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Abstract
In large-N investigations, civil conflicts – like any significant political event – tend to be studied and understood at the country level. Popular explanations of why and where civil wars occur, however, refer to such factors as ethnic discrimination, wealth inequalities, access to contrabands, and peripheral havens. The intensity of such factors varies geographically within states. Therefore, any statistical study of civil war that uses country-level approximations of local phenomena is potentially flawed. In this paper, we disaggregate the country and let 100x100 km grid cells be the units of observation. Having developed geo-referenced conflict data from Uppsala/PRIO’s conflict database, we use GIS to identify regions of peace and conflict and as a tool to generate sub-national measures of key explanatory variables. The results from an empirical analysis of African civil wars, 1970–2001, demonstrate spatial clustering of conflict that co-varies with the spatial distribution of several exogenous factors. Territorial conflict is more likely in sparsely populated regions near the state border, at a distance from the capital, and without significant rough terrain. Conflict over state governance is more likely in regions that are densely populated, near diamond fields, and near the capital city. These promising findings show the value of the innovative research design and offer nuanced explanations of the correlates of civil war.

Keywords: Civil War, GIS, Africa, Geography, Disaggregation
Title abbreviation: Local Determinants of Civil War
INTRODUCTION

A recent prominent article argues that civil war is caused primarily by conditions that facilitate insurgency (Fearon and Laitin 2003). What makes this claim particularly interesting is that most of these conditions are not spatially invariant within countries – a fact that is largely overlooked in the literature. Insurgency, defined as rural guerrilla warfare, is favored by the presence of sparsely populated hinterlands, support of the local population, underdeveloped infrastructure, cross-border sanctuaries, valuable contrabands, and considerable rough terrain. To the extent that these factors have been measured and tested in quantitative analyses of civil conflict, they have been aggregated and applied to the country level. For example, rough terrain is approximated by the average share of mountainous and forested terrain in the country; availability of valuable natural resources is proxied by the ratio of primary commodity exports to GDP; and a Gini coefficient of population dispersion serves to measure the geographic distribution of the population in the country.

Insurgency – as well as other forms of domestic unrest – is further associated with newly established, institutionally inconsistent, poor, resource-dependent, corrupt, and discriminatory regimes. Some of these characteristics clearly pertain to the country as a single, political entity. For instance, the number of years since the last regime change, type of political system, and whether or not the country is a major oil exporter, are constants within countries. Statistical studies that aim to explore the government side in civil war and focus on political aspects of the regime will necessarily have to be conducted at the country/government level. Other aspects, however, such as ethnic diversity, economic and social inequality, unemployment, and secondary school enrolment may vary extensively between sub-national regions. Even so, socio-economic characteristics of a society are invariably measured at the aggregated country level.

We argue that the empirical study of civil war often suffers from a disturbing mismatch between theory and analysis. While standard statistical investigations are conducted exclusively at the country level, most hypotheses actually pertain to sub-national conditions. Consequently, quite a few commonly held notions about the correlates of civil war are still to be tested in an appropriate manner. Put generally, there is a tendency to neglect the spatial context of social phenomena (Abler et al 1971; Anselin 1999; O’Loughlin 2001; Starr 2003). Let us provide one example: The rough terrain proposition posits that inaccessible landscape (mountains, jungles, swamps, etc) is favorable to rebel groups as it provides shelter from less mobile government forces and facilitates guerrilla tactics. Does this mean that Norway is more at risk of conflict than Spain because it has relatively more mountainous and forested terrain, presuming that the countries are similar on every other aspect? Not necessarily. Yet, this is essentially what is assumed when studies use aggregated country statistics to test the (local) rough terrain argument. What the theory does predict is that rebels who seek refuge in the mountains are better able to withstand a militarily superior opposition, and consequently, that rebel groups will take advantage of such terrain, whenever available. We do not believe that terrain in and
of itself is a cause of conflict, nor does the rough terrain proposition anticipate such a relationship. A more appropriate test of the theory would be to explore whether rebel groups tend to operate in the forested or hilly regions of the conflict-ridden countries. Our central contention is that whenever we investigate theories of civil war that have an element of geography, we should seriously consider abandoning the habitual country level of analysis in favor of a disaggregated approach. Otherwise, we are likely to fall prey to the ecological fallacy by explaining local phenomena from aggregated data.

The exploratory nature of this study means that we do not develop new theory or draw on one particular theoretical stand. Rather, the aim of this investigation is to explore whether certain geographical factors popularly associated with insurgency are able to explain the onset of domestic conflict on a sub-national scale. In the following section, we elaborate on why contemporary empirical research on civil war continues to rely on country aggregates, even though they are often poor indicators of local conditions. We then discuss a few relevant conjectures drawn from the general literature on civil war and propose corresponding hypotheses that explicitly relate to a local level. Next, we present an innovative research design where artificial grid cells constitute the units of observation. Through the use of Geographic Information Systems (GIS), we divide the spatial domain of our analysis – Africa – into squares with a size of 100x100 km. The sample of conflicts is based on a modified GIS version of the Uppsala/PRIO dataset (Gleditsch et al 2002), where the conflicts are represented by polygons to reflect the geographical scope of the battle zones. Grid cells that overlap with a conflict polygon are thus coded as having a civil war. Each unit is further assigned specific values on a number of space-varying and potentially conflict-promoting variables that have been identified elsewhere in the literature, including distance from the state center, share of rough terrain, population density, proximity to resource production, level of infrastructure, and minority language. A cross-sectional statistical analysis of civil conflict among African cells between 1970 and 2001 demonstrates that the influence of local factors varies with the type of conflict. Separatist conflict is most likely in relatively remote regions; that is, in sparsely populated areas with a minority population, with less-than-average road density, at a distance from the capital city, close to the state border, and without access to lootable diamonds. In contrast, the local risk of governmental conflict is highest in urban regions near the capital, with relatively developed road network, dominated by a majority group, and close to diamond deposits.

