

Spatial Dynamics of Election Violence: How Repression Spreads Dissent around Elections

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How does political violence spread around election times within countries? Though election times are periods possibly most vulnerable to the contagion of violence, we know very little about how election violence spreads spatially. We argue that government-sponsored election violence in one area will increase the levels of election violence inflicted by anti-systemic actors in another area with similar political or socioeconomic characteristics. Government violence in one area increases the expectation that repression would soon start in another area that looks similar to the targeted area, prompting oppositions in these areas to take actions preemptively. We test our arguments using subnational data on India's election violence from 1991 to 2009, finding that government election violence in one state increases opposition-led election violence in another state with similar political and socioeconomic characteristics in India. Our results are robust when using a stationary causal directed acyclic graph approach and recover the bias-corrected spatial effects.

Keywords: ELECTION VIOLENCE, SPATIAL PREEMPTION, CONFLICT DIFFUSION, INSURGENTS IN ELECTIONS, PREEMPTIVE DISSENT, INDIA

Short Title: SPATIAL DYNAMICS OF ELECTION VIOLENCE

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Introduction

Elections constitute a cornerstone underlying democratic governance and provide a peaceful means to contest for power. However, the spread of electoral democracy as the global norm over the past two decades does not necessarily bring peace nor political stability. Instead, violence remains a prominent feature of electoral processes in many developing countries. In recent elections in Afghanistan, Bangladesh, Cote d'Ivoire, India, Iraq, Kenya, Nigeria, Pakistan, and Zimbabwe, significant levels of violence were observed during the campaign, on polling day or in the aftermath of voting. Political actors employ coercive actions to influence the process and outcome of elections purposefully. A vast body of work in comparative politics and international relations examines the causes and consequences of such election violence (See Birch, Daxecker and Hoglund (2020) for a summary). Previous research has emphasized political, societal, and international determinants as the causes of election violence (e.g. Hafner-Burton and Jablonski, 2013; Fjelde and Hoglund, 2016; Burchard, 2015; Wilkinson, 2006; Daxecker, 2014; von Borzyskowski, 2019; Smidt, 2016), while research on the consequences of election violence explored how election violence affects voter turnout and vote share (e.g. Bratton, 2008; Bekoe and Burchard, 2017; Condra et al., 2018).

Despite an abundance of research on the causes and consequences of election violence, our understanding of electoral violence is still limited in important ways. First, previous research has devoted surprisingly little attention to the possibility that election violence in one location spreads to another, omitting possible spatial mechanisms from their theoretical and empirical frameworks. However, election times are periods possibly most vulnerable to contagion of violence. As elections form a focal point for the exercise of democratic politics, violence in electoral periods would be a more effective tool to change political outcomes than in nonelection periods (Harish and Little, 2017). This underlying condition around elections makes political actors more aware of and responsive to nearby violence, possibly leading to a wave of violence around elections. Second, we know very little about how the use of election violence by one actor will impact the use of election violence by another, particularly his op-

ponents. If election violence changes the course of the election process in favor of perpetrators (e.g., Hafner-Burton and Jablonski, 2016), it should also affect their opponents' decision calculus regarding whether to deploy election violence. While most studies assume that perpetrators commit election violence to influence others' behaviors, systematic research on how the use of election violence by one actor affects others' decisions on election violence is rare.

In this paper, we explore how government-sponsored election violence in one location shapes the level of election violence used by anti-systemic oppositions in another location in the same country. Anti-systemic oppositions aim to overthrow the status quo order and use election violence to disrupt elections rather than to win elections (Staniland, 2014). Our central claim is that government-sponsored election violence in one area will increase the levels of violence inflicted by anti-systemic actors in another area with similar political or socioeconomic characteristics. This is because government violence in one area increases the expectation that government repression will soon start in another area when these areas look similar in terms of political and socioeconomic characteristics – i.e., the primary factors shaping governments' use of election violence. This, in turn, prompts anti-systemic actors in these areas to preemptively resort to election violence before government violence reaches their areas and prevent them from successfully carrying out coercive actions and achieving their political goals.

We test our theory on spatial preemption by using subnational-level data on election violence in India between 1991 and 2009. During this period, a critical feature of India is that national elections took place when the government was fighting civil war. Insurgents such as Sikh insurgents, Kashmir insurgents, and the Naxalite Movement and their supporters were the most common perpetrators of election violence during this period. They rejected participation in elections and inflicted violence to disrupt election processes and boycott the poll. To counter such threats from anti-systemic insurgents and enforce elections, the Indian government also frequently employed coercive actions deploying security forces to repress insurgent members and force people to vote. The possibility of spatial interdependence of violence around elections is especially crucial in India, where different constituencies have different election dates, as violence in one area can change election outcomes in other areas with later polling dates via

violence spillover.

Consistent with our theory, we find strong evidence that when governments use election violence in one state, the levels of election violence used by anti-systemic actors will significantly increase in the following week in another state with similar political or socioeconomic characteristics in India. In contrast, we find that geographical proximity between states is less important in explaining the spatial preemption mechanism. Our results are robust when using a stationary causal directed acyclic graph (DGA) approach proposed by Egami (2020) and address the causal identification issue. Based on the idea that not only do variables of interest cluster spatially, so do omitted confounding variables, Egami's technique allows us to identify the proportion of the observed effect driven by these omitted confounders by assessing the spatial effect on a lagged dependent variable and correct such biases in estimating the spatial effects. To our knowledge, our paper is among the first to recover the *causal* spatial effects of political violence within countries.

By investigating the strategic spatial processes of election violence within countries, our paper will improve our understanding of the causes and consequences of election violence and better predict when and where election violence occurs. Besides the literature on election violence, our paper contributes to the literature on spatial dynamics in conflict by proposing the mechanism of spatial preemption distinct from existing ones that focus on how governments can contain the diffusion of violence (Braithwaite, 2010; Toft and Zhukov, 2012). We share our interest with Danneman and Ritter (2014), but differ from their study in that our focus is spatial dynamics of violence within countries rather than diffusion across countries. Further, we examine how government repression in one location causes opposition violence in another location, while their work focuses on how civil war in one country leads to more government repression in neighboring countries. Finally, our paper contributes to the scholarly understanding of repression and dissents by demonstrating how repression in one area spurs increased dissents in another around elections. While scholars emphasize preemptive repression where governments repress before dissidents mobilize (Ritter and Conrad, 2016), our findings highlight that oppositions would also preemptively take actions before repression actually occurs in

their location.

Our research also has critical policy implications. We show that a government's policy to use violence around elections would be counterproductive, at least in the short-term, as it increases the levels of violence used by anti-systemic actors in locations that look similar to the targeted location. Increased insurgent election violence would lead to the public's deeper dissatisfactions with the election processes and institutions (Condra et al., 2018). Thus, by using excessive violence in one location, governments could unintentionally weaken their legitimacy, and help insurgents further erode the public's support of the existing political system in other locations. Crucially, our research highlights that focusing only on the effects of government violence in the targeted location and ignoring its spatial effects would significantly underestimate the levels of anti-systemic opposition violence spurred by government violence.

Related Work on Election and Violence

Election violence is defined as coercive actions used by political actors around elections to purposefully influence the process and outcome of elections (Birch, Daxecker and Hoglund, 2020; Bekoe, 2012). To further expand our understanding of election violence dynamics, in the next section, we theorize how government-led violence in one location shapes the use of election violence by anti-systemic oppositions in another location. In this section, we lay out three primary insights derived from the previous studies on election violence that critically inform our theoretical settings and foundations.

