Place-Based Campaigning: The Political Impact of Real Grassroots Mobilization

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Generations of research have incrementally identified the circumstances under which electoral campaigns matter. Direct interpersonal contact within local networks is commonly seen as conducive to campaign impact, but empirical evidence is scarce because of demanding data requirements. We advance the literature by studying the Movimento Cinque Stelle (M5S), an important challenger party in Italy, which followed the unusual practice of coordinating political activities on a public online platform. We web scraped the entire history of the movement's more than 1,000 local branches with over 200,000 geocoded political activities, to study the effect and mechanisms of their no campaign in the 2016 constitutional referendum. Relying on regression, matching, and instrumental variable models, we demonstrate that local M5S mobilization had substantial campaign effects. Our results have important implications, as they highlight the effectiveness of locally rooted campaigns and the particular potency of place-based political mobilization.

Despite the increasing relevance of digital communication and social media in everyday politics, traditional on-the-ground mobilization remains at the heart of most political campaigns. Political activists who knock on doors, collect signatures at the local farmers market, or approach pedestrians to promote their political purpose can be seen as the embodiment of political campaigning. The unabated reliance on local grassroots activism suggests that place-based campaigning is a continuously effective tool in the toolbox of modern political movements in general and for young challenger parties that lack resources and access to state funding in particular.

The effectiveness of political campaigning has attracted vast scholarly attention. Contrary to the "minimal effects" thesis that inspired early work, the more recent empirical evidence makes abundantly clear that campaigns do matter in a variety of important ways (Jacobson 2015). Rather than questioning whether campaigning pays off, a sophisticated experimental literature has moved on to illuminate the context conditions that amplify the effectiveness of a given campaign, such as different mobilization tactics, messages, or targeting strategies (see Green and Gerber 2019).

Interestingly, the role of local, place-based campaigning (e.g., the political relevance of the grassroots activist at the farmers market) has received relatively little empirical attention. Although few people would question the importance of grassroots campaigns in terms of political mobilization, especially for emerging parties, existing empirical work tends to focus on professional campaigns organized top down under a common strategy, slogan, and perhaps even canvassing script. This focus on elite-based campaigning conflicts with evidence questioning the efficacy of professional canvassing that lacks the interpersonal component of truly local campaigning (Enos and Hersh 2015; Sinclair, McConnell, and Michelson 2013). However, systematic empirical evaluations of real grassroots mobilization are hampered by the evident

difficulty of comprehensively capturing the existence, intensity, and type of such place-based campaigns. Related work on "constituency campaigns" has thus resorted to indirect measures relying on spatially concentrated campaign spending estimates or self-reported information on partisan activity and canvassing exposure (e.g., André and Depauw 2016; Huckfeldt and Sprague 1992; Whiteley and Seyd 1994; but see Ellinas and Lamprianou 2019).

We address this research gap by turning to the Movimento Cinque Stelle (M5S), perhaps the most electorally successful populist party in Europe in the past decade (Mosca and Tronconi 2019). Not unlike other comparable political actors in (southern) Europe, the M5S emerged in a context of increasing political discontent with mainstream parties whose structural roots have been amplified by the harsh economic conditions and austerity policies in the aftermath of the Great Recession (Font, Graziano, and Tsakatika 2021; Kriesi 2014). Because of its self-conception as a bottom-up movement, the M5S has long coordinated all political activities on a public online platform. This feature of its organizational structure allows for uniquely transparent insights into the local campaign intensity of a modern political movement. We were able to collect the entire universe of decentralized M5S activity from the first day of its existence, resulting in a geocoded collection of more than 200,000 events organized by more than 1,000 independent local chapters with an average of 134 members in 896 locations in Italy. We map individual locations into political entities, to create a novel data set that provides daily information on M5S activity in each of Italy's 8,000 municipalities between July 2005 and December 2018. Our data are equivalent to a complete and locally disaggregated event history of M5S activity and thereby help overcome a key obstacle to studying the effects of local campaigns.

We focus on a central political battle in the recent history of the movement, namely, its role in the rejection of a constitutional reform in the 2016 referendum, which led to the resignation of then prime minister Matteo Renzi. While M5S was not the only party campaigning for a no vote, it was certainly the loudest advocate. We combine our rich event data with actual referendum results on the municipality level as well as individual-level panel data. Using regression, matching, and instrumental variable models along with placebo tests, we find consistent evidence that events organized by local activists had a systematic and nonnegligible effect on the referendum result. Robust within-individual evidence suggests that the primary channel through which the campaign increased opposition to the reform is persuasion rather than activation of undecided citizens.

At first sight, the robust finding that M5S campaigning significantly shifted the political outcome contrasts with the idea that campaign contact is unlikely to influence voters' choices (Kalla and Broockman 2018). A first reason could be our focus on a referendum whose result might be more malleable than that of an election campaign because of more ambiguous political cues (de Vreese 2007; LeDuc 2003). In addition, building on the literature that emphasizes the importance of social networks for attitude formation in general (Sinclair 2012) and campaigning in particular (Handan-Nader et al. 2021; Sinclair et al. 2013), our findings suggest that naturally occurring grassroots campaigns rooted in the local political environment could be more effective than the more artificial interventions of professional canvassing (for discussion, see, e.g., Green and Gerber 2016).

Importantly, our unique data set enables us to carefully investigate a pivotal observable implication of such an interpretation. Taking advantage of the fine-grained spatial disaggregation of our data, we show that the impact of place-based campaigning is indeed hyperlocal: M5S activity only affects local referendum outcomes, and we do not find any spillover effects on the referendum result in neighboring municipalities. The absence of spatial spillovers corroborates previous evidence that social networks and peer pressure rather than pure informational cues make a political campaign effective (Sinclair et al. 2013). Our article thus highlights the particular potency of place-based grassroots mobilization in a rigorous empirical setup.

As a final step, we have a closer look at the contextual conditions of the direct effect of M5S mobilization on the referendum outcome, to shed light on underlying mechanisms. This contextualization further adds to a more refined understanding of how exactly local campaigns affect political outcomes. First, individual event descriptions allow for a differentiation of indoor and outdoor activities. We find that only the latter have a measurable impact on the referendum outcome, implying that politicization of bystanders is a more powerful mobilization channel than private networks of highly involved activists. Second, we show that despite the movement's reliance on the internet to coordinate events, much of the actual politicization happens in real-world encounters and discussions. Third, we demonstrate that M5S activities primarily reach like-minded citizens. Persuasion of voters with divergent political preferences or mobilization of nonactive citizens do not appear as similarly relevant sources of influence.

In sum, we provide evidence of spatially highly concentrated, personal, and direct mobilization effects of place-based campaigning, which highlights the lasting importance and particular effectiveness of local political activism and traditional partisan bottom-up mobilization in an age of ubiquitous digital communication.

PARTIES, ACTIVISTS, AND LOCAL CAMPAIGNING

Research on party organization suggests that activists play an important role for political parties' electoral success and survival (Mair 2009; Panebianco 1988). On the one hand, party activists—the facilitators of local campaign activities—are understood to provide a major impetus to party elites, especially in terms of a party's programmatic development (e.g., Kitschelt 1994; Schumacher, de Vries, and Vis 2013). On the other hand, local activists provide important support on the ground, be it by activating voters via their personal networks, organizing party gatherings, or performing traditional campaign tasks (André and Depauw 2016; Kitschelt 1994; Whiteley and Seyd 1994). However, existing empirical research hardly ever fully integrated the influence of grassroots activities but resorted to indirect measures such as expert interviews, campaign spending data, or self-reported partisan activity. The main reason for this neglect is a crucial measurement issue: to date it has been difficult—if not impossible—to capture activities undertaken by any party's grassroots organization in an encompassing way.

Instead, we have to turn to the classic campaign literature to arrive at a better understanding of how local political activism might contribute to a party's success. Departing from the long dominant minimal effects hypothesis (Lazarsfeld, Berelson, and Gaudet 1948), generations of researchers have demonstrated that campaigns matter in various important ways (Jacobson 2015). Recent research converges on the view that campaign events tend to have small (Pons 2018) or even no persuasive effects (Kalla and Broockman 2018).

While this very rich literature provides important insights about how professional campaigns may affect political outcomes, it rarely engages with the full scope of partisan activity as conceptualized and theorized in the constituency campaigning literature. Instead, the focus is on experimental manipulation on a smaller scale, which provides highly relevant insights into the causal relationship between campaigns and political outcomes under close control. But as Pons (2018, 1324) outlines, control is much more limited in large-scale campaigns where well-known principal-agent problems (Enos and Hersh 2015) may reduce the impact of the campaign. More importantly, experimental research—even when randomizing canvassers (Foos and John 2018; Gerber and Green 2000)—rarely studies decentralized bottom-up mobilization by local activists on the ground. The nature of such decentralized campaigning is much less coordinated and more spontaneous and personal, includes more diverse messages, and likely centers around local political conflicts. Large-scale canvassing campaigns have a distinct top-down flavor, even if the actual door-to-door exercise is performed by volunteer activists. Such systematic canvassing endeavors tend to neglect idiosyncratic and often highly local political grievances that underpin typical grassroots mobilization. Indeed, individuals who are typically willing to volunteer in professional canvassing campaigns may be relatively ineffective because of their demographic and ideological differences from local voters and misconceptions of local political priorities (Enos and Hersh 2015).

