**Suppressing Protest During Electoral Crises:**
**The Geographical Logic of Mass Arrests in Ethiopia**

Leonardo R. Arriola  
Associate Professor  
Department of Political Science  
University of California, Berkeley  
larriola@berkeley.edu

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Abstract: How do electoral authoritarian regimes respond to the threat of opposition protest after disputed election results? Governments often use coercion to suppress protests that threaten the political status quo, but it remains unclear whether they seek to maximize the impact of repression by imposing sanctions indiscriminately, stoking general terror to induce acquiescence, or by targeting sanctions against those most likely to mobilize on city streets. This paper contributes to the study of electoral authoritarianism by showing how governments use the symbolic geography of their capitals to target repression during electoral crises. The argument is corroborated with evidence from Ethiopia’s 2005 post-election crisis. Based on an analysis of nearly 15,000 protest-related arrests in the capital, the paper shows that the regime in power sought to contain the threat of mass protest through a strategy of spatial targeting, preemptively detaining young men residing in neighborhoods near the capital’s most prominent focal point — the executive office. Distance from the executive office alone is shown to explain much of the variation in neighborhood arrest rates, while factors such as local protest intensity and the location of police stations are found to have no impact on arrest rates.
1. Introduction

Multiparty elections held under authoritarian regimes can be manipulated to reinforce the power of entrenched incumbents (Schedler 2006; Gandhi and Lust-Okar 2009; Levitsky and Way 2010). But disputed election outcomes can also lead to the ouster of such incumbents when they fail to subdue their opponents or coopt key constituencies (Howard and Roessler 2006; Bunce and Wolchik 2010; Radnitz 2010). The existing scholarship suggests that flagrant electoral fraud, or even the allegation of fraud, can trigger anti-regime mobilization by crystallizing popular grievances and coordinating mass demonstrations (Tucker 2007; Kuntz and Thompson 2009; Magaloni 2010; Straus and Taylor 2012). Incumbents facing electoral crises might be toppled if they cannot muster the strength or coherence required to quell the ensuing protests.

What strategies do authoritarian regimes use to suppress the protests that are associated with electoral crises? The state repression literature indicates that governments of all stripes employ coercion when responding to mass mobilization that threatens the political status quo (Lichbach 1987; Davenport 1995; Moore 2000; Davenport 2007). Less evident is how authoritarian regimes deploy coercion to secure acquiescence to their rule in the context of an electoral crisis, which is a particularly visible signal that an incumbent’s continued hold on power is being challenged. If elections reveal information concerning the bases of opposition support, incumbents might opt for a strategy of selective violence aimed at punishing specific individuals or groups (Magaloni 2006). But some regimes lack the capacity to collect and process the information needed to distinguish regime loyalists from opposition supporters (Kalyvas 2006). Incumbents in such circumstances might instead choose to pursue a strategy of indiscriminate violence to terrorize and thus subjugate their citizens. This strategy can be
counterproductive, however, if the grievances created by random violence encourage citizens to join the opposition as a vehicle for protection or retaliation (Lichbach 1995).

This paper contributes to the study of electoral authoritarianism by investigating how incumbents suppress the anti-regime protests that often accompany electoral crises. The paper presents a spatial logic for mass arrests in which regimes adapt their policing strategies to the symbolic geography of their capitals. Post-election protests typically occur in capital cities where a politically meaningful focal point, such as a parliament or a monument, is used to rally protesters. Regimes have an incentive to adapt their policing strategies to maintain control over such sites; otherwise, their opponents might use their physical occupation of those sites to proclaim themselves in control of the state. To forestall such an outcome, regimes can use focal points to target repression with little need for detailed intelligence, sophisticated technology, or additional equipment. The focal points themselves provide the information needed to identify the individuals who have the greatest likelihood of reaching the sites where protests are likely to be transformed into full-blown uprisings.

Drawing on evidence from Ethiopia’s first-ever competitive parliamentary elections in 2005, this paper examines how the incumbent regime responded to opposition protests that erupted in the capital, Addis Ababa, over vote rigging allegations. The paper shows that the regime sought to contain the escalation of protest, and thereby secure its control over the capital, through a spatial policing strategy: it targeted individuals largely on the basis of geography rather than metrics such as partisanship or ethnicity. The regime focused its policing efforts on preemptively detaining young men residing in neighborhoods near the capital’s most salient focal point — the prime minister’s palace. These neighborhoods were targeted for house-to-house arrests because their residents posed the greatest risk to the regime simply by being within
close proximity of the prime minister’s palace and other government ministry buildings. The regime’s repression was thus carried out systematically at the neighborhood level, but indiscriminately at the individual level. An analysis of nearly 15,000 protest-related arrest records from the capital shows that distance from the prime minister’s palace can explain much of the variation in neighborhood arrest rates, while factors such as neighborhood-level protest intensity, the location of opposition leader arrests, and the location of police stations are found to have no effect.

The paper proceeds by first discussing existing explanations for the repression of anti-regime protest. It then turns to outlining the spatial logic for the suppression of anti-regime mobilization. This logic is corroborated with evidence from the disputed 2005 elections in Ethiopia. The data and methods are discussed and the results from the regression analysis are presented. The paper concludes with implications for future studies of state repression in electoral authoritarian regimes.

2. Existing Explanations for Protest Repression

How do electoral authoritarian regimes seek to retain control of their capitals when threatened by mass uprisings? Do they target coercion at those actively participating in anti-regime mobilization, or do they carry out indiscriminate violence by punishing a city’s population as a whole?

Regimes can use the information revealed through elections or other political mechanisms to target punishment against those who defect in support of the opposition (Lust-Okar 2005; Magaloni 2006; Brownlee 2007; Blaydes 2010; Way 2010). This expectation is supported by the extensive scholarship on insurgency, which has long shown that coercion is
more likely to be effective when selective violence is focused on individuals who actively organize or participate in anti-regime mobilization (Mason and Krane 1989; Kalyvas 2006). Targeting punishment against such individuals not only weakens the coordination of their rebellion, but it also makes it less likely that others will seek to join their ranks. This is the strategy that Augusto Pinochet pursued in Chile in the days following his coup against Salvador Allende in 1973. Pinochet quickly sought to pacify Santiago by having security forces identify and either detain or assassinate Allende supporters, including government officials, leftists, intellectuals, students, and syndicalists (Constable and Valenzuela 1991; Ensalaco 2000).

Similarly, in Argentina, the military junta that ruled from 1976 to 1983 undertook a “Dirty War” that, though often perceived as an indiscriminate campaign of state terror against the entire civilian population, systematically targeted individuals affiliated with leftist organizations and unions, regardless of social class or profession. Such was the level of targeting that the vast majority of the disappeared were detained at their homes (Pion-Berlin and Lopez 1991).

