

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

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Abstract

Natural disasters can reshape electoral outcomes by altering public perceptions and information flows. This study examines Turkey's catastrophic earthquake of February 2023 using an event-study framework and spatial variation in exposure. Estimates indicate that disaster-exposed areas experienced an immediate 7 percentage-point increase in the incumbent's vote share in the May 2023 elections, despite widespread criticism of the disaster response. This temporary rise appears to be linked to short-term rally-around-the-flag dynamics and media narratives emphasizing unity, while aid distribution does not account for the observed increase. The results contribute to the broader literature on crisis response, information environments, and voting behavior in highly centralized political systems.

Keywords: Natural Disasters, Earthquake Impact, Elections, Incumbent Voting, Media and Crises, Elections

JEL: D72, H12, Q54, H84, P16

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"Never let a good crisis go to waste."

— Winston Churchill

1. INTRODUCTION

Public satisfaction with democratic governance has declined globally over the past three decades. According to the International Institute for Democracy and Electoral Assistance (2022), more than twice as many countries have been moving away from liberal democratic norms as have been advancing toward them. During this period, a growing number of countries have operated under highly centralized political systems in which elections remain competitive, yet the ruling party enjoys significant advantages through its access to resources and influence over the media. While formal institutions of democracy persist, the electoral playing field often favors incumbents, shaping how voters receive information and form judgments about government performance.¹

While a rich literature links natural disasters to incumbent punishment or reward in established democracies, much less is known about how these dynamics unfold in systems where media coverage and information flows are more centralized. This study examines whether and how a natural disaster can affect electoral outcomes in such contexts. 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. In the local elections held roughly one year later, on March 31, 2024, exposure to the earthquake no longer influenced voting outcomes. By

¹The comparative politics literature refers to such institutional contexts as competitive authoritarian regimes, characterized by the coexistence of formal electoral competition and significant incumbent advantage (Levitsky and Way, 2002; Gandhi and Lust-Okar, 2009; Schedler, 2002).

distinguishing between short- and medium-term effects, the analysis provides new evidence on how disasters can shape electoral behavior.

To explore possible mechanisms, I first use publicly available survey data to examine perceptions of government performance. The results provide descriptive evidence that while many citizens viewed the disaster response as insufficient, they did not necessarily attribute responsibility for these shortcomings to the national leadership. This pattern suggests that evaluative blame may have been displaced or diffused in the immediate aftermath of the crisis.

Next, I analyze humanitarian assistance using data from the Foundation of Anatolian People and Peace Platform (AHBAP), one of the most effective non-governmental organizations active after the earthquake. I find that neither the amount of aid delivered nor the scale of temporary housing support can explain the estimated increase in incumbent vote share. Complementary descriptive evidence from Google News Archives indicates that many outlets, including those aligned with national media networks, emphasized unity and resilience narratives while directing public attention toward the construction sector and building safety. This focus may have shifted the framing of the event from one emphasizing government performance to one highlighting collective endurance and recovery. Such narrative patterns align with findings in the literature on media strategies in political environments (Cho et al., [2017](#); Kirchberger, [2017](#)).

Existing research suggests that natural disasters can influence citizens' political attitudes by affecting perceptions of competence, empathy, and national solidarity (Levitsky and Way, [2002](#); Lührmann and Rooney, [2021](#); Pelling and Dill, [2010](#)). My findings provide quasi-experimental evidence consistent with a short-term consolidation of support in the wake of a crisis. By comparing election outcomes held in the aftermath of the February 2023 earthquake and the outcomes of local elections held approximately one year later, this study isolates the temporary nature of such effects in a setting characterized by a dominant ruling party and limited media pluralism.

The study contributes to three strands of literature: the political economy of natural disasters, research on media and information environments in electoral contexts, and work on institutional persistence in centralized political systems. The remainder of the paper is organized as follows. Section 2 provides background on the February 2023 earthquake and recent Turkish elections.

Section 3 describes the data sources and empirical strategy. Section 4 presents the main results and robustness checks. Section 5 explores possible mechanisms underlying the findings. Section 6 concludes.

2. BACKGROUND

Researchers have long examined the political consequences of natural disasters. A broad body of work suggests that such events can weaken democratic institutions and contribute to the rise of charismatic leaders in semi-democratic or hybrid political systems (Levitsky and Way, 2002; Lührmann and Rooney, 2021; Pelling and Dill, 2010). Crises often test the capacity and legitimacy of governments, creating both risks and opportunities for political change (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).

The political behavior literature emphasizes how disasters influence voter evaluations of government performance. 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 recover increased support for 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 most research on natural disasters focuses on established democracies, fewer studies have examined quasi-experimental evidence from political systems where information environments are more centralized. In such settings, incumbents often possess structural advantages in media access and organizational capacity, allowing them to shape public perception more effectively.³ Klomp (2020) show that the political consequences of natural disasters differ systematically by regime type, with authoritarian and hybrid regimes providing leaders greater opportunities to leverage crises for political gain. Haggard and Kaufman (2016) argue that leaders in such contexts may use crises to consolidate authority and maintain influence over the media while Pelling and Dill (2010) emphasize that disasters can reinforce incumbents' legitimacy when they are framed as capable crisis managers. Lührmann and Rooney (2021) further note 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. These dynamics are particularly pronounced in highly centralized political systems, where charismatic leaders often emerge or strengthen their position during times of crisis, as citizens seek stability and decisive leadership (Parkin Frank, 2000; Pepinsky, 2017; Weber, 1978).⁴ This study provides quasi-experimental evidence supporting the hypothesis that natural disasters can enhance the authority of incumbents and charismatic leaders in centralized political systems. Turkey presents a relevant context for examining this mechanism. The country

²They 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.

³The comparative politics literature describes these systems as competitive authoritarian regimes, characterized by the coexistence of formal electoral competition and significant incumbent advantage (Levitsky and Way, 2002; Schedler, 2002; Gandhi and Lust-Okar, 2009).

⁴Trice 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.

combines democratic institutions with structural advantages for incumbents, consistent with the descriptions offered by Levitsky and Way (2002). The 2023 earthquake, which occurred shortly before a closely contested national election, offers a unique setting to study how crises influence leadership and voter behavior. Estimates suggest that a large share of major media outlets in Turkey are aligned with or supportive of government positions (Freedom House, 2023), providing an opportunity to explore how narrative framing—such as emphasizing unity, resilience, or leadership capacity—shapes electoral responses.⁵ Overall, this study contributes to the limited empirical evidence on crisis politics in hybrid political systems, complementing a literature dominated by work on established democracies.

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). The newly formed party gained early support through economic reforms, political stability, and progress toward EU membership, presenting itself as a model of democratic governance in the Muslim world. Over time, however, institutional changes expanded executive authority and reshaped the balance between branches of government.⁶ Scholars describe Turkey under Erdoğan's AKP regime as a competitive authoritarian regime where elections exist but are neither free nor fair. (Esen and Gumuscu, 2023; Esen et al., 2023; Müftüler-Baç and Keyman, 2012). Erdoğan's charismatic leadership has been key to his political survival. As Fernandes and Carvalhais (2018) notes, his leadership style leverages crises like economic instability and security threats to reinforce his authority, a common tactic in competitive authoritarian regimes.⁷ In May 2023, Erdoğan's elec-

⁵Freedom House (2023) reports that over 90% of Turkey's media outlets are directly or indirectly aligned with the government.

⁶Figure A1 from the Varieties of Democracy (V-Dem) project show a decline in Turkey's liberal democracy index and indicators such as freedom of expression and academic freedom beginning in the mid-2000s.

⁷Esen 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.

toral hegemony faced a unique challenge as the opposition united under the "Table of Six," for the same purpose of defeating this 20-year incumbency and restoring democracy (Verney et al., 2024).⁸ Pre-election polls suggested Erdoğan might lose, with the vote framed internationally as a battle between democracy and autocracy (Tharoor, 2023).⁹ However, Erdoğan secured a decisive victory that raised questions about Turkish voters' tolerance for authoritarianism (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.¹⁰ 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. Opinion polls and media commentary initially predicted that voters would penalize the government for its crisis response, as they had 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. The earthquake's magnitude, timing, and proximity to national elections thus provide a rare natural experiment to study the intersection of disaster response, information environments, and voter behavior in a centralized political system.

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

⁸The "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).

⁹Around 70% of polls done before the earthquake suggested the defeat of the incumbency. Major international media platforms highlighted the stakes of the election, emphasizing that a win for Erdoğan would cement Turkey's status as a competitive authoritarian regime, while an opposition victory was viewed as a potential turning point for restoring democratic norms.

¹⁰It 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)

physical destruction caused by the earthquake.¹¹ 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.¹²

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).¹³ 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).¹⁴ 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.¹⁵ 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). These are complemented with district-level demographic and socioeconomic indicators from the Turkish Statistical Institute (Türkiye İstatistik Kurumu).

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

¹¹Source data include aerial imagery from Copernicus EMS and Istanbul Technical University, Implementation and Research Center for Satellite Communications and Remote Sensing (CSCRS).

¹²It 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.

¹³Two 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.

¹⁴According to U.S. Geological Survey, Mercalli Modified Intensity and Peak Ground Acceleration higher than 7 generate very strong shaking and moderate damage

¹⁵Figure 2 displays the damaged buildings as assessed by the Ministry of Environment, Urbanization and Climate Change

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.¹⁶ 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:

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

where QuakeHit_d measures district-level exposure to the February 6, 2023 earthquake, defined in the main specification as a binary indicator (1 if any buildings collapsed in d , 0 otherwise).¹⁷

The indicators $\mathbf{1}(\text{Months to February 2023} = j)$ 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:

$$(2) \quad Y_{dt} = \beta \text{QuakeHit}_d \times \text{Post}_t + \theta_d + \gamma_t + \lambda' \mathbf{X}_{dt} + \varepsilon_{dt},$$

¹⁶Esen 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.

¹⁷Continuous measures (e.g., number of collapsed buildings, epicenter distance, mmi and pga values) are used in robustness checks, with results available upon request.

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 incumbent, President Recep Tayyip Erdoğan, able to translate the February 2023 earthquake into short-term electoral gains? Estimates of equation (1) and (2) for Erdoğan’s vote share are reported in Figure 3.¹⁸ Pre-treatment β_j coefficients are statistically insignificant and show no systematic trend, supporting 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 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.¹⁹

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

¹⁸The 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

¹⁹In Turkey, local contests often carry national political significance. The 2019 municipal elections in Istanbul, for example, were widely framed as a referendum on President Erdoğan’s leadership (Esen and Gumuscu, 2019; Esen et al., 2023).

