Natural Disasters, Media Narratives, and Electoral Behavior: Evidence from the 2023 Turkish Earthquake[*]

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Abstract

Natural disasters can reshape political landscapes, particularly in competitive authoritarian regimes in which state controls over the media can be used to influence how disasters are perceived by the public. I examine Turkey's catastrophic earthquake in February 2023 through an event study framework and spatial variation in exposure. Event study estimates provide evidence that the disaster exposure is associated with a significant rise in support for President Erdoğan's vote share in hardest-hit areas despite widespread criticism of disaster response. This effect has been driven by media control, rally-around-the-flag dynamics, and scapegoating, while aid distribution does not explain the observed increase. This study contributes to the literature on crises and voting behavior of competitive authoritarian regimes.

Keywords: Natural Disasters, Earthquake Impact, Competitive Authoritarianism, Incumbent Voting, Crises, Media Capture, Elections, Turkey
JEL: D72, H12, Q54, H84, P16

1. INTRODUCTION

Satisfaction with democracy has declined globally for the past three decades. According to an assessment by International Institute for Democracy and Electoral Assistance (2022), more than twice as many countries have been moving towards authoritarianism as have been moving toward democracy. During this same period, there has been a rise in the number of regimes that can be classified as "competitively authoritarian". In competitively authoritarian regimes, formal democratic institutions are present, and opposition parties are allowed to operate, but the playing field is biased in favor of the ruling party (Levitsky and Way, 2002). Elections take place, but they are far from fair, and the ruling party often controls the media, uses state resources to campaign, and harasses opposition members (Gandhi and Lust-Okar, 2009; Schedler, 2002). Although these regimes maintain the facade of democracy through the existence of electoral competition, autocratic incumbents systematically deny their opponents a realistic chance of winning power (Diamond, 2002; Levitsky and Way, 2002). Understanding how citizens react to crises in such settings is essential for evaluating the resilience of electoral accountability and the role of information in democratic governance.

In this study, I explore whether a competitively authoritarian incumbent, Turkish President Recep Tayyip Erdoğan, was able to exploit a natural disaster for political gain. On February 6, 2023, a series of strong earthquakes hit eastern Turkey, killing thousands and causing extensive damage to buildings and other infrastructure. Just a few months later, on May 14, 2023, Turkish presidential and parliamentary elections were held. Combining geocoded data on earthquake intensity and building damage with district-level election results, survey data, and media archives, I estimate how disaster exposure influenced incumbent vote shares across elections. Using distance to the epicenter of the earthquake and the number of buildings damaged as measures of earthquake exposure, I find that the hardest-hit districts experienced an immediate increase in the incumbent vote share of 7 percentage points, or approximately 14% relative to the mean.

However, this effect appears to be temporary. There is little evidence that exposure to the earthquake influenced the outcomes of local elections held approximately one year later, on March 31, 2024. After estimating the immediate and medium-term impacts of the earthquake on election outcomes, I extend the analysis by exploring potential mechanisms. Using publicly available survey results, I provide descriptive evidence that voters did not believe that the government response to the earthquake was adequate but did not blame Erdoğan and his Justice and Development Party (AKP) for the inadequate response.

Finally, I analyze humanitarian aid efforts in the wake of the earthquake using data from The Foundation of Anatolian People and Peace Platform (AHBAP), one of the most effective NGOs collaborating with the Turkish government. I find that neither the total amount of humanitarian aid nor housing assistance provided in the form of tents and shipping containers can explain the estimated effects of the earthquake on incumbent vote share. Descriptive evidence from Google News Archives indicates that many media outlets—especially those with explicit ties to the government—directed the public's attention to unity and scapegoating the construction sector in the aftermath of the earthquake instead of focusing on the government's response. This deflection from the government's response provides a compelling example for the literature on media strategies in competitive authoritarian regimes (Cho et al., 2017; Kirchberger, 2017).

Scholars have hypothesized that natural disasters can amplify doubts about democracy and bolster the rise of charismatic leaders in semi-democratic or competitive autocratic systems (Levitsky and Way, 2002; Lührmann and Rooney, 2021; Pelling and Dill, 2010). My results provide quasi-experimental support for this hypothesis. By comparing election outcomes held in the aftermath of the February 2023 earthquake and the outcomes of local elections held approximately one year later, I am able to distinguish between voters' immediate and medium-term responses to a natural disaster in a country run by a competitively authoritarian regime. My results highlight the broader challenges to democracy posed by autocratic governments that can take advantage of natural disasters through friendly media outlets, appeals to unity, and scapegoating.

The remainder of this study is organized as follows. Section 2 provides background on the February 2023 Earthquake and Turkish elections in the context of competitive authoritarianism. Section 3 explains the datasets and the main empirical strategy of the analysis. Section 4 reports the main results and the robustness checks. Section 5 discusses possible mechanisms underlying the main results. Section 6 concludes.

2. BACKGROUND

Researchers have suggested that natural disasters can weaken democracy and encourage the rise of charismatic leaders in semi-democratic or competitive autocratic systems (Levitsky and Way, 2002; Lührmann and Rooney, 2021; Pelling and Dill, 2010). Such crises enable authoritarian regimes to take advantage of the situation to consolidate control over the public, thus corrupting democratic norms (Black, 1948; Bueno de Mesquita et al., 2003; Drury and Olson, 1998; Rahman et al., 2022). While natural disasters can create challenges that test the government's capabilities and reveal vulnerabilities, they can also reinforce public trust depending on how the government responds to the crisis. Previous researchers have characterized natural disasters as a potential trigger for political instability (Brancati, 2007; Nel and Righarts, 2008), while others underline the opportunities natural disasters create for cooperation and conciliation (Aldrich, 2012; Kelman, 2011). Achen and Bartels (2004) introduced the concept of "blind retrospection," suggesting that voters may irrationally hold governments accountable for natural events and judge them based on crisis management. Akarca and Tansel (2008), Gasper and Reeves (2011), and Heersink et al. (2017), further support the hypothesis of Achen and Bartels (2004) by illustrating that government responsiveness, rather than the origin of a crisis, plays a central role in shaping voter reactions. Arceneaux and Stein (2006) explored this in the context of U.S. elections, showing that disaster response can shift electoral outcomes, especially when incumbents are perceived as proactive. Similarly, Bovan et al. (2018) and Healy and Malhotra (2009) find that voters punish incumbent presidents for damage from severe weather. On the other hand, Cerqua et al. (2023) document two destructive earthquakes having opposite voting effects and the failure to

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recover increased support for authoritarian right-wing parties.[2] More recently, Masiero and Santarossa (2021) empirically showed that earthquakes increased the probability of re-election in Italy, while Boittin et al. (2020) revealed that natural disasters could exhibit a "rally-around-the-flag" effect phenomenon in which public support for an incumbent leader or government increases during a national crisis or external threat. This effect is typically temporary and occurs as citizens unify behind their leader (Mueller, 1970).

While studies exploring the political impacts of natural disasters in democracies are more common, fewer studies have looked explicitly at quasi-experimental evidence in competitively authoritarian regimes. In such regimes, the narrative shifts as incumbents have access to tools that allow them to shape public perception more effectively. Levitsky and Way (2002) characterize these regimes as political systems where democratic institutions exist but are heavily skewed in favor of the incumbent. Klomp (2020) points out that the effects of natural disasters on political outcomes vary significantly by regime type from cross-national studies. Authoritarian regimes, in particular, offer leaders the opportunity to leverage crises for political gain. According to Haggard and Kaufman (2016), these leaders often manipulate crises to consolidate power and maintain control over the media. Similarly, Pelling and Dill (2010) argue that while disasters can catalyze political change, they are more likely to reinforce the power of incumbents in competitive authoritarian regimes if leaders present themselves as capable crisis managers. Lührmann and Rooney (2021) add that such crises can enable leaders to justify stronger executive measures such as long-standing declarations of states of emergency, reducing public expectations for democratic oversight. This dynamic is particularly pronounced in competitive authoritarian regimes, where charismatic leaders often thrive during periods of crisis, as people look to strong leaders for stability (Parkin Frank, 2000; Pepinsky, 2017; Weber, 1978).[3]

This study provides quasi-experimental support to the hypothesis that natural disas-

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[2] They provide evidence for Italy as a country with a strong democratic culture and tradition that local shocks retain the potential to revive authoritarian tendencies. They characterize authoritarian tendencies as the votes given to the right-wing parties in a democratic country.

[3] Trice et al. (1986) summarized the concept of charismatic leadership by several key factors: a gifted person, a crisis, a radical solution, followers who are attracted to the leader due to the belief that he has the solution to the crisis, and validation of the leader's power through successful past experience.

ters can boost charismatic leaders in competitive autocratic systems. As a country with a hybrid political system characterized by democratic institutions in favor of the incumbent, Turkey aligns well with the definitions of scholars like Levitsky and Way (2002). The 2023 earthquake that occurred shortly before a high-stakes election offers a natural experiment to study how crises can affect incumbents' authority. With over 90% of media outlets under government influence, Turkey provides a unique context to explore how narrative framing, such as deflecting blame and highlighting leadership, may shape voter perceptions (Freedom House, 2023).[4] Overall, it contributes to the limited empirical research on crises in competitive authoritarian systems, filling a gap in the literature dominated by theories and studies on democratic countries.

2.1 Historical Background

The current incumbent party, the Justice and Development Party (AKP), led by its charismatic leader, Recep Tayyip Erdoğan, has dominated Turkish politics for over two decades. Erdoğan's rise to power was closely linked to the 1999 İzmit earthquake, which exposed the failures of the then-ruling government and paved the way for the AKP's 2002 electoral victory. The newly formed AKP capitalized on public anger and presented Erdoğan as a competent leader who offered the country a new direction (Akarca and Tansel, 2008). Initially, the AKP gained support through economic reforms, political stability, and a push for EU membership that positioned itself as a model of functioning democracy in the Muslim world. Over time, however, institutional changes expanded executive authority and reshaped the balance between branches of government.[5]

Scholars describe Turkey under the AKP as a case of a dominant-party or competitive-authoritarian system, where elections remain regular but the playing field favors the incumbent (Esen and Gumuscu, 2023; Esen et al., 2023; Müftüler-Baç and Keyman, 2012). Erdoğan's leadership style has been characterized as charismatic, drawing on

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[4]Freedom House (2023) reports that over 90% of Turkey's media outlets are directly or indirectly aligned with the government. This enables the incumbent to dominate the public through narrative control.

[5]Figure A1 from Varieties of Democracy (V-Dem) data shows a sharp drop in Turkey's liberal democracy index, freedom of expression, academic freedom starting from 2007 relative to other countries, indicating growing authoritarian tendencies under Erdoğan's leadership.

his ability to turn crises—economic, security-related, or natural—into opportunities to project decisiveness and empathy Fernandes and Carvalhais, 2018.[6] In the run-up to the May 2023 elections, Erdoğan faced a unified opposition coalition known as the Table of Six, which aimed to end two decades of incumbency and restore parliamentary governance (Verney et al., 2024).[7]

Pre-election surveys suggested that Erdoğan risked defeat, with international observers framing the contest as a test between continuity and democratic renewal (Tharoor, 2023).[8] Yet Erdoğan ultimately secured re-election, raising questions about how crisis dynamics, media framing, and leadership style shaped voter decisions (Parke, 2023).

The February 6, 2023 earthquake—the deadliest and costliest in Turkey's modern history—significantly affected the political landscape. The 7.8-magnitude quake caused widespread destruction, killing over 56,000 people and displacing millions which made it the deadliest earthquake in the world since 2010 Haiti and the 5th deadliest in the 21st century. [9] The government faced heavy criticism for its slow response which draws parallels to the 1999 İzmit earthquake that had contributed to the AKP's rise. Public surveys and media predicted the ruling party would be punished for its crisis response, as in 1999. However, unlike Akarca and Tansel (2008), Turkish voters in 2023 rewarded the incumbent which highlights the role of charismatic leadership in shaping public perceptions. Therefore, combined with the May 2023 elections, the earthquake provides a unique exogenous opportunity due to the severity, widespread destruction, and timing relative to national elections.

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[6]Esen and Gumuscu (2016) and Esen et al. (2023) highlight how Erdoğan leverages crises to reinforce his image as a decisive leader, supported by extensive media control.

[7]The "Table of Six" coalition brought together ideologically diverse parties, reflecting a shared urgency to challenge Erdoğan's dominance by rallying around a single candidate, Kemal Kılıçdaroğlu, the leader of the Republican People's Party (CHP).

[8]Roughly 70 percent of polls conducted before the earthquake projected an opposition victory. International media widely described the election as a pivotal moment for Turkey's democratic trajectory.

