile of

[4] As an example, in this case, voters may choose weakened constraints so that policies can be implemented more intensely and quickly to improve conditions that are affected by external threats. This can explain the results from a survey showing voter support for actions that violate civil liberties; they may be viewed as a good policy for national security.

past vote share, providing strong evidence that the information worked through persuasion. In this case, the increase in the share voting "No" is driven by voters who would have voted "Yes" in the absence of the campaign; the campaign switched the policy choice among previously pro-incumbent voters living in moderately pro-opposition areas. The decrease in the "No" vote share is driven by voters who would have voted "No" in the absence of the campaign; the campaign switched the policy choice among previously pro-opposition voters living in moderately pro-incumbent areas. Since the voting behavior was changed among individual pro-opposition (incumbent) voters living in pro-incumbent (opposition) areas, the campaign resulted in political polarization.

The opposition failed to change the aggregate "No" vote share in this specific campaign because it did not have the knowledge to target and persuade the right subset of voters. The opposition assumed that in an environment with high media censorship, a campaign on conditions under the incumbent would have a non-negative effect among voters who overestimate incumbent performance.

The remainder of this paper is organized as follows: Section 1.2 discusses the literature and the contributions of this study to existing research; Section 1.3 provides background information on democratization, the origins of the ideological divide in Turkey, the attempted coup, and the referendum; Section 1.4 provides a timeline and background information of the experiment; Section 1.5 outlines a model to interpret the empirical results of the voter experiment; Section 1.6 discusses the experimental design of the voter campaign and the results.

2 Connections and Contributions to the Literature

There is a large body of literature on political persuasion and the effectiveness of partisan information campaigns.[5] According to a meta-analysis on 49 campaign experiments held before primary and ballot measure elections in the U.S., only four were found to be effective (Kalla and Broockman, 2017). However, these studies do not test for differences in the sign of the effect on different groups of voters. In addition, the majority of the studies cited in the meta-analysis use survey data to measure vote choice and do not have access to

[5]See DellaVigna and Gentzkow (2010) for a review of the empirical literature on political persuasion.

administrative data.[6] In the first experimental partisan campaign in an illiberal democracy, I cannot reject the null hypothesis that the net change in vote share is zero. Crucially, this is because the effects of the campaign are heterogeneous and opposite in sign.[7]

This study also provides some of the first experimental field evidence of polarization in response to the same information campaign. This behavior is distinct from ideological polarization driven by people selecting into different sources of information, often called "echo chambers" in the literature (Gentzkow and Shapiro, 2011).[8] Autor et al. (2016) empirically show that the negative impact of trade-exposure on local labor markets results in ideological realignment, but not increased polarization. They find that voters in moderately Republican areas increase support for more conservative Republican legislators in response to a shock. They also find that voters in moderately Democratic areas increase support for both more liberal Democratic legislators and conservative Republican legislators. Since moderately Democratic areas diverge in their support for both more conservative and liberal legislators, the authors state that they are unable to conclude evidence of ideological polarization. A benefit of this study is that endogeneity concerns are mitigated; the common signal is randomly varied and it is randomly varied at different parts of the distribution of past vote share.

There are a couple of theoretical studies explaining why voters may support or tolerate weak constraints on the executive (Padró i Miquel (2007) and Acemoglu et al. (2013)). In Padró i Miquel (2007), followers of the ruling leader, with whom they share an identity, such as ethnicity or religiosity, tolerate rent extraction. They fear discrimination by the leader of the excluded group were the opposing leader to come into power. In applying this framework to the referendum in Turkey, followers of the ruling leader face counteracting forces. If they vote "Yes" in the referendum, then more rent can be extracted, but they also lower the probability that the leader of the excluded group can come into power in the

[6]The two existing campaign experiments conducted in Europe, which have administrative outcome data on vote share, both find an effect of campaigns on changing vote share (Pons, 2018; Kendall et al., 2015).

[7]Zakaria (1997) and Mukand and Rodrik (2017) label countries with elections, but low civil liberties as illiberal.

[8]Mullainathan and Shleifer (2005) show theoretically that increasing the number of available sources can make it easier for consumers to self-segregate ideologically to different sources of information. The internet has been discussed as one channel that has increased access to information and ideological self-segregation (Sunstein, 2001). In contrast to the conclusions in Sunstein (2001) and Mullainathan and Shleifer (2005), Gentzkow and Shapiro (2011) find that ideological segregation of online news consumption is higher than the segregation of most offline news consumption but low in absolute terms and lower than the segregation of face-to-face interactions.

future. In Turkey, religiosity predicts partisanship. However, results show that information on policy outcomes under the incumbent, does cause followers to cross party lines and vote against lowering constraints on the executive. On the other hand, we also see voters from the excluded group also cross partisan lines and choose to lower constraints in response to the same information. The results in this study cannot rule out that the fear of discrimination motivates some voters, but it does find that moderate voters cross partisan lines and made contrasting choices in the referendum.

This study also builds on the empirical literature that measures the effect of information availability on political accountability and voter behavior (Ferraz and Finan, 2008; Besley and Burgess, 2002; Snyder and Strömberg, 2010; Strömberg, 2004). I find that voters may respond to new information on policy outcomes in an unexpected manner and the same signal can increase or decrease support to weaken constraints on the executive. The explanation suggested in this study is that voters face uncertainty in whether changes in conditions can be attributable to the incumbent or not. In Turkey, threats from external factors are particularly salient to voters and empowering the incumbent may mitigate the influence of outside forces. Therefore, a negative signal about the economy can shift voters with common preferences and priors on the level of economic conditions, but heterogeneous priors on why the economy is poor, to have either higher or lower support for the incumbent. In this study, the information on policy outcomes is provided through a campaign and the campaign is from a partisan source. However, in a context where media censorship is so high, any information not coming from a state-owned source will be viewed as oppositional.

This study adds to the literature investigating the effect of providing information on incumbent performance, including corruption, in lower and middle-income countries. The studies estimate whether or not voters punish the incumbent, consistent with a retrospective voter model (Banerjee et al., 2010; Humphreys and Weinstein, 2012; Chong et al., 2015; Ferraz and Finan, 2008; Cruz et al., 2017). This study contributes experimental results from a campaign conducted by a political party in a country where civil liberties and political inclusivity are very low. Turkey's Freedom House ranking was below Kenya, Pakistan, and Bangladesh at the time of this study. Studies that work with non-partisan companies are important for understanding political participation and the effects of increased transparency on voter behavior. The benefit of working with a specific political party, combined with the non-partisan politician experiment, is that the results have implications for electoral competition. There is limited evidence on oppositional behavior in illliberal democracies.

There is a more recent literature on targeting campaign information. Data analytical firms are playing a growing role in affecting major elections.[9] These firms collect detailed data on voters and assist in targeting campaign information to optimize vote share. Despite the increasing significance of these firms, research on the effectiveness of targeted political campaign information is limited.[10] In addition, the existing studies focus on targeting based on predicted voter responsiveness.[11] Voters may have different degrees of uncertainty, which affects their responsiveness to a signal. The studies do not take into consideration that voters may have different views and interpret the same information differently. This study contributes to the literature in its empirical design to allow for the fact that voters may respond differently to the same campaign.

3 Institutional Background

3.1 Democratization in Turkey

The Republic of Turkey was founded in 1923. Mustafa Kemal Atatürk, an army officer, was the founder of both the Turkish Republic and the Republican People's Party (CHP). The CHP is currently the main opposition party. Atatürk immediately established a secular state, clamped down on the freedom of religious expression, and imposed a new language and culture on a majority pious population. The military played a significant role in politics and the country was under one-party rule for the first two decades. It is commonly believed that the political elite's transformation of Turkish society, by sharply reducing religious expression and imposing secularism, had modernizing effects on Turkey. However, it also instigated the ideological cleavage between liberal secular and religious conservatives, or rather, elites versus non-elites and the suppression of minority groups that continues today. Moreover, despite the important gains from Atatürk's modernizing of Turkey, the lack of inclusive founding institutions is regarded as creating a lasting impediment to Turkey's development.

[9] Examples include the data analytics team that worked in the 2012 Obama campaign and the role of Cambridge Analytica in both Trump's campaign and recent presidential elections in Kenya.

[10] See Nickerson and Rogers (2014) for a review on this topic.

[11] An exception is evident in a political campaign that was meant to change "inaccurate" beliefs that voters may have had of a candidate who unexpectedly supported abortion in the state of Oregon. The campaign used a survey to identify and target voters based on whether they were pro-choice, but used self-reported survey data to measure the effectiveness of the campaign (Rogers and Nickerson, 2013).

3.2 Modern Turkey

Multi-party elections were introduced to Turkey in 1946 and since then Turkey has experienced periods of competitive elections. However, its strong military, weak state institutions, and the society's ideological cleavage led to long periods of economic and political instability. These periods of instability have resulted in a number of military interventions, including four outright coups. In 2001, there was a devastating economic recession and the country was under the unstable leadership of a multi-party coalition. The current ruling party, the Justice and Development Party (AK Party), was founded by Recep Tayyip Erdoğan in 2001 and first entered a general election in 2002. The AK Party came into power and the 2002 General Election marked the first time Turkey was ruled by a single party government since 1987. Only one other party, the CHP, also gained seats in parliament. The AK Party has had a majority in parliament since coming into power.

Under the AK Party, the ability of the military to intervene in politics weakened. The military had threatened the party because of its religious tendencies, but, with the help of an alliance with an Islamic cleric, Fethullah Gülen, and strong voter support, the party continued its rule uninterrupted. The party was also successful in expanding freedom of religious expression, such as allowing women to wear headscarves in public institutions, including universities and the parliament. During the peak of the party's alliance with the Gülenists, there were a series of controversial trials and arrests of military officials for the alleged coup plots named Operation Sledgehammer and Ergenekon. However, the alliance between the AK Party and Gülen soon dissolved.

