

# Crisis, Media and Consent: Impact of 2023 Turkish Earthquake on Incumbent Popularity\*

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## Abstract

Natural disasters often shape political environments by emphasizing governance dynamics during crises and influencing voter behavior. Understanding dynamics in competitive authoritarian regimes is important since state control over resources and media can strengthen the political impacts of crises. Using a difference-in-differences and event-study approach and leveraging spatial variation in earthquake intensity, collapsed buildings, and proximity to the epicenter, I analyze the effect of earthquake exposure on incumbent vote share. The findings show a significant increase in the votes received by the incumbent, Recep Tayyip Erdoğan, especially in the areas most affected by the earthquake, despite the many complaints about how the government handled the disaster. I explore potential mechanisms driving this effect, including state-led aid distribution and media control. The findings are robust to alternative exposure measures and regional subsamples. Interestingly, the earthquake increased the incumbent support without affecting voter turnout or the probability of political turnover, suggesting mechanisms such as rally-around-the-flag dynamics and scapegoating as a central role. This research contributes to the literature on crises, voting behavior, and competitive authoritarian regimes by examining one of Turkey's most catastrophic natural disasters.

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

*JEL:* D72, H12, Q54, H84, P16

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## 1. Introduction

Satisfaction with democracy has been on the decline for the past three decades. According to an assessment by International Institute for Democracy and Electoral Assistance (International IDEA), [2022](#), more than twice as many countries have been moving towards authoritarianism as they have been moving toward democracy. More than half of the citizens of 77 countries believe that having a strong leader not dependent on legislatures or elections is beneficial. During the 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 significantly 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](#)).

In this study, I explore whether a competitively authoritarian incumbent, Turkish President Recep Tayyip Erdogan, was able to exploit a natural disaster for political leverage. 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.

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 14 percent relative to the mean. However, this effect appears to be temporary. There is little evidence that exposure to the earthquake affected the outcomes of local elections held approximately one year later, on March 31, 2024. After estimating the immediate impact 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.

The analysis of humanitarian aid efforts, based on data from The Foundation of Anatolian People and Peace Platform (AHBAP)—one of the most effective NGOs collaborating with the Turkish government—shows 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. In addition, I provide descriptive evidence from Google News Archives indicating 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, described above, provide quasi-experimental support for this hypothesis. By comparing election outcomes held in the immediate 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 long-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. The next section provides background on the February 2023 Earthquake and Turkish parliamentary and presidential elections in the context of competitive authoritarianism. Section 3 explains the datasets

and the main empirical strategy of the analysis. In section 4, I report 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 maintain and 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). The reasoning behind this hypothesis is that in times of crisis, populations often seek strong leadership. While natural disasters can create challenges that test the government’s capabilities and reveal its vulnerabilities, they can also reinforce public trust depending on how it responds to the crisis. Therefore, some have characterized natural disasters as a potential trigger for political instability and conflict (Brancati, 2007; Nel and Righarts, 2008), while others underline the opportunities natural disasters create for enhanced cooperation and conciliation (Kelman, 2011).

Previous studies have explored this mixed interplay between natural disasters and election outcomes differently. 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; Heersink et al., 2017, further support this 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 voter attitudes and electoral outcomes, especially when incumbents are perceived as proactive. Similar to these studies, Bovan et al., 2018; 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 authoritarian right-wing parties.<sup>2</sup> More recently, Masiero and Santarossa, 2021 empirically showed that earthquakes increased the probability of re-election in Italy, while Boittin et al., 2020 showed that natural disasters could exhibit a "Rally' Round the Flag" effect.

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. Leaders in such systems can manipulate crises to consolidate power, taking advantage of their ability to control media and state resources. 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. Also, the role of charismatic leadership in crisis management is significant in competitive authoritarian regimes. Weber, 1978 outlined how charismatic authority thrives during periods of crisis, as people look to strong leaders for stability.<sup>3</sup> Later on, Trice et al.,

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<sup>2</sup>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.

<sup>3</sup>Weber, 1978 theorizes this notion of charismatic leadership. According to Weber, charisma is self-determined and sets its own limits. Its bearer seizes the task for which he is destined and demands that others obey and follow him by his mission.

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.<sup>4</sup> Pepinsky, 2017 expands on this by noting that charismatic leaders can use crises to build legitimacy, particularly when they control the media to amplify their actions and suppress dissent. Although there is enough theoretical evidence on the effect of natural disasters on election outcomes and empirical studies in democratic countries, empirical studies in competitive authoritarian countries are very limited. This study provides quasi-experimental support to the hypothesis that natural disasters 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).<sup>5</sup> This study contributes to the limited empirical research on crises in competitive authoritarian systems, filling a gap in the literature dominated by studies on democracies.

## *2.1. Historical Background*

The current incumbent party in Turkey, the Justice and Development Party (AKP), led by its charismatic leader, Recep Tayyip Erdoğan, has maintained dominance of Turkish politics and government for more than 20 years. Erdoğan rose to power after the 1999 Izmit earthquake, which vividly illustrated the inefficiencies and failures of the then-

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<sup>4</sup>According to Weber, charismatic leaders are, dependent on the emergence of a crisis, and only in times of turmoil does faith in leaders stand out and, charismatic domination become legitimized consequently (Fernandes and Carvalhais, 2018; Parkin Frank, 2000)

<sup>5</sup>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. Such media dynamics with the government’s use of resources during election campaigns create a political environment where voter perceptions are shaped by the incumbent’s messaging.

ruling government. The newly formed Justice and Development Party (AKP) was the beneficiary of the votes lost since voters held accountable and punished the then-ruling government. Akarca and Tansel, 2008 highlight Erdoğan’s initial rise to prominence after the 1999 İzmit earthquake, where his ability to present himself as a competent leader addressing governmental failures paved the way for his political success. Public anger over the disaster’s mishandling played a significant role in the AKP’s electoral victory 2002. Erdoğan utilized the government’s failure to present himself as a leader that offered a new direction for the country. The AKP, as a conservative democratic party, initially gained support through economic reforms, political stability, and a push for European Union membership. Turkey’s AKP government was widely regarded as an example of a functioning democracy in the early 20th century. Although its initial years were marked by genuine progress, over the past two decades, Turkey has experienced a notable decline in democratic standards (See Figure 14). According to Esen and Gumuscu, 2023; Esen et al., 2024; Müftüler-Baç and Keyman, 2012, Erdogan’s AKP regime is said to have transformed the country into a competitive authoritarian regime where elections remain real and competitive but far from free and fair. This occurred with Erdoğan consolidating power through constitutional changes, increased control over the media, and a crackdown on political dissent. Figure 14 from Varieties of Democracy (V-Dem) supports the literature by showing the increasing democracy index, freedom of expression, academic freedom, and lesser political corruption until mid 2000s and significant gradual drop since then relative to other countries in the world.<sup>6</sup> Fernandes and Carvalhais, 2018 also utilizes the literature on charismatic leadership in order to identify the charismatic leadership profile of Erdogan.<sup>7</sup> Esen and Gumuscu, 2016; Esen et al., 2023 documented Erdoğan’s strategy of using crises, including economic and security issues to consolidate his power, supported by extensive media control that amplifies his image as a strong

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<sup>6</sup>Varieties of Democracy (V-Dem) data show a sharp drop in Turkey’s Liberal Democracy Index starting from 2007, indicating growing authoritarian tendencies under Erdoğan’s leadership.

<sup>7</sup>According to Fernandes and Carvalhais, Erdogan reveals himself as a charismatic leader who cleverly inspired his followers by his purposes, beginning to exercise his dominion over society. However, it is equally important to realize that Erdogan’s success cannot be understood apart from the fundamental role that society has played in this success. Therefore, further studies are needed regarding political sociology in order to understand Turkish society and its culture and political behavior.

leader. It was not until May 2023 that his electoral hegemony faced a significant obstacle when a united opposition challenged the AKP for the first time (Susannah Verney et al., 2024). In 2023, Erdoğan’s government faced significant criticism over its handling of the economy, high inflation, unemployment, and a depreciating currency. Public dissatisfaction with rising living costs and the government’s economic policies led many to believe that Erdoğan’s two-decade dominance could be at risk. May 2023 elections were unique in the sense that all opposition parties unified under the name of ”Table of Six.” for the same purpose of defeating this 20-year incumbency and restoring democracy. For the first time, the opposition presented a united front, rallying around a single presidential candidate, Kemal Kılıçdaroğlu, the leader of the Republican People’s Party (CHP).<sup>8</sup> The opposition’s unity gave them a strong chance in the pre-election polls. Many believed the ”Table of Six” offered a clear path to defeating Erdoğan and reversing the country’s democratic backslide. In the international media, this election was seen as a fight for democracy against autocracy, and around 75% of polls done before the earthquake suggested the defeat of the incumbency. The opposition was widely believed to be able to show the world how this kind of authoritarianism could be overcome democratically before the May 2023 elections (Tharoor, 2023).<sup>9</sup> Despite this, Erdogan and his party won the elections with a decisive majority, raising a question about Turkish voters’ choice of autocracy (Parke, 2023).

On the night of February 6, 2023, a massive earthquake with 7.8 magnitude followed by a 7.7 aftershock struck southern Turkey.<sup>10</sup> The disaster has been one of the worst in the country’s history, affecting the national focus and the political environment. Due to its severity, widespread destruction, unreadiness, and timing relative to national elections, the 2023 Turkish earthquake provides a unique exogenous opportunity to analyze citizens’ immediate responses. This unforeseen disaster shook a region roughly the size

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<sup>8</sup>The ”Table of Six” coalition brought together ideologically diverse parties, reflecting a shared urgency to challenge Erdoğan’s dominance

<sup>9</sup>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

<sup>10</sup>The earthquake caused \$34 billion in direct damages, making it the third costliest disaster globally, and significantly influenced public perceptions ahead of the elections (World Bank, 2023)



of Germany, impacting around 14 million people with a 56000 death toll (see Figure 11). The disaster has become the deadliest earthquake in the world since 2010 Haiti and the 5th deadliest in the 21st century. For comparison, a similar earthquake has not occurred on the San Andreas Fault in California since 1906. While the level of severity and destructiveness of the quake was rare, it was also the third costliest disaster on record, surpassed only by the Fukushima nuclear accident World Bank, 2023. The widespread geographic destruction made rescue operations slow and inefficient. Meanwhile, survivors struggled for basic necessities like food, water, and shelter, with freezing winter temperatures adding another layer of hardship. The tragedy and the upcoming elections created a politically sensitive and unique challenge but also an opportunity for the ruling party. In act, the government has been heavily criticized and expected to be punished for the lack of immediate sufficient response in the media and public surveys, drawing parallels to the 1999 İzmit earthquake, which had contributed to the fall of the then-incumbent government and Erdoğan’s rise to power. Although Akarca and Tansel, 2008 have shown that Turkish democracy was able to punish the incumbent government for failing to manage a crisis after 1999; the same people chose to reward the charismatic leader in 2023 after the earthquake. Therefore, the combination of the February 2023 earthquake and the May 2023 Turkish elections can be a crucial example illustrating the incumbent party with a charismatic leader leveraging the disaster to increase its support despite the traditionally negative expectations surrounding the impact of crises on governing bodies.