WHY PREVIOUS WORK HAS FAILED TO ACCOUNT FOR LOCAL CONDITIONS

Even though the quantitative literature has been successful in identifying a handful of factors that, in general, co-vary with the occurrence of civil war, there is still more we do not know about the origins of these conflicts than the statistical models are able to explain. To some extent, this is because each conflict contains an element of uniqueness – features that are impossible to operationalize and measure across space
and time. However, the suboptimal performance of previous empirical investigations is also due to data limitations and unrealistic assumptions. One such imperfection is the default procedure to let the country be the unit of observation. Whereas that setup (in addition to a dyadic structure) certainly makes sense in studies of international processes, where the state can be assumed to constitute a unitary actor, civil conflicts by definition involve at least two actors within the boundaries of the nation-state. So why do scholars continue to study civil war at the scale of the country? We can think of at least three reasons.

First, the most widely used datasets of civil war lack information on the location of the various conflicts beneath the country level. Without conflict data on a finer resolution, disaggregation simply is no option. Moreover, despite the recent release of the Uppsala/PRIO Armed Conflict Dataset (henceforth ACD), which contains reasonably accurate data on the location of the conflict zones, most scholars continue to use other sources of conflict data. As far as we know, there are no plans to add spatial information to these other civil war datasets, which clearly indicates the unawareness in the community of the theory-empirics incompatibility.

Second, almost all proposed conflict-promoting factors, including economic, political, cultural, and demographic attributes, are measured at the state level. This is largely because the states are the prime provider of such information, and they may have an incentive to create or strengthen the impression of a homogeneous entity. Admittedly, some of these factors only make sense when we treat the country as a uniform actor. Even though a country may contain regions with varying degrees of autonomy, it can only have one type of political system and one official regime at any given time. Studies that focus primarily on the government side may not benefit from a disaggregated research design. However, most aforementioned factors, including level of development, population characteristics, and type of terrain, vary quite extensively across space. You will not find a single country where the inhabitants are evenly distributed throughout its territory. Moreover, ethnic groups in fragmented societies tend to cluster in specific areas, rather than being scattered around. Therefore, an aggregated measure of ethnic fractionalization says little about what might really be important: the composition of ethnic groups in specific regions. See Buhaug and Lujala (2005) for a more comprehensive discussion of this subject.

Third, analyses of risk of conflict need to include null cases; that is, units without conflict. In this regard, the country might appear to be the only suitable unit of observation. There are alternatives, though. What we propose in this investigation is to let artificial geometric units, or grid cells, be the units of analysis. The spatial domain – the African continent in this case – is thus divided into grid cells of equal size, whereby each country is represented by at least one cell. An alternative strategy might be to select first-order administrative regions as the units of observation. Yet another possibility is to identify politically relevant groups within each society and develop a dyadic research design, much in the same manner as statistical studies of interstate interactions. This will be explored further in future work.

In the following, we review a few popular theories of civil war found in the general literature. We focus particularly on how previous work has emphasized the
role of periphery, development, terrain, resources, and ethnicity, and propose testable hypotheses that that acknowledge the sub-national nature of intrastate conflicts.

LOCAL DETERMINANTS OF CIVIL WAR

An important factor that in fact lies implicit in much of the theorizing on civil war is location, or more specifically, periphery. “The fundamental problem facing state-builders in Africa”, Herbst (2000: 11) writes, “[..] has been to project authority over inhospitable territories that contain relatively low densities of people.” A major advantage of rebel groups vis-à-vis the governments is that they can choose the area of operation. Guerrilla tactics are designed to minimize the possible damage inflicted by government forces. This means exploiting remote and generally inaccessible areas. This is consistent with Fearon and Laitin (2003), who note that the main factors determining civil violence are conditions that favor insurgency. Insurgency is here understood as a “technology of military conflict characterized by small, lightly armed bands practicing guerrilla warfare from rural bases” (p. 75). Along the same line of reasoning, Collier and Hoeffler (2004) surmise that low population density, low urbanization, and a dispersed population inhibit government capability and thus facilitate rebellion. A government is less able to maintain control of the hinterlands because of the sheer distance from the center of state power, because of inferior knowledge of local conditions, and often because of lack of support from the local population. A related argument concerns cross-border sanctuaries. In several recent wars, including the ones in Rwanda, Burundi, DRC, and Liberia, the main rebel groups operate from bases beyond the national boundaries, often with the tacit or spoken support of the neighboring regime. Access to foreign soil not only eases access to important trade markets but also acts as a safeguard against government intrusion. Hence, we propose the following hypotheses:

H1: Distance from the capital is positively associated with the risk of civil war
H2: Proximity to the state border is positively associated with the risk of civil war
H3: Local population density is negatively associated with the risk of civil war

The second factor that we shall investigate in further detail is level of development. Several influential studies claim that the most prominent and robust factor associated with the occurrence of civil war is poverty (Collier and Hoeffler 2004; Collier et al 2003; de Soysa 2002; Fearon and Laitin 2003; Hegre et al 2001; Sambanis 2004). The mechanisms through which wealth prevents conflict are less established, though. Some argue that poverty lowers the opportunity costs of rebellion. When wages are low and unemployment rates are high, in particular among young males, income forgone by joining a rebel group is comparably low (Collier and Hoeffler; see also Gates 2002). Others maintain that per capita income is a proxy for state strength, meaning that richer regimes are better able to monitor the population and conduct effective counterinsurgencies (Fearon and Laitin).
Inevitably, poverty and wealth are spatially clustered within countries; even in societies with low levels of inequalities, some regions are more prosperous than others. Drawing on the literature on inequality and instability (Alesina and Perotti 1996; Cramer 2001; Gurr 1970; Sen 1973), we expect groups in the underprivileged regions to be most prone to rise up to alter the status quo. This expectation is backed by Horowitz (1985: 233), who remarks “rich regions are not the leading secessionists. They are far outnumbered by regions poor in resources and productivity.” Unfortunately, we do not have good indicators of wealth or social and economic inequalities for our spatio-temporal domain so we cannot test this conjecture directly. Rather, we investigate the nexus between another aspect of development and domestic armed conflict. Infrastructure presumably follows the spatial pattern of health and unemployment in that the most inauspicious regions are also the regions with the least developed road network. Moreover, roads are essential to the projection of state authority, and nowhere more so than in Africa. This explains why, according to Herbst (2000), colonial leaders who sought to physically extend their power were obsessed with roads. Roads provide the only form of access to most rural communities. Populated regions with few or no road connections to the capital are likely to be disadvantaged, politically as well as economically. Moreover, remote regions are harder to reach by government forces and are therefore ideal for organizing a rebellion. This compares well to Murshed and Gates (2005), who find that the Maoist insurgency has been particularly severe in the less developed Nepalese districts. Our fourth hypothesis, then, is:

H4: Local road density is negatively associated with the risk of civil war

Another popular notion of civil war relates to rough terrain. Mountainous and forested terrain is generally believed to facilitate rebel movements by providing shelter out of reach of government forces. For example, Fidel Castro’s at first puny rebel movement had no other option than to hide in the Sierra Maestra mountains upon arrival in Cuba. Only when the revolutionary force grew stronger did it manage to conduct a more open warfare and push westwards toward Havana and, eventually, succeeded in its quest to expel General Batista (Pérez-Stable 1999). Thus, we propose:

H5: Local extent of rough terrain is positively associated with the risk of civil war

Next, a plethora of recent articles, quantitative as well as case-oriented, explore the relationship between abundance of natural resources and civil war (Addison et al 2002; Berdal and Malone 2000; Fairhead 2000; Fearon 2005; Le Billon 2001b; Lujala et al 2005; Huphreys 2005; Olsson and Fors 2004; Renner 2002; Ross 2004a, b; Smillie 2002).

Advocates of the “greed” proposition claim that rebels are quasi-criminals with an economic, rather than a political objective, and argue that countries with an abundance of precious stones, minerals, and drugs are more at risk because they contain better financial opportunities for rebellion. Most
quantitative investigations fail to demonstrate such a relationship, although the evidence is more supportive regarding duration of conflict. Oil dependence, usually proxied by a dummy for major oil exporters, appears to be more robustly associated with the risk of civil war.

According to Ross (2004a: 341–342), the lack of conformity among studies of the resource conflict nexus is due to different conflict data being analyzed and by using “overly broad” measures of primary commodities and civil war. While we agree with this critique, we argue that there is a more fundamental problem with the applied measures, namely the lack of spatial reference. For the abundance argument to really hold up, we should find that rebel groups operate in the resource-rich regions, whenever such exists. Similar thoughts have been proposed by Le Billon (2001b: 566), who emphasizes that “the spatial distribution and lootability [italics original] of resources are crucial with regard to the opportunities of belligerents to seize or retain control over resource revenues.” Unless the rebels control areas of extraction or transport routes, they cannot exploit the lootable commodity for financial gains. This explains why diamonds, not oil, was the prime source of revenue for UNITA (National Union for the Total Independence of Angola), whereas oil rather than diamonds is a major motivation for the separatist FLEC (Liberation Front of the Cabinda Enclave) movement in the Angolan enclave of Cabinda (see Le Billon 2001a).

This leads to our penultimate hypothesis:

**H6: Proximity to valuable resource deposits is positively associated with the risk of civil war**

The final factor often mentioned in the literature on the origins of civil war is ethnicity. A considerable number of contemporary civil wars involve fighting between members of different ethno-national groups. According to Sambanis (2001), roughly two-thirds of all civil wars between 1960 and 1999 are “identity conflicts”, i.e. they are rooted in ethnic or religious differences. Still, the empirical evidence linking country-level ethnic composition to civil conflict is actually quite weak. Some studies claim a parabolic relationship, where polarized societies are more at risk than homogenous and highly fractionalized countries (Collier and Hoeffler 2004; Elbadawi and Sambanis 2000; Ellingsen 2000). Easterly and Levine (1997) further find that ethnic fractionalization has adverse effects on economic policies, and thus indirectly on conflict. Others fail to find a systematic link between ethnicity and risk of conflict (Fearon and Laitin 2003; Fearon 2005). This lack of general support – which, of course, is strongly at odds with popular belief – has led some to consider conditions under which ethnicity might be linked to conflict. We agree with Sambanis (2003) in that the regional distribution of ethnic groups may be more important than the extent of ethnic fragmentation in the country as a whole. This corresponds well to Melander (1999), who finds that violent conflict is more likely if an ethnic minority makes up more than 70% of the population in its home region, and similar results are reported by Toft (2003). If this is indeed a general pattern, Africa should be particularly predisposed to identity conflict since African minority
groups are more spatially concentrated than minorities in other regions (Herbst 2000).

According to Rokkan and Urwin (1983), the most significant determinant of an individual’s identity is language. People with distinctly different native languages are less likely to share a strong feeling of common identity. Language and other cultural distinctions are prone to be amplified by political and rebel leaders in order to rally support and recruit soldiers. Minority language is further likely to be associated with political discrimination. Our final hypothesis, then, is:

H7: Local dominance of a minority language is positively associated with the risk of civil war

A final issue should be noted. Previous research has demonstrated that the impact of conflict-promoting factors often depend on the type of conflict (Buhaug 2005; Sambanis 2001). Therefore, in the analysis below, we distinguish between conflicts over territory and conflicts over governance. Since all explanatory factors discussed here contain some element of geography, and since insurgency almost by definition falls into the territorial conflict category, we expect the covariates to be most successful in explaining this type of conflict. Nonetheless, given the exploratory nature of this study, we estimate the role of the explanatory variables on both types of conflict, although in separate models.

DATA
A number of theories on the origins of civil war actually presuppose – if only implicitly – a disaggregated level of analysis. The purpose of this study, then, is to develop a more pertinent research design and conduct more precise tests of some of the most popular hypotheses in the literature. More specifically, we seek to uncover whether certain space-varying features, such as terrain, population, resources, and identity contribute to explaining where civil wars break out on a sub-national level. Such an undertaking requires a unit of observation below the scale of the country. In theory, one could think of a research design with the first-order administrative entity as the unit of observation. However, unlike international boundaries, which tend to be time-invariant when established and agreed upon, administrative regions frequently chance in shape and composition as some units merge while others split. Besides, the function and size of regions vary extensively from country to country, so it might not be meaningful to divide all countries into smaller units.