[9]It affected a region roughly the size of Germany, with survivors struggling for necessities like food, water, and shelter amid freezing winter temperatures. (see Figure A2)

3. EMPIRICAL STRATEGY

3.1 Data

The main measure of earthquake exposure comes from geospatial data on collapsed buildings derived from satellite imagery provided by the Humanitarian OpenStreetMap project. This dataset records the number of collapsed buildings in each district, offering a direct metric of the physical destruction caused by the earthquake.[10] Figure 1 provides a visual representation of the geographic distribution of collapsed buildings which highlights the districts most severely affected by the earthquake. The concentration of dark-shaded areas suggests that damage was not uniform but clustered in specific regions.[11]

To capture the intensity of earthquake exposure, I construct multiple complementary measures. One measure is the proximity to the epicenter, calculated using geospatial data from the Kandilli Observatory and Earthquake Research Institute (KOERI).[12] Another measure is based on seismic intensity indicators, such as Mercalli Modified Intensity (MMI) and Peak Ground Acceleration (PGA), sourced from the U.S. Geological Survey (USGS).[13] Finally, I develop a composite metric that integrates satellite-detected collapsed buildings with damage assessments from Google News Services and the Global Shelter Cluster database.[14] This multi-dimensional approach provides a more comprehensive representation of earthquake severity by incorporating both direct structural damage and broader intensity measures. The district-level vote shares for the AKP and Recep Tayyip Erdoğan, spanning general, local, and referendum elections from 2007 to 2024 come from the Supreme Election Council (Yüksek Seçim Kurulu). It is complemented by district-level population statistics sourced from the State Institute of Statistics, Republic

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[10]Source data includes aerial imagery from Copernicus EMS and Istanbul Technical University, Implementation and Research Center for Satellite Communications and Remote Sensing (CSCRS).

[11]It should be noted that collapsed buildings alone may not fully capture the extent of the destruction, as they exclude partial structural damage and infrastructure failures.

[12]Two binary measures are generated using the distance to the epicenter less than 50km and 100km. Wald DJ et al. (1999) established that seismic effects are most destructive within these distances, with a steep drop-off in impact beyond 100 km.

[13]According to U.S. Geological Survey, Mercalli Modified Intensity and Peak Ground Acceleration higher than 7 generate very strong shaking and moderate damage

[14]Figure 2 displays the damaged buildings as assessed by the Ministry of Environment, Urbanization and Climate Change.

of Turkey (Türkiye İstatistik Kurumu), allowing for demographic and regional analysis of electoral trends.

Following the literature on personalization and leader–party alignment in hybrid and dominant-party systems, I treat votes for President Erdoğan and for the Justice and Development Party (AKP) as functionally equivalent indicators of incumbent support (Esen and Gümüşçü 2023; Levitsky and Way 2002; Gandhi and Lust-Okar 2009). In Turkey's presidential–parliamentary context, electoral competition has become increasingly leader-centered: the AKP's organizational identity and Erdoğan's personal leadership are closely intertwined, and both draw on the same networks of mobilization and legitimacy. Empirical evidence from recent elections shows that Erdoğan's presidential vote shares and the AKP's parliamentary performance have moved closely together, reflecting the overlap in their support bases.[15] This pattern illustrates the personalization of political authority described in Levitsky and Way (2002) and Gandhi and Lust-Okar (2009), where party and leader support often converge in hybrid and dominant-party systems.

3.2 Estimation

To assess the electoral impact of the earthquake exposure on incumbent support, I follow an event-study design that exploits variation in exposure across districts and over time. The specification compares changes in vote shares before and after the February 2023 earthquake between districts differentially affected by the disaster. The dependent variable, Y_{dt}, denotes the incumbent vote share in district d at election year t, defined as either Erdoğan's presidential vote share or the AKP's parliamentary vote share, as discussed above.

Specifically, I estimate the following event-study regression:

$$(1) \quad Y_{dt} = \alpha + \sum_{j=\min}^{\max} \beta_j \, QuakeHit_d \times \mathbf{1}(\textit{Months to February 2023} = j) + \theta_d + \gamma_t + \lambda' \mathbf{X}_{dt} + \varepsilon_{dt},$$

where $QuakeHit_d$ measures district-level exposure to the February 6, 2023 earthquake,

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[15]Esen and Gümüşçü (2023) note that in the 2018 and 2023 elections, the difference between Erdoğan's presidential vote share and the People's Alliance's parliamentary share was minimal, indicating that leader- and party-level votes draw from largely overlapping constituencies.

defined in the main specification as a binary indicator (1 if any buildings collapsed in d, 0 otherwise).[16]

The indicators 1(*Months to February 2023* =j) mark election periods relative to February 2023, with β_j estimating the exposure effect at each point. The period j=-1 (the last election before the quake) is omitted, normalizing to zero for that baseline. β_j estimates of pre-earthquake period serves as falsification tests to investigate the parallel trend assumption. The difference-in-difference analogue of equation (1) is:

$$(2) \quad Y_{dt} = \beta \, QuakeHit_d \times Post_t + \theta_d + \gamma_t + \lambda' \mathbf{X}_{dt} + \varepsilon_{dt},$$

where $Post_t$ is equal to 1 for elections after February 2023 (and is equal to 0 otherwise). The estimate of β can be thought of as summarizing the post-treatment estimates of β_j. District fixed effects (θ_d) account for local factors like politics, seismic risk, or corruption that may tie voting to damage via weaker construction standards. Election-year fixed effects (γ_t) cover broader shocks. $\mathbf{X_{dt}}$ includes time-varying district-level covariates such as population size, demographic composition, the Kurdish population share, and exposure to other natural disasters. Standard errors are clustered by district to deal with spatial correlation in ε_{dt}.

4. EARTHQUAKE EXPOSURE AND INCUMBENT VOTE SHARE

Was the competitively authoritarian incumbent, Turkish President Recep Tayyip Erdoğan, able to exploit the February 2023 natural disaster for political gain? Estimates of equation (1) and (2) for Erdoğan's vote share are reported in Figure 3.[17] Pre-treatment β_j coefficients are statistically insignificant and exhibit no trend which is consistent with the parallel trends assumption. In the post-earthquake period, the estimates of β_j display a positive and statistically significant increase, providing evidence that the earthquake

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[16]Continuous measures (e.g., number of collapsed buildings, epicenter distance, mmi and pga values) are used in robustness checks, with results available upon request.

[17]The estimates of β_j used to produce Figure 3 are reported in column (1) of Appendix Table 1. Also in Appendix Table 1, I report estimates of other exposure measures for robustness purposes. X_{dt} includes share of female, elderly,voting population and primary education ratio, kurdish population ratio

exposure was effective for gaining incumbent support in the short-run. For instance, earthquake exposure – having collapsed buildings in the district– is associated with a 7 percentage points increase in Erdoğan's vote share in the election of May 2023. The two-period DiD estimate (i.e., estimate of β) is 0.059 (p-value < 0.01), a 12% increase relative to the mean. However, this effect disappears in the following March 2024 election, suggesting a short-run "rally-around-the-flag" effect. Although the last election analyzed was a local election, it reflects broader voting patterns consistent with national-level political dynamics.[18]

4.1   Robustness Checks

Up to this point in the analysis, earthquake exposure has been measured using collapsed buildings detected via satellite imagery. While this measure provides a direct and intuitive proxy for physical destruction, satellite data may not fully capture the extent of earthquake damage because of limitations in resolution, classification accuracy, or coverage. To verify that the results are not driven by this specific measure, I examine several alternative definitions of exposure.

Figures 4–8 present results using distance to the epicenter, seismic intensity indicators such as Peak Ground Acceleration (PGA) and Modified Mercalli Intensity (MMI), and a composite index that integrates satellite-detected damage with reports from the Global Shelter Cluster. As also shown in Table 1, the estimated effects on Erdoğan's vote share remain consistently positive and statistically significant across all specifications, confirming that the findings are robust to alternative measures of earthquake intensity.[19]

Next, I assess whether the estimated effects are specific to southern Turkey, where both earthquake severity and incumbent support have historically been higher. Figure 9 demonstrates the effects of different measures by restricting the sample to southern districts, which experienced the most severe earthquake damage.Consistent with the baseline

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[18]In competitive authoritarian regimes like Turkey, voters often view local elections as an extension and battlegrounds of national politics. For instance, the 2019 municipal elections in Istanbul were framed as a referendum on President Erdoğan's rule, demonstrating how local contests can take on national significance(Esen and Gumuscu, 2019; Esen et al., 2023).

[19]Appendix Figure A3 presents all exposure measures jointly for visual comparison.

results, the estimated effects remain positive and statistically significant in this restricted sample. Appendix Table A9 reports the corresponding regression estimates. These results suggest that the observed increase in incumbent vote share is not driven by regional political dynamics or media environment differences but reflects a broader short-term rally effect following the disaster.

5. POTENTIAL MECHANISMS

This section examines potential mechanisms underlying the main results. Three complementary channels are considered: (i) electoral dynamics—voter turnout and political turnover, (ii) disaster response and aid distribution, and (iii) media coverage and narrative framing. The analyses presented below aim to shed light on plausible channels consistent with the main estimates. By combining survey data, media coverage, and variation in aid delivery, the evidence provides suggestive support for the interpretation that narrative framing and crisis perceptions reinforced incumbent support.

5.1 Electoral Dynamics: Voter Turnout and Political Turnover

What can voter turnout reveal about whether increased participation drove Erdoğan's electoral gain? One possible explanation for the observed increase in incumbent vote share is higher political participation in affected areas. Event-study estimates substituting vote share with voter turnout in Figure 11 show β_j coefficients that are small and statistically insignificant across nearly all periods, with only a slight decline in March 2024.[20] The two-period DiD estimate is –0.014 (p = 0.02), indicating no turnout surge in the May 2023 elections. This lack of effect contrasts with democratic settings where disasters often boost turnout through heightened civic engagement (Bovan et al., 2018). In Turkey's polarized electorate, already marked by high participation, the absence of a spike suggests the vote share rise stemmed from existing voters realigning their preferences—possibly a crisis-driven consolidation of Erdoğan's base rather than new mobilization.

In Figure 10, I turn the attention to political turnover, as measured by the probability

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[20]Voter turnout is measured as the participation rate in each election.

of a change in a government from one ruling political party to another. The estimates of β_j are small and statistically insignificant, with the two-period DiD estimate 0.039 (p-value = 0.52). The stability shows that the earthquake did not disrupt local power or enable opposition gains, unlike democratic settings where disasters weaken governments (Cerqua et al., 2023). Instead, it strengthened Erdoğan's support base, showing how competitive authoritarian systems can survive crises while maintaining voter loyalty despite governance criticism.

5.2 Effective Disaster Response and Aid Distribution

Some scholars have shown that the impact of the disaster depends on the effective disaster response of the government and humanitarian aid to the citizens (Akarca and Tansel, 2008; Masiero and Santarossa, 2021).[21] Did aid distribution and effective disaster response drive Erdoğan's support? I test this using data on aid distribution from AHBAP, an NGO coordinating with the government, including food, water, and accommodation container trucks distributed to districts.Event-study estimates interacting exposure $QuakeHit_d$ with the number of food and accommodation helps in equation (1), reported in Figure 12 and Appendix Tables A1 -A8 provide no evidence that aid distribution is a major confounder. Unlike in the literature, the unchanged effects indicate that the increase in Erdoğan's vote share due to exposure is likely driven by other mechanisms rather than the disaster response.

While aid may still have some impact reflected in the interaction term, it does not fundamentally explain the primary effect of exposure on vote share.[22] These findings support the public surveys that have been done to reveal public opinion.[23] Figure A4 and Table A1 reveal that the majority of people believe the government was not prepared

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[21]Turkey has faced significant challenges in past disaster responses, most notably after the 1999 İzmit earthquake. The government's failure then contributed to the rise of the AKP, highlighting the political consequences of ineffective disaster management.

[22]Literature often highlights a direct correlation between effective disaster response and incumbent support, such as in Italy and the U.S., where visible leadership in crisis management has supported political outcomes. The results deviate from such patterns, reflecting different dynamics in a competitive authoritarianism context.

[23]Appendix Figure A6 reports collection of publicly available opinion polls conducted by various research companies prior to the 2023 elections

for the disaster to respond effectively regardless of the political view. However, people supporting Erdoğan did not blame the government for the lack of response. The survey suggests that they blamed the construction sector instead of the government despite their lack of ability (see Figure A5 and Table A2).[24] The fact that people do not blame the government despite the insufficient help is consistent with my results of having no effect on Erdoğan's support.

5.3 Media Coverage and Narrative Framing

A key feature of competitive authoritarian regimes is the ability of incumbents to shape crisis narratives through media control (Levitsky and Way, 2002). To examine this channel, I analyze news coverage patterns from major media outlets between February 6 and May 14, 2023, using Google News archives. Although the data only provides some descriptive evidence, it offers valuable insights into the underlying mechanisms, which align with the main analysis and survey results discussed earlier. Figure 13 presents the distribution of news themes across pro-government, centrist, and opposition-aligned media sources. The results indicate that government-aligned media disproportionately emphasized unity and national resilience (29%) via "One Heart Campaign", while scapegoating the construction sector (28%).[25] Opposition media, despite being critical of the government (20%), also reinforced unity narratives, which weakened the overall impact of their criticism. As shown in Figure 13, government-aligned media devoted nearly equal coverage to scapegoating the construction sector (28%) and promoting unity (29%). Survey results in Table A2 further support this pattern: 46.2% of AKP voters blamed the construction sector, while only 6.4% held the government accountable, despite 81.9% acknowledging the state's lack of preparedness. These align with theoretical expecta-

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[24]The construction sector has been a frequent target for criticism in Turkey due to lax enforcement of building codes. This makes it an easy scapegoat for shifting public attention away from governmental accountability.