First, recent studies on the relationship between elections and violence suggest that election times are possibly periods most vulnerable to contagion of violence. Intense political competitions around elections necessitate that political actors make intensified efforts to increase awareness of their cause and balance out competitors' efforts, making the costly violence more attractive (Chenoweth, 2010; Aksoy, 2014). Elections also form the cornerstone of democratic politics and provide a symbolic opportunity for opposition groups to display threats toward governments (Condra et al., 2018), making violence in electoral periods a more effective tool

to change political outcomes than in nonelection periods (Harish and Little, 2017). These underlying conditions would make already-motivated actors more aware of and more responsive to nearby violence, possibly leading to a wave of violence in election periods. In particular, in India's case with multiple polling phases, the possibility of the spread of violence is high because violence in one location can shape voting behavior in other locations with later polling dates and thus people are more aware and responsive to violence occurring in other locations.

Second, the use of election violence is fundamentally strategic. Political actors employ election violence to purposefully influence the process and outcome of elections (e.g., Bekoe, 2012; Birch, Daxecker and Hoglund, 2020). Political actors use violence to change others' behaviours during elections and alter the election process in their favour (Bratton, 2008). Prominent research, for example, claims that governments use violence around elections because violence would reduce their electoral competition and increase their chance of winning elections (Hafner-Burton and Jablonski, 2013). Indeed, the cross-national empirical evidence shows that such government-sponsored election violence improves the government's odds of winning elections substantially (Hafner-Burton and Jablonski, 2016). If election violence changes election processes and outcomes in favour of perpetrators, it is reasonable to expect that their opponents would be prompted to use violence to counter such damaging effects. Precisely because election violence would change election process and outcomes in favour of the perpetrators, the use of election violence by one actor might increase the incentives of his opponents to commit election violence so that they can counter or prevent adverse electoral outcomes caused by others' use of election violence.

Finally, in theorizing the dynamics of election violence, we need to identify the political goals that actors pursue in employing electoral violence (Staniland, 2014). In this paper, we focus on the contexts in which governments and *anti-systemic* oppositions are the primary actors involved in election violence. While most existing work devotes its attention to intra-systemic actors who seek to win elections within the existing political system (Matanock and Staniland, 2018), violence can be employed to target the electoral process itself. Anti-systemic oppositions seek to overthrow the status quo order, and election violence is used to destroy the

rules of the game instead of winning within them (Staniland, 2014). They employ violence to disrupt election processes and minimize voter turnout so that they can delegitimize the election process, the winner of the elections, and state institutions (Condra et al., 2018). To address such threats from anti-systemic oppositions around elections, governments also carry out violence to repress anti-systemic oppositions and stabilize the election process. In India, for example, insurgents such as Sikh insurgents, Kashmir insurgents, and Maoist insurgents have launched an anti-systemic challenge attacking candidates and polling stations to disrupt elections and diminish voter turnout. Meanwhile, the Indian government deploys state security forces to suppress insurgents, stabilize the election process and boost voter turnout (Telford, 2001).

The mechanism behind election violence could be distinct depending on who is committing the violence and with what goal (Staniland, 2014; Matanock and Staniland, 2018). Previous studies, for instance, claim that oppositions would rarely challenge their governments through non-institutional means in *pre-election* periods when they can still challenge the governments via institutional means, winning votes for the opposition parties (Hafner-Burton and Jablonski, 2016; Straus and Taylor, 2012). Thus, government-led election violence does *not* spur opposition protests in pre-election periods while generating post-election mass protests (Hafner-Burton and Jablonski, 2016). This logic, however, does not apply to anti-systemic oppositions who reject participation in elections and use violence to target election processes as a whole. As minimizing voter turnout is an effective way to delegitimize the winner of elections and political system, anti-systemic oppositions have strong incentives to employ *pre-election* violence to deter turnout (Condra et al., 2018). In short, government-led violence could trigger coercive reactions from anti-systemic actors during the period in which the literature argues that governments can use election violence without provoking violent reactions from challengers.

Theory

How does election violence spread within countries? We provide a theoretical framework that illuminates how governments' use of election violence in one location affects anti-systemic

opposition's decision calculus on the use of election violence in other locations. In particular, we claim that government-sponsored violence in one area increases the levels of opposition-led violence in another area when two areas share political or socioeconomic characteristics. Our theory focuses on the contexts where oppositions have anti-systemic goals of overthrowing the status quo order. We briefly discuss our theory's applicability to intra-systemic oppositions at the end of this section.

Our central claim is that government-sponsored election violence in one location will increase the levels of election violence employed by anti-systemic oppositions in another location. Government violence in one location increases the expectation among oppositions in other areas that government repression will soon start in their areas. In particular, as we discuss in more detail below, when oppositions observe that a government starts cracking down in areas that share similar political or socioeconomic characteristics (i.e., the primary factors shaping governments' use of election violence), they are more likely to believe that the government will soon target their area and employ violence against them.⁶ This anticipation, in turn, prompts them to preemptively use election violence because once government repression reaches their area, it will diminish their ability to organize violence and achieve their goals.

The Indian government's primary threats around elections came from insurgent groups whose goals were to demonstrate the government's inability to hold secure elections and delegitimize the existing political system as a whole. Insurgents attack security personnel, candidates, polling officials, and polling stations to deter voters from voting (Telford, 2001). They also commit violence in the post-election periods (Chawla, 2015), demonstrating the government's inability to secure the populations, casting doubt on the legitimacy of the election's winner, and ultimately canceling elections. The Indian government, in turn, tries to enforce elections at gunpoint, resorting to violence to suppress insurgents and increase turnout (Banerjee, 2009). Insurgents pay careful attention to such government actions in other states of India, either when government violence targets different insurgent groups (Kujur, 2013) or members

⁶Our argument applies to both central and local governments that carry out coercive actions during elections.

of their group (Today, 2009). Once they observe that government election violence started in other states, they will update their beliefs about their vulnerability and the likelihood that government violence targets their state (Kaul, 2013).

When insurgents anticipate that government repression would soon start in their state, they would need to preemptively act to counter government actions.⁷ This is because once the Indian government deploys security forces to their state and starts cracking down on insurgent groups, the insurgents' ability to organize violence to disrupt elections and diminish voter turnout would be significantly sacrificed. First, the vital individual members of opposition groups might no longer be able to lead the actions because they might be arrested, detained, or killed (Telford, 2001). Government-sponsored violence would also intimidate many members and supporters of the opposition groups, as challenging state authorities would most likely lead to their arrests or killing in this case. Indeed, insurgent groups are well aware of such devastating effects of government violence on their ability to organize violence (Kujur, 2013). Second, government violence would directly affect people's voting behavior and make it more difficult for insurgents to delegitimize election outcomes. To ensure a good turnout, the Indian government moved their soldiers from village to village with voter lists, rousing people to vote and beating up those who did not go to the polls (Telford, 2001). Thus, once government repression arrives in states where insurgents operate, voter turnout in their states would increase.