As an alternative approach, we choose grid cells as the units of observation. In contrast to sub-national political regions, our grid system, when established, does not change in size, shape, or number over time. Also, a substantial portion of the relevant geo-referenced data are given as points, line, or polygon features (e.g. diamond sites, main roads, language) or as raster data (e.g. population density), and are just as easily converted to the predefined grid cell structure as to the intuitively more sensible but less feasible administrative region approach.
Determining the size of the grid cells may not be a trivial task as it potentially has a substantial impact on the results, a dilemma known as the modifiable areal unit problem, MAUP (see Wrigley et al. 1996). Ultimately, we might want to test various resolutions and compare the results, although at this stage we have generated data for grid cells of 100x100 km size only. Even though many of our input data sources come with a higher resolution, the conflict location data are at best only accurate with a 50 km confidence interval. For conflicts that are sparsely documented, the coded areas of the conflict zones are little more than suggestive. Besides, the selected resolution means that even the smallest countries on the African continent are represented by at least one cell. A larger resolution, such as 50 km or 10 km, would cause a considerable increase in the number of observations but not necessarily a similar increase in the level of precision.

Each grid cell is assigned to one country only. Grid cells that cover international boundaries and thus overlap several countries are defined as belonging to the country that lies at the center of the unit. In all, the dataset under study contains 3,206 cross-sectional units.

The conflict data are based on the ACD database (Gleditsch et al. 2002), which contains records of every contestation between a state government and an organized opposition group that caused at least 25 battle-deaths per year. These data include numeric information on the spatial location of the battle zones, where each conflict is assigned a circular zone of conflict by means of a center point (latitude and longitude coordinates) and a radius variable (see Buhaug and Gates 2002). In this study we use a refined version of the conflict location data, where we relax the crude assumption of circular conflict zones and rather use polygons generated through GIS. Based on descriptive information on the location of the various battles (main sources are various volumes of Keesing’s as well as the conflict data archive at Uppsala University), we generated polygons than encompassed all relevant battlefields for each conflict-year. We distinguish between conflicts over territory (secession) and conflicts over governance (coup, revolution) since these types of conflict are likely to be shaped partly by different conditions. Any cell that overlaps with a conflict zone is coded as having a conflict in the given year (Figure 1).

In order to test the proposed hypotheses, we have generated a number of relevant covariates that have values specific to each particular cell. The first of these are indicators of relative location. Since neighboring territories might provide safe havens and access to vital trade markets, we calculated the logged distances (km) from the centroid of each cell to the nearest international boundary. For cells in Sao Tome and Principe, Comoros, and Madagascar, which lack contiguous neighbor states, we set the distance-to-border variable artificially at 1,000 km. Our second indicator of relative location gives the logged distance (km) from the centroids to the capital city. Three years during our sample period (1970–2001) saw major changes to the outline of the international boundaries: 1990, the separation of Namibia from
South Africa; 1993, the separation of Eritrea from Ethiopia; and 1994, the return of the Walvis Bay area to Namibia. Accordingly, we needed four grid representations of Africa to compute all conflict-capital and border distances.

Prevailing theories on insurgency further suggest that the conflicts occur predominantly in the rural countryside; hence, we include a population density indicator. The population data are taken from UNEP-GRID\(^6\), who has generated a raster representation of population counts for Africa at a resolution of 2.5 arc minutes (approximately 5 km at equator). The data are available for every decade since 1960 and give estimates for the number of inhabitants in each cell (see Tobler et al 1997). We aggregated the population data to the desired grid resolution and applied linear interpolation to fill in data for missing years. As usual, we take the natural logarithm of the measure (modified to population in 1,000s) to reduce outlier bias. Since all grid cells are equally sized, the population variable is essentially a population density measure. The most populous unit in the sample is the cell that covers Cairo and suburbs with about 15 million people in the year 2000, corresponding to an average density of 1,500 persons per km\(^2\).

Our next variable, level of infrastructure, is designed to capture two related but distinct factors: local economic development and ease of government reachability. Based on road data from ESRI’s Digital Chart of the World\(^7\), we measured the logged total length (km) of major roads in each cell. Since much of the literature on poverty and conflict focus on relative deprivation, the road density measure is normalized by the country mean. As one would expect, the extent of paved roads is positively correlated with population density \((r=0.4)\); hence, we analyze these measures simultaneously in order to discern any effect of infrastructure that is not due to settlement patterns. Admittedly, the relative road density variable is a suboptimal approximation of local development. When aggregated to the national level, the country average of logged road length per capita nonetheless correlates with logged GDP per capita at a respectable 0.56. Lack of temporal variation in the road data is also less problematic than initially feared, since Herbst (2000) reports a very strong positive correlation between density of roads at independence and density in 1997 among African states, meaning that the country rank order, as well as absolute length, of roads per square kilometer is largely constant throughout the investigated period.

As proxies for mountains and forests, we measured the logged percentage of each grid cell covered by the given type of terrain. Mountain data were received in raster format from UNEP (2002) and comparable forest data were downloaded from the web site of the Food and Agriculture Organization (FAO) of the UN.\(^8\) The average African grid cell contains 19% forested terrain and about 14% mountains.

Several recent civil wars demonstrate that valuable commodities might serve as a source of finance for rebellion. Hence, we measured the logged distances (km) from the centroid of each cell to the nearest secondary diamond and petroleum deposit. The resource data have been collected in a series of joint projects between NTNU and PRIO (see Gilmore et al 2005), where each resource deposit is registered with location coordinates and dates of discovery and production. Grid cells in
countries without diamonds/petroleum were assigned values similar to the largest recorded resource-centroid distance for the given resource type (1,500 km and 2,287 km, respectively).

