When War Crowds Out the Pandemic: Health and Political Effects of Media Shifts *

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Abstract

This paper explores the unintended effects of a sudden media shift from pandemic health-crisis coverage to the Russo-Ukrainian war. Using a dynamic Difference-in-Differences, we first examine how increased media focus on the war impacted contagion across Italian municipalities, with proximity to U.S. military bases serving as our treatment and proxy for heightened fear. Our findings reveal a temporary spike in infections, particularly in areas closer to bases, driven by increased mobility and a rise in "bunker" Google searches. Secondly, we show that politicians, especially from right-wing parties, gained electoral advantages in subsequent unexpected elections by leveraging war-related fears at the onset of the conflict. Voters in districts near bases responded more to the emotional tone of war-related messaging than its volume, underscoring fear's influence on political outcomes. In contrast, left-wing parties benefited from the war's media prominence, as their supporters responded more to issue salience than to emotional tone.

Keywords— Media attention, Issue salience, Health behavior, Electoral outcomes, Political communication, COVID-19, Russo-Ukrainian War, Fear of war. *JEL Numbers*— D01, H8, D91, I12, D74, I31.

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1 Introduction

The relevance of political issues can rapidly shift in response to changing circumstances (Aytaç and Çarkoğlu, 2021; Bordalo et al., 2020), and shape socio-economic and political decisions (DellaVigna and Gentzkow, 2010; Durante and Zhuravskaya, 2018; Jetter, 2017). This paper provides causal evidence on how media attention can shape citizens' behavior, specifically focusing on the consequences of a health crisis suddenly coming out of the spotlight.

There is no doubt that the COVID-19 pandemic has dominated public discourse since the first case emerged, prompting citizens to reassess their priorities and perceptions of political issues (Casero-Ripollés, 2020). Yet, as for many other salient issues of the past, also COVID-19 lost centrality. This occurred rather suddenly, as soon as another unexpected and threatening event hit the press: the Russo-Ukrainian war. Since the first day of the war and for many weeks afterward, all media sources extensively prioritized the war over the pandemic.

How does a sudden shift in media attention affect both contagion dynamics and political preferences? To our knowledge, this is the first study to offer an empirical analysis of this issue. We focus on the Italian context, which presents two distinctive elements.

First, Italy experienced a notable contagion dynamic at the onset of the Russia-Ukraine conflict. In February 2022, as COVID-19 cases were steadily declining, the trend reversed following the surge in media coverage of the war. This shift in public attention, from domestic health concerns (COVID-19) to international geopolitical events, suggests a potential link between media focus and public health behavior. Second, Italy held unanticipated early political elections just seven months after the invasion of Ukraine. This unique timing enables us to examine how politicians may have electorally benefited from war-related messaging during the early stages of the conflict, despite not anticipating upcoming elections at the time.

By examining both the contagion effects and the electoral consequences of the war suddenly coming to the forefront, we tackle the broader question of whether and how a sudden, media-driven shift in public attention can significantly influence citizens' behavior. In the first part of the paper, we provide causal estimates of the effects on health behaviors of the sudden shift in media attention from pandemic to war. We carry out a differences-in-differences (DID) event study in the specific context of the Russo-Ukrainian conflict that occurred during the COVID-19 pandemic, and examine how the trend in contagion across Italian municipalities was affected by the (news of the) war. We construct a counterfactual trend that proxies for how contagion would have evolved had the war never happened, relying on an exogenous geographical feature of Italian municipalities: proximity to the closest U.S. military bases. We posit that the closer citizens are to a U.S. military base, the higher the perceived threat and/or salience of the war. We use this measure to build an index of indirect war exposure, which is plausibly exogenous both to the war itself and to the spread of the coronavirus. We then compare the trend in contagion between more vs. less exposed municipalities (between-difference) in the weeks before and after the outbreak of the war (within-difference).

Results show positive treatment effects of the sudden coverage of the war on the spread of contagion, with a larger magnitude reached in the second week after the beginning of the war. During the first week after the event, municipalities closer to the U.S. bases observed a higher (near 10%) increase in new COVID-19 cases than those farther away. This effect is even more pronounced (17%) during the second week after the event. This effect, however, seems to be temporary, as contagion trends across municipalities at varying distances from U.S. bases begin to converge by the third week. This convergence likely reflects a waning perception of global conflict risk over time, as seen in media discussions highlighting countries' reluctance to become directly involved in the conflict.

Moreover, we address critiques concerning the comparability of treatment and control units. U.S. military bases, predominantly located along coastlines, might lead to confounding factors when comparing nearby and distant municipalities. To mitigate this, we refine our approach by comparing municipalities with U.S. bases to their closer neighboring municipalities, ensuring greater similarity and reducing potential bias, as confirmed by balance tests. Again similar results are obtained. Additionally, we run a placebo test using the distance from top-rated beaches on TripAdvisor to examine if coastal proximity influences our results. The findings show no significant effects, reinforcing our main argument that the observed impacts are attributable to the presence of U.S. bases rather than other (unobserved) geo-economic factors.

Furthermore, our estimates show that treatment effects are more pronounced among young and young adult citizens. These groups are typically more exposed to social media, where the shift in issue salience was particularly noticeable at the beginning of the conflict, in contrast to more traditional media outlets. Consistent with this, our findings reveal that treatment effects are driven by municipalities where most households have better access to broadband services. These results underscore the significant role of social media in shaping public perception, which can potentially translate into shallow behaviors.

In addressing the underlying mechanisms, our analysis of Google mobility and search data unveils a pronounced surge in mobility patterns and searches associated with concerns over global conflict within the treatment group. This finding suggests that the anticipation (and fear) of a potential new international conflict, juxtaposed with a waning emphasis on the prevailing disease, is the main driver of the observed, temporary increase in contagion.

The second part of this paper hinges on the analysis of the political consequences of shifts in media attention, particularly in the context of the 2022 Italian national elections. Held a few months after the outbreak of the Russo-Ukrainian war, these elections saw significant changes in the political landscape, with the right-wing coalition, led by Giorgia Meloni, securing a majority of votes.

To estimate the effects of political communication during the conflict on voter preferences in unexpected elections that occurred months later, we apply the same identification strategy used in our analysis of contagion dynamics. We examine how the volume and emotional tone of war-related tweets posted by political candidates soon after the Russian invasion of Ukraine influenced their electoral outcomes. This analysis is particularly relevant in electoral districts where the salience of war exceeded that of COVID-19, i.e., those closest to U.S. military bases, where—as shown in the first part of the paper—the perceived threat of war was higher. Notably, and as expected given the unexpected nature of the national elections, additional empirical findings confirm the hypothesis that candidates' volume and

sentiment regarding the war did not systematically vary based on their electoral districts' proximity to U.S. military bases. This suggests that their communication strategies were not strategically tailored to geographic location.

Our results indicate that proximity to U.S. military bases significantly moderated the impact of war-related political communication. Voters in electoral districts closer to the bases—where the perceived threat of war was higher—were more responsive to the emotional content of political messaging than to the overall volume of war-related discourse. Notably, this effect varied by political leaning. Right-wing parties, using fear-based messaging, capitalized on the heightened sense of threat in areas closer to U.S. military bases, gaining electoral advantages in subsequent elections. In contrast, left-wing parties benefited more from the overall salience of the war, as their voters were swayed by the prominence of war-related issues in the media, regardless of the emotional tone. These findings highlight the critical role of fear in shaping outcomes for right-wing parties, while left-wing parties leveraged the broader visibility of the conflict.

Overall, our findings highlight how issue salience influences citizen behavior, resulting in significant health costs for society. The shift in political discourse from domestic concerns like COVID-19 to foreign policy issues, such as the unexpected war, played a temporary yet crucial role in the rebound of COVID-19 cases. This exogenous shock diminished the prominence of the pandemic while heightening fears of global conflict, leading citizens to become less vigilant about COVID-19 and reduce adherence to health-protective behaviors. Simultaneously, this shift in public attention also impacted political preferences, favoring politicians whose messaging resonated with the dominant public sentiment. Thus, media shifts affect not only individual health behaviors but also have broader electoral implications, highlighting the intersection between public sentiment and political strategy during times of overlapping crises.