Although social networks, interpersonal contact, and peer pressure are well-known determinants of individual political behavior (e.g., Doherty et al. 2017; Huckfeldt 1979; Putnam 2000; Sinclair 2012), these aspects rarely feature in professional, often somewhat artificial campaigning and canvassing carried out by paid workers or volunteers (for more in-depth discussion, see Green and Gerber [2016], 742). This is an important omission. Sinclair (2012) has powerfully argued and demonstrated that social networks do not primarily change political attitudes because they provide members with new information but because they activate a sense of norm conformity among peers. This clarification of the mechanisms behind politically relevant network effects implies that the social and local context of a campaign should be a key determinant of its effectiveness: campaign messengers might be a more powerful factor than the message itself.

There are apparent reasons for the relative neglect of the local context in existing work. First, the dominant experimental approach to studying campaign effects draws its strength and validity from randomizing exactly this match between messenger and recipient, that is, between canvasser and potential voter. Messenger effects are hence not of primary interest in this setting. However, two notable exceptions demonstrate that close geographic proximity between voter and volunteer matters: door-to-door visits from canvassers who can be perceived as "neighbors" are more effective than visits by canvassers from other neighborhoods or districts (Handan-Nader et al. 2021; Sinclair et al. 2013). This finding thus supports the conjecture that the mere informational aspect of a campaign message is less important than the social context of the interaction and, perhaps, the credibility of the messenger.

For understandable reasons, the attention to social network effects in nonexperimental campaign studies is even less pronounced. Systematically studying variation in the local context of a campaign is very challenging in terms of data availability and poses obvious empirical obstacles, which force researchers to resort to the above-mentioned indirect measures.[1] Thus,

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1. A notable exception is a recent study on the electoral impact of party activities of the Golden Dawn, a Greek far-right party, which draws on an inventory of self-reported activities by local party branches (Ellinas and Lamprianou 2019).

we identify a considerable need to examine whether and how decentralized, place-based grassroots mobilization (i.e., the epitome of political campaigning) helps political actors gain ground in political contestation. By studying the effect of truly local M5S campaigning during the 2016 constitutional referendum, we seek to provide relevant evidence regarding this research question.

THE CASE: M5S, MEETUP, AND ITALY'S 2016 CONSTITUTIONAL REFERENDUM

In contrast to its current position as a major player in Italian politics, M5S started out as a scattered anticorruption and antiestablishment movement (e.g., Bordignon and Ceccarini 2013). At the movement's infancy, communication between its charismatic founder Beppe Grillo and his sympathizers was heavily concentrated on Grillo's personal blog. As interest in the movement grew, Grillo felt overwhelmed by the volume of traffic on his blog and suggested that his followers organize independently on MeetUp (Grillo 2005), a public online platform for hosting in-person events. MeetUp groups rapidly became a major organizational resource, which squared nicely with the movement's conception of politics as bottom-up democracy (Bordignon and Ceccarini 2013). While MeetUp served as an organizational tool, actual events took place in public spaces, restaurants, or private homes. The use of this specific platform is thus by no means an idiosyncrasy of the case at hand but can be seen as a functional equivalent to other popular and publicly accessible online tools to mobilize supporters, including Facebook groups, Telegram chats, or specific platforms that aim at facilitating political organization (e.g., ActionNow).

The M5S had and still has a complicated relationship to political power, raising the question how to best gauge the effectiveness of the movement's campaigning in the electoral sphere. For a long time, the movement outright rejected participation in elections, denounced rampant corruption, and had a strong dislike for the political elite (Kriesi 2014). Election results thus provide a noisy and possibly misleading indicator of the movement's mobilization capacity. However, in contrast to the ambiguous position toward representative democracy, the M5S has shown strong and unambiguous support for more direct means of democratic participation in general and in referendums in particular. We hence focus on direct democratic political contestation rather than on election campaigns.

More specifically, we study the outcome of the 2016 constitutional referendum, a key political battle in the recent M5S history. Then prime minister Renzi (Partito Democratico, PD) proposed a major political reform that sought to amend 47 articles of the Italian Constitution in an attempt to redesign the institutional architecture of the Republic. Importantly, Renzi personalized the vote from the very start of the referendum campaign by equating a yes to the reform with support for his premiership (Ceccarini and Bordignon 2017, 289). This personalization created a strong opposition versus government dynamic. Indeed, much of the parliamentary opposition mobilized against the reform, with M5S as the most vocal opponent. The referendum was held on December 4, 2016, and brought Renzi a spectacular defeat, leading to his resignation as prime minister. Supporters of the M5S showed the highest party discipline and cohesion, with almost unanimous rejection of the reform (Pasquino and Valbruzzi 2017).

In general, referendums have become a much more common feature of Western democracies in recent decades, especially with respect to ratifying international agreements, and outcomes increasingly go against the governments' preferences (De Vries, Hobolt, and Walter 2021). Interestingly, despite the increasing prominence of national referendums, campaigning in that context has received little attention. The few existing studies suggest that political campaigning may be just as—if not more—important in determining outcomes in referendums as in elections (LeDuc 2003). This is because informational cues from parties and political actors tend to be much more ambiguous in referendums than in elections. A possible consequence is significant swings in public opinion, which highlights the relevance and potential influence of political campaigns (de Vreese 2007).

Our analysis aims to contribute to closing this important research gap. To illustrate how M5S organized its activities via MeetUp during the 2016 constitutional referendum, we focus on a MeetUp group in Pontinia, a small municipality in the province of Rome. The local chapter (Grilli in Movimento per Pontinia) was founded in 2012, has organized 193 public events since then, and currently has 115 members. The group was born as a "meeting point for all those who join or sympathize with the 5 Star Movement in the area of Pontinia," and its self-description highlights ideological independence ("neither left nor right, but ideas") and the desire for "democratic confrontation outside of association and partisan ties." A typical event during the campaign before the 2016 referendum would take place outdoors on a Saturday morning at the Piazza Indipendenza, with the aim to "spread the reasons for the NO to the constitutional referendum on December 4. Take part with us in the infopoint banquets, as you know the reasons for the NO. Activists help us spread the leaflets." Beyond the organizer, who according to his MeetUp profile has never been a member of a party but always "followed politics as a critical observer," the event

had five confirmed attendees from among the group's active members.[2]

HOW LOCAL M5S ACTIVISM AFFECTS THE REFERENDUM OUTCOME

As the example above outlines, local M5S chapters operate fully independently, organize events according to their liking, and set the political agenda of these events—a key difference from top-down campaign efforts. These local campaign activities spread across the entire spectrum of political mobilization: from small-scale meetings in private homes, to meetings that allow participants to engage with active M5S representatives in public buildings like the local library, up to large-scale mobilization events to share campaign materials in public spaces. Thus, the full scale of M5S activity against the reform goes well beyond the typical campaign tools analyzed in the campaign literature and is multifaceted—even within a given municipality.

Even though the traditional minimal effects thesis that initially inspired much research on campaigning has not survived recent generations of empirical research (Jacobson 2015), one might still question the ability of scattered, uncoordinated M5S branches to sway the outcome of a national referendum. One might question this even more in light of efforts at the national level via traditional and social media. However, we argue that the compartmentalized nature of such local groups is the distinguishing feature of the political power of decentralized challenger parties.

Political groups entrenched in villages or neighborhoods are easily accessible for ordinary citizens and provide an ideal context to understand, voice, and mobilize local interests and grievances. Tight-knit social networks and continuing deliberation and debate result in perhaps small but powerful organizations. The national movement learns about localities and their problems through bottom-up engagement with local interests and is dedicated to providing a meaningful platform that channels local grievances into a generally applicable political punch line.

While most M5S MeetUp groups are characterized by specific debates and varying issue emphasis related to the local political context, a unifying topic is a strong dislike for the political elite (Kriesi 2014). Hence, a strongly personalized national referendum that would decide the future of the prime minister (i.e., the most visible symbol of the central government) certainly provides a gratifying target for the M5S. A first key

expectation is that the presence of a local chapter and the intensity of its political mobilization increases votes against the reform.

We are equally interested in the underlying mechanisms of the effect of M5S activity—what ties grassroots mobilization to changes in political outcomes? First, we ask how local grassroots mobilization affects electoral results, by focusing on the extent to which local M5S mobilization activities transcend municipal boundaries. On the one hand, the fact that M5S chapters are strongly rooted in local communities might suggest that their activities primarily resonate within their local electoral sphere. On the other hand, given that modern campaign tools heavily rely on digital communication and social media, it is not unreasonable to assume processes of diffusion. In our case, this would mean that a local chapter might affect referendum outcomes not only in the same municipality but also in close-by communities by word of mouth and the regional mobility of interested citizens. While spillover effects of campaigns have been studied within tight social networks (e.g., Foos and De Rooij 2017; Nickerson 2008), we are not aware of studies that look at arguably even more consequential regional spillovers.