Anticipating such devastating effect of government violence on their ability to achieve their goal, forward-looking insurgent leaders would preemptively use violence before government repression actually arrives in their state. Insurgents would need to use violence to counter the expected consequences of future government violence before they lose their ability to organize election violence. In addition, the experiences of government violence in another state would allow insurgent leaders to convince their members and supporters that the threats of government repression are approaching, enabling them to mobilize violence effectively. The policy

⁷We use the term "preemption" to describe the situation where one actor believes that his opponent is posing an imminent threat, leading the actor to take action first before such threat materializes.

community has acknowledged such preemptive violence by insurgents in India. In the north-east region of India, for instance, government-led violence targeting the Maoists in one state forced them into “taking preemptive action in other states” even before the security apparatus was actually in the targeted state (Today, 2009).

Spatial proximity might play a critical role in the spread of election violence. Opposition elites might be more likely to take cues as to how likely government repression would begin in their area from events in nearby locations than from those in distant locations. Government repression in one location is more likely to move to a geographically proximate area, as it is lower-cost and lower-barrier to move and deploy security personnel and troops. The nearby locations likely produce more timely and exact information than distant areas. In particular, when the government has little interest in publicizing about their coercive actions and human rights violations of minority groups and citizens, people who live in distant areas might be less likely to be aware that government repression is occurring in another area.

H1: Government-led election violence in one location increases the levels of election violence used by anti-systemic oppositions in its geographically proximate areas.

Though many conflict diffusion studies have placed geographic proximity at the center of their arguments (e.g., Lane, 2016), we expect that the critical mechanism linking government-sponsored election violence in one area and anti-systemic election violence in another area is their similarity in political and socioeconomic characteristics. This is because political and socioeconomic characteristics of areas are the primary factors shaping governments’ decisions on whether to employ coercive actions during the election and, thus, critically influence the opposition’s expectation about their area’s vulnerability.

First, we posit that the similarity in terms of political characteristics between subnational areas is a critical factor in explaining the spatial dynamics of election violence. Particularly, existing studies have shown that the levels of political competition have crucial impacts on the use of election violence inflicted by incumbents. Some argue that governments have strong

incentives to use violence in close electoral contests or competitive areas in order to maintain power (e.g. Hafner-Burton and Jablonski, 2013; Wilkinson, 2006). Others instead claim that higher levels of pre-election violence are more likely in uncompetitive areas, as locally dominant actors use violence to shrink the democratic space and perpetuate local dominance in their strongholds (Wahman and Goldring, 2020). Despite such disagreement over the exact levels of electoral competition that make subnational areas most vulnerable, there is a strong scholarly consensus that the levels of electoral competition affect governments' decisions to deploy violence in certain areas. In addition, studies on political violence in India show that the political alignment of state governments and the central government in New Delhi explains the subnational variation in the use of government-sponsored violence (Bhavnani and Lacina, 2015; Lacina, 2013). A partisan alignment between state governments and the central government shapes the central government's incentive to send military and paramilitary forces to the states. It also affects whether state governments can control and intimidate insurgent supporters using police forces without central interference.

Knowing that political factors, such as political competition and partisan alignments between the central and local governments, determine the likelihood that specific locations are targeted by government repression, oppositions can determine their vulnerability by learning from the experiences of areas that look similar to them in terms of these political factors. They can predict whether government repression targets their areas by looking at whether governments target the areas with similar political characteristics as defined above. When oppositions observe that government security forces target neighboring areas with similar political characteristics, they will be more likely to believe that government repression would start soon in their own areas and weaken their capabilities to mobilize violence. In turn, this anticipation makes them resort to violence before government violence begins in their areas.

H2: Government-led election violence in one location increases the levels of election violence used by anti-systemic oppositions in other locations with similar political characteristics.

Second, we claim that when government-sponsored election violence occurs in one area, the levels of anti-systemic opposition violence will increase in another area with similar socioeconomic characteristics. Socioeconomic characteristics such as the distribution of ethnic, religious, linguistic, and economic groups within certain areas define their political dynamics and shape grievances among those who are excluded from political power and economic wealth within the areas (Cederman, Gledtsch and Buhaug, 2013). The dissatisfaction and resentment felt by disadvantaged groups motivate them to change the status quo by challenging governments and existing political systems during election processes. When they become aware that they are vulnerable to such threats, governments may use violence to change the course of electoral processes in their favor and maintain power (Hafner-Burton and Jablonski, 2013). In short, socioeconomic characteristics of particular areas will shape grievances and governments' vulnerability in terms of their ability to maintain power and, consequently, determine the likelihood that governments deploy election violence in these areas. Hence, when government-sponsored election violence starts in one area, opposition leaders in another area with similar socioeconomic characteristics update their beliefs about the likelihood that government violence targets their location. Anticipating that government violence would soon begin in their area, opposition groups are incentivized to act early and carry out election violence before government violence begins in their location and undermines their ability to achieve their political goals.

Much of India's modern history has been characterized by ethnic, religious, linguistic, and class conflicts. Armed groups that are the most common perpetrators of election violence in India represent particular ethnic (e.g., the Kashmir insurgents), religious (e.g., the Sikh insurgents), and economic class (e.g., the Naxalite Movement) minorities. These minorities have been excluded from political power and economic wealth, and the resulting grievances shared by the dissatisfied minorities lead them to challenge the existing political system by boycotting elections and disrupting elections. When the Indian government suspected that grievances shared by socioeconomic minorities would be threatening to their ability to run secure elections, for example, in Punjab during the 1992 election and Kashmir during the 1996

election, it deployed a large number of paramilitary and army troops to ensure that insurgent groups would not disrupt elections (Telford, 2001). We claim that such government-sponsored violence in Punjab and Kashmir caused an increase in the levels of opposition-led election violence in states with similar socioeconomic characteristics, such as Nagaland, Mizoram, Assam, and West Bengal. Insurgent leaders in the latter states needed to preemptively act and disrupt elections before the Indian government would deploy security forces to their states.

H3: Government-led election violence in one location increases the levels of election violence used by anti-systemic oppositions in another area with similar socioeconomic characteristics.

While our theoretical focus is on whether government repression in one location would increase anti-systemic violence committed in another location, what is the effect of government repression on anti-systemic violence in the same area? Scholars on repression have proposed two competing views. On the one hand, government repression might inflame local grievances among members and supporters of opposition groups and provide them with more substantial incentives to dissent (e.g. Carey, 2006; Moore, 1998). On the other hand, repression might raise the cost of mobilization and reduce oppositions' capacity to mobilize and sustain the coercive campaign (e.g. Tilly, 1978; Davenport, 2007; Lyall, 2009). Whether government violence increases opposition violence in the same location, therefore, depends on whether the increasing impact of government violence on grievances outweighs its diminishing effect on the oppositions' ability to organize coercive actions. What our theory argues is that opposition elites are aware of the adverse impact of government repression on their ability and will be motivated to employ violence before government repression arrives at their location.

Our theory is applied to contexts in which governments face threats from anti-systemic oppositions around elections, such as Taliban in Afghanistan, Boko Haram in Nigeria, and Al Qaeda in Iraq. In assessing the applicability of our theory to intra-systemic oppositions, it is essential to examine how election violence would help intra-systemic actors achieve their goals. On this point, previous studies have suggested that intra-systemic oppositions that aim

to win elections might be hesitant in using election violence in the pre-election period because they would concentrate available resources in mobilizing voters to support their parties and candidates on election day rather than commit violence (Hafner-Burton and Jablonski, 2016, p466). The literature is also divided regarding the impacts of election violence on vote share. While some argue that the use of election violence would benefit intra-systemic oppositions by reducing the incumbent government's vote share nationwide (Birnir and Gohdes, 2018) or increasing the salience of ethnic identities (Kibris, 2014), others posit that it reduces their vote share as voters would withdraw electoral support from parties associated with the perpetrators targeting civilians (e.g., Heger, 2015). While systematically exploring these points is beyond the scope of this article, whether intra-systemic oppositions would perceive the use of election violence as beneficial in achieving their goal of winning elections is a necessary scope condition under which our hypotheses are likely to hold.