The problem for many electoral authoritarian regimes is that they lack the capacity to deploy coercion in such a targeted manner. The cost entailed in collecting and analyzing the information needed to carry out selective violence is prohibitive for the governments of most developing countries, where electoral authoritarian regimes tend to be concentrated. A government may instead resort to indiscriminate or collective punishment as a strategy for suppressing mass mobilization. Some scholars find that indiscriminate violence can pacify rebellious populations (Lyall 2009), particularly under certain geographical (Downes 2007) or institutional conditions (Herreros 2006). However, this strategy can also be counterproductive if indiscriminate violence encourages civilians to support, if not join, the insurgents the government sought to eliminate in the first place (Lichbach 1995; Wood 2003). In Zimbabwe,
Robert Mugabe’s regime undertook a crackdown in urban areas following disputed parliamentary election results in 2005. But the crackdown had the unintended consequence of further stoking anti-regime sentiment because state security forces operating in Harare and other towns were unable to distinguish government from opposition supporters (Bratton and Masunungure 2006).

The literature on protest policing provides a more nuanced depiction of how regimes might respond to the threat of mass mobilization. Governments are conventionally thought to deploy police forces strategically by targeting coercion against protests that pose a threat to political elites either due to the size of crowds, their political goals, or their use of confrontational tactics (Tilly 1978; McAdam 1982). Scholars have shown empirically that the frequency and severity of policing is largely driven by the perceived threat entailed by specific protest events (Davenport 2000; Earl et al. 2003; Soule and Davenport 2009). The institutional characteristics of the police forces themselves have also been found to influence the likelihood that they will use coercion to assert physical control in their encounters with protesters (Earl and Soule 2006). It remains unclear, however, whether the findings from this literature can be generalized beyond the American case on which much of the research is based.

3. Spatial Strategies and Protest Suppression

This paper focuses on the ability of regimes to employ spatial strategies when responding to the threat of mass mobilization in capital cities. Because physical control of a capital is the sine qua non of political power, leaders often go to considerable lengths to ensure that control. In Burma, for instance, the military-based State Law and Order Restoration Council (SLORC) sought to discourage protests in the capital by moving nearly half a million residents from the
city center to peripheral suburbs and dispersing university students across the country. The military junta later addressed the problem more directly by moving the capital itself from populous Rangoon to isolated Naypyidaw (Seekins 2005). Yet, while regimes expend considerable effort to control their capitals, relatively little is known about the strategies they use in responding to uprisings in urban settings (Spiller 2001; Staniland 2010).

Regimes reshape and relocate their capitals because they understand that urban geography can affect the extent to which citizens are able to mobilize in confronting, if not overthrowing, those in power. This paper suggests that regimes can attempt to prevent mass mobilization by concentrating their repressive resources around the politically symbolic sites where protesters are likely to rally. Since such focal points within a capital are common knowledge (Schelling 1980), regimes require little information to determine where police forces should be deployed to preemptively assert their control over key sites or to disperse protesters seeking to occupy those sites. This spatial logic yields a testable hypothesis: regimes should be expected to target repression against individuals within close proximity of politically symbolic focal points while largely ignoring individuals found in other parts of the capital.

The problem for most regimes is that citizens can use the widely understood symbolism associated with focal points in a capital to physically coordinate their resistance to state authority (Lefebvre 1991; Tilly 2000; Sewell 2001; Martin and Miller 2003; Tilly 2003; Patel 2013). By occupying a government building, a central square, or a public memorial — i.e., the concrete manifestations of the state — protesters can signal the importance of their agenda as well as the strength of their movement. The very act of occupying such sites enables protesters to communicate the urgency of their demands to the regime in power. Occupation further serves to magnify the appeal of a protest among citizens who may have only latent anti-regime sympathies
and need to be catalyzed into action. For example, seminal events in modern Chinese political history have had their origin at Tiananmen Square in Beijing precisely because that particular site has a symbolic association with state authority (Hershkovitz 1993; Lee 2009). Chinese dissidents under republican and communist regimes repeatedly sought to trigger political reform in the twentieth century by physically occupying Tiananmen Square with the aim of attracting others to their cause. And they did so because the likelihood of an isolated protest cascading into a larger movement depends on whether citizens can rally at such sites in sufficiently large numbers to attract likeminded others as well as to resist intimidation by the regime (Schelling 1978; Kuran 1991; Lohmann 1994).

The point overlooked in existing protest studies is that regimes can also derive a strategic advantage from the political symbolism associated with particular sites. The symbolism that transforms those sites into focal points for mass gatherings can be used by regimes to guide the deployment of security forces (Stinchcombe 1963; Sewell 2001). The known rallying potential of such sites should reduce the uncertainty over how the threat of mass protest should be contained, since regime authorities can accurately anticipate where protesters are likely to assemble even when lacking detailed information on who is organizing or participating in a protest. Rather than stretching coercive resources to patrol all parts of a city, a regime may be able to more efficiently disperse protesters, if not preempt their massing, by concentrating their security forces in and around those sites. In short, a regime may well lower the likelihood of being overthrown by adapting its repression strategy to the symbolic geography of its capital.

The logic of spatial repression can be illustrated in the case of Paris, where politically symbolic sites have historically shaped patterns of both protest and repression. Rulers as well revolutionaries in the nineteenth century understood that for “insurrectionists to succeed they had
to occupy central Paris, including the Hôtel de Ville, and conquer or intimidate the national government, located in the Louvre-Tuileries and the Palais-Bourbon” (Jordan 1995, 109). Napoleon III attempted to discourage the city’s perennial uprisings by commissioning Baron Haussmann to construct boulevards wide enough to prevent the construction of makeshift insurrectionary barricades while facilitating the movement of security forces throughout the city (Gould 1995; Benjamin 1999). Nevertheless, the city’s spatial order continued to influence both dissident and regime behavior a century later when leftists, students, and workers took to the streets to bring down Charles De Gaulle’s government in 1968. What is telling is the fact that French authorities did not attempt to defend the Fifth Republic by asserting their control over the entire capital. Protesters were instead allowed to occupy sites like the Sorbonne, set up barricades in the Latin Quarter, and even march through streets on both sides of the Seine. But to prevent the protests from becoming a full-blown insurrection, the Minister of the Interior and the Chief of Police coordinated security forces to insulate sites that embodied state power. They specifically sought to prevent protesters from approaching buildings such as the president’s office at Elysée Palace, the prime minister’s office at Matignon Palace, and the National Assembly at Bourbon Palace (Grimaud 1977; Dogan 1984; Mathieu 2008).

4. Suppressing Mass Protest during Ethiopia’s Post-Election Crisis

This section corroborates the logic of spatial repression with evidence from the Ethiopian government’s response to opposition protests that erupted in the capital, Addis Ababa, following the competitive 2005 election for the parliament that chooses the country’s government.¹ The case study presented here discusses the political bargaining that preceded the protests, the

¹ The country’s 1995 constitution established a multiparty system, but the EPRDF handily won 95% of parliamentary constituencies in 1995 and 2000.
dynamics of violence that emerged during the protests, and the regime’s spatial strategy for insulating the prime minister’s palace through house-to-house arrests of young men.