Second, we ask who is mobilized by M5S activities, in order to arrive at a more nuanced interpretation of our direct effect. For one, we have detailed information on the place and type of all gatherings in our data set, which provides an invaluable source of insight with respect to the kind of audience that is reached by a specific event. This variation allows us to shed light on the relative effectiveness of social networks resulting from small-group discussions at private homes as opposed to bystander effects of public events like leaflet distribution at the local piazza. In addition, we examine whether the effectiveness of the M5S campaign varies with partisan attachment. Drawing on insights from the traditional campaign literature in the context of elections, it is likely that the movement's campaign against the constitutional reform was particularly popular among citizens who feel close to the party and have supported it in previous elections. The part of our empirical analysis that builds on individual-level panel data allows for a straightforward examination of this long-standing and important debate (see, e.g., Kalla and Broockman 2018; Lazarsfeld et al. 1948) in the context of the 2016 referendum.

DATA

To test whether and how M5S's grassroots activities affected the outcome of the 2016 referendum, we collected complete data on all activities organized by the more than 1,000 local M5S chapters across the country. We then combined these geocoded event data with the actual referendum results for all 7,998 Italian municipalities as well as with a detailed individual panel study on the 2016 referendum.

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2. Quotes were translated from Italian. For original formulations and full information on the quoted examples, see https://www.meetup.com/en-AU /Grilli-in-Movimento-per-Pontinia and https://www.meetup.com/en-AU/Grilli -in-Movimento-per-Pontinia/events/pcvxdmyvpbjc/, respectively (accessed August 29, 2021).

The M5S MeetUp data

To retrieve full information about all events organized by M5S, we web scraped the complete set of events organized by each group identified as relevant. We followed a multistep procedure to obtain the universe of relevant groups (see app. sec. A.1 for details), resulting in a cumulative total of $N = 1{,}044$ local M5S chapters across the country (as of December 3, 2018).

For each group, we first retrieved full group-level metadata and then scraped its full event history.[3] This yielded $N = 217{,}218$ events between 2005 and 2018 organized by all 1,044 groups.

For each event, we have the following information: event ID, event description, event title, event creation date, event date/time, RSVP count, wait list count, and event URL. For about one-third of the events, we even have the precise venue, for example, Piazza Bellini or Osteria della Fontana (i.e., venue ID, venue name, venue latitude, venue longitude, venue address, venue city, venue state, venue ZIP, venue country). In cases when no precise venue is given, we impute event location with the precise location of the group, which is always known.

To give a first impression of the sheer amount of activities conducted by each M5S group, figure 1A shows the cumulative number of unique groups, and the corresponding monthly number of events is shown in figure 1B. Immediately after Grillo's call to organize on MeetUp, the first groups started to emerge.[4] The spread of local groups continued gradually, with a marked increase and acceleration of activity starting after the local elections in 2012. Figure 1B demonstrates that the number of events evolved in tandem and rose sharply from 2012. At the peak of M5S activity between 2012 and 2016, the monthly number of events reached about 3,000 on average, that is, an impressive 100 events per day scattered across the country. The seasonal pattern within years demonstrates the face validity of our data: activity consistently drops during summer holidays in August. M5S activity on MeetUp starts to decrease from late 2017, when Grillo eventually decided to reduce reliance on MeetUp and move supporters to an internal platform called Rousseau, in order to "put order in the uncontrolled ocean of meet ups."[5]

After retrieving all information on M5S grassroots activities, we use reverse geocoding techniques to aggregate exact event locations into politically relevant boundaries (i.e., municipalities, or *comuni*). The original data set on the event level is thus transformed into a time-varying municipality-level data set of political grassroots activity. Figure 2 visualizes this procedure. The "heat map" in figure 2A reports each M5S event and its precise geographical location. Using these locations and a shape file of Italian municipalities in 2016, we then evaluated in which municipality each event took place. Figure 2B reports the result of this matching exercise: 667 of 7,998 municipalities were exposed to M5S mobilization; the remaining 7,331 municipalities were not. Even though M5S mobilization is unsurprisingly visible in urban, highly populated municipalities—such as Rome, Milan, Florence, and Naples—more provincial areas and more rural municipalities also experience a large number M5S events, especially in northern Italy, Sardinia, and Sicily.

Since each of our more than 200,000 events features a more or less detailed description of the issues to be discussed, our data allow for a description of the content-related aim of M5S meetings. A direct classification of single events into topics (e.g., environmental politics or the constitutional referendum) is not feasible because the descriptions are not always informative and often rather short. However, the overall corpus of text consisting of the pooled content of all descriptions still allows for an informative illustration of some of the movement's recurring key topics and how they have evolved over time.

Figure 3 shows the result of a simple text analysis of these descriptions. After standardized preprocessing of the text, we retrieved the 300 most frequent features by year. For the sake of simpler visualization, we manually categorized these top features into broader topics (app. sec. A.2). First of all, the absolute number of texts across years reflects the overall activity of M5S MeetUp groups already discussed above.[6] In terms of content, unsurprisingly, some of the movement's core issues such as community, deliberation, direct democracy, localization of economic structures, and—especially in earlier years—environmental protection feature prominently. Perhaps most importantly for our purposes, the topic direct democracy is highly present across most years and dominates the M5S grassroots agenda in 2016 (mentioned over 10,000 times). This supports our point of departure that the M5S mobilized very actively and vocally against the constitutional reform. In fact, a further subanalysis of the various terms related to direct democracy demonstrates the

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3. The metadata contain group URL, group ID, group creation date, group name, group location, group latitude, group longitude, group state, and group country.

4. One chapter in Milan had used MeetUp before and might have served as inspiration.

5. Quoted from Il Fatto Quotidiano, https://www.ilfattoquotidiano.it/in-edicola/articoli/2017/06/14/ora-grillo-mette-il-guinzaglio-ai-meet-up-tutti-su-rousseau/3657728/.

6. We drop 2005 and 2006 for brevity. Top features are very similar to 2007 but on even lower levels of absolute numbers.
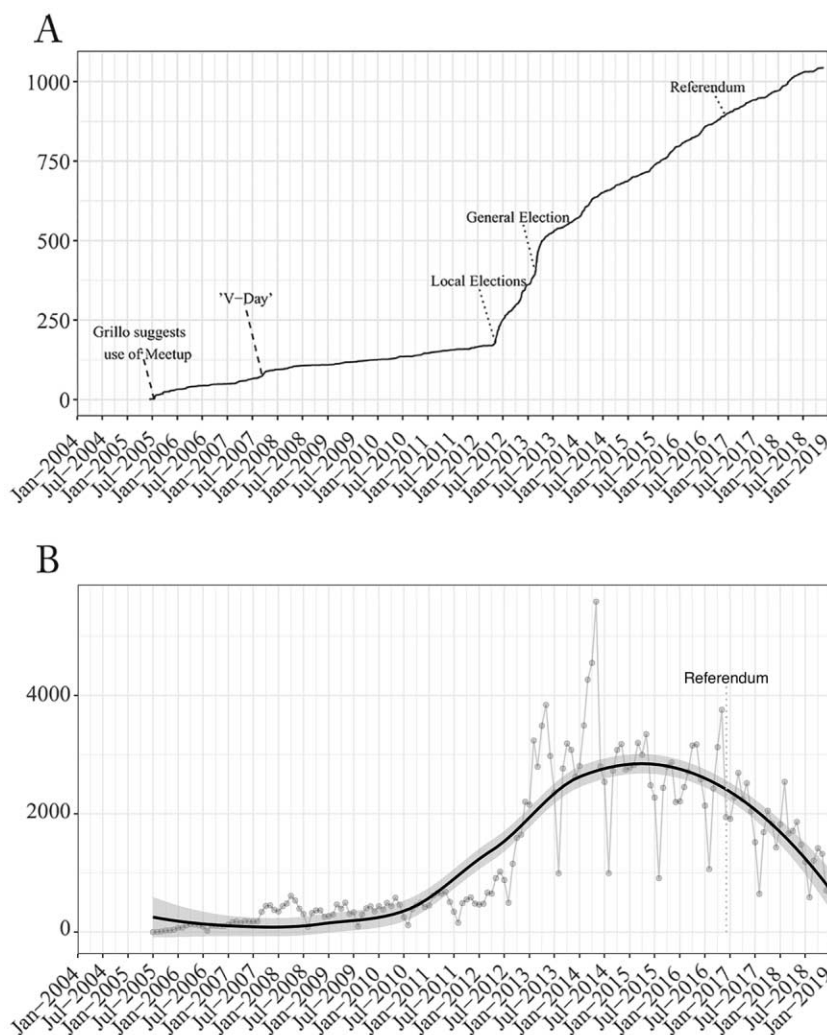
Figure 1. M5S mobilization across time, 2005–18: *A*, cumulative number of groups; *B*, monthly number of events

overwhelming importance of the referendum topic in 2016 (see fig. A.1).

Operationalization: Local M5S activity

From this unusually rich data set on M5S activity, we create our main explanatory variable—exposure to M5S mobilization in each of the 7,998 Italian municipalities. For the main analysis, we focus on events taking place during the referendum campaign, which we define as running from the day the senate approved the reform and Renzi announced that he would resign if the reform was rejected (January 20, 2016) to the day of the referendum (December 4, 2016).[7] A total of 27,687 events took place during that period, which implies that the average M5S municipality experienced 37 campaign

events. The most active local branch during that period was Amici di Beppe Grillo Firenze in Matteo Renzi's hometown, with more than 400 organized events between January and December.