[25]Joint media forces around unity created a massive online fundraising campaign for more than 6 billion dollars for quake survivors on the night of 15th February. Companies, institutions, and individuals made donations to the campaign via a joint live broadcast through 200 television and 500 radio channels. Over 9 million SMS donations highlighted public involvement, and funds were allocated to AFAD and the Turkish Red Crescent for disaster relief and recovery efforts (Disaster and Emergency Management Presidency).

tions that incumbents use crises to frame themselves as strong leaders while diverting accountability (Hogg and Abrams, 1988; Mann, 2012; Weiner, 1985).[26] Consequently, this media-driven narrative likely fuels the incumbent vote share increase, outweighing aid's null effect in a regime reliant on perception control.

6. CONCLUSION

This study shows that natural disasters can act as political catalysts in competitive authoritarian regimes and reinforce incumbent power rather than challenging it. The February 2023 earthquake in Turkey, which struck just months before the May 2023 elections, provided a unique opportunity to explore the intersection of crisis, voter behavior, and democratic resilience. My findings show a temporary 7 percentage points increase in Recep Tayyip Erdoğan's vote share in the hardest-hit districts—a 14% rise relative to the mean—despite widespread criticism of the government's disaster response. This effect weakened by the March 2024 local elections, aligning with the "rally-around-the-flag" phenomenon. Event-study estimates reveal that this short-term electoral boost was not driven by aid distribution or voter turnout shifts. According to the descriptive analysis of the media outlets, this may be driven by some media control and framing of the narrative. Government-aligned media amplified unity through efforts like the "One Heart Campaign" and shifted blame to the construction sector. Surveys underscore this effect: while 81.9% of voters viewed the response as inadequate, AKP supporters blamed construction (46.2%) rather than the government (6.4%), shielding Erdoğan from accountability. Yet this rise is shown to be temporary since it weakened by the March 2024 local elections, consistent with the transient rally-around-the-flag effect seen in literature (Mueller, 1970; Boittin et al., 2020).

The findings also refine political science theories. They extend Levitsky and Way's (2002) view of competitive authoritarianism, showing that crises can bolster resilience

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[26]A notable example is the response of the Chinese government during the COVID-19 pandemic. Initially, local authorities in Wuhan were blamed for the outbreak, which allowed the central government to deflect criticism regarding its own preparedness (Jing, 2021). This tactic preserved the government's image and reinforced the strong central authority.

through narrative dominance rather than effective governance. They also challenge Achen and Bartels' (2004) "blind retrospection," which predict voter punishment for poor performance. Instead, in competitive authoritarian regimes, media dominance and charisma can override performance-based voting, preserving incumbent support during crises. And they fit with Haggard and Kaufman's (2016) point about media control, which kept voters from seeing the real problems. The temporary nature of the effect, however, suggests limits to such strategies, consistent with Mueller's (1970) rally effect waning over time.

Beyond Turkey, these results highlight broader challenges to democratic resilience. In competitive authoritarian systems, where incumbents utilize media influence and charismatic appeal, crises can reinforce power asymmetries, undermining accountability and democratic norms. This dynamic poses a critical question for future research: how do these patterns compare across other hybrid regimes, particularly where media pluralism or disaster severity varies? Linking voter behavior directly to media exposure data could further illuminate these mechanisms. Understanding such processes is vital for safeguarding democracy in an era of rising autocratization and frequent crises.

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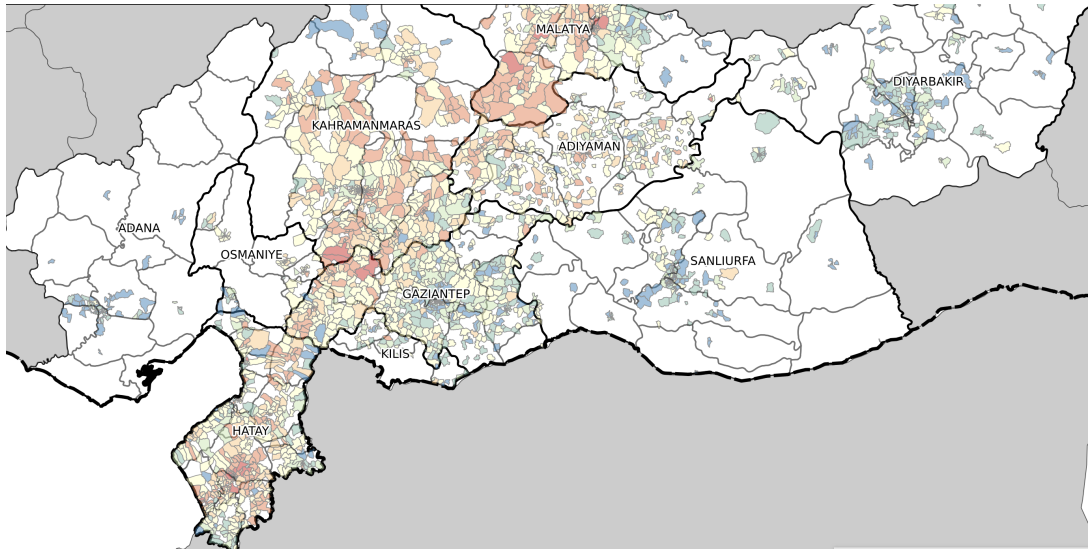
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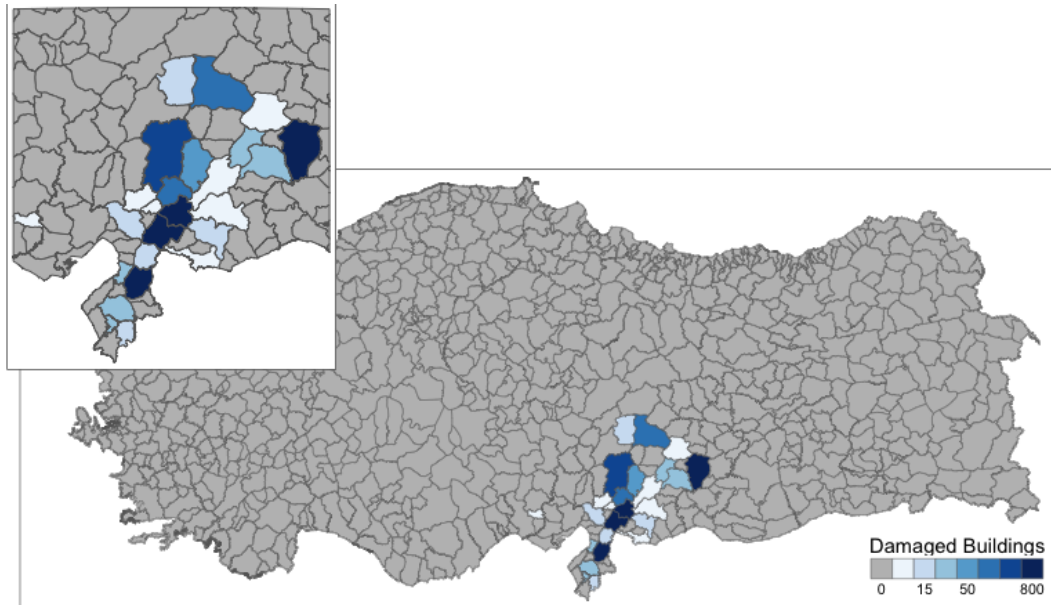
*a*

Figure 1: Collapsed Buildings from Satellite

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*a*The map shows collapsed buildings as collected through satellites from Humanitarian OpenStreetMap.

a

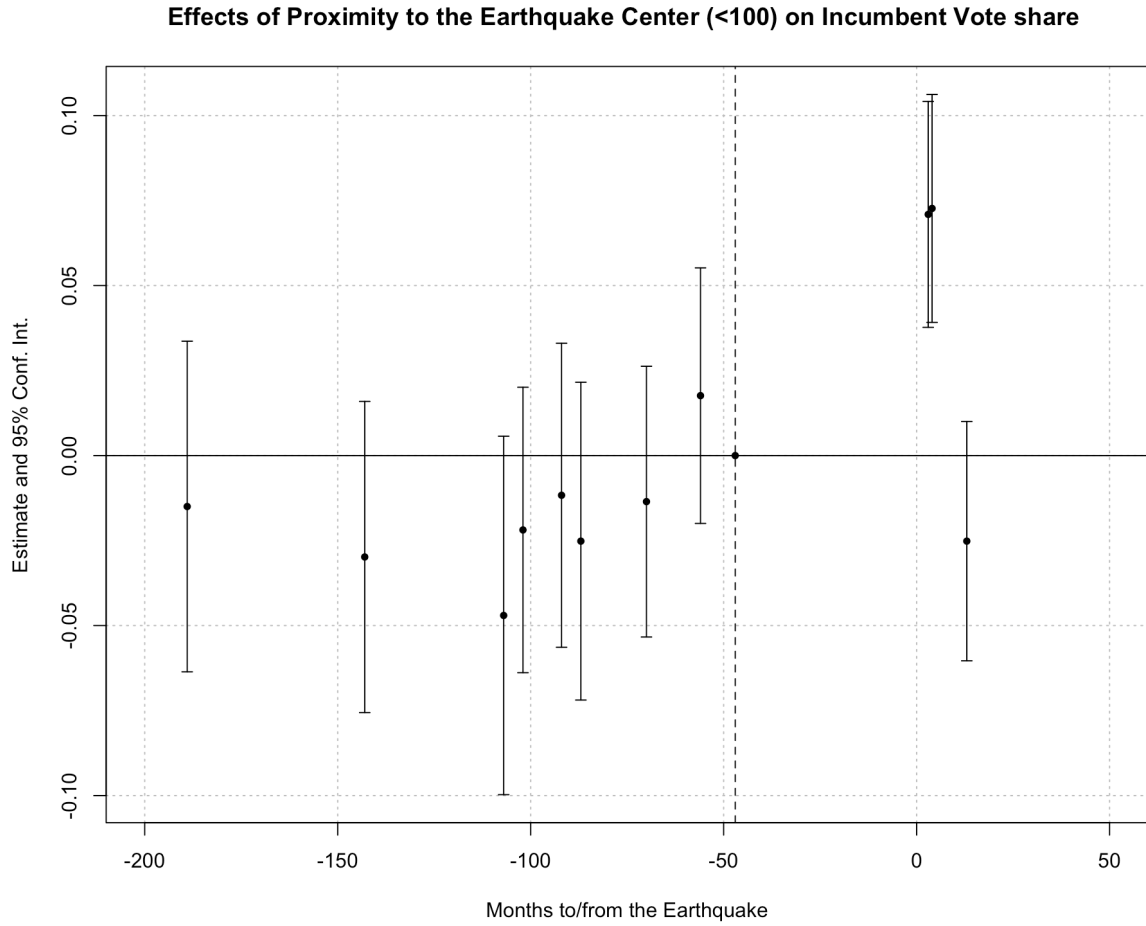Figure 2: Damaged Buildings from Global Shelter Cluster

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*a*The map shows damaged buildings as assessed by the Ministry of Environment, Urbanization and Climate Change. The data is available on building level here. The data is aggregated to Neighborhood level and the map shows the amount of buildings per neighborhood that are classified as collapsed, to be urgently demolished or heavily damaged. For this study, I aggregate them into district level.

Effects of Collapsed Buildings on Incumbent Vote share
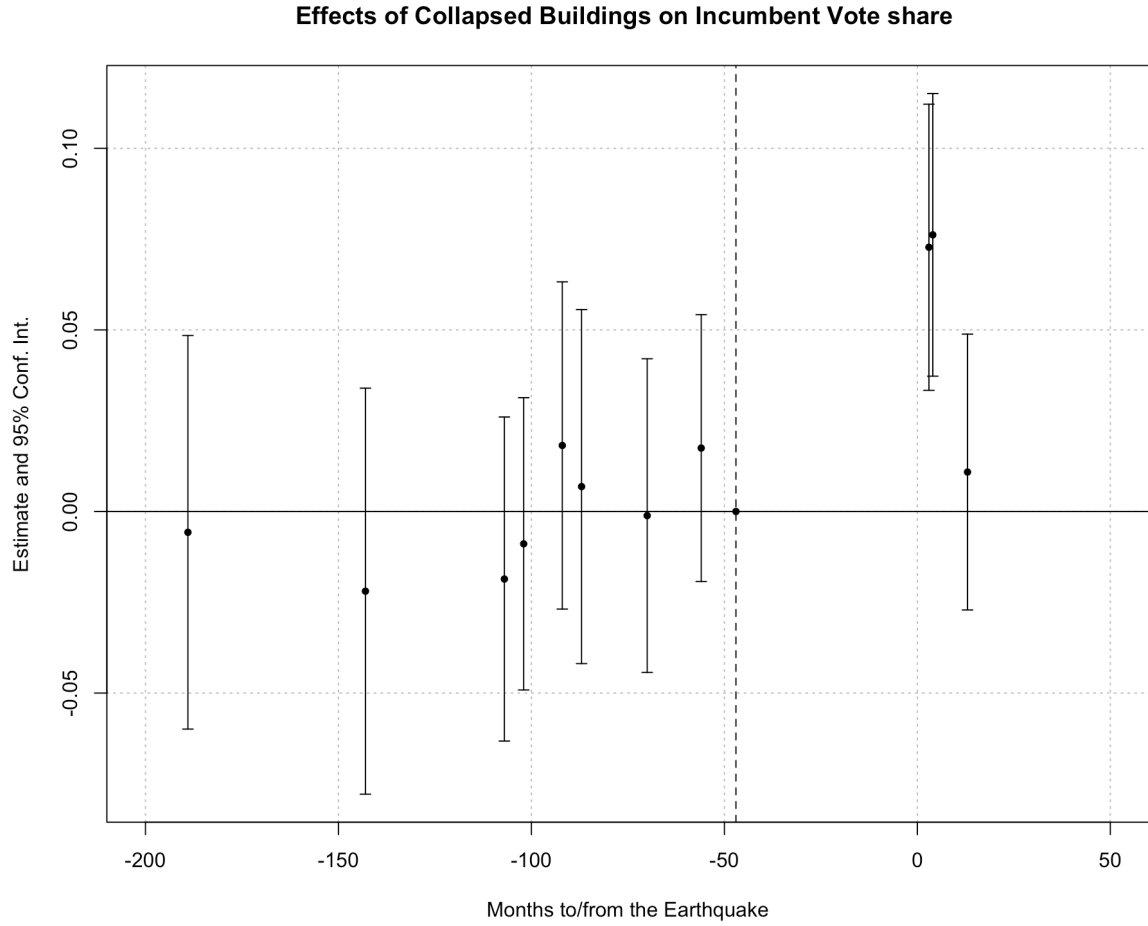
Figure 3: Effects of Collapsed Buildings on Incumbent Vote Share