Related literature This paper contributes to the growing literature on media attention in three ways. First, while existing studies have extensively explored the political consequences of media shifts, our paper uniquely focuses on the impact of a singular, unexpected event—the Russia-Ukraine war—rather than a series of ongoing issues or gradual media trends. Previous research has examined how changes in media coverage influence voter behavior, particularly during election campaigns (Strömberg, 2004a; Gentzkow, 2006; Snyder Jr and Strömberg, 2010; Drago et al., 2014) or in response to shifts in the media environment caused by new media technologies (George and Waldfogel, 2008; Campante et al., 2018; Gavazza et al., 2019). For example, Caprini (2023) investigates the sudden reduction in political coverage caused by the resignation of Pope Benedict XVI, showing how this disruption negatively affected Berlusconi's vote share in the 2013 Italian election. Similarly, Durante et al. (2019) document the long-term effects of early exposure to entertainment television in Italy, showing that individuals with access to commercial TV were more likely to support Berlusconi's party over multiple elections. In contrast, our study isolates the media shift to an unexpected international conflict, providing novel evidence on how such a sudden reallocation of media attention can reshape broader political preferences. By focusing on a single, highly salient and unexpected event, we are able to isolate the immediate effect of this media shift within an exogenous context, thereby minimizing the potential confounding effects associated with ongoing issues or gradual media trends.

Second, we contribute to the literature by examining the effects of media attention not only on political behavior but also on public health behavior. While the political economy literature has extensively studied the role of media in shaping political outcomes (DellaVigna and Kaplan, 2007; Adena et al., 2015; Barone et al., 2015; Miner, 2015; Strömberg, 2004b; Drago et al., 2014; Gentzkow et al., 2011), and how media access affects public good allocation and political participation (Gavazza et al., 2019; Campante et al., 2018), few studies have addressed how media shifts can influence behaviors related to public health–an area that remains underexplored despite its importance in times of crisis. Expanding upon prior studies that show how media campaigns can be effective in changing healthrisk behaviors (Wakefield et al., 2010), our paper provides causal evidence on how a sudden reallocation of media attention—away from a public health crisis, such as the COVID-19 pandemic, to an international conflict—affects adherence to healthprotective behaviors.

Finally, our study adds to the understanding of how emotional content in me-

dia coverage, particularly fear, amplifies the effects of media shifts, distinct from the mere volume of coverage. Prior work has largely focused on the role of media salience in shaping political preferences, often conflating the quantity of media coverage with its effects (Gentzkow and Shapiro, 2010; Larcinese et al., 2011; Sobbrio, 2014). Additionally, recent studies have highlighted how digital platforms and social media, through algorithmic ranking systems, contribute to the spread of emotionally charged content, intensifying polarization and influencing public perceptions (Bakshy et al., 2015; Guess et al., 2023; Flaxman et al., 2016; Enikolopov et al., 2020; Allcott et al., 2020). Our paper disentangles the role of emotional tone, showing that fear-based narratives—especially in the context of social media—can act as powerful amplifiers of public behavior, influencing both political preferences and health-related decisions. This contributes to the broader literature on the interaction between emotions and media effects, particularly in environments where digital platforms play an increasingly prominent role in shaping public discourse.

Roadmap The remainder of the article is organized as follows: In the second section, we describe the data used in the empirical analyses and show trends in issue salience on the Twitter platform. The third section investigates the impact of shifting media attention from the pandemic to the war on contagion dynamics. In the fourth section, we discuss the potential mechanisms underlying these effects. Section five explores the electoral gains associated with politicians' messaging volume and tone during the early stages of the conflict. Finally, the sixth section presents our concluding remarks.

2 Data and trends in issue salience

2.1 Data on COVID-19 cases and distance to U.S. bases

The trend in the number of COVID-19 cases at the municipal level in Italy is obtained from the "Istituto Superiore della Sanità" (ISS). The records span from February 2020 to May 2022 and include daily counts of confirmed COVID-19 cases at the municipality level in Italy¹.

The second dataset is the municipal distance to U.S. bases². Since there is no official list of U.S. bases in Italy, we relied on an article³ published in a reputable Italian weekly journal (L'Espresso) to obtain a list of U.S. bases in Italy. This article categorizes U.S. bases in Italy into nine types: NATO, Army, Navy, Setaf, Usaf, Shooting Ranges, Depots, Radar, and Other bases. We excluded Radar stations and depot bases for our analysis and focused on the distance to all other bases. This is because we assume that the population may not be aware of the exact locations of the radars, which are often represented by antennas, and the depot bases, which are typically underground. Figure A.1 depicts the spatial distribution of all U.S. bases in Italy (including radar stations and depots) and the spatial distribution of those included in the analysis. Notably, the positions of the radar bases and depots do not differ significantly from those of the other bases. We then use Google Maps to extract the exact locations of these bases and calculate the distance between each municipality and the nearest U.S. base. Figure 1 shows how we computed the shortest distance between Italian municipalities (centroids) and the nearest U.S. base. Lastly, Figure 2 plots the spatial distribution of the treatment based on proximity to U.S. bases. This dataset provides valuable information on the proximity of each municipality to U.S. bases. It enables us to examine the relationship between the presence of U.S. bases and the heightened media coverage of war-related issues.

2.2 Salience of pandemic vs. salience of war

To analyze trends in issue salience, we collected Italian Twitter data, using the Twitter * API for Academic Research⁴. We used a query of COVID-19 and Ukraine and Russia war-related terms to retrieve both the content of each tweet and pub-

¹The institute uses the label "< 4" for counts within the range of "less than 4 but greater than 0", without specifying the exact number of cases. To tackle this ambiguity, we create three distinct variables by interpreting instances originally marked as "< 4" as 1, 3, or as a randomly selected value from a uniform distribution between 1-3.

²See Section A.1 in Appendix for further details on the U.S. presence in Italy.

³See https://espresso.repubblica.it/attualita/cronaca/2012/05/02/news/l-elenco-delle-servitu-militari-1.42767

⁴See https://developer.twitter.com/en/products/twitter-api/academic-research.

Note that we pulled the total sample of tweets before Twitter changed its policy for research, removing the possibility of extracting tweets for academic studies.

Figure 1: Minimum Distance from U.S. bases

(a) U.S. bases - Italian Centroids

(b) Minimum Distance







licly available information about the respective tweet authors (Table A.1)⁵. Figure 3 shows the daily trend of war-related and COVID-related tweets (including retweets) in our sample of tweets.

In Figure 3 we plot three distinct curves. The red curve shows the total number of tweets (and retweets) related to the war, the blue curve represents the total number of tweets (and retweets) related to COVID-19, and the blue dotted curve plots the

⁵Our analysis covers the period from 1 January 2022 to 14 May 2022, which includes more than five weeks before and after Russia's invasion of Ukraine (i.e., the event we exploit in our analysis). Each tweet retrieved includes plain text, along with unique identification details such as tweet ID, creation date, and engagement metrics (replies, likes, mentions, retweets, hashtags, and multimedia content). If available, additional information about tweet-specific location and user details like user ID, Twitter handle, display name, bio, verification status, Twitter join date, and specific User metrics (i.e., number of friends, followers, and tweets posted) were also collected.

Figure 3: Number of War-related and Covid-related Tweets and Retweets 🍤



forecast of tweets (and retweets) related to COVID-19 with an ARMA (2,2)⁶ following the exogenous event of the war.

These descriptive results offer valuable insights into the historical context. First, the war-related tweets outperformed the trend of COVID-related tweets only two days before the outbreak of war, on 24 February 2022. This fact suggests a lack of anticipatory effect in the public debate, indicating that the salience of war as an issue only becomes significant with the sudden onset of war.

Secondly, if we analyze the difference between the curve representing the actual tweets on COVID-19 and those predicted by the ARMA(2,2) model, we observe that from the day the relevance shifts to the war, the trajectory of COVID-19-related tweets substantially diverges from the predicted pattern. This suggests that the onset of the war not only leads to an escalation in the significance of war-related content but also results in an automatic decrease in the relevance of COVID-19 tweets.

⁶The selection of ARMA (2,2) for forecast value of COVID-19-related tweets, underscores the use of a predictive modeling approach involving a cycle to choose autoregressive (AR) and moving average (MA) values. This selection process is guided by minimizing the Bayesian Information Criterion (BIC). Further details on this modeling procedure and the related results can be provided upon request.

2.3 Metrics of salience and emotional tone in politicians' tweets

To evaluate politicians' sentiments on war-related issues, we analyze their statements on social media, particularly Twitter. Focusing on the same tweet sample from Section 2.2, we restrict our analysis to tweets from politicians⁷ who later became candidates in the September 2022 national elections⁹.

First, we classified the tweets into positive, negative, or neutral categories. Next, we conducted a more detailed analysis of the specific emotions conveyed in the tweets. For this purpose, we used the "FEEL-IT: Emotion and Sentiment Classification for the Italian Language" model developed by Bianchi et al. (2021), which assigns each tweet one of the following emotions: anger, fear, joy, or sadness.