Since the raw numbers of events and participants are heavily right skewed, we calculate the per eligible voter number of M5S event participants in a municipality. We approximate participation by the number of people who accepted the public invitation to an event (RSPVs) and log transform the numerator because of right-skewed distributions of both activity and population.[8] To avoid that our conclusions result from one specific operationalization, we also conduct analyses based on a simple binary measure—active local chapter during the referendum campaign = 1; 0 = otherwise—and a measure based on the number of events only (i.e., not weighted

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7. In app. sec. A.4.4, we report a robustness test using a shorter period, to study exposure to M5S mobilization. Reassuringly, our key takeaways remain unaffected by the coding decision.

8. Formally, our explanatory variable is defined as follows: $M5S_{m,t} = \log(((\Sigma(\text{number of events}_{m,t} \times \text{number of rsvps})_{m,t})/\text{number of eligible voters}_{m,t}) + 1)$, with m indicating municipality and t time of the survey wave.
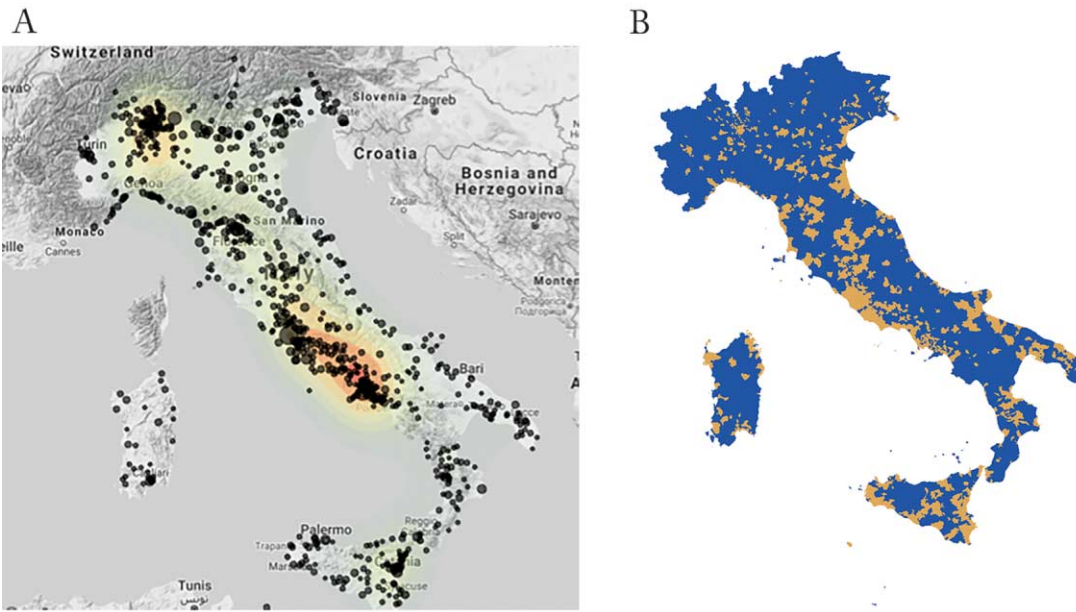
Figure 2. M5S mobilization until 2016: *A*, heat map and geolocation of all M5S events; *B*, M5S exposure per municipality (*comune*). Light-colored municipalities are exposed to M5S meetings; dark-colored municipalities did not experience any M5S events until 2016.

by participants; see tables A.3 and A.7). Since we have precise information on the appointed date and time of every single event, we can vary the aggregation of events over time t depending on the specific requirements of the various models.

For example, we will be able to compare effects of M5S mobilization during the height of the campaign as defined above to long-term effects of cumulative M5S activity since the first day of a local chapter's existence.
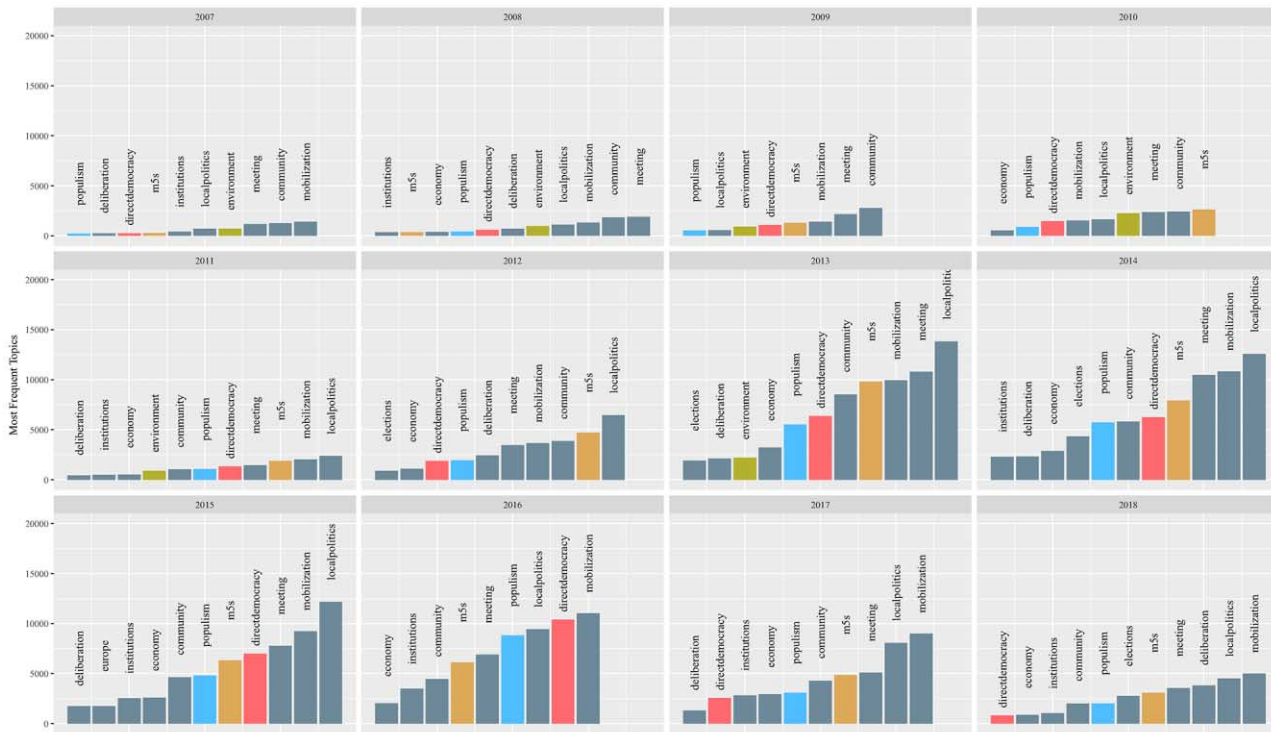

Figure 3. M5S topics over time: 300 top features in event descriptions reclassified into broader topics (see table A.2)

It is important to note that the analyses reported below capture an intention-to-treat effect: the data do not allow us to capture which part of the population within a municipality attended the events organized by M5S. What we do know is that events took place in some municipalities and that this makes it much more likely that the population is either directly (e.g., attending events) or indirectly (e.g., discussing events with friends who attended) affected by M5S mobilization. In addition, the individual-level data provide an opportunity to examine through which channels and events respondents received information during the referendum campaign (including offline events organized via the web). The respective results, which we report below, may be read as something that comes close to an actual manipulation test.

RESULTS

Municipality level: Official electoral data

For the municipality-level analysis, we collected official register data on the 2016 referendum outcome. Before delving into more complex estimations, our first part of the analyses relies on a simple *t*-test between municipalities exposed to/ not exposed to M5S mobilization. Figure 4 plots a histogram across all municipalities. It becomes immediately visible that municipalities with an active M5S chapter on average were 3 percentage points more likely to vote no in the referendum.

Of course, other factors such as economic well-being or previous voting patterns might explain this difference. Thus,

we also collected relevant covariates (income per capita, share unemployed, share university degree, share primary education and lower, share foreigners, population density) for each of the 7,998 municipalities in 2016, to control for confounding economic and structural differences across municipalities affecting the referendum result along with M5S mobilization.[9] Furthermore, we controlled for voting patterns in the last federal elections in 2013 when M5S parliamentarians first entered the bicameral institutions. We include the percentage of the population voting for M5S and PD and turnout in each municipality at the 2013 federal elections.[10]

To formally test whether M5S grassroots mobilization predicts the share of no votes in the 2016 referendum, we then estimate ordinary least squares (OLS) models of the following form:

$$y_m = \gamma M5S_m + \beta X_m + \alpha_p + \varepsilon_m, \qquad (1)$$

where γ indicates the coefficient of interest showing the effect of M5S exposure on the amount of no votes y in each municipality m, α_p are province fixed effects controlling away any time-invariant province characteristics, and X is the set of municipality-level control variables outlined above. Since the referendum is a single cross-section, we cannot use municipality-level fixed effects or cluster our standard errors on the municipality. Instead, we cluster our standard errors on the province level—the next higher administrative level—to get hold of any province-specific correlations within the error term structure.[11]

Table 1 shows the results of the cross-sectional analysis at the municipality level.[12] Again, we first rely on a simple binary comparison between exposed and unexposed municipalities in models 1–4. The first model reporting a 2.53 percentage point increase of no votes in M5S municipalities can thereby
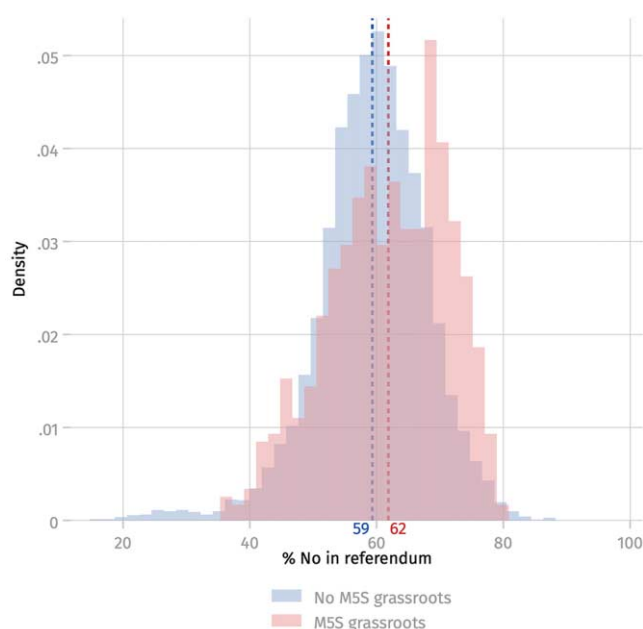

Figure 4. Bivariate comparison between municipalities without and with M5S grassroots mobilization. The difference between the two distributions is statistically significant. Dashed lines report the mean for each distribution.

