

# STATE BUILDING AND THE GEOGRAPHY OF GOVERNANCE: EVIDENCE FROM SATELLITES

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**ABSTRACT.** Though weak states are associated with civil war, terrorism and other threats to humanity, the social sciences provide scant insight into why states vary in their capacity to govern across territory. This paper seeks to understand why states govern where they do in post-civil war settings *where* leaders face stark geographic choices about extending state capacity across territory in the face of resource constraints. We propose hypotheses derived from the distributive politics literature and test them using satellite data in six countries (Burundi, Côte Ivoire, Kenya, Liberia, Sierra Leone and Uganda). Contrary to several well-established theories, we find that state builders do not reward core supporters or target swing districts. They do focus benefits on capital cities, but this does not generalize to other urban settings. Instead, state leaders focus their efforts on areas that have a history of violence.

## INTRODUCTION

From Somalia and Sudan to Afghanistan and the Philippines, weak states that fail to control their territory beget a host of domestic and international problems. They are important breeding grounds for civil conflict, staging grounds for terrorist activity, islands of extreme poverty, and threats to global health. Whether weak and failed states facilitate the short-sighted destruction of natural resources or serve as bases for the transmission of border-jumping insurgents, they represent a collective threat to peace and well-being. In such countries, one of the primary challenges for governments is to develop a state capable enough to monopolize the use of force and provide some minimal set of public goods to unify the country into a functioning political unit. This challenge is one that even the most capable of today's states had to address at some point in their histories. Indeed, extending the capacity to govern across geography is a fundamental feature of state building. In this article we explore two fundamental questions about state building: First, how and why do state leaders expand their capacity to provide governance across the territory of a country? Second, what are the implications of different state-building strategies for public goods provision, well-being, and peace? It uses post-conflict countries as a setting in which to explore why state leaders facing resource constraints build capacity as they do and whether different approaches to state building have systematic implications for the consolidation of peace.

Three decades after political scientists brought the state back in to the study of politics (Evans, Rueschemeyer and Skocpol 1985; Levi 1988) and centuries after the earliest efforts to understand how governments consolidate control over territory (Finer 1997), the social sciences provide limited insight into the geographic emergence of and variation in state capacity. Drawing largely on European state-building centuries ago, research has focused on the importance of revenue collection (Levi 1988), military threats (Tilly 1990), or endowments (Landes 1999) as the primal ingredients of states, and paid less attention to the uneven geographic contours of the state, the

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process by which state authority expands (or not) across territory, and states' uneven capacity to provide governance. In many of these accounts, states are monolithic and are assumed to provide governance over the entire territory of a country. An important body of literature on the state in Africa and beyond, of course, recognizes the weakness of many states, but even in this work, states are often portrayed as equally weak across their territory.

Work on economic and political geography belies such a characterization. Whether one observes the weak influence of the state in rural Wyoming or eastern Congo, the machinery of government touches unevenly across many countries' territories. Thus does Boone (2003), for instance, emphasize a set of factors that condition asymmetric incentives for state leaders to extend governance across the territory, Kasara (2007) examines how the structure of production and political intermediation condition the geographic targeting of state leaders, and Herbst (2000) shows that it can be rational for leaders not to extend the coercive and regulatory power of the state across territory. Indeed, research across a broad swath of the social sciences in recent decades has clarified the geographic unevenness of countries—national economies are highly differentiated by region (Krugman 1991), individual preferences are geographically concentrated (Rodden 2010), and geography and location condition collective action (Trejo 2009). The basic insight of these works is that the underlying societies over which states govern are highly differentiated across their geographies, and states' capacity to govern across these heterogeneous political and social spaces is uneven. What explains this unevenness?

We conceptualize the process of state building as a distributive conflict that takes place in geographic space. Resource constrained leaders must make choices about where to build state capacity with an eye toward sustaining themselves in power. The challenge is to identify the factors that condition those choices. We build on several theoretical traditions to develop competing hypotheses on why state leaders build state capacity where they do. While one branch of the distributive politics literature suggests that leaders should focus their efforts on areas saturated with supporters (Cox and McCubbins 1989; Murillo and Calvo 2004), another suggests that they should target their efforts on areas with many swing supporters who might be brought into the governing coalition (Lindbeck and Weibull 1987; Stokes 2005). Another theoretical tradition emphasizes the role of cities in providing a venue for collective mobilization against authorities and predicts an “urban bias” in the efforts of state leaders (Myrdal 1958; Bates 1981), while yet another emphasizes the importance of targeting state capacity at areas where opposition is strongest as a means to both purchase citizen compliance and dissuade future rebellion.<sup>1</sup> Each of these theories rely on the geographic location of supporters or opponents to generate hypotheses, but they come to quite different predictions—state leaders should build capacity either where they have many strong supporters, many marginal supporters, or where opponents are strongest.

As is often the case in the social sciences, contending theories coexist in part thanks to insufficient data to arbitrate different claims. Indeed, work on the state is subject to profound data limitations. Focused as most such research is on European state-building now centuries past, it is plagued by poor data on the geographic spread of state authority. Work on contemporary state capacity tends to rely on indicators of GDP per capita (Fearon and Laitin 2003) or tax revenue as a share of GDP (Thies 2010). However these measures provide no information on the geographic distribution of state capacity, and may often be taken as indicators of widely divergent concepts. Any study

<sup>1</sup>The intellectual foundations for this approach are broad, ranging from the counter-insurgency literature focused on winning hearts and minds (Nagl 2002) to that on appeasement in international and civil conflict (Treisman 2004).

of the process of state creation needs two crucial types of data: First, objective, geographically-differentiated indicators of state effort; and second, information on the perceptions and preferences of citizens across states' political geographies.

Building on work by Min (2010), we use time-series satellite imagery of the expansion of electricity grids as a geographically disaggregated indicator of state effort. We use the satellite data to test the competing hypotheses in four post-conflict settings and two additional weak states where new leaders face stark geographic choices about the establishment of governance across territory in the face of serious resource constraints. Contrary to several well-established theories, our findings suggest that state builders do not reward core supporters or target capacity building in swing districts. They do focus benefits on capital cities, but this does not generalize to other urban settings. Instead, state leaders focus their efforts on areas that have a history of violence.

### THE GEOGRAPHY OF THE STATE

The state is the permanent machinery of governance. At least since Weber, it is defined by a monopoly over the use of force in a territory, and that coercive capacity is reflected in the capacity to tax, legislate, administer and police. Within a given territory, the authority of state leaders is absolute, which is to say that they are sovereign. In Europe, a process defined by the gradual extension of the geographic scale of the coercive and taxing powers of authorities resulted in states supplanting earlier, alternative means of organizing societies, including everything from feudal estates to empires. As Cederman and Girardin summarize:

Internally, sovereign rulers rid themselves of internal competition within their territories. At the same time, they expanded their territories in the face of external competition. Together, these two processes generated increasingly thin and clearly defined borders. (2010: 29)

Those countries then exported the organizing principle behind states to the rest of the world through international competition and colonialism. Though the rule of the state is territorially defined, most research on the state has taken the territory of countries and "stateness" as coterminous. Perhaps because the lion's share of research has focused on Europe where war-making, state formation and state consolidation produced a geographic map of countries that closely approximates the capacity of those states, the focus has been on why states emerge rather than on any heterogeneity in their reach within their borders. In the most influential accounts, the imperatives of revenue-raising (Levi 1988) and war-making combine to fuel the emergence of states (Tilly 1990). Technological changes in war elicited the need for larger revenues, which encouraged rulers to expand the scope of their revenue collection, which expanded their military capabilities, etc. Along with taxes and conscription came the creation of national education, languages, religions, rational-legal bureaucratic standards, broader markets, and public order. This virtuous cycle produced a situation in which state capacity and political maps overlap to such an extent that IR scholars traditionally have assigned sovereignty to unitary states and moved on to consider how they interact (Waltz 1979). In most such work, the reach of the French state and the borders of France are the same thing. Yet even in France, turning "peasants into Frenchmen" was a process that took centuries, and as late as mid-19th century, outside of Paris "law... were widely ignored and direct contact with the central power was extremely limited. The state was perceived as a dangerous nuisance...."<sup>2</sup> Similar historical dynamics characterize many of today's most capable

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<sup>2</sup>Robb (2007: 23). The term "peasants into Frenchmen" is courtesy of Weber (1988).

states, and the uneven reach of the state is a common theme in more recent work on state development in the developing world, particularly on Africa. As Herbst notes of post-independence African states:

States had to control their political cores but often had highly differentiated control over outlying areas. However, the African states did create hard boundaries that were extraordinarily effective in preserving the integrity of their states. As a result, a divergence could result in how power was mapped and how states were mapped. African politics was no longer in particular harmony with the political geography. (2000: 134)

In some settings, this is a political equilibrium, but at the extreme, the failure to project state authority is associated with the collapse of public order, famine, mass emigration, and associated ills. Yet in much work on these issues, the uneven geographic capacity of the state is reflected in debates about “state capacity” or its inverse “state failure.” In the civil war literature, weak states that poorly manage their territory are understood to underpin civil wars (Fearon and Laitin 2003), and one of the largest monitoring projects of the US government has focused on “failed” states, a project now known as the Political Instability Task Force (Esty et al 1998; Goldstone et al 2010).