We focus on two key aspects of political communications on Twitter: salience and emotional tone. Salience refers to the relative prominence of the war in politicians' discourse compared to the pandemic. We quantify this by calculating the proportion of tweets focused on the war relative to those discussing COVID-19. This share provides insight into how much attention the war received over the pandemic in the political debate. A higher salience score indicates that the war dominated political messaging compared to COVID-19, suggesting that candidates were prioritizing the war in their narratives.

Salience =
$$\frac{\text{\# of War Tweets}}{\text{\# of War Tweets} + \# \text{ of COVID-19 Tweets}}$$

Emotional tone, on the other hand, refers to the specific emotions conveyed in warrelated tweets. By classifying tweets into emotional categories—such as fear, anger, joy, or sadness—we measure the intensity and type of emotions linked to the war. The tone of these emotions is crucial because it can shape public perception and potentially influence voter behavior. For instance, a high prevalence of fear or anger in

⁷We retrieved the names of all candidates for each district in both the uninominal and proportional systems from the Italian Ministry of the Interior's website. Using Google, we then scraped the Twitter account names (preceded by @) for each politician. However, since the Twitter \checkmark API for Academic Research only provides user IDs (numeric codes) rather than the visible account names, we used the website twiteridfinder.com⁸ to automate the retrieval of each candidate's numeric user ID and corresponding profile description, which helped verify the accuracy of the profiles of the identified politicians.

⁹See Section A.1 in Appendix for further details on the Italian electoral system and the context of the 2022 national elections.

war-related tweets might mobilize voters in areas where war anxiety is heightened, such as near military bases, while joy or sadness may trigger different responses.

Emotional Tone_j =
$$\frac{\text{\# of War Tweets (for emotion } j)}{\text{\# of War Tweets + \# of COVID-19 Tweets}}$$

While salience captures the amount of attention given to the war relative to COVID-19, emotional tone reveals the underlying emotional content of this attention, providing a nuanced understanding of how political rhetoric might sway voter preferences in municipalities with higher war concerns.

3 Impact of media shifts on disease transmission

3.1 Econometric strategy

First, we rely on a differences-in-differences event-study framework to assess the influence of the decreased prominence of the pandemic due to the Ukraine-Russia conflict on the count of COVID-19 cases in Italian municipalities. This methodology entails a comparison of fluctuations in the count of new COVID-19 cases before and after the onset of the conflict in municipalities categorized as "treated" and those categorized as "untreated" or "less treated". To determine the treatment status at the municipality level, we consider the distance from a U.S. military base, specifically whether it falls below or above the median distance. This treatment indicator serves as a proxy for the salience of the conflict and/or the perceived threat associated with it. Our estimating equation is as follows:

New Cases_{*m,w*} =
$$\beta_0 + \beta_1 \cdot \operatorname{Treat}_m \cdot \gamma_w + \delta_m + \gamma_w + \theta_m + \gamma_w \cdot \theta_m + \epsilon_{m,w}$$
 (1)

We estimate this equation using a municipality-level fixed effects regression model, with standard errors clustered at the municipal level. The dependent variable is the number of new COVID-19 cases in municipality *m* in week *w*. We use the inverse hyperbolic sine (IHS) transformation for the outcome variable due to its logarithmic characteristics (similar to those of a standard natural logarithm) (Burbidge et al., 1988; MacKinnon and Magee, 1990). Its unique feature of retaining zero and

negative values is essential to avoid biased estimates in our analysis. The treatment variable, i.e., the minimum distance from a U.S. base, is an indicator variable that takes a value of one if the municipality's distance from the U.S. base is below the sample median. We include municipality fixed characteristics (δ) and control for region (θ), week (γ), and region-by-week ($\gamma_w \cdot \theta_m$) fixed effects.

3.2 Results

Figure 4 plots the marginal effects based on estimates of eq. 1. Results show that municipalities that are closer (less distant) to U.S. bases experienced a surge in COVID-19 cases during the initial two weeks compared to municipalities that are further away from U.S. bases. The lack of statistically different pre-trends suggests that the parallel trend assumption holds. Figure A.3 presents two distinct graphs to support this assumption. The left plot displays observed means for each treatment group at various time points, while the right plot is based on an additional model outlined in the Appendix A.2, employed for the parallel-trends test. This model incorporates two variables indicating pre-treatment and post-treatment periods. Additionally, we conduct a Wald test to assess whether linear trends are parallel before treatment. The null hypothesis posits that linear trends are parallel, and our findings indicate no rejection of this hypothesis (Prob > F = 0.9173).

Figure 5 plots results from the differences-in-differences event-study regression model¹⁰. Again, no significant differences in the pre-trends are found.

We contrast municipalities that are close to a U.S. base with those located at a significant distance from it. In this case, our treated units include municipalities falling in the first quartile/decile of proximity to U.S. bases, while the comparison group comprises municipalities falling in the last quartile/decile, representing those farthest from U.S. bases. Our results in Figure A.2 reveal a larger treatment effect when treated units include municipalities falling in the first decile. The treatment effect turns out to be greater also when treated units include municipalities falling in the

New Cases_{*m,w*} =
$$\beta_0 + \sum_{w=-5, w \neq -1}^{w=5} \beta_w \cdot \operatorname{Treat}_{m,w} + \delta_m + \theta_m + \gamma_w + \theta_m \cdot \gamma_w + \epsilon_{m,w}.$$
 (2)

¹⁰More specifically, we estimate the following equation:





Figure 5: Panel Event Study



first quartile compared when treated units include municipalities falling in the below median. In particular, in the initial week following the event, municipalities that are very close to U.S. bases experienced a larger increase (30%) of new COVID-19 cases than those located further away. This effect became even more pronounced (near 40%) during the second week following the event.

Our estimates are confirmed when we replace the number of COVID-19 cases originally marked as "< 4" by ISS with a value of 3 or 1 (Figures A.4-A.5-A.6-A.7).

Furthermore, our estimates are also robust to the exclusion from the sample of cities that host a U.S. base (Figures A.8)¹¹.

3.3 Treatment refinement

One potential concern in our analysis is the comparison between treatment and control units that are too different from each other. U.S. bases are predominantly located along coastlines, and comparing units that are close to U.S. bases (below median distance) with those that are farther away (above median distance) might reveal a response to the event that is not directly related to the presence of U.S. bases. While the DiD strategy allows for differences among groups at the base-line provided they pre-trend similarly, treatment effects may arise from unobserved characteristics that account for the differential dynamic reactions to the war announcement.

To address this potential issue, we refine our treatment by selecting control units that are closer, and hence most likely similar to the treated ones. More specifically, we compare treated units, those hosting a U.S. base, with a subset of control units composed by municipalities bordering those hosting a U.S. base. Figure 6 shows the new spatial distribution of the treated and control units. This new treatment approach partly solves the problem of different responses to events, as treated and control units appear to be more similar to each other, as confirmed by the balance test (upon request).

The findings reported in Figures A.9 and A.10 are consistent with previous results, reassuring us that the driver of the evolving concerns among Italian citizens does not hinge on differences in some intrinsic characteristics between treated and control municipalities.

3.4 Falsification test based on the distance from TripAdvisor 💿 'Top Rated Beaches'

In this subsection, we conduct a 'placebo' test using the distance from the top-rated beaches on TripAdvisor as a metric to construct our treatment variable. We opt for

¹¹More specifically, we exclude municipalities with a distance to the nearest U.S. base that is less than 10 kilometers.

Figure 6: Treatment refinement



these seaside locations since most U.S. bases are located along the coast. Hence, we expect no treatment effect of the war announcement on contagion as proximity to top rated beaches is completely irrelevant to the conflict.

Hence, we downloaded data on the top-rated beaches in Italy from TripAdvisor¹² and re-run the analysis performed in our main treatment (as in section 2.1). The spatial distribution of the treatment is reported in figure A.13, showing that top-rated beaches are concentrated on the Italian Islands. We focus on beaches along the coastlines (no lakes), and our results show no significant effects in either the pre-treatment or post-treatment periods (Figure A.14). This suggests that our analysis does not merely reflect the impact of being 'coastal municipalities', but rather indicates that the presence of a U.S. base itself affects the health behaviors of individuals.