Alternative Mechanisms

Several alternative mechanisms may link government-sponsored election violence in one location to anti-systemic election violence in another. In this section, we discuss their implications and how they are different from the implications of our proposed explanation. In the empirical analyses, we can leverage these differences in observable implications and evaluate the plausibility of competing mechanisms.

First, government repression might make opposition groups relocate from the targeted location to their neighboring locations. As government repression makes it more difficult and costlier for them to sustain their activities in the targeted area, opposition groups might shift their resources to a new area by abandoning the targeted area (Schutte and Weidmann, 2011; Zhukov, 2012). While the relocation mechanism also expects that government repression in one location will increase opposition-led violence in another, geographic proximity would be the key channel for violence to spread. Due to logistical constraints, oppositions are likely to relocate to nearby locations where they can easily and quickly transport weapons, personnel, and other resources, rather than to distant ones. In the longer term, given the availability of support

from their co-ethnics, opposition might also relocate to areas with similar socioeconomic characteristics. Crucially, though, unlike our proposed mechanism, the relocation argument does not expect the spread of violence to occur among politically similar areas as defined above.⁸

Second, government-sponsored violence in one place might make targeted groups more likely to *retaliate* in another location. Rather than preemptively resort to violence, an opposition group that operates in multiple locations will hit back should it be attacked by governments (O'Loughlin and Witmer, 2012). The escalation and spread of violence via such tit-for-tat mechanism should work among geographically proximate areas, because members of the same insurgent group tend to live and operate in proximate areas due to logistical efficiency. Similarly, as insurgent groups represent particular ethnic, religious, linguistic, and economic minorities in India, the spread of violence via retaliation can also occur among areas that share socioeconomic characteristics. However, different from our proposed mechanism, the retaliation mechanism does not expect violence to spread along politically similar areas.

Finally, some might argue that anti-systemic opposition violence tends to cluster in areas with similar socioeconomic or political characteristics. Governments then choose to repress one of these areas with high levels of opposition-led violence. This scenario also expects to see positive correlations between government repression in one area and anti-systemic violence in another area with similar socioeconomic or political characteristics. As an important deviation from our proposed mechanism, the plausibility of this mechanism crucially depends on the assumption that opposition-led election violence in one area is positively correlated with opposition-led election violence in another area that share similar socioeconomic and political

⁸As discussed in the empirical section, our measures of political similarity and socioeconomic similarity between states are distinct, and their correlation is only 0.20. The empirical section also reports that the core assumption of the relocation and retaliation mechanisms (i.e., the perpetrator of opposition-led violence in one location and the group targeted by government violence in its politically/socioeconomically similar locations are either the same group or allied) do not hold in the majority of opposition violence cases with high values of political/socioeconomic spatial lag variables.

Table 1: Election Violence Inflicted by Different Types of Perpetrators in India

Anti-Government Perpetrators	Number of Events
Armed groups	304 (82 %)
Citizens	53 (14 %)
Party	16 (4 %)
Other	3 (0.8 %)
Pro-Government Actors	Number of Events
Security forces	38 (95 %)
Governing Party Members	2 (5 %)

Note: Out of all 416 election violence cases, 376 cases (90 %) are violence initiated by anti-government actors, and 40 cases (10 %) are violence led by pro-government actors.

characteristics.

Election Violence in India

We test our theoretical expectations using subnational data on India's election violence. India is an ideal context for testing our logic of spatial preemption for several reasons. First, the majority of election violence in India from 1991 to 2009 is inflicted by insurgent groups fighting civil war and pursuing anti-systematic goals. Our theoretical framework that centers upon strategic interactions between governments and anti-systemic oppositions is thus aptly applied to India. The descriptive statistics reported in Table 1 confirm this point. Using information obtained from the ECAV dataset, we report the number and percentages of election violence inflicted by each type of perpetrators in India during 1991-2009. Table 1 shows that the majority of anti-government perpetrators are armed groups (82 %), various insurgent groups fighting a civil war and seeking to undermine the legitimacy of the status quo order. Table 1 also shows the number and percentage of election violence inflicted by different types of pro-government actors. Thirty-eight cases (95%) involve security forces such as border guards, military/paramilitary troops and police, while only two cases (5%) involve violence inflicted by members of the incumbent government party.

Second, India is an attractive empirical setting as it has a relatively large number of opposition-led election violence throughout the period mentioned above, which gives us enough

statistical power for spatial analyses. Finally, India is the world's largest democracy, yet the use of election violence is observed fairly regularly, which makes it worthy of study in itself. Further, as discussed in the previous section, the possibility of spatial interdependence of violence around elections is especially crucial in India's context as election violence in one area might change election outcomes in other areas with later polling dates via violence spillover.

Data and Methods

We use the subnational data on election violence in India from 1991 to 2009, obtained from the Electoral Contention and Violence (ECAV) dataset (Daxecker, Amicarelli and Jung, 2019). Our focus is on general elections to the *Lok Sabha*, the lower house of the national parliament, which occurred in 1991, 1996, 1998, 1999, 2004, and 2009. To code events linked to an electoral process in timing, ECAV focuses on events occurring “between six months before and three months after the election (Daxecker, Amicarelli and Jung, 2019, p.4),” which defines the time frame of our data. The ECAV dataset conceptualizes electoral contention as nonviolent or violent events of contestation by state or non-state actors related to national elections. Electoral contention is defined as “public acts of mobilization, contestation, or coercion by state or non-state actors used to affect the electoral process, or arising in the context of electoral competition.” We limit our focus only to events classified as *violent*.

Our unit of analysis is the state-week. Spatially we choose the state as our unit because state governments have control over the police and request security assistance from the central government. Further, the central government's decision to send in the military and paramilitary forces to states is shaped by whether state governments are politically aligned with New Delhi (Bhavnani and Lacina, 2015). In short, states are the units in determining the levels of government-led violence. In addition, anything more fine-grained than states would leave us with too little violence relative to our number of observations, making proper inferences on spatial preemption dynamics extremely difficult.⁹

⁹We exclude the Telangana area that would become a separate state in 2014 from Andhra

Our dependent variable is a count of the number of events of election violence initiated by those that act against the national government.¹⁰ In terms of the type of perpetrators discussed in the previous section, we include violence carried out not only by armed groups but also by citizens or party actors because opposition violence initiated by non-armed groups is quite frequently anti-systematic in India. In ECAV, for instance, supporters of insurgent groups who use violence and demand a boycott of elections are categorized as citizens. Likewise, political activists using violence to urge voters to boycott elections are coded as party actors. Thus, rather than entirely excluding all these anti-systematic violence cases initiated by non-armed groups from our analyses, we use all election violence events where the perpetrators act against the national government in the following analyses. In the Appendix, we also show that our results hold when we focus only on opposition violence initiated by armed groups, demonstrating that the results are robust when using different operationalizations of anti-systemic violence.