Likewise, a growing body of work aims to explain individual-level and cross-national variation in the willingness of citizens to “quasi-voluntarily” comply with the state in a manner consistent with the rule of law (Levi and Braithwaite 1998; Widner 2001). None of this work, however, speaks directly to the geographic reach of the state or the geography of citizen compliance with the state. As typically conceptualized, state capacity, failure or compliance is a national characteristic and has no geographic content—they do not explain why the state is capable where it is. Most empirical models of state capacity or state failure, for instance, settle on one variable, GDP per capita that does most of the heavy lifting and yields the result that rich societies have very few civil conflicts (Collier and Hoeffer 2004; Fearon and Laitin 2003).<sup>3</sup> This finding is not surprising, but GDP per capita is a national indicator that provides scant precise insight into the geographic heterogeneity of state capacity.

The lack of harmony between state authority and country territory is typically associated with post-colonial settings where artificial borders, externally-regulated sovereignty, and international norms against the violent expansion of state capacity or borders work against the process of state consolidation that western Europe experienced. But these are characteristics of a huge number of countries around the world, and they, therefore, fail to explain variation in either the geographic coverage of the state across countries or why states govern where they do within countries.

There are literatures that might seem to offer guidance. The uneven presence of the state across territory is echoed, for instance, in Hechter’s (2000) distinction between direct and indirect rule and Weingast’s (1995) work on the balance between central and decentralized authorities. Also relevant is recent research on the explicitly geographic nature of civil wars (Buhaug and Lujala, 2005; Buhaug and Rød, 2006; Gleditsch, 2007; O’Loughlin and Raleigh 2008; Braithwait, 2010; Buhaug, et alia, 2011; Theisen, 2008). Whether focused on the geographic concentration of factors of production (Dube and Vargas 2009), unequal access to communication technology (Pierskalla and Hollenbach 2013; Shapiro and Weidmann 2013), the spatial diffusion of group mobilization (Busch and Reinhardt, 2000; Weidmann 2009; Cederman, Weidmann, and Gleditsch, 2011), or the mapping of ethnic groups onto nationalist insurgencies (Cederman and Girardin 2007; Fearon,

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<sup>3</sup>See Hendrix (2010) and Thies (2010) for recent attempts to measure state capacity; as with other, more simplistic approaches, these do not provide information on the geographic scope of the state.

Kasara and Laitin, 2007; Kalyvas, 2009; Wimmer, Cederman, and Min; 2009; Cederman, Rod, Weidmann, 2010; Cederman, Wimmer, Min, 2010) researchers have begun to grapple with the fact that civil wars are concentrated in particular locations in states. All of these areas of research recognize that the state's reach is uneven, but they take that unevenness as a given rather than as something to be explained. As a result, they are not able to explain the process of state formation, an inherently dynamic one that involves the strategic choices of leaders about where to deploy their scarce resources in a context of geographically uneven support from the population.

## THEORIES AND HYPOTHESES

Existing research on civil wars, ethnic conflict, and decentralized governance all provide the general sense that state capacity is uneven and associated with conflict where it is weak. In none of these literatures, however, do we get insight into why state capacity emerges as it does across the political geography of countries, nor what the practical implications might be for public goods provision, future conflicts, or establishing or eroding inter-group trust. Building on work on African states, we begin with an understanding of state building as a distributive game in which leaders must make choices about where to project state authority conditional on the costs and benefits of doing so. Herbst's (2000) explanation for weak, geographically isolated states emphasizes the high cost and low benefit of projecting state power into sparsely populated hinterlands. Kasara (2007) emphasizes the importance of ethnicity for taxation, a key state building activity, and suggests that state leaders tax co-ethnic regions more than other ethnic regions. Boone (2003) underscores the role of local production and governance in shaping the contours of center-periphery relations and the incentives for the central state to project authority across space. We hold that each of these particular accounts builds on the generic logic of distributive politics.

We draw inspiration from the expansive literature on distributive politics to produce competing hypotheses as to where and why state leaders extend the arm of the state as they do. Though much of the literature is formally aimed at explaining the geographic targeting of spending that results from democratic political processes, much of it has more general implications for the incentives of politicians to target scarce resources. The theoretical starting point is that state leaders must make decisions on the allocation of scarce resources as they develop state capacity. We understand these allocative choices as a means to manage the political landscape: To reward friends, tempt foes, and provide governance to those thought likely to help maintain the leader in office. As a result of a stark scarcity in state resources and the strategic choices of leaders, some areas of the country will receive more public effort than others. Different models have divergent predictions about which areas those will be.

One of the longest-standing claims in the broad literature on distributive politics and development is that politics suffer from an urban bias (Myrdal 1958; Bates 1981). Many governments distort food prices, manipulate trade policy and extract agricultural surplus to benefit urban dwellers at the expense of rural areas. There are many potential mechanisms that might produce urban bias, including the increased capacity for collective action in cities, attempts by national leaders to protect themselves from urban unrest, and the economies of scale in urban public goods provision. All of these logics could apply to state builders who must make decisions about where to allocate their attempts to provide public goods and extend the reach of the state. Thus, the urban bias literature provides a straightforward hypothesis, namely that state builders will have systematic incentives to provide governance and expand state capacity in cities first. A particularly strong version of this hypothesis suggests that capital cities will be the focal point of state building since control of the capital is a precursor to further expansion of state capacity.

Other branches of the distributive politics literature provide alternative hypotheses. Cox and McCubbins (1989) suggest that politicians have incentives to focus efforts on core supporters. Focused on the importance of mobilizing voters in democratic elections, this notion has received considerable empirical support in diverse settings (Murillo and Calvo 2004; Bickers and Stein 2000). The underlying logic of the argument extends comfortably to political leaders attempting to extend the state's capacity. Because the strength of core supporters are likely to be central to leaders' future survival, leaders will have incentives to cultivate them whether their survival is determined by elections or civil conflict. The history of state building makes clear that the process of geographically extending the power of the state is a conflictual process. That the case, leaders might be tempted to devote resources to consolidate support in those parts of the country rich in supporters. Thus, the "core supporter" model provides the hypothesis that state leaders will focus their state building efforts in areas with the most core supporters.

Yet another model of distributive politics suggests that leaders will target state building efforts at areas with many soft or swing supporters (Lindbeck and Weibull 1987; Stokes 2005). One can think of swing supporters as those citizens who have limited ideological or ethnic attachment to any particular group or party in society. Given their indifference to the competing parties, such citizens are most likely to be swayed by monetary transfers or public goods that improve their quality of life. In light of their weak attachments and the responsiveness of their support to government effort, state investments in areas rich in swing supporters are efficient in the sense that the cost of convincing a swing supporter is lower than it is for committed opponents, i.e. the marginal benefit with regard to expanding capacity is the highest in these areas. As such, state leaders intent on political survival might find investments in the basic ingredients of governance most efficient when directed at portions of the country with the highest concentration of weakly-attached, swing supporters.