Finally, a number of contemporary civil wars involve fighting between groups of different cultural origins. As a simple measure of cultural identity, we have generated a dummy variable signifying whether the majority of the population in each cell belongs to the same language family as the majority of the population in the capital city. Assuming that the language in the capital is the majority language in the country, we define deviating regions as having a minority language. The language variable is based on digitalized maps from Ethnologue (Grimes 2000). This is evidently another crude operationalization of the theoretical concept, since the largest language group in the capital need not be the most powerful group in the country. Moreover, it is probable that some groups belonging to the same language family may have very different identity ties. Still, this is, to our knowledge, the best and most consistent data available. Other aspects of identity, such as ethnic and cultural origin and religious denomination, have not been measured and geo-referenced for the entire African continent in any systematic manner.

RESEARCH DESIGN

The empirical section consists of two parts. The first presents the results from a statistical analysis of the association between relative location, population, infrastructure, terrain, resources, and language, and the two types of intrastate conflict. Since nearly all these factors are time invariant a time-series approach is not desirable. Instead, the hypotheses are tested using a cross-sectional dataset with only one observation per cell. The dataset contains 3,206 observations, of which 2,885 constitute the sample for the regression analysis. The remaining 321 cells (10% of the total sample) were randomly excluded and reserved for the second part of the analysis, the cross-sample validation test.

The dependent variables (one for each conflict type) distinguish between units that remained at peace from 1970 to 2001 (“0”) and units that hosted one or more conflicts in the period (“1”). This is preferred to using a count measure of the total number of conflict years since the reasons why conflicts break out may be different from why they endure and because the use of a minimum annual battle-death threshold of the ACD database means that protracted low-level conflicts are only recorded in the years that produced the required 25+ fatalities. Covariates that vary temporally, such as population density and the resource indicators, are represented by their cell mean values.

The units show very strong cross-sectional correlation – that is, the likelihood of conflict for any cell is largely conditional on the conflict involvement of nearby cells. To account for spatial autocorrelation, we generated a country-level spatially lagged dependent variable (see Anselin 1988), which measures the number of years with conflict in any other part of the country, divided by the total number of years of observations for the cell. The lag thus takes on values between “0”, indicating no
conflict in other cells in the country in the sample period, and “1”, which implies that some other areas of the country hosted a conflict in every year between 1970 and 2001.9

Finally, even though the units are assumed to be independent across countries, they are likely to show some level of dependence within countries. To account for cross-sectional heteroscedasticity, we cluster the units on countries using the robust cluster option in Stata. We used ArcGIS 9 with ArcInfo level to generate grid-specific measures and create the maps, and StatTransfer 7 to convert the GIS files to Stata format. The logit regression models were estimated using Stata 8.

RESULTS
What separates peaceful areas from those that provided grounds for armed hostilities in the period? Descriptive statistics of sample means (Table 1) show that grid cells with territorial conflict are, on average, closer to the border, further away from the capital, petroleum fields, and diamondiferous areas; they are less populated, less rugged, have less developed road network, and are more likely to contain a minority language than cells without territorial conflict in the period. Areas with governmental conflicts differ by being closer to the capital, further away from neighboring countries, more densely populated, have higher-than-average road coverage, contain more rough terrain, are closer to diamond fields, and are less likely to contain a minority population.

(TABLE 1 ABOUT HERE)

This simple comparison of means reveals two trends. First, almost all covariates show a stronger association with one type of conflict than the other and the deviations between the no-conflict and conflict samples for the two types are, with the sole exception of distance to petroleum, in opposite directions. This discovery adds strength to our notion that governmental and territorial conflicts should be studied separately. Additionally, popular notions about the geography of civil war are most in line with the territorial conflict type. This suggests, not too surprisingly, that the technology of insurgency is mainly a characteristic of separatist wars.

Next, we evaluate the performance of the independent variables in a multivariate setting. The results from cross-sectional logit analyses of territorial and governmental conflicts are presented in Tables 2 and 3, respectively. To maintain parsimony we estimate four models for each conflict type. The first model in each case (Models 1 and 5) include only the base variables, i.e. the spatial lag and two indicators of relative location. These variables are present in all models. In addition, Models 2 and 6 include population density, relative road density, and terrain; Models 3 and 7 explore the effect of proximity to oil fields and secondary diamonds, while Models 4 and 8 include the minority dummy.
As expected, the spatial lags are quite powerful. The risk of territorial conflict almost doubles if we change the spatial context from no conflict in any other part of the country \((p=0.06)\) in the period to five years of conflict in at least one other cell in the country between 1970 and 2001 \((p=0.1)\). And the odds of a separatist conflict for the median cell approaches 1 \((p=0.42)\), corresponding to a sevenfold increase in the risk of conflict, if the spatial lag takes on the 95th percentile value. The governmental models indicate an even stronger spatial dependence. Accordingly, the incidence of civil war shows clear evidence of clustering – at least at the selected level of analysis.

The models in Table 2 further show that location matters. In line with our expectations, the risk of a separatist war is positively associated with the distance from the capital. In fact, the marginal effect of capital distance exceeds an order of magnitude: all else being held at the median, cells located approximately 1,500 km from the capital city \((95\text{th} \text{ percentile value})\) have a predicted risk of separatist conflict of 0.19, compared to 0.009 for cells less than 120 km from the capital \((5\text{th} \text{ percentile value})\). The distance to the border also shows the expected negative sign, but the size of the estimate is less robust to model specification and the effect is comparably small. Since access to foreign soil might serve as a substitute for living in the distant periphery and vice versa, we also tested for an interaction effect between the relative location indicators, but uncovered none.

In the second model, we introduce four additional explanatory variables: population density, relative road density, and extent of mountainous and forested terrain. Popular views on insurgency predict that conflicts are more probable in sparsely populated and underdeveloped hinterlands and in areas with considerable rough terrain. Model 2 offers limited support to this conjecture. Only one of the factors, the relative share of paved roads, behaves as expected. Disadvantaged regions are generally more likely to host a secessionist rebellion, even if the marginal effect is rather weak. Population density, too, suggests a negative association with the likelihood of territorial conflict, but the coefficient estimate is far from what is normally considered statistically significant.