4.1 Post-Election Bargaining

The results of Ethiopia’s May 2005 election became a source of conflict even before they were finalized (Harbeson 2005; Abbink 2006; Smith 2007; Lyons 2008; Tronvoll 2009). The ruling Ethiopian People’s Revolutionary Democratic Front (EPRDF) asserted their victory the day after the election, while the opposition Coalition for Unity and Democracy (CUD) and the United Ethiopian Democratic Forces (UEDF) disputed results in over half of single-member constituencies based on allegations of voter intimidation and ballot fraud. The conflict over the results escalated as the National Electoral Board’s investigation into the allegations became widely perceived as biased in favor of the EPRDF. Opposition supporters responded in June 2005 by launching demonstrations in the capital and other towns despite a ban on public meetings imposed by the government after the election. The June protests resulted in some 50 deaths in the capital.

The inter-party negotiations over the composition of parliament were marked by tit-for-tat brinkmanship. The EPRDF, anticipating an enlarged opposition presence in parliament, hastily changed parliamentary rules to raise the percentage of members required to propose motions from 20% to 51%. The opposition CUD responded by boycotting the new parliament. The EPRDF countered by rescinding parliamentary immunity for CUD parliamentarians who

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2 Official results issued by the National Electoral Board of Ethiopia on 5 September 2005 show the EPRDF winning 372 of 547 parliamentary seats. The combined opposition won nearly a third of seats with the CUD winning 109 seats and the UEDF another 52 seats.
refused to take their seats. The CUD then established preconditions for their entry into parliament, including the formation of a government of national unity, the revocation of new parliamentary rules, and the reform of the National Electoral Board.

When it became evident that the EPRDF would not offer concessions to the opposition, the CUD sought to provoke a showdown by announcing a campaign of civil disobedience on 30 October 2005. Opposition supporters were instructed to launch a stay-at-home strike along with a boycott of businesses affiliated with the ruling party. CUD leaders understood that such a provocation might result in the use of force against their supporters, but some calculated the ensuing public outcry would compel the regime to soften its stance. When discussing the opposition’s strategy with the US Embassy’s chargé d’affaires, CUD leader Berhanu Nega reportedly stated, “[W]hy do you assume that the government would win? We may be risking a lot, but the government is risking even more. They could arrest our leaders and shoot 1,000 people a day, but how long could they continue to do that?”

4.2. Violent Clashes

Once the CUD publicly instructed its supporters to start a campaign of civil disobedience, the prolonged impasse between the ruling party and the opposition was shattered by violence on

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5 The CUD’s attempt to challenge the regime outright may have stemmed from its increasing fragmentation. Some members of the coalition began taking their seats in parliament despite the party’s official boycott. See “Opposition CUD Splitting,” US Embassy, Addis Ababa, 27 October 2005 [http://wikileaks.org/cable/2005/10/05ADDISABABA3713.html].
the streets of Addis Ababa on 1 November 2005. The CUD’s entire leadership was arrested on the first day of the protests,\(^8\) and clashes occurred wherever state security forces confronted CUD supporters on the capital’s streets. The first clashes began in the main commercial district of Merkato and then spread to include slums, middle class residential areas, and diplomatic districts.\(^9\) Two days after the initial onset of protest, the US Embassy in Addis Ababa reported to the US State Department that violent clashes had “spread beyond their initial flashpoints to most parts of the capital.”\(^10\) One local newspaper described the second day of protest as “a bloodbath as far as most parts of the metropolis were concerned.”\(^11\)

Anti-government protesters gathered behind barricades assembled from debris, tires, and wooden planks.\(^12\) Some were armed with knives, Molotov cocktails, and firearms, though most hurled stones at police and their vehicles. Meanwhile, city and federal police officers were equipped with riot gear, batons, and firearms. The Ethiopian government had taken steps to reinforce its policing capacities in the preceding months. After the smaller set of protests in June 2005, the federal police recruited an additional 5,500 officers, implemented an anti-riot training program, and acquired new vehicles, including 20 patrol cars and 10 water cannons.\(^13\)

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\(^8\) Prosecutors subsequently charged CUD leaders with treason. However, the government was never able to furnish convincing evidence that the opposition planned an armed rebellion (Abbink 2006).

\(^9\) The exact trigger for the violence remains unknown. There are numerous claims, though most agree that the first street battles between security forces and opposition supporters began in Merkato. One version is that efforts by the police to arrest drivers participating in the CUD’s car-honking protest on 31 October 2005 led to popular outrage. Another version is that high school students began pelting police officers with rocks. See “Uneasy Calm Returns to Addis Abeba,” Addis Fortune, 6 November 2005. See also “Eight Killed, 43 Wounded in Ethiopia Election Clashes,” Agence France Presse, 1 November 2005.


\(^12\) The local private press was shut down during the height of the November 2005 protests, but the articles published by Ethiopian newspapers provide some of the most detailed narratives on protest events in specific locations of the city. See, for example, “Tuesday in "Autobus" Tera,” Addis Fortune, 6 November 2005; “Two Days in Merkato and Addissu Gebeya,” Addis Fortune, 6 November 2005.

The police-protester clashes were lethal. According to an official inquiry commission formed by the Ethiopian government to assess human rights violations stemming from the post-election protests, an estimated 99 people were killed and 448 others were injured in the week following the start of the protests on 1 November 2005. Yet, the protests ended almost as abruptly as they started. The regime pacified the capital within four days after their initial onset. The inquiry commission’s records indicate that 62 persons were killed on the second day, 21 on the third day, and 2 on the fourth day. Media reports describe an “uneasy calm” by the end of the week. The relatively quick end to the protests is confirmed by diplomatic reports. The US Embassy had cabled the US State Department on the first day of protest to warn that the violence on the streets could “plunge Ethiopia deeper into crisis.” But the US Embassy then sent a follow-up cable within a week to report that the regime was “unlikely to be shaken by another series of riots in the near future given the brutality with which this one was put down.”