It is worth noting that all three of these hypotheses are premised on the notion of electorally defeating ones opponents in the process of state development—that in culling and extending their base of support, state leaders will succeed in staying in power through the ballot box. As such, these arguments entirely contradict an implicit hypothesis that emerges from the policy literature on civil war and insurgency. That literature often suggests that future conflicts can be avoided to the extent the state invests in the most conflict-prone regions with an eye toward winning hearts and minds (Nagl 2002). As Nagl and Burton (2009) argue, "Gaining the loyalty of the population requires the difficult process of nation building, which consists of improving the ability of a government to secure its citizens and developing its capacity to provide essential services, including security, to the population" (2009: 93). According to this line of thought, such investments serve two purposes. First, by improving the quality of life in conflict-prone regions, the provision of basic public goods reduces the material foundation of grievances against the state. Second, the provision of key infrastructure will facilitate the government's capacity to fight in the region if conflict resumes.

Existing literature provides a rich but contradictory set of expectations. State leaders can be expected either to concentrate scarce resources in cities, among supporters, among swing regions, or among opponents. As is often the case in the social sciences, we have more theoretical predictions than data to test them. The literature on the emergence of the state is overwhelmingly dominated by work on the emergence of European states in the 16th and 17th centuries. The data for such cases are less than ideal. The literature on state formation in today's developing worlds, in taking its cue from the older literature on European states, has produced precious little systematic data on the uneven capacity of states to project their will across the territory of countries and thus provides limited insight into the geography of state capacity.

## RESEARCH DESIGN

Because civil wars destroy infrastructure, post-conflict settings offer the opportunity to examine how and why leaders expand the state where they do, effectively from scratch. For our purpose, post-conflict settings have an important social scientific advantage, namely that they have seen the elimination of much of the state's capacity to govern (Aron 2003). Roads and electrical grids are destroyed. Systems of taxation are interrupted. Security is unevenly provided. When civil wars come to an end, the leaders of post-conflict states face a strategic challenge: where exactly within their state should they focus their efforts, given that there is profound scarcity? Do they focus their governance efforts on core supporters who might provide backing in the event of a relapse into conflict? Or, are initial efforts aimed at regions with former opponents, where state-building efforts might dissuade future conflict? Alternatively, are efforts aimed primarily at cities, which oftentimes represent the most immediate threat to state leaders, or to rural areas where the opposition might be strong?

We address these crucial issues by examining the expansion of state capacity in four post-civil war countries—Burundi, Côte Ivoire, Sierra Leone and Liberia. We supplement these cases with two others—Kenya and Uganda—that also have weak state capacity but have avoided recent civil wars. In all of these cases, a key challenge of governance is the provision of basic public services in a way that limits perceptions of inter-regional inequities, cronyism, and the like. In short, we expect that post-conflict peace depends at least in part on the capacity of state leaders to extend the state's authority across the national territory in a way that promotes public goods provision and perceptions of good governance.

The four post-conflict cases are attractive because they vary in the geographic distribution of supporters for post-conflict governments. In Côte Ivoire, the rebels were particularly strong in the North, the capital is centrally located, but much of the fighting took place around Abidjan in the South and less so in the West. Unlike the other cases, Côte Ivoire did not have an election upon the cessation of hostilities. Liberia has a different profile, with violence during the civil war concentrated in the northern region, around and to the east of the capital of Monrovia. Likewise electoral support for the first post-war elected government was concentrated in the North and very weak in the South. In Burundi, the violence was very concentrated in space—over 95% of all deaths come from 5 regions, with varying population density, clustered in the northwest part of the country (Bubanza, Bujumbura, Muramvya, Gitega, and Cibitoke).<sup>4</sup> Finally, in Sierra Leone, the fighting was concentrated in the South, far from the national capital of Freetown in the northwest. The regions that saw the most fighting also provided the highest level of electoral support for the first post-war government. In short, the geography of civil conflict and post-war support varies across the four cases in ways that presented distinct challenges for state builders, and those efforts seem to be associated with quite different outcomes.

As described in greater detail below, our empirical approach involves the use of satellite data on the actual distribution of state effort as measured by changes in electrification across territory. Our reliance on satellite imagery is important because high-resolution images of the earth's surface provide direct, geographically-differentiated evidence on the efforts of state leaders to provide basic public goods. As Min (2009:2) notes, “More than simply a modern convenience, access to electricity is a life-altering transformation that improves quality of life and enables economic development.” Extensive research shows that electrification improves educational effort, reduces the time necessary to collect fuel, increases labor supply, grows household income and expenditure,

<sup>4</sup>The data on conflictual event locations stems from the Uppsala Conflict Data Program (UCDP) Georeferenced Event Dataset (Melander and Sundberg 2011; Sundberg, Lindgren, and Padskocimaitė 2011).

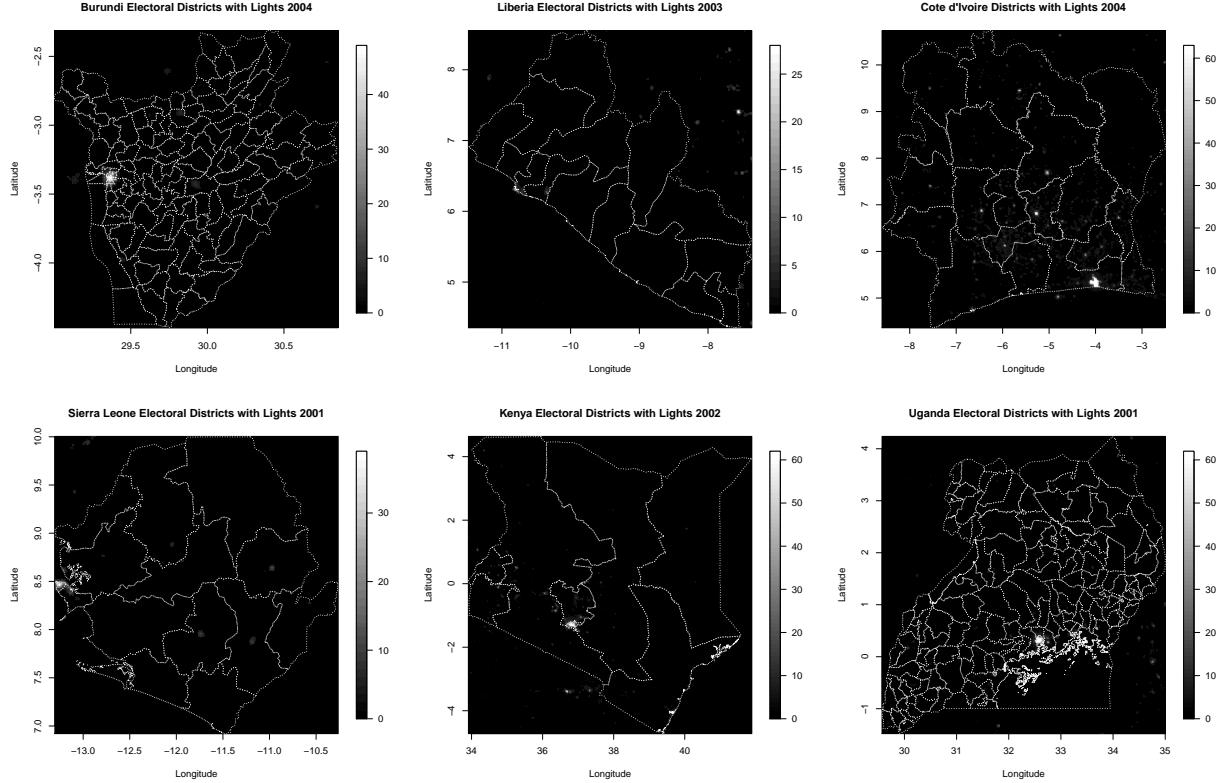
reduces poverty, and is an important precursor to improvements in other important services, including health and education (Khandker et al. 2012; World Bank 2008). There have, of course, been many efforts to develop systematic measures of state capacity, but they suffer from any number of problems. Traditional measures of state capacity—tax revenue as a share of GDP, per capita income, and the like—provide information neither on which citizens benefit (or are hurt) by state action nor the geographic distribution of state efforts. As the fundamental precursors to more sophisticated capabilities, electrification provides a direct indicator of where the state is capable and where state leaders have chosen to deploy scarce resources. Satellite data has the advantages of providing this geographic information and being an objective indication of state effort that is not subject to cooked accounting (as in governments' self-reported revenue and expenditure data).