To capture the effects of government-sponsored election violence in geographically proximate states (H1), politically similar states (H2), and socio-economically similar states (H3), we generate three types of spatial lag variables. As a general strategy, we first create our connectivity weights matrix \mathbf{W} , an $N \times N$ matrix pairing each state i with all other states and capturing the degree of connection between the states in terms of geographical proximity, political similarity, or socioeconomic similarity. We row-standardize each connectivity matrix to properly compare different spatial lag effects that capture different types of connectivity. We then multiply it by a vector of government-led electoral violence from the previous week (a count of the number of pro-government election violence events at $t - 1$ utilizing the ECAV dataset). This will give us a vector with length equal to the number of states to measure the spatial effect of violence (Plümper and Neumayer, 2010).

Pradesh. The results hold when we exclude Andhra Pradesh from the analyses(see the Appendix).

¹⁰Our analysis only includes cases where the direction of violence (i.e., whether one actor initiated the event) is clear (i.e., 82 % of all the electoral violence events in India coded in ECAV).

The specification of each type of connectivity weights matrix is as follows. First, to capture geographical proximity between states (H1), we employ a geographic weights matrix where w_{ij} is an inverse of the distance between state i and j measured in kilometers from the centroid of each state, such that more proximate states have higher values. The information on the centroid distance between states is obtained from a shape file of India taken from the Database of Global Administrative Areas (GADM).

To measure the degree of political similarity between states (H2), we create the connectivity weights matrix that incorporates three different variables that capture our theoretical concepts of political competition and center-state political alignments. As discussed above, scholars have shown that political competition and center-state political match in India are vital factors shaping governments' decisions on the use of election violence. Anti-systemic oppositions would thus learn about their vulnerability most from states that look similar to them concerning these factors. To measure political competition levels for each state-week, we use victory margins in the most recently concluded general election. We calculate victory margins at a constituency level by subtracting the second-place finisher's vote share from the winner's vote share (e.g., Nellis, Weaver and Rosenzweig, 2016). We then use the median victory margins in each state to indicate a state-level political competition. Scholars also use the effective number of parties (ENP) to operationalize electoral competition (Wilkinson, 2006). We calculate ENP at a constituency level and use the median value ENP in each state as a state-level ENP variable. The data on vote share and the number of parties come from Jensenius (2016). To operationalize center-state political alignments, following Bhavnani and Lacina (2015, p.780-781), we make a binary variable that is set to 1 when the chief minister of a state is in one of the parties that are in the government coalition in New Delhi. For Union Territories, we also consider there to be convergence since chief ministers are appointed by the federal government.

We then create the connectivity weights matrix that incorporates all three variables (*Victory Margin*, *ENP*, and *Chief Minister Convergence*). Recall that we have theoretical reasons to anticipate that both the levels of political competitions and center-state political alignments matter in shaping the spatial preemption mechanism. Scholars also have used the three indica-

tors to operationalize political competition and center-state relations. Thus rather than assuming, a priori, that one of these variables can map perfectly onto the latent political similarity, we choose to incorporate all these relevant variables into our latent political similarity measure.

Specifically, we first use the singular value decomposition (SVD) technique to transform a matrix containing our three political variables that are possibly highly correlated and measured on different scales into an orthogonal matrix with variables that are uncorrelated and on the same scale.¹¹ SVD is a matrix factorization technique that takes an $n \times p$ matrix \mathbf{X} , and finds the decomposition \mathbf{UDV} such that $\mathbf{X} = \mathbf{UDV}$, where \mathbf{U} is an $n \times r$ matrix, \mathbf{D} is an $r \times r$ diagonal matrix, and \mathbf{V} is an $r \times p$ matrix ($p > r$). In our case, we transform our data with the three correlated political variables into an orthogonal matrix, \mathbf{U} , where each state-week has a three-dimensional vector where states with a similar value of *Victory Margin*, *ENP*, or *Chief Minister Convergence* will have vectors pointing in the same direction. We assess whether these three-dimensional vectors of states i and j point in the same direction in our political space by calculating the cosine similarity. This creates our political connectivity matrix, \mathbf{W} , where w_{ij} is the cosine similarity between i and j in that week, and more politically similar states have higher values. We row-standardize these cosine-similarity matrices to be better able to compare across different types of connectivity.¹²

Finally, we generate the connectivity matrix that captures the degree of socioeconomic similarity between states (H3). Socioeconomic characteristics of states such as the distribution of ethnic, religious, linguistic, and economic groups define grievances among those excluded from political power. This, in turn, shapes governments' decisions on election violence. To capture the dynamics, we generate a socioeconomic similarity measure that incorporates the level of religious fractionalization, the proportion of the Hindu population, the proportion of the Muslim population, and the unemployment rate in urban areas. The religious fractionalization

¹¹See the Appendix for a more detailed discussion on making the connectivity weights matrix that incorporates multiple variables.

¹²Note that the analysis with unstandardized spatial matrix has substantively similar results. See the Appendix.

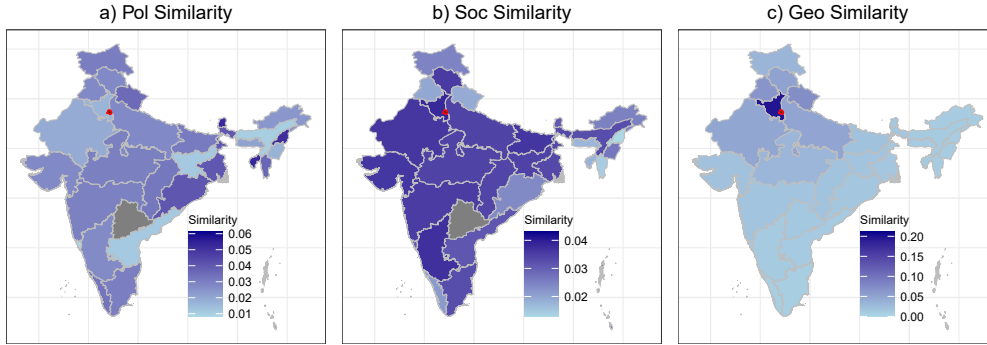


Figure 1: Spatial connectivity matrices using Delhi as the focal point.

variable is calculated as $1 - \sum p_i^2$, where p_i denotes the proportion of the population that is Hindu, Muslim, Buddhist, Jain, Sikh, Christian, and others (Alesina et al., 2014). Data on the Hindu population, Muslim population, and religious fractionalization come from the 1991 and 2001 Indian national censuses.¹³ Data on urban unemployment are obtained from Indiastat in 2000 and 2004.¹⁴ Like political connectivity, we use the SVD to transform our data on socioeconomic variables into an orthogonal matrix, and calculate the socioeconomic similarity between states using cosine similarity. We generate a symmetric matrix where w_{ij} is the cosine similarity between state i and j in each election week.

In Figure 1, we provide the maps where each Indian state is depicted by their connectivity to Delhi (marked in red) in terms of geographic proximity, political similarity, and socioeconomic similarity. The political and socioeconomic maps use data from the 19th week of the 2009 general election, which exhibits the 3rd quartile value of anti-government election violence. More proximate or more similar states are in darker shades of blue, and less proximate or less similar states in lighter blue. The higher (lower) the proximity or the similarity with

¹³We use the 1991 census for the 1991, 1996, 1998, and 1999 elections. For the 2004 and 2009 elections, we rely on the 2001 census information.