## *2.2. Interchangeability of Erdoğan and AKP Votes in Electoral Analysis*

Erdoğan’s leadership is intrinsically tied to the identity and success of the Justice and Development Party (AKP). This creates a dynamic where votes for Erdoğan and the AKP can be used interchangeably in electoral analysis. Since he has centralized control over the party, he positioned himself as its ultimate figurehead, aligning its strategies, messaging, and public image with his personal leadership brand. Empirical evidence from past elections demonstrates a strong correlation between Erdoğan’s presidential vote shares and the AKP’s parliamentary performance, which reflects the overlap in their support bases (Esen et al., 2023). Campaign strategies with pro-government media

further reinforce Erdoğan’s image as the face of the party (Foreman et al., 2003). Drawing on Weber’s theory of charismatic authority, Fernandes and Carvalhais, 2018 argue that Erdoğan’s leadership style relies on his ability to inspire loyalty. This personalization of power is further supported by Levitsky and Way, 2002, who notes that in hybrid regimes, the leader’s charisma often becomes the defining feature of the ruling party, making their votes functionally equivalent in many analyses.<sup>11</sup>

### 3. Empirical Strategy

#### 3.1. Data

The main measure of earthquake exposure comes from geospatial data on collapsed buildings from satellite imagery provided by Humanitarian OpenStreetMap.<sup>12</sup> The dataset allows us to see the number of collapsed buildings in each district, providing a clear metric for assessing the severity of earthquake impact. Figure 12 provides a visual representation of the affected region in terms of the number of collapsed buildings.<sup>13</sup> In addition to the collapsed buildings as the main measure of earthquake exposure, I generate several binary and continuous earthquake exposure metrics such as i) the distance to the earthquake center coming from the geo data of Kandilli Observatory and Earthquake Research Institute (KOERI)<sup>14</sup> ii) Mercalli modified intensity (MMI)<sup>15</sup> and Peak Ground Acceleration (PGA) from U.S. Geological Survey<sup>16</sup> iii) A composite metric combining the number

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<sup>11</sup>This study treats Erdoğan votes and AKP votes as functionally equivalent in the analysis since it is empirically justified given the tight alignment between the leader and the party’s public image and support base.

<sup>12</sup>In response to Turkey Syria Earthquake 2023, Source data includes aerial imagery from Copernicus EMS and Istanbul Technical University, Implementation and Research Center for Satellite Communications and Remote Sensing (CSCRS). Destroyed buildings were derived by users of OSM and Map Roulette.

<sup>13</sup>The figure shows heavily damaged buildings from districts. It should be noted that these collapsed buildings may not be the most exhaustive measure since it does not include smaller types of damages.

<sup>14</sup>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.

<sup>15</sup>According to U.S. Geological Survey, Mercalli Modified Intensity higher than 7 generates damage negligible in buildings of good design and construction, but considerable in poorly built or badly designed structures; weak chimneys broken at the roof line, fall of unbraced parapets. It frightens most, and some lose balance. Heavy furniture overturned.

<sup>16</sup>According to U.S. Geological Survey, Peak Ground Acceleration higher than 7 generates very strong shaking and moderate damage

of collapsed buildings from satellite imagery and damaged buildings extracted from reports in Google News Services and data available through Global Shelter Cluster.<sup>17</sup>

In order to measure the impact of earthquake exposure on the incumbent leader, I integrate district-level vote shares for the AKP and Recep Tayyip Erdoğan, spanning general, local, and referendum elections from 2007 to 2024. The dataset is obtained from the Supreme Election Council (Yüksek Seçim Kurulu). It is complemented by district-level population statistics sourced from the State Institute of Statistics, Republic of Turkey (Türkiye İstatistik Kurumu), allowing for demographic and regional analysis of electoral trends.<sup>18</sup>

For robustness checks, I incorporate additional data on aid distribution during the disaster response. This includes the number of food, water, and tent container trucks sent to districts by AHBAP, a prominent NGO coordinating closely with the government to deliver essential supplies after the earthquake. In addition to AHBAP data, I collect tent and container city locations from Google Maps to measure accommodation help that went to the districts.

### 3.2. Estimating Equations

The estimation strategy relies on event-study regressions to reveal the distinctive trends in incumbent party voting across high and lowly-exposed districts before and after the 6th February disaster. It allows us to focus on the intensity of the disaster. Similar to Bazzi et al., 2023, several event-study analyses are applied to the outcome of interests :

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

where  $Y_{dt}$  represents incumbent party voting share of district  $d$  at election year  $t$ . The QuakeHit stands for different measures of district-level earthquake exposure on

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<sup>17</sup>Appendix Figure 13 displays the damaged buildings as assessed by the Ministry of Environment, Urbanization and Climate Change

<sup>18</sup>I mention the use of incumbent, Erdoğan, and AKP votes interchangeably as explained previously.

the night of 6th February 2023 discussed earlier. It is used both as a binary measure of earthquake affection or continuously for the intensity of treatment. In turn,  $1(\text{Months to February 2023} = j)$  are indicator variables for election periods before and after the disaster. Next,  $\theta_d$  and  $\gamma_t$  are district and election year fixed effects.

District fixed effects account for unobserved characteristics likely correlated with incumbent voting and seismic risk. For example, voters from districts that are exposed to high levels of corruption of politicians may have different voting decisions than the ones in non-corrupt districts. In fact, the extent of damage is influenced not only by natural factors but also by the quality of construction. In districts with high corruption, construction engineers might obtain building approvals from local authorities more easily, leading to the construction of substandard buildings. Consequently, there is likely a stronger correlation between corruption and the level of destruction, as closeness to government bodies is often used as a means to secure construction permits. Also, people who live in highly affected areas may have systematically different risk preferences. Additionally, election-year fixed effects control for changes in election-specific characteristics and other macroeconomic shocks.  $X_{dt}$  are the time-variant district-level controls controlling other natural disasters in the district around the election periods, Kurdish population, and population statistics. Finally,  $\varepsilon_{st}$  is a zero-mean i.i.d. error term.

#### 4. Empirical Results

This section shows that the earthquake’s intensity hindered democracy by increasing the vote shares of the authoritarian leader and his party. The earthquake exposure has a positive association with Erdoğan’s support. This result is robust to many alternative explanations about the affected districts’ voting response and different earthquake exposure measures.

#### 4.1. Event Study Results for Erdogan's Vote Share

Using the event-study specification, I find that districts with earthquake exposure increased considerably more authoritarian vote shares after the February 2023 earthquake.<sup>19</sup> Figure 1 demonstrates that earthquake exposure is associated with a 7 percentage point increase in the vote shares of the authoritarian leader and his party for the elections held immediately after the disaster. This effect is large given that the mean share of votes among all districts and the south region is 54 and 49 percent, respectively. Additionally, the effect disappeared in the last local election in 2024, suggesting a short-run "rally around the flag" effect.<sup>20</sup> Although the last election analyzed was a local election, it reflects broader voting patterns consistent with national-level political dynamics. In competitive authoritarian regimes like Turkey, voters often view local elections as an extension of national politics (Esen and Gumuscu, 2019). The political environment is centralized, and support for local candidates is influenced by loyalty to the national leader. In Turkey, local elections are not merely about municipal governance; they are perceived as battlegrounds for national political struggles (Esen and Gumuscu, 2018).<sup>21</sup> Since Erdoğan's leadership dominates the AKP's identity, votes in local elections are closely tied to his popularity which makes the results reflective of national-level dynamics rather than isolated local issues.

#### 4.2. Robustness

To further verify the robustness of these findings, I evaluated alternative means of earthquake exposure and restricted subsamples. First, I examined the effect of the earthquake by using different proxies for exposure, including the number of collapsed buildings, proximity to the epicenter, and technical intensity measures like the Modified Mercalli Intensity (MMI) scale and Peak Ground Acceleration (PGA). Figures 2 - 6 consider several

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<sup>19</sup>Collapsed buildings from satellites are used as the main specification of the earthquake measure. All results from alternative measures mentioned above are available upon request

<sup>20</sup>Mueller, 1970 introduced the phrase "rally around the flag" to explain the temporary surge in public support for political leaders during crises. Researchers have also consistently discovered that leaders experience increases in their approval ratings in the short run immediately after sudden crises.

<sup>21</sup>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 et al., 2023).

alternative measures of the earthquake exposure. These measures consistently yielded results in line with the collapsed buildings in the main analysis, showing that the observed effects are not sensitive to the choice of exposure metric.<sup>22</sup> Table A.1 also provides the point estimates from a simpler DID analysis for each exposure measure.

Additionally, I conducted the analysis with a subsample focusing on the southeastern region, which experienced the most severe impacts of the earthquake. Figure A.16 demonstrates the effects of different measures for using only southeastern regions. The findings from this limited subsample were consistent with those from the entire sample, indicating that the observed effects are not influenced by regional differences.

These consistent findings across multiple robustness checks confirm that the relationship between earthquake exposure and increased incumbent voting is robust regardless of the specific measure of exposure or regional context.

## 5. Possible Mechanism

This section discusses and provides some level of evidence for the possible mechanisms underlying the main results.

**Political Turnover and Turnout.** I apply the same estimation strategy to political turnover, which is the probability of a change in a government from one ruling political party to another. Figures 7 and 8 suggest no effect on the probability change of the ruling party and the voter turnout.<sup>23</sup>

These results suggest that the earthquake may have strengthened Erdoğan’s support among his existing base since people often rally around established leaders during crises. Consequently, a higher vote share in areas where he was already dominant reinforces his position without significantly changing the national electoral dynamics. This mechanism is particularly effective in competitive authoritarian regimes, where incumbents leverage crises to consolidate power through state resources and narrative control.

### Effective Disaster Response and Aid

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<sup>22</sup>Appendix Figure A.15 reports all measures together for easier comparison

<sup>23</sup>Voter turnout is measured as the participation rate of the given election

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 Masiero and Santarossa, 2021.<sup>24</sup> In order to figure out if the immediate help was the main driver behind this effect, I use the number of food and accommodation containers distributed to each district as a measure of government response. Figure 9 presents the dynamics of the event-study estimates when we control the interaction of the number of food and accommodation helps. The robustness of the event-study results to these additional controls suggests that aid distribution is unlikely to be 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.<sup>25</sup> Tables A.2 -A.9 show a simple DID analysis emphasizing the same result, depicting the coefficient of each type of aid for each exposure measure. These results support the public surveys that have been done to reveal public opinion. Figure A.19 and Table A.20 reveal that the majority of people believe the government was not prepared for the disaster to respond effectively regardless of the political view. However, people supporting Erdogan did not blame the government for the lack of response. The survey suggests that they instead blamed the construction sector instead of the government despite their lack of ability (see Figure A.18 and Table A.12).<sup>26</sup> The fact that people do not blame the government despite the insufficient help is consistent with my results of having no effect on Erdogan’s support.

**Media Control** To investigate whether media control was a key mechanism driving the observed increase in Erdoğan’s vote share, I analyze news coverage patterns from

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<sup>24</sup>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.

<sup>25</sup>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.