Above and beyond its geographic nuance and objectivity, several features of electrification make it a good proxy for central state effort. First, electrification projects tend to be expensive and require central government effort. As Hausman et al. summarize, “The most salient economic characteristic of the electric utility industry has been its extraordinary capital intensity” (2010: 1).<sup>5</sup> The expense has precluded subnational authorities in developing countries from playing any serious role in electrification, and despite some enthusiasm in the development community for private financing in the 1980s and 1990s, private investors have not played an important role in deciding which communities receive electrification. Indeed, as it became clear that poor, sparsely populated countries would not attract extensive foreign investment, the World Bank summarized the subsequent period as one of “disappointment with private sector participation in infrastructure in the developing world” (2006: 2). Second, while foreign aid donors have played a major role in funding electrification projects in recent decades, the criteria for allocating electricity projects have been developed largely by recipient governments. Indeed, governments have relied on a host of different criteria, including cost-effectiveness, geographic balance, poverty, and the like (World Bank 2008). While donors have contributed technical assistance and become increasingly attuned to corruption in infrastructure projects, every donor report we could uncover indicates that they view electrification overwhelmingly as a technical challenge rather than a political one. Third, the last two decades have seen increasing reliance on “off the grid” electrification projects that rely on solar or moderate-sized hydro projects to produce electricity (Hausman et al. 2010; World Bank 2008). While still expensive, such projects provide considerable leeway for governments to decide which areas will be electrified. Rather than being constrained by the expansion of the existing, very limited grid, governments can build modest projects wherever suits their strategic needs. Indeed, the freedom of governments to choose which places receive electricity is reflected in our evidence reported below that there is essentially no spatial correlation in electrification.<sup>6</sup> Fourth and finally, the provision of electricity is electorally salient for authorities (Min 2009). Perhaps the most visible example of this comes from Liberia, where then-candidate Ellen Johnson-Sirleaf placed electrification at the forefront of her presidential campaign and delivered a promise in her inauguration speech to return electricity to Monrovia within six months (Whitaker 2009; Cook 2007). Subsequently, the government’s electricity efforts played a prominent role in the president’s annual message to the national legislature, and four years later, one of the key campaign issues

<sup>5</sup>Liberia’s Energy Minister, Patrick Sendolo, recently made this point in a meeting with foreign donors from the EU. Note that we do have one concern, namely that foreign direct investors in resource-intensive industries build electrical infrastructure of their own. In Liberia, for instance, two cities that experience a substantial increase in electrification are Buchanan and Harbel. The former is a railroad terminus for delivering iron ore from the east, where Mittal Steel has invested; the latter is a Bridgestone-owned rubber plantation, among the biggest in the world.

<sup>6</sup>This also implies that governments are not simply rebuilding destroyed infrastructure.

centered around disappointments and controversies associated with Sirleaf's electrification efforts across the country.<sup>7</sup> In short, electrification is primarily a responsibility of central governments. Given electricity's scarcity and desirability, central officials have political incentives to allocate it strategically, and those allocative choices are inherently geographic.



Map 1: Lights and Electoral Districts in Six African Societies

As Map 1 makes clear, the leaders of all four post-conflict countries faced political geographies characterized by stark deprivation. The maps show the night lights in the year that their civil wars came to an end. In all cases, state leaders were largely isolated in capital cities. In Liberia and Burundi, electrification was concentrated almost wholly in the capital cities of Monrovia and Bujumbura, respectively. In Sierra Leone, the relatively bright lights of Freetown were only faintly reflected in Koidu in the east and Kenema and Bo toward the south. Côte d'Ivoire, the richest of the four, shows the greatest dispersion of electrification, but even there, the largest city of Abidjan, the second largest city Daloa, the capital of Yamoussoukro, and a small handful of regional capitals are surrounded by a sea of darkness. In a context of profound scarcity only moderately alleviated by international aid, post-conflict state builders in these countries faced a set of stark choices about where to deploy scarce resources in their attempt to consolidate governance.

## DATA

Consistent with Min (2010), we rely on the Defense Meteorological Satellite Program's Operational Linescan System (DMSP-OLS), which provides high-resolution images of the earth's surface. Annual composite images are available to the research community beginning in 1993, with average annual brightness measured on a scale between 0 and 63. We use the time-series of images

<sup>7</sup>Also see recent political debates about electrification projects in Sierra Leone.

beginning at the end of each civil war to measure where the electrical infrastructure expands and contracts through time in these post-conflict settings. To do so we calculate the difference in light intensity for each pixel in the satellite images from the end of the conflict until the end of the first post-conflict presidential term (or the latest available image if there has not been a second election). We aggregate this pixel-level data by taking the mean for the lowest electoral level at which we can find data.<sup>8</sup>

We combine this electricity data with different kinds of geo-coded data that bear on the theoretical arguments outlined above. First, we use district (or county or provincial) level data from the first post-conflict election to assess areas that include many supporters of the winning candidate (the core voter hypothesis) and areas that include many swing-voters.<sup>9</sup> We measure the government's support using district-level electoral results (Côte Ivoire is excluded from these models since it Côte Ivoire not had elections)—the higher the vote share for the president, the more closely the district approximates an area of core support. We measure “swing” districts using the absolute value of the gap between the president’s party and the candidate with the largest vote share other than the president – the smaller that gap, the more competitive the district.<sup>10</sup> Details on sources are available in the appendix. Second, we rely on the Georeferenced Event Dataset provided by UCDP for information on the location of violent events in these countries (Sundberg and Melander 2011; Sundberg, Lindgren, and Padskocimaite 2011). The UCDP GED dataset includes data on organized violent events from 1989 to 2010 and was recently updated. Event locations are included in the data if the conflict with which the event is associated has been associated with 25 or more total deaths and at least one person was killed at the event itself.<sup>11</sup> To measure the history of violent conflict we use a count of the number of violent events that occurred in a given location during the civil war. In addition Table 2 and 3 in the Appendix displays a statistical model when a count of violent events recorded in the ACLED dataset is used (Raleigh et. al. 2010). Third, we operationalize the urban bias hypothesis using either a dummy variable for capital cities or population density. We measure the latter using Columbia’s “Gridded Population of the World” data (Center for International Earth Science Information Network 2005).

We also introduce several controls to account for other standard arguments in the literature. Most important in light of the prevalence of ethnic politics in these countries is to control for the ethnic composition of districts. Unfortunately, data on ethnic composition at lower levels of government is not available for all our cases. In lieu of such information, we rely on Wucherpfennig et al.’s (2011) data on the settlement patterns of ethnic groups. For each unit of analysis (i.e. district or province) we code if the president’s ethnic group is not present in a given district, one among several others, or the sole ethnic group. In the multivariate analysis below, we utilize two indicator variables, one measuring whether the president’s ethnicity is one among many (“Ethnicity 1” in the tables) and the other measuring whether it is the only ethnicity in a district (“Ethnicity

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<sup>8</sup>The precise term for this level varies by country, but it is analogous to the district or county level.

<sup>9</sup>The level of electoral disaggregation we use depends on the electoral institutions in each country and data availability. In general, we use the results of presidential elections, except for Burundi where the president was elected by the parliament in 2005; there, we use results from the parliamentary election. We used the lowest level at which we were able to gather electoral data and align electoral districts with administrative districts. For Burundi the data was aggregated at a higher level than possible to assure a relatively balanced sample.

<sup>10</sup>Obviously this measure of competitiveness bears only loose resemblance to the logic of politicians targeting swing voters. The latter implies uncommitted voters who can be swayed by private or public benefits. We can't know from electoral results if voters in a competitive district are strong or weak partisans.

<sup>11</sup>We utilize version 1.5 of the data, for more details on the data see the codebook at: <http://www.ucdp.uu.se/ged/data/ucdp-ged-points-v-1-5-codebook.pdf>.

2” in the tables). A district with none of the president’s co-ethnics serves as the baseline in all models. This is a very imperfect measure, since it ignores group sizes in each unit of analysis, but it is the best we can do given the available data.