3.5 Heterogeneity

We conduct several tests to explore heterogeneous treatment effects to examine potential mechanisms explaining our results. The initial heterogeneity analysis is based on age groups, leveraging the breakdown of COVID-19 cases into categories (0-19, 20-39, 40-59, 60-79, 80+) as provided by ISS. These age groups are known to rely on and be exposed to different types of media as their main sources of informa-

¹²The ranking is updated regularly; data were downloaded on 16 July 2024. The ranking is available here.

tion. Results from the differences-in-differences event-study regression based on eq. 2 are reported in Table 1.

First, the causal effect observed during the second week for the entire sample also holds across different age groups. However, the treatment effect tends to follow a non-linear pattern by age, peaking for the age group 40-59. As hypothesized, this result can be due to varying information-seeking behaviors across different age groups. As supported by previous studies (Helsper et al., 2015; Hunsaker and Hargittai, 2018; Taipale et al., 2021), older individuals tend to rely more on traditional media sources, such as newspapers and television, for their information, while younger individuals heavily depend on social media platforms. Given that news regarding COVID-19 cases in 2022 primarily circulated through newspapers and TV broadcasts, typically in a report format, it is unsurprising to see a smaller treatment effect among older individuals. These individuals predominantly rely on information sources that may have been less influenced by the substantial shift in media coverage compared to the more dynamic and interactive nature of social media platforms.

Building upon the observed heterogeneous effect among age groups, primarily driven by the increased exposure of younger individuals to non-traditional media sources such as social media, we now investigate whether this effect is more pronounced in municipalities with faster internet speeds. To address this question, we employ publicly available municipal data sourced from AGOM¹³. We construct an index that encompasses the number of households with theoretically anticipated speeds greater than 30 Mbps range, relative to the total households within the municipality. Then, we compare municipalities based on the number of households below or above the median broadband speed¹⁴. Results from this heterogeneity analysis are shown in Table 2.

Results suggest that the main treatment effect is not statistically significant for municipalities characterized by an underserved or poorly established internet infrastructure, considering the total number of households within the municipality. Conversely, for municipalities benefiting from more robust internet connectivity,

¹³Available at https://maps.agcom.it

¹⁴In this case, "above the median" implies a higher number of households covered by slow or no broadband

			Age Group		
	0-19	20-39	40-59	60-79	80+
Week					
Lag -5	0.0725***	2.41e-05	-0.00567	0.00785	-0.0103
	(0.0165)	(0.0140)	(0.0145)	(0.0104)	(0.00824)
Lag -4	0.0161	-0.0210*	-0.0216	-0.00754	0.000772
	(0.0150)	(0.0127)	(0.0136)	(0.00923)	(0.00715)
Lag -3	-0.000499	0.000938	-0.000660	0.0156*	0.0105
	(0.0135)	(0.0114)	(0.0116)	(0.00899)	(0.00721)
Lag -2	0.00797	-0.00363	-0.00434	-0.00117	-0.00553
	(0.0141)	(0.0122)	(0.0126)	(0.00954)	(0.00795)
Lead 0	0.0447***	0.0273***	0.0209***	0.0142***	0.00137
	(0.00855)	(0.00720)	(0.00761)	(0.00541)	(0.00447)
Lead +1	0.0579***	0.0402***	0.0493***	0.0210**	0.00120
	(0.0120)	(0.0108)	(0.0114)	(0.00815)	(0.00624)
Lead +2	0.0794***	0.0679***	0.0564***	0.0421***	0.00485
	(0.0136)	(0.0120)	(0.0129)	(0.00957)	(0.00684)
Lead +3	0.0350***	0.0224**	0.0211*	0.0121	0.00948
	(0.0120)	(0.0111)	(0.0122)	(0.00930)	(0.00714)
Lead +4	0.0389***	0.0235**	0.0182	0.0147*	0.00222
	(0.0119)	(0.0108)	(0.0119)	(0.00882)	(0.00700)
Lead +5	0.0400***	0.0129	0.0243**	0.0223**	-0.00292
	(0.0110)	(0.0104)	(0.0110)	(0.00922)	(0.00695)
Region Fixed Effects	\checkmark	✓	\checkmark	✓	1
Time Fixed Effects	\checkmark	✓	\checkmark	✓	1
Region X Time Fixed Effects	\checkmark	✓	\checkmark	✓	1
Observations	85701	85910	86350	85459	81499

Table 1: Heteregenous Effects by Age group

Notes: *** p < 0.01, ** p < 0.05, * p < 0.1. Standard errors clustered at municipal level in parentheses. This table presents the estimated coefficients from a differences-in-differences event study model assessing the impact of age groups on the treatment effect. The dependent variable is the inverse hyperbolic sine (IHS) transformation of the weekly count of new COVID-19 cases. The main independent variable is an interaction term between the treatment indicator (whether the municipality is below the median distance from a US military base) and week dummies (Lead and Lag indicators, where "Lag -5" refers to five weeks before treatment, and "Lead +5" refers to five weeks after treatment). The coefficients represent the effect of the treatment relative to the reference period, which is "Lag -1" (one week before the treatment).

	Broadband Connection		
	Slower broadband	Faster broadband	
Week			
Lag -5	0.00883	0.00922	
0	(0.0223)	(0.0448)	
Lag -4	-0.0384*	0.0337	
6	(0.0198)	(0.0395)	
Lag -3	0.00854	0.0483	
6	(0.0170)	(0.0382)	
Lag -2	-0.00438	-0.0307	
	(0.0200)	(0.0394)	
Lead 0	0.0104	0.0964***	
	(0.0113)	(0.0250)	
Lead +1	0.00157	0.134***	
	(0.0153)	(0.0367)	
Lead +2	0.0187	0.189***	
	(0.0169)	(0.0415)	
Lead +3	0.0150	0.0698*	
	(0.0167)	(0.0390)	
Lead +4	0.0435***	0.102***	
	(0.0167)	(0.0364)	
Lead +5	0.00196	0.114***	
	(0.0159)	(0.0353)	
Region Fixed Effects	\checkmark	1	
Time Fixed Effects	1	1	
Region X Time Fixed Effects	1	1	
Observations	44759	39699	

Notes: *** p < 0.01, ** p < 0.05, * p < 0.1. Standard errors clustered at municipal level in parentheses. This table presents the estimated coefficients from a differences-in-differences event study model assessing the impact of municipalities' broadband connection on the treatment effect. The dependent variable is the inverse hyperbolic sine (IHS) transformation of the weekly count of new COVID-19 cases. The main independent variable is an interaction term between the treatment indicator (whether the municipality is below the median distance from a US military base) and week dummies (Lead and Lag indicators, where "Lag -5" refers to five weeks before treatment, and "Lead +5" refers to five weeks after treatment). The coefficients represent the effect of the treatment relative to the reference period, which is "Lag -1" (one week before the treatment).

the outcomes correspond with those obtained in the primary analysis. The initial week shows a positive and statistically significant treatment effect, while the second week exhibits an effect of even greater magnitude. This evidence further suggests the health effects of media attention shifts are amplified by exposure to social media and the use of the internet as the primary source of information.

4 Mechanisms

4.1 Mobility patterns

We posit that a crucial mechanism by which shifts in media coverage translate into changes in real health-related behaviors is through their influence on people's mobility. In the context of the COVID-19 pandemic, media attention played a central role in shaping precautionary and restrictive behaviors. However, our study suggests that a sudden shift in media attention, triggered by the escalating situation in Russia and Ukraine, may have diminished the perceived relevance of the COVID-19 threat. Consequently, this shift might have led to a decrease in the citizens' adoption of stringent health-related behaviors.

To investigate this hypothesis, we explore mobility patterns across municipalities, assuming that individuals might be more likely to change their movements if the concern about COVID-19 is perceived as less relevant due to the heightened focus on war-related events. The analysis of mobility data aims to identify behavioral shifts that suggest a reduced adherence to public health guidelines, particularly in areas where the media-driven shift in attention was most pronounced.

To obtain a measure of daily mobility, we use Google mobility data as a proxy¹⁵. We analyze daily mobility averages across various categories, encompassing leisure and entertainment venues, essential services, outdoor recreational areas, public transportation hubs, and residential areas.

We run the same specification as in eq. 2 using now the daily mobility at the province level as our dependent variable. Results in Table 3 reveal a significant cor-

¹⁵These data are available at the provincial level only. Despite this limitation, the provincial-level data can still provide valuable insights into local mobility trends, allowing us to draw meaningful conclusions about the relationship between the media-driven attention shift and changes in mobility patterns.

relation between the media-driven attention shift and increased mobility, especially in municipalities closer to military bases after the onset of the war. Importantly, also in this case, the pre-trends are not statistically different for treated and control units, whereas, after the Russian invasion of Ukraine, there is a positive effect for the municipalities closest to U.S. bases (i.e., our treated units).