<sup>26</sup>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.

major media outlets using data collected from the Google News archive. 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 10 illustrates the distribution of news content across different categories of media sources based on their political alignment. Looking at the volume and themes of news coverage from major outlets provides descriptive evidence of how media narratives were carefully shaped to enhance these effects, which consequently influenced voter behavior in favor of Erdoğan. This suggests that the mechanism of media control operates through two main interrelated strategies: rally-around-the-flag and scapegoating. During crisis, government-friendly media often highlights unity and stability, which portrays the incumbent leader as a strong figure who effectively manages the crisis. This "rally-around-the-flag" effect reinforces loyalty among voters and shifts public attention away from criticisms of the government's performance. In fact, the government supported a campaign called the "One Heart Campaign," which has been the most mentioned news content in government-friendly and center media. The data shows that almost half of the government-friendly channels have provided news about unity and aid that triggered this "One Heart campaign." Although opposition media shows some level of criticism of the government and lack of help, the unifying factors of the disaster equally influenced them. As a result, joint media forces around unity also 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 (Disaster and Emergency Management Presidency).<sup>27</sup>

Second, scapegoating plays a critical role, with media narratives deflecting blame for disaster-related shortcomings onto external factors, such as negligent contractors, thereby shielding the incumbent from accountability. Figure 10 shows that the government-supporting media focused almost equally on blaming the construction sector workers

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<sup>27</sup>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.



(%28 while %29 for unity). This result is consistent with the theoretical literature. In crises, leaders may exploit these dynamics by identifying an external group as the source of problems and reinforcing their own legitimacy and the cohesion of their support base (Hogg and Abrams, 1988). According to Weiner, 1985, people tend to attribute failures to external factors when they serve their interests. In authoritarian regimes, leaders can leverage this tendency by scapegoating contractors or local authorities to divert blame from their own governance failures (Mann, 2012).<sup>28</sup>

## 6. Conclusion

This study shows that natural disasters can act as political catalysts when preceded by competitive authoritarianism, reinforcing rather than challenging the incumbent. The February 2023 earthquake in Turkey provided a unique opportunity to explore the intersection of crisis, voter behavior, and democracy. Voters in these countries can prioritize stability and leadership charisma over performance during crises. This dynamic raises concerns about the erosion of democracy in semi-democratic systems, where crises often serve as opportunities for further autocratic consolidation.

Despite public perceptions of governmental unpreparedness, the incumbent leader, Recep Tayyip Erdoğan, and his party experienced an electoral boost. This main outcome underlines authoritarian leaders' strategic exploitation of crises to consolidate their power. We can say from the descriptive analysis that this was driven by some media control and framing of the narrative. Thus, Government-friendly media promoted unity and blame deflection while shifting voter frustrations towards other entities, such as the construction sector. As a result, the incumbent was shielded from accountability, public discourse was redirected, and dissatisfaction with the disaster response did not translate into electoral punishment.

While the earthquake's immediate aftermath saw increased support for the incumbent,

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<sup>28</sup>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.

I show that this effect is temporary. This result is consistent with the "rally-around-the-flag" literature as the effect vanishes in the next local elections. The findings emphasize the critical role of timing in shaping electoral outcomes during crises. Understanding these patterns is important to ensure accountability and safeguard democracy during crises. Future research can look more closely at the role of social media.

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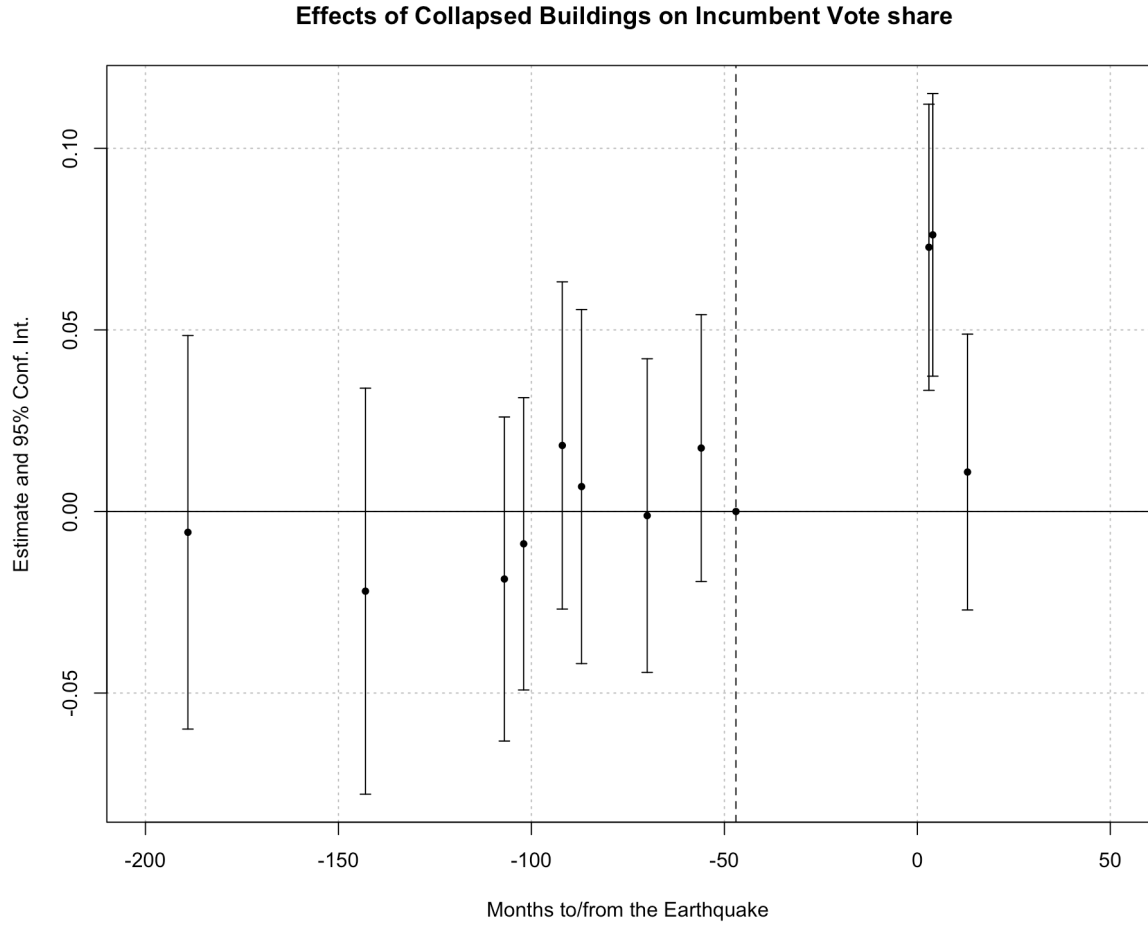
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## Appendix A. Appendix

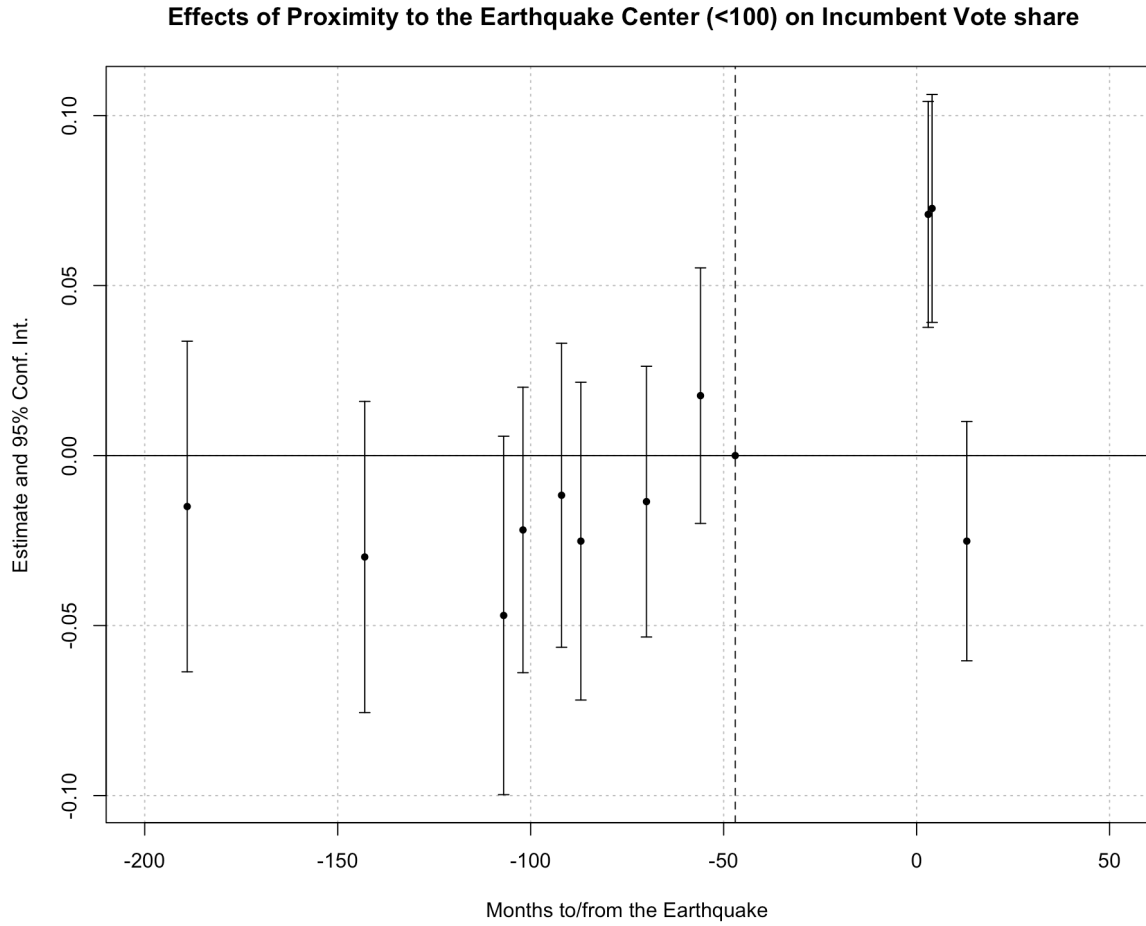


*a*

Figure 1: Effects of Collapsed Buildings on Incumbent Vote Share

<sup>a</sup>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 Erdogan 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.





<sup>a</sup>

Figure 2: Effects of Different Treatment Measures - Proximity to the Center  $\leq 100$

<sup>a</sup>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 Erdogan 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.