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9. The data stem from various sources: election data are from Governo italiano Ministero dell'Interno (https://elezionistorico.interno.gov.it); unemployment and share of foreigners, from Istituto nazionale di statistica (ISTAT) (https://www.istat.it/); taxable income, from Departemento della Finanze (https://www1.finanze.gov.it/finanze3/analisi_stat/index.php?search_class%5B0%5D=cCOMUNE&opendata=yes); education, from census data (http://dati-censimentopopolazione.istat.it/Index.aspx?lang=en&SubSessionId=31751c30-4f91-4b7e-b94f-73b83b5a514f&themetreeid=-209).

10. To be more precise, we control for the percentage of the population voting for M5S in the chamber of deputies only. The reason for not controlling for the senate is that only voters older than 25 are allowed to vote for it. However, our findings remain robust when we control for votes in the senate and chamber of deputies.

11. Note that from a methodological point of view, clustering is not necessarily needed in this case. Results without clustering are substantively identical but have smaller standard errors.

12. In four municipalities, nobody participated in the referendum according to the official data. Thus, we analyze the results for 7,994 municipalities.

Table 1. Does M5S Grassroots Mobilization Predict Referendum No-Vote Share? % No in Referendum

	Binary				Continuous			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
M5S activity (0, 1)	2.53	.86	.65	.34				
	(1.12)	(.35)	(.19)	(.19)				
M5S activity (cont.)					1.08	.35	.21	.19
					(.40)	(.13)	(.08)	(.09)
M5S: % votes 2013			.25				.25	
			(.05)				(.05)	
Constant	59.32	59.45	76.24	61.46	59.33	59.46	76.26	61.46
	(.66)	(.03)	(2.06)	(.10)	(.66)	(.02)	(2.06)	(.10)
Province fixed effects		✓	✓	✓		✓	✓	✓
Controls			✓				✓	
Entropy balanced				✓				✓
Observations	7,994	7,994	7,804	7,804	7,994	7,994	7,804	7,804
Provinces	110	110	110	110	110	110	110	110
Adjusted R^2	.01	.55	.71	.72	.01	.55	.71	.72
Adjusted R^2 (within)	.01	.00	.34	.00	.01	.00	.34	.00
RMSE	8.72	5.86	4.69	4.72	8.72	5.86	4.69	4.71

Note. Ordinary least squares estimates (municipality). Clustered standard errors by province in parentheses. Controls omitted from table: PD % votes 2013, % turnout 2013, income per cap, % unemployed, % university degree, % low education, % foreigners, population density. Same variables used for matching. RMSE = root mean square error.

be understood as a formal test of the comparisons we drew in figure 1. Subsequently, we introduce province fixed effects in model 2 and our set of controls in model 3. While the difference of M5S exposure remains statistically significant, the size of the effect shrinks considerably to 0.65 percentage points. This means that after controlling for socioeconomic and voting characteristics of each municipality, municipalities with active M5S chapters are about half a percentage point more likely to vote no in the referendum. Using the continuous measure as outlined above results in similar conclusions (models 5–7).

Of course, M5S mobilization is not randomly assigned. Municipalities experiencing M5S mobilization might vary on several factors, which might explain the actual differences between both mobilization during and voting no at the referendum. To address this concern, we use entropy balancing to match unexposed with exposed municipalities (Hainmueller 2012).[13] We visualize the outcome of this procedure in figure 5. For the raw data we find significant differences between municipalities exposed to M5S activities and municipalities that

were not exposed. However, as the diamond-shaped point estimates in figure 5 indicate, with entropy balancing we are able to retrieve full balance in all observed covariates between exposed and unexposed municipalities. Models 4 and 8 rely on the weights stemming from entropy balancing and reestimating our models. Again, we find significant differences between exposed and unexposed municipalities—albeit in the case of the binary measure significant on the 10% level only with $p = .087$. Notice, however, that in the appendix we use a much more conservative definition of the campaign period analyzed here. These models report higher coefficients and remain significant throughout below the 5% threshold (app. sec. A.4.4).

Individual level: The ITANES panel

We complement our municipality-level results with an analysis of individual-level panel data. This approach comes at the cost of measurement error regarding the referendum outcome, but it allows us to examine within-municipality and within-subject effects of M5S grassroots mobilization. We rely on the Italian National Election Study (ITANES) Referendum Panel (2016). ITANES has carried out large sample surveys for all major elections and referendums in Italy since the 1970s. While the location of each respondent enables us to match respondents to actual exposure to M5S mobilization within their municipalities, the panel structure guarantees that we

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13. We also used nearest neighbor matching. However, we only achieve balance and have enough power to estimate our models with a caliper of 1 or larger. Even in this model, two-thirds of the cases are dropped from the analysis. However, the results are virtually the same as those we report here from entropy balancing.
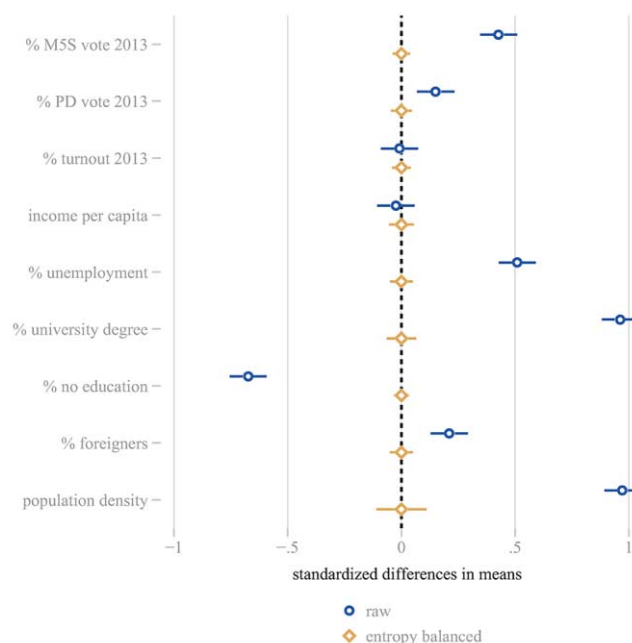
Figure 5. Balance statistics regional data, raw and after entropy balancing: OLS estimates surrounded by 95% confidence intervals. "Raw" is a model without any reweighting; "entropy balanced" reweights the sample according to the weights retrieved from an entropy balancing model discussed in the article.

can estimate within-person changes on voting no at the referendum. The ITANES panel 2016 collected data on 3,050 respondents in two waves—one approximately six months before the referendum, one immediately thereafter. Apart from the usual sociodemographic and socioeconomic information, the panel asks respondents about their intention to vote (prewave) and their actual vote (postwave) in the referendum. The panel also includes information about the political preferences of each respondent—past vote choice, political interest, or left-right self-placement. Moreover, the panel structure facilitates combination of the 2016 waves with earlier postelection waves. Thus, we can measure several covariates—such as voting or political interest—long before Renzi introduced the idea of a referendum, which hedges against postexposure bias. Taken together, the ITANES data enable a rigorous analysis of the impact of M5S mobilization on within-person changes of preferences about the referendum.

Using the data as outlined above based on the two-wave ITANES referendum panel, we first estimate a series of fixed effects OLS regression models of the following form:

$$y_{imt} = \gamma M5S_{mt} + \beta X_{it} + \tau_t + \lambda_m + \varepsilon_{imt}, \qquad (2)$$

where again γ indicates the coefficient of interest showing the effect of M5S exposure on voting no in the referendum for each respondent i nested into municipality m and two survey waves t. The M5S campaign variable is operationalized analogously to the previous version but redefined such that the

volume of M5S grassroots activity is matched with the survey timing.[14] The fixed effects for municipalities and survey waves are τ_t and λ_m, respectively, and X_{it} is the set of individual-level control variables outlined above. Thus, we now only leverage the variation of M5S exposure within municipalities. This means that we factually model the change within respondents regarding their referendum vote. We use multiway clustering by respondent ID—each respondent is observed in two waves—and by municipality (exposure assignment).[15] Certainly, the ITANES panel is not representative of the population within each municipality. However, below we will mainly focus on changes within municipality and respondent. This means that internal validity of our design is not affected by the lack of representatives at the municipality level.