Contrary to our expectations, both measures of rough terrain indicate that conflict is more likely in the sparsely wooded lowlands. These are not residual effects after controlling for population density since bivariate regressions (not shown) also produce negative estimates (the correlation with territorial conflict is \(-0.08\) for mountains and \(-0.24\) for forest). We further speculated whether this finding could be a consequence of the negative correlation between extent of rough terrain and country size. Larger African countries have relatively less rough terrain, and civil wars in larger countries usually cover larger areas (and thus a higher number of cells). Could it be that the negative impact of terrain on the risk of conflict is biased by the overrepresentation of conflict units in a few large countries? Apparently not. When we tested alternative terrain variables that are standardized by the country
average of rough terrain, we found similar negative relationships. Accordingly, separatist conflicts are not only associated with less-than-average extent of rough terrain, compared to the random African cell; the conflicts also tend to occur in the least forested and mountainous regions of the conflict-ridden countries. While this counters the so-called rough terrain argument and also questions the credibility of country-level studies that claim a hazardous effect of terrain (see Fearon and Laitin 2003), Buhaug and Lujala (2005) report a similar finding. This does not necessarily mean that the rough terrain proposition should be discarded for good. With better data, we might be able to evaluate whether rebel bases tend to be located in high and forested grounds, which is what a stripped version of the proposition would predict.\textsuperscript{11} Moreover, the reader should keep in mind that the undertaken study only covers Africa, and the results may not necessarily describe the circumstances in other part of the world very well.

Model 3 tests the opportunity (or “greed”) proposition that proximity to valuable commodities raises the motivation for, and hence the risk of, separatist rebellion. Again, the results are unsupportive. The petroleum proxy shows a weak positive effect, suggesting that aggrieved people in oil-rich regions are slightly less likely to seek secession than groups in other parts of the country. This finding does not differ if we analyze onshore and offshore oil fields separately. If we add a dummy to mark off countries without oil production, the distance coefficient becomes negative, but neither variable is significant with a 10\% level of uncertainty and the model as a whole is not improved. Proximity to diamonds has a strong and deterrent effect on secessionism, and this finding is not biased by the resource-poor countries in the sample. In fact, the median cell in a country without diamonds is almost ten times more likely to host a separatist rebellion at any time than a cell containing diamond fields but with otherwise similar characteristics. This suggests that aggrieved people in diamond-abundant regions generally select another aim of the rebellion to redress their grievance (see Model 7), as indeed suggested by Ross (2003).

Finally, Model 4 indicates that cells with a marginalized language are about twice as likely to host a territorial rebellion in the period as the reference category, though the estimate is not statistically reliable within a 10\% margin of error. In summary, Table 2 offers modest support to general theories on insurgency. African separatist conflicts between 1970 and 2001 occurred predominantly in less developed minority regions, at a distance from the center of state power, near neighboring countries, without access to secondary diamonds, and with less-than-average mountainous and forested terrain.

Table 3 presents a radically different picture. Most strikingly, the relative location indicators contribute only weakly to the overall fit of the governmental models and very few regressors show statistically significant effects. However, the positive estimates for population density and relative road density in Model 6 suggest that governmental conflicts are mainly urban events. The risk of a revolution or a coup is five times higher in the most densely populated and developed areas (95\textsuperscript{th} percentile values) than in sparsely inhabited and neglected parts of a country (5\textsuperscript{th} percentile values).
percentile values), all else held constant. The proxies for rough terrain also indicate a positive association with conflicts over state authority, but the estimates are little more than suggestive as the 90% confidence intervals include negative values. Nonetheless, it appears that the rough terrain proposition – at least for the case of Africa – is more in line with characteristics of governmental than separatist conflicts.

Model 7 offers support to the notion of a resource curse, but only for the case of diamonds. Diamond-abundant areas have a significantly higher probability of hosting a governmental war than less affluent parts of the country. This contrasts the findings in Model 3 and suggests that Le Billon’s (2001b) theorized link between diamonds and warlordism generally takes the form of (phony) claims to topple the regime. Proximity to petroleum fields does not affect the estimated risk of governmental conflict to any significant extent. The deviating behavior of the petroleum and diamond variables should not come as a surprise, though. In contrast to oil and gas, secondary diamonds can be extracted single-handedly and without advanced technology, and the extremely high value-to-weight ratio make them ideal for smuggling and other quasi-criminal activities typically associated with warlordism. Diamonds are often considered the ultimate loot and thus a vital source of income for the combatants. Besides, much of the literature on the resource curse speak as much about the adverse effects of oil dependence on investment, transparency of the economy, and general political stability as about the lure of controlling and looting the extraction sites.

The final model in Table 3 again demonstrates that territorial and governmental conflicts differ substantially. Minority language, which is associated with an increase in the risk of secessionist rebellion, lowers the probability of governmental conflict by half for the median cell. This is not surprising; even if a marginal group were to succeed in toppling the regime and see through political reforms, its numerical inferiority will be a serious impediment to sustained political influence. Realizing this, aggrieved minority groups are more likely to opt for the exit strategy as a means to redress their grievance.

So far, the models and hypotheses have only been evaluated by interpreting significance levels and marginal effects of individual regression coefficients. To get a more realistic impression of the performance of the models, we now turn to sample cross-validation. Based on regression coefficients from Models 2 and 6 and actual values on the explanatory factors, we estimate predicted probabilities of territorial and governmental conflict for the 321 cells that were left out of the above analysis. We use an arbitrary probability threshold of p=0.35, beyond which units are expected to experience conflict. This cut-off value ensures a fair degree of correspondence between the numbers of predicted and actual conflict units. As shown in Table 4, a large majority of the cells are successfully classified. The models predict 41 territorial conflict cells and 110 governmental conflict cells, whereas the true figures for the test sample are 53 and 100, respectively. Nearly 95% of the cells without
territorial conflict and roughly 50% of the cells with territorial conflict have correct predictions. We also see that the model falsely predicts 14 conflict cells but fails to predict 26 cells with actual conflict. Half of the false positives are located along the western rim of Sudan, far from the capital Khartoum but near the conflict zone in the south of the country. Incidentally, these cells are part of the Darfur region which currently hosts one of the most brutal conflicts with an estimated 180,000 deaths in its first 18 months and another 2 million people displaced (BBC 2005).