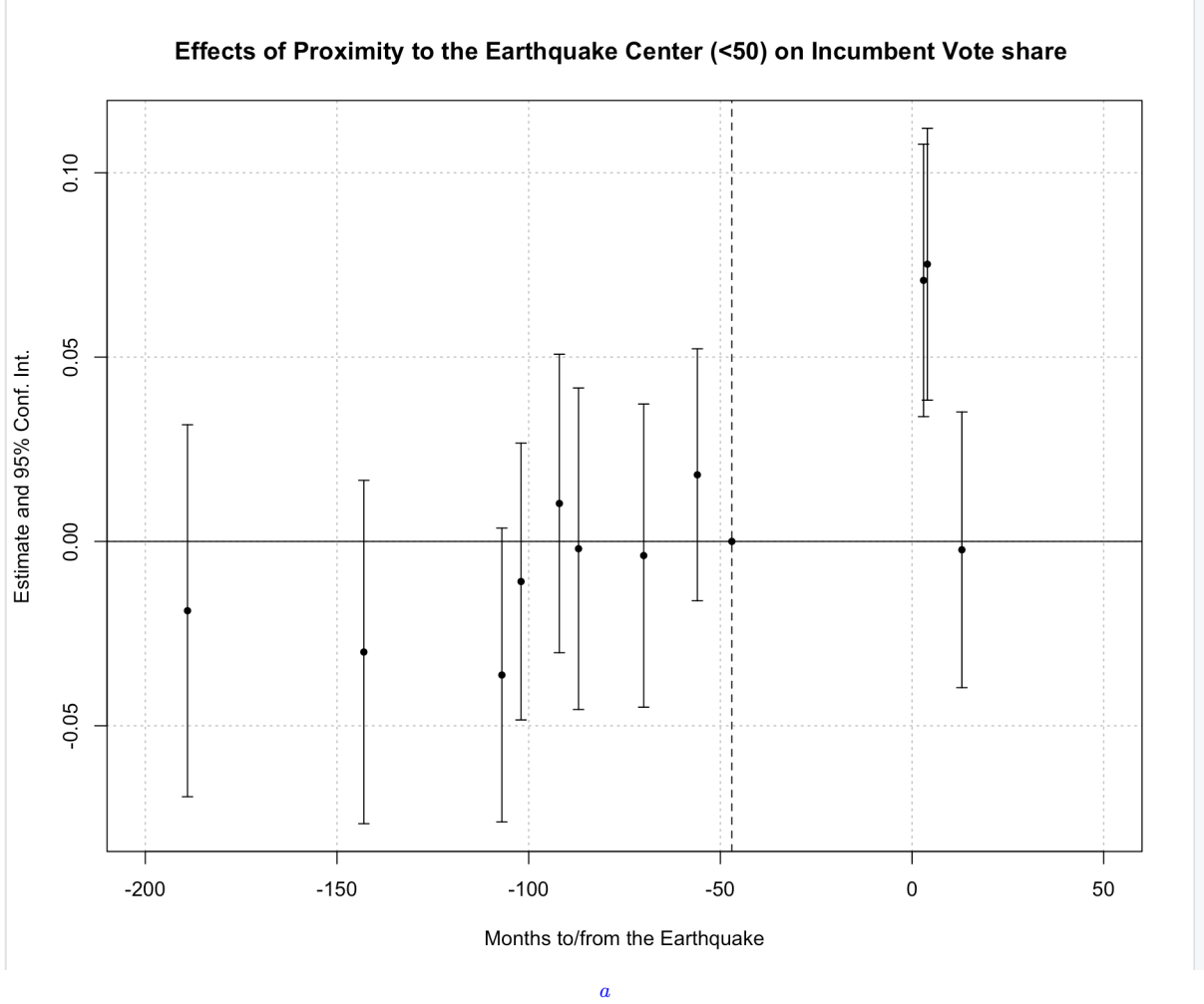
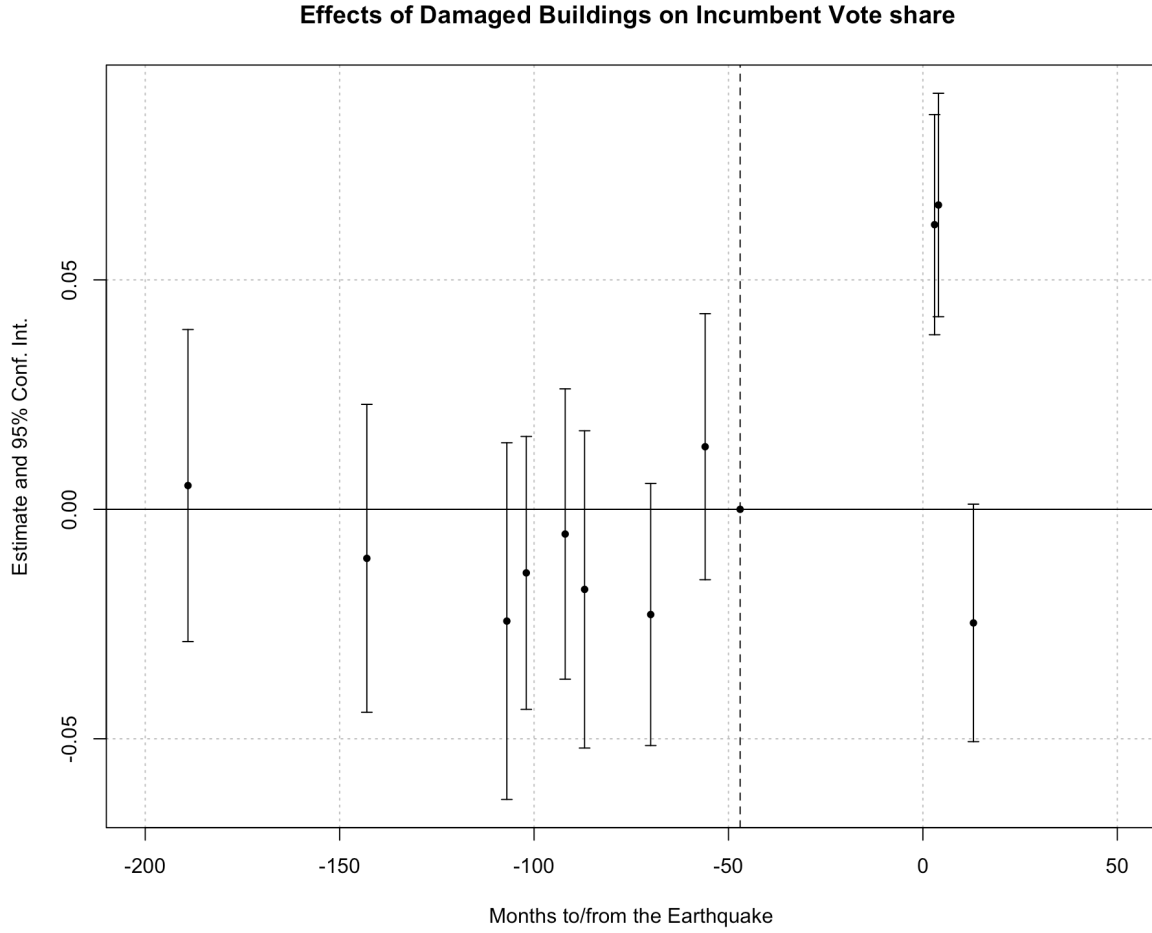


Figure 3: Effects of Different Treatment Measures - Proximity to the Center  $\geq 50$

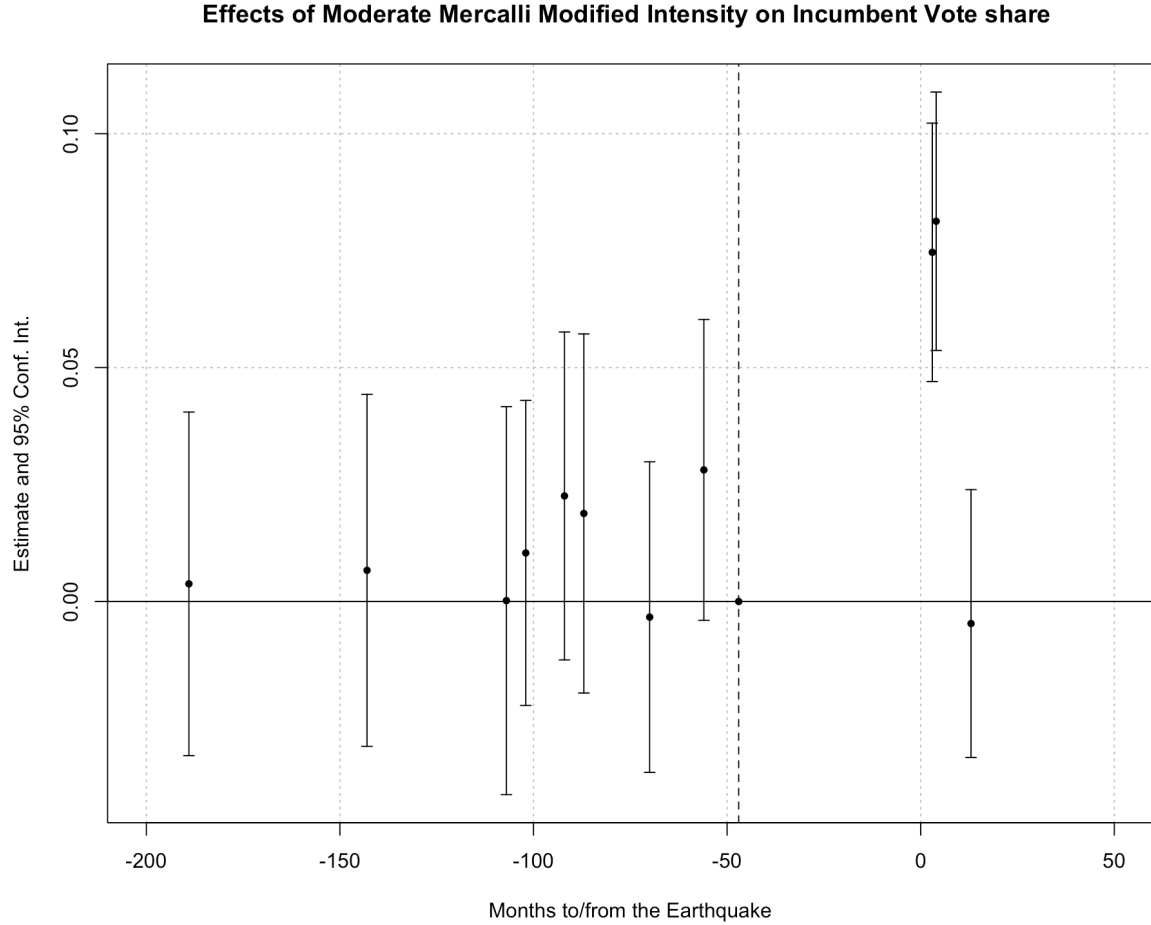
<sup>a</sup>Notes: Data derived from the Supreme Election Council (Yüksek Seçim Kurulu), covering months of the elections between 2007 and 2024. OLS coefficient estimates (and their 95 confidence intervals) are reported, where the omitted category is the last election month of 2019 before the earthquake. Dependent variable is the vote shares of Erdogan 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.



<sup>a</sup>

Figure 4: Effects of Different Treatment Measures - Damaged Buildings

<sup>a</sup>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 Erdogan 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.



*a*

Figure 5: Effects of Different Treatment Measures - Moderate MMI

<sup>a</sup>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 Erdogan 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.