In fact, while strong evidence on the details of the attempted coup is limited, there is consensus that some of the individuals involved in the 2016 coup attempt are Gülenists, who comprise a large and powerful international movement. Gülenists had infiltrated various institutions of Turkey for years, including the educational system, the military, judiciary, police force, etc. The coup attempt itself was poorly organized and failed rapidly, but was a catalyst in the calling of a referendum. Citizens were directly affected by the coup attempt; thousands took to the streets to prevent the coup and hundreds were killed. In addition, all leaders from the opposition parties publicly decried the coup attempt.

Voters in Turkey have mixed views on whether the coup attempt can partly be blamed on Erdoğan's past relationship with Gülen. Others do not place any blame on Erdoğan and

view the coup attempt as an incident that was completely outside of his control. Following the attempted coup, a state of emergency was enacted and more than 150,000 civil servants, academics, and journalists were detained. Despite the arrests being internationally condemned, in a survey that I conducted, the majority of sampled voters self-reported as supporting these mass arrests. The arrests are viewed as a measure of national security.

3.3 2017 Referendum

The referendum was held in 2017, less than a year after the attempted coup. The referendum was on switching from a parliamentary system to a presidential system and on eighteen amendments to the constitution. Until the referendum, the highest level of leadership was the prime minister and the role of the president was largely viewed as ceremonial. Erdoğan served as prime minister from 2002 to 2014, stepping down just before his term limit. In 2007, Erdoğan called for a referendum that would change a law, allowing the president to be nationally elected in 2014. Therefore, in 2014, Erdoğan became the first nationally elected president of Turkey and was able to retain a leadership position before his term as prime minister ended. A number of the proposed amendments to the constitution would consolidate power under the president. For example, a new power granted to the president is the ability to bypass the parliament completely and introduce legislation by issuing decrees with the force of law (Jenkins, 2016).

Aside from the coup attempt, Turkey was already on an unstable path. Terrorist activity had reached an unprecedented level, civil conflict had restarted, hundreds of thousands of civilians from Kurdish-majority areas had been displaced, and the economy was doing poorly.[12] The AK Party argued that switching to a presidential system and the proposed amendments would bring more stability and increased national security. The opposition argued that the current leadership, who had already taken steps over the past few years to consolidate power, was to blame for the deteriorating conditions and increasing their power would only exacerbate the problems.

In Turkey, there are four parties with representation in parliament. Before the referendum, one of the small opposition parties, the Nationalist Movement Party (MHP), declared that it

[12]Figure 2 shows the number of terrorist attacks in Turkey over time. It shows that the number of attacks had risen significantly even before the coup attempt.

was in support of weakening constraints on the executive ("Yes" vote). The main opposition party and the minority pro-Kurdish party, the Peoples' Democratic Party (HDP), declared that they were against the constitutional changes that were being voted on ("No" vote). In the empirical section for the voter experiment, whether the analysis is conducted with all four parties or just between the main opposition party and the incumbent does not change any of the results. For the remainder of this paper, I will just refer the political parties as the incumbent party or the opposition party.

4 Timeline of the Experiment

A timeline and flowchart of the experiment is shown in Figure 3. I first conducted a voter survey in October 2016 with more than 1,770 voters. The survey identified policy issues most important to voters and their preferences regarding various policies. In the survey, voters reported that the economy and terrorism are policy issues most important to them. The purpose of the survey was twofold. First, I used the survey results to compile information on voters that would be used in a quasi-experiment with Members of Parliament (MPs). As part of the politician experiment, in mid-January, the MPs were sent a voter report based on the results from the survey. The results were sent right after they had voted in parliament to go to a referendum and three months before the referendum was held. At the time that the report was sent, the MPs faced uncertainty on the exact timing of the referendum, but knew that it would take place within six to twelve weeks.

The report discussed the sampling procedure, disclosed the funders of the survey, and included details on my background.[13] Then, it showed that terrorism and the economy are most important to voters and provided the survey results on voter policy preferences regarding those two issues.[14]

When the voter report was sent to the MPs, they were also asked whether they would be interested in conducting a voter experiment before the election to learn more about their voters. Approximately 25% of sampled MPs from the opposition party responded and one

[13]MPs were informed that UC Berkeley and MIT funded the survey that I conducted. Background information included that I am a PhD candidate at UC Berkeley and that the report was a part of a research project.

[14]The report was thirteen pages long and examples of two pages from the report are provided in Figure 9.

person from the incumbent party responded. I followed up with everyone who responded and it is this interaction that created an opportunity to conduct a randomized door-to-door campaign. The asymmetry in response across parties is consistent with the intensive interviews I conducted with the MPs over a three month period before the referendum. I learned that the incumbent party invests heavily in acquiring high quality voter data and the opposition party does not. For this reason, I did not expect the incumbent to respond to my inquiry.

Specific individuals from the opposition party implemented the randomized door-to-door campaign in one province. This leads to the second use of the voter report: the information provided on the economy and terrorist activity in the door-to-door campaign was motivated by the fact that voters had reported these two issues as most important to them in the survey that I had conducted. The decision to use this information from the voter survey was made by individuals from the opposition. They also chose the specific content provided in the door-to-door campaign. Interestingly, their public platform prior to receiving the information on voters was largely on issues concerning democratic norms and civil liberties. Hypothetically, the voter report would only affect the content of their campaign if it was better than the voter information they had at the time.

5 Voter Model: Different Interpretations of a Common Signal

5.1 Motivation for Voter Model

Since 2013, when Turkey started experiencing significant instability, the value of the local currency in Turkey, the lira, has been falling. The rate of depreciation rapidly escalated toward the end of 2016, after the attempted coup. In January 2017, after a record drop in the value of the lira, a nationally representative survey was conducted in Turkey covering issues such as the referendum and the economy.[15] In the survey, voters were asked the degree to which the drop in the value of the Turkish lira had an impact on their personal

[15]The survey was done by an American polling company, which cannot be identified in this study. I was not involved with the survey, but had access to the results.

life. Figure 4 shows that voters who self-report as either incumbent or opposition supporters both agree that the depreciation of the lira had a negative impact on their lives. However, we see in Figure 5 that voters have different views of why the value of the lira dropped, based on their party affiliation. Opposition voters predominantly blame the current leadership (president and parliament). Incumbent voters blame external factors outside the control of the leadership (coup attempt, global crisis, and the U.S. election).[16]

In the referendum, voters were choosing to weaken constraints on the executive. The survey results on the lira suggest that increased information on policy outcomes under the incumbent, such as economic conditions or terrorist activity, could have an ambiguous effect on voter choice. Consider voters who underestimate how poor the economy is and blame poor conditions on external factors. They may choose "Yes" in the referendum because they believe that less constrained efforts to increase national security, such as the mass arrests, will reduce a source of instability and subsequently improve the economy. More generally, they may support removing constraints from incumbent policies so that they can be more effective when external threats are high. On the other hand, voters who also underestimate the economy, but blame current leadership for poor economic policy, or for being the cause of threats to national security in the first place, will vote against increasing authoritarianism. Using the language in the literature on disagreement or polarization in response to a common signal, the information on policy outcomes provided in the campaign is an "equivocal signal" (Benoit and Dubra, 2016). Voters are provided with a unidimensional signal to a multidimensional problem (Loh and Phelan, 2017).[17] The effect on voter choice of giving voters more information on incumbent policy outcomes, i.e. the economy and terrorist activity, depends on views, and levels of uncertainty, over this ancillary issue, which is whether the incumbent is to blame or not (Benoit and Dubra, 2016).

Before continuing to the model, consider an example on persistent polarization, or disagreement, among economists themselves. A stimulus package is implemented, but the GDP results are poor. Even sitting in the same room, a Keynesian and a Neoclassical will respond differently to the same results. A Keynesian will declare that the stimulus package should have been larger. In contrast, the Neoclassicist will believe more strongly that stimulus does

[16]Voters in Turkey have mixed views on whether the coup attempt can be blamed partly on Erdoğan's past relationship with Gülen. Some do not place any blame on Erdoğan and view the coup attempt as an incident that was completely outside of his control.

[17]This issue of uncertainty over an additional dimension is discussed in Andreoni and Mylovanov (2012). Fryer et al. (2017) provide a similar framework, but over one-dimension and people are non-Bayesian.

not work.[18]

5.2 Voter Model

The purpose of the model outlined in this section is to provide a framework to interpret the results in the voter experiment. The framework explains (i) why we expect the voter information campaign to have an effect among moderate voters and (ii) why the campaign could have different effects on vote choice depending on voter type.

Consider that rational Bayesian voters have a signal, e, about the state of the economy, the noise of which has variance σ_E^2. Providing them with more information on economic conditions reduces the variance in the signal. The common assumption in the literature is that rational Bayesian voters will converge to the signal if they have common beliefs (Dixit and Weibull, 2007). Similar to Dixit and Weibull (2007), Loh and Phelan (2017), Andreoni and Mylovanov (2012), Acemoglu et al. (2016), and Benoit and Dubra (2016), I also maintain rational Bayesian voters and relax the assumption of common beliefs. Here, the posterior beliefs of voters will converge to the signal on policy outcomes, but voters will diverge in their policy choice. They can make opposing policy choices because of differences in beliefs in the factors determining poor conditions.