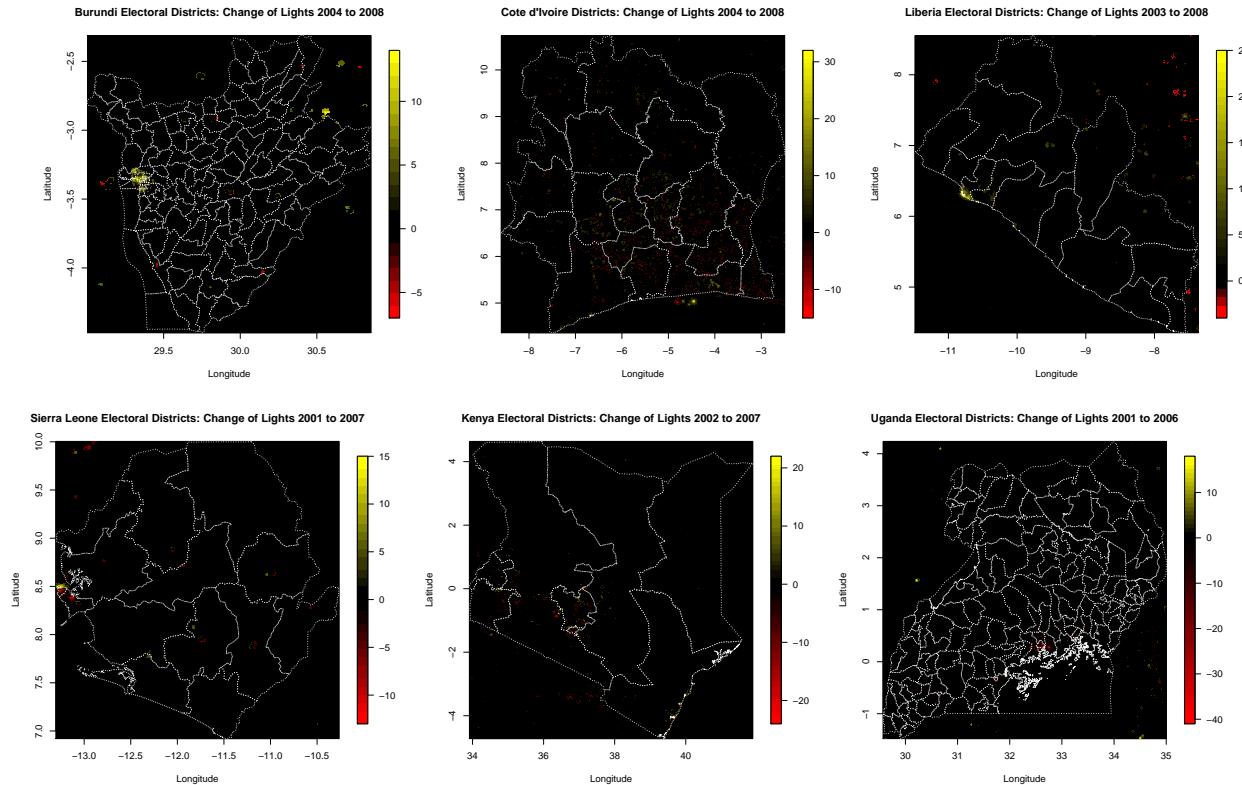
Co-ethnicity aside, it is possible that governments will want to build capacity in places with marketable economic resources. Boone (2003), for instance, argues that cash crops provide incentives for central rulers to project authority in order to capture revenue. That the case, we introduce two additional variables. The first is the share of district land that is used as cropland or pastures, which we code from Ramankutty et. al. (2008). Second, we create an indicator variable coded one for those units where diamonds or oil are available for extraction. The data on diamonds is taken from Gilmore et al. (2005), and that for oil and gas deposits is from Lujala et al. (2007). We overlay all of these data with geo-referenced administrative maps to assess the impact of district-level characteristics on changes in electricity coverage over the course of post-conflict governments.

## RESULTS

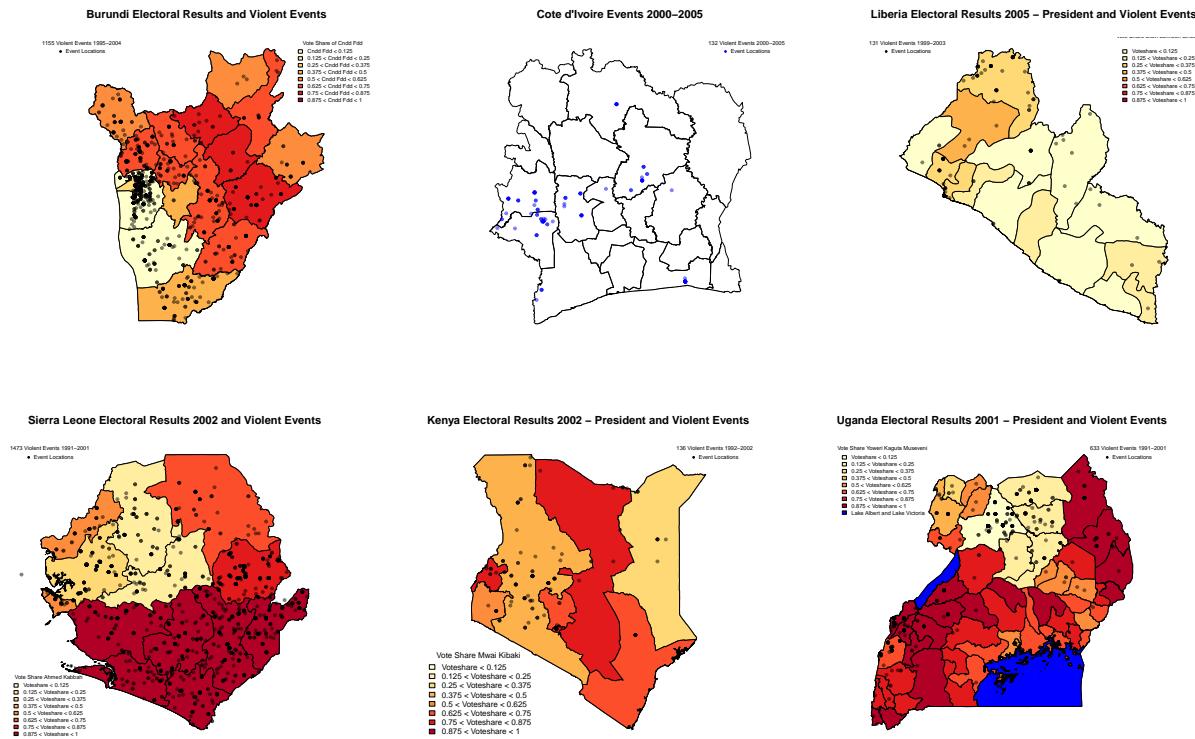
Before turning to the statistical analysis, we present a set of maps for each country that show: a) the change in electricity coverage between the end of the civil war and second post-conflict election (or the most recent data if a second election hasn’t taken place) (Map 2); b) the level of electoral support for the president in the first post-war election; and c) the incidence of conflict over the course of the civil war. The latter two types of data are presented on the same display (Map 3), with darker red districts reflecting stronger support for the elected president and dots from grey to black representing the intensity of civil war conflict in locations.<sup>12</sup> If the core-support hypothesis bears out one would expect to see an expansion of electricity networks in areas with many core supporters; if presidents seek to attract support in swing areas, areas of intermediate support should see an increase in electricity coverage; if, on the other hand, state leaders build capacity in the direction of potential rebels, areas of previous conflict should show evidence of electrification.

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<sup>12</sup>Many locations experienced multiple violent events. The shading intensity reflects the number of events that took place in that particular location.



Map 2: Change in Electrification in Six African Countries



Map 3: Conflict and the Support for the Incumbent in Post-Conflict Elections

We would like to emphasize four observations that emerge from the maps. First, the overwhelming story is that changes in electrification are modest. These countries remain very, very dark despite the fact that civil wars have come to an end. Only about 2.2 per cent of all pixels in our dataset experience any noticeable change in light intensity. If civil wars bequeath geographically isolated states, the process of post-war state building is a slow one indeed. Second, the nature of change in electrification that has taken place varies from cases with a general trend toward greater electrification (Liberia and Burundi) to those where de-electrification is more prevalent (Kenya and Uganda) to Sierra Leone, which presents a complex picture combining swaths of new darkness along islands of new lights, and Côte Ivoire, where very little has changed one way or the other. Third and finally, there is no obvious correlation between changes in electrification and either electoral outcomes or violence. In Burundi, electrification is focused on the capital city, which has a history of considerable violence and where the government's electoral support was soft. Electrification is also concentrated in the Liberian capital of Monrovia, but the president Ellen Johnson-Sirleaf had stronger electoral support there than Ndayizeye had in Bujumbura, Burundi, and it might qualify as a "swing" district. A close look at the Côte Ivoire suggests that violent areas may have received electricity at the same time that peaceful areas saw their electricity disappear during the period from 2004 to 2008. In Sierra Leone, electricity coverage expanded in an electorally contested capital and in key cities where President Kabbah had very strong support, but it also shrank outside some of those cities. In the two cases that have avoided civil wars—Uganda and Kenya—the little change there is, centers on the capitals. In the latter case, the government's support was quite strong; less so in Uganda.