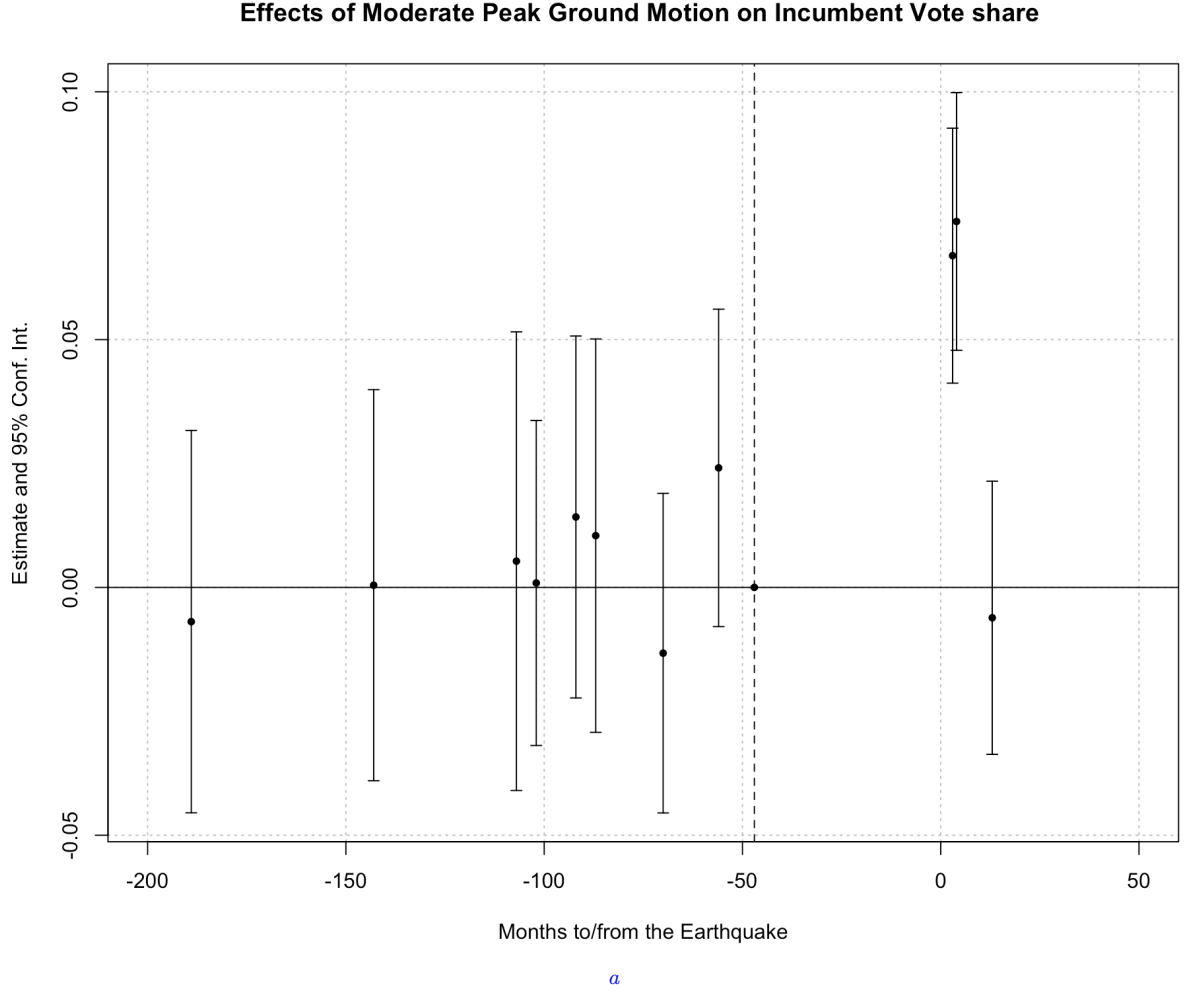


Figure 6: Effects of Different Treatment Measures - Moderate PGA

<sup>a</sup>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 Erdogan 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.

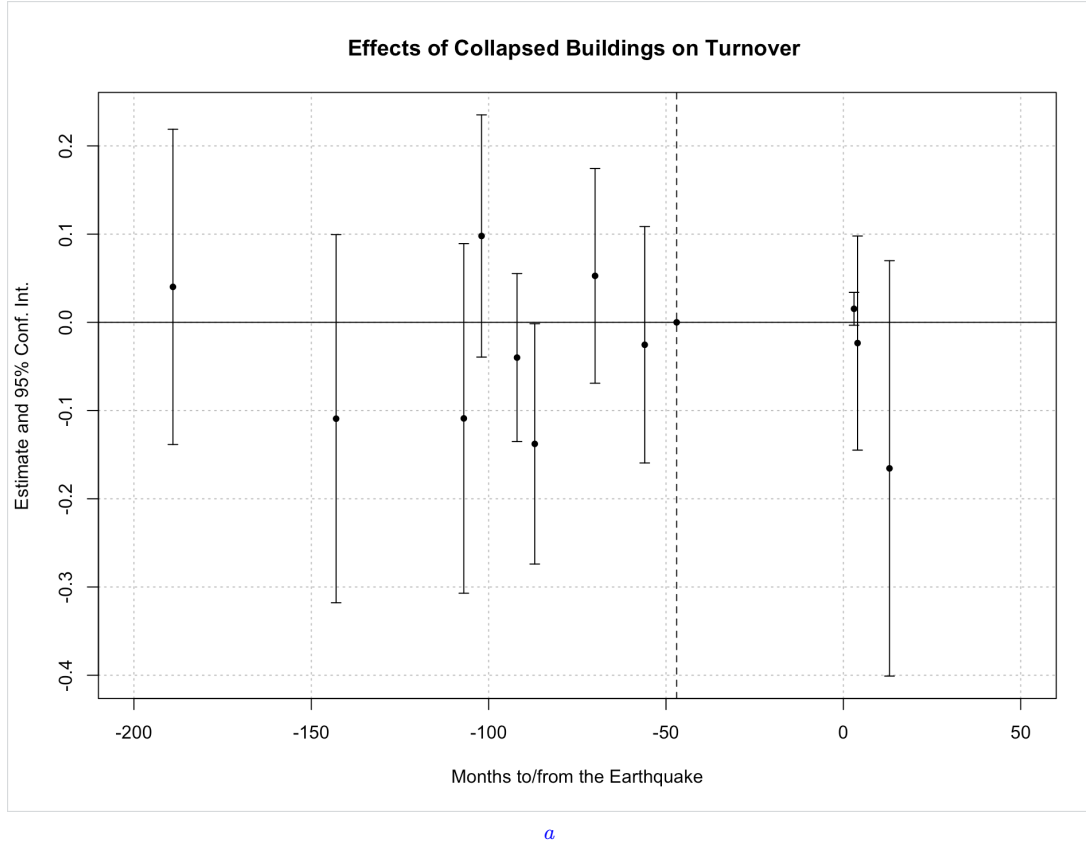


Figure 7: Effects of Collapsed Buildings on Turnover

<sup>a</sup>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.

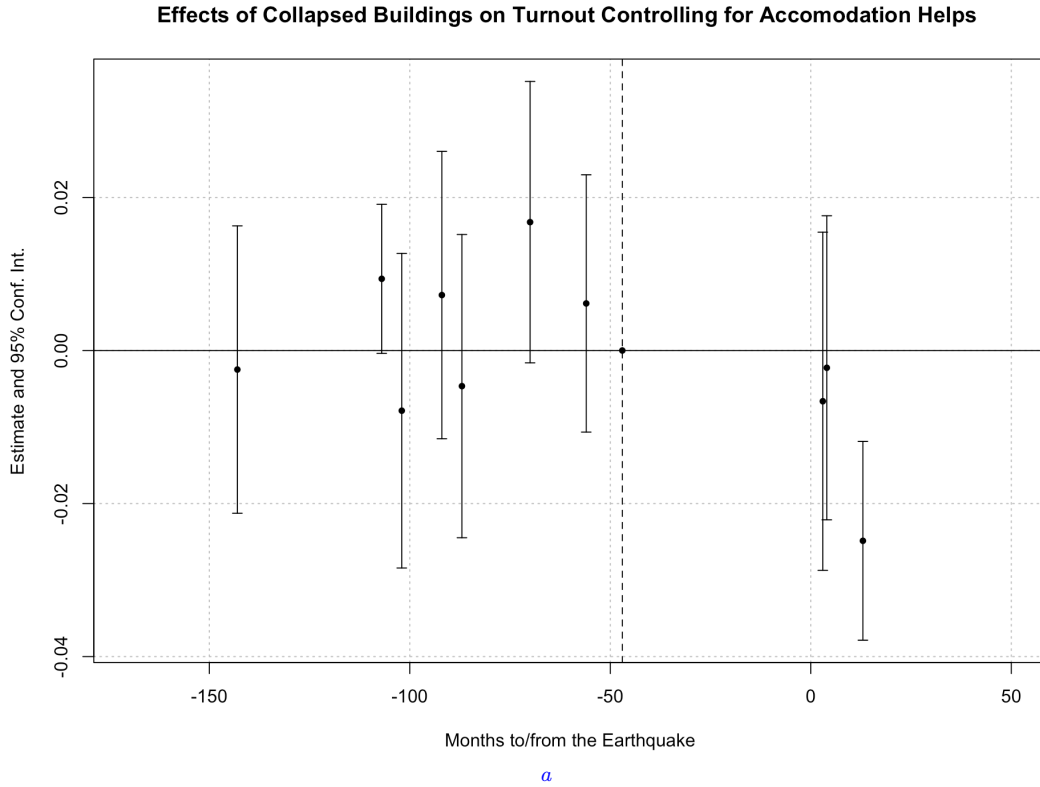


Figure 8: Effects of Collapsed Buildings on Turnout

<sup>a</sup>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.