This result suggests that the heightened salience of the war, prompted by media coverage, influenced shifting mobility patterns, which could have potentially contributed to the observed temporary rise in COVID-19 cases.

4.2 Increased fear of the war

Another important mechanism by which shifts in media coverage could translate into changes in real health-related behaviors is through their influence on people's fear. In the weeks following the war, media attention focused heavily on the clash in Ukraine, sometimes raising public debate about the potential involvement of other states in the conflict. This may have developed in individuals a significant increase in fear of an impending conflict.

Our study suggests that a sudden shift in media attention, triggered by the escalation of the situation in Russia and Ukraine, may have decreased the perceived relevance of the COVID-19 threat. A plausible catalyst for the reduced prominence of the pandemic, particularly in areas near military bases, could stem from the heightened sense of fear induced by the new focal point in media coverage.

In particular, we hypothesize that the shifted media attention resulting from the evolution of events in Russia and Ukraine influences the emotional states of citizens, particularly in terms of increased fear and apprehension. To empirically assess this hypothesis, we employ Google Trends data as a proxy measure of public sentiment. We conduct a comparative analysis between municipalities in close proximity to U.S. military bases and those situated at a distance, examining variations in the population's fear levels.

More specifically, using Google Trends data, which offer an unfiltered sample of search queries sent to Google (Brodeur et al., 2021), we aim to capture variations in the intensity of searches related to fear-inducing topics during the period of increased media attention to the war. The data provide an index of search intensity per topic over the specified time period in a given geographical area. The number of daily searches for the designated topic is normalized by dividing it by the maximum number of daily searches for that topic over the period analyzed in the respective geographical area.

For our analysis, we select the search term "bunker," chosen for its connotation with fear and instability at the onset of the war. This term is considered as a representative query to capture the overall sentiment of fear within the population¹⁶.

The rationale behind this approach lies in the assumption that an increase in searches for fear-related terms such as "bunker" would indicate a heightened sense of fear and concern among the public. We analyze the fluctuations in search volume for this specific term before and after the Russian invasion of Ukraine and across municipalities situated at varying distances from U.S. military installations.

We run the same specification as in eq. 2 using now the daily Google trend searches as our dependent variable. Results in Table 3 reveal a significant correlation between the media-driven attention shift and an increase in the perception of war-related fear in the first week following the events, especially in municipalities closer to military bases after the onset of the conflict.

Notably, the effect seems to be more pronounced only after the initial week. Our explanation for this result is that the fear of a potential war may be a transient rather than a long-term effect. This idea could be supported by the evolving nature of the conflict and statements from countries not directly involved, which denied their potential involvement in the conflict.

5 Electoral consequences of shifting media attention

In this section, we investigate the political impact of emphasizing war-related issues at a time when the focus on COVID-19 had waned. Can politicians who tap into the heightened salience of the war and the public's sentiments gain an electoral advantage?

¹⁶In addition, we rely on this word given the prevailing media rhetoric in our context. Newspaper articles, such as the one from Huffington Post, often described how the Italian population was in search of bomb shelters to 'prevent' a probable outbreak of conflict. The use of terms like "bunker" in media reports not only reflects public concerns but also contributes to shaping the narrative surrounding the perceived threat.

	Mechanis	Mechanism Tested		
	Mobility Trend	Google Trend		
Week				
Lag-5	0.240	9.76e-05		
	(0.174)	(0.000932)		
Lag -4	0.154	-0.00161*		
0	(0.137)	(0.000969)		
Lag -3	0.130	7.81e-05		
U U	(0.122)	(0.00110)		
Lag -2	0.137	0.000513		
C C	(0.0979)	(0.00110)		
Lead 0	0.467*	-0.000765		
	(0.274)	(0.000752)		
Lead +1	0.367***	0.00343***		
	(0.130)	(0.00123)		
Lead +2	0.409**	0.00144		
	(0.156)	(0.00130)		
Lead +3	0.486***	0.00142		
	(0.148)	(0.00121)		
Lead +4	0.409***	-4.49e-05		
	(0.153)	(0.00114)		
Lead +5	0.621***	0.00144		
	(0.189)	(0.00110)		
Region Fixed Effects	\checkmark	1		
Time Fixed Effects	\checkmark	1		
Region X Time Fixed Effects	\checkmark	1		
Observations	1166	86944		

Notes: *** p < 0.01, ** p < 0.05, * p < 0.1. Standard errors clustered at municipal/province level in parentheses. This table presents the estimated coefficients from a differences-indifferences event study approach to examine two potential mechanisms through which the shift in media attention following Russia's invasion of Ukraine influenced public health behavior in Italian municipalities. The "Mobility Trend" column uses daily mobility at the provincial level, derived from Google data, as the dependent variable, while the "Google Trend" column uses the frequency of daily searches for the term "bunker," indicative of increased fear of war, as the dependent variable. The main independent variable is an interaction term between the treatment indicator (whether the municipality is below the median distance from a US military base) and week dummies (Lead and Lag indicators, where "Lag -5" refers to five weeks before treatment, and "Lead +5" refers to five weeks after treatment). The coefficients represent the effect of the treatment relative to the reference period, which is "Lag -1" (one week before the treatment). Italy experienced a notable political event a few months after the outbreak of the Russo-Ukrainian war: national elections. On Sunday, September 25, 2022, Italy held elections to renew both branches of its Parliament—the Senate of the Republic and the Chamber of Deputies—following President Sergio Mattarella's early dissolution of the Chambers on July 21, triggered by the Draghi government crisis. The elections resulted in a victory for the right-wing coalition, led by Giorgia Meloni, which secured about 44% of the vote and an absolute majority in both chambers¹⁷. The war significantly shaped the campaign, as parties differed on Italy's role in supporting Ukraine, including the provision of arms and aid to a NATO ally.

To measure the impact of war-related focus and sentiment on voting behavior in municipalities where the war overshadowed COVID-19, we use the identification strategy described in Section 3. We analyze how votes in the national elections—held seven months after the conflict's onset—were influenced by the volume and tone of candidates' war-related tweets following the Russian invasion of Ukraine. Specifically, we assess whether candidates' emphasis on the war, along with their sentiment, provided an electoral advantage, particularly in districts where perceived threats were higher during the initial weeks, such as those near U.S. military bases.

Given the unexpected nature of the national elections, we hypothesize (and confirm) that the volume and sentiment of war-related tweets by candidates did not vary significantly based on the proximity of their districts to U.S. bases, suggesting an absence of targeted electoral campaigning by location.

5.1 Dynamics of salience and fear

To analyze how politicians' communication strategies shifted after the outbreak of the Russo-Ukrainian war, we rely on the metrics of salience and emotional tone in politicians war- and COVID-19-related tweets, as outlined in Section 2.3. This allows us to identify any changes in communication patterns across different political groups.

Politicians are categorized into three distinct groups based on their party af-

¹⁷See Section A.1 in Appendix for further details.

filiations during the 2022 Italian national elections: left-wing parties¹⁸, right-wing parties¹⁹, and other lists²⁰.

Results in Figure A.15 from the analysis of fear and salience show a clear shift in focus after the outbreak of the war. For fear, only right-wing parties show a significant change in the emotional tone, with a noticeable spike in war-related tweets immediately after the war began. On the other hand, left-wing parties and other lists do not exhibit any significant shifts in fear, with both groups maintaining stable communication patterns for both war and COVID-19-related tweets. This suggests that fear as a rhetorical tool was strategically leveraged by right-wing politicians during the conflict, whereas other groups maintained a more consistent tone.

Regarding salience, the data reveal a substantial shift in attention from COVID-19 to war-related topics across all political groups immediately after the war's onset. Right-wing parties show the most pronounced increase in war-related salience, accompanied by a marked reduction in COVID-19-related tweets. Left-wing parties and other lists also demonstrate an increased focus on war-related issues, but the shift is less pronounced compared to right-wing parties.

First, to test the exogeneity of politicians' communication to the distance of electoral districts from U.S. military bases (our treatment), we analyze whether candidates tweet more (indicating salience) or adopt a specific emotional tone (fear) in municipalities where they will later run. We employ an event difference-indifferences approach, defining the treatment based on the proximity of each electoral district to the nearest U.S. military base. Specifically, we examine how this proximity influences the volume of war-related tweets (salience) and the emotional tone expressed (fear).