Motivated by the survey evidence, let the state of the economy (e.g. value of the lira) be a function of incumbent quality, Q, and external factors affecting the economy, like national security, S. When S is high, external threats are low. I assume that the economy is increasing and linear in both factors, $E(S, Q) = S + Q$. Let a higher A denote further weakening constraints on the executive, or increased authoritarianism, for brevity. I assume that the optimal value of A is increasing in incumbent quality and decreasing in external threats to national security; for example, the lower the external threats to national security, the lower the optimal level of authoritarianism. The signal that voters have about the economy affects a voter's optimal choice for A. In summary, I assume that $A^*(S, Q) = Q - S + \epsilon$ is a voter's optimal level of authoritarianism, where $\epsilon \sim N[0, 1]$.[19] The important assumptions here are that both S and Q are positively correlated with E, but S is inversely correlated with A^*,

[18] Dixit and Weibull (2007) and Loh and Phelan (2017) provide similar examples.

[19] I am agnostic about the full model determining A, but an assumption made here is that $A^*(S, Q)$ and E are not perfectly collinear. Benoit and Dubra (2016) make the assumption that $A^*(S, Q)$ and $E(S, Q)$ are independent.

and Q is positively correlated with A^*. I will show that while voters receive information on the economy, their mean priors and relative certainty about S and Q determine their choice on optimal A, i.e. "Yes/No" in the referendum.[20]

I assume a voter has initial unbiased priors over S and Q distributed $N[\mu, V]$, where $\mu = \begin{pmatrix} \mu_S \\ \mu_Q \end{pmatrix}$ and $V = \begin{pmatrix} \sigma_S^2 & \sigma_{SQ} \\ \sigma_{SQ} & \sigma_Q^2 \end{pmatrix}$. Given the assumptions that E is increasing and a linear function of both S and Q, we have $E \sim N(\mu_S + \mu_Q, \sigma_S^2 + 2\sigma_{SQ} + \sigma_Q^2 + \sigma_E^2)$

The information in the campaign increases the precision of the signal and therefore lowers σ_E^2. A voter chooses "Yes", to increase authoritarianism, if $A^*(S, Q) \geq A$.

Under these assumptions, the standard result for the density $f(S, Q|E = e)$ holds. Let $(\mu_S)'$ and $(\mu_Q)'$ be the posterior means of this density. Despite receiving the same signal, people with the same priors and level of uncertainty on the economy can end up with different posterior means, $(\mu_S)'$ and $(\mu_Q)'$. Let $A'^*(S, Q) = (\mu_Q)' - (\mu_S)'$ be an individual's optimal level of authoritarianism based on the posterior means of $(\mu_S)'$ and $(\mu_Q)'$. The expressions for $(\mu_Q)'$ and $(\mu_Q)'$ are:

$$\begin{pmatrix} (\mu_S)' \\ (\mu_Q)' \end{pmatrix} = \begin{pmatrix} \mu_S \\ \mu_Q \end{pmatrix} + (e - \mu_S - \mu_Q) \begin{pmatrix} \frac{\sigma_S^2 + \sigma_{SQ}}{\sigma_S^2 + 2\sigma_{SQ} + \sigma_Q^2 + \sigma_E^2} \\ \frac{\sigma_{SQ} + \sigma_Q^2}{\sigma_S^2 + 2\sigma_{SQ} + \sigma_Q^2 + \sigma_E^2} \end{pmatrix}$$

Which then gives:

$$A'^*(S, Q) = \mu_Q - \mu_S + (e - \mu_S - \mu_Q) \frac{\sigma_Q^2 - \sigma_S^2}{\sigma_S^2 + 2\sigma_{SQ} + \sigma_Q^2 + \sigma_E^2}$$

The effect of providing more information on the economy, and therefore reducing σ_E^2, affects the voter's optimal level of authoritarianism through updating on relative priors on the factors that are correlated with the economy, S and Q, in the following way:

1. Whether the voter is "moderate" or "extreme." A voter is extreme in its support for the opposition if the difference $\mu_Q - \mu_S$ is very negative and "extreme" in its support for the incumbent if the difference is very positive. For moderates, the differential,

[20] This framework will generalize to the case where A^* and E are linear in Q and S, as long as A^* and E are increasing in Q, A^* is decreasing in S, and E is increasing in S.

$|\mu_Q - \mu_S|$, is small. Moderates will be the most responsive to the information.

2. A voter who is more (less) uncertain about incumbent quality relative to national security will vote "Yes" ("No") in the referendum after receiving the signal e through the information campaign. Therefore, the direction of the effect of the information campaign on an individual depends on whether $\sigma_Q^2 > \sigma_S^2$ or $\sigma_Q^2 < \sigma_S^2$.

It is necessary that the expression is written in terms of vote share because that is observable at the neighborhood level to all political parties, rather than individual vote choice. Assume there's a continuum of individuals in each location, g, with initial unbiased priors over S and Q. In this case, the vote share in location g is

$$P[A^*(S,Q) \geq A|g] = 1 - \Phi\left(A - \left[\left(\mu_Q^g\right)' - \left(\mu_S^g\right)'\right]\right)$$

The derivative of this expression with respect to σ_E^2 gives us the effect of the treatment and the same predictions as above. After going through the details of the treatment and experimental design, I will tie the individual voter model to the empirical estimation procedure.

Similar to Loh and Phelan (2017), Dixit and Weibull (2007), and Benoit and Dubra (2016), voters in this study are learning based on a multidimensional model after receiving unidimensional information, and have different beliefs. Under more traditional assumptions, voters would be given unidimensional information and updating on one dimension. Here, the vote choice depends on voters' relative certainty on each dimension in the learning model and the mean relative value of their priors for each dimension (i.e. how moderate they are). One can then wonder why the opposition would not just give information to voters that directly show whether or not the incumbent is to blame for the economy. The trouble here is that it is not possible to prove this relationship; therefore, in trying to persuade a voter who is leaning toward the incumbent, the voter will now face uncertainty about the source of the signal. Voters can also have different interpretations of the signal if they think the signals come from a biased source (Acemoglu et al., 2016).

6 Voter Campaign Experiment

6.1 Voter Campaign Experiment: Campaign Content

The intention of the opposition's door-to-door campaign was to increase the share voting "No" in the referendum, against weakening constraints on the executive. In the campaign, voters were provided with information describing the economic loss and increase in terrorist activity under the current leadership over the past few years. The party highlighted worsening conditions since 2014 because that is when Erdoğan transitioned from prime minister to president to extend his political leadership. The party also chose to omit issues of a deteriorating democracy and increasingly limited civil liberties from the door-to-door campaign because of the results in the voter report. The results from the survey show that the majority of citizens across party lines support the arrests conducted after the state of emergency.

The campaign was randomized at the neighborhood level, because this is the level at which administrative outcome data is available. Control neighborhoods did not receive campaign information. The information was conveyed to voters in treatment neighborhoods both orally, if they opened their door, and in a pamphlet. The pamphlets were left with every household in a treatment neighborhood regardless of whether they opened the door. The original print of the pamphlet can be seen in Figure 6. The canvassers also received training on how to give the same information provided in the pamphlet orally and personably. For example, in addition to giving the same facts as in the pamphlet, they were trained to convey the information by discussing personal accounts of how they were affected by the deteriorating economy or recent terrorist attacks.

The issues covered in the campaign were based on the voter survey I had conducted and I designed the campaign. The implementation, funding, and details of the content were determined by a campaign manager and staff from the opposition party. The experiments reflect the strategy of individuals from the opposition party.

6.2 Voter Experiments: Party Strategy

In terms of the voter model, the opposition party assumed that voters would only update their views on the quality of the incumbent in response to increased information on the economy. As in, they misspecified the model as $f(Q|E = e)$ rather than $f(Q, S|E = e)$. They did not take into consideration that voters could have different interpretations of the same information campaign on policy outcomes. Going back to the voter model, the party assumed that voters would behave according to equation (1) rather than equation (2):[21]

$$A'^{*}(S, Q) = \mu_Q + (e - \mu_Q)\frac{\sigma_Q^2}{\sigma_Q^2 + \sigma_E^2} \tag{1}$$

$$A'^{*}(S, Q) = \mu_Q - \mu_S + (e - \mu_S - \mu_Q)\frac{\sigma_Q^2 - \sigma_S^2}{\sigma_S^2 + 2\sigma_{SQ} + \sigma_Q^2 + \sigma_E^2} \tag{2}$$

If voters have better information that the economy is poor and only attribute poorly performing economy to the incumbent, then they will vote against weakening constraints on the incumbent. This strategy is sensible. First, this is a common assumption in most campaign experiments designed by researchers. Second, particularly in Turkey, media censorship is high and voters may receive limited or selective information on performance indicators when conditions are poor.

Given these factors, the opposition party chose to use the campaign as an opportunity to disseminate information on negative changes in the economy and national security since President Erdoğan was voted into the presidency in 2014. Similar to the literature, the campaign strategy was consistent with the assumption that voters would respond to the information according to a retrospective voter model.[22]

[21] Please note that it is assumed, and empirically confirmed, that the effect is among both voter types who underestimate how bad conditions are.

[22] In the Appendix, I also describe a randomized online Facebook campaign that the opposition implemented and that I designed. This is an alternative campaign strategy that they also used.

6.3 Voter Campaign Experiment: Sampling

The door-to-door campaign was implemented in the third largest province in Turkey, Izmir.[23] Figure 7 shows the distribution of the share that voted "No" across the country and in the sample for this experiment, among the control group. We see that the experiment was conducted in an oppositional stronghold, but that there is a large overlap with the distribution across the country. Izmir was selected because it is a region in which the party could immediately organize group of party volunteers that were willing to canvass during a state of emergency. Recruiting volunteers during this period is difficult because a person could be detained without trial for three months.