Table 2 reports the main findings of these model specifications based on the ITANES data. More specifically, in models 1–3, we subsequently add municipality fixed effects, wave fixed effects, and our set of control variables reported in the note of the table. The findings of these individual-level models correspond nicely with our municipality-level analyses. Again, we find a statistically significant effect of M5S grassroots mobilization: a 1-unit increase in M5S activity corresponds to a 7–8 percentage point increase in voting no at the referendum.

In model 4, we replace the municipality fixed effects with individual-level fixed effects.[16] This is the most conservative model we estimate throughout the article since it only leverages the variation in M5S grassroots mobilization and voting no at the referendum within each respondent. We still find a 7 percentage point increase in voting no.

In models 5 and 6, we again apply entropy balancing. We match respondents only on pretreatment covariates, in order not to introduce posttreatment bias.[17] Reassuringly, we do not

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14. For the first wave, we use all events during the referendum campaign until the fielding dates of the survey; for the second wave, we rely on all events since the start of the referendum campaign and the day of the referendum.

15. Clustering by municipality only results in virtually identical standard errors.

16. This also means that we cannot introduce any individual-level controls, as these are all time invariant and, thus, drop out of the equation.

17. A causal interpretation of our panel-data findings relies on the parallel trends assumption; i.e., we can observe parallel trends in referendum voting between the respondents who do not experience M5S grassroots mobilization and respondents who do. Given that the 2016 referendum is a single event, and respondents also are exposed to M5S grassroots mobilization on the referendum before the first wave of the ITANES panel, we cannot directly test this assumption by comparing pretreatment trends in the outcome as it is usually done. However, we can leverage the information we retrieve from respondents who were already interviewed in the 2013 postelection study.

Table 2. Does M5S Grassroots Mobilization Predict Individual Referendum Voting? Vote No in Referendum

	(1)	(2)	(3)	(4)	(5)	(6)
M5S: referendum	.07	.08	.07	.07	.07	.07
	(.02)	(.02)	(.03)	(.02)	(.03)	(.03)
M5S voter in 2013 (0, 1)			.07			
			(.03)			
Constant	.39	.94	.79	.40	.42	.42
	(.02)	(.07)	(.10)	(.02)	(.02)	(.02)
Wave FE	✓	✓	✓	✓	✓	✓
Municipality FE	✓	✓	✓		✓	
Socioeconomic controls		✓	✓			
Political controls			✓			
Individual FE				✓		✓
Entropy balanced					✓	✓
Observations	5,254	5,206	4,070	5,166	4,070	4,012
Municipalities	1,016	1,006	856	1,012	856	855
Adjusted R^2	.17	.25	.30	.51	.26	.57
Adjusted R^2 (within)	.00	.09	.14	.00	.00	.00
RMSE	.45	.43	.42	.35	.43	.33

Note. Ordinary least squares estimates (individual). Clustered standard errors by individual × municipality in parentheses. Controls omitted from table: economy retrospective (1–5), unemployed (0, 1), female (0, 1), age (18–88), education (1–7), religiosity (0, 1), PD voter in 2013 (0, 1), political interest (1–4), talk politics (1–6), explicitly no left-right self-placement (0, 1), politics too complex (1–4), internal efficacy (1–4). For entropy balancing, we use only variables asked in the 2013 postelection study as outlined in fig. A.9. FE = fixed effects; RMSE = root mean square error.

find any meaningful differences for respondents' vote choice in 2013, refusal to place themselves on the left-right scale, internal efficacy, or even political interest (see fig. A.9).[18] At the same time, the figure shows clear differences between exposed and unexposed respondents, for instance, in education. To address this issue, we again rely on entropy balancing. After balancing, we do not observe any differences between respondents exposed to and respondents not exposed to M5S mobilization in their municipalities. Model 5 and 6 then re-estimate models 3 and 4 respectively by applying the entropy weights. Again, we find a positive effect of M5S grassroots activity on voting no at the referendum, statistically significant at conventional levels ($p = .027$).

A major difference between our individual- and regional-level findings is the magnitude of the effect. Overall, we find substantially larger effects for the individual-level analyses. A 1-unit increase in M5S mobilization is associated with a 0.18 percentage point increase in no votes in the regional-level analyses, while we find a 7 percentage point increase in nos on the individual level. However, given our transformation of the

continuous variable, a 1-unit increase does not have a very straightforward interpretation. To nevertheless outline the substantial effect of our results, let us imagine a town with 100 inhabitants in which not a single M5S event is organized. In this case, our continuous measure is 0, as there is no M5S mobilization and consequently no change in no votes (equals a prediction of 61.43% no votes nationwide). Now let us change that: imagine the same town in which 10% (10 inhabitants) of the population take part in one single event organized by a local M5S group. This corresponds to a value of 0.41 on our continuous M5S measure. If this increase in mobilization happened nationwide, it would increase no votes by 0.07 percentage points (equals a prediction of 61.5% no votes nationwide). At first sight, this may sound like a small increase, but this very realistic change in mobilization we discuss here is just about half as large as an increase by a standard deviation on our independent variable. This is just to say that what might sound like a small increase appears to be a realistic estimate for mobilization effects of locally organized events across the nation. Again, keep in mind that the same scenario would result in a major effect if we relied on the individual-level panel data: an increase in no votes of 3 percentage points. The difference between the two data sets is then largely explained by the major opinion shift that occurred during the referendum campaign. As discussed

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18. Refusing self-placement on the left-right scale is one of the strongest predictors of M5S voting. Therefore, the ITANES panel explicitly asks respondents whether they do not see themselves placed at all in the left-right general space, with 16% of respondents using this option.

elsewhere (Ceccarini and Bordignon 2017, 293), almost all voters supported the reform at the beginning of the campaign, including 66% of M5S supporters. This changed drastically during the campaign, and in particular M5S voters turned out in large numbers to the no camp. Similarly, in the first wave of the ITANES panel, only 33% of the voters suggest that they want to vote no at the referendum, while 54% say they voted no in the postreferendum wave. Our analysis based on the actual referendum result does not capture this drastic cross-time shift; the analysis can only be based on cross-sectional variation.

CHANNELS

Spatial (non)contagion of place-based campaigning

A fundamental theoretical and empirical question emerging from our main result is whether the effects we report are tied to M5S activities within a municipality or subject to spillover patterns to adjacent municipalities. In more technical terms, we based our analyses on the stable unit treatment value assumption (SUTVA), meaning that there are no spillover effects from M5S activity in nearby municipalities. Beyond research design issues, this is a theoretically highly relevant question. We expect place-based campaigning to be particularly effective because of social network effects and peer pressure and hence argue that it is primarily local grassroots activity that affects the referendum outcome. By necessity, this means that we should not find large spillover effects to adjacent municipalities. Otherwise, our results would imply a delocalized effect. Such a more general effect is a likely alternative given the importance of social media tools in modern campaigns and particularly for the M5S.

Thanks to the detailed spatial disaggregation of our data, we can directly assess spillover effects and, hence, the plausibility of the SUTVA assumption, by calculating the total volume of M5S activity in all adjacent municipalities for formally unexposed municipalities. To give an example, the municipality Giardinello near Palermo on Sicily experienced no M5S mobilization within its boundaries, whereas adjacent municipalities experienced a total of 57 M5S events during the referendum campaign. Using this information instead of within-municipality exposure, we reran our models for (*a*) all municipalities and (*b*) only municipalities that never experienced M5S mobilization (table A.8). We use the same empirical setup and variable operationalization as discussed above.

Figure 6 reports the key findings from this analysis. It is clear that we do not find any significant effect by adjacent M5S mobilization. If we include our set of controls, the adjacent effect is estimated as a precise null effect. In turn, our main findings based on local M5S activities remain unaffected when we control for adjacent mobilization. We interpret this

as strong evidence that M5S can mobilize locals to vote no at the referendum and that this mobilization heavily relies on direct, local grassroots rather than universal trends driven by an elite-based, national campaign against the reform.

The detailed questionnaire of the ITANES panel allows us to go one step further and examine even more subtle forms of potential spillover effects of the ways citizens gather information about the referendum. As outlined in the theoretical section, M5S activities are likely to inform citizens about the referendum and shift attitudes through a norm conformity mechanism within local social networks. The absence of spillover effects with respect to the referendum result confirms this expectation. Building on this previous analysis, we now look at a more conservative indicator of spillover effects, by comparing respondents' information-seeking behavior in municipalities with M5S grassroots activity compared to respondents in formally unexposed but adjacent municipalities. This analysis relies on the postreferendum wave only, which unlike the prereferendum wave contains a rich set of questions about information seeking by each respondent during the referendum campaign.

Figure 6*B* reports the findings from these estimations. In line with our expectations, the coefficients plotted on the left demonstrate that a local M5S campaign goes hand in hand with more active online information seeking about the referendum. Residents in municipalities exposed to M5S campaigning use a variety of online resources, including campaign videos, online debates, and websites of politicians. Perhaps most importantly for our purposes, they are more likely to use online sources to get information about events that ultimately take place offline (i.e., exactly the logic of the MeetUp platform). This finding hence supports the chain of events that characterize M5S mobilization as outlined above. M5S organizes online but creates an extensive offline feedback loop in terms of mobilization and affecting public preferences; they manage to effectively connect the online with the offline sphere. Mirroring the analysis in figure 6*A*, the right-hand side of figure 6*B* examines the extent to which these effects on individual information seeking spill over to residents of adjacent but formally unexposed municipalities. Again, there is no indication of spatial contagion of M5S campaigns. Thus, this auxiliary analysis not only provides additional insights about the underlying mechanisms between M5S campaigning and the referendum result but also highlights that the particular effectiveness of place-based campaigning is rooted in highly local social networks.