In addition to the visual evidence we present above, we also undertake a multivariate statistical analysis of the patterns in these data. Table 1 and Figure 1 show the results of one particular multivariate model.<sup>13</sup> The dependent variable here is a continuous measure of the change in electrification over the course of the first post-war government's tenure. Light intensity is measured per pixel and then aggregated as the mean value per electoral district. We measure change as the difference between the light intensity at the end of the civil war to the end of the first democratic government's tenure after the war.

While one would expect strong spatial correlation, Moran's I tests across all models reveal surprisingly different results. The test statistics for spatial correlation are generally borderline and differ across model specifications. Given that, we present the results of simple linear regression models, but refer the interested reader to Table 3 in the Appendix, which shows the results of autoregressive lag models that control for spatial dependence. As one can see, the results in Table 1 (simple OLS models) and 3 (autoregressive lag models) in the Appendix are quite similar. If anything, the effect of violent events on light change are stronger in the autoregressive lag models

The first column in Table 1 shows the coefficients and standard errors for a general OLS model with our variables of interest and country fixed effects. The second column shows the results for the same regression when the continuous variables are scaled, we do so to be able to compare effect sizes across the different variables. Figure 1 shows the coefficient plots and 95 percent confidence intervals for the scaled model 1 in Table 1. As one can see, the confidence intervals for all variables in the model are quite large and include zero, except for the variable of violent events as coded

<sup>13</sup>All models shown and discussed in this section exclude the observation for Kampala, the capital of Uganda. Kampala experienced an extreme decreases in light intensity in the sample and is very different from all other observations its magnitude of light change. Table 2 in the Appendix displays the results for model 1 when the observation for Kampala is included. One can see the extreme influence of the observation as the coefficient on the indicator variable for Uganda switches signs. The coefficient for violent events is less precisely estimated due to the inclusion of this observation.

TABLE 1. Simple Regression Results with Change in Light Intensity as a Function of Prior Violence, and controls.

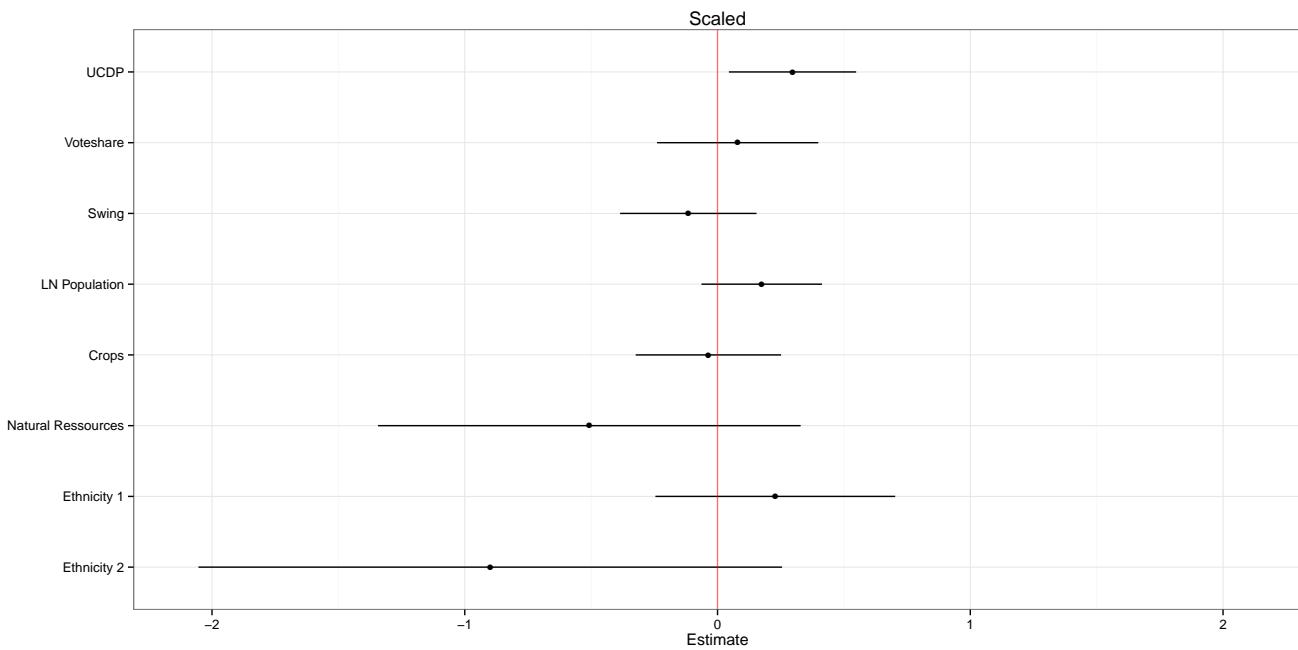
	Model 1	Scaled	Including Côte d'Ivoire
UCDP Violence, lagged	0.002 (0.001)	0.297 (0.128)	0.002 (0.001)
Voteshare	0.118 (0.242)	0.080 (0.163)	
Swing	-0.180 (0.214)	-0.116 (0.138)	
Population Density, logged	0.061 (0.043)	0.175 (0.122)	0.057 (0.036)
Crops	-0.076 (0.307)	-0.036 (0.147)	-0.009 (0.251)
Ethnicity 1	0.097 (0.102)	0.229 (0.242)	
Ethnicity 2	-0.380 (0.249)	-0.899 (0.589)	
Natural Resources	-0.214 (0.180)	-0.507 (0.427)	-0.110 (0.128)
<i>N</i>	108	108	129
<i>R</i> <sup>2</sup>	0.13	0.13	0.099
$\sigma_{\beta}$ in parentheses			
Intercept Suppressed			
Country Dummy Estimates not reported			

by UCDP. While its coefficient very close to zero, its 95 percent confidence interval actually does not include zero. The impact of violent events is actually substantively quite large compared to the other variables, which we show below, calculating the marginal effects. In addition, the 95 percent confidence interval does not include zero.

The third column in Table 1 includes the results for the same model when data for the Côte Ivoire is included in the analysis, however here we have to drop the electoral variables. The result regarding violent events is virtually unchanged. The results are quite consistent across a wide array of different models. Results for numerous different specifications are shown in Tables 2, 3, and 4 in the Appendix. Table 2 shows the results of the multivariate regression when Kampala is included, an indicator variable for capital cities is included, substituting ACLED conflict data for the UCDP data, when we control for the destruction of electricity during the war, as well as when robust standard errors are calculated. Across these different model specifications, the most robust result is the positive association between light change and violent events. In addition, Table 3 displays the results of the same models as in Table 1 and 2 but estimating autoregressive lag models and Table 4 shows the results when only those UCDP events are included in the data that were precisely located.<sup>14</sup> Overall the results suggests that a very general version of urban bias is

<sup>14</sup>Precisely we here use all events where the geographic location variable is coded as smaller than 4, i.e. events where the location was exactly known, up to a limited area around or where the district or municipality was known.

FIGURE 1. Coefficient Plot of Main Coefficients in Model 1. This shows that primarily lights are mostly correlated with violence.



not driving government attempts to expand state capacity, though capital cities do seem to benefit from investments.<sup>15</sup> Likewise, electoral politics seem to have little systematic relationship with electrification in any of the models – areas rich in neither core supporters nor swing voters are more likely to receive electricity. In addition, the results regarding the ethnic composition of district are mixed. While the coefficients for the presence of the president’s ethnicity are generally positive, the indicator for those districts where it is the only ethnic group is estimated to be negative in all models. The 95 percent confidence intervals around these coefficients do, however, generally include zero.