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.²⁰

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 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.

²⁰ Appendix Figure A3 presents all exposure measures jointly for visual comparison.

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 2024.²¹ 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 post-disaster increase suggests that the rise in Erdoğan's vote share was not driven by new voters but by shifts among existing ones. The findings therefore point to crisis-induced consolidation of the incumbent's base rather than mobilization of previously inactive voters.

To test whether the earthquake affected political turnover, Figure 10 replaces the dependent variable with the probability of a change in local government from one ruling party to another. The estimates of β_j are small and statistically insignificant, with the two-period DiD estimate 0.039 ($p\text{-value} = 0.52$). 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, the results are consistent with a short-term rally effect that reinforced incumbent stability.

5.2 Effective Disaster Response and Aid Distribution

A second mechanism concerns the government's disaster response and the distribution of humanitarian assistance. Prior research emphasizes that the political impact of disasters depends on the effectiveness and visibility of relief efforts (Masiero and Santarossa 2021; Akarca and Tansel 2008).²²

²¹Voter turnout is measured as the participation rate in each election.

²²Turkey's 1999 İzmit earthquake is a well-known case where weak disaster management damaged the ruling coalition's credibility and facilitated the rise of the AKP, illustrating the political consequences of poor relief capacity.

To test whether aid explains the observed electoral effects, I use data from AHBAP, a leading non-governmental organization coordinating relief operations with public agencies. The dataset includes information on the number of food, water, and accommodation container trucks from AHBAP distributed across districts. Event-study estimates interacting $QuakeHit_d$ with these aid variables in equation (1)—reported in Figure 12 and Appendix Tables A1–A8—provide no evidence that aid distribution mediates or confounds the main effect. The magnitude and significance of the earthquake coefficients remain largely unchanged once aid intensity is introduced.

While relief delivery may have influenced perceptions at the margin, it does not account for the increase in incumbent vote share. This contrasts with evidence from Italy and the United States, where visible crisis management has boosted incumbent approval (Masiero and Santarossa 2021; Healy and Malhotra 2009). The null finding in Turkey suggests that the short-term rally was not driven by material assistance but by other channels of public perception formation.

This interpretation aligns with survey evidence on attitudes toward the government’s disaster response. As summarized in Figure A4 and Table A1, a majority of respondents—across political affiliations—believed that the government was unprepared to handle the earthquake. Yet, as shown in Figure A5 and Table A2, many Erdoğan supporters attributed responsibility not to the government but to the construction sector, which has long been criticized for lax enforcement of building codes.²³ This pattern supports the view that blame displacement, rather than effective aid, shaped post-earthquake political behavior.

5.3 Media Coverage and Narrative Framing

Finally, I examine how media narratives may have influenced voter perceptions. A key feature of hybrid regimes is the capacity of incumbents to manage information flows and frame crises in ways that protect leadership legitimacy (Levitsky and Way, 2002). Using Google News archives, I analyze the thematic distribution of coverage across major outlets between

²³Appendix Figure A6 compiles publicly available opinion polls conducted before the 2023 elections. The construction sector has often served as a focal point for blame in the aftermath of disasters, allowing public discourse to shift attention away from questions of governmental accountability.

February 6 and May 14, 2023. Although the data are descriptive, they provide useful context for understanding the broader mechanism.

Figure 13 classifies news stories by outlet orientation. Government-aligned media devoted roughly 29 percent of coverage to themes of unity and national resilience—exemplified by the “One Heart Campaign”—and another 28 percent to blaming the construction sector.²⁴ Opposition-aligned outlets, while critical of the government (20 percent of their coverage), also emphasized unity and recovery narratives, limiting the resonance of their criticism.

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 expectations that incumbents use crises to frame themselves as strong leaders while diverting accountability (Hogg and Abrams, 1988; Mann, 2012; Weiner, 1985).²⁵

Overall, the evidence suggests that media framing and selective attribution, rather than aid distribution or voter mobilization, explain the short-run increase in incumbent support following the February 2023 earthquake. The combination of unity messaging and scapegoating narratives helped redirect accountability away from the central government, reinforcing the incumbent’s image as a strong, unifying leader in a time of crisis.

6. CONCLUSION

This study shows that natural disasters can reshape electoral outcomes in highly centralized political systems, sometimes reinforcing incumbent advantage rather than weakening it. The February 2023 earthquake in Turkey, which struck only months before national elections, offers a unique setting to examine how crises influence voter behavior and political stability.

The results indicate a temporary 7-percentage-point increase in President Recep Tayyip Erdoğan’s vote share in the hardest-hit districts—a 14 percent rise relative to the mean—despite

²⁴The “One Heart Campaign” (Tek Yürek) was a nationwide telethon held on February 15, broadcast simultaneously on over 200 TV and 500 radio channels, raising more than \$6 billion for disaster relief through donations to AFAD and the Turkish Red Crescent (Disaster and Emergency Management Presidency 2023).

²⁵A 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.

widespread criticism of the 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. Descriptive evidence suggests that public narratives emphasizing unity and social solidarity, such as the One Heart Campaign, together with a focus on construction-related factors, may have shaped public perceptions of responsibility. Survey data support this interpretation: while most respondents viewed the response as inadequate, a majority of government supporters attributed responsibility to construction practices rather than to central authorities, which may have mitigated political costs for the incumbent.

These findings contribute to broader theories of political behavior under strong executive systems. They highlight how communication strategies and crisis framing can influence electoral outcomes beyond the quality of policy response. They also suggest that in contexts with limited media pluralism, leadership perception can outweigh performance-based evaluations. At the same time, the temporary nature of the observed effect points to limits of such dynamics, consistent with research on the short-term rally effect following national crises.

More broadly, the results underscore the importance of understanding how information environments and crisis communication shape democratic resilience. Future research could compare similar episodes across countries with differing degrees of media diversity and state capacity. Linking voter behavior to local exposure to information or aid distribution would further clarify the mechanisms at work. Understanding these processes is essential for assessing how societies respond politically to major shocks in an era of frequent natural disasters.

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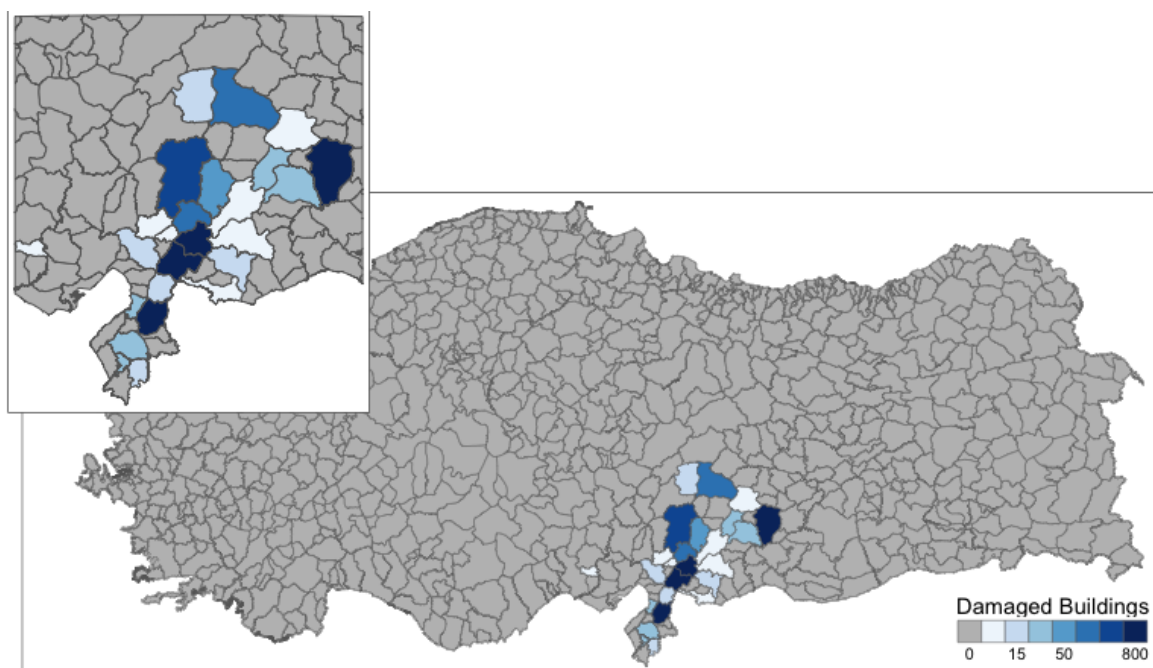


Figure 1: Collapsed Buildings from Satellite

Notes: The map shows collapsed buildings as collected through satellites from Humanitarian OpenStreetMap for each earthquake district.

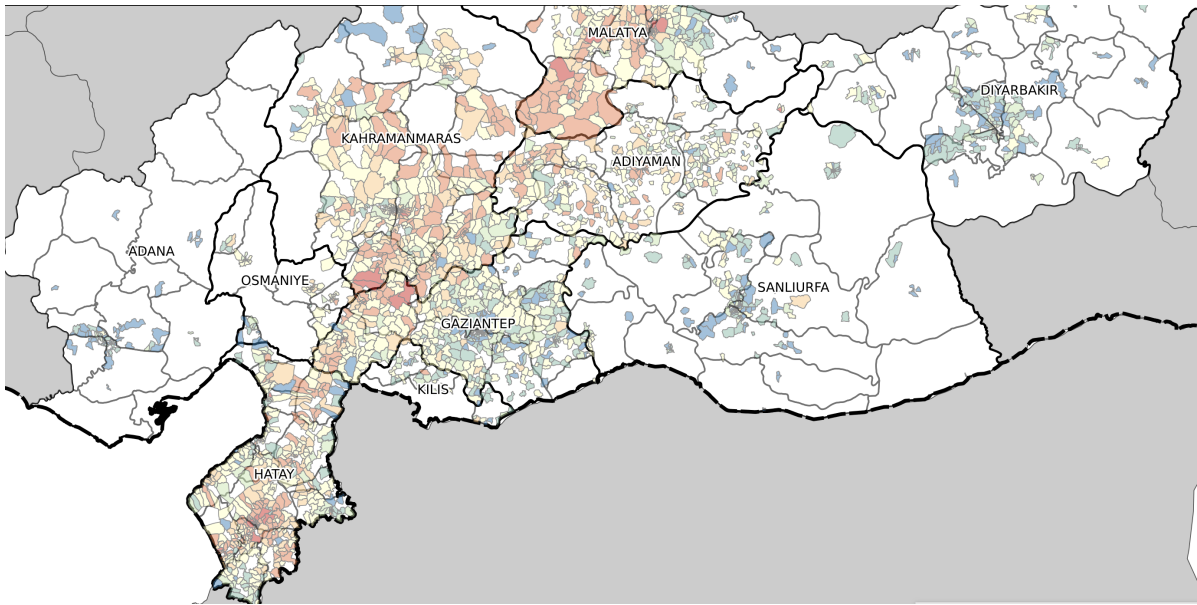


Figure 2: Damaged Buildings from Global Shelter Cluster

Notes: 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.