The sampling procedure and implementation of the campaign were affected by a number of factors. First, since it was a state of emergency, it was possible that voters would be hesitant to open their door. Second, the party was constrained in terms of its budget available for transportation and the number of canvassers. To address the first issue, every household in a treated neighborhood was visited to increase the likelihood that a sufficient share of voters opened their doors and engaged with the canvassers. In-person conversation is considered one of the most effective methods to affect voter behavior (Pons, 2018). While a less salient method, the possibility of a low response rate to the door-to-door campaign explains the use of pamphlets. The pamphlets were left with every household that was visited regardless of whether the voter opened the door.

The second issue, the budget and capacity constraint, would also affect the power of the study. A sufficient number of neighborhoods needed to be reached and the compliance rate within each neighborhood needed to be sufficiently high. Therefore, before conducting the randomization I restricted the sample to neighborhoods based on whether they would be too difficult to reach or take too long to complete. There are 1294 neighborhoods and 30 districts in Izmir. I dropped districts and neighborhoods that were too rural. Rural areas were dropped because if neighborhoods were too far away, this would affect the sample size and, therefore, the power of the study. First, following the procedure of surveying companies in Turkey, I classified neighborhoods as "rural" if they had 500 or fewer registered voters in the most recent general election in 2015. Then, I classified a district as rural if more than 50% of the neighborhoods are rural. Then, I dropped neighborhoods where the number of

[23]There are 81 provinces in Turkey. Each province is a constituency, except the larger provinces Izmir, Ankara, and Istanbul are split into two to three constituencies.

registered voters was in the top 5% or bottom 5% of the distribution. Here, I also dropped large neighborhoods because, while they could be easy to reach, it would take too long to cover all households in a neighborhood. In the end, the experiment was conducted in 14 of the 30 districts and 498 out of 1294 neighborhoods. Over 130,000 registered voters were treated across 48 neighborhoods in Izmir and were compared to voters in 450 control neighborhoods.

In order to further increase efficiency and monitor whether the campaign could even be implemented during such a risky period, I geocoded every street in each neighborhood and provided the canvassers with an optimal route. Every couple of days, they sent me the number of people they spoke to per street and whether or not they canvassed all households in a street. All streets in every neighborhood were canvassed and it was reported that they visited the door of every household, or apartment. However, 20% of neighborhoods could not be canvassed because the party volunteers reported that they faced threats (aggressive behavior, threats to call the police, etc.). Table 3 provides the average number of registered voters reached per neighborhood among the full sample. Table 4 shows the same descriptive statistics for the subsample that does not include the neighborhoods that the party volunteers could not canvass. Importantly, we see that the average reach is similar across each quartile. None of the results change depending on whether I include or drop the neighborhoods where the reach was zero. Here, I show the results with all neighborhoods included.[24]

6.4 Voter Campaign Experiment: Design

Randomization was stratified by quartile of past neighborhood level vote share for the opposition.[25] The vote share and turnout data were scraped from the government website.[26]. It was specified in a submitted pre-analysis plan that a two-tailed test would be conducted in each quartile. This was pre-specified in case of heterogeneous treatment effects.[27] Below, Y_{nq} is neighborhood level "No" vote shares or turnout. T_{nq} is an indicator for whether the neighborhood is in the treatment group and γ_q are quartile fixed effects. X_{nq} includes past voter data from the past two general elections, which were both held in 2015. The regressions,

[24]Table 11 shows the results for the sample where the "threatened" neighborhoods are dropped.
[25]This is the same as stratifying on the vote share differential between the opposition and the incumbent.
[26]https://sonuc.ysk.gov.tr/module/GirisEkrani.jsf
[27]Baysan, C. (2017, April) Canvassing in Turkey. osf.io/hhqej

including the randomization inference exercises, follow the pre-specified specifications.[28] β captures the treatment effect across quartiles and I also estimate β_q by estimating the treatment effect within each quartile.

$$Y_{nq} = \alpha + \beta T_{nq} + \gamma X_{nq} + \gamma_q + \epsilon_{nq} \tag{3}$$

Table 5 shows balance between the treatment and control groups across the quartiles. Tables 6 and 7 show balance within each quartile.

6.5 Predictions Based on the Voter Model and Results

Based on the voter model, we expect that voters will respond to the treatment if they are moderate ($|\mu_Q - \mu_S|$ is small). In addition, the direction of the vote depends on their relative certainty between each factor affecting the economy (i.e. the relative values of σ_Q and σ_S). We expect that we can reject the null of no effect on "No" vote share in quartiles of past vote share where the concentration of moderate voters is highest and where the number of neighborhoods with a high concentration of moderate voters is highest. We may expect that quartiles where the vote share differential is close to zero is where we will be able to reject no effect. To substantiate this claim, I use individual-level data.

The individual level data that I have on policy preferences is from the voter survey I conducted before the referendum in mid-October.[29] While the data on policy preferences were not collected in Izmir, they were collected in the other largest provinces of western Turkey. Importantly, individuals were randomly sampled within each neighborhood for the survey. Therefore, this allows me to use the policy preference data and predict the likelihood that an individual self-reported as being a supporter of the incumbent or opposition party and merge it with neighborhood level vote share data. I take the distribution of these predicted values and label the top and bottom 25th percentiles of the distribution as "extreme." Within each

[28] I show the results for both the unweighted and weighted regressions. Weighted regressions account for the number of registered voters per neighborhood. I did not pre-specify including weights; both results are provided, but the weighted version is my preferred specification. The results without weighting are provided in Tables **??** and **??**

[29] It was not possible to do an additional voter survey immediately before the referendum for a variety of reasons. As an example of one the constraints, the major data collection companies were completely occupied with their main source of revenue, which was providing predictions for the referendum. The smaller firms could not organize a sufficient surveyors willing to work during the state of emergency.

neighborhood, I calculate the proportion of extreme voters. I then match the data with the administrative neighborhood level vote share data.

First, I find that the proportion of extreme voters in a neighborhoods is higher where the differential vote share between the two parties is higher. Moderate voters are concentrated where the vote share differential is low and therefore where I have more power to reject no effect. It is not surprising that moderates mostly live together and more partisan voters mostly live together. Table 1 shows the average proportion of extreme voters across the vote share distribution for the sampled neighborhoods in the survey. We see that the lowest mean shares are .55 and .59. In Table 1, I show seven of the deciles of the differential vote share distribution for the voter survey sample because they overlap with the distribution of vote share differentials for the experiment. Within these seven deciles, I count the total number of neighborhoods that have a proportion of extreme voters that is less than .55. The fourth and fifth deciles, where the vote share differential between the incumbent and opposition is .07 and .17 respectively, are where I am most likely to reject an effect and observe polarization. Table 2 shows the difference in vote share between the opposition and the incumbent. Therefore, we see that the fourth and fifth deciles for the voter survey sample are closest to the vote share differentials in quartiles 2 and 3 of the experiment. Among quartiles two and three, for the experiment, which correspond to the deciles with a larger number of neighborhoods with a high concentration of moderate voters, we are mostly likely to be able to detect an effect of the campaign on the vote share.

Table 8 shows the aggregate result: I cannot reject no effect across all quartiles and we see that the treatment had no effect on turnout across quartiles. Figure 8 shows the effect of the treatment by quartile of past vote share. However, I am able to reject no effect in quartiles 2 and 3. Recall that the campaign was meant to increase the "No" vote share. Instead, in quartile 2, we see that the "No" vote share decreased by 5.9% (3.7 percentage points). The campaign did have a positive effect of 2.6% (1.8 percentage points) in quartile 3. Therefore, we are able to detect population polarization between quartiles 2 and 3 (Benoit and Dubra, 2016). The fact that partisanship (among moderates) is correlated with the relative certainty between the two factors is not a prediction of the model or something that I could have tested ex ante. However, this result is consistent with assumptions made in other studies on polarization where people have a lack of common beliefs.[30] Or, it may be the case that incumbent voters living with more opposition voters adopt the views of their

[30]See Benoit and Dubra (2016) and Loh and Phelan (2017)

neighbors once they have more information.

Next, I show that the effect of the campaign cannot be explained by turnout. In Table 10, we cannot reject no effect in quartiles 2 and 3. In addition, we can rule out an effect of between .8 and .5% in those quartiles, respectively. In Figures **??** and **??**, I also show the results of conducting randomization inference within quartiles 2 and 3 to calculate an exact p-value under the sharp null of no treatment effect, which also allows me to avoid making assumptions on the distribution of errors (Imbens and Rubin, 2015). To implement randomization inference, I run 10,000 permutations of the treatment to the neighborhoods in the sample and estimate the coefficient. This generates a distribution of coefficients. In quartile 3, I find that the p-value is .09 and in quartile 2, I find that the p-value is .03.

6.6 Alternative Framework

It is possible that an alternative voter framework can explain the the results of the campaign experiment. For example, there may be voters in the incumbent stronghold who updated their beliefs on how strong the opposition is once they saw the party volunteers come to their neighborhood. Voters with strong ideological support for the incumbent may then put pressure on any moderate voters in their neighborhood to support the incumbent. Similarly, voters with strong ideological support for the opposition may have updated on the quality of the opposition. They also may have put pressure on moderate voters in their area to vote for the opposition. I am unable to rule out this type of a channel that operates through peer effects. Suggestive evidence against this channel is that we may have expected aggression and the inability of canvassers to speak to voters to be correlated with partisanship. Tables 3 and 4 suggest that this is not the case.[31] Under this alternative framework, it is still the case that the opposition would have to target voters in order to increase its vote share. The main distinction with this framework is that identity-based dynamics are driving the results rather than different beliefs about why conditions are poor.[32]

[31] Table 11 shows the results for the effect of the campaign on "No" vote share using the sample where the "threatened" neighborhoods are dropped.