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[a]Notes: Data derived from the Supreme Election Council (Yüksek Seçim Kurulu), covering months of the elections between 2007 and 2024. OLS coefficient estimates (and their 95 confidence intervals) are reported, where the omitted category is the last election month of 2019 before the earthquake. Dependent variable is the vote shares of Erdoğan and his party AKP in election month-year t in a district d. The earthquake exposure is a binary measure on whether there is a collapsed building in the district visible from the satellites provided by Humanitarian OpenStreetMap. The model controls for district-level covariates mentioned in the data section, as well as time and district fixed effects. Standard errors are clustered at the district level.
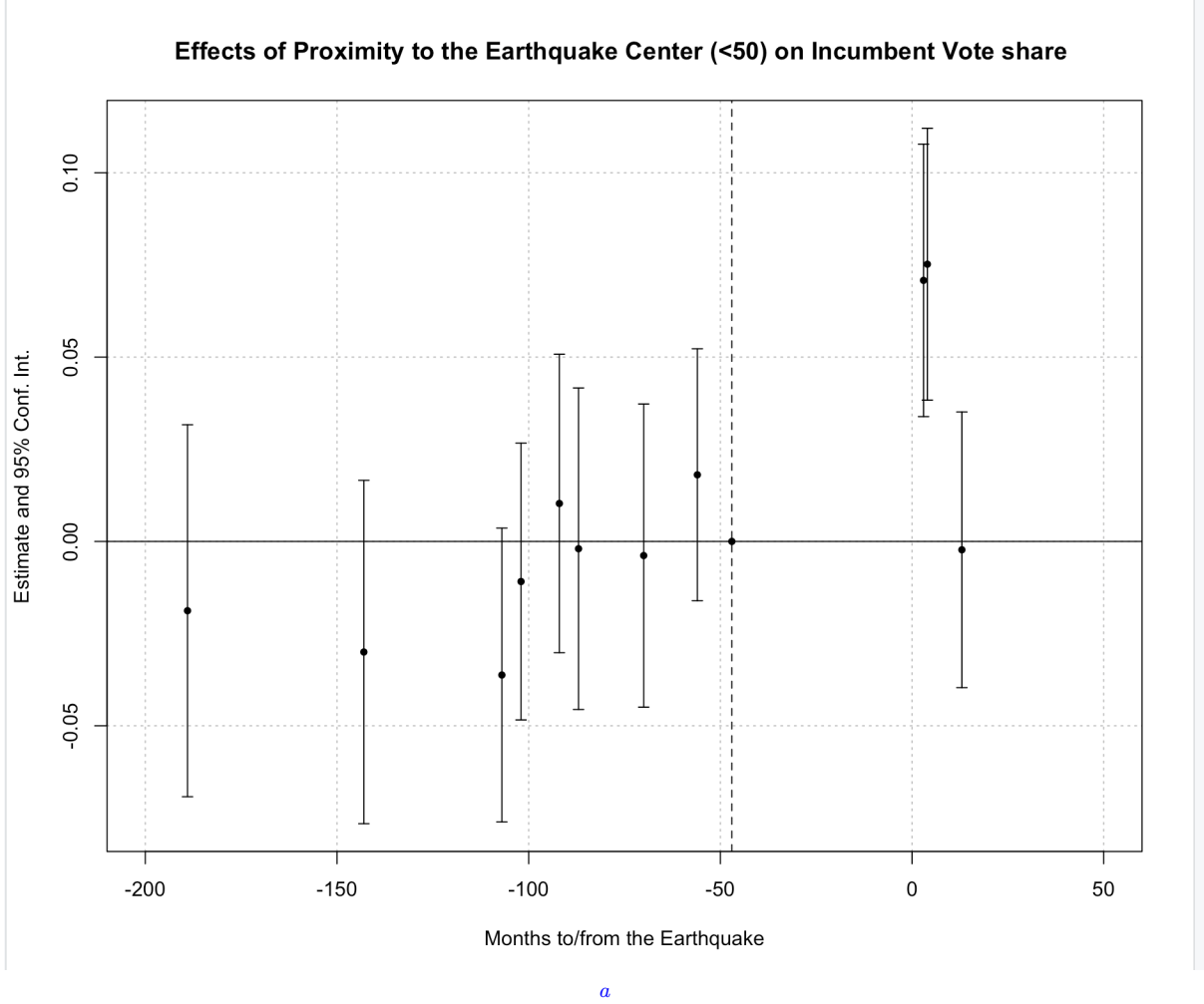
Effects of Proximity to the Earthquake Center (<100) on Incumbent Vote share

Figure 4: Effects of Different Treatment Measures - Proximity to the Center ¡ 100

Effects of Proximity to the Earthquake Center (<50) on Incumbent Vote share

Figure 5: Effects of Different Treatment Measures - Proximity to the Center ¡ 50

Effects of Damaged Buildings on Incumbent Vote share

a

Figure 6: Effects of Different Treatment Measures - Damaged Buildings

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*a*Notes: Data derived from the Supreme Election Council (Yüksek Seçim Kurulu), covering months of the elections between 2007 and 2024. OLS coefficient estimates (and their 95 confidence intervals) are reported, where the omitted category is the last election month of 2019 before the earthquake. Dependent variable is the vote shares of Erdoğan and his party AKP in election month-year t in a district d. The earthquake exposure is a binary measure on whether there is any physical damage on the buildings based on the combination of satellites data from HOTSM and Google News Archive. The model controls for district-level covariates mentioned in the data section, as well as time and district fixed effects. Standard errors are clustered at the district level.
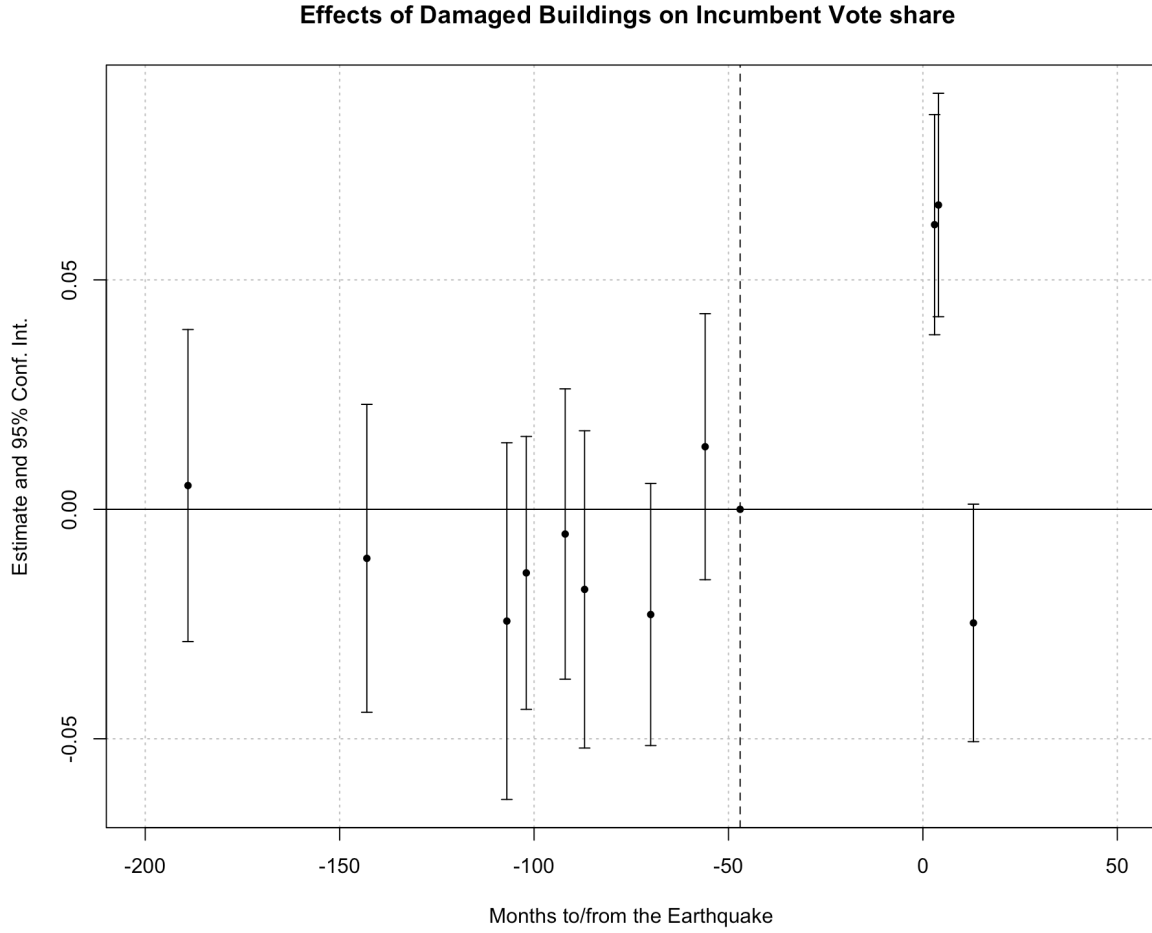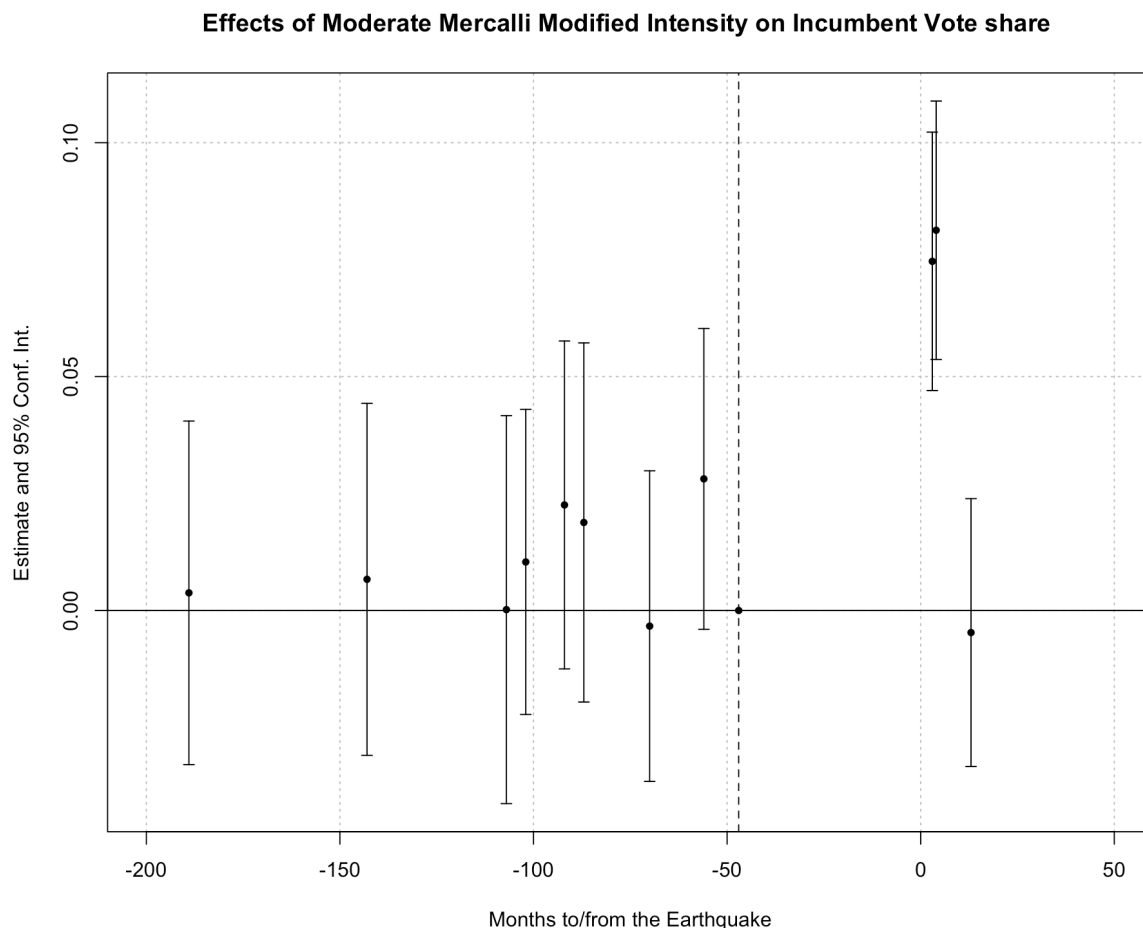
Effects of Moderate Mercalli Modified Intensity on Incumbent Vote share

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Figure 7: Effects of Different Treatment Measures - Moderate MMI

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*a*Notes: Data derived from the Supreme Election Council (Yüksek Seçim Kurulu), covering months of the elections between 2007 and 2024. OLS coefficient estimates (and their 95 confidence intervals) are reported, where the omitted category is the last election month of 2019 before the earthquake. Dependent variable is the vote shares of Erdoğan and his party AKP in election month-year t in a district d. The earthquake exposure is a binary measure on whether the district has experienced the earthquake with more than MMI of 6. The model controls for district-level covariates mentioned in the data section, as well as time and district fixed effects. Standard errors are clustered at the district level.