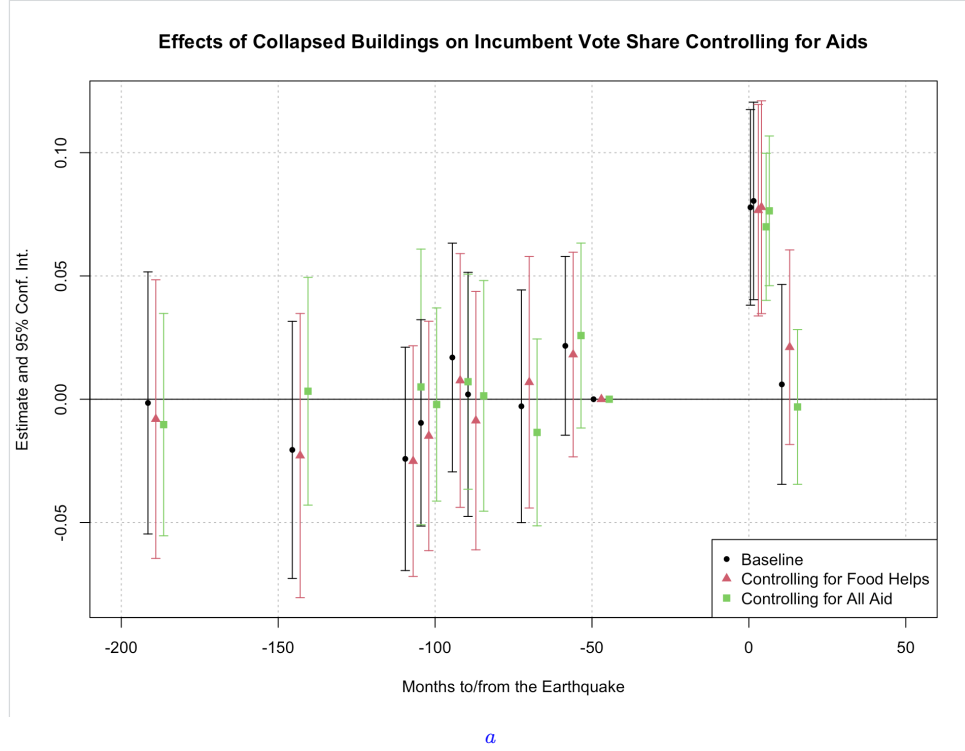
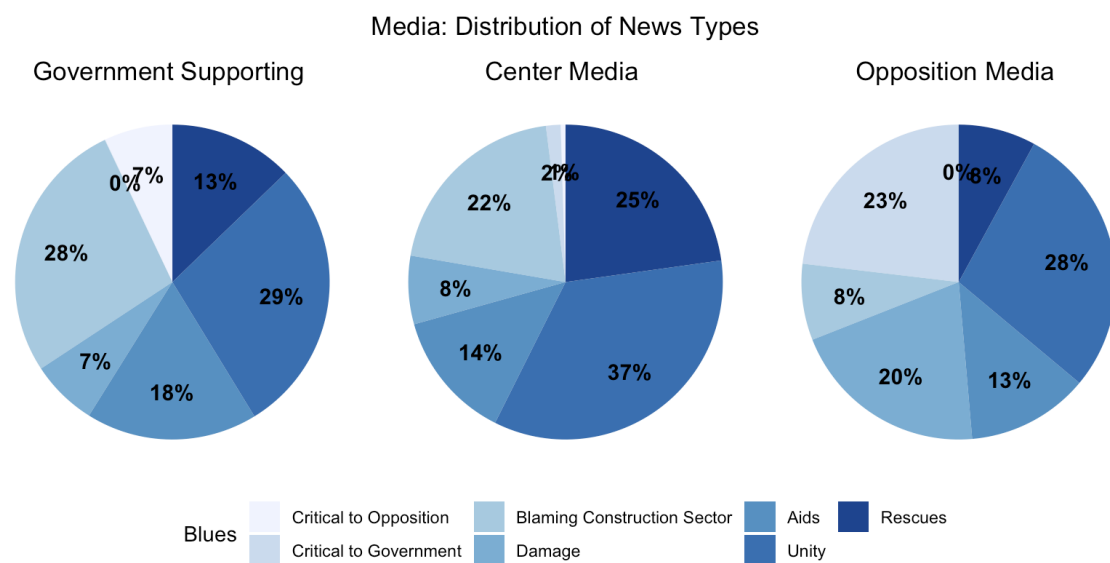


Figure 9

<sup>a</sup>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.





*a*

Figure 10: 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.

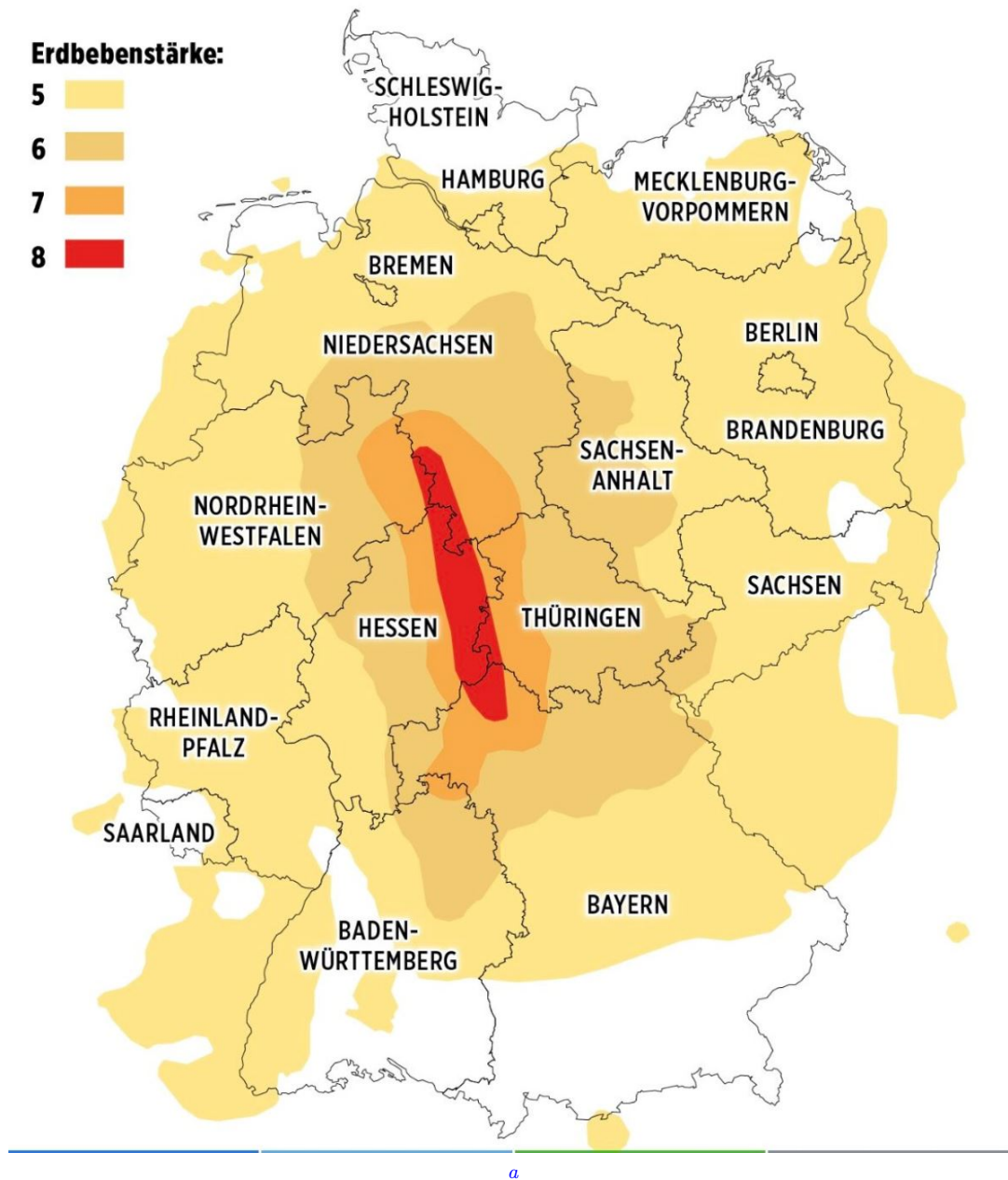
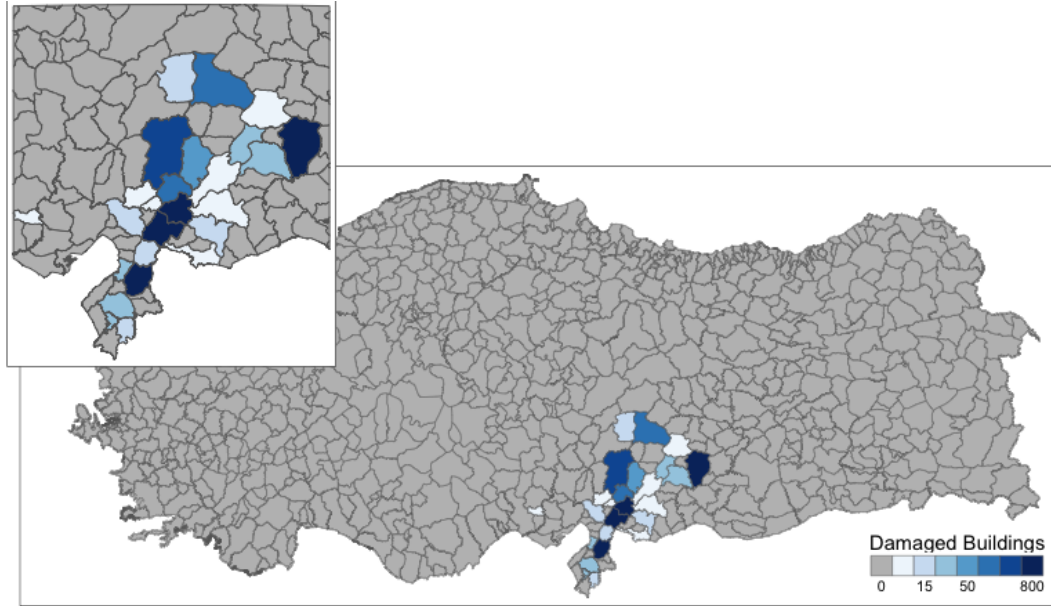


Figure 11: If the Earthquake happened in Germany (Bild)

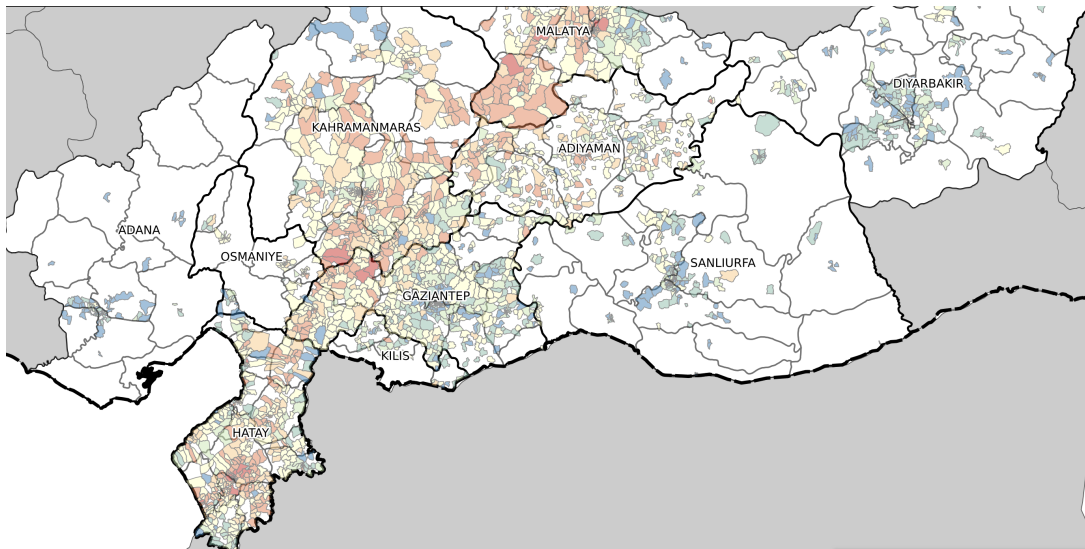
<sup>a</sup>Notes: Visualization published by BILD.de that illustrates the hypothetical impact area of the February 2023 earthquake in Turkey if it had occurred in Germany.



*a*

Figure 12: Collapsed Buildings from Satellite

<sup>a</sup>The map shows collapsed buildings as collected through satellites from Humanitarian Open-StreetMap.