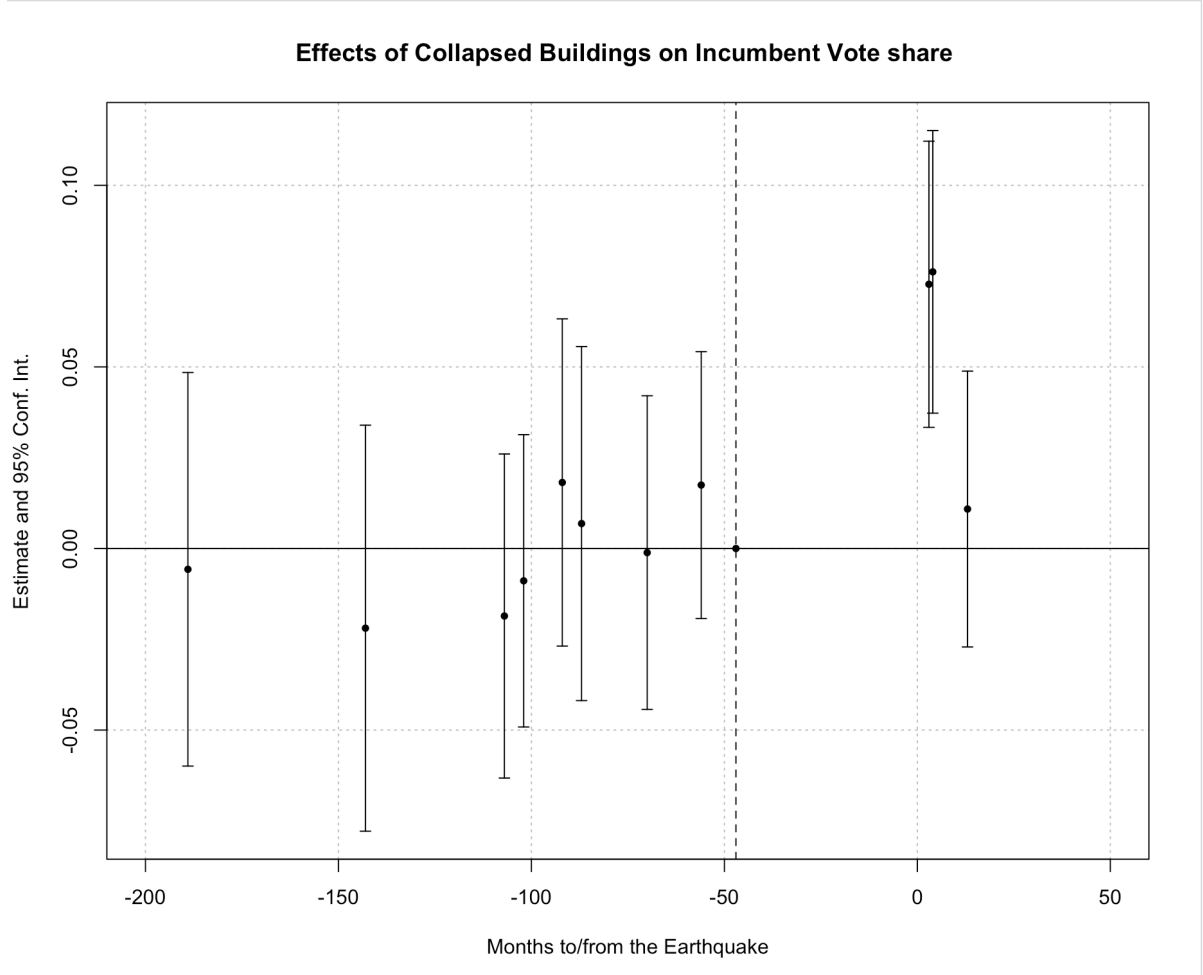


Figure 3: Effects of Collapsed Buildings on Incumbent Vote Share

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.

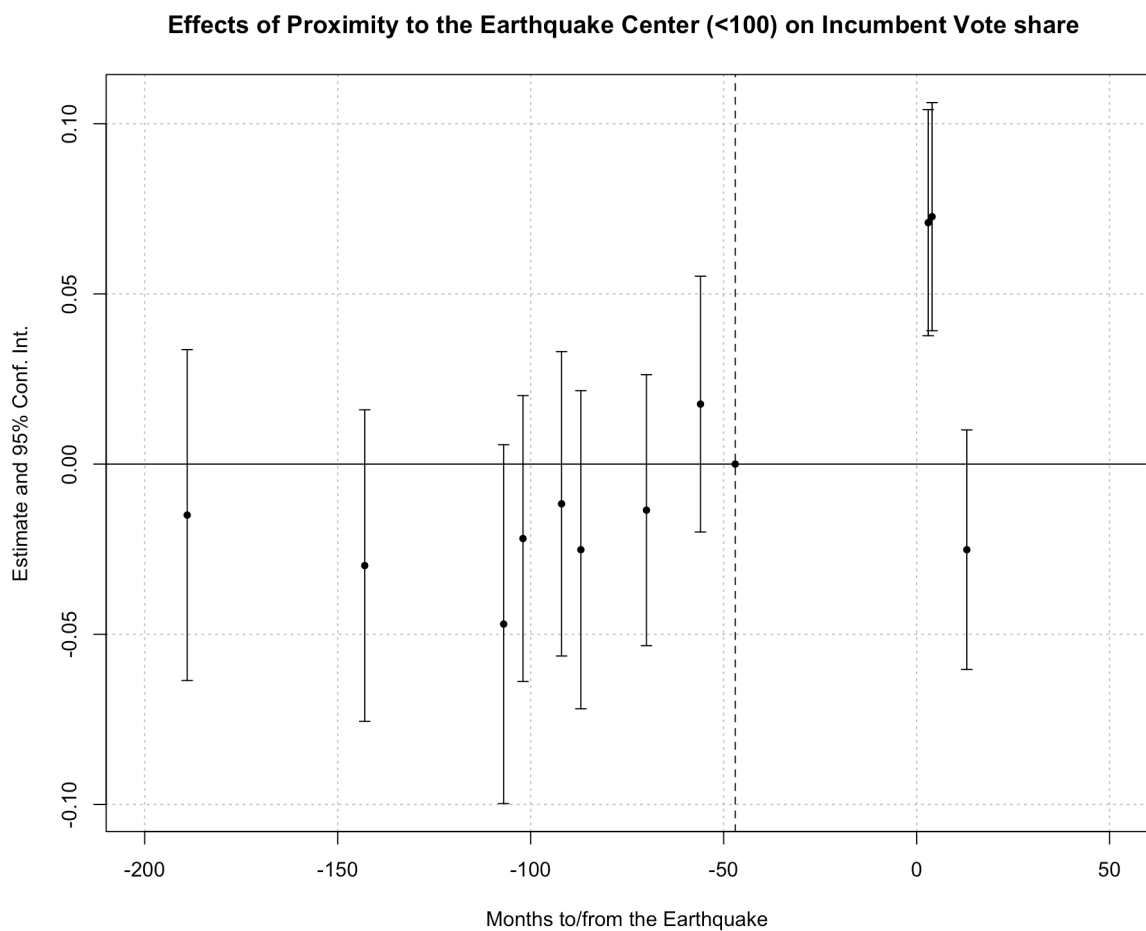


Figure 4: Effects of Different Treatment Measures - Proximity to the Center < 100

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 is within 100km distance to the epicenter of the earthquake by Kandilli Observatory. 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.

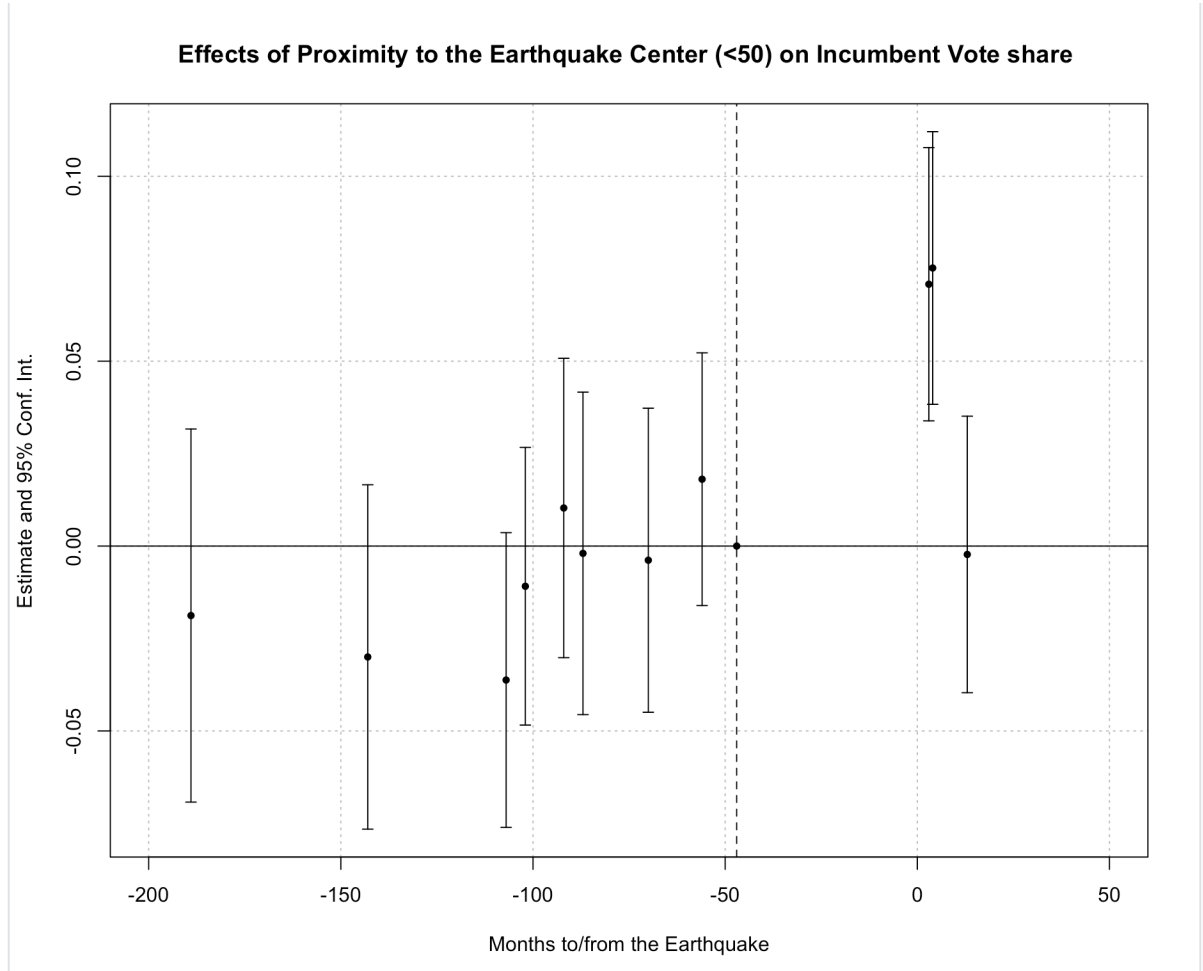


Figure 5: Effects of Different Treatment Measures - Proximity to the Center < 50

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 is within 50km distance to the epicenter of the earthquake by Kandilli Observatory. 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.