Effects of Moderate Peak Ground Motion on Incumbent Vote share
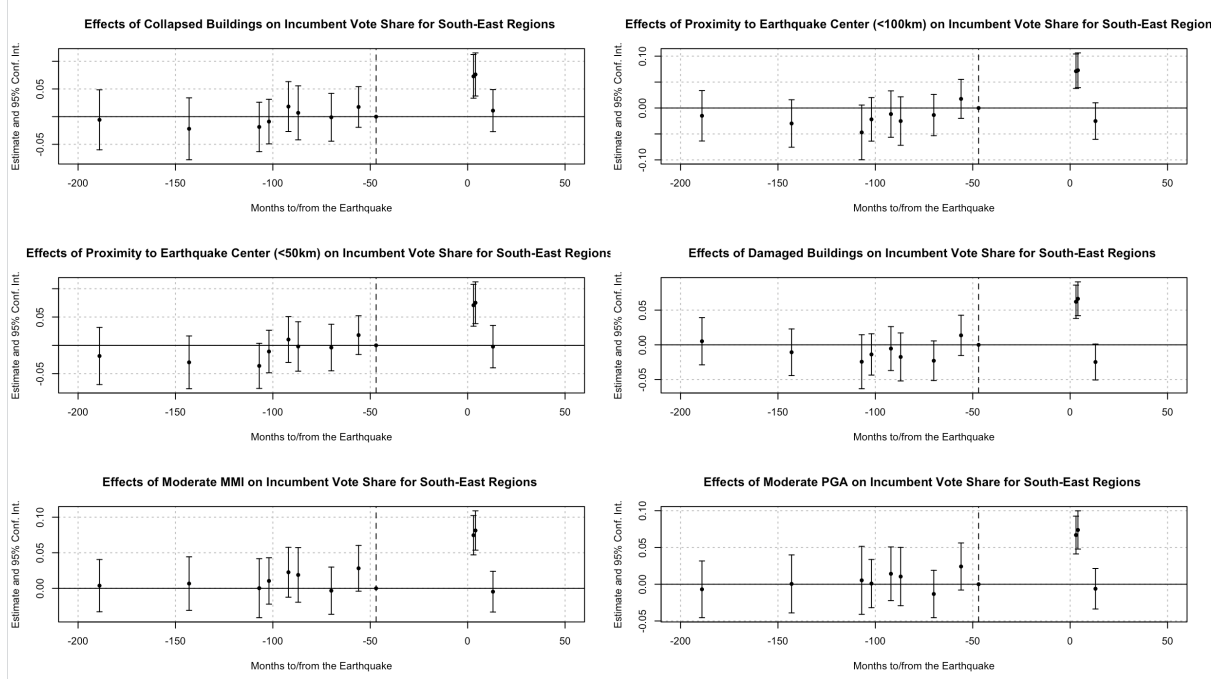
Figure 8: Effects of Different Treatment Measures - Moderate PGA

Figure 9: Effects of Different Measures on Incumbent Vote Share - South East

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*a*Notes: Figures show the event study estimates of the main specification with all exposure metrics using only the districts from South East Region. The outcome variable is the share of votes of Erdoğan and his party AKP. Data derived from the Supreme Election Council (Yüksek Seçim Kurulu), covering months of the elections between 2007 and 2024. OLS coefficient estimates (and their 95 confidence intervals) are reported, where the omitted category is the last election month of 2019 before the earthquake. The model controls for district-level covariates mentioned in the data section, as well as time and district fixed effects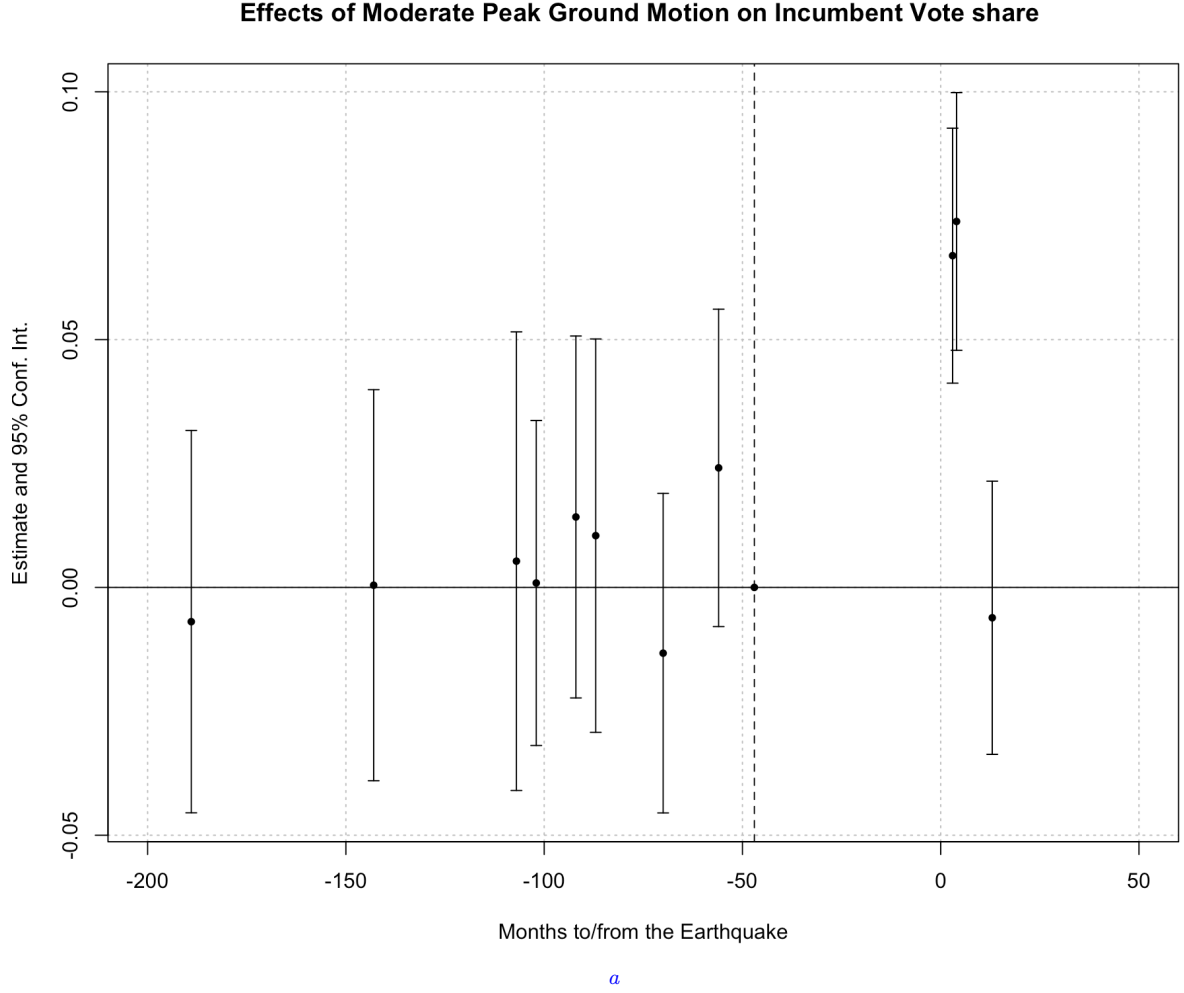. Standard errors are clustered at the district level. Figures using turnover and turnout as outcome are available upon request.

Effects of Collapsed Buildings on Turnover
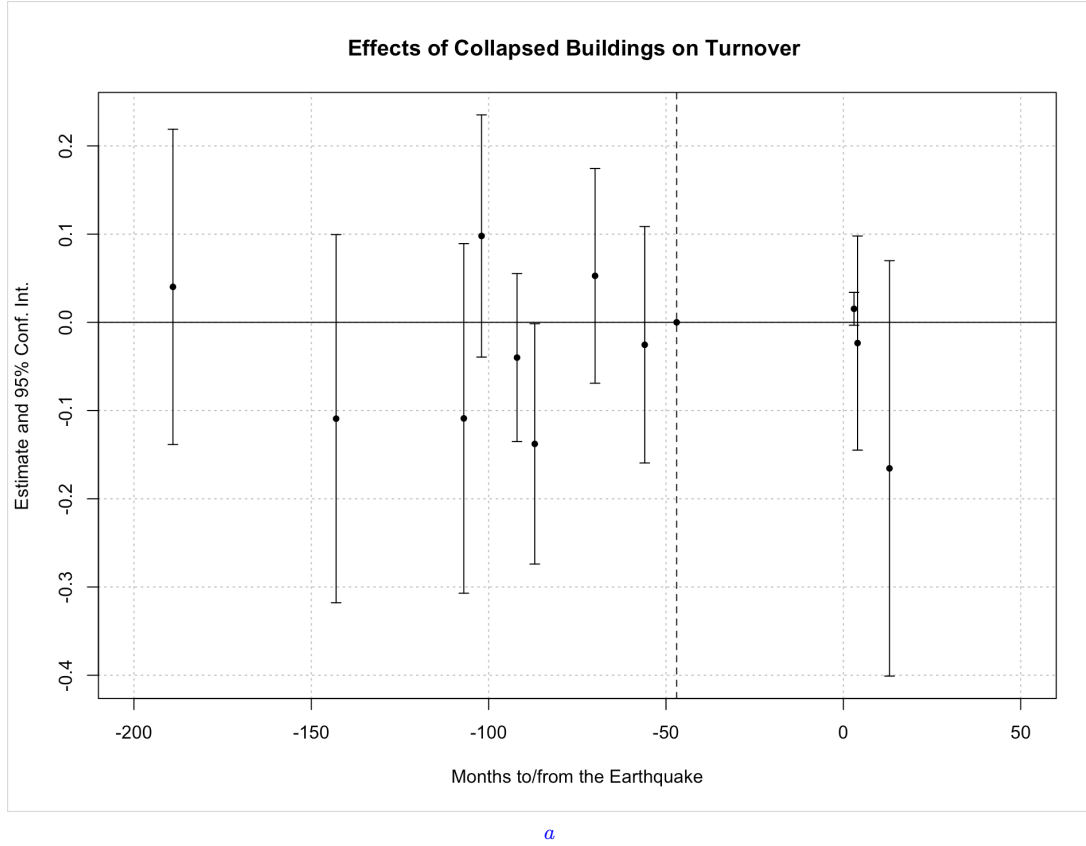
Figure 10: Effects of Collapsed Buildings on Turnover

Effects of Collapsed Buildings on Turnout Controlling for Accomodation Helps

Months to/from the Earthquake

a

Figure 11: Effects of Collapsed Buildings on Turnout

*a*Notes: Data derived from the Supreme Election Council (Yüksek Seçim Kurulu), covering months of the elections between 2007 and 2024. OLS coefficient estimates (and their 95 confidence intervals) are reported, where the omitted category is the last election month of 2019 before the earthquake. Dependent variable is the participation rate in election month-year t in a district d. The model controls for district-level covariates mentioned in the data section, as well as time and district fixed effects. Standard errors are clustered at the district level.

Effects of Collapsed Buildings on Incumbent Vote Share Controlling for Aids

Months to/from the Earthquake

a

Figure 12

Media: Distribution of News Types

Government Supporting — **Center Media** — **Opposition Media**

Figure 13: Media Distribution

[a]This figure depicts the distribution of news themes among 21 main government-supporting media, center media, and opposition media channels in the aftermath of the February 2023 earthquake. The data covers the period following the earthquake until the first election day (February 6 to May 14, 2023) to capture immediate media narratives. Searches were conducted using predefined keywords such as "earthquake response," "aid," "unity," "rescue efforts," "construction sector," and "government criticism." These keywords were selected to identify articles covering relevant themes. Each article was manually reviewed and coded into one of the following thematic categories: unity, aid, damage, rescues, criticism toward the government, criticism toward the opposition, blaming the construction sector, and new construction projects. Multiple reviewers independently coded articles to ensure inter-coder reliability and consistency.