The sudden end to the protests cannot be attributed to the regime’s tactics in confronting protesters on the capital’s streets. Its own official account indicates that security forces were initially unable to contend with the size of the protests, claiming that the CUD used mobile phones to coordinate protesters simultaneously at 55 sites across the capital. The number of protesters was estimated in the thousands at most of those sites. Diplomatic and media reports corroborate this official account. On the third day of protest, the US Embassy reported that “the

sheer number of demonstrators and their wide dispersion throughout Addis Ababa appears to have overwhelmed the capacity of the security forces’ riot control units."19 The makeshift roadblocks erected by protesters not only made it difficult for police to engage in pursuit, but protesters also had the advantage of being able to hide in the surrounding neighborhoods where they lived.20 Under such conditions, rather than apprehending protesters, security forces sought to disperse them with tear gas, water cannons, or live ammunition.21 Local and foreign media reports suggest that relatively few arrests were made at protest sites.22

4.3. Spatial Repression

The EPRDF interpreted the post-election protests as an opposition-led insurgency that had to be suppressed. Prime Minister Meles Zenawi described the CUD campaign as “an Orange Revolution gone wrong,” arguing that opposition leaders were using allegations of fraud in order to incite the popular overthrow of the government, as had occurred in Ukraine one year earlier.23 The EPRDF attempted to prevent the protests from becoming a full-scale color revolution by employing a well-established tactic of modern Ethiopian regimes (Toggia 2008): it preemptively

20 The local transport system shut down after the onset of protest, so would-be protesters could not readily move between different parts of the city. See “Uneasy Calm Returns to Addis Abeba,” Addis Fortune, 6 November 2005.
21 The paper’s author witnessed police using such tactics at two sites during the first wave of anti-government protests in Addis Ababa in June 2005.
demobilized suspected dissidents through mass arrests. After violent clashes erupted in the capital, security forces began conducting house-to-house arrests late at night and into the early hours of the morning. One local newspaper described security forces “arresting several thousands of young people from their homes.” Another local newspaper reported that officials of neighborhood-level administrative units, known as kebeles in Amharic, were guiding the efforts of federal police in “searching door-to-door for young men to incarcerate them in masses.”

Figure 1 illustrates the extent to which the regime relied on mass arrests to suppress the protests. The records collected by the inquiry commission indicate that approximately 13,771 people were arrested in the week following the onset of protest on 1 November 2005. Nearly 90% of those arrests occurred in just two days. At least 25 people were arrested for every one person killed or injured during the first week of police-protester confrontations. Most of those arrested were transported outside of Addis Ababa to detainment centers such as Ziway, a prison over 100 kilometers south of the capital, or Dedessa, a military camp over 300 kilometers west of the capital.

---Figure 1---
The EPRDF sought to use the mass arrests to systematically demobilize the demographic most likely to challenge the regime on city streets, namely, young men. Government officials had been concerned with the politicization of the capital’s young men, who they often publicly described as adegegna bozene or dangerous hooligans in Amharic, when it became clear that they heavily favored the CUD in the months leading up to the election. Once the protests began, Prime Minister Meles Zenawi claimed that the opposition was inciting the capital’s unemployed youth to overthrow the constitutional order.29 State media reported that the CUD paid individuals $150 to recruit young men to engage in violence,30 while government officials further alleged that the opposition was encouraging protesters to target the prime minister’s co-ethnics.31 The inquiry commission’s records indicate that the regime’s arrest strategy was consistent with its rhetoric: the age distribution in arrests was highly uniform across all neighborhoods of the capital with 90% of arrests involving men under the age of 32; the median age was 22.

The regime evidently undertook the mass arrest of young men with the aim of sanitizing the area surrounding the capital’s most politically salient focal point — the prime minister’s palace. The palace is a natural site for anti-regime protesters to converge because it has historically represented the country’s seat of government. In fact, the clearest feature of the capital’s morphology is its radiating outward pattern originating at the prime minister’s palace. The palace has symbolic importance because it has continuously functioned as the physical seat

of power since its founding by King Menelik II at the end of the nineteenth century. Such is the symbolism of the palace that the distribution of power in the country’s current federal parliamentary system can be discerned by observing who occupies this particular residence. Holding real power as prime minister, Meles Zenawi chose to occupy Menelik II’s palace, while allowing the country’s figurehead president to reside in a more sumptuous palace built by Haile Selassie just down the street (Bahru Zewde 2005, 122-123).

The palace’s primacy at the capital’s center poses an obvious security challenge. The palace is not only the natural focal point for any group seeking control of the state, but it has also influenced the placement of other sites that can attract mass gatherings for anti-government demonstrations. Nearly all government ministry buildings are found within five kilometers from the palace. Figure 2 shows that at least four other major focal points surround the palace within a five-kilometer radius. To the north, Addis Ababa University is less than three kilometers from the palace. The university served as a staging ground for anti-government protests in the 1960s and 1970s and has served a similar function against the current regime since the mid-1990s. To the south, the city’s largest parade ground, Meskel Square, is less than two kilometers from the palace. This is where the capital’s residents gather for major political and religious events, including a mass opposition rally the week before the 2005 election. To the west, the city’s largest commercial district, Merkato, is less than four kilometers from the palace. This open-air market was the epicenter of the first wave of opposition protests in June 2005. To the east,

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32 Despite its association with a contested imperial history, Menelik II’s palace served as the headquarters for the country’s military-socialist regime between 1974 and 1991 (Clapham 1988, 79). The leadership of the Derg was decided in 1977 by an armed confrontation at the palace between the factions led by Mengistu Haile Mariam and his rival, Teferi Benti, the Derg’s then chairman. Mengistu not only went on to use Haile Selassie’s palace office as his own, but he also had the murdered emperor buried under the same building (Aberra Jembere 2005, 138).

33 The palace’s primacy has been reinforced by the individual preferences of successive Ethiopian leaders rather than as a result of a master plan. Addis Ababa never underwent a Haussmann-like transformation in which streets or districts were designed according to systematic urban planning. None of the master plans adopted under the Italian occupation, Haile Selassie, or thereafter were implemented (Fuller 2007).
Megenagna Roundabout is less than five kilometers from the palace. This area hosts a large market, Shola Market, and serves as a choke point for most roads leading from eastern suburbs into the city center.

—Figure 2—

The location of the prime minister’s palace helps to account for the manner in which the Ethiopian government undertook mass arrests. Individuals were targeted for arrest because of where they lived and not because they were known opposition supporters who had participated in street protests.34 Based on data from the inquiry commission, Figure 3 shows that the neighborhood-level arrest rates follow a pattern demarcated by the focal points described above: neighborhoods closest to the prime minister’s palace have the highest arrest rates when compared to those in outlying parts of the city.35 Neighborhoods within five kilometers of the palace have an average arrest rate of 15 arrests per 1,000 men. This is more than twice the average rate of 7 arrests per 1,000 in neighborhoods located more than five kilometers from the palace.

—Figure 3—

34 Nearly all of the men who were arrested in November 2005 were subsequently released without being prosecuted once the protests ended.
35 The outliers in Figure 3 are also suggestive of government strategy. The neighborhoods at the southern end of the capital marked by unusually high arrest rates happen to straddle Debre Zeit Road. This road is a major artery leading from the capital’s center to Kaliti prison, where many of those arrested during the protests, including opposition leaders, were subsequently detained. Debre Zeit Road also leads to a military base located approximately 50 kilometers south of the capital.
The EPRDF’s spatial strategy ultimately proved to be effective. The initial outburst of anti-regime protest on 1 November 2005 was suppressed in just under a week. Clashes between state security forces and opposition protesters — as reflected in the number of protester injuries and deaths — subsided within days of their onset. Moreover, these clashes failed to resume even after the EPRDF publicly announced on 9 November 2005 that opposition leaders would be prosecuted for treason, a move that might have otherwise triggered another round of protest. But the protests perhaps did not reignite because many of the young men who would have participated had already been detained, and those who had not been detained knew what would become of them.