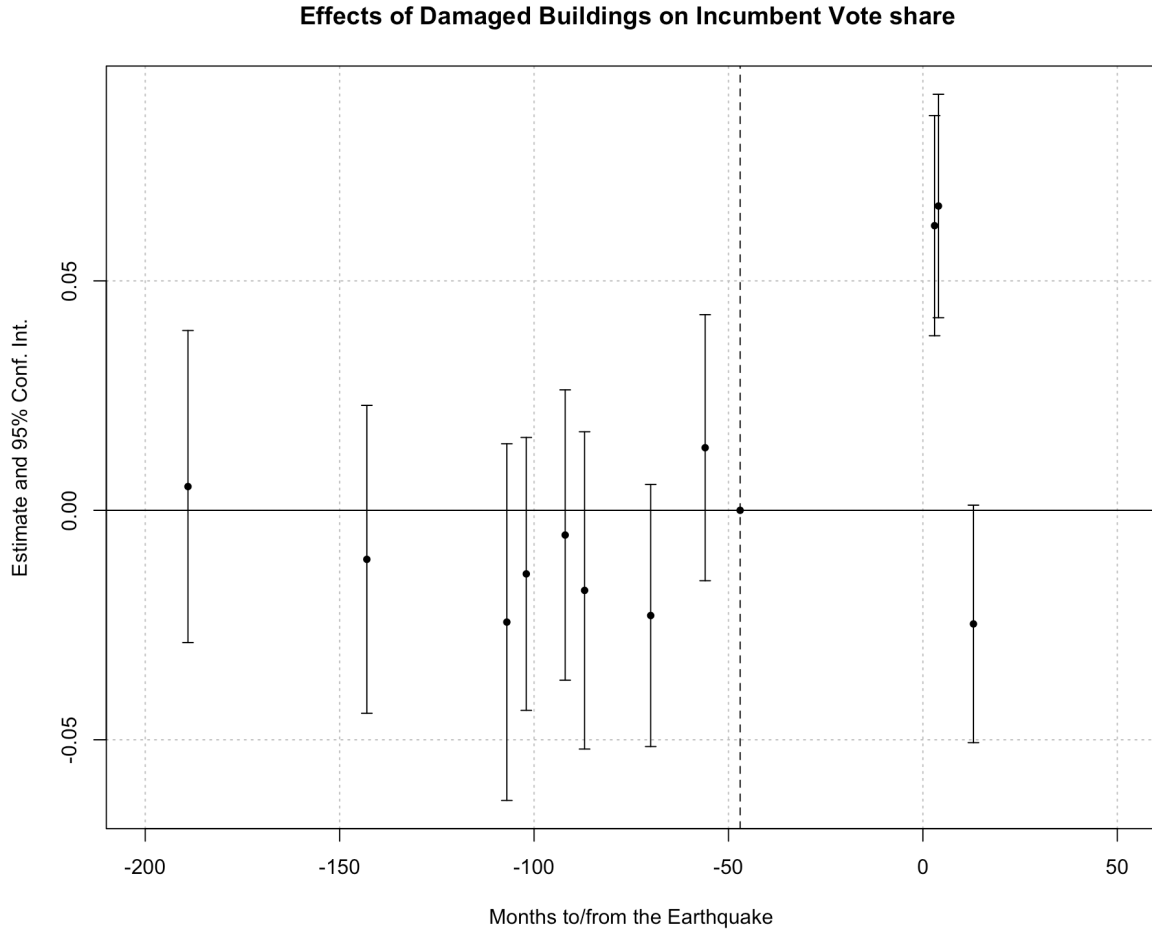


Figure 6: Effects of Different Treatment Measures - Damaged Buildings

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.

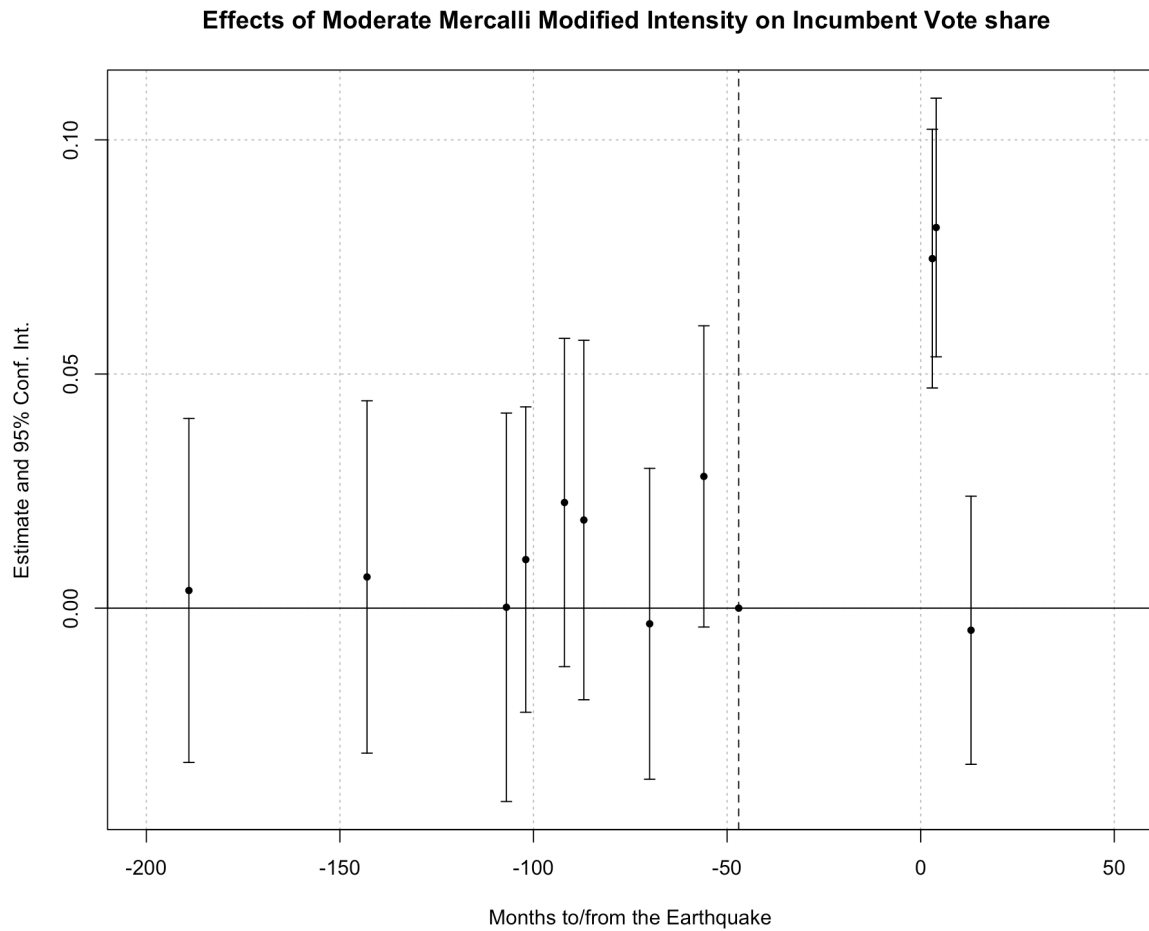


Figure 7: Effects of Different Treatment Measures - Moderate MMI

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.

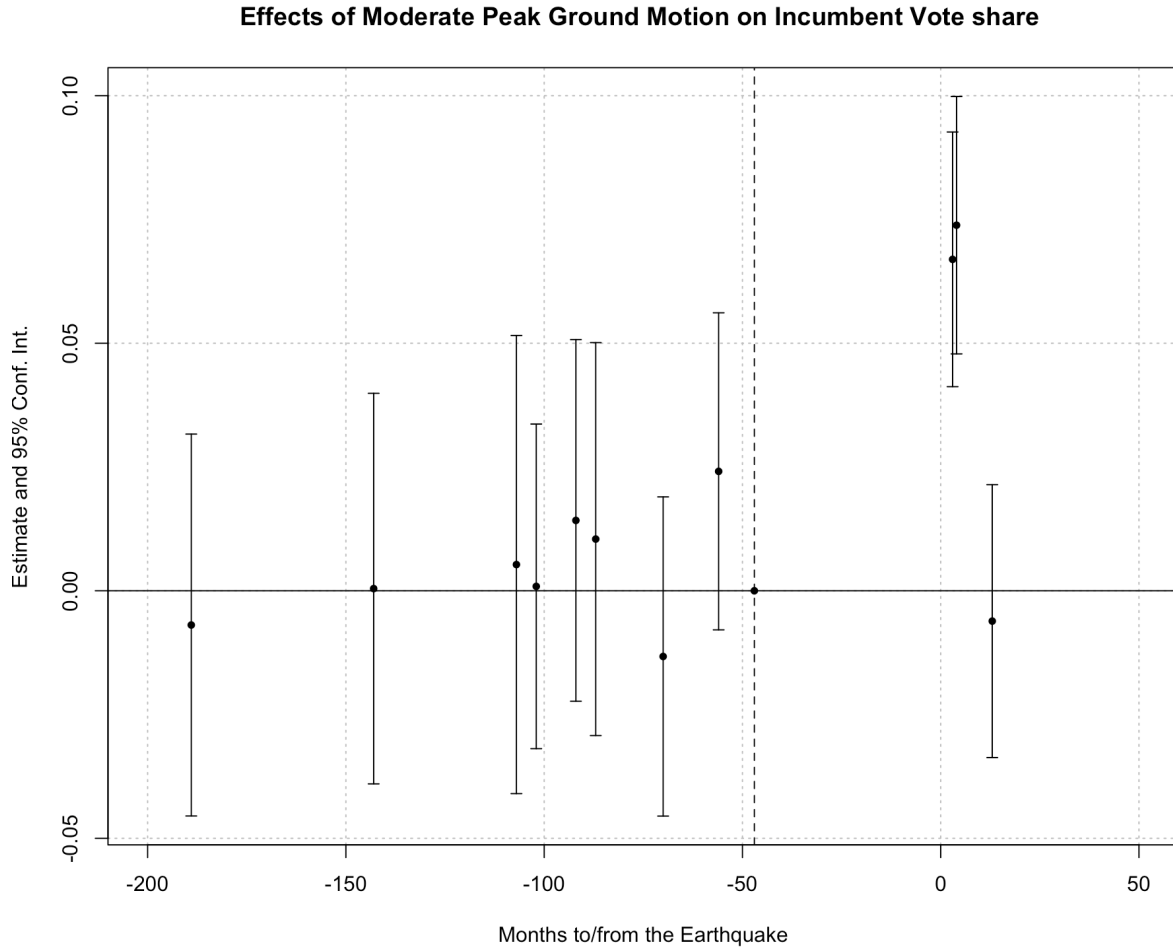


Figure 8: Effects of Different Treatment Measures - Moderate PGA

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 PGA 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.