¹⁴For the 1991, 1996, 1998, and 1999 elections, we use the 2000 unemployment data, and for the 2004 and 2009 elections, we use the 2004 unemployment estimates.

Delhi, the larger (smaller) role that electoral violence in Delhi will play in that state's spatial lag variables. As suggested by the maps, the correlations between different types of connectivity weights w_{ij} are pretty low (i.e., 0.04 for social similarity and geographic proximity, 0.07 for political similarity and geographic proximity, and 0.20 for social and political similarity).¹⁵

Model Specification

Our dependent variable (the number of anti-systemic opposition election violence events) exhibits considerable heterogeneity among state-weeks in terms of whether anti-systemic opposition violence is even possible. Five months before an election, violence is incredibly rare, whereas it is quite common during an election week. Similarly, in some states, violence is frequent, whereas other states such as Andaman and Nicobar Islands experience no violence in the entire dataset. To account for such dynamics, we use a Zero-Inflated Generalized Linear Mixed Effects Model (ZIGLMM) with a Poisson link (Brooks et al., 2017), estimated via the *glmmTMB* package in R (Magnusson et al., 2017).¹⁶ The model allows us to specify the level of electoral violence as a function of two different processes. The zero-inflation part is a binary model that estimates whether state-weeks are *unlikely* to be the subject of opposition-led electoral violence, and the GLM equation predicts the level of opposition-led violence (as a count with a log link) if opposition-led violence is plausible. The GLM component itself contains two types of effects – fixed effects, the parameters for a given state-week that we believe are related to the level of opposition-led violence, and random effects are error terms that allow for different random intercepts and variances for different states and election years to account for

¹⁵The results hold when we rerun our analysis using the decorrelated measures of our spatial lags. See the Appendix.

¹⁶As a robustness check, we also ran a mixed-effects model with no zero-inflation and found similar results in the Appendix.

unit heterogeneity.¹⁷

$$p_{it} \equiv P(Y_{it} = 0 | \mathbf{z}_{it}) = \text{inverseLogit}(\gamma z_{it} + \alpha_y + \beta_i + \psi)$$

$$(Y_{it} | \mathbf{B} = \mathbf{b}, \mathbf{A} = \mathbf{a}, \mathbf{x}_{it}, p_i = 0) = \exp(\beta x_{it} + a_y + b_i + \epsilon)$$

Where p_{it} is the probability that a state i has no opposition-led violence in the week t based on the zero-inflation component (even if $p_i = 0$, we might obtain a value of 0 from the poisson), if there is not a 0 based on the zero-inflation component, Y_{it} is determined by a GLM with a log link. a_y and b_i are random effects for the election years and state level respectively in the poisson part of the model, and α_y and β_i are election year and state level random effects in the zero-inflation model. \mathbf{X} and \mathbf{Z} are the design matrixes for the poisson and zero inflation components respectively, with x_{it} and z_{it} representing the individual vector of variables for state i at time t . β and γ are their coefficients.

Control variables

We include spatial lag variables that capture opposition-led election violence levels in proximate or politically/socioeconomically similar states at $t - 1$. This allows us to assess whether opposition-led violence in one state affects opposition-led violence in another around elections, a core assumption held by one of the alternative mechanisms. We also account for unit-specific characteristics that would explain opposition-led election violence. First, we account for temporal dynamics in violence by including the lagged value of our dependent variable and the lag of the number of government-led violence events in the same state. Second, socioeconomic characteristics of states would shape grievances and thus affect the levels of opposition-led election violence. We control religious fragmentation and unemployment rates in urban areas. The operationalization and data sources of these variables are discussed above. We also include the log of the overall population size to address the possibility that more populous states have

¹⁷For example, there are almost 2.5 times as many electoral violence events in the most violent election period (172 in 2004) as in the least violent period (72 in 2009).

a higher potential for collective mobilization (Mitchell and McCormick, 1998). We control for the distance to New Delhi from the center of each state (logged kilometers) as state governments proximate to the capital might have more resources allowing them to address potential dissents effectively (Lacina, 2013). We also include a count of civil conflict events in a given state-week from the UCDP/PRIO Geolocated Event Database (Sundberg and Melander, 2013).

The literature also suggests that the levels of political competition and the center-state political relations affect election violence committed by non-state actors (Bhavnani and Lacina, 2015). Thus, we control for the victory margin and *Chief Minister Convergence* discussed above. Finally, to capture temporal dynamics, we include an indicator for whether a week was the week of the election, and another indicating that it was the week after the election.¹⁸ We code as an election week any period in which a constituency in a state had an election. For the zero-inflation equation, we include the logged time to the nearest election, interacted with whether we are in the post-election period, as well as the log population. Specifically, *Time to election* captures how many days away from the election a given week is. It is coded using the minimum length of time until a constituency in the state has an election, and logged.

Results

We report the results of the zero-inflated poisson models in Table 2. Recall that our theory expects that the levels of opposition-led election violence increases should government-led violence occur in other states that are geographically proximate (H1), politically similar (H2), and socioeconomically similar (H3). The *Gov-Violence Spatial Lag* variable in Model 1 captures the levels of government repression in the previous week in geographically proximate states, while it captures government violence in politically similar states in Model 2, and government violence in socioeconomically similar states in Model 3. Similarly, the *Oppo-Violence Spatial*

¹⁸In the Appendix, we show that our results hold when we restrict our sample to pre-election periods in which anti-systemic oppositions are considered to have strongest incentives to use violence.

Lag variable measures the level of opposition-led violence at $t - 1$ in geographically proximate states in Model 1, opposition violence in politically similar states in Model 2, and opposition violence in socioeconomically similar states in Model 3.

The results in Table 2 are consistent with our hypotheses. In line with Hypothesis 1, in Model 1, the coefficient for *Gov-Violence Spatial Lag* is positive and significant. The results in Models 2 and 3 also show that the coefficient for *Gov-Violence Spatial Lag* is positive and significant, demonstrating that anti-systemic opposition violence levels will increase should government repression levels increase in politically similar states (Model 2) or socioeconomically similar states (Model 3). These findings are consistent with our Hypotheses 2 and 3. At the same time, however, the coefficient for *Oppo-Violence Spatial Lag* is negative and significant in Models 1, 2, and 3. Opposition violence in proximate states, or politically or socioeconomically similar states will *diminish* opposition violence levels in the subsequent week. Recall that one of the alternative explanations posits that opposition violence tends to cluster in proximate or similar areas, and that governments might target one of these areas. Though this alternative logic could potentially account for positive effects of *Gov-Violence Spatial Lag* reported in Table 2, for this alternative mechanism to be true, we should see a positive spatial effect of opposition-led violence. The finding of the negative spatial effect of opposition violence allows us to rule out this alternative mechanism.

When it comes to local effects of election violence, we find that government violence increases the levels of opposition-led violence in the same state. The coefficient for *Lagged Government EV* is positive and significant in all the models in Table 2.¹⁹ Our results suggest that in India's case, the positive effect of government repression on opposition-led violence via increased grievances outweighs the diminishing effects of government violence on opposition abilities to organize violence around elections. As to control variables, *Election Week* has a positive and significant effect suggesting that opposition election violence increases during the

¹⁹As we discuss more in the Appendix, this result suggests that even if governments could move quickly and use violence in proximate/similar states, they would only intensify the levels of opposition violence in these states.

election week. This finding is consistent with the literature's understanding that anti-systemic oppositions use violence primarily targeting election days to deter citizens from voting and effectively change their perceptions about the authority and competence of governments (Condra et al., 2018). The results of zero-inflated models also confirm similar trends as to the timing of anti-systemic opposition violence. The coefficient for $\ln(\text{Time to Election})$ is positive and significant, indicating that weeks with zero-electoral violence events are more likely as we get farther from the election day in a state, in either direction. Further, zero-event weeks are more likely after the election date.