	Dependent variable:					
	Incumbent Party Vote Shares					
	(1)	(2)	(3)	(4)	(5)	(6)
Post Quake	0.019*	0.017*	0.017*	0.012	0.015	0.014
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Collapsed Building	0.059***					
	(0.015)					
Within 100km Distance		0.084***				
		(0.011)				
Within 50km Distance			0.071***			
			(0.013)			
Damaged Building				0.067***		
				(0.008)		
Moderate MMI					0.059***	
					(0.010)	
Moderate PGA						0.058***
						(0.009)
Female Ratio	2.850***	2.841***	2.851***	2.799***	2.828***	2.817***
	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)
Primary Education Ratio	−0.289***	−0.291***	−0.292***	−0.297***	−0.297***	−0.300***
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Share of Elderly	1.853***	1.868***	1.858***	1.884***	1.870***	1.874***
	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)
Share of Voting Population	−2.487***	−2.524***	−2.492***	−2.525***	−2.504***	−2.501***
	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)
Constant	0.611***	0.643***	0.616***	0.665***	0.637***	0.641***
	(0.087)	(0.087)	(0.087)	(0.087)	(0.087)	(0.087)
Observations	10,588	10,588	10,588	10,588	10,588	10,588
Districts	188	188	188	188	188	188
R^2	0.625	0.626	0.625	0.627	0.626	0.626
Adjusted R^2	0.586	0.588	0.587	0.589	0.587	0.587
Mean Outcome	0.545	0.545	0.545	0.545	0.545	0.545
Sd	0.159	0.159	0.159	0.159	0.159	0.159
F Statistic (df = 986; 9601)	16.214***	16.325***	16.248***	16.378***	16.277***	16.288***

Notes: This table reports DID estimates for different binary measures of the February 2023 earthquake intensity. Standard errors clustered at district level are in parentheses. Each specification control for election-time and district fixed effects as well as time-varying district controls. The controls include share of female, elderly, voting population and primary education ratio

*p<0.10; **p<0.05; ***p<0.01

Table 1: Simple DID Regression Results

Appendix

(a) Electoral Democracy Index

(b) Political Corruption Index

(c) Academic Freedom Index

(d) Freedom of Expression Index
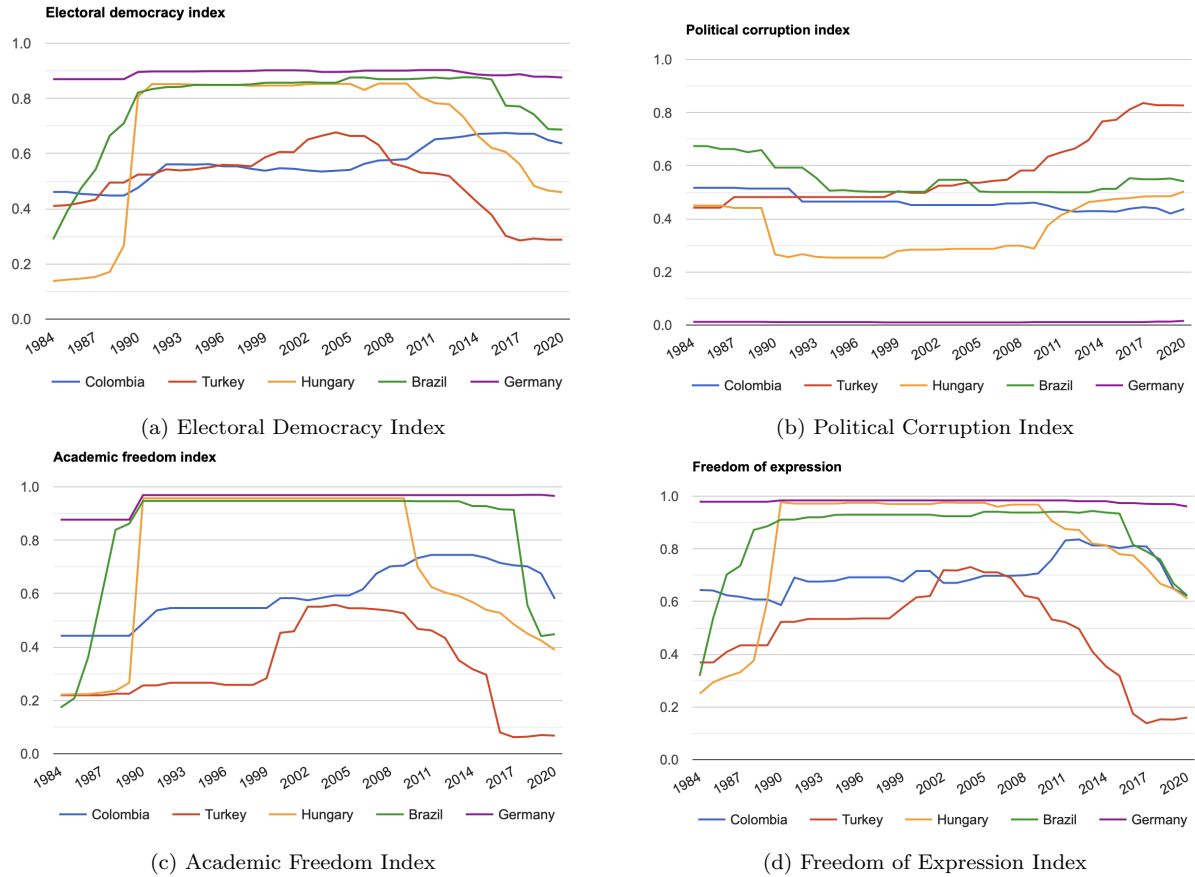
Figure A1: Turkey Democracy Evolution Comparison.[a]

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[a]Based on the index by V-Dem (2024). The Electoral Democracy Index captures to which extent political leaders are elected under comprehensive voting rights in free and fair elections, and freedoms of association and expression are guaranteed. Political Corruption Index captures the extent to which the executive, legislative, judiciary, and bureaucracy engage in bribery and theft, and the making and implementing of laws are susceptible to corruption. The Academic Freedom Index (AFI) assesses de facto levels of academic freedom across the world based on five indicators: freedom to research and teach, freedom of academic exchange and dissemination, institutional autonomy, campus integrity, and freedom of academic and cultural expression. Freedom of Expression Index captures the extent to which people can voice their views and the media can present different political perspectives. They all range from 0 to 1 (most free).
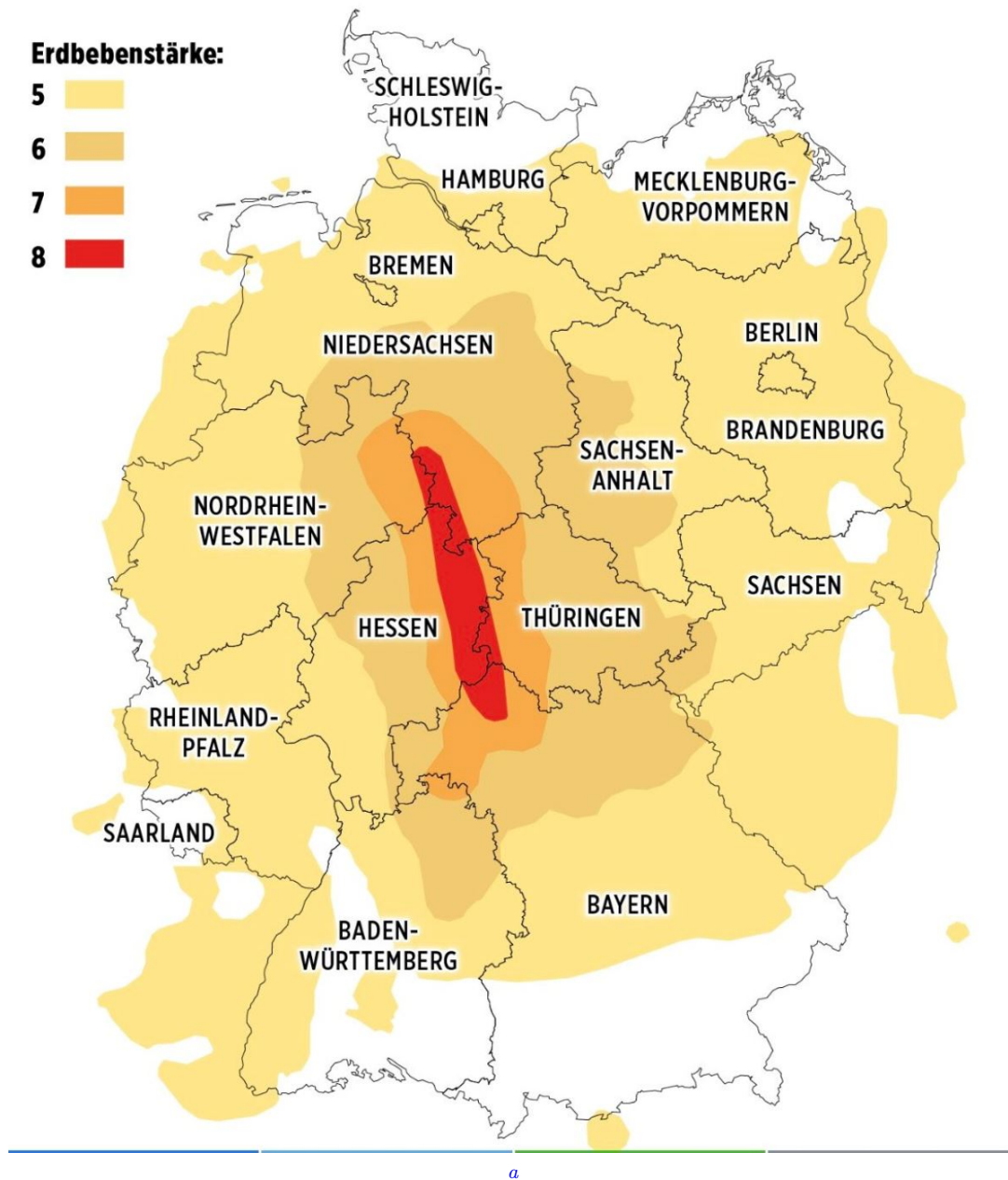
Figure A2: If the Earthquake happened in Germany (Bild)

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[a]Notes: Visualization published by BILD.de that illustrates the hypothetical impact area of the February 2023 earthquake in Turkey if it had occurred in Germany.

Figure A3: Effects of Different Treatment Measures

Party	Yes (%)	No (%)	Not Sure (%)
AKP	29.2	66.4	4.5
CHP	4.0	95.6	0.5
IYI	3.7	95.8	0.5
HDP	1.8	91.1	0.5
MHP	21.0	76.7	2.4
SP	0.0	100.0	0.0
Other	0.0	100.0	0.0
Average	15.4	81.9	2.7

Table A1: Party-wise Responses to "Was Government Prepared for the Earthquake?"
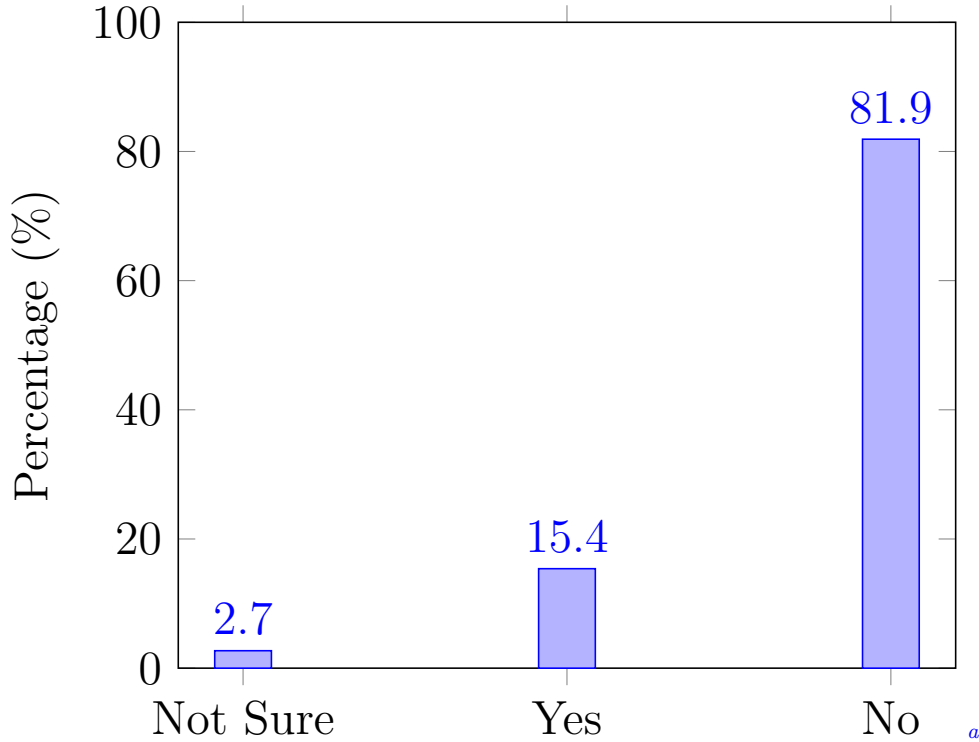
Figure A4: Was Government Prepared for the earthquake?