The share of land used as pasture or to grow food is also negatively associated with change in light intensity in some of the models, but generally estimated with large levels of uncertainty. Thus districts with more agricultural land experience less (or even negative) light change. One interpretation might be that agriculture is predominant in less populous places, particularly since the variable is more precisely estimated when population density is not included in the model. The correlation between population density and the share of agricultural land variable, however, is relatively low (0.31), so this finding requires additional research.

Somewhat surprisingly, the coefficients for the variable indicating natural resource locations is generally very close to zero and its confidence interval is quite large, indicating no substantive effect on change in light intensity. The most important story to emerge from the models is that areas with a worse history of violent conflict are associated with increases in electrification. Consistent across these models, the more violent events a district experienced during the civil war, the greater the post-war increase in light intensity.

<sup>15</sup>Recall this excludes Kampala, the capital of Uganda. When Kampala is included the coefficient actually switches signs.

FIGURE 2. Predicted Change in Light Intensity, as a function of prior violence.

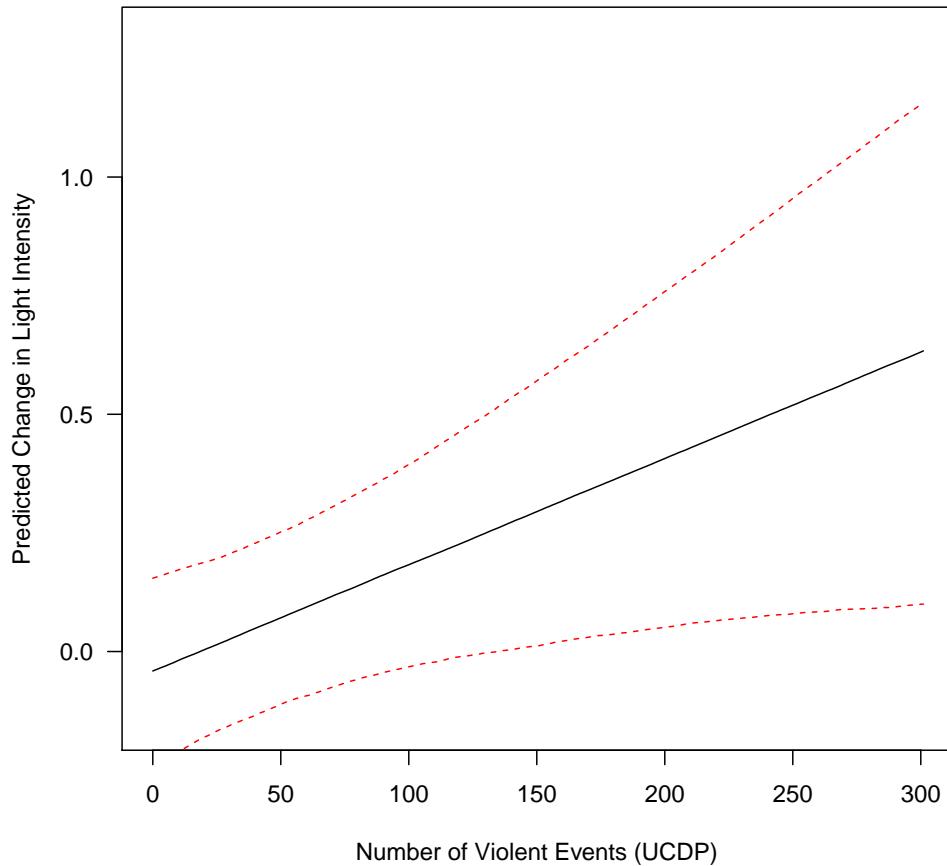


Figure 2 displays the marginal effect of the number of violent events in a given district on the change in light intensity while all other variables are held at their mean.<sup>16</sup> The results from model 1 in Table 1 suggests that, holding all other variables constant, an increase of the number of violent events in a given district from its mean value across all districts (31.1) to twice the mean value (a smaller increase than one standard deviation) is associated with a change on the dependent variable from 0.03 to 0.1. Thus, a doubling of the number of violent events in a district is associated with a substantive increase in the change in light intensity. While these changes seem relatively small, one has to keep in mind that much of the landscape in our sample does not experience any change and thus the mean value of change in light intensity in all districts is only 0.013.

All told, these results show some indication that governments invest in state capacity in areas that experienced the largest amount of fighting; they might do this either as a means to purchase

<sup>16</sup>The figure and estimations here are produced with the results of Models 1 in Table 1. All other variables but the UCDP conflict events are held at their respective means or medians for indicator variables, country dummies are held to zero except for Uganda. The indicator for natural resources and capital is held at 0 as is the indicator for the president's ethnicity being the only ethnic group in the district. The indicator for the president's ethnic group being one of many is set to 1.

hearts and minds or to strengthen its future ability to fight in conflict prone areas.<sup>17</sup> Given the nature of our data, we are unable to distinguish these two motivations.

In addition, the scarcity in actual changes in the light intensity across a large area of the countries in our dataset leads to relatively high uncertainty associated with the multivariate regression results. Given that much of the development in the time periods covered has taken place around capitals in our data, these few observations are especially important. However our statistical results do indicate that democratically elected leaders may focus investments in capacity into those areas which have experienced high levels of fighting in previous years.

## CONCLUSION

States capable of governing their territory are a prerequisite for preventing civil conflict, terrorist activity, and humanitarian crises. That the case, much of the policy debate on countries like Afghanistan, Somalia, and the Congo has focused on counter-insurgency and counter-terrorism at the expense of developing the state's capacity to govern its territory. Yet the fundamental problem for weak states is that they are unable to project authority. Such states might control the capital city, but they do not provide the fundamentals of governance across all of the territory of the country. Weak state leaders facing sharp constraints must make important choices on where to focus their limited capacity to provide security and basic public goods. Unfortunately, the state of our knowledge on state capacity, particularly how it is distributed across the geography of countries, is very weak. As a theoretical matter, we have a host of contending hypotheses that might explain the behavior of state leaders intent on developing the state's capacity to govern across different parts of a territory. In the absence of more appropriate data, arbitrating among these competing theoretical claims is impossible. This article brings an original kind of data and systematic analysis to bear on a fundamental questions in the social sciences: Where is the state able to govern?

Our findings suggest that authorities in Liberia, Côte Ivoire, Burundi, Sierra Leone, Kenya and Uganda target state building in locations that have a history of violence. They do so at the expense of other plausible strategic choices, such as targeting cities, supporters, or swing districts. There are obvious weaknesses in the analysis above that limit our capacity to explain why that is the case. Perhaps most importantly, we have presented electrification as a choice of leaders who have the capacity to provide a limited supply of it across territory. Yet the failure of leaders to electrify some regions could result from a lack of demand for state services or even outright opposition to the state's presence. Put differently, we need to know substantially more about the geography of citizen perceptions and demands for state presence—whether it be in terms of security, electricity, or whatever—to understand the strategic environment in which state building leaders find themselves.

We would like to know two things. First, what do citizens across the political geography want from the state? Second, how do they perceive the government's efforts at projecting authority? Answers to the first question might help explain why leaders build state capacity where they do. Answers to the second question would provide insight into the implications of state building. If citizens perceive state leaders to be rewarding areas rich in supporters or cities at the expense of rural areas, there might be important implications for peace and stability. Obviously, we can

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<sup>17</sup>Some readers have suggested that governments would be more likely to invest where previous infrastructure was destroyed. However, even when controlling for change in light intensity that occurred during the war, violent events are positively associated with post-war investments. The results of multivariate regressions including a control for light change during the war are shown in Table 2 in the Appendix.

only know the answers to these questions with surveys of samples representative at the district or regional level. Current surveys, such as those conducted as part of the Afrobarometer project, only have nationally representative samples and/or do not ask questions about perceived bias in governance. Appropriately designed surveys would provide information on the geographic distribution of support and opposition for the government, the geographic distribution of trust in government, the geographic distribution of preferences for public goods, and the geographic distribution of perceived bias in the state's effort. While satellite imagery alone provides evidence of where the government is trying to expand state capacity, it is survey data that will provide insight into why it is trying where it is.