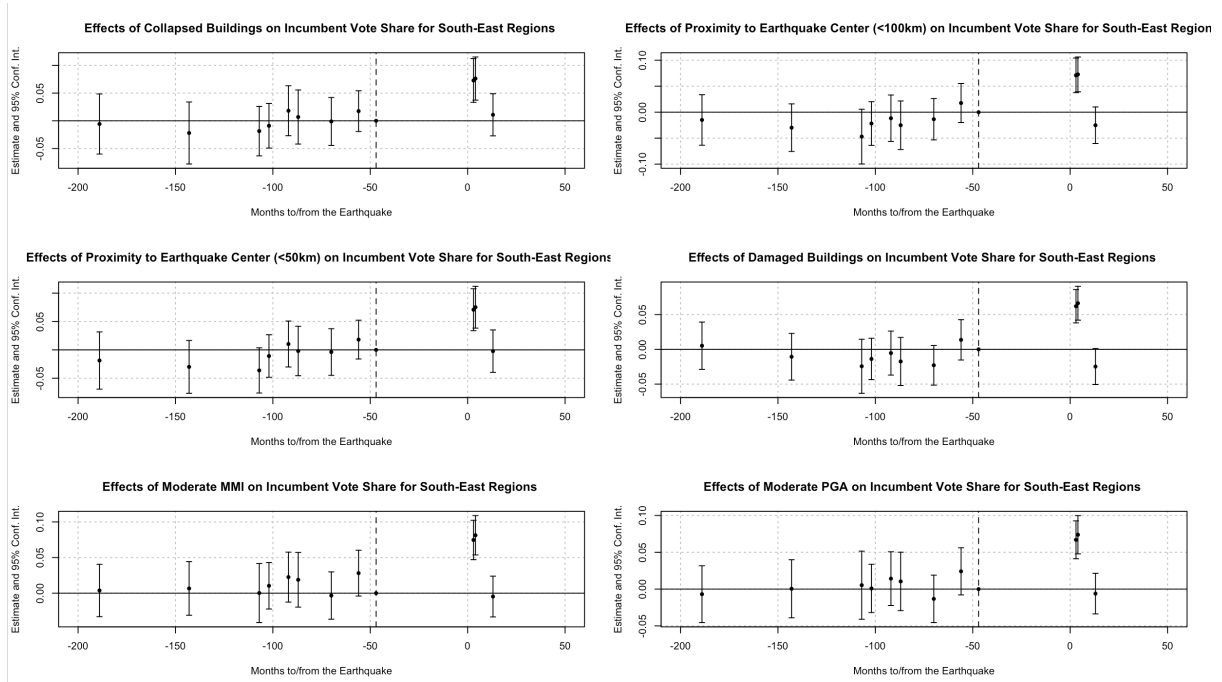


Figure 9: Effects of Different Measures on Incumbent Vote Share - South East

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.

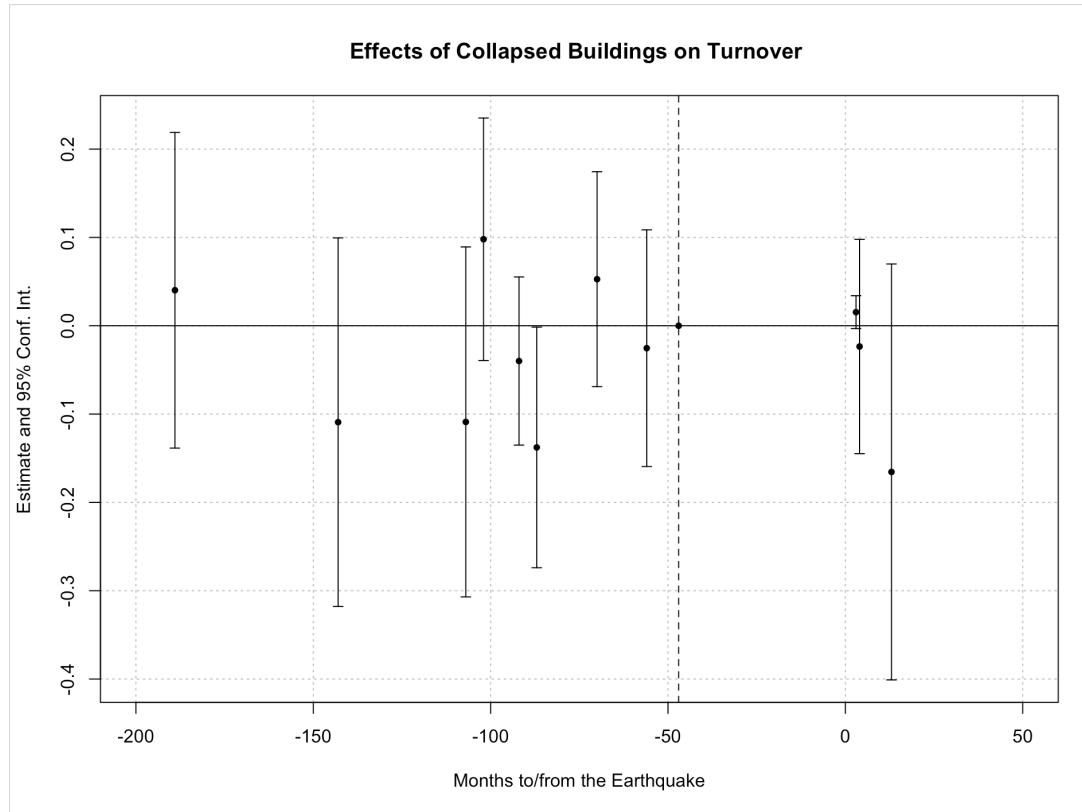


Figure 10: Effects of Collapsed Buildings on Turnover

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 probability of reelection 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.

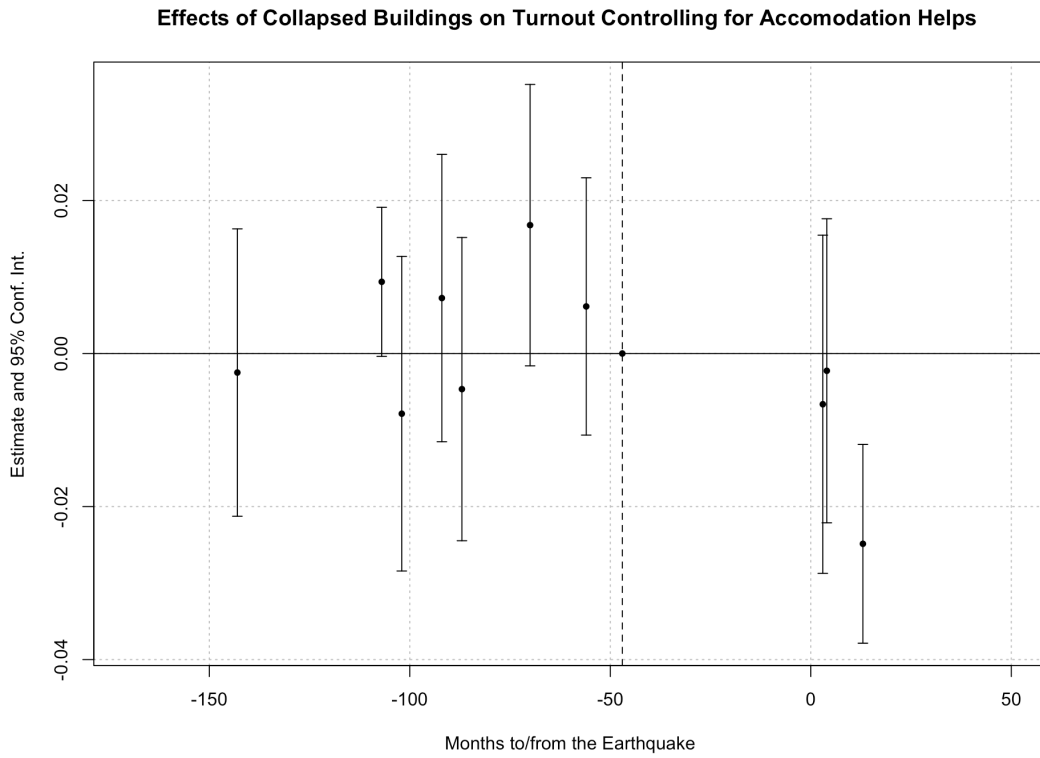


Figure 11: Effects of Collapsed Buildings on Turnout

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.