*a*

Figure 13: Damaged Buildings from Global Shelter Cluster

<sup>a</sup>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.

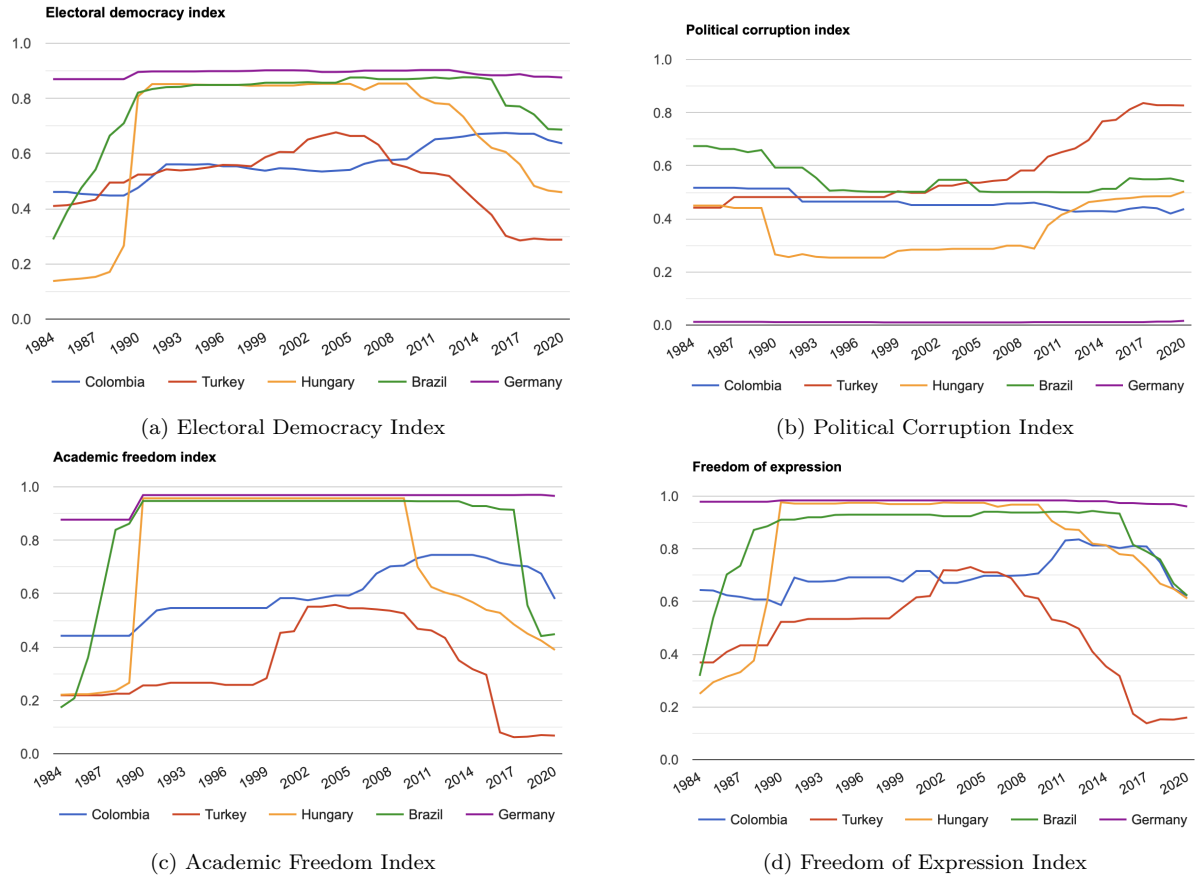
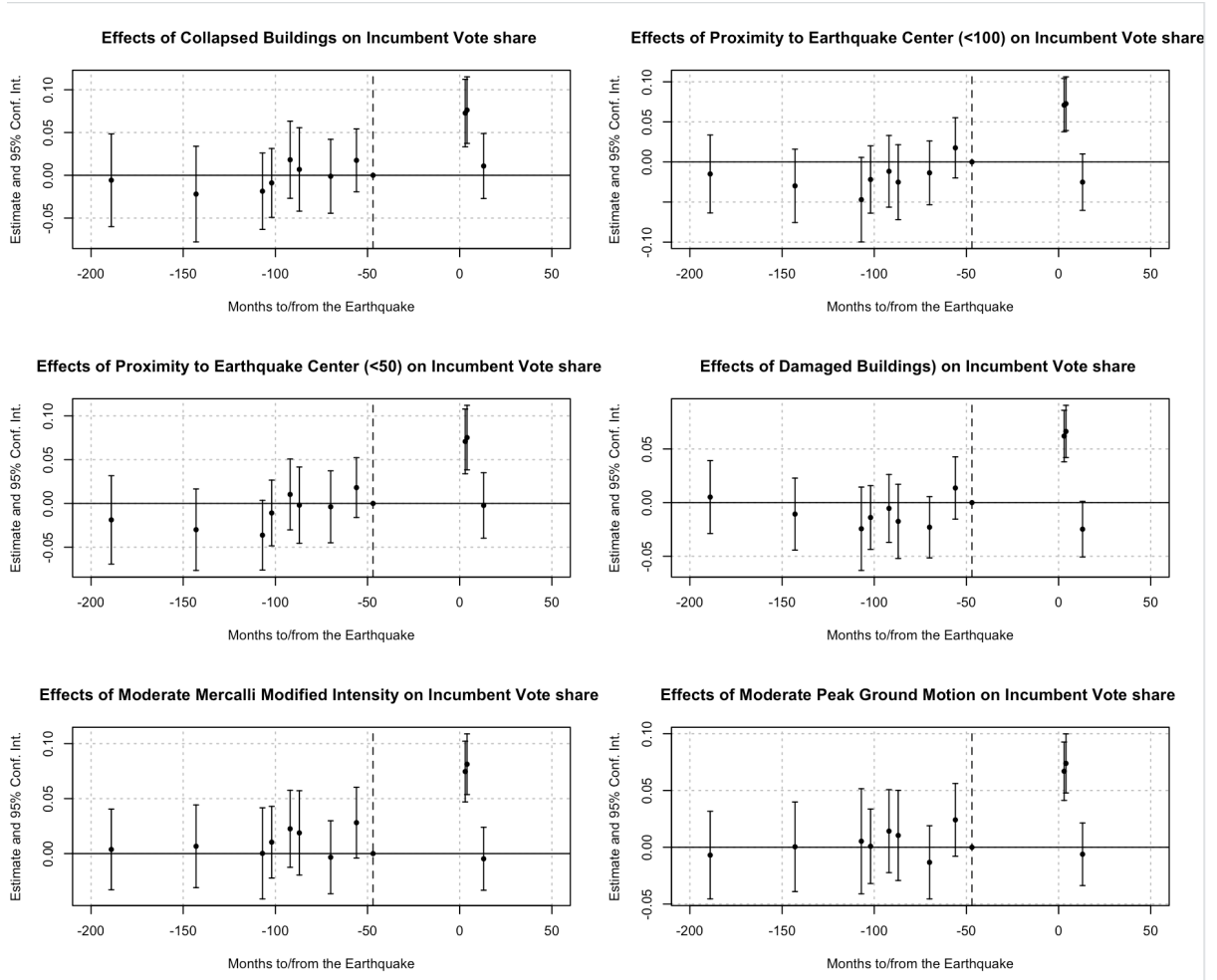


Figure 14: Turkey Democracy Evolution Comparison.<sup>a</sup>

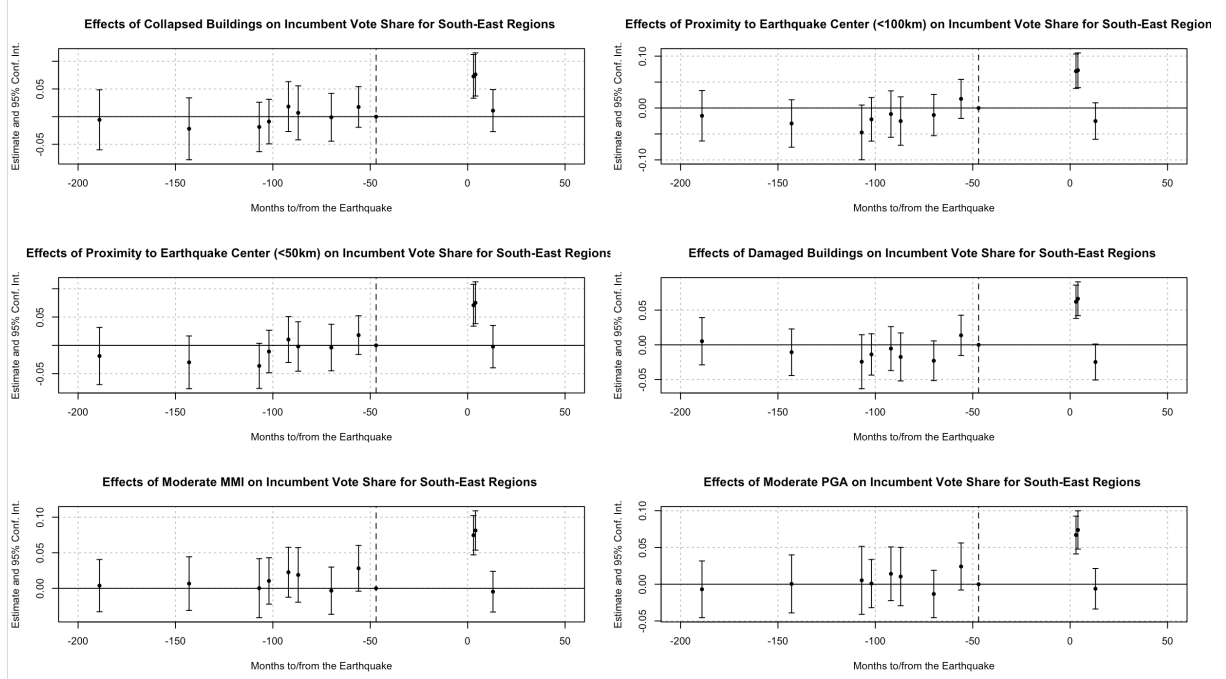
<sup>a</sup>Based on the index by V-Dem (2024). The Electoral Democracy Index captures to which extent political leaders are elected under comprehensive voting rights in free and fair elections, and freedoms of association and expression are guaranteed. Political Corruption Index captures the extent 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).



<sup>a</sup>

Figure A.15: Effects of Different Treatment Measures

<sup>a</sup>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.



<sup>a</sup>

Figure A.16: Effects of Different Measures on Incumbent Vote Share - South East

<sup>a</sup>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.

	<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 <sup>2</sup>	0.625	0.626	0.625	0.627	0.626	0.626
Adjusted R <sup>2</sup>	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 A.1: Simple DID Regression Results

	<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 <sup>2</sup>	0.625	0.625	0.625	0.625	0.625	0.625
Adjusted R <sup>2</sup>	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 sosyoeconomics, food and tent helps, container cities and refugeecamps.