4.4. Alternative Explanations

Alternative explanations for the arrest patterns in Addis Ababa are either insufficient or implausible. One explanation could attribute the variation in arrest rates to known or well-established protest flashpoints. Such flashpoints could be found in neighborhoods where the intensity of anti-regime feeling among local residents led them to be among the first to take to the streets. For example, the first wave of protests that erupted in parts of the capital in June 2005 may have subsequently been targeted by state security forces for additional policing, resulting in much higher arrest rates in November 2005. But the protest flashpoints in June 2005 occurred only within five neighborhoods to the west of the prime minister’s palace. The area affected by those June protests is simply too small, even when including adjacent neighborhoods, to account for the larger swath of high-arrest neighborhoods evident in Figure 3. This explanation cannot account for the high arrest rates found in multiple neighborhoods to the east of the prime minister’s palace.
A second alternative explanation could attribute arrest patterns to the street mobilization of protesters in November 2005. This argument would suggest that the regime targeted arrests in neighborhoods where protesters were visibly present. If this account were to be true, one would expect to find that the pattern of arrests strongly correlates with one of the most observable manifestations of street-level confrontations between police and protesters, namely, protest-related deaths. However, several problems arise with this account. The first is that many neighborhoods have low arrest rates despite having deaths associated with police-protester confrontations. The second is that several neighborhoods to the east of the prime minister’s palace were subjected to high arrest rates even though no deaths occurred there. The third is that protesters rarely clashed with police in the most politically sensitive areas around the prime minister’s palace. As noted earlier, nearly all government ministry buildings are located within five kilometers of the prime minister’s palace. Yet, relatively few deaths occurred around those sites of state authority: the 14 neighborhoods with government ministry buildings have a mean of 0.14 deaths, while the remaining 85 neighborhoods have a mean of 0.44 deaths.36

Another explanation could attribute the spatial pattern in Figure 3 to partisan voting. It could be the case that the regime carried out more arrests in neighborhoods where electoral returns showed the opposition to be especially strong. But this explanation is unlikely. The opposition’s electoral support was so high in all parts of the city that the regime could hardly derive any leverage from knowing the localized distribution of votes. The opposition CUD won 80% of votes across Addis Ababa during the 2005 elections, carrying all 23 parliamentary constituencies in the capital. In fact, the arrest rate is inversely related to the CUD’s electoral strength at the constituency level: the correlation coefficient is -0.36.

36 A difference-of-means test indicates that this difference is weakly significant in a two-tailed test (p=0.0818).
A final alternative explanation for the variation in arrest rates might be found in ethnicity. This argument would suggest that the regime targeted individuals based on their ethnic identities, since certain groups were known to favor the opposition during the 2005 elections. The citywide arrest rate for ethnic groups associated with the opposition — Amhara (9.6 per 1,000 Amhara men), Gurage (13.4 per 1,000 Gurage men), and Oromo (10.5 per 1,000 Oromo men) — was somewhat higher than the arrest rate for Prime Minister Meles Zenawi’s co-ethnic Tigray (7.7 per 1,000 Tigrayan men). On the whole, however, the inquiry commission’s records indicate that the ethnic composition of protest-related arrests largely reflected the make-up of the city’s male population. For example, the Oromo make up 19.08% of the male population and 19.14% of all arrests. If there had been ethnic targeting in arrests, the inquiry commission’s records suggest this mainly occurred within close proximity of the prime minister’s palace. It is within five kilometers of the palace that the differences across ethnic groups are magnified. In the sub-city of Arada, where neighborhoods are, on average, less than two kilometers from the palace, the arrest rate for Gurage men is 28.7 per 1,000, or nearly three times the 9.7 rate for Tigrayan men. It is noteworthy that the Gurage are the co-ethnics of Berhanu Nega, the CUD leader who would have become the capital’s mayor. By contrast, in the capital sub-city of Kolfe Keranyo, where neighborhoods are, on average, about eight kilometers from the palace, the difference in arrest rates between these groups is negligible: 5.5 for the Gurage and 3.9 for the Tigrayan.

5. Data and Methods

Were protest-related arrests in Addis Ababa influenced by the capital’s symbolic geography or by factors such as the intensity of protest or the proximity of police? One constraint

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37 Ethnicity can be readily known in Ethiopia because it is indicated on state identity cards issued at the neighborhood level.
in answering this question is the lack of fine-grained data needed to evaluate the pattern of repression within the capital. While the crisis was widely covered by international media, the news reports filed by foreign correspondents lack information such as the street locations of police-protester clashes.\textsuperscript{38} The Ethiopian government shut down the private media during the worst days of the post-election crisis, so detailed local reports are largely unavailable.

The only source of data for studying how the Ethiopian government chose to suppress opposition protests comes from the official inquiry commission.\textsuperscript{39} The inquiry commission was mandated by parliament to assess whether human rights violations had been committed during the post-election crisis, so the commission’s investigators were able to collect thousands of records on the arrests made by state security forces during the protests in Addis Ababa and elsewhere. The use of such government data inevitably raises concerns of bias that must be acknowledged up front (Davenport and Ball 2002), since the government certainly did not intend for the commission to proclaim that it had used excessive force. Indeed, some members of the inquiry commission eventually went into exile, claiming that the government had pressured them to whitewash their findings. Yet, while the government and its critics debate whether the use of force during the post-election crisis was justified, it is noteworthy that neither side contests the

\textsuperscript{38} Ethiopia is a low-information country even by regional standards. The Social Conflict in Africa Database (SCAD), which is perhaps the best source of information on low-scale violent events like protests, contains only 63 entries for Ethiopia for the entire period from 1990 to 2009. This figure is only about one-third of the average number for other African countries, that is, even after setting aside outliers such as Nigeria and South Africa. The SCAD contains only one entry for the November 2005 protests in Addis Ababa, which undercounts the number of deaths and lacks information on the number of arrests.

\textsuperscript{39} The Ethiopian House of People’s Representatives appointed 11 members to the inquiry commission in December 2005. The commission included judges, religious leaders, and academics. Opposition MPs identified only three of the 11 members as unqualified to serve, but voted against approving the commission’s composition as a whole due to concerns of a politicized process. See “Ethiopia Names Commission to Probe Electoral-Related Violence,” US Embassy, Addis Ababa, 9 December 2005. http://wikileaks.org/cable/2005/12/05ADDISABABA4073.html.
known facts: approximately 15,000 people were arrested in Addis Ababa as a result of those protests. These are the data analyzed in this paper.