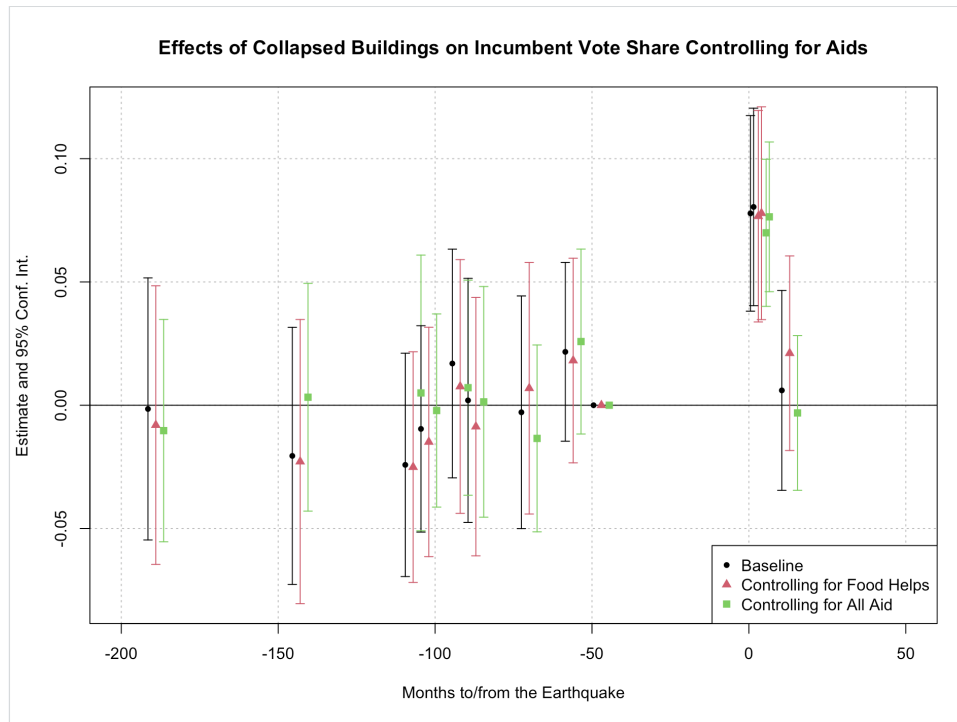


Figure 12

Notes: Figure shows the event study estimates of the main specification including the controls of interactions with the main exposure measure collapsed buildings. 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 other exposure measures are available upon request.

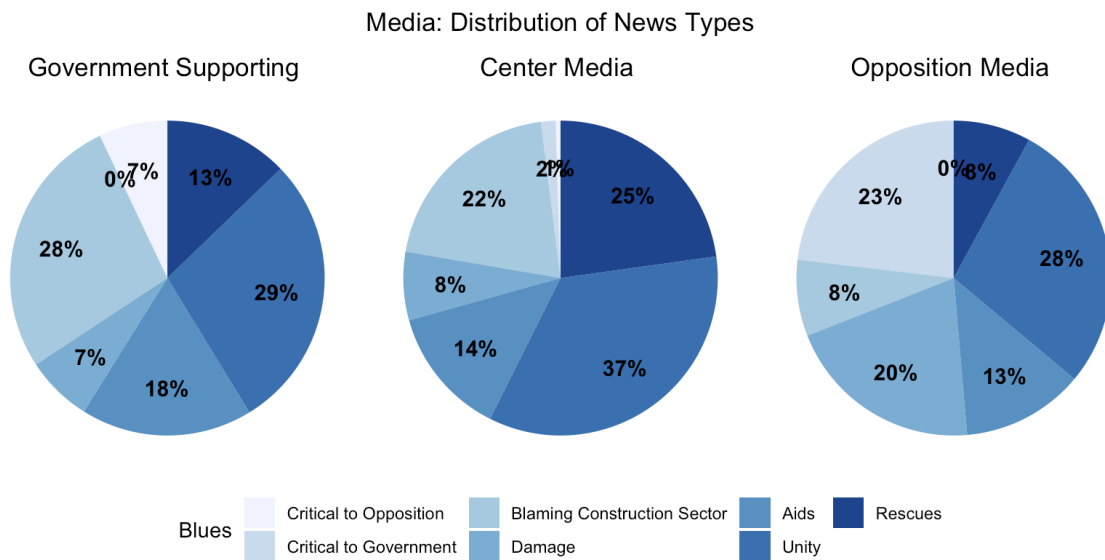


Figure 13: Media Distribution

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.

| | <i>Dependent variable:</i> | | | | | |
|------------------------------|-----------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | Incumbent Party Vote Shares | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Post Quake | 0.019* (0.010) | 0.017* (0.010) | 0.017* (0.010) | 0.012 (0.010) | 0.015 (0.010) | 0.014 (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*** (0.154) | 2.841*** (0.154) | 2.851*** (0.154) | 2.799*** (0.154) | 2.828*** (0.154) | 2.817*** (0.154) |
| Primary Education Ratio | -0.289*** (0.036) | -0.291*** (0.036) | -0.292*** (0.036) | -0.297*** (0.036) | -0.297*** (0.036) | -0.300*** (0.036) |
| Share of Elderly | 1.853*** (0.068) | 1.868*** (0.068) | 1.858*** (0.068) | 1.884*** (0.068) | 1.870*** (0.068) | 1.874*** (0.068) |
| Share of Voting Population | -2.487*** (0.108) | -2.524*** (0.108) | -2.492*** (0.108) | -2.525*** (0.108) | -2.504*** (0.108) | -2.501*** (0.108) |
| Constant | 0.611*** (0.087) | 0.643*** (0.087) | 0.616*** (0.087) | 0.665*** (0.087) | 0.637*** (0.087) | 0.641*** (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

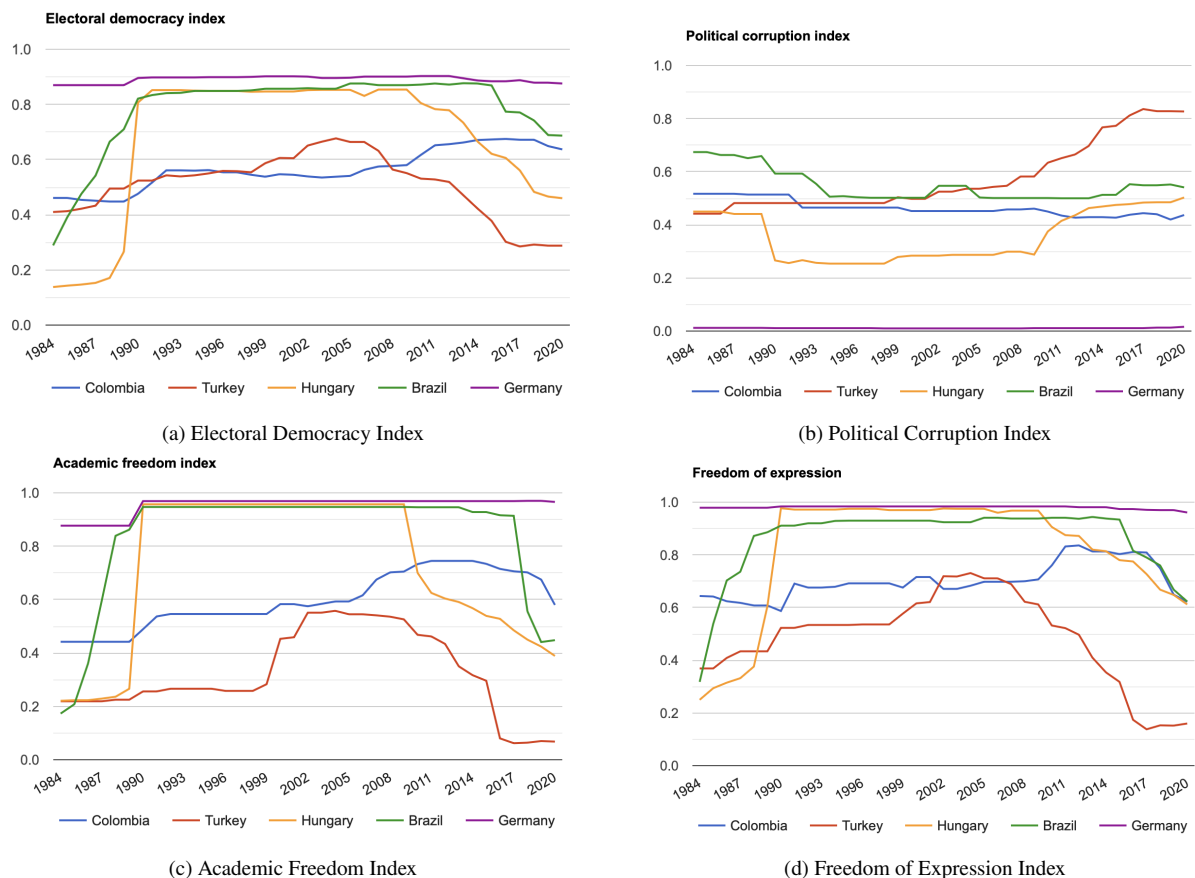


Figure A1: Turkey Democracy Evolution Comparison.

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).