We now assess the substantial effects of spatial lag variables. In Figure 2, we investigate a counterfactual of the 19th week of the 2009 general election, wherein we artificially add one act of government-led electoral violence in Delhi, holding other variables constant. We then estimate the predicted level of opposition-led violence in this hypothetical scenario for each state and compare it to the predicted level of opposition violence with the observed level of government repression in Delhi. In the maps, a deeper shade of red indicates a larger increase in opposition violence when we derive predicted values with an additional act of government violence in Delhi, and lighter shades of yellow indicate little difference between the predicted values with and without that one act of violence. Figure 2 demonstrates that in some states, the spatial effect of violence is greater than the direct effect in Delhi itself.

Robustness and Discussion

The identification of causal effects in the presence of spatial interdependencies is challenging. Various contextual factors associated with violence are known to be clustered geographically (e.g., Buhaug and Gleditsch, 2008). Similarly, states sharing unobserved characteristics associated with violence might selectively become politically (or socioeconomically) similar by adopting similar political (socioeconomic) institutions. Unless we measure all potential confounders, our inferences of spatial models have a difficulty distinguishing whether election violence is clustered in proximate and similar areas because of our spatial preemption dynamic,

	Model 1 Geographic Model	Model 2 Political Model	Model 3 Social Model
<i>Count Model:</i>			
Gov-Violence Spatial Lag	3.98 [†] (2.16)	4.79** (1.81)	5.36** (1.74)
Oppo-Violence Spatial Lag	-1.07*** (0.29)	-0.92** (0.28)	-1.05*** (0.30)
Lagged Government EV	0.23** (0.08)	0.22** (0.08)	0.20* (0.08)
Lagged Opposition EV	0.00 (0.02)	0.00 (0.02)	0.01 (0.02)
Religious Fractionalization	3.21 [†] (1.81)	3.08 [†] (1.80)	3.16 [†] (1.82)
Ln Population	0.38*** (0.11)	0.41*** (0.11)	0.41*** (0.11)
Distance to Delhi	-0.11 (0.20)	-0.12 (0.20)	-0.10 (0.20)
Urban Unemployment	-0.00 (0.03)	-0.01 (0.03)	-0.01 (0.03)
Median District Victory Margin	-0.92 (1.12)	-1.26 (1.12)	-1.11 (1.12)
Chief Minister Convergence	0.07 (0.20)	0.09 (0.19)	0.06 (0.18)
Election Week	1.41*** (0.24)	1.42*** (0.24)	1.41*** (0.24)
Post Election Week	-0.02 (0.31)	-0.04 (0.31)	-0.04 (0.31)
UCDP Events	0.09* (0.04)	0.12** (0.04)	0.12** (0.04)
Intercept	-8.92*** (2.56)	-9.28*** (2.51)	-9.43*** (2.52)
<i>Zero-Inflated Model</i>			
Ln Population	0.08 (0.12)	0.11 (0.11)	0.11 (0.11)
Ln Time to Election	1.99*** (0.26)	1.98*** (0.26)	1.98*** (0.26)
Post Election Week	2.58** (0.94)	2.62** (0.94)	2.62** (0.94)
Ln Time to Election × Post Election Week	-0.47 (0.29)	-0.49 [†] (0.29)	-0.49 [†] (0.30)
Intercept	-5.27* (2.35)	-5.90** (2.24)	-5.87** (2.25)
AIC	1218.06	1220.80	1218.45
Log Likelihood	-586.03	-587.40	-586.22
Num. obs.	7410	7430	7410

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; [†] $p < 0.1$

Table 2: Poisson Zero-Inflated GLM with random effects and control variables.

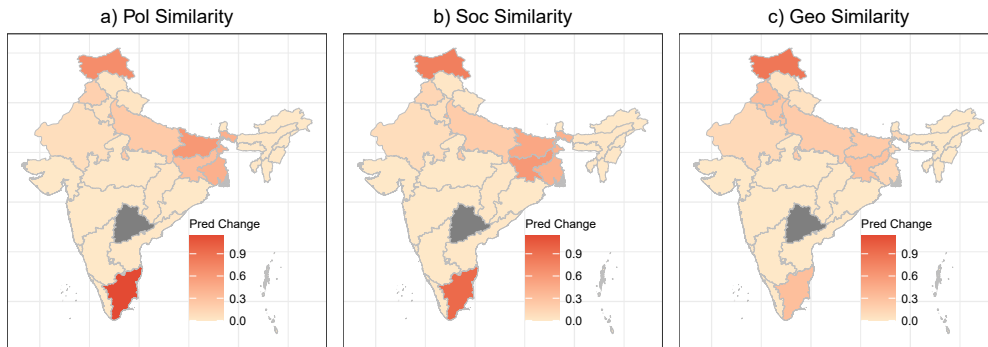


Figure 2: Increase in predicted levels of opposition-led violence in the 19th week of 2009 with a hypothetical government act of electoral violence in Delhi. States with missing data are in grey.

or omitted confounders.

To assess how much government repression in one state *causes*, not just correlates with, increased anti-systemic opposition violence in proximate or similar states, we utilize the methodological approach recently developed by Egami (2020), where we formalize the underlying spatial process with a causal directed acyclic graph (DAG) framework (Pearl, 1995). Following Egami, we first detect the existence of omitted confounders or biases by testing the conditional independence of a lagged dependent variable and a treatment variable –i.e., the level of opposition violence in one state and the level of government violence in its proximate or similar states *at the same time period*. This placebo test allows us to capture the degree of omitted variable biases, since the direct relationship between a spatial effect and a lagged dependent variable should be blocked in a directed acyclic graph (DAG).²⁰

²⁰The no omitted confounders assumption is mathematically equivalent to the conditional independence of a lagged dependent variable and a treatment variable under the structural stationarity assumption. The structural stationarity assumption requires the existence of causal relationships between dependent variables and confounding variables, not the magnitudes or signs of such relationships, to be time-invariant. As Egami claims, this assumption is likely

The results are reported in Figure 3. The left-hand panel of Figure 3 displays the results of placebo tests reporting the estimated biases regarding the effects of government violence in proximate states, politically-similar states, and socioeconomically similar states, with the 90 % confidence intervals around them.²¹ The middle panel shows our original estimates of the spatial lag effects from Table 2. The right-hand panel shows the bias-corrected estimates of causal spatial effects, that subtract the biases detected by placebo tests from our original (biased) estimates of spatial lag effects.²²

The bias-corrected estimators in the right-hand panel in Figure 3 demonstrate that after we subtract the biases from our original estimators, government-led election violence in politically/socioeconomically similar states have positive and significant impacts on the levels of opposition-led violence. These are consistent with our Hypotheses 2 and 3. On the other hand, for bias-corrected estimates of spatial lags capturing geographical proximity, the confidence interval contains zero, suggesting that evidence supporting Hypothesis 1 is limited after we address the existence of omitted confounders. In other words, the positive relations between our dependent variable and geographical spatial lag variable shown in Table 2 might result from the existence of unobserved contextual factors associated with election violence clustered geographically. Overall, the above findings give more confidence to the idea that strategic spatial preemption of election violence works along networks of politically or socioeconomically similar states, rather than geographically proximate states. An increase in government-led violence in politically or socioeconomically similar states *causes*, not just correlates with, an increased level of anti-systemic opposition violence in the subsequent week.

to hold in many circumstances, including ours. We cannot think of any changes in underlying structures that are drastic enough to make some confounders completely irrelevant in shaping anti-systemic election violence in India between 1991-2009.