[32] An example of identity-based dynamics can follow from the model in Padró i Miquel (2007). In Padró i Miquel (2007), followers of the ruling leader, with whom they share an identity, such as ethnicity or religiosity, tolerate rent extraction. They fear discrimination by the leader of the excluded group were the opposing leader to come into power. In the context of the referendum in Turkey, followers of the ruling leader face more rent extraction if they vote "Yes," but they also lower the probability that the leader of the excluded group can come into power in the future.

7 Conclusion

This study analyzes the impact of a randomized partisan information campaign on voter behavior in a weak democracy. Moreover, I use experimental variation of the campaign to test for a polarized electorate in a high stakes context where voters were choosing over a monumental institutional change. The campaign, which was implemented by the opposition party, provided voters with information on poor economic conditions and increased terrorist activity under the incumbent. I find that the opposition party's efforts to reduce voter support for weakening a system of checks and balances instead polarized voters and they failed to change their aggregate vote share. This is a unique result where polarization in vote choice at the aggregate level is driven by differences in reaction to the same door-to-door campaign.

A lot of money is invested in partisan campaigns by political elites. Partisan campaign experiments in the U.S. have been effective in changing turnout, but they have generally been ineffective in changing vote share (Kalla and Broockman, 2017). However, most of these experiments do not pre-specify testing for variation in the direction in which the campaign affected different groups of voters and most of them rely on self-reported voting behavior. In addition, these experiments take place in a competitive information environment, unlike in Turkey where there is high media censorship. Any of these factors could contribute to the studies to not reject a null hypothesis of no effect. In this experiment, voters do respond to the campaign, but I am unable to find an effect on average because the electorate is polarized. The campaign both increased and decreased the "No" vote share. In addition, it is clear that the political elites from the opposition party in the context of this experiment did not have sophisticated voter data required to target the right voters and increase their vote share. Therefore, while information is used for political persuasion in Turkey among the opposition, they are unable to do so effectively.

This study also opens the question to understanding why some voters choose to weaken constraints on the executive after receiving a signal on poor conditions. This is an important issue considering the continued deterioration of democratic norms across the globe, which the Freedom House has described as "Democracy in Crisis" Freedom House (2018). In this study, I suggest that voters face an unidentified problem: they do not know why conditions are bad because of the presence, or rhetoric, of external threats. In this case, a common information

campaign on poor policy outcomes can increase political polarization based on heterogeneous voter views on whether external factors are to blame or the incumbent. Those who blame external threats choose to weaken constraints on the executive so that the incumbent is more able to protect them and the economy.[33] This can help us understand why the ruling leader is able to violate civil liberties and political rights in democratic countries.

Ideally, the study would have included an individual level survey to corroborate the neighbourhood level results. However, it is difficult to implement costly surveys in politically sensitive areas, especially close to an election and during a state of emergency. Further research is required to pinpoint the mechanism driving the polarization found in this study.

[33]In the political science literature, this type of voter has been described as "authoritarian." (Stenner, 2005)

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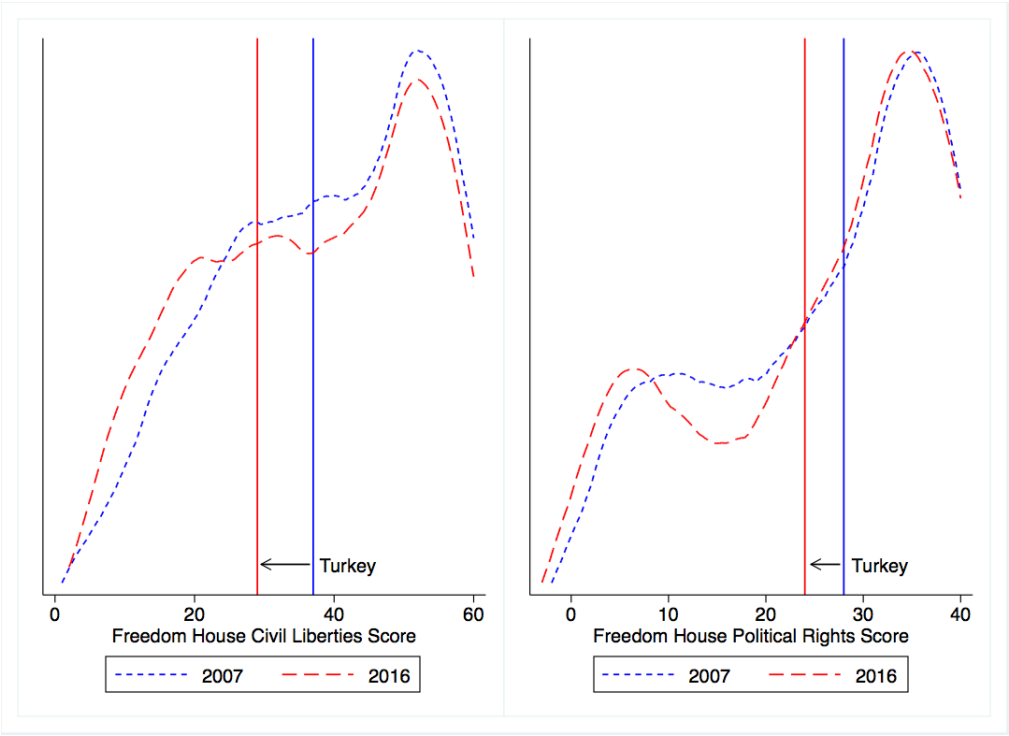
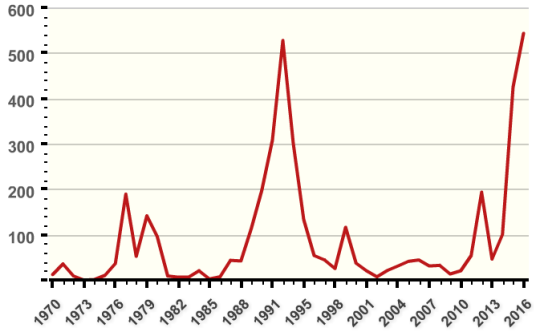
Figure 1: **Density of Aggregate Scores for Civil Liberties and Political Rights Across Countries**



Freedom House aggregate scores across countries for civil liberties (0-60) and political rights (0-40) between 2007 and 2016. 193 countries are included in 2007 and 198 in 2016

Figure 2: **Terrorist Attacks in Turkey**



This figures shows the number of terrorist attacks in Turkey from 1970-2016. This figure was generated through via the Global Terrorism Database which, includes systematic data on domestic as well as international terrorist incidents. It shows that terrorist attacks in Turkey were already on the rise before the attempted coup in July 2016.

Figure 3: Timeline and Flow Chart of Study

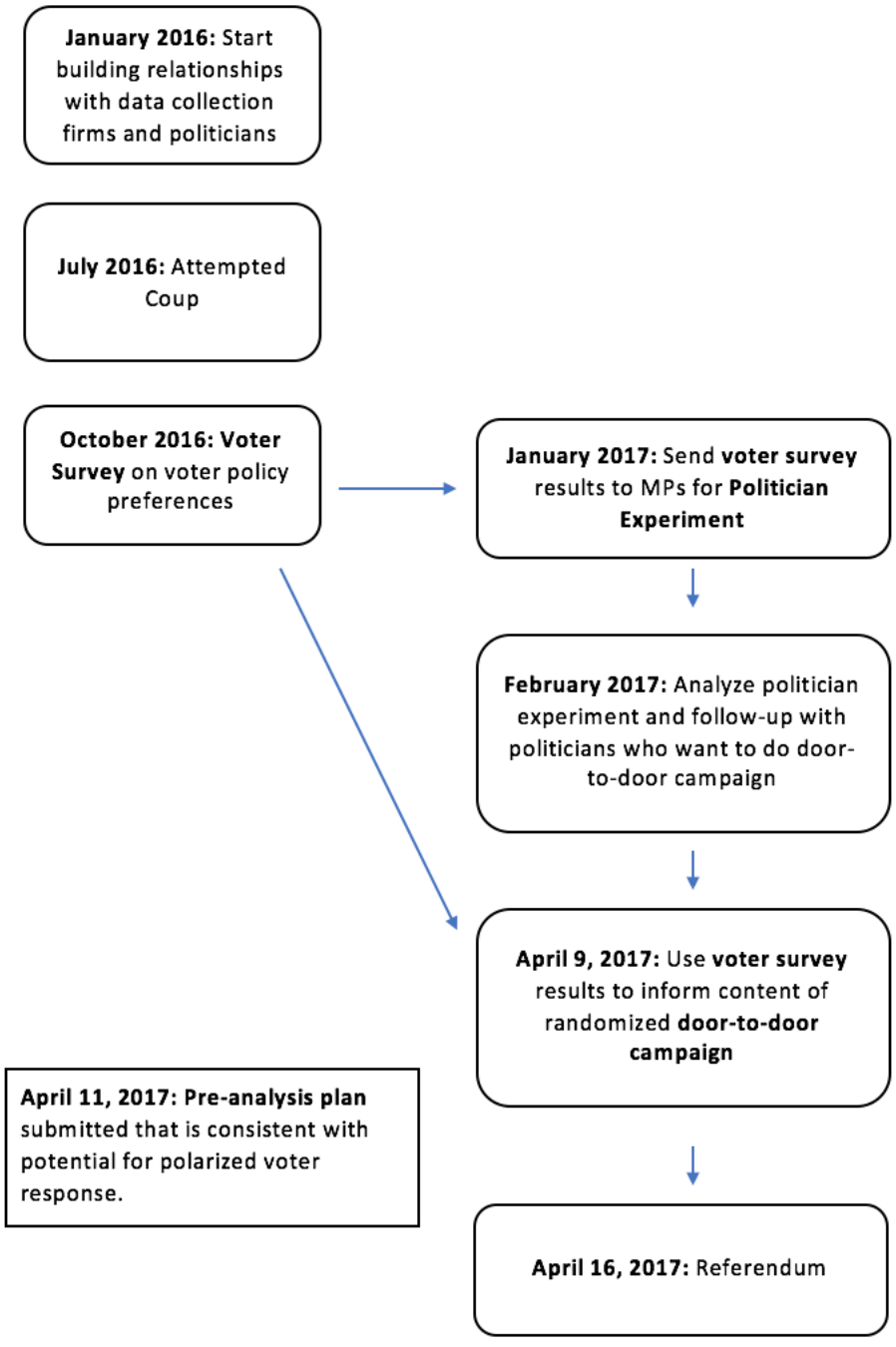


Figure 4: Does the drop in the value of Turkish Lira have any impact on your personal life?