Second, capable states provide many types of public goods, and electricity is only one of them. Increasingly, geographic data on state projects is becoming available that would allow us to move beyond the specifics of electrification. The Demographic Health Survey project, for instance, has geo-coded the location of health clinics for many countries around the world, and the World Bank is in the process of geo-coding Bank projects. We have some aspiration of assessing the paving of roads as a signal of state effort, though it is unclear if the resolution of the publicly-available DMSP-OLS satellite images are sufficiently detailed to allow this. In any case, while each of these types of data has limitations (the lack of time series data for many poor countries is a real constraint), collectively they offer the possibility of mapping state capacity in ways that radically improve upon aggregate national level indicators of wealth or taxing capacity or governance.

Ultimately, we think this project can contribute to a better understanding of the conditions under which states consolidate their rule and provide the kind of public goods that help promote peaceful societies. We would like to know how governments isolated in their capitals can convince citizens to trust their capacity to govern. There is a lot of work about trust building in online communities (Resnick et al, 2000; Utz et al, 2009) but less on how this building process works in political contexts (though see Bakke, O'Loughlin and Ward 2010; Levi et al. 1998, 2009). The research on trust in online communities suggests that negative feedback is important and reduces trust. Noisy signals, or random noise in communication systems tend to be associated with negative feedback and leads to breakdowns in trust. This applies to governments engaged in building the capacity of the state because the provision of public goods and services can be very noisy. Imagine, for instance, that the lights go out in a medium size town in the Northern section of Sierra Leone owing to electromechanical failure. This random noise is easily interpreted by the inhabitants of the region as delayed retribution, retaliation or disrespect.<sup>18</sup> If individuals and groups assign credit and blame for the provision of public services, the government's heterogeneous capacity to deliver those services becomes a key ingredient in citizen compliance with the state. Indeed, Elbadawi (2008) notes that long-term peace and growth depends primarily on the government's capacity to organize the provision of public goods. Though an extensive body of work exists on the political context in which conflict and post-conflict negotiations take place (Chauvet and Collier 2008), it emphasizes exogenous sources of policy, credibility and reputation. In contrast, we seek to understand the sources of governmental credibility and why it varies so substantially across the political geography of societies.

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<sup>18</sup>As Min (2010) notes in work on India, such episodes are actually quite frequent.

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## APPENDIX

TABLE 2. Additional Robustness Checks

	Including Kampala	Capital City Ind.	ACLED Data	Old Light Control	Robust SE
Voteshare	0.312 (0.631)	-0.086 (0.150)	0.229 (0.225)	0.011 (0.224)	0.118 (0.242)
Swing	0.187 (0.557)	0.072 (0.153)	-0.047 (0.202)	-0.165 (0.197)	-0.180 (0.214)
Ln Population	-0.283		0.042	0.121	0.061
Density	(0.104)		(0.040)	(0.041)	(0.043)
Crops	1.192 (0.788)	-0.198 (0.155)	0.054 (0.291)	-0.127 (0.282)	-0.076 (0.307)
Ethnicity 1	0.308 (0.266)	0.033 (0.072)	0.078 (0.095)	0.129 (0.094)	0.097 (0.102)
Ethnicity 2	-0.196 (0.650)	-0.722 (0.193)	-0.488 (0.236)	-0.135 (0.236)	-0.380 (0.249)
Natural Resources	-0.350 (0.470)	-0.032 (0.133)	-0.209 (0.166)	-0.210 (0.166)	-0.214 (0.180)
UCDP	0.003 (0.003)	0.002 (0.001)		0.001 (0.001)	0.002 (0.001)
Burundi	0.710 (0.788)		-0.596 (0.293)	-0.655 (0.289)	-0.370 (0.305)
Kenya	0.600 (0.706)		-0.792 (0.271)	-0.574 (0.253)	-0.503 (0.274)
Liberia	0.869 (0.497)		-0.118 (0.184)	-0.232 (0.184)	-0.043 (0.194)
Sierra Leone	0.707 (0.736)		-0.241 (0.253)	-0.290 (0.262)	-0.206 (0.285)
Uganda	0.133 (0.744)		-0.517 (0.270)	-0.553 (0.266)	-0.385 (0.286)
Capital City		1.384 (0.172)			
ACLED			0.002 (0.001)		
Destruction					-0.245 (0.057)
<i>N</i>	109	108	108	108	108
adj. <i>R</i> <sup>2</sup>	0.060	0.461	0.231	0.267	0.133

Standard errors in parentheses

Intercepts Suppressed

TABLE 3. Spatial MLE Models

	Model 1	w/ Côte d'Ivoire	Capital City Ind.	ACLED	Old Light Control
$\rho$	0.110 (0.127)	0.130 (0.120)	0.241 (0.110)	0.056 (0.127)	0.091 (0.126)
Voteshare	0.124 (0.226)		-0.055 (0.142)	0.231 (0.211)	0.016 (0.208)
Swing	-0.174 (0.200)		0.074 (0.145)	-0.046 (0.189)	-0.160 (0.183)
Ln	0.060	0.056		0.042	0.120
Population Density	(0.040)	(0.034)		(0.038)	(0.039)
Crops	-0.081 (0.287)	-0.020 (0.240)	-0.197 (0.147)	0.051 (0.273)	-0.131 (0.262)
Ethnicity 1	0.092 (0.096)		0.016 (0.069)	0.076 (0.089)	0.125 (0.088)
Ethnicity 2	-0.385 (0.233)		-0.739 (0.183)	-0.489 (0.224)	-0.140 (0.220)
Natural Resources	-0.202 (0.168)	-0.100 (0.122)	-0.027 (0.125)	-0.204 (0.156)	-0.200 (0.154)
UCDP	0.002 (0.001)	0.002 (0.001)	0.001 (0.001)		0.001 (0.001)
Burundi	-0.366 (0.286)	-0.273 (0.223)		-0.592 (0.276)	-0.650 (0.269)
Kenya	-0.486 (0.260)	-0.477 (0.211)		-0.780 (0.261)	-0.560 (0.240)
Liberia	-0.055 (0.182)	-0.071 (0.150)		-0.123 (0.173)	-0.240 (0.171)
Sierra Leone	-0.209 (0.266)	-0.288 (0.199)		-0.244 (0.238)	-0.292 (0.244)
Uganda	-0.375 (0.269)	-0.354 (0.188)		-0.511 (0.257)	-0.544 (0.250)
Côte Ivoire		-0.214 (0.162)			
Capital events			1.379 (0.164)	0.002 (0.001)	
Destruction					-0.243 (0.053)
<i>N</i>	108	129	108	108	108
AIC	122.846	125.722	64.680	110.199	105.656

Standard errors in parentheses

Intercepts Suppressed

TABLE 4. UCDP Precise

	Model 1	w/ Côte d'Ivoire	Capital City Ind.	Old Light Control
Voteshare	0.117 (0.240)		0.011 (0.161)	0.010 (0.223)
Swing	-0.179 (0.214)		0.083 (0.152)	-0.164 (0.197)
Ln	0.059	0.056	-0.033	0.119
Population Density	(0.042)	(0.035)	(0.020)	(0.042)
Crops	-0.067 (0.306)	0.001 (0.251)	-0.023 (0.186)	-0.122 (0.282)
Ethnicity 1	0.096 (0.102)		0.060 (0.074)	0.128 (0.094)
Ethnicity 2	-0.379 (0.248)		-0.724 (0.191)	-0.135 (0.236)
Natural	-0.217	-0.112	-0.007	-0.211
Resources	(0.180)	(0.128)	(0.133)	(0.166)
UCDP Precise	0.002 (0.001)	0.002 (0.001)	0.002 (0.001)	0.001 (0.001)
Burundi	-0.367 (0.304)	-0.282 (0.232)		-0.651 (0.288)
Kenya	-0.496 (0.273)	-0.497 (0.217)		-0.569 (0.252)
Liberia	-0.037 (0.194)	-0.056 (0.156)		-0.227 (0.184)
Sierra Leone	-0.206 (0.283)	-0.297 (0.208)		-0.288 (0.261)
Uganda	-0.377 (0.284)	-0.369 (0.194)		-0.547 (0.265)
Côte Ivoire		-0.215 (0.168)		
Capital			1.495 (0.185)	
Destruction				-0.243 (0.057)
<i>N</i>	108	129	108	108
adj. <i>R</i> <sup>2</sup>	0.136	0.102	0.471	0.268

Standard errors in parentheses  
Intercepts Suppressed

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