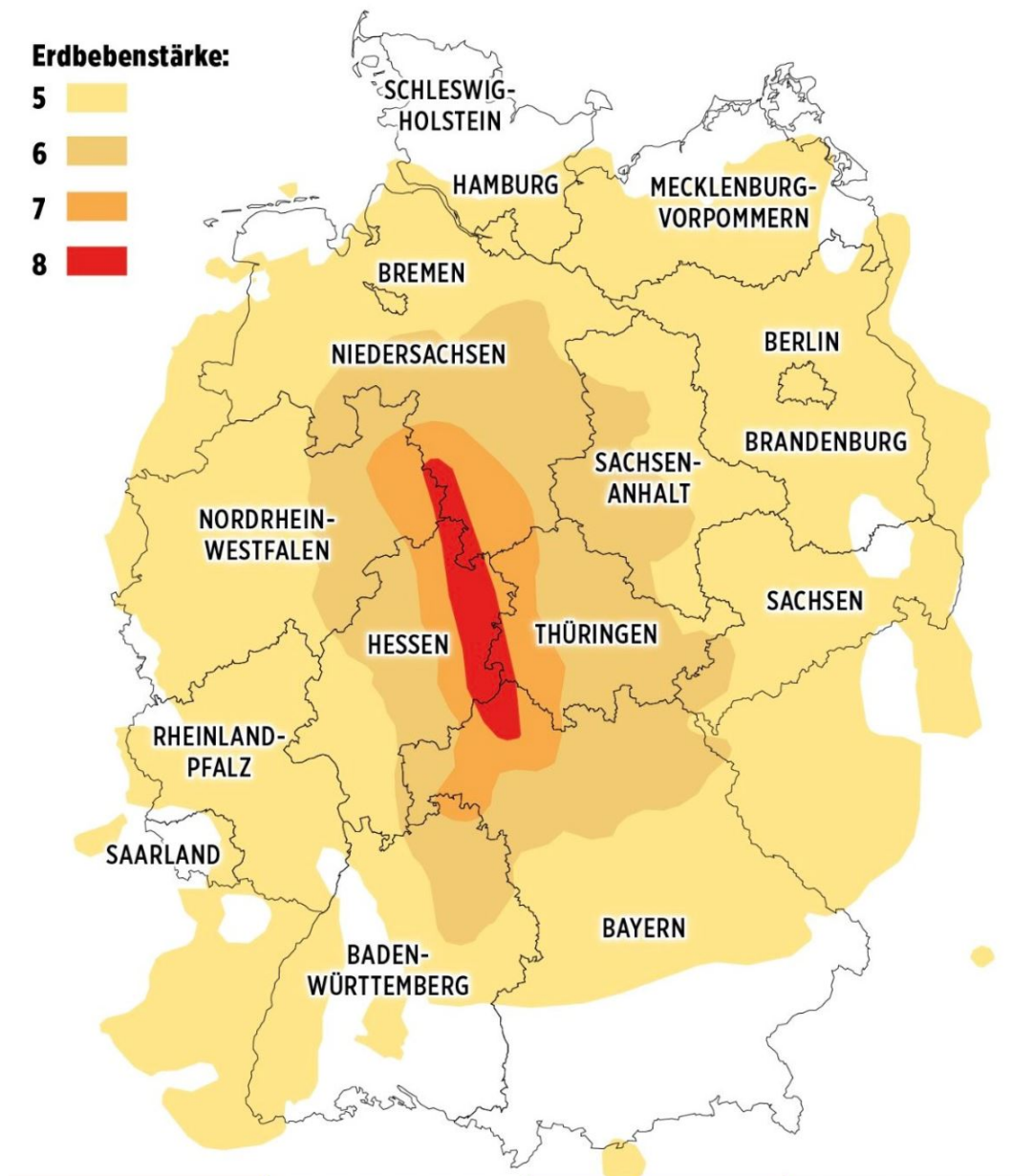


Figure A2: If the Earthquake happened in Germany (Bild)

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.

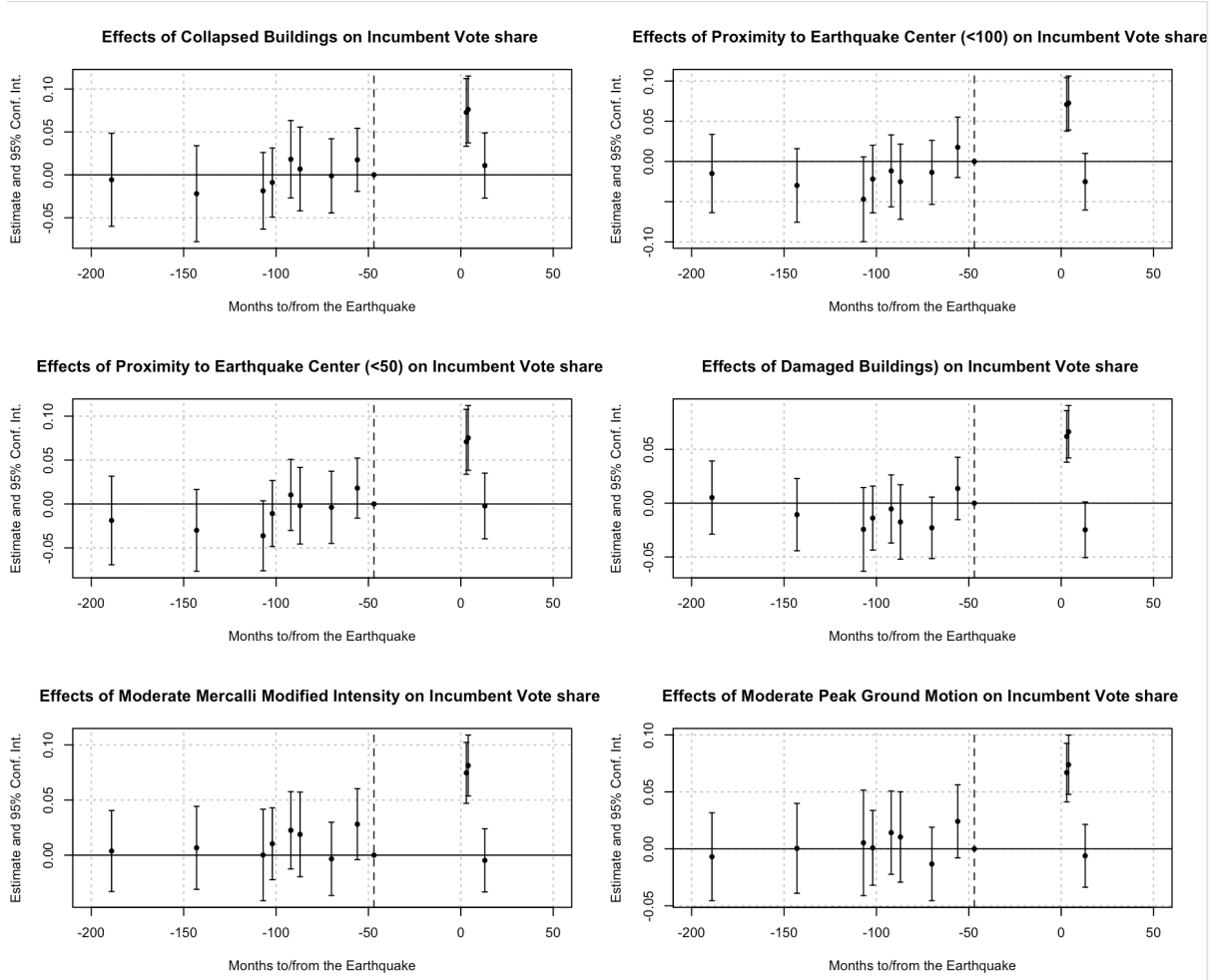


Figure A3: Effects of Different Treatment Measures

Notes: Figures show the event study estimates of the main specification with all exposure metrics. 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.

| 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?"

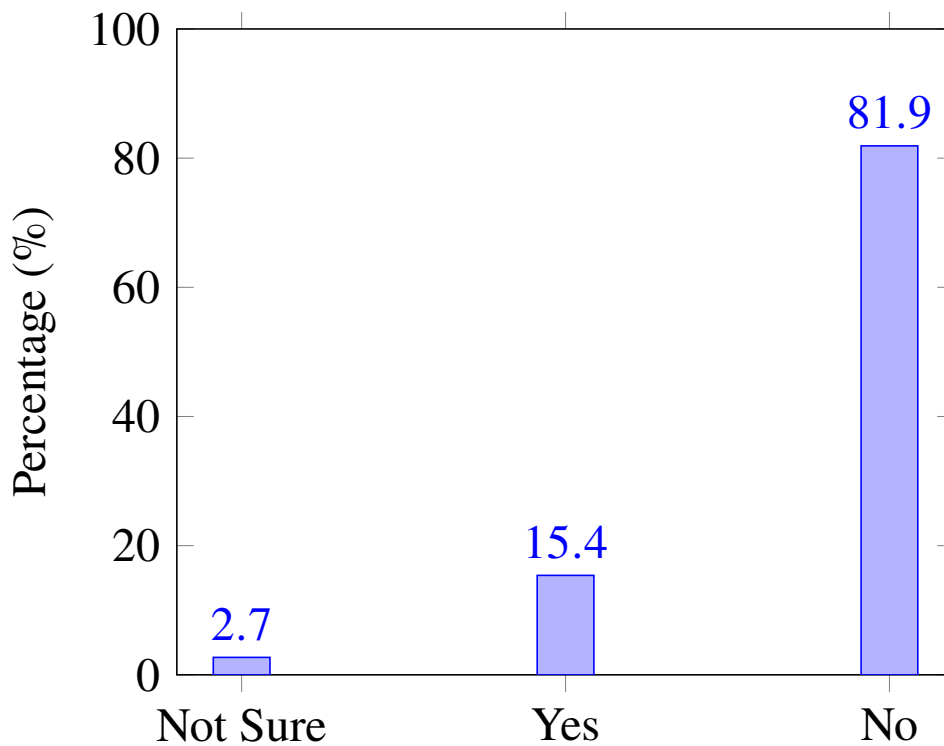


Figure A4: Was Government Prepared for the earthquake?

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

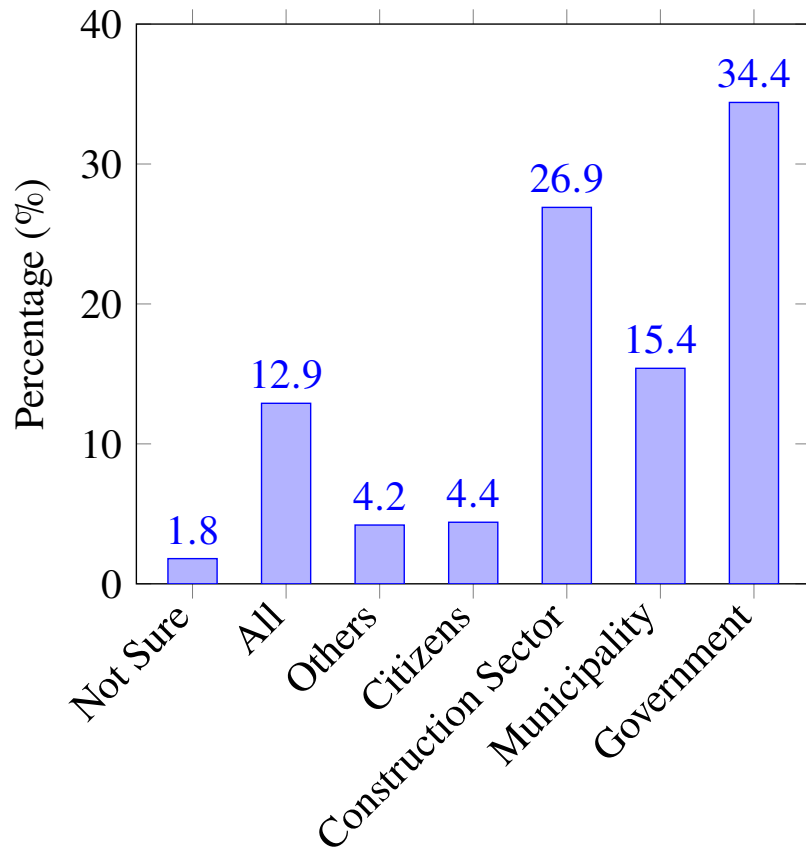


Figure A5: Who is Responsible for the Disaster?