²¹To estimate confidence intervals for the bias corrected coefficients, we follow Egami in employing the conservative estimate $\sigma_{BC} = \sqrt{\hat{\sigma}^2 - \hat{\sigma}_P^2}$ where $\hat{\sigma}^2$ is the standard error for the coefficient, and $\hat{\sigma}_P^2$ is the standard error for the placebo coefficient.

²²The biases are measured by the spatial coefficients for government-led violence when using the placebo lagged measure of opposition violence.

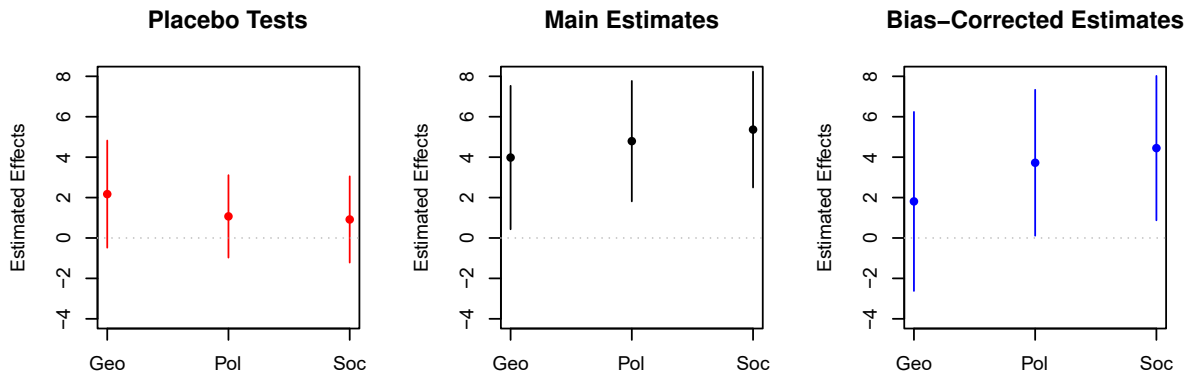


Figure 3: Bias corrected confidence intervals for the spatial effect of government-led violence on the levels of opposition-led violence.

The above results also help to demonstrate that our proposed mechanism of strategic spatial preemption is more viable than alternative mechanisms. In particular, our findings that the effect of geographic spatial lag of government violence is insignificant, but that the effects of political spatial lag are positive and significant reduce the plausibility of both the *relocation* mechanism and the *retaliation* mechanism.²³ Recall that the relocation logic argues that government repression makes opposition groups relocate from the targeted location to neighboring locations. This logic expects that opposition groups would relocate to nearby locations due to logistical constraints, while there is no strong theoretical reason to believe that oppositions would move to areas that are similar in terms of political characteristics as defined in this paper. Similarly, the retaliation argument posits that an opposition group that operates in multiple locations would hit back should their members in some locations be attacked by governments. The retaliation logic would work best among geographically proximate areas, but we have no theoretical reason to anticipate a political connectivity would be the key. Our results in Figure 3 show evidence for positive effects of government violence in political similar states, but not in

²³As our theory expects that opposition groups need to act *quickly* before government violence reaches their area, we focus on a relatively short-term consequence of government violence (one week lag). Our results do not rule out the possibility that the retaliation/relocation mechanisms are at work among geographically proximate areas in the longer term.

geographically proximate states. Furthermore, in the Appendix, we demonstrate that the core assumption behind these alternative mechanisms (i.e., the perpetrator of opposition violence in one state and the target of government violence in its politically/socioeconomically similar states are either the same insurgent group or allied) does *not* hold in most of opposition violence cases with high values of spatial lag variables. Taken together, these results provide us with increased confidence that spatial preemption, rather than retaliation or relocation, drives our empirical findings of the positive effects of government violence on opposition violence in politically or socioeconomically similar states.

In the Appendix, we also display the results of the placebo tests and bias-corrected estimates that capture the spatial effect of opposition election violence. Consistent with our original estimates, the results of bias-corrected estimates show that the spatial effects of opposition election violence on the levels of opposition violence are negative and significant for all types of connectivity. Thus, this rules out the possibility that opposition-led violence is clustered in proximate or similar areas, and that governments then target one of these areas. Though this alternative mechanism can potentially explain positive relations between our dependent variable and spatial lag variables, the plausibility of this argument crucially depends on the opposition violence spatial lag effects being positive.

Conclusion

How does political violence diffuse around elections within countries? This paper improves our understanding of the causes and consequences of election violence by demonstrating the strategic spatial preemption mechanism of election violence within countries. Using the subnational data on election violence in India between 1991 and 2009, we show that government-led election violence in one state increases the levels of anti-systemic opposition election violence in another state with similar political and socioeconomic characteristics. We also contribute to the literature on spatial dynamics of intrastate conflict by proposing a spatial preemption logic that is distinct from existing ones (Braithwaite, 2010; Toft and Zhukov, 2012).

Besides the literature on election violence and spatial dynamics of conflict, our paper has important implications for the literature on repression and dissent. Though scholars have extensively studied how repression impacts dissent, we have not reached an agreement on the conditions under which repression will prevent or spark dissents (Ritter, 2014; Rozenas and Zhukov, 2019). Some scholars argue that repression suppresses dissent and deters potential challengers to the government (e.g. Tilly, 1978; Davenport, 2007), while others claim that repression spurs increased dissent. (e.g. Carey, 2006; Moore, 1998). Our paper contributes to this scholarly debate by demonstrating how repression in one area spurs increased dissents in another area around elections. Our paper also demonstrates a vital role of *preemptive dissents* in election times. Though scholars on repression emphasize preemptive repression where governments repress before dissidents mobilize (e.g., Ritter and Conrad, 2016; Truex, 2019), they mostly fail to account for preemptive dissents where oppositions' actions are caused by anticipated repression, before repression actually takes place in their location. Future research should further strengthen our understanding of repression and dissent by exploring whether and how preemptive dissent works outside election periods.

Our findings also have important policy implications. Whether and how effective a government's use of security forces is in suppressing insurgent-led violence around elections has been a central policy question in countries with ongoing insurgencies, including Afghanistan, Colombia, and India (Condra et al., 2018). Providing the first systematic analyses to evaluate this point, this article demonstrates that government-led violence can be counterproductive in the short term as it increases the levels of violence used by anti-systemic insurgents in locations that look similar to the targeted location. Particularly, we highlight that focusing only on the effects of government violence in the targeted location and ignoring its spatial effects would significantly underestimate the levels of opposition violence spurred by government violence, demonstrating the importance of evaluating the spatial effect of government policy. As increased insurgent election violence would lead to the public's deeper dissatisfactions with the election processes and institutions (Condra et al., 2018), by using excessive violence in one location, governments could unintentionally weaken their legitimacy and help insurgents further

erode the public's support of the existing political system in other locations.

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