Results in Figure A.16 highlight no significant relationship between proximity to U.S. military bases and changes in politicians' communication strategies regarding salience or fear. Across all political groups, the estimates remain close to zero, and the 95% confidence intervals include zero. This suggests that there is no systematic shift in communication behaviors associated with proximity to military bases.

¹⁸Partito Democratico - Italia Democratica e Progressista, +Europa, Alleanza Verdi e Sinistra, and Impegno Civico Luigi Di Maio - Centro Democratico.

¹⁹Forza Italia, Fratelli d'Italia con Giorgia Meloni, Lega per Salvini Premier, and Noi Moderati/Lupi - Toti - Brugnaro - UDC.

²⁰all remaining candidates not classified in the right-wing and left-wing parties categories.

These findings support our hypothesis that, given the unexpected nature of the 2022 elections, politicians' communication is random concerning their future candidacy in districts near military bases.

5.2 Econometric approach

Having confirmed the exogeneity of politicians' messaging strategies to our treatment, we can now estimate the effect of salience and emotional tone on voting outcomes, as moderated by proximity of electoral districts to U.S. bases. The estimating equation is as follows:

$$Votes_{i,c} = \beta_0 + \beta_1 \cdot \operatorname{Treat}_c + \beta_2 \cdot \operatorname{Salience}_i + \sum_j \beta_{3j} \cdot \operatorname{Emotion}_{i,j}$$

+ $\beta_4 \cdot \operatorname{Treat}_c \cdot \operatorname{Salience}_i + \sum_j \beta_{5j} \cdot \operatorname{Treat}_c \cdot \operatorname{Emotion}_{i,j} + \delta_r + \theta_i + \zeta_c + \epsilon_{i,c}$
(3)

We estimate this equation using a fixed-effects regression model with standard errors double-clustered at the electoral district and municipality levels²¹. This approach accounts for the hierarchical structure of the data, as the dependent variable is the number of votes received by each candidate *i* in electoral district *c*, and larger municipalities include multiple electoral subsections. The dependent variable is the number of votes received by each candidate in their electoral district. We use the inverse hyperbolic sine (IHS) transformation for the outcome variable, as in the previous estimates, due to its logarithmic characteristics (similar to those of a standard natural logarithm), which allows us to effectively model complex relationships (Burbidge et al., 1988; MacKinnon and Magee, 1990).

The estimates include salience, which captures the relative attention given to war-related topics compared to COVID-19 by each candidate, and emotional tone, which categorizes the tone of each candidate's tweets into emotions such as joy, sadness, anxiety, and fear (constructed as described in Section 2.3). The tweets considered for salience and emotional tone are those made during the three-week period following the start of the war, reflecting the same causal effect window used in

²¹The double clustering at the electoral district and municipality levels is crucial due to the structure of the data: in large municipalities, there are multiple smaller electoral subsections, which could introduce intra-cluster correlations. This clustering approach ensures that our standard errors are robust to these correlations.

our analysis. The treatment variable is an indicator that equals one if the electoral district's distance from the nearest U.S. military base is below the sample median.

We include interaction terms to assess whether proximity to a U.S. military base—reflecting citizens' attention to (and fear of) war—modifies the impact of salience and emotional tone on voting outcomes. Additionally, we control for several candidate-specific characteristics, including age, gender (θ_i), type of election (e.g., single-member district or proportional representation for the Camera and Senato), and affiliation with a major party (ζ_c). Region fixed effects are included to account for unobserved heterogeneity across different geographical areas (δ_r).

5.3 Results and robustness checks

The results presented in Table 4 show that proximity to U.S. military bases, by itself, tends not have a significant direct impact on election outcomes. However, the interaction between proximity to military bases and the emotional tone of candidates' tweets reveals a significant effect on voting outcomes.

Specifically, we find that the interaction between fear and proximity to a U.S. military base has a positive and a significant effect. Electoral districts near military bases experience around 1% increase in votes for candidates who express this sentiment.

Anger also shows a negative and significant effect on votes in two specifications (Column 3), though it is smaller than that of fear. The interaction with proximity to military bases has a positive and significant impact, suggesting that candidates who express anger manage to offset its adverse electoral effects in areas that are distant from a military base (0.1% effect size).

Importantly, the salience of war-related tweets is not significant, either directly or through its interaction with proximity to military bases. This suggests that, on average, it is not the volume of tweets that impacts voting outcomes, but rather the emotional tone conveyed by candidates. In other terms, in a period when it was not strategic to actively campaign for elections, voters responded more to the emotional content of communication rather than the "quantity" of war-related discourse.

We test the robustness of our results by using the distance from the top-rated beaches on TripAdvisor as a placebo, instead of proximity to U.S. military bases, as detailed in Section 3.4. Results in Table A.2 show no/mild significant effects for Treatment (proximity to U.S. bases), Salience, Emotional tone, or the interactions between Treatment and Salience or Emotional tone.²². This further reinforces our argument that proximity to U.S. bases plays a specific role in influencing electoral outcomes, while general geographic factors, such as proximity to popular beaches, do not account for the observed results. We also perform robustness checks using the treatment refinement described in Section 3.3. In this approach, the treatment is defined more strictly, i.e., by comparing municipalities hosting a U.S. base with those most adjacent to them. Results presented in Table A.3 are consistent with our main findings.

5.4 Heterogeneity by political parties

We further test whether the effect of emotional tone and salience on electoral outcomes is driven by a particular group of political parties. We estimate the column (4) of Table 4 separately for each group.

The results in figure 7 show that the interaction between treatment and salience significantly impacted the vote share only for candidates belonging to left-wing parties, with no significant effects for those belonging to right-wing parties or other groups. This suggests that the prominence of war-related communications, regard-less of their emotional tone, influenced voter behavior for left-wing parties. In other words, voters in districts near U.S. bases tend to respond more favorably to candidates from left-wing parties due to the overall attention given to war-related topics rather than the specific emotional content of the messages (0.6% effect size).

In contrast, the interaction between treatment and fear shows a significant positive effect for right-wing parties, while it remains insignificant for left-wing parties and other lists. Thus, the influence of proximity to U.S. military bases on fearbased messaging is stronger for right-wing candidates. Voters in districts close to U.S. bases seem to respond positively to candidates from right-wing parties who express fear in their war-related communications (0.7%).

These results suggest that right-wing parties gained a significant voting advan-

²²Where we find significant effects, they move in the opposite direction of those observed in the main estimates.

		(=)	(=)	
	(1)	(2)	(3)	(4)
	Votes (IHS)	Votes (IHS)	Votes (IHS)	Votes (IHS)
Treatment	0.221	0.257**	-0.167	0.230
	(0.277)	(0.128)	(0.228)	(0.284)
Salience	0.151			0.195
	(0.269)			(0.265)
Treatment#Salience	0.141			0.0387
	(0.315)			(0.319)
Fear		-1.340	-1.487*	-1.383
		(0.931)	(0.870)	(0.941)
Treatment#Fear		2.025**	2.307***	2.009**
		(0.801)	(0.758)	(0.789)
Sadness		()	0.430	
			(0.313)	
Treatment#Sadness			-0.315	
Treatment Sudifiess			(0.392)	
Iov			0.0752	
Joy			(0.566)	
Troatmont#Iov			0.634	
fileatinent#JOy			(0.566)	
Amon			(0.300)	
Anger			-0.701°	
T			(0.297)	
Ireatment#Anger			1.358***	
	1 DEE 444	1.075***	(0.320)	1 =
Constant	4.755***	4.875***	4.833***	4.756***
	(0.518)	(0.504)	(0.516)	(0.523)
Pagion FE	/	/	/	/
Region re Election Controls	v /	v /	v /	v /
Election Controls	v	v	v	v
Canulate controls				
Observations	//,/5/	//,/5/	11,151	//,/5/
K-squared	0.210	0.212	0.224	0.213

Table 4: Impact of Salience and Emotions on Election Outcomes

Notes: *** p < 0.01, ** p < 0.05, * p < 0.1. Standard errors clustered at electoral district and municipal level in parentheses. The dependent variable in all columns is the number of votes received by each candidate, transformed using the inverse hyperbolic sine (IHS). "Treatment" refers to whether the electoral district's distance from the nearest U.S. military base is below the sample median. "Salience" captures the proportion of war-related tweets relative to other topics. Emotional tone variables ("Fear," "Sadness," "Joy," and "Anger") refer to the emotional classification of candidates' tweets. Interaction terms indicate how proximity to military bases influences the effect of emotional tone and salience on voting outcomes. Robust standard errors are double-clustered at the electoral district and municipality levels. All models include region fixed effects, election controls (e.g., type of election), and candidate controls (e.g., age, gender, party affiliation). tage by using a communication strategy centered around fear (and, to a lesser extent, anger) when discussing war-related issues, especially in districts near U.S. military bases. Given the lack of evidence that politicians strategically targeted fear-related messaging to districts closer to military bases, they suggest that voters in these areas may have been more receptive to narratives emphasizing the emotional aspects of fear in the context of the war, which aligned more closely with the messaging of right-wing parties. In contrast, left-wing parties appeared to benefit more from the salience of war-related issues in the media, as the significant effect of treatment and salience suggests that their voters were more influenced by the visibility of the war itself rather than the emotional intensity of the messages. Leftwing parties likely capitalized on the heightened visibility of war-related topics to resonate with voters' broader concerns, without relying on fear-based messaging. Therefore, while right-wing parties leveraged fear to gain electoral advantages in districts more exposed to the perceived threat of conflict, left-wing parties benefited from the overall prominence of the war in the media.