Dependent Variable

The dependent variable is the arrest rate resulting from the November 2005 protests. Since the Ethiopian government appears to have relied on mass arrests in responding to the protests, this measure offers a reasonable approximation of the regime’s repression strategy. The dependent variable is operationalized as the log odds ratio of the proportion of arrests in the neighborhood male population.

The units of analysis are 97 of the 99 official neighborhoods of Addis Ababa. The government designates and demarcates neighborhoods, which are known as kebeles in Amharic, and which function as the lowest administrative level of government. Arrests are coded and aggregated to the neighborhood level for 12,932 out of 14,248 arrest records associated with the protests that began on 1 November 2005. The remaining arrest records were excluded due to ambiguous, erroneous, or missing neighborhood information. Ordinary least squares regression is used to model the dependent variable.

41 The Bera-McAleer and Box-Cox tests indicate that the log-form is the preferred specification for the dependent variable. The dependent variable is calculated by as log(p/(1-p)), where p is the fraction of arrests in the male population at the neighborhood level. Because the dependent variable is a proportion, the nonlinear transformation used here ensures that predicted values will lie between 0 and 1.
42 Two of the outlying neighborhoods drop out of the analysis due to the transformation of the dependent variable because no arrests were recorded there.
43 The Derg first introduced kebeles as urban dwellers’ associations in 1975. They acquired increased powers over time, including the allocation of housing and the provision of social services (Keller 1988, 233-234). Both the Derg and the EPRDF have used kebeles for collecting information and policing at the local level.
Independent Variables

The principal independent variable of interest is the distance of each neighborhood from the prime minister’s palace. The measure is calculated as the linear distance in meters from the geographic center of a neighborhood to the palace. The natural log of distance is used to provide a better fit to the data. As an alternate measure, a dichotomous variable indicates whether a government ministry building is found within the boundaries of a neighborhood. Given the logic outlined in this paper, neighborhood arrest rates are expected to increase with greater proximity to the palace and to be higher in neighborhoods with government buildings.

A dichotomous variable is coded to reflect the geographic distribution of the city’s policing infrastructure. This variable equals 1 if a neighborhood has a police station located within its boundaries; it is 0 otherwise. Police stations were identified through data from OpenStreetMap. Neighborhoods with police stations are expected to have higher arrest rates.

A dichotomous variable is used to control for prior protest mobilization. This variable equals 1 if police-protester clashes were identified in a neighborhood during the cycle of protests that erupted in June 2005. Neighborhoods adjacent to original protest neighborhoods are also coded as 1, since police-protester clashes at certain locations may subsequently lead state security forces to target the broader area surrounding those original flashpoints. These neighborhoods are identified using the place names listed in a report issued by the Ethiopian federal police to the inquiry commission. A total of 20 neighborhoods are thus coded: five protest neighborhoods and 15 adjacent neighborhoods. Neighborhood arrest rates in November 2005 are expected to be higher in neighborhoods that experienced protests in June 2005 and in the surrounding neighborhoods.

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44 See http://www.openstreetmap.org/.
The number of protest-related deaths within each neighborhood in November 2005 is included as a proxy for the intensity of protest. Most deaths resulted from direct confrontations between opposition supporters and state security forces on the streets of the capital. Records from the inquiry commission were used to identify the locations where deaths occurred during the first three days after onset of protest. Neighborhoods with a larger number of deaths, reflecting more intense protests, are expected to have higher arrest rates due to more concentrated policing.

The number of opposition leaders living in a neighborhood is used to control for the potential rallying effect of their detention. The Ethiopian government detained 127 leaders of opposition parties and civil society organizations throughout Addis Ababa immediately after the protests began in November 2005. Records from the inquiry commission were used to identify the neighborhoods in which those leaders’ homes are located. The CUD had called upon its supporters to rally around party leaders to protect them from state security forces.46 Neighborhoods in which high-profile arrests occurred would therefore be expected to have higher arrest rates, since those incidents might provoke clashes between police and protesters.

The number of male residents in a neighborhood per square kilometer is used as a measure of the relevant protest population. Additionally, the mean number of persons per housing unit in a neighborhood is used as a crude proxy for income.47 All population and housing data are from the country’s 2007 census.48 Neighborhoods with greater male population density and greater overcrowding in housing units are expected to have higher arrest rates.

Descriptive statistics are shown in Table 1.

Table 1

6. Empirical Analysis

Table 2 reports the results from the ordinary least squares regression analysis of neighborhood arrest rates. The results support the argument that protest suppression in the Ethiopian case was largely driven by a spatial logic. The findings corroborate the claim that the regime concentrated its policing in neighborhoods surrounding politically symbolic focal points. Arrest rates are appreciably higher in neighborhoods within proximity of the prime minister’s palace and decline with greater distance from the palace. The coefficient for this variable attains its expected negative sign and is statistically significant at the 0.05 level or better in two-tailed tests. Its substantive impact is similarly significant. The $R^2$ in Model 1 suggests that the distance from the prime minister’s palace alone can account for about 31% percent of the variation in neighborhood-level arrest rates. Moreover, this variable retains a relatively large substantive effect even when other control variables are included in the model.\(^{49}\)

Table 2

For a concrete sense of how policing might be deployed to insulate a political focal point, consider a neighborhood in Addis Ababa that is about five kilometers from the prime minister’s

\(^{49}\) Post-estimation diagnostics indicate no multicollinearity. The variance inflation factor (VIF) of the right-hand side variables ranges from 1.12 to 2.61, all well below the threshold for detecting multicollinearity.
palace, the median distance from the palace among all neighborhoods in the capital. The arrest rate in such a neighborhood is estimated to be 8 arrests per 1,000 men, holding all other variables in Model 3 at their median values. The estimated arrest rate rises to nearly 12 arrests per 1,000 men in a neighborhood that is just one kilometer from the prime minister’s palace, representing a one standard deviation increase in proximity while holding all other variables at their median values.

The log transformation of distance from the prime minister’s palace means that this variable’s marginal effect is nonlinear. Based on the coefficient for this variable in Model 3, the arrest rate falls by about 18%, on average, when moving from one to two kilometers from the prime minister’s palace, holding all else equal. Arrests continue to decline with each additional kilometer from the palace, though at a decreasing rate. The arrest rate falls by an average of 11% when increasing a neighborhood’s distance to the palace from two to three kilometers. The arrest rate then falls by an average of 6% from four to five kilometers. At the farthest reaches of the city, increasing the distance to the palace from 19 to 20 kilometers, the arrest rate falls by an average of 1%.