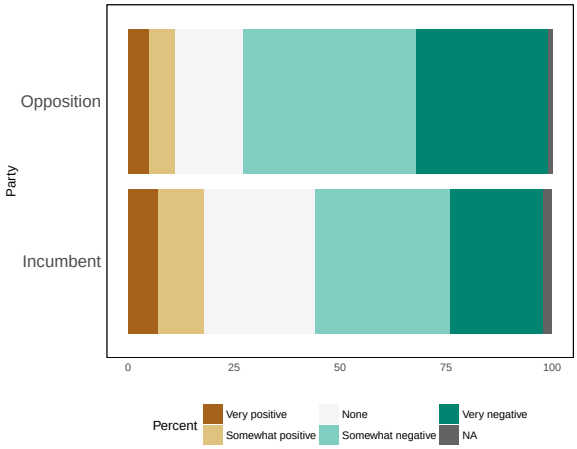
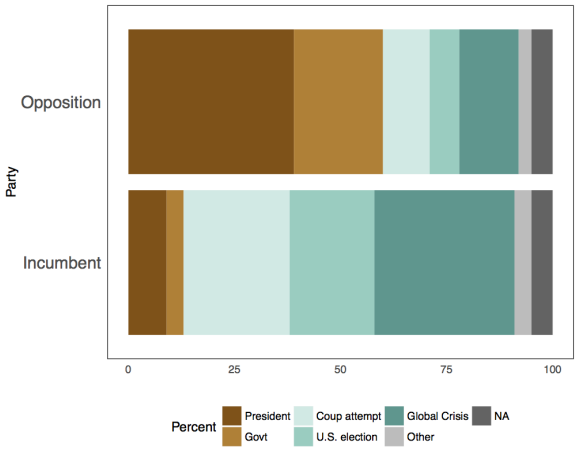


Figure 5: Who is most responsible for the latest devaluation of Turkish Lira?

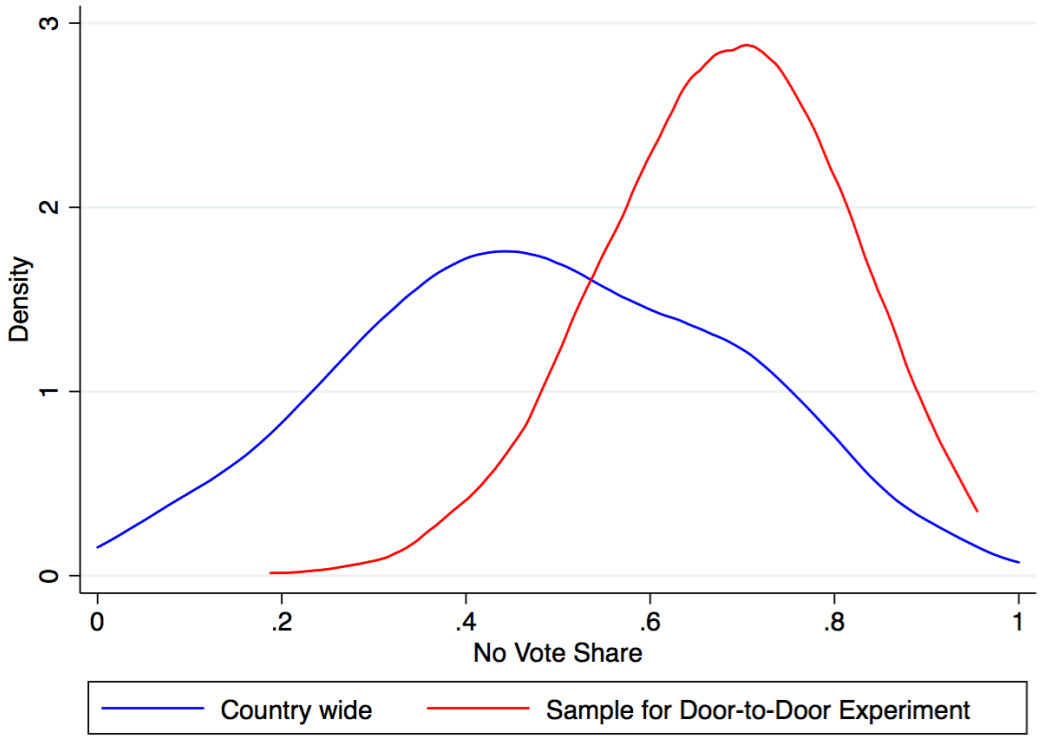


These figures are from a survey conducted by a U.S. based firm in Turkey with a sample of approximately 1,215 voters. [34] The survey is nationally representative. The survey was conducted in January of 2017 after the record low drop in the value of the local currency and before the referendum.

Figure 6: Pamphlet on Economy and Terrorism

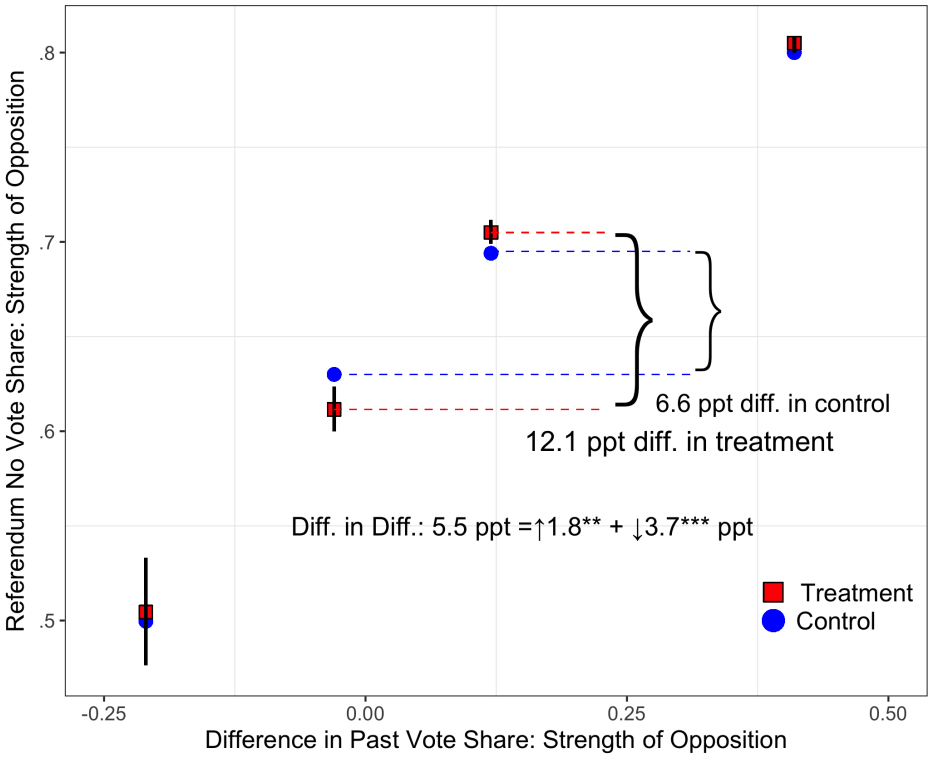
- The pamphlet outlines the following:
  - Since 2014, there has been poor leadership
  - Under which 1 million citizens have lost their job
  - The per capita income has dropped by $1,000 in the past one year
  - The economy has contracted and inflation has increased
  - Turkey is losing under one leader
  - Since 2014, unprecedented level of terrorist activity
  - Terrorist organizations are more easily able to conduct attacks
  - Security is weak
  - More power should not be given if terrorism could not be reduced
  - The headlines state: "#NO Turkey will win," "NO to poor economic policy," "NO to terrorism."

Figure 7: Density of "No" Vote Share Across Country and Sample



This table shows the density of "No" vote share across Turkey and across the sample for the voter experiment. The number of registered voters are included as weights.

Figure 8: Treatment Effect by Quartile and Polarization



The y-axis shows the difference between the "No" and "Yes" vote share in the referendum. The x-axis shows the vote share differential between the incumbent and the opposition parties from the last general election in 2015. I stratified treatment on quartiles of this distribution. Polarization occurs in quartiles two and three, where the vote share differential is small. All pre-specified controls were included in each estimation; including, past voting and turnout data. The estimates can also be found in Table 9

Figure 9: **Sample from Report Sent to MPs**

The figures show how voters responded to the following question: **What is the most pressing issue in Turkey for you?**

Figure 1: By self-reported party (Diğer/Hiç means they did not report a party)

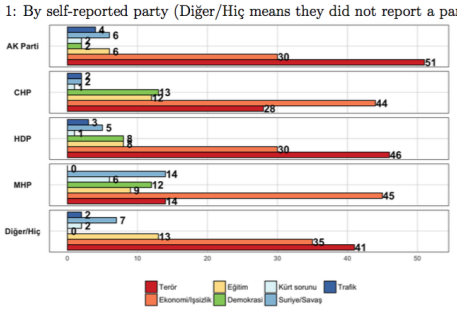
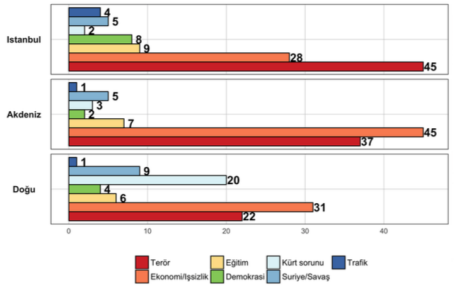


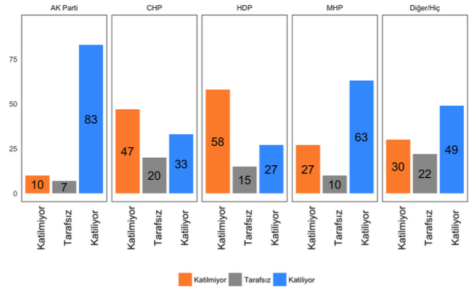
Figure 2: By region



The figures show whether voters disagree, are neutral, or agree with the following statement: **I believe the arrests made during the OHAL are correct**.