6 Conclusions

The significance of political issues can swiftly transform in response to evolving events, subsequently influencing socio-economic and political decisions. This study

explores the interplay between media attention, issue salience, and individual behaviors within a rapidly evolving global context.

With a specific focus on the media shift from the COVID-19 pandemic to the Russian-Ukrainian war, this research examines the consequences of a health crisis rapidly losing its central position in the public spotlight. Our differences-indifferences event study provides causal evidence on how a sudden shift in media attention substantially influences the dynamics of contagion and generates (unintended) electoral consequences.

Regarding the health consequences of shifting media attention, the rise in contagion we observed is particularly pronounced among younger citizens and in regions with better broadband access, highlighting the crucial role of social media in shaping public concerns. Additionally, we identify a mechanism through which reduced concerns about COVID-19 translate into less protective health behaviors: municipalities with higher exposure, such as those near U.S. military bases, experienced increased mobility soon after the Russian invasion of Ukraine. Thus, the heightened media salience of the war affected mobility patterns, potentially contributing to the observed temporary increase in COVID-19 cases. Furthermore, municipalities with higher exposure also exhibited increased fear of the war—measured by web searches for the term "bunker"—shortly after the invasion.

Concerning the electoral impact of changing media focus, we show how changes in issue salience can reshape political landscapes. Our analysis reveals that rightwing parties skillfully exploited the growing fear of war to gain an electoral advantage, particularly in municipalities near U.S. military bases. In these areas, where the threat of geopolitical conflict was most pronounced, the prominence of war significantly influenced voter sentiment. Residents near U.S. military bases tended to support candidates who addressed war-related anxieties, shifting their backing away from those focused on pandemic concerns. On the contrary, left-wing parties benefited significantly from the increased salience of war-related issues in municipalities close to U.S. military bases. This suggests that voters aligned with left-wing parties were more responsive to the visibility and prominence of the war itself, regardless of the emotional tone of the messaging.

A placebo test using distance from the top-rated beaches on TripAdvisor high-

lights that mere geographical location around the coasts of the U.S. bases is insufficient to explain the observed health and political outcomes. The lack of significant effects in this test reinforces our main findings: it was the proximity to U.S. military bases—rather than other geo-economic factors—that drove the notable changes in voting behavior and contagion patterns. This proximity heightened the sense of urgency around the war, shaping public and political reactions beyond other geographical features.

Concluding, our findings underscore the pivotal role of issue salience in shaping individual behaviors, which, in this context, results not only in non-negligible health costs to society, but also in significant political consequences. On the one hand, the shift from domestic to foreign policy issues, exemplified by the transition from the COVID-19 pandemic to the Russian-Ukrainian war, played a decisive role in the spread of COVID-19, primarily due to reduced public attention to health protective behaviors and increased fear of a new global conflict. On the other hand, this change has also profoundly influenced political preferences. When war-related concerns eclipsed anxieties about the pandemic, right-wing political parties skilfully exploited these new fears, particularly in the municipalities closest to U.S. military bases, where the importance of the war was most strongly perceived. Voters in these areas gravitated towards candidates who emphasized geopolitical threats over the health crisis, revealing how fear of conflict can quickly reshape electoral preferences. At the same time, left-wing parties benefited from the overall prominence of the war, as voters aligned with them appeared more responsive to the visibility of the conflict in the media, rather than the emotional tone of the messaging.

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A Online Appendix

A.1 Institutional context

U.S. presence in Italy U.S. military bases in Italy represent a crucial component of the U.S. military presence in Europe and reflect the strategic relationship between the two countries within NATO. Their origin dates back to the end of World War II and the beginning of the Cold War, when Italy and the United States established close military and political cooperation to counter Soviet influence in Europe.

The agreement to establish the bases was formalised with the Treaty of Paris in 1947 and later reinforced by Italy's accession to NATO in 1949. American bases in Italy were initially conceived as a deterrent against a possible Soviet attack, providing logistical and operational support to NATO forces deployed in the European theatre.

Over the years, the number and importance of U.S. bases in Italy have varied in response to global geopolitical dynamics. In 2013, U.S. military personnel stationed in Italy numbered approximately 13,000, spread across several strategic installations.

In addition to their strategic function, U.S. military bases in Italy have a significant impact on local economies and surrounding communities. The military presence has led to infrastructure investments, job creation, and the development of cultural and social relations between U.S. military personnel and the Italian population.

Over the years, the presence of the bases has been debated both politically and among the Italian public. Some sectors criticise the limited sovereignty implicit in the presence of foreign troops, while others emphasise the economic and security benefits of cooperation with the United States. An example of this complex relationship is Sardinia, where the extensive presence of military installations has aroused both local opposition and economic dependence.

Sardinia is a special case but can show how salient the issue of U.S. bases in Italy is. The region hosts several important US and NATO military installations, including the bases at Decimomannu and the Capo Teulada training range. These bases are an integral part of NATO operations in the Mediterranean and provide essential training grounds for air and naval forces. However, the presence of these bases has also led to significant local opposition, mainly due to environmental concerns, health risks and the impact on local communities ²³. Protests and calls for the reduction or removal of military activities have been continuous, reflecting a broader feeling of frustration and resistance among Sardinians.

On the other hand, the economic benefits of the military presence cannot be ignored. Bases contribute to local economies through direct and indirect employment, contracts with local businesses and infrastructure development. This economic dependence creates a complex dynamic in which local communities must balance the tangible economic benefits with the perceived disadvantages of hosting foreign military installations.

All these elements make the issue of U.S. bases particularly relevant for local communities, where people not only recognise the presence of bases as an element of historical interest, but are also influenced by their advantageous/disadvantageous role in the present.

The electoral system and context of the 2022 Italian national elections The 2022 Italian general elections, held on September 25, were called unexpectedly following the resignation of Prime Minister Mario Draghi in July 2022. Draghi's government, a broad coalition formed to stabilize the country amid political and economic crises, collapsed after key parties withdrew their support during a confidence vote. This led to the early dissolution of Parliament and elections being called several months ahead of the original schedule. The sudden nature of the elections underscored the volatility of Italian politics, where coalition instability frequently disrupts governance.

These elections were the first held after the 2020 constitutional reform, which significantly reduced the number of seats in both chambers of Parliament. The Chamber of Deputies was cut from 630 to 400 members, and the Senate from 315 to 200. This reduction reshaped the electoral landscape by concentrating competition into fewer seats and requiring a redrawing of electoral districts (circoscrizioni)

²³See this article as a direct example.

across the country.

The electoral system, known as the "Rosatellum-bis", is a mixed system combining both majoritarian and proportional components. 37% of the seats in both the Chamber and the Senate were allocated through a first-past-the-post system in single-member constituencies. For the Chamber of Deputies, this included 147 seats, while the Senate allocated 74 seats in this manner. In each constituency, the candidate who received the most votes was elected. The remaining 61% of the seats were distributed through proportional representation, where voters cast their votes for party lists in multi-member constituencies. This component allocated 245 seats in the Chamber and 122 seats in the Senate. Additionally, 2% of seats in both houses were reserved for Italians living abroad, with 8 seats in the Chamber and 4 in the Senate.

The structure of electoral districts reflects the varying population densities across Italy. In large urban centers such as Rome, Milan, and Naples, constituencies are smaller in geographic size but have more seats due to the higher concentration of voters. In contrast, rural areas and smaller towns are grouped into larger constituencies that cover wider areas but elect fewer representatives. This design aims to ensure balanced representation across different regions, from densely populated cities to sparsely populated rural areas.