Who is affected by M5S grassroots activities?

A second question we discussed in our theoretical section is who exactly are the people affected by local M5S chapters?
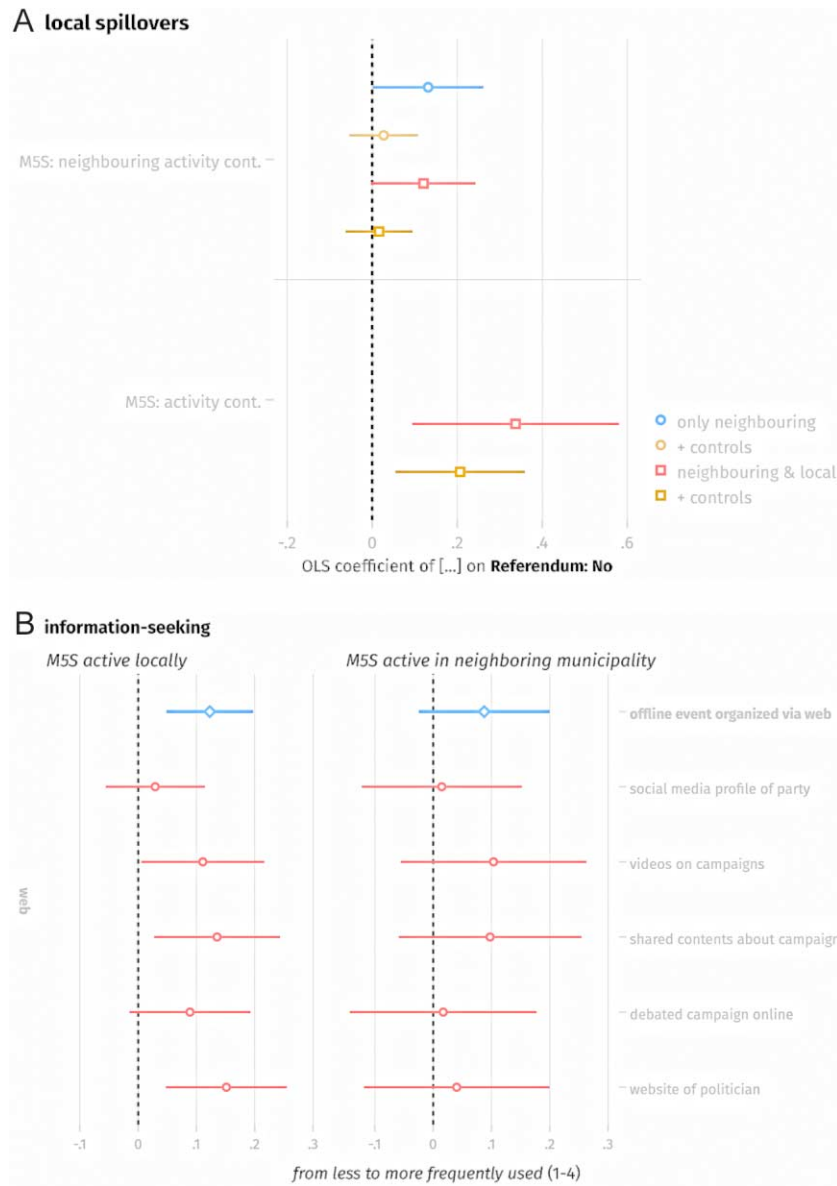
Figure 6. How does local M5S grassroots campaigning matter?

First, we suggested that events can be differentiated into those that seek to organize the existing base and those that seek to affect bystanders. To approximate these types of events, we recoded our data into outdoor (bystander effect) and indoor (preaching to the choir) events relying on the location description provided by MeetUp (for more details, see app. sec. A.3).

In figure 7A we test whether indoor and outdoor events have different effects on the referendum result relying on regional as well as individual-level data.[19] We then report

three models using the full set of controls and fixed effects discussed above. In the first model, we rely on indoor events as the key independent variable; in the second model, we rely on outdoor events; in the final model, we introduce both measures as independent variables in a single model. Interestingly, we do not find any effects of indoor events on the referendum results. Much in line with our theoretical argument, this suggests that these types of events are likely to preach to the choir and unable to mobilize numerically relevant opposition against the reform. In contrast, we do find significant effects of outdoor activities by local M5S chapters, suggesting that they can successfully mobilize citizens within the broader social network if events are organized in public spaces.

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19. In app. sec. A.7, we also discuss the differences between both types of events. We show that outdoor events have fewer RSVPs, which further underpins our argument that these events tend to mobilize bystanders.
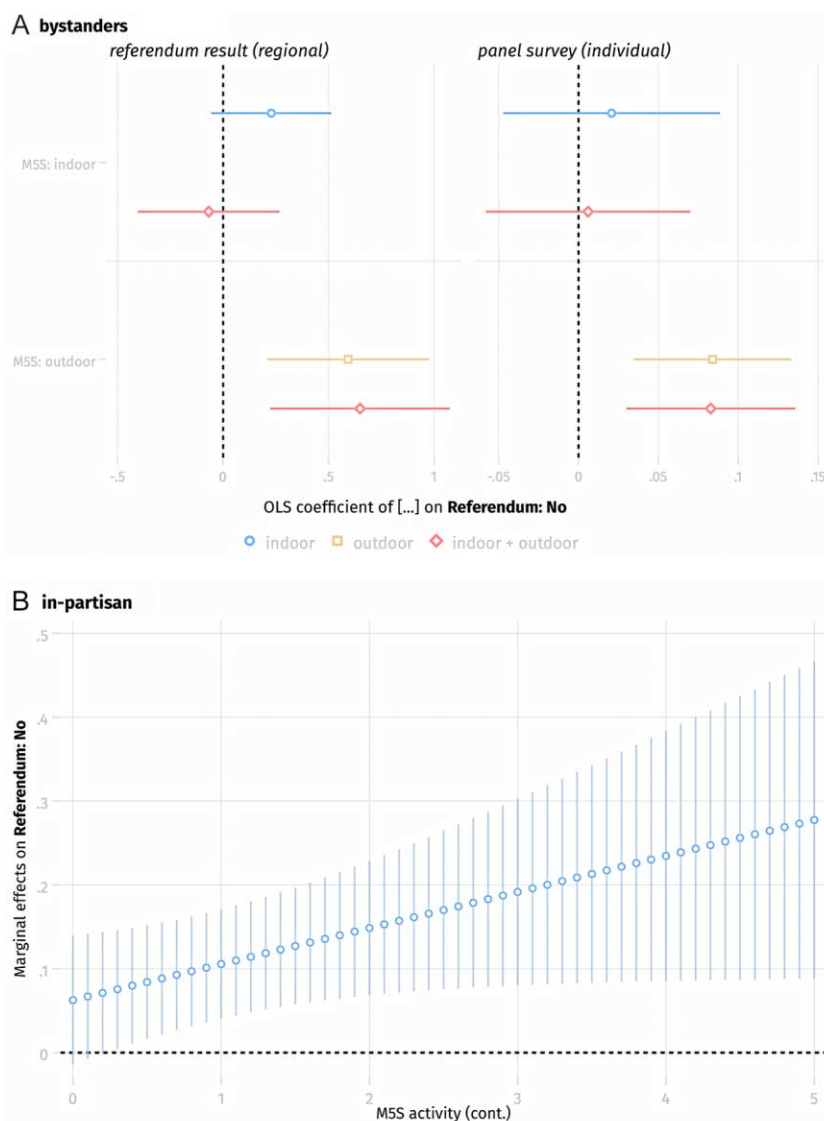
Figure 7. Who is affected by M5S grassroots?

A final relevant aspect is the ideological predisposition of the bystanders who can be mobilized. In line with much of the traditional campaigning literature, we would expect that voters who already feel close to the aims of the movement are particularly prone to respond to its activities. We test this by interacting the M5S exposure variable with respondents' reported voting after the 2013 Italian federal election. Theoretically, we would expect a significant interaction effect between previous M5S voters and exposure to M5S grassroots activity, and this is indeed what we find. Figure 7B reports the marginal effect of this interaction. There is a significant interaction effect for M5S votes but no impact among supporters of other parties, irrespective of their stance on the referendum (see table A.10). This additional analysis adds nuance to our main finding by demonstrating that the M5S grassroots campaign against the reform was particularly ef-

fective among citizens who are sympathetic to the cause of the movement and have voted for M5S in the past.[20]

An alternative explanation for an increasing no-vote share is an activation effect (i.e., successful mobilization of inactive voters). In order to test for this alternative explanation, we examined the impact of M5S activity on turnout. We reran our entire analysis at both the regional and individual levels, with regard to participation in the referendum rather than its outcome. In contrast to the robust impact on the no-vote

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20. The campaign also used what the traditional literature calls reinforcement; i.e., it worked via a complementary, hypothetical channel, which we cannot directly assess, to strengthen like-minded citizens' preference for their initial position. Such reinforcement is politically highly relevant, as it serves the important "purpose of preserving a prior decision" instead of initiating another decision (Lazarsfeld et al. 1948, 87).

share, the effects of M5S exposure on turnout are weak and inconclusive. These results hence lend little support to a clear-cut interpretation of the results as a mobilization story.[21] In line with Pons (2018), we conclude that persuasion rather than activation of nonvoters is the key channel through which M5S activity affected referendum results.