Corroborating the finding on distance to the prime minister’s palace, the alternate measure indicating whether a neighborhood has a government ministry building located within its boundaries is positive and statistically significant in Models 4 through 6. The coefficient for this variable in Model 6 indicates that a neighborhood with a ministry building is likely to have nearly 5 additional arrests per 1,000 men when compared to a neighborhood with no such buildings, holding all else constant. This result reinforces the claim that the Ethiopian regime

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50 Distances, originally calculated in meters, are discussed in terms of kilometers for ease of exposition.
51 Median values are as follows: the log of distance to the prime minister’s palace = 8.4; police station = 0; previous police-protester confrontation = 0; protest deaths = 0; opposition leader arrests = 0; the log of male population density = 8.7; the mean number of persons per housing unit = 4.3.
attempted to use its policing resources to shield state symbols from protesters who might attempt to occupy them. Moreover, this result is noteworthy because the June clashes that preceded the November protests did not occur in neighborhoods where ministry buildings are located.

The results in Table 2 suggest that the capital’s policing infrastructure did not affect neighborhood arrest rates. The variable indicating whether a neighborhood has a police station located within its boundaries is statistically indistinguishable from zero in all models. While a fifth of neighborhoods in Addis Ababa have police stations, the arrest rates in these neighborhoods appear to be no different from those that lack police stations. Though not reported here, an alternate coding of this variable based on the distance of each neighborhood to the closest police station is also statistically insignificant. This outcome may reflect the fact that much of the work associated with house-to-house arrests was carried out by federal police and special units of the military rather than the local police.

Neighborhoods with previous police-protester clashes are found to have considerably higher arrest rates. The coefficient for this variable attains its expected positive sign and is statistically significant. This result indicates that neighborhoods where such clashes occurred during the first wave of protests in June 2005 subsequently had higher arrest rates in November 2005, suggesting that state security forces may have targeted areas with known protest flashpoints for stepped-up policing. Based on the coefficient in Model 3, neighborhoods that mobilized in June and their surrounding areas are estimated to have nearly 14 arrests per 1,000 men when compared to 8 arrests per 1,000 in neighborhoods that were quiescent during the same month, holding all else equal.

Arrest rates in neighborhoods where protest-related deaths occurred or where opposition leaders were detained in November 2005 are generally no different from other neighborhoods.
The coefficients for these variables do not attain statistical significance in any model. In the case of opposition leader arrests, the homes of these leaders could be found in 48 of 99 neighborhoods, yet the arrest rates in those areas are not systematically different from other parts of the city.

The results in Table 2 indicate that demographic factors may have influenced neighborhood arrest rates in November 2005. The coefficient for male population density in Model 3 indicates that neighborhood arrest rates increase with the number of men per square kilometer. However, the impact of this variable is relatively small. A neighborhood with the median level of population density of some 6,000 men per square kilometer is estimated to have nearly 8 arrests per 1,000 men. Increasing the male population density by one standard deviation to almost 16,000 men per square kilometer would only raise the rate to about 9 arrests per 1,000, holding all else constant.

The coefficient for the income proxy suggests, contrary to expectation, that poorer neighborhoods in the capital have lower arrest rates. The negative sign associated with this measure may be due to the fact that several middle and upper class neighborhoods can be found within close proximity of the prime minister’s palace, which also happened to have among the highest arrest rates. According to Model 3, increasing by one standard deviation the average number of persons per housing unit from the median of 4.26 to 4.67 is associated with a decrease in the arrest rate from nearly 8 arrests to about 6 arrests per 1,000 men, all else equal.

The spatial logic driving the mass arrests carried out by the Ethiopian government is underscored by a complementary analysis of neighborhood-level deaths rates shown in Table 3. An ordinary least squares regression analysis of the death rate per 1,000 males indicates that

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52 An alternate specification based on total population density, including men and women, does not attain statistical significance.
residents of the capital were not being arrested where security forces were clashing with protesters on city streets. The results show that the capital’s symbolic geography had little to no influence on where protesters were likely to be killed by security forces. Model 7 shows that the death rate has no systematic relationship with proximity to the prime minister’s palace, while Model 8 shows that the death rate is significantly lower in neighborhoods where government buildings are located — possibly because security forces were actively preventing protesters from rallying in those neighborhoods in the first place. Models 7 and 8 further show that neighborhoods where opposition leaders were arrested are associated with higher death rates, as are poorer neighborhoods, as proxied by the mean number of persons per housing unit. Both of these results are contrary to the patterns found in the analysis of neighborhood arrest rates.

—Table 3—

7. Conclusion

This paper examines the influence of symbolic geography on strategies of protest suppression in the case of an electoral authoritarian regime. Drawing on evidence from Ethiopia, the paper shows that the country’s ruling party targeted mass arrests on the basis of proximity to the executive office and symbols of state power like government ministry buildings rather than observable measures of protest intensity or policing capacity. These findings may provide new insights into the strategies used by electoral authoritarian regimes to impose their rule as well as the mechanisms by which they do so.

53 Unlike the analysis of the neighborhood arrest rate, the death rate cannot be logged for the analysis because the modal value is zero.
The argument developed in this paper suggests that repressive strategies will vary with the symbolic geography of capitals. The Ethiopian case shows that a capital with a dominant focal point will induce a strategy of targeted policing, but further research is needed to assess the extent to which other regimes adapt their policing according to the number and distribution of focal points within their capitals. The placement of those sites within a capital’s spatial order may create opportunities as well as challenges for the policing of protest.

Additional research is also required to determine whether different policing strategies affect the duration and violence associated with mass protests. In Ethiopia, a policing strategy based on spatial targeting seemed to bring a quick end to opposition protests, but it remains to be shown whether this is a generalizable outcome. We do not know whether a policing strategy based on randomized targeting in an urban setting could produce similar results.

This paper brings attention to mass arrests as an insidious form of repression that may become especially attractive among electoral authoritarian regimes. The mass arrests in Ethiopia, for example, have parallels to mass arrests associated with elections in Zimbabwe in 2005, Iran in 2009, Belarus in 2010, and Russia in 2012. Given the media attention now regularly given to elections around the world, many such regimes may prefer to quietly undertake mass arrests, rather than violently confront protesters on city streets, in order to avoid scrutiny or condemnation by domestic and international audiences. In the Ethiopian case, protest-related fatalities during the 2005 post-election crisis were widely covered by the international media, but only a handful of print reporters even made mention of the thousands who were detained and none made reference to the spatial logic of policing within the capital. Information on such arrests is often lacking because they are difficult to observe: people can be detained one at a time or in small groups under cover of darkness. Electoral authoritarian regimes may increasingly
favor mass arrests as a coercive technique precisely because they constitute a less visible form of repression.
Figure 1. Protest Arrests, Injuries, and Killings in Addis Ababa in November 2005

Source: Author calculations based on data from Inquiry Commission (2006).
Figure 2. Prime Minister’s Palace and Proximate Focal Points in Addis Ababa

Note: Map shows street grid in the vicinity of the prime minister’s palace. Distances are approximate.
Figure 3. Prime Minister’s Palace and Neighborhood Arrest Rates in Addis Ababa