The governmental model fares even better in terms of identifying the cells in conflict. Here, 77 of the 100 actual conflict cells are predicted, although the model erroneously predicts an additional 33 conflicts. Most of these are located in Ethiopia, which saw governmental conflict in the northern Tigray province, extending towards Addis Ababa, for several years in the sample period. 23 cells with governmental conflict have predicted probabilities below the 0.35 threshold value and are thus falsely classified as being at peace. Not surprisingly, several of these were coup d'états that were confined to the capital city and only lasted for a brief period of time, which implies that the influential spatial lag has values close to zero.

Some of the estimated relationships clearly run counter to expectations, and most explanatory factors performed poorly in the governmental models. Therefore, we wondered whether some areas are in essence exempt from risk, and that by including these areas, the sample of grid cells contains “politically irrelevant” units. For example, it could be argued that the Saharan desert is extremely unlikely to host large-scale violence, simply because very few people live there and because the desert is of little economic value. This could explain why the lingering insurgency in Algeria and the sporadic violent events in Egypt are restricted to populated areas near the coast, and, in the case of Egypt, along the fertile and hospitable Nile. Therefore, we estimated the models without cells that are fully covered by a desert, as identified by landscape data from ESRI’s ArcAtlas. By this definition, 666 cells, or 23% of the observations are lost. Even so, the results really do not change much from the ones reported above. A cross-tabulation further reveals that considering desertic areas as irrelevant is indeed doubtful, as nearly 40% of the territorial conflict cells (including most of the conflict zones in Mali and Niger) are located in a desert. Hence, we decided not to pursue this line of investigation further.

The joint insight from the analysis supports our assumption that geography influences the risk and location of civil war, although the direction and magnitude of the effects differ with respect to type of conflict. The cross-validation further showed that the models perform quite well to out-of-sample data. Yet, the reported analysis excludes important attributes of the countries involved, including type of political system, economic level of development, conflict history, as well as contextual factors, such as characteristics of the neighborhood (see e.g. Gleditsch & Ward 2000 for a demonstration of the spatial dependence of armed conflicts), that might potentially affect the estimated relationships. Since these factors often vary
Local Determinants of Civil War

Preliminary findings from a time-series cross-sectional analysis of the gridded data, controlling for regime type, income per capita, and temporal dependence, corroborate the results reported here. In fact, most variables produced larger and more statistically significant estimates, due to the increased number of observations. Even though the time-varying country-level covariates contributed significantly to the models, they did not substantially affect the behavior of the local indicators. However, adding a temporal dimension to the data and using indicators from multiple levels of measurement introduce complex correlation structures in both space and time that standard statistical packages are not well designed to handle. Therefore, we leave a more thorough investigation of the temporal dynamics in the local geography of civil war to a future paper.

The results from the various robustness checks have added strength the original findings. All else being equal, the risk of separatist conflict is highest in remote and disadvantaged regions with less-than-average rough terrain whereas governmental conflicts are most likely to occur in urban centers and close to diamond fields. This is illustrated in Figure 2, which shows the predicted risk of conflict based on the local indicators of geography but excluding the spatial lag. These findings imply that Fearon and Laitin (2003) are only half right. Whereas most factors associated with insurgency are well able to explain the local incidence of territorial conflict (exactly because most territorial conflicts fit Fearon and Laitin’s definition of insurgency), they are either unrelated to the incidence of governmental war or show the opposite effect. In fact, since most civil wars are governmental, not territorial, one might argue that “conditions that favor insurgency” only explain a minority subset of all domestic conflicts. Future work will determine if these findings are universal or whether there is some kind of “Africa effect” with respect to the local geography of civil war.

CONCLUSION

This study has presented an innovative research design where grid cells rather than countries constitute the cross-sectional units of analysis. We have argued that this design is better suited to test prevailing notions about civil war that essentially relate to local conditions. Among these are hypotheses on rough terrain, greed/opportunity, ethnic diversity, and center vs. periphery. The empirical analysis, which was conducted separately for territorial and governmental conflicts, produced some promising findings. Territorial civil wars – that is, wars over autonomy and secession – are much more likely to occur in remote and sparsely populated regions. In contrast, governmental conflicts occur predominantly in densely populated areas near the capital. Relative road density, our proxy for local development/government reachability, and the minority language dummy added further strength to the impression that territorial conflicts occur in the periphery whereas governmental

[FIGURE 2 ABOUT HERE]
conflicts are mainly urban events. The analysis also uncovered an unexpected negative association between rough terrain and territorial conflict. Moreover, we found strong evidence that proximity to easily lootable diamonds increase the likelihood of governmental conflict. This is consistent with several recent conflicts in West and Central Africa. We uncovered no indications of a systematic relationship between oil and gas installations and the location of civil war. Overall, the territorial models correspond best to the broad theory of insurgency. Governmental conflicts are less determined by local geographical attributes but presumably more dependent on case-specific and contextual events, such as famine and drought, a neighboring conflict, and the emergence of an entrepreneurial revolutionary leader.

Several factors call for moderation when assessing the importance of the reported findings. First, the sample is limited to Africa since 1970, which calls into question the generalizability of the results. In fact, there are ample reasons to believe that Africa is a special case as it has the highest share of domestic conflict and is culturally more diverse than other continents. Furthermore, Africa has relatively few mountains and forests, and the latter is more geographically concentrated than what is the case for other continents, so we suspect that the estimated impact of rough terrain may not necessarily represent the universe of cases. Also, since African conflicts more often are contests for state control, the relative scarcity of territorial conflicts may have contributed to the weak results. Therefore, the reader should be cautious about making too general statements from the reported findings.

Second, there is always a potential for producing misleading findings due to poor operationalizations and omitted variables. In particular, we need to develop better measures of local level of development and ethnic composition, in addition to factors that were excluded from this study (most notably economic inequality). While such data may be available on a sufficiently low level for a handful of countries for the present time, it is obviously difficult to get good data for all countries for previous decades. That said, Miguel et al’s (2004) procedure to use rainfall deviation as a proxy for economic shocks demonstrates the usefulness of instrument indicators.