Source: Metropoll "Turkey's Pulse," February 2023. This figure together with the Appendix Table A2 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 Party: ± 3.45 CHP: ± 4.73 MHP: ± 6.76 HDP: ± 6.58 IYI Party: ± 7.13

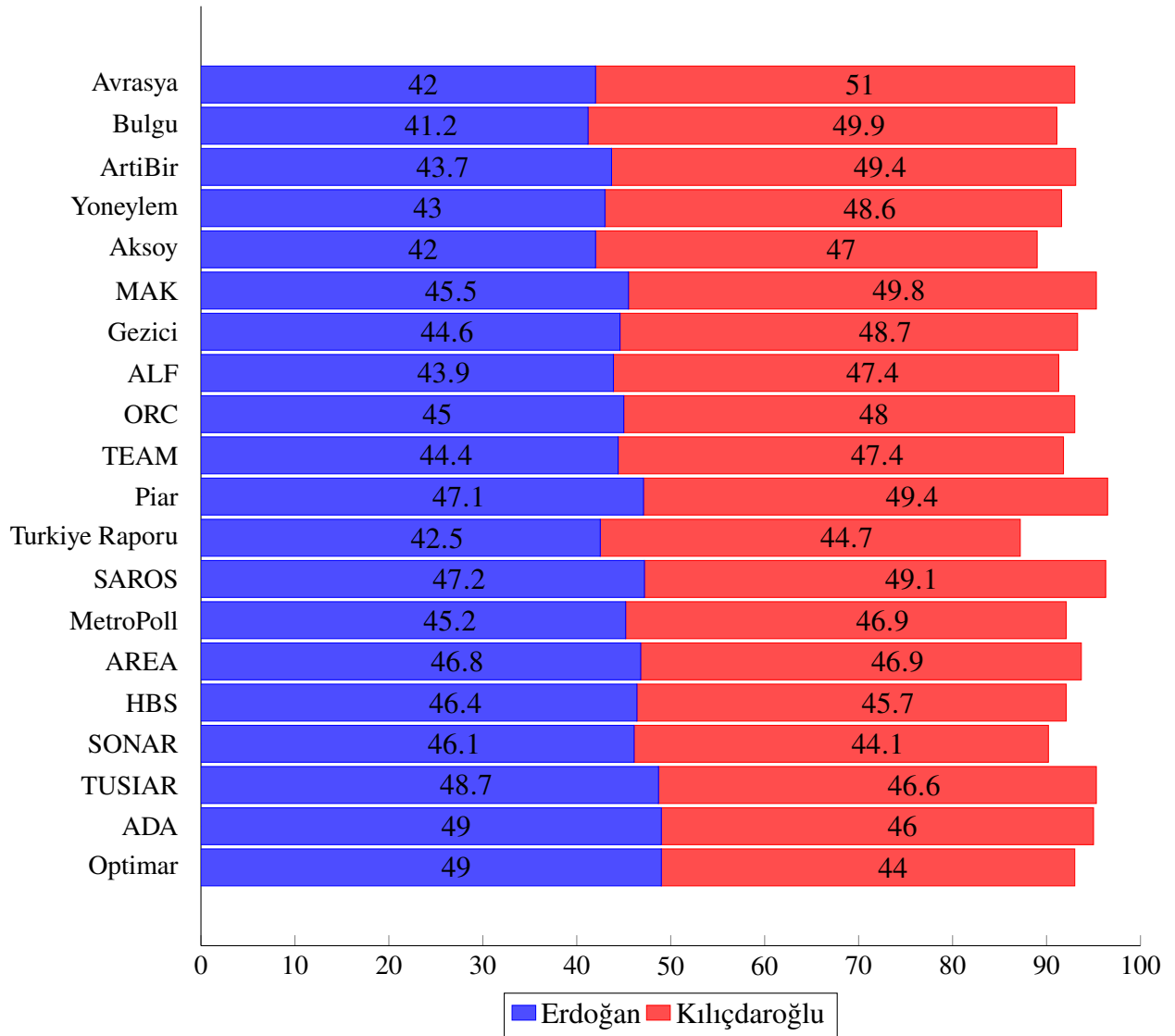


Figure A6: Polling Results for Erdoğan and Kılıçdaroğlu

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.

| | <i>Dependent variable:</i> | | | | | |
|----------------------------------|-----------------------------|----------------------|-----------------------|----------------------|----------------------|-----------------------|
| | Incumbent Party Vote Shares | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Post Quake | 0.019* (0.010) | 0.019* (0.010) | 0.019* (0.010) | 0.018* (0.010) | 0.019* (0.010) | 0.018* (0.010) |
| Collapsed Building | 0.059*** (0.015) | 0.071*** (0.017) | 0.085*** (0.020) | 0.053*** (0.018) | 0.070*** (0.016) | 0.087*** (0.022) |
| Female Ratio | 2.850*** (0.154) | 2.855*** (0.154) | 2.858*** (0.154) | 2.850*** (0.154) | 2.847*** (0.154) | 2.854*** (0.154) |
| Primary Education Ratio | -0.289*** (0.036) | -0.289*** (0.036) | -0.289*** (0.036) | -0.289*** (0.036) | -0.290*** (0.036) | -0.291*** (0.036) |
| Share of Elderly | 1.853*** (0.068) | 1.853*** (0.068) | 1.853*** (0.068) | 1.854*** (0.068) | 1.853*** (0.068) | 1.853*** (0.068) |
| Share of Voting Population | -2.487*** (0.108) | -2.487*** (0.108) | -2.487*** (0.108) | -2.486*** (0.108) | -2.489*** (0.108) | -2.488*** (0.108) |
| Collapsed_building x Food Helps | | | -0.00000 (0.00000) | | | -0.00000 (0.00000) |
| Collapsed Building x Containers | | | -0.002* (0.001) | | | -0.002 (0.002) |
| Collapsed Building x Camp Number | | | | 0.015 (0.024) | | 0.019 (0.026) |
| Constant | 0.611*** (0.087) | 0.609*** (0.087) | 0.608*** (0.087) | 0.611*** (0.087) | 0.598*** (0.086) | 0.594*** (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

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

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

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

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

| | <i>Dependent variable:</i> | | | | | |
|-----------------------------|-----------------------------|----------------------|-----------------------|----------------------|----------------------|-----------------------|
| | Incumbent Party Vote Shares | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Post Quake | 0.014 (0.010) | 0.014 (0.010) | 0.014 (0.010) | 0.013 (0.010) | 0.014 (0.010) | 0.013 (0.010) |
| Moderate PGA | 0.058*** (0.009) | 0.061*** (0.009) | 0.064*** (0.010) | 0.054*** (0.009) | 0.052*** (0.010) | 0.057*** (0.012) |
| Female Ratio | 2.817*** (0.154) | 2.816*** (0.154) | 2.815*** (0.154) | 2.820*** (0.154) | 2.807*** (0.154) | 2.813*** (0.154) |
| Primary Education Ratio | -0.300*** (0.036) | -0.301*** (0.036) | -0.301*** (0.036) | -0.300*** (0.036) | -0.302*** (0.036) | -0.303*** (0.036) |
| Share of Elderly | 1.874*** (0.068) | 1.872*** (0.068) | 1.871*** (0.068) | 1.876*** (0.068) | 1.871*** (0.068) | 1.874*** (0.068) |
| Share of Voting Population | -2.501*** (0.108) | -2.502*** (0.108) | -2.502*** (0.108) | -2.498*** (0.108) | -2.504*** (0.108) | -2.498*** (0.108) |
| Moderate PGA x Food Helps | | | -0.00000 (0.00000) | | | -0.00000 (0.00000) |
| Moderate PGA x Containers | | | -0.001 (0.001) | | | -0.002 (0.002) |
| Moderate PGA x Camp Numbers | | | | 0.017 (0.015) | | 0.026 (0.016) |
| Constant | 0.641*** (0.087) | 0.644*** (0.087) | 0.645*** (0.087) | 0.637*** (0.087) | 0.634*** (0.086) | 0.626*** (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 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 A6: DID Regression Results Controlling for Aids - Peak Ground Motion (> 5)

| | <i>Dependent variable:</i> | | | | | |
|----------------------------|-----------------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|
| | Incumbent Party Vote Shares | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Post Quake | -0.114*** (0.034) | -0.116*** (0.035) | -0.118*** (0.036) | -0.105*** (0.034) | -0.147*** (0.035) | -0.163*** (0.038) |
| MMI Value | 0.066*** (0.018) | 0.068*** (0.019) | 0.069*** (0.020) | 0.058*** (0.019) | 0.077*** (0.018) | 0.085*** (0.021) |
| Female Ratio | 2.773*** (0.256) | 2.772*** (0.256) | 2.774*** (0.256) | 2.778*** (0.256) | 2.879*** (0.257) | 2.901*** (0.257) |
| Primary Education Ratio | -0.427*** (0.059) | -0.427*** (0.059) | -0.427*** (0.059) | -0.427*** (0.059) | -0.387*** (0.060) | -0.387*** (0.060) |
| Share of Elderly | 2.108*** (0.121) | 2.108*** (0.121) | 2.107*** (0.121) | 2.121*** (0.121) | 2.116*** (0.121) | 2.130*** (0.121) |
| Share of Voting Population | -2.255*** (0.181) | -2.257*** (0.181) | -2.257*** (0.181) | -2.239*** (0.181) | -2.020*** (0.190) | -1.976*** (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 (0.008) | | 0.017** (0.008) |
| Constant | 3.327*** (0.676) | 3.329*** (0.676) | 3.328*** (0.677) | 3.331*** (0.676) | 0.977*** (0.254) | 0.933*** (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

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

| | <i>Dependent variable:</i> | | | | | |
|----------------------------|-----------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | Incumbent Party Vote Shares | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Post Quake | -0.131*** (0.020) | -0.134*** (0.019) | -0.133*** (0.019) | -0.153*** (0.020) | -0.139*** (0.020) | -0.143*** (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*** (0.286) | 1.240*** (0.286) | 1.262*** (0.286) | 1.175*** (0.285) | 1.235*** (0.286) | 1.212*** (0.286) |
| Primary Education Ratio | -0.727*** (0.071) | -0.728*** (0.071) | -0.742*** (0.071) | -0.751*** (0.072) | -0.743*** (0.072) | -0.752*** (0.072) |
| Share of Elderly | 0.748*** (0.151) | 0.778*** (0.151) | 0.757*** (0.151) | 0.816*** (0.151) | 0.782*** (0.151) | 0.794*** (0.152) |
| Share of Voting Population | 0.284 (0.238) | 0.209 (0.239) | 0.257 (0.238) | 0.225 (0.238) | 0.267 (0.239) | 0.269 (0.239) |
| Constant | -0.105 (0.145) | -0.055 (0.145) | -0.088 (0.145) | 0.470*** (0.153) | -0.082 (0.146) | -0.067 (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