ROBUSTNESS AND CAUSALITY

We conducted several additional tests to examine the robustness and causality of the main result that M5S campaigning increased the local no-vote share in the 2016 referendum. First, given that M5S mobilization is less common for most rural and more isolated provinces, the immediate question is whether and how the M5S effects vary across provinces. Similarly, other parties also campaigned against the reform, specifically in the northern regions of Italy. Our main results already control for population density, but the findings might still be driven by a few more urbanized and more politicized provinces. To address this concern, we used a jackknife test in the municipality level analysis that drops each province once and reestimates our models (app. sec. A.4.2). Each of these 110 models reports a significant effect, and the pooled effect of this test is similar in size to the results reported here.

Second, questions of reversed causality and omitted variable bias still linger. Our matching approach relies on the assumption that we observe all key characteristics driving M5S mobilization. However, some unobserved factors like local norms or specific traditions of political contestation might drive both local M5S activity and opposition to the referendum (common cause). Although the individual panel analysis largely addresses these concerns, we also approach this methodologically challenging problem on the regional level. To do so, we first estimate a set of placebo models. Since we have rich information about M5S mobilization also after the 2016 referendum, we can use it to estimate whether future M5S mobilization affects the past 2016 referendum results. The idea behind this placebo test is that we should not expect any effects of future mobilization on past political results—specifically for municipalities that have not yet experienced M5S mobilization. If this were the case, we would have strong reason to assume that other factors apart from M5S grassroots activity drive our findings. Appendix section A.4.3 reports the findings of these placebo models. Reassuringly, we do not find

any significant effects of future M5S mobilization on the 2016 referendum results.

In addition, we propose an instrumental variable design to further support a causal interpretation of our main result. We restrict ourselves to a brief, intuitive summary of the instrument at this point but provide a detailed description of our approach and the credibility of its underlying assumptions in appendix section A.4.5. In essence, we leverage the fact that M5S mobilization was predominantly organized online, which means that internet access became a precondition for keeping informed about and being able to participate in M5S events.[22] Importantly, broadband access is to a certain extent quasi-randomly assigned in Italy because access to asymmetric digital subscriber line internet depends heavily on the preexisting telecommunication infrastructure (Campante, Durante, and Sobbrio 2018; Schaub and Morisi 2020).

We can leverage this fact as quasi-random variation to the earlier success of local M5S mobilization. More specifically, we use the rich information we gathered for each M5S group to estimate the day an M5S group came into existence in each Italian municipality. This variable is predictive of M5S mobilization during the 2016 referendum campaign, meaning that M5S groups that came into existence earlier are likely to mobilize more successfully today—even though the original topics and intentions of M5S's early days are no longer relevant for most groups we study during the referendum. We then interact this historical information with the distance of each municipality to the closest urban group stage (the technical term being a "higher-order telecommunication exchange"). The intuition behind this interaction is that the timing when M5S first mobilized in a given municipality is to some extent contingent on the volume of broadband internet access provided in that municipality. Appendix section A.4.5 reports the findings of this instrumental variable approach along with crucial tests of the instruments' first stage, tests of the instruments' independence, and an extensive discussion of the exclusion restriction. Consistent with our previous results, we find a significant and positive effect of M5S mobilization on no votes in the referendum.

CONCLUSION

This article has demonstrated the continued relevance of traditional partisan grassroots organization and bottom-up

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21. At least on the regional level, mobilization of opponents and demobilization of supporters may cancel each other out, which would mask underlying mobilization effects. However, we can test for potential deterrence of initial supporters of the referendum or partisans of other parties at the individual level. The results (see table A.10) do not support such a more complex mobilization mechanism either.

22. From today's perspective, this might appear as a negligible impediment, but it was a major issue when M5S started mobilizing in 2005. According to official data from the Organization for Economic Cooperation and Development and the Italian communication ministry, only about every third Italian household had access to broadband internet at the time, and although mobile internet already existed, it was far from being commercialized.

mobilization of potential supporters even in an era with omnipresent online campaign tools and social media. Drawing on unique data from Italy, we show that the political on-the-ground activities of the M5S, a major challenger party that has rapidly risen to power, led to a noticeable effect on voting during the constitutional referendum in 2016. The robust impact of locally rooted M5S campaigning on the referendum outcome highlights the crucial role of social networks in amplifying the effectiveness of a campaign.

Moreover, we carefully investigate the channels through which this general mobilization effect comes into play. Auxiliary analyses show that the direct effect on the referendum result is driven by hyperlocal mobilization without spillovers into neighboring municipalities and a reinforcement of like-minded citizens mobilized at public outdoor events. Our results are robust to a set of further analyses and represent plausibly causal effects that hold up in a generalized difference-in-difference and instrumental variable design. As in any research design, each of our analyses is based on a set of assumptions (e.g., excludability assumptions) that we test as adequately as possible, but they remain assumptions and approximations. Yet, the richness of our analyses and the amount of robustness tests portray a solid and stable picture. Based on fine-grained geolocated data along with national referendum results and a rich panel data set, these empirical findings go well beyond existing research on partisan grassroots mobilization. They add to the important strand of experimental research on campaigns, which tends to study more isolated mobilization efforts compared to our analysis, which covers nationwide grassroots activities during a constitutional referendum campaign.

Of course, our results are based on one referendum in a particular political environment. We do not claim that they can be blindly applied to any other campaign situation. The generalizability of the findings certainly depends on various contextual factors, which might provide fruitful avenues for future research. Potentially important context conditions include (*a*) whether the party at hand is an established organization or a newish label with lots of grassroots enthusiasm, (*b*) whether the campaign aims at shifting a binary referendum outcome or winning an election, or (*c*) whether a choice takes place in a situation characterized by widespread dissatisfaction with the political system, where many citizens may be inclined to stay home unless they receive a specific inducement to participate.

At the same time, we are convinced that many of the context conditions of our case are by no means unique. The emergence of challenger parties, often with a populist element, is a key feature of recent party system transformation in Western Europe (De Vries and Hobolt 2020). With its strong antiestablishment and anticorruption discourse, its conception of the elite as a separate "caste," the importance of its charismatic leader, its "internet-prone internal structures," and its critical stance toward representative democracy, the M5S is in many respects comparable to its twin movements at both ends of the ideological spectrum in other advanced democracies (Font et al. 2021; Ignazi 2021).[23]

Similarly, our focus on a referendum rather than an election campaign should not threaten generalizability in fundamental ways. Direct democracy is popular, and many countries across the world increasingly use one or multiple types of referendums or citizen initiatives (de Vreese 2007). The results are thus expected to apply in other referendum contexts in other countries. However, the absence of typical party cueing in the referendum context may allow for slightly larger effects than in election campaigns.

Finally, the movement's reliance on the online platform MeetUp might deserve some discussion. We do not believe that this specific online tool is in any way singular or inimitable. For example, the ActionNetwork in the United States is an "open platform that empowers individuals and groups to organize for progressive causes" and has been used by the Black Lives Matter Movement to organize local chapters not unlike the M5S.[24] Another example is public chat groups (e.g., on Telegram or 4chan), where online activity often sets the stage for real-world reactions among all kinds of groups across the political spectrum. In addition, well-known social media sites like Facebook continue to serve as public mobilization platforms for political parties and movements (e.g., Pegida in Germany). Last but not least, Donald Trump's heavy reliance on social media with its often immediate repercussions when supporters took to the streets in response to his Tweets is another evident example. Independent of the specific platform used, online mobilization that turns into political activity in the real world appears as a common feature of contemporary democracy.

While the M5S can be seen as a prolific pioneer in exploiting an online-offline campaigning tandem, its successful application is not confined to Italy. One key takeaway of this article is that traditional grassroots mobilization efforts continue to matter even in the digital age—specifically if they are organized around local grievances under a strong umbrella organization. As the internet gives way to ever more

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23. The movement's ideological position seems to escape the traditional left-right dimension, which makes its placement on a programmatic scale notoriously difficult. This feature should not affect generalizability, as our outcome of interest was not a typical left-right issue.

24. See the ActionNetwork self-description on https://actionnetwork .org/about.

professionalized, personalized, decentralized campaigns, our findings suggest that a combination of the online and the offline sphere might represent a winning strategy for modern political movements and challenger parties. Perhaps the most important implication of our finding is that real grassroots movements can successfully overcome the apparent trade-off between high-impact activities and geographic reach (Handan-Nader et al. 2021). Their campaigns are characterized by decentralization and place-based political appeals resulting in unusually effective political mobilization within natural social networks and communities. Importantly, this highly effective mode of political mobilization does not come at the cost of limited spatial "scalability," exactly because these movements do not depend on central top-down coordination. As such, the grassroots movements of our time are likely to remain a major source shaping—and sometimes changing—the course of contemporary political contestation by successfully combining online coordination of local activists with more traditional political mobilization on the ground.

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