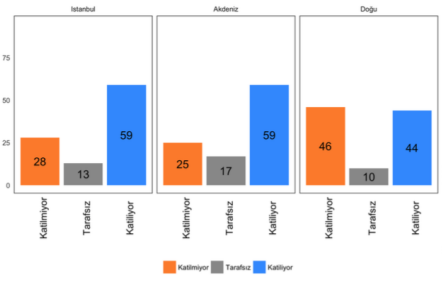
The major difference with Figures 11 and 12 above is that the majority of CHP voters are now against the arrests, but still less than half (47%). Voters generally agreed with the arrests at the time of the survey. Perhaps, this is not surprising given the concern with national security.

Figure 13: By party



Margin of error: 3% (AK Parti), 9% (CHP), 7% (MHP), 11% (HDP), and 6% (Diğer)r

Figure 14: By region



Margin of error: 5% (Istanbul), 6% (Akdeniz), and 7% (Doğu)

This figure shows two sample pages from the voter report that was sent to the politicians. All results were shown by self-reported party and by region. The panel on the left shows the first figures that were provided on the issues that voters self-reported as most important to them. The figures on the right-hand side provide information on an issue that relates to terrorism. The attempted coup was widely regarded as a terrorist attack. The figures provide information on how voter responded to the statement: "I agree with the arrests made during the state of emergency." The reports were sent in Turkish.

Table 1: Individual Level Data Extreme Voter

Quartile	Decile	Share Extreme	Vote Share Diff
Q1	2	0.64	-0.33
Q1	3	0.75	-0.15
Q2	4	0.55	0.07
Q3	5	0.59	0.17
Q4	6	0.76	0.24
Q4	7	0.68	0.32
Q4	8	0.67	0.43

This table uses the individual level data from the survey I conducted with more than 1,770 voters. This data include voter policy preferences. I use the vector of policy preferences to predict whether someone self-reports that they support the incumbent or opposition. I then calculate the distributions of these predicted values and label the top and bottom 25th percentiles of the distribution as "extreme." Within each neighborhood, I calculate the proportion of extreme voters. I then match the data with the administrative neighborhood level vote share data. Decile corresponds to the distribution of the vote share differential between the incumbent and the opposition. Quartile corresponds to the distribution of vote share from the sample in the voter experiment. First, I find that the proportion of extreme voters in a neighborhoods is higher where the differential vote share between the two parties is higher. Moderate voters are concentrated where the vote share differential is low. Table 1 shows the average proportion of extreme voters across the distribution. We see that the lowest mean shares are .55 and .59. Within each of the 7 deciles, which overlap with the distribution of vote share differentials for the experiment, I count the total number of neighborhoods that have a proportion of extreme voters that is less than .55. The fourth and fifth deciles, where the vote share differential between the incumbent and opposition is .07 and .17 respectively, are where I am most likely to observe polarization.

Table 2: Past Vote Share by Party

Quartiles	**No**	**Vote Share Diff**
1	0.50	-0.21
2	0.63	-0.03
3	0.69	0.12
4	0.80	0.41
N	450	450

The second column includes the average "No" vote share across neighborhoods within each quartile. The third column shows the average vote share differential between the incumbent and opposition party by quartile. The first quartile is where the incumbent is strongest. The sample here only includes the control group.

Table 3: Neighborhood Average of People Reached per Street

Quartile	**Mean Reach**	**SD Reach**
1	0.12	0.04
2	0.18	0.13
3	0.15	0.13
4	0.17	0.23
N	48	48

Mean reach is the average number of registered voters who opened their door to the canvassers. SD is the standard deviation. Statistics are shown for each quartile separately.

Table 4: Neighborhood Ave of People Reached per Street, Excluding Dropped Neighborhoods

Quartile	Mean Reach	SD Reach
1	0.11	0.05
2	0.15	0.14
3	0.12	0.13
4	0.15	0.22
N	38	38

Mean reach is the average number of registered voters who opened their door to the canvassers. SD is the standard deviation. Statistics are shown for each quartile separately. Neighborhoods that the party volunteers could not reach because of the threat of arrest have been dropped.

Table 5: Balance Across Quartiles

	Aggregate	
	Control Mean	Coefficient
Num Reg Voters 2015 Nov	2719.938	7.871
Num Valid Casts 2015	2364.375	15.583
Num Opp Votes 2015 June	1102.021	85.431
Num Opp Votes 2015 Nov	1148.521	80.692
Opp Neigh Share 2015 June	0.442	0.007
Opp Neigh Share 2015 Nov	0.445	0.004
Turnout 2015 Nov	0.873	0.007

Balance test across the treatment and control groups across all pre-specified variables. Balance is tested across the whole sample and within each quartile. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table 6: Balance Q1 and Q2

	Q1		Q2	
	Control Mean	Coefficient	Control Mean	Coefficient
Num Reg Voters 2015 Nov	2065.333	-450.791	2155.250	-553.723
Num Valid Casts 2015	1761.000	-399.796	1855.333	-493.256
Num Opp Votes 2015 June	448.667	-46.581	710.417	-179.182
Num Opp Votes 2015 Nov	454.333	-56.490	725.583	-201.685
Opp Neigh Share 2015 June	0.252	0.019	0.400	0.010
Opp Neigh Share 2015 Nov	0.247	0.018	0.397	0.003
Turnout 2015 Nov	0.852	-0.010	0.877	0.011

Balance test across the treatment and control groups across all pre-specified variables. Balance is tested across the whole sample and within each quartile. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table 7: Balance Q3 and Q4

	Q3		Q4	
	Control Mean	Coefficient	Control Mean	Coefficient
Num Reg Voters 2015 Nov	3275.667	448.684	2155.250	587.330
Num Valid Casts 2015	2872.833	410.621	1855.333	544.780
Num Opp Votes 2015 June	1358.167	174.768	710.417	392.753
Num Opp Votes 2015 Nov	1411.167	165.264	725.583	415.723
Opp Neigh Share 2015 June	0.493	0.000	0.400	0.000
Opp Neigh Share 2015 Nov	0.495	-0.005	0.397	0.001
Turnout 2015 Nov	0.891	0.020*	0.877	0.006

Balance test across the treatment and control groups across all pre-specified variables. Balance is tests across the whole sample and within each quartile. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table 8: Door-to-Door Results: All Quartiles No Share and Turnout (Weighted)

	(1) Share No	(2) Share No Controls	(3) Turnout	(4) Turnout Controls
Treatment	-0.000	0.004	0.004	0.001
	(0.012)	(0.009)	(0.004)	(0.001)
Mean of Outcome	0.654	0.654	0.866	0.866
N Reg Voters	133389	133389	133389	133389
N Neighborhoods	498	498	498	498
R squared	.743	.868	.139	.831

The dependent variable in columns 1 and 2 is the share that voted "No" at the neighborhood level. The dependent variable in columns 3 and 4 is the turnout rate. Quartile fixed effects are included. The regression is weighted by the number of registered voters. Columns 2 and 4 include all pre-specified controls; including, past voting and turnout data. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table 9: No Vote Share by Quartile (Weighted)

	(1) No Share Q1	(2) No Share Q2	(3) No Share Q3	(4) No Share Q4
Treatment	0.010	-0.037***	0.018**	0.003
	(0.029)	(0.012)	(0.008)	(0.004)
Mean of Outcome	0.496	0.628	0.694	0.798
Weights	Yes	Yes	Yes	Yes
N Reg Voters	319166	341565	369172	357413
N Neighborhoods	125	124	125	124
R squared	.352	.626	.691	.834

The dependent variable is the share that voted "No" at the neighborhood level. Each column shows the estimation result for each quartile of the past vote share distribution. Regressions are weighted by the number of registered voters. All pre-specified controls are included in the regression; including, past voting and turnout data. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table 10: Turnout Share by Quartile (Weighted)

	(1) Turnout Q1	(2) Turnout Q2	(3) Turnout Q3	(4) Turnout Q4
Treatment	0.004**	0.003	-0.000	-0.001
	(0.002)	(0.002)	(0.003)	(0.003)
Mean of Outcome	0.860	0.865	0.878	0.876
Weights	Yes	Yes	Yes	Yes
N Reg Voters	319166	341565	369172	357413
N Neighborhoods	125	124	125	124
R squared	.768	.82	.824	.868

The dependent variable is the turnout rate at the neighborhood level. Each column shows the estimation result for each quartile of the past vote share distribution. Regressions are weighted by the number of registered voters. All pre-specified controls are included in the regression; including past voting and turnout data. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Table 11: No Vote Share by Quartile (Weighted) and Threatened Neighborhoods Dropped

	(1) No Share Q1	(2) No Share Q2	(3) No Share Q3	(4) No Share Q4
Treatment	-0.029	-0.057**	0.029***	0.010
	(0.019)	(0.029)	(0.007)	(0.007)
Mean of Outcome	0.496	0.628	0.694	0.798
N Reg Voters	319166	341565	369172	357413
N Neighborhoods	115	114	116	115
R squared	.382	.578	.705	.831

The dependent variable is the share that voted "No" at the neighborhood level. In this specification, the neighborhoods that the party volunteers could not canvass because of aggression were dropped. Each column shows the estimation result for each quartile of the past vote share distribution. Regressions are weighted by the number of registered voters. All pre-specified controls are included in the regression; including, past voting and turnout data. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels.