[a]Source: Metropoll "Turkey's Pulse," February 2023. This figure together with the Appendix Table A1 show the beliefs of people after the earthquake about the government preparedness for each party supporters. This survey was conducted using stratified sampling and weighting methods across 26 regions based on the NUTS-2 system. A total of 2,118 people participated in the survey between February 23–28, 2023. The margin of error is within ±2.13 at a 95% confidence level, and the survey was carried out using CATI (Computer-Assisted Telephone Interviewing). Margin of Error by Party: General: ±2.13, AKP: ±3.45, CHP: ±4.73, MHP: ±6.76, HDP: ±6.58, IYI Party: ±7.13

Party	Government (%)	Municipality (%)	Construction (%)	Citizens (%)	Other (%)	All (%)	Not Sure (%)	Total (%)
AKP	6.4	19.1	46.2	7.0	7.7	11.2	2.5	100.0
CHP	60.4	9.1	13.0	1.5	9.2	11.8	0.5	100.0
IYI	62.8	12.8	11.9	2.3	9.0	9.2	0.0	100.0
HDP	62.0	8.0	12.6	0.0	0.0	0.0	0.0	100.0
MHP	3.4	20.8	43.6	4.6	10.1	16.8	0.7	100.0
Other	40.8	30.3	13.2	0.0	1.0	25.7	1.0	100.0

Table A2: Voting Preferences If the Election Was This Week
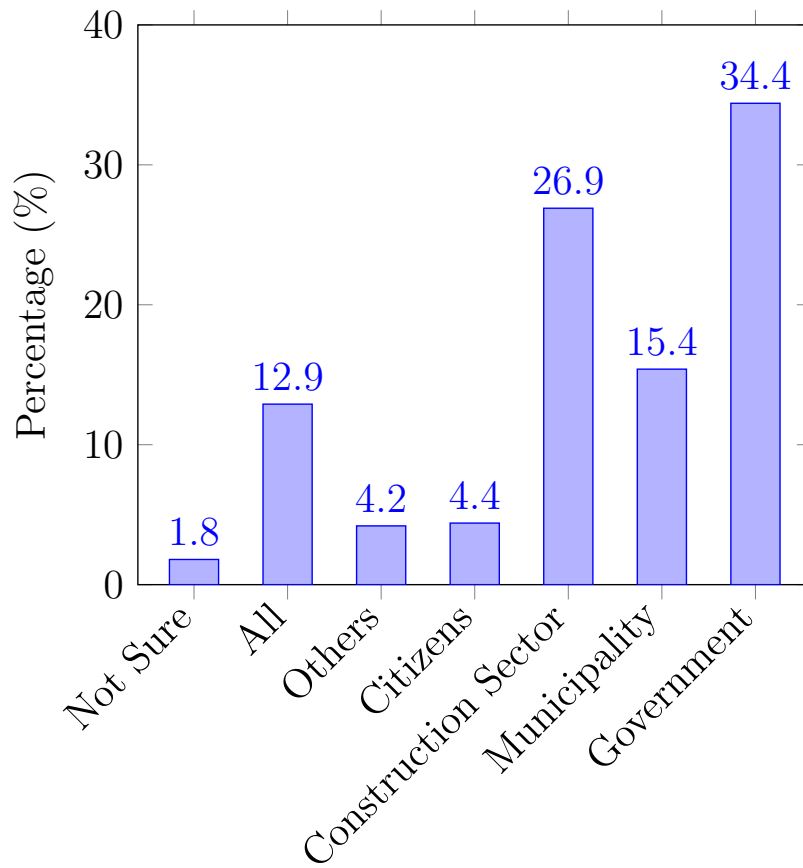
Figure A5: Who is Responsible for the Disaster?
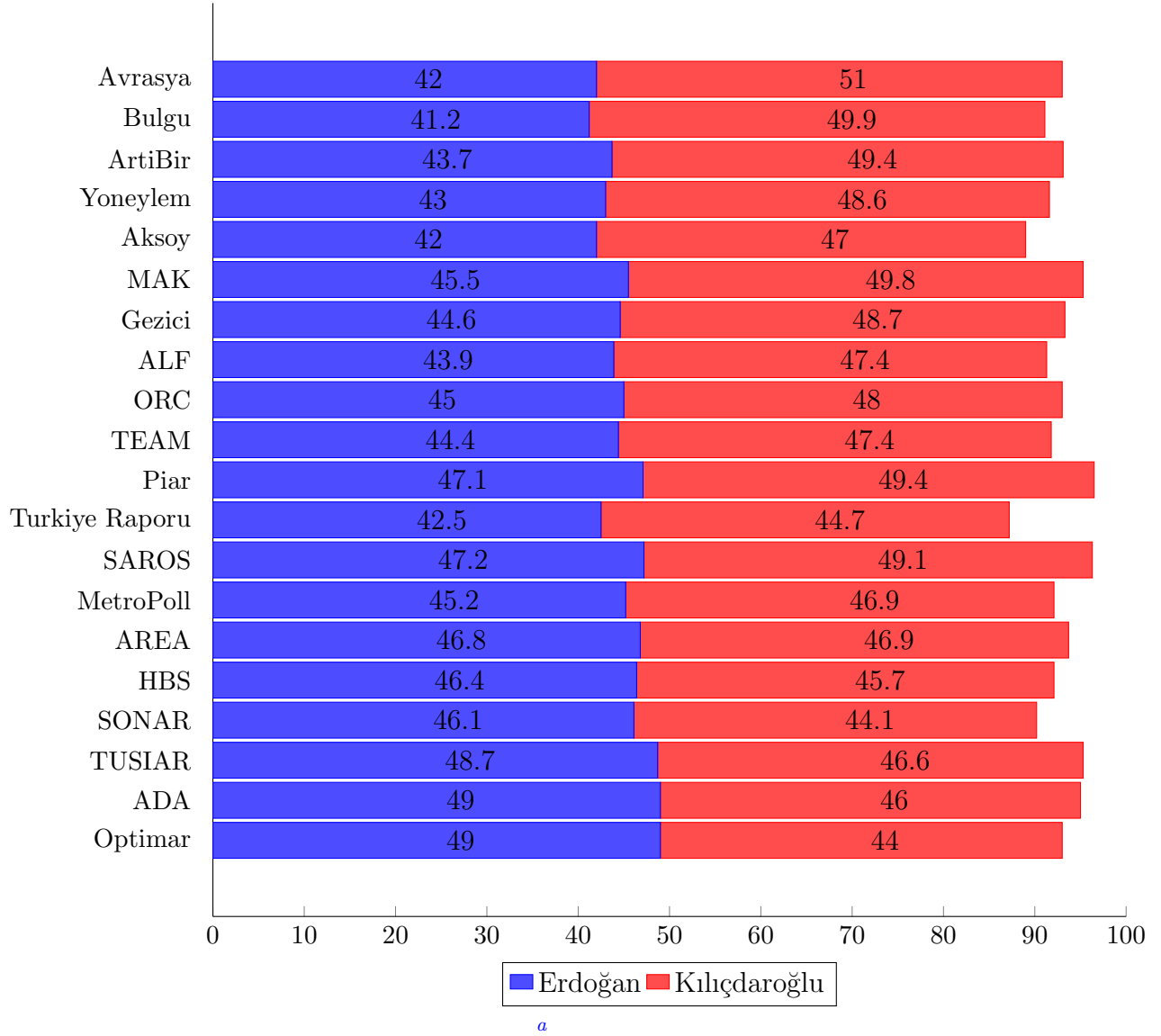
Figure A6: Polling Results for Erdoğan and Kılıçdaroğlu

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[a]Notes: The data represent polling results from various research companies prior to the 2023 elections, collected before February. The polling methods vary across firms, including telephone interviews (CATI), face-to-face surveys, and online panels, with margins of error ranging from $\pm 2\%$ to $\pm 4\%$ depending on the sample size and methodology. Methodological details were retrieved from the official reports of each polling firm. Discrepancies between firms may reflect differences in sample composition, data collection techniques, timing of surveys, and potential biases related to question framing or underrepresentation of specific demographics.

	Dependent variable:					
	Incumbent Party Vote Shares					
	(1)	(2)	(3)	(4)	(5)	(6)
Post Quake	0.019*	0.019*	0.019*	0.018*	0.019*	0.018*
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Collapsed Building	0.059***	0.071***	0.085***	0.053***	0.070***	0.087***
	(0.015)	(0.017)	(0.020)	(0.018)	(0.016)	(0.022)
Female Ratio	2.850***	2.855***	2.858***	2.850***	2.847***	2.854***
	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)
Primary Education Ratio	−0.289***	−0.289***	−0.289***	−0.289***	−0.290***	−0.291***
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Share of Elderly	1.853***	1.853***	1.853***	1.854***	1.853***	1.853***
	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)
Share of Voting Population	−2.487***	−2.487***	−2.487***	−2.486***	−2.489***	−2.488***
	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)
Collapsed_building x Food Helps			−0.00000			−0.00000
			(0.00000)			(0.00000)
Collapsed Building x Containers			−0.002*			−0.002
			(0.001)			(0.002)
Collapsed Building x Camp Number				0.015		0.019
				(0.024)		(0.026)
Constant	0.611***	0.609***	0.608***	0.611***	0.598***	0.594***
	(0.087)	(0.087)	(0.087)	(0.087)	(0.086)	(0.086)
Observations	10,588	10,588	10,588	10,588	10,588	10,588
R^2	0.625	0.625	0.625	0.625	0.625	0.625
Adjusted R^2	0.586	0.586	0.586	0.586	0.586	0.586
Mean Outcome	0.545	0.545	0.545	0.545	0.545	0.545
Sd	0.159	0.159	0.159	0.159	0.159	0.159

Notes: This table reports DID estimates of collapsed buildings. Standard errors clustered at district level are in parentheses. Each specification control for election-time and district fixed effects as well as time-varying district controls. The controls include share of female, elderly,voting population and primary education ratio. The table also includes coefficients for the interaction of treatment measure and socioeconomics, food and tent helps, container cities and refugeecamps.

*p<0.10; **p<0.05; ***p<0.01

Table A1: DID Regression Results Controlling for Aids

	Dependent variable:					
	Incumbent Paty Vote Shares					
	(1)	(2)	(3)	(4)	(5)	(6)
Post	0.017*	0.017*	0.018*	0.017*	0.017*	0.018*
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Within 100km Distance	0.084***	0.089***	0.091***	0.084***	0.081***	0.088***
	(0.011)	(0.012)	(0.013)	(0.012)	(0.013)	(0.017)
Female Ratio	2.841***	2.838***	2.836***	2.841***	2.838***	2.835***
	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)
Primary Education Ratio	−0.291***	−0.291***	−0.291***	−0.291***	−0.291***	−0.291***
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Share of Elderly	1.868***	1.867***	1.867***	1.868***	1.867***	1.867***
	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)
Share of Voting Population	−2.524***	−2.525***	−2.525***	−2.524***	−2.525***	−2.524***
	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)
Within 100km Distance x Containers		−0.0002				−0.0002
		(0.0001)				(0.0003)
Within 100km Distance x Food Helps			−0.00000			0.00000
			(0.00000)			(0.00000)
Within 100km Distance x Camp Number				−0.003		0.010
				(0.022)		(0.024)
Constant	0.643***	0.645***	0.646***	0.643***	0.628***	0.629***
	(0.087)	(0.087)	(0.087)	(0.087)	(0.086)	(0.086)
Observations	10,588	10,588	10,588	10,588	10,588	10,588
R^2	0.626	0.626	0.626	0.626	0.626	0.626
Adjusted R^2	0.588	0.588	0.588	0.588	0.588	0.588

Notes: This table reports DID estimates of distance to the earthquake center less than 100km. Standard errors clustered at district level are in parentheses. Each specification control for election-time and district fixed effects as well as time-varying district controls. The controls include share of female, elderly, voting population and primary education ratio. The table also includes coefficients for the interaction of treatment measure and food helps, tent helps, container cities.
*p<0.10; **p<0.05; ***p<0.01

Table A2: DID Regression Results Controlling for Aids

	Dependent variable:					
	Incumbent Party Vote Shares					
	(1)	(2)	(3)	(4)	(5)	(6)
Post	0.017*	0.018*	0.018*	0.017*	0.018*	0.017*
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Within 50km Distance	0.071***	0.082***	0.094***	0.069***	0.071***	0.087***
	(0.013)	(0.015)	(0.016)	(0.015)	(0.013)	(0.017)
Female Ratio	2.851***	2.856***	2.859***	2.851***	2.845***	2.853***
	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)
Primary Education Ratio	-0.292^{***}	-0.292^{***}	-0.293^{***}	-0.292^{***}	-0.295^{***}	-0.296^{***}
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Share of Elderly	1.858***	1.857***	1.856***	1.858***	1.856***	1.855***
	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)
Share of Voting Population	-2.492^{***}	-2.493^{***}	-2.494^{***}	-2.491^{***}	-2.495^{***}	-2.494^{***}
	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)
Within 50km Distance x Food Helps			-0.00000			-0.00000
			(0.00000)			(0.00000)
Within 50km Distance x Containers			-0.002^{**}			-0.002
			(0.001)			(0.002)
Within 50km Distance x Camp Numbers				0.004		0.021
				(0.023)		(0.025)
Constant	0.616***	0.615***	0.615***	0.616***	0.607***	0.603***
	(0.087)	(0.087)	(0.087)	(0.087)	(0.086)	(0.086)
Observations	10,588	10,588	10,588	10,588	10,588	10,588
R^2	0.625	0.625	0.626	0.625	0.626	0.626
Adjusted R^2	0.587	0.587	0.587	0.587	0.587	0.587

Notes: This table reports DID estimates of distance to the earthquake center less than 50km. Standard errors clustered at district level are in parentheses. Each specification control for election-time and district fixed effects as well as time-varying district controls. The controls include share of female, elderly,voting population and primary education ratio. The table also includes coefficients for the interaction of treatment measure and sosyoeconomics, food and tent helps, container cities and refugeecamps.