Source: Author’s calculations based on data from Inquiry Commission (2006).
Table 1. Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance to prime minister’s palace, log</td>
<td>1.493</td>
<td>0.716</td>
<td>-1.296</td>
<td>3.003</td>
<td>97</td>
</tr>
<tr>
<td>Government ministry building</td>
<td>0.144</td>
<td>0</td>
<td>1</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>Police station</td>
<td>0.227</td>
<td>0</td>
<td>1</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>Previous police-protester clashes</td>
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<td>0</td>
<td>1</td>
<td>97</td>
<td></td>
</tr>
<tr>
<td>Protest deaths</td>
<td>0.402</td>
<td>0.731</td>
<td>0</td>
<td>4</td>
<td>97</td>
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<tr>
<td>Opposition leader arrests</td>
<td>0.990</td>
<td>1.287</td>
<td>0</td>
<td>5</td>
<td>97</td>
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<td>Male population density, log</td>
<td>8.578</td>
<td>0.973</td>
<td>4.960</td>
<td>10.440</td>
<td>97</td>
</tr>
<tr>
<td>Mean persons per housing unit</td>
<td>4.358</td>
<td>0.412</td>
<td>3.668</td>
<td>5.543</td>
<td>97</td>
</tr>
</tbody>
</table>
Table 2. Determinants of Neighborhood Arrest Rates in Addis Ababa in November 2005

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance to prime minister’s palace</td>
<td>-0.562*** (0.086)</td>
<td>-0.400*** (0.098)</td>
<td>-0.286** (0.115)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government ministry building</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.825*** (0.192)</td>
<td>0.637*** (0.190)</td>
<td>0.529*** (0.182)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Police station</td>
<td>0.228 (0.144)</td>
<td>0.171 (0.142)</td>
<td>0.210 (0.151)</td>
<td>0.112 (0.144)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous police-protester clashes</td>
<td>0.543*** (0.173)</td>
<td>0.623*** (0.185)</td>
<td>0.724*** (0.164)</td>
<td>0.596*** (0.184)</td>
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<td>Protest deaths</td>
<td>0.046 (0.086)</td>
<td>0.076 (0.090)</td>
<td>0.100 (0.092)</td>
<td>0.098 (0.090)</td>
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<td></td>
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<tr>
<td>Opposition leader arrests</td>
<td>0.006 (0.050)</td>
<td>0.007 (0.049)</td>
<td>0.039 (0.049)</td>
<td>0.019 (0.046)</td>
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<tr>
<td>Male population density</td>
<td>0.166* (0.094)</td>
<td></td>
<td></td>
<td></td>
<td>0.276*** (0.078)</td>
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<tr>
<td>Mean persons per housing unit</td>
<td>-0.472** (0.185)</td>
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<td>-0.462** (0.182)</td>
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<tr>
<td>Constant</td>
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<td>-1.570 (1.870)</td>
<td>-1.912 (1.485)</td>
<td>-4.862*** (0.073)</td>
<td>-5.111*** (0.091)</td>
<td>-5.382*** (0.814)</td>
</tr>
<tr>
<td>R²</td>
<td>0.310</td>
<td>0.410</td>
<td>0.454</td>
<td>0.163</td>
<td>0.379</td>
<td>0.466</td>
</tr>
<tr>
<td>Number of neighborhoods</td>
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<td>97</td>
<td>97</td>
<td>97</td>
<td>97</td>
<td>97</td>
</tr>
</tbody>
</table>

Note: Ordinary least squares regression. The dependent variable is the log odds ratio of the proportion of arrests in the male neighborhood population. Standard errors are in parentheses.

*** p<0.01, ** p<0.05, * p<0.10, two-tailed tests.
<table>
<thead>
<tr>
<th></th>
<th>Model 7</th>
<th>Model 8</th>
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<tbody>
<tr>
<td>Distance to prime minister’s palace</td>
<td>0.010</td>
<td>(0.011)</td>
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<tr>
<td>Government ministry building</td>
<td>-0.035**</td>
<td>(0.017)</td>
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<tr>
<td>Police station</td>
<td>0.012</td>
<td>0.018</td>
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<tr>
<td></td>
<td>(0.014)</td>
<td>(0.014)</td>
</tr>
<tr>
<td>Opposition leader arrests</td>
<td>0.010**</td>
<td>0.010**</td>
</tr>
<tr>
<td></td>
<td>(0.005)</td>
<td>(0.004)</td>
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<tr>
<td>Previous police-protester clashes</td>
<td>0.024</td>
<td>0.029*</td>
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<tr>
<td></td>
<td>(0.018)</td>
<td>(0.017)</td>
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<tr>
<td>Male population density</td>
<td>0.012</td>
<td>0.009</td>
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<td></td>
<td>(0.009)</td>
<td>(0.007)</td>
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<tr>
<td>Mean persons per housing unit</td>
<td>0.035**</td>
<td>0.029*</td>
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<td></td>
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<td>(0.017)</td>
</tr>
<tr>
<td>Constant</td>
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<td>-0.186**</td>
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<tr>
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<td>$R^2$</td>
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</table>

Note: Ordinary least squares regression. The dependent variable is the death rate per 1,000 males in a neighborhood. Standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.10, two-tailed tests.
References


54 Ethiopian authors are listed, as is customary, by first name.


Appendix 1. Prime Minister’s Palace and Addis Ababa Road Network
Appendix 2. Protest Arrests and Distance to the Prime Minister’s Palace by Neighborhood

Source: Author’s calculations based on data from Inquiry Commission (2006).
Appendix 3. Age Distribution of Protest Arrests by Sub-City in Addis Ababa

Mean Distance to Prime Minister's Palace by Sub-City (kilometers)

Source: Author’s calculations based on data from Inquiry Commission (2006).
Appendix 5. Neighborhoods with Protest Deaths in November 2005
Appendix 6. Protest Arrests and Opposition Votes by Constituency in Addis Ababa

### Appendix 7. Arrests by Major Ethnic Group in Addis Ababa

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Male Population (%)</th>
<th>Arrests (%)</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amhara</td>
<td>44.93</td>
<td>39.46</td>
<td>-5.47</td>
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<tr>
<td>Oromo</td>
<td>19.08</td>
<td>19.14</td>
<td>0.06</td>
</tr>
<tr>
<td>Gurage</td>
<td>17.40</td>
<td>21.02</td>
<td>3.62</td>
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<tr>
<td>Tigray</td>
<td>6.34</td>
<td>4.57</td>
<td>-1.77</td>
</tr>
<tr>
<td>Others</td>
<td>12.25</td>
<td>12.77</td>
<td>0.52</td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td>3.04</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.00</strong></td>
<td><strong>100.00</strong></td>
<td></td>
</tr>
</tbody>
</table>

Note: The male population of Addis Ababa is estimated to be 1,305,387. The number of arrest records is 14,976. Source: Central Statistical Authority (2007) and Inquiry Commission (2006).
Appendix 8. Arrest Rate by Major Ethnic Group in Addis Ababa

Source: Author’s calculations based on data from Inquiry Commission (2006).