Appendix

7.1 Facebook Experiment

Finally, in considering the effectiveness of alternative strategies, I compare the results of the door-to-door campaign to a randomized, country-wide Facebook campaign that was also implemented by the opposition. It is claimed that advertisements shown through Facebook should only be exposed to a user if it is compatible with their user preferences. Relative to the door-to-door campaign, a user has full discretion to choose to click on a link or video.

The experimental design of the Facebook campaign was similar to that of the door-to-door campaign, but the sampled areas were more representative of the entire country. The finest level at which voters can be targeted through Facebook in Turkey is by zip code. The individuals from the opposition party faced a budget constraint and so wanted to focus on "moderate" areas defined by vote share differential. As in the case of the door-to-door campaign, administrative voter choice and turnout data is observed at the neighborhood leve. There are multiple neighborhoods within a zip code. Zip codes where any party had more than 60% of the vote share in the general elections in 2015 were dropped. Zip codes were randomly selected to be exposed to a set of videos on Facebook urging voters to vote "No."[35] Randomization was stratified by octiles of past vote share for the incumbent party at the zip code level. In this campaign, the content of the videos varied. Some of the videos showed experts discussing information on issues like the economy and terrorist activity and others showed regular citizens using various arguments to urge others to vote "No." The online campaign started two weeks before the referendum.

The equations below show the specification that were run at the zip code and neighborhood level. Y_z is neighborhood level "No" vote shares or turnout data aggregated up to the zip code and Y_{nz} is at the neighborhood level. T_z is an indicator for whether the zip code was in the treatment group and δ_o are octile fixed effects. X_z includes average vote shares for three out of four parties (so that rank condition is not violated) from the past two general elections that were both held in 2015.

$$Y_{zo} = \alpha + \beta_1 T_z + \delta_o + \gamma_1 X_z + \epsilon_{zo} \tag{4}$$

$$Y_{nzo} = \alpha + \beta_2 T_z + \delta_o + \gamma_2 X_{nz} + \epsilon_{nzo} \tag{5}$$

Equation (1) shows estimation at the zip code and equation (2) shows estimation at the neighborhood level; in the latter, standard errors were clustered at the zip code level. The estimates of both regressions are the same when the neighborhood level regression is weighted by the number of registered voters per neighborhood as shown in Table 12 and Table 13. However, an unweighted version of the latter estimates a negative effect of the campaign, indicating that small neighborhoods were negatively affected by the campaign. This result

[35] On Facebook, the advertiser enters a daily budget for its ads/campaigns.

is shown in Table 14 and is shown by quartile of past vote share (the mean of the outcome shows that the quartiles are decreasing in the "No" vote share). This result is consistent with the fact that had less information beforehand were more responsive. The effects are in "moderate" areas, similar to the door-to-door campaign as shown in Figure 10. If anything, the Facebook campaign caused a small decrease in the "No" vote share. We conclude that the opposition party was again unsuccessful in changing vote share. In comparison to the door-to-door campaign, it is more difficult to interpret the Facebook results because the content in the videos varied and it is not possible to measure the effects by video. Moreover, I cannot provide a framework to explain why the campaign only decreased the "No" vote share. The main conclusion is that the targeted door-to-door campaigning is found to be the most effective strategy.

Table 12: Vote Share "No" at Zip Code Level

	(1)	(2)
	All	All With Controls
Treatment	0.001	0.002
	(0.004)	(0.002)
2015 MHP Vote Share		-0.277***
		(0.020)
2015 HDP Vote Share		-0.219***
		(0.016)
2015 AKP Vote Share		-1.086***
		(0.025)
2015 Turnout		0.165***
		(0.029)
Mean of Outcome	0.517	0.517
Number of Observations	1119	1119
R squared	.779	.943

The dependent variable is percent vote No. Column 1 shows the result across the distribution (octiles) without controls and column 2 shows the result with controls. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels. Includes octile strata fixed effects. The mean outcome shows that quartile is decreasing in the "No" vote share.

Table 13: Vote Share "No" at the Neighborhood Level With Neighborhood Weights

	(1) All	(2) All With Controls
Treatment	0.001	-0.001
	(0.004)	(0.002)
2015 AKP Vote Share		-1.108***
		(0.008)
2015 MHP Vote Share		-0.296***
		(0.017)
2015 HDP Vote Share		-0.257***
		(0.012)
2015 Turnout		0.112***
		(0.029)
Mean of Outcome	0.521	0.521
Number of Observations	16297	16297
R squared	.518	.95

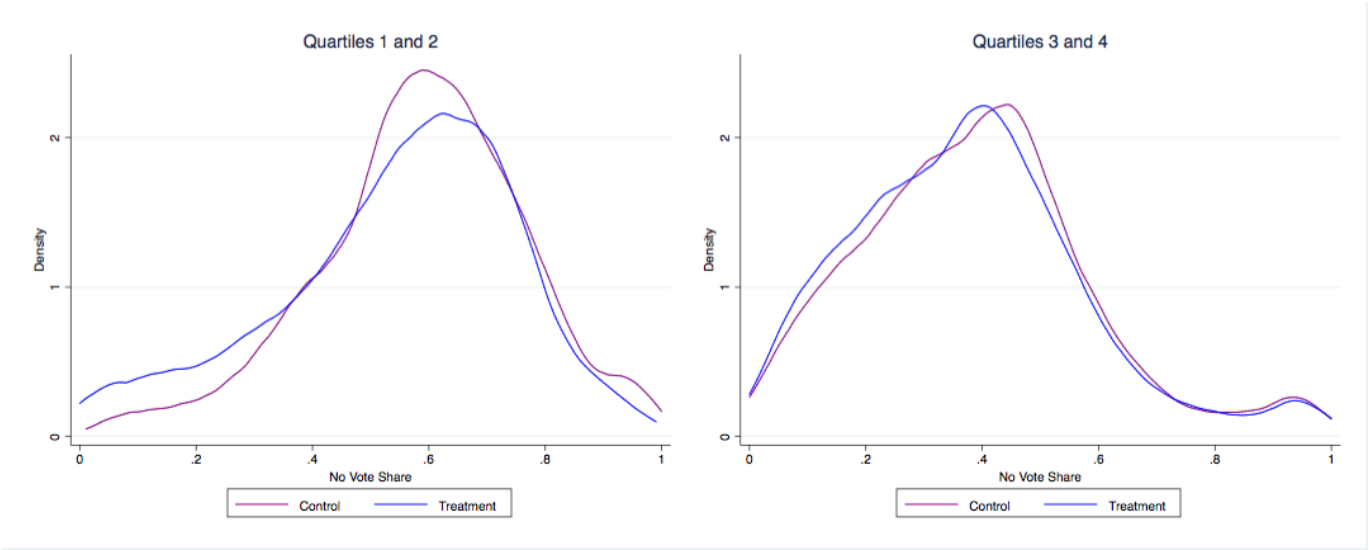
The dependent variable is percent vote No. Column 1 shows the result across the distribution (octiles) without controls and column 2 shows the result with controls. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels. Includes octile strata fixed effects. The mean outcome shows that quartile is decreasing in the "No" vote share.

Table 14: No Pct Neighborhood Level By Quartile No Weights

	(1) Q1	(2) Q1 Controls	(3) Q2	(4) Q2 Controls	(5) Q3	(6) Q3 Controls	(7) Q4	(8) Q4 Controls
Treatment	-0.029*	-0.001	-0.046***	-0.019***	0.006	0.001	-0.010	-0.004
	(0.017)	(0.005)	(0.017)	(0.007)	(0.019)	(0.011)	(0.010)	(0.007)
2015 AKP Vote Share		-1.096***		-1.101***		-1.070***		-1.069***
		(0.015)		(0.014)		(0.024)		(0.015)
2015 MHP Vote Share		-0.235***		-0.281***		-0.202***		-0.324***
		(0.022)		(0.030)		(0.036)		(0.028)
2015 HDP Vote Share		-0.254***		-0.357***		-0.290***		-0.305***
		(0.046)		(0.030)		(0.031)		(0.078)
2015 Turnout		-0.005		0.012		-0.031		-0.017
		(0.033)		(0.063)		(0.054)		(0.031)
Octile F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean of Outcome	0.625	0.625	0.512	0.512	0.424	0.424	0.347	0.347
Number of Observations	3228	3228	3778	3778	4257	4257	5034	5034
R squared	.0529	.882	.0267	.841	.00327	.792	.0229	.838

The dependent variable is percent vote No. Columns 2, 4, 6, and 8 show the results for each quartile with controls. Asterisks indicate that coefficient is statistically significant at the 1% ***, 5% **, and 10% * levels. Includes octile strata fixed effects. The mean outcome shows that quartile is decreasing in the "No" vote share.

Figure 10: Neighborhood Level Vote Share "No"



The dependent variable is the "No" vote share at the neighborhood level and each panel is split by the bottom and upper quartiles. Quartiles 1 and 2 correspond to zip codes where the "No" vote share was relatively higher.