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

Table A.2: 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 <sup>2</sup>	0.626	0.626	0.626	0.626	0.626	0.626
Adjusted R <sup>2</sup>	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 A.3: 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 <sup>2</sup>	0.625	0.625	0.626	0.625	0.626	0.626
Adjusted R <sup>2</sup>	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 A.4: 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 <sup>2</sup>	0.627	0.627	0.627	0.627	0.627	0.627
Adjusted R <sup>2</sup>	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 A.5: 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 <sup>2</sup>	0.626	0.626	0.626	0.626	0.626	0.626
Adjusted R <sup>2</sup>	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 A.6: 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 <sup>2</sup>	0.626	0.626	0.626	0.626	0.626	0.626
Adjusted R <sup>2</sup>	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 A.7: 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 <sup>2</sup>	0.559	0.559	0.559	0.559	0.560	0.561
Adjusted R <sup>2</sup>	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 A.8: 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 <sup>2</sup>	0.564	0.564	0.564	0.564	0.564	0.565
Adjusted R <sup>2</sup>	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 A.9: 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 <sup>2</sup>	0.603	0.605	0.605	0.607	0.604	0.604
Adjusted R <sup>2</sup>	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 A.10: DID Regression Results for South-East Region Only



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
<b>Average</b>	15.4	81.9	2.7

Table A.11: Party-wise Responses to "Was Government Prepared for the Earthquake?"

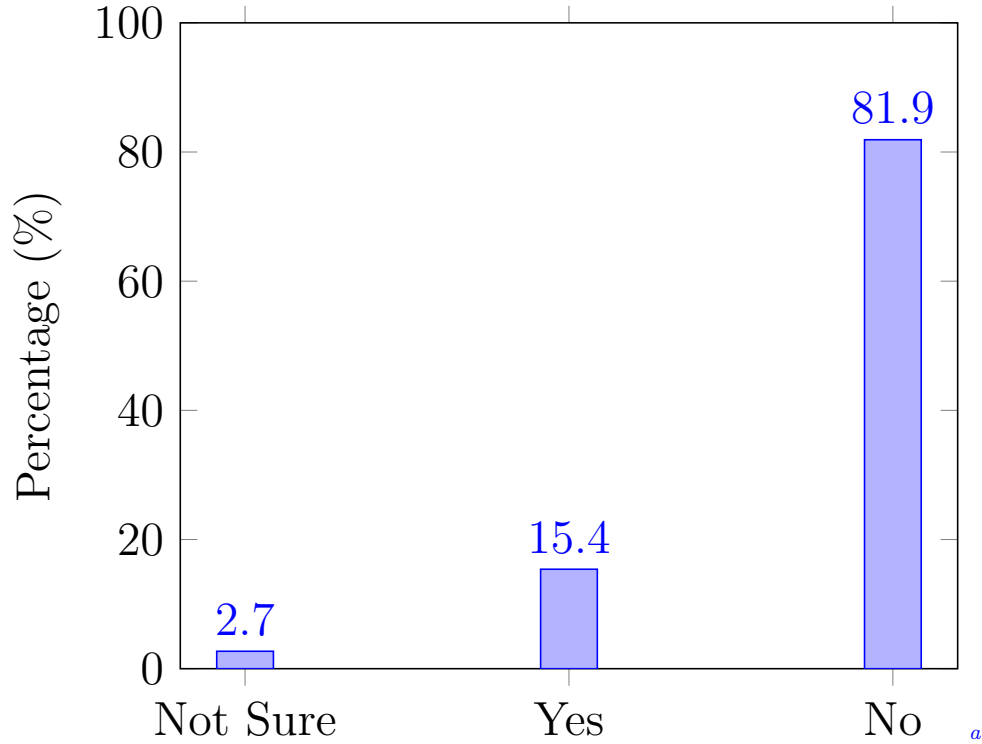


Figure A.17: Was Government Prepared for the earthquake?

<sup>a</sup>Source: Metropoll "Turkey's Pulse," February 2023. This figure together with the Appendix Table A.20 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  $\pm 2.13$  at a 95% confidence level, and the survey was carried out using CATI (Computer-Assisted Telephone Interviewing). Margin of Error by Party: General:  $\pm 2.13$ , AKP:  $\pm 3.45$ , CHP:  $\pm 4.73$ , MHP:  $\pm 6.76$ , HDP:  $\pm 6.58$ , IYI Party:  $\pm 7.13$

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 A.12: Voting Preferences If the Election Was This Week

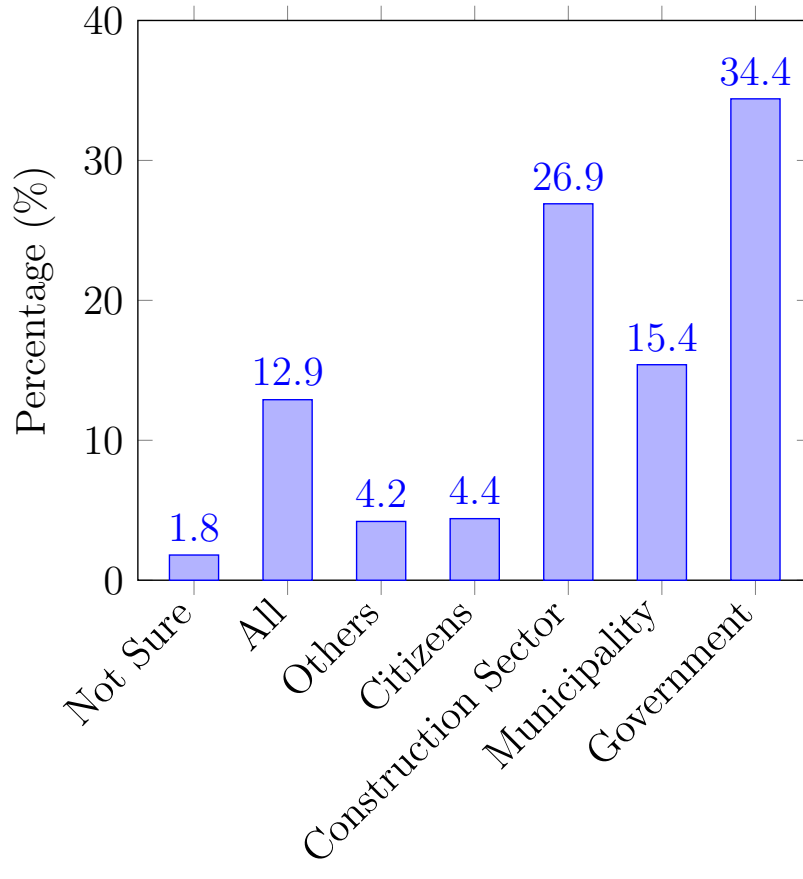
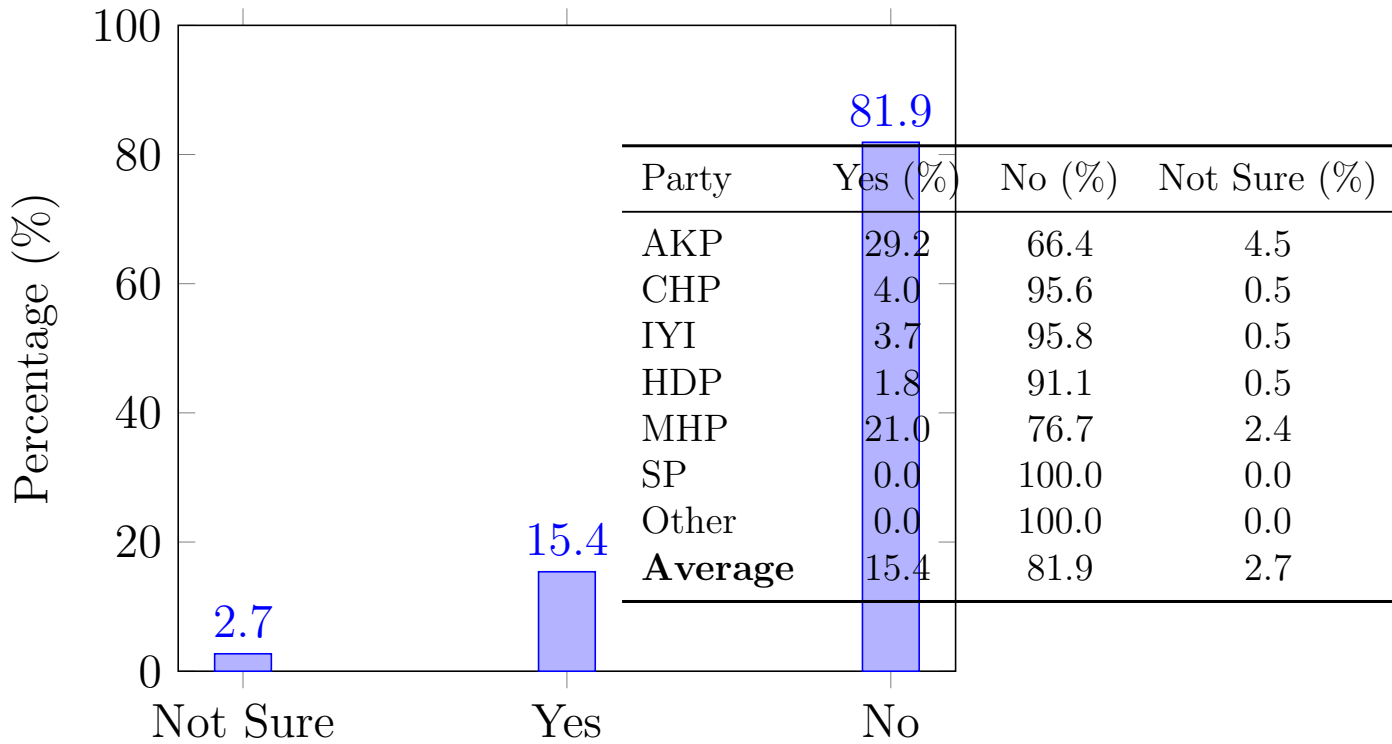


Figure A.18: Who is Responsible for the Disaster?

<sup>a</sup>Source: Metropoll "Turkey's Pulse," February 2023. This figure together with the Appendix Table A.12 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  $\pm 2.13$  at a 95% confidence level, and the survey was carried out using CATI (Computer-Assisted Telephone Interviewing).

Margin of Error by Party:

General:  $\pm 2.13$  AK Party:  $\pm 3.45$  CHP:  $\pm 4.73$  MHP:  $\pm 6.76$  HDP:  $\pm 6.58$  IYI Party:  $\pm 7.13$



Note: Source: Metropoll "Turkey's Pulse," February 2023.<sup>a</sup>

Figure A.20: Party-wise Responses to "Was Government Prepared for the Earthquake?"

<sup>a</sup>This figure together with Appendix Table A.20 show the beliefs of people after the earthquake about the government's preparedness for each party's 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 between February 23–28, 2023. The margin of error is within  $\pm 2.13$  at a 95% confidence level. The survey was carried out using CATI (Computer-Assisted Telephone Interviewing). Margin of Error by Party: General:  $\pm 2.13$ , AKP:  $\pm 3.45$ , CHP:  $\pm 4.73$ , MHP:  $\pm 6.76$ , HDP:  $\pm 6.58$ , IYI Party:  $\pm 7.13$ .