*p<0.10; **p<0.05; ***p<0.01

Table A3: DID Regression Results Controlling for Aids - Distance (50km)

	Dependent variable:					
	Incumbent Party Vote Shares					
	(1)	(2)	(3)	(4)	(5)	(6)
Post	0.012	0.012	0.013	0.012	0.013	0.012
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Damaged Building	0.067***	0.070***	0.073***	0.065***	0.063***	0.066***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)
Female Ratio	2.799***	2.797***	2.796***	2.802***	2.783***	2.789***
	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)
Primary Education Ratio	−0.297***	−0.298***	−0.298***	−0.297***	−0.301***	−0.301***
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Share of Elderly	1.884***	1.882***	1.881***	1.887***	1.881***	1.883***
	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)
Share of Voting Population	−2.525***	−2.527***	−2.527***	−2.522***	−2.531***	−2.526***
	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)
Damaged Building x Food Helps			−0.00000			−0.00000
			(0.00000)			(0.00000)
Damaged Building x Containers			−0.002			−0.002
			(0.001)			(0.002)
Damaged Building x Camp Numbers					0.014	0.025
					(0.015)	(0.015)
Constant	0.665***	0.668***	0.670***	0.661***	0.663***	0.657***
	(0.087)	(0.087)	(0.087)	(0.087)	(0.086)	(0.086)
Observations	10,588	10,588	10,588	10,588	10,588	10,588
R^2	0.627	0.627	0.627	0.627	0.627	0.627
Adjusted R^2	0.589	0.589	0.589	0.589	0.589	0.589

Notes: This table reports DID estimates of damaged buildings. Standard errors clustered at district level are in parentheses. Each specification control for election-time and district fixed effects as well as time-varying district controls. The controls include share of female, elderly, voting population and primary education ratio. The table also includes coefficients for the interaction of treatment measure and food, container helps, container camp numbers.
*p<0.10; **p<0.05; ***p<0.01

Table A4: DID Regression Results Controlling for Aids - Damaged Buildings

	Dependent variable:					
	Incumbent Party Vote Shares					
	(1)	(2)	(3)	(4)	(5)	(6)
Post Quake	0.015	0.015	0.015	0.015	0.015	0.015
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Moderate MMI	0.059***	0.064***	0.069***	0.056***	0.055***	0.065***
	(0.010)	(0.010)	(0.011)	(0.010)	(0.010)	(0.013)
Female Ratio	2.828***	2.827***	2.827***	2.830***	2.821***	2.829***
	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)
Primary Education Ratio	−0.297***	−0.297***	−0.298***	−0.297***	−0.299***	−0.299***
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Share of Elderly	1.870***	1.869***	1.868***	1.872***	1.868***	1.870***
	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)
Share of Voting Population	−2.504***	−2.505***	−2.506***	−2.501***	−2.505***	−2.501***
	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)
Moderate MMI x Food Helps			−0.00000			−0.00000
			(0.00000)			(0.00000)
Moderate MMI x Containers			−0.002			−0.002
			(0.001)			(0.002)
Moderate MMI x Camp Numbers				0.016		0.028
				(0.016)		(0.018)
Constant	0.637***	0.639***	0.641***	0.633***	0.627***	0.618***
	(0.087)	(0.087)	(0.087)	(0.087)	(0.086)	(0.086)
Observations	10,588	10,588	10,588	10,588	10,588	10,588
R^2	0.626	0.626	0.626	0.626	0.626	0.626
Adjusted R^2	0.587	0.587	0.587	0.587	0.587	0.587

Notes: This table reports DID estimates of having moderate mercalli modified Intensity. Standard errors clustered at district level are in parentheses. Each specification control for election-time and district fixed effects as well as time-varying district controls. The controls include share of female, elderly,voting population and primary education ratio. The table also includes coefficients for the interaction of treatment measure and food, tent helps, container cities.

*p<0.10; **p<0.05; ***p<0.01

Table A5: DID Regression Results Controlling for Aids - Mercalli Modified Intensity (> 6)

	Dependent variable:					
	Incumbent Party Vote Shares					
	(1)	(2)	(3)	(4)	(5)	(6)
Post Quake	0.014	0.014	0.014	0.013	0.014	0.013
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Moderate PGA	0.058***	0.061***	0.064***	0.054***	0.052***	0.057***
	(0.009)	(0.009)	(0.010)	(0.009)	(0.010)	(0.012)
Female Ratio	2.817***	2.816***	2.815***	2.820***	2.807***	2.813***
	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)	(0.154)
Primary Education Ratio	−0.300***	−0.301***	−0.301***	−0.300***	−0.302***	−0.303***
	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
Share of Elderly	1.874***	1.872***	1.871***	1.876***	1.871***	1.874***
	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)	(0.068)
Share of Voting Population	−2.501***	−2.502***	−2.502***	−2.498***	−2.504***	−2.498***
	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)	(0.108)
Moderate PGA x Food Helps			−0.00000			−0.00000
			(0.00000)			(0.00000)
Moderate PGA x Containers			−0.001			−0.002
			(0.001)			(0.002)
Moderate PGA x Camp Numbers					0.017	0.026
					(0.015)	(0.016)
Constant	0.641***	0.644***	0.645***	0.637***	0.634***	0.626***
	(0.087)	(0.087)	(0.087)	(0.087)	(0.086)	(0.086)
Observations	10,588	10,588	10,588	10,588	10,588	10,588
R^2	0.626	0.626	0.626	0.626	0.626	0.626
Adjusted R^2	0.587	0.587	0.587	0.587	0.587	0.587

Notes: This table reports DID estimates of having moderate peak grund motion. Standard errors clustered at district level are in parentheses. Each specification control for election-time and district fixed effects as well as time-varying district controls. The controls include share of female, elderly,voting population and primary education ratio. The table also includes coefficients for the interaction of treatment measure and food, tent helps, container cities.

*p<0.10; **p<0.05; ***p<0.01

Table A6: DID Regression Results Controlling for Aids - Peak Ground Motion (> 5)

	Dependent variable:					
	Incumbent Party Vote Shares					
	(1)	(2)	(3)	(4)	(5)	(6)
Post Quake	−0.114***	−0.116***	−0.118***	−0.105***	−0.147***	−0.163***
	(0.034)	(0.035)	(0.036)	(0.034)	(0.035)	(0.038)
MMI Value	0.066***	0.068***	0.069***	0.058***	0.077***	0.085***
	(0.018)	(0.019)	(0.020)	(0.019)	(0.018)	(0.021)
Female Ratio	2.773***	2.772***	2.774***	2.778***	2.879***	2.901***
	(0.256)	(0.256)	(0.256)	(0.256)	(0.257)	(0.257)
Primary Education Ratio	−0.427***	−0.427***	−0.427***	−0.427***	−0.387***	−0.387***
	(0.059)	(0.059)	(0.059)	(0.059)	(0.060)	(0.060)
Share of Elderly	2.108***	2.108***	2.107***	2.121***	2.116***	2.130***
	(0.121)	(0.121)	(0.121)	(0.121)	(0.121)	(0.121)
Share of Voting Population	−2.255***	−2.257***	−2.257***	−2.239***	−2.020***	−1.976***
	(0.181)	(0.181)	(0.181)	(0.181)	(0.190)	(0.190)
MMI Value x Food Helps			0.000			−0.00000
			(0.00000)			(0.00000)
MMI Value x Containers			−0.0003			−0.001
			(0.001)			(0.001)
MMI Value x Camp Numbers				0.012		0.017**
				(0.008)		(0.008)
Constant	3.327***	3.329***	3.328***	3.331***	0.977***	0.933***
	(0.676)	(0.676)	(0.677)	(0.676)	(0.254)	(0.255)
Observations	4,842	4,842	4,842	4,842	4,842	4,842
R^2	0.559	0.559	0.559	0.559	0.560	0.561
Adjusted R^2	0.513	0.513	0.513	0.513	0.515	0.515

Notes: This table reports DID estimates of continues intensity of the earthquake by Mercalli Modified Intensity. Standard errors clustered at district level are in parentheses. Each specification control for election-time and district fixed effects as well as time-varying district controls. The controls include share of female, elderly,voting population and primary education ratio. The table also includes coefficients for the interaction of treatment measure and food, tent helps, container cities.

*p<0.10; **p<0.05; ***p<0.01

Table A7: DID Regression Results Controlling for Aids - Continuous Treatment MMI

| | Dependent variable: | | | | | |
| | Incumbent Party Vote Shares | | | | | |
	(1)	(2)	(3)	(4)	(5)	(6)
Post Quake	0.029*	0.029*	0.030*	0.027*	0.027*	0.025
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
PGA Value	0.013***	0.014***	0.014***	0.011***	0.012***	0.013***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Female Ratio	2.276***	2.272***	2.271***	2.283***	2.269***	2.276***
	(0.250)	(0.250)	(0.250)	(0.250)	(0.250)	(0.251)
Primary Education Ratio	−0.334***	−0.337***	−0.338***	−0.335***	−0.338***	−0.343***
	(0.056)	(0.056)	(0.056)	(0.056)	(0.056)	(0.056)
Share of Elderly	2.046***	2.045***	2.045***	2.052***	2.048***	2.054***
	(0.105)	(0.105)	(0.105)	(0.105)	(0.105)	(0.105)
Share of Voting Population	−2.631***	−2.636***	−2.639***	−2.613***	−2.625***	−2.611***
	(0.164)	(0.164)	(0.164)	(0.165)	(0.165)	(0.165)
PGA Value x Food Helps			−0.00000			−0.00000
			(0.00000)			(0.00000)
PGA Value x Containers			−0.0003			−0.0004
			(0.0003)			(0.0005)
PGA Value x Camp Numbers				0.008		0.012**
				(0.005)		(0.006)
Constant	1.033***	1.039***	1.041***	1.017***	0.836***	0.829***
	(0.130)	(0.130)	(0.130)	(0.130)	(0.136)	(0.136)
Observations	5,262	5,262	5,262	5,262	5,262	5,262
R^2	0.564	0.564	0.564	0.564	0.564	0.565
Adjusted R^2	0.519	0.519	0.519	0.519	0.519	0.519

Notes: This table reports DID estimates of continuous intensity of the earthquake by Peak Ground Motion. Standard errors clustered at district level are in parentheses. Each specification control for election-time and district fixed effects as well as time-varying district controls. The controls include share of female, elderly,voting population and primary education ratio. The table also includes coefficients for the interaction of treatment measure and food, tent helps, container cities.

*p<0.10; **p<0.05; ***p<0.01

Table A8: DID Regression Results Controlling for Aids - Continuous Treatment PGA

	Dependent variable:					
	Incumbent Party Vote Shares					
	(1)	(2)	(3)	(4)	(5)	(6)
Post Quake	−0.131***	−0.134***	−0.133***	−0.153***	−0.139***	−0.143***
	(0.020)	(0.019)	(0.019)	(0.020)	(0.020)	(0.020)
Collapsed Building	0.058**					
	(0.023)					
Within 100km Distance		0.059***				
		(0.018)				
Within 50km Distance			0.061***			
			(0.018)			
Damaged Buildings				0.055***		
				(0.011)		
Moderate MMI					0.039***	
					(0.015)	
Moderate PGA						0.036***
						(0.014)
Female Ratio	1.248***	1.240***	1.262***	1.175***	1.235***	1.212***
	(0.286)	(0.286)	(0.286)	(0.285)	(0.286)	(0.286)
Primary Education Ratio	−0.727***	−0.728***	−0.742***	−0.751***	−0.743***	−0.752***
	(0.071)	(0.071)	(0.071)	(0.072)	(0.072)	(0.072)
Share of Elderly	0.748***	0.778***	0.757***	0.816***	0.782***	0.794***
	(0.151)	(0.151)	(0.151)	(0.151)	(0.151)	(0.152)
Share of Voting Population	0.284	0.209	0.257	0.225	0.267	0.269
	(0.238)	(0.239)	(0.238)	(0.238)	(0.239)	(0.239)
Constant	−0.105	−0.055	−0.088	0.470***	−0.082	−0.067
	(0.145)	(0.145)	(0.145)	(0.153)	(0.146)	(0.146)
Observations	2,852	2,852	2,852	2,852	2,852	2,852
Mean Outcome	0.49	0.49	0.49	0.49	0.49	0.49
R^2	0.603	0.605	0.605	0.607	0.604	0.604
Adjusted R^2	0.560	0.562	0.562	0.565	0.561	0.561
Controls	Yes	Yes	Yes	Yes	Yes	Yes
District-Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Aid Interactions	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table reports DID estimates of various treatment measures for the subsample of South-East Region. Standard errors clustered at district level are in parentheses. Each specification control for election-time and district fixed effects as well as time-varying district controls. The controls include share of female, elderly,voting population and primary education ratio. The results also include interactions of treatment measures and food, tent helps, container cities.
*p<0.10; **p<0.05; ***p<0.01

Table A9: DID Regression Results for South-East Region Only