The voting process in 2022 involved a single ballot for each chamber, allowing voters to select both a candidate in the single-member constituency (majoritarian component) and a party list (proportional component). Importantly, the electoral system does not allow for split-ticket voting, meaning voters could not choose a candidate from one coalition and a party list from another. Votes cast for a candidate in the majoritarian race were automatically linked to the proportional vote for the party list supporting that candidate.

To reduce the fragmentation of Parliament, the system introduced electoral thresholds. Parties had to secure at least 3% of the national vote to qualify for proportional representation seats, while coalitions needed to reach 10%. Within coalitions, individual parties still had to meet the 3% threshold for their votes to contribute to the coalition's total seat distribution.

A.2 Test for parallel trends

The following model is taken by Luedicke (2022).

Let $d_{w,0} = 1(d_w = 0)$ be a variable indicating pretreatment time periods, and let $d_{w,1} = 1(d_w = 1)$ be a variable indicating posttreatment time periods. Also, let η_m be a variable that is 1 if the individual belongs to a treated group and is 0 otherwise. The augmentation terms then consist of two 3-way interactions between $d_{w,0}$, δ_m , and w, and $d_{w,1}$, δ_m , and w.

$$y_{mw} = DID_{mw} + \eta_m d_{w,0} w \zeta_1 + \eta_m d_{w,1} w \zeta_2 + \epsilon_{mw}$$

The DID_{mw} is defined in equation 1. In this particular specification, the coefficient ζ_1 provides the difference in slopes between the treatment group and the control group during pretreatment periods, while ζ_2 captures the difference in slopes during posttreatment periods. A value of ζ_1 equal to 0 indicates that the linear trends in the outcome are parallel during pretreatment periods. The same principle applies to ζ_2 concerning the posttreatment period. However, differences in posttreatment trends do not hold significance in the evaluation of the parallel-trends assumption.

Table A.1: Query List for Twitter ♥ API

quei	ry_War='Ucraina Russia Guerra Conflitto Invasione Donetsk Luhansk Crimea Crisi Militare Tensione
\hookrightarrow	Separatisti Rifugiati Cessateilfuoco Donbas Frontiera Aggiornamenti Ribelli Occupazione Sanzioni
\hookrightarrow	Putin Zelensky Lukashenko Nato US Biden Bielorussia'
quei	ry_COVID19='COVID Covid-19 Vaccino Pandemia Coronavirus Varianti Contagio Lockdown Mascherine
\hookrightarrow	Vaccinazione Immunizzazione Isolamento Quarantena Sintomi Trattamenti Epidemia Test PCR Anticorpi
\hookrightarrow	Delta Vaccinato Immunità Passaporto Green Pass Effetti collaterali Dosi Somministrazione Variante

↔ Efficacia Omicron'

Figure A.1: Spatial Distribution of U.S. bases



Figure A.2: Panel Event Study comparing below mean, first quartile and first decile



	(1)	(2)	(3)	(4)
	Votes (IHS)	Votes (IHS)	Votes (IHS)	Votes (IHS)
Distance from TripAdvisor	-0.290	0.177	0.307	-0.337
	(0.640)	(0.185)	(0.547)	(0.648)
Salience	0.143			0.0721
	(0.525)			(0.535)
Distance from TripAdvisor#Salience	0.511			0.631
P	(0.795)	1 01 7	1 = 10	(0.804)
Fear		1.217	1.518	1.202
		(0.889)	(1.173)	(0.890)
Distance from IripAdvisor#Fear		-3.159*	-2.804	-3.502*
Co. lo co.		(1.889)	(1.951)	(1.885)
Sadness			(0.494)	
Distance from Trip & driver#Codness			(0.913)	
Distance from mpAdvisor#Sadness			(1.028)	
Iov			(1.036)	
JOy			(0.953)	
Distance from TrinAdvisor#Iov			2 524**	
Distance from http://dv/isoi//joy			$(1\ 151)$	
Anger			0.450	
Tinger			(0.732)	
Distance from TripAdvisor#Anger			-1.937**	
			(0.843)	
Constant	8.241***	8.137***	7.596***	8.179***
	(1.381)	(1.263)	(1.404)	(1.386)
	· · · ·	~ /		
Province FE	\checkmark	1	\checkmark	\checkmark
Election Controls	\checkmark	1	\checkmark	\checkmark
Candidate controls	\checkmark	1	\checkmark	\checkmark
Observations	16,772	16,772	16,772	16,772
R-squared	0.292	0.292	0.324	0.294

Table A.2: Impact of Salience and Emotions on Election Outcomes - Placebo using distance from 'Top Rated Beaches' on TripAdvisor 💿

Notes: *** p < 0.01, ** p < 0.05, * p < 0.1. Standard errors clustered at electoral district and municipal level in parentheses. The dependent variable in all columns is the number of votes received by each candidate, transformed using the inverse hyperbolic sine (IHS). "Distance from TripAdvisor" refers to the electoral district's proximity to the top-rated beaches listed on TripAdvisor, used as a placebo for the treatment variable in this analysis. "Salience" captures the proportion of war-related tweets relative to other topics, and the emotional tone variables ("Fear," "Sadness," "Joy," and "Anger") refer to the emotional content of candidates' tweets. Interaction terms show how proximity to top-rated beaches interacts with salience and emotional tone. All models include province fixed effects, election controls (e.g., type of election), and candidate controls (e.g., age, gender, party affiliation).

	(1)	(2)	(3)	(4)
	Votes (IHS)	Votes (IHS)	Votes (IHS)	Votes (IHS)
Municipalities with US base	0.722*	0.896***	0.870**	0.736*
	(0.387)	(0.151)	(0.333)	(0.381)
Salience	-1.297***			-1.379***
	(0.433)			(0.428)
Municipalities with US base#Salience	0.321			0.247
	(0.485)	0.4.45444	0.610	(0.492)
Fear		2.14/***	0.610	2.339***
		(0.312)	(0.952)	(0.325)
Municipalities with US base#Fear		0.835	0.884	0.724
		(0.770)	(0.942)	(0.806)
Sadness			-1.977	
			(1.301)	
Municipalities with US base#Sadness			0.664	
Inc			(0.555)	
Joy			-0.223	
Municipalities with US base#Iou			(0.002)	
Municipanties with 05 base#joy			-0.797	
A 19 201			(0.792)	
Anger			-0.0734	
Municipalities with US base#Anger			(0.880)	
Wulleipanties with 05 base#Aliger			(0.655)	
Constant	7 578***	7 087***	6 868***	7 451***
Constant	(1.756)	(1.680)	(1.478)	(1 697)
	(1.750)	(1.000)	(1.470)	(1.097)
Province FE	1	1	1	1
Election Controls	1	1	1	1
Candidate controls	1	1	1	1
Observations	839	839	839	839
R-squared	0.464	0.463	0.479	0.480

Table A.3: Impact of Salience and Emotions on Election Outcomes - Treatment refiniment

Notes: *** p < 0.01, ** p < 0.05, * p < 0.1. Standard errors clustered at electoral district and municipal level in parentheses. The dependent variable in all columns is the number of votes received by each candidate, transformed using the inverse hyperbolic sine (IHS). "Municipalities with US base" refers to the treatment refiniment shown in section 3.3. "Salience" captures the proportion of war-related tweets relative to other topics, and the emotional tone variables ("Fear," "Sadness," "Joy," and "Anger") refer to the emotional content of candidates' tweets. Interaction terms show how municipalities hosting a US base interacts with salience and emotional tone. All models include province fixed effects, election controls (e.g., type of election), and candidate controls (e.g., age, gender, party affiliation).

Figure A.3: Parallel trends



Graphical diagnostics for parallel trends

Figure A.4: Differences-in-Differences Event Study Estimates ("< 4" as 3)



Figure A.5: Panel Event Study ("< 4" as 3)



Figure A.6: Differences-in-Differences Event Study Estimates ("< 4" as 1)



Figure A.7: Panel Event Study ("< 4" as 1)



Figure A.8: Panel Event Study not considering city with an U.S. base (<10km)





Figure A.9: Differences-in-Differences Event Study Estimates

Figure A.10: Panel Event Study





Figure A.11: Differences-in-Differences Event Study Estimates

Figure A.12: Panel Event Study



Figure A.13: Spatial Distribution of 'Top Rated Beaches' on TripAdvisor 💿



Figure A.14: Panel Event Study - Placebo using distance from 'Top Rated Beaches' on TripAdvisor 💿





Figure A.15: Salience and Fear Event Study



Figure A.16: Random test: Salience and Fear Event DID Study