Third, the simple analysis ignores temporal trends and contextual events, some of which may by correlated with the modeled factors. For example, cells that are proximate to diamond fields or petroleum installations may capture effects that seem inherent in most resource-dependent countries, including authoritarian rule of law and widespread corruption. Even so, we believe that the disaggregated approach has great potential and will prove invaluable as a supplement to conventional country-level analyses. When the researcher seeks to explore how attributes of governments and the political system affect the risk of domestic instability, countries constitute the natural units of analysis. If the researcher, however, seeks to understand the role of local conditions, a disaggregated design should be employed. Consequently, a natural next step is to develop better sub-national measures of relevant conflict-promoting factors, as well as geo-referenced data on the location of the conflicts themselves.
REFERENCES


FIGURES AND TABLES

Figure 1. Conflict polygons and conflict cells in Sudan, 1997–2001
Figure 2. Zones at risk of conflict

Note: The maps illustrate the relative risk of territorial (left) and governmental conflict as a function distance to the capital city, distance to the state border, population density, relative road density, share of mountainous and forested terrain, and distance to diamond fields. Darker shades signify higher risks.
Alternative Figure 2. Zones at risk of conflict [color scale – online version]

Note: The maps illustrate the relative risk of territorial (left) and governmental conflict on a scale from green (low risk) to red (high risk) as a function distance to the capital city, distance to the state border, population density, relative road density, share of mountainous and forested terrain, and distance to diamond fields.
Table 1. Comparison of sample means: conflict and no-conflict cells

<table>
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<tr>
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<th>Territory conflict</th>
<th>Governmental conflict</th>
</tr>
</thead>
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<tr>
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<td>No</td>
</tr>
<tr>
<td>Distance to border a</td>
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<td>203</td>
</tr>
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<td>645</td>
</tr>
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<td>Relative road density b</td>
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<td>103</td>
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<tr>
<td>Mountain b</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Forest b</td>
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<td>23</td>
</tr>
<tr>
<td>Distance to petroleum a,c</td>
<td>652</td>
<td>529</td>
</tr>
<tr>
<td>Distance to diamonds a,c</td>
<td>798</td>
<td>359</td>
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<td>Minority language b</td>
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<td>41</td>
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<td>N</td>
<td>474</td>
<td>2,732</td>
</tr>
</tbody>
</table>

Note: The table shows mean values of the covariates for cells that did and did not experience conflict in the period from 1970 to 2001. a Km; b %; c Values represent countries with the given commodity only.
Table 2. Logit estimates of onset of territorial conflict

<table>
<thead>
<tr>
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<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
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<td>1.015</td>
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<tr>
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<td>(2.00)***</td>
<td>(3.17)***</td>
<td>(2.94)***</td>
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<tr>
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<td></td>
</tr>
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<td></td>
<td></td>
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<tr>
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<td>(1.89)*</td>
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<td></td>
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<tr>
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<td>(2.19)***</td>
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<tr>
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<td>(1.24)</td>
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<tr>
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<td></td>
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<tr>
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<td></td>
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<tr>
<td>Distance to diamonds a</td>
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<td></td>
<td></td>
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<tr>
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<td></td>
<td>0.676</td>
</tr>
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<td></td>
<td></td>
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<td></td>
<td>(1.33)</td>
</tr>
<tr>
<td>Intercept</td>
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<td>-7.091</td>
<td>-18.785</td>
<td>-10.932</td>
</tr>
<tr>
<td></td>
<td>(3.86)***</td>
<td>(2.06)***</td>
<td>(3.18)***</td>
<td>(3.75)***</td>
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<td>2.885</td>
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<td>2.885</td>
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<td>-847.6</td>
<td>-842.0</td>
<td>-906.9</td>
</tr>
</tbody>
</table>

Note: Regression estimates with robust z scores in parenthesis (standard errors clustered on countries).

* Logged; * p<.10; ** p<.05; *** p<.01.
Table 3. Logit estimates of onset of governmental conflict

<table>
<thead>
<tr>
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<th>(5)</th>
<th>(6)</th>
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<tr>
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<td>7.206</td>
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<td>7.065</td>
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<tr>
<td></td>
<td>(3.52)***</td>
<td>(3.32)***</td>
<td>(4.38)***</td>
<td>(3.21)***</td>
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<tr>
<td>Distance to border&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.002</td>
<td>0.080</td>
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<td>(0.91)</td>
<td>(0.27)</td>
<td>(0.07)</td>
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<td>Distance to capital&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>-0.361</td>
<td>-0.712</td>
<td>-0.543</td>
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<tr>
<td></td>
<td>(1.67)*</td>
<td>(1.03)</td>
<td>(1.78)*</td>
<td>(1.40)</td>
</tr>
<tr>
<td>Population density&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>0.168</td>
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<tr>
<td></td>
<td>(1.20)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Relative road density&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>0.443</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>0.022</td>
<td>0.712</td>
<td>0.543</td>
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<tr>
<td></td>
<td>(0.17)</td>
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<td>(1.43)</td>
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<td>0.165</td>
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<tr>
<td></td>
<td>(0.81)</td>
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<td>0.035</td>
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<tr>
<td></td>
<td>(0.24)</td>
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<tr>
<td>Distance to diamonds&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>0.716</td>
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<tr>
<td></td>
<td>(3.16)**</td>
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<td>(0.71)</td>
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Note: Regression estimates with robust z scores in parenthesis (standard errors clustered on countries).
<sup>a</sup> Logged; * p<.10; ** p<.05; *** p<.01.
Table 4. Out-of-sample observed and predicted cells with conflict

<table>
<thead>
<tr>
<th>Predicted</th>
<th>Observed territorial No</th>
<th>Observed territorial Yes</th>
<th>Observed governmental No</th>
<th>Observed governmental Yes</th>
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<tbody>
<tr>
<td>No</td>
<td>254</td>
<td>26</td>
<td>188</td>
<td>23</td>
</tr>
<tr>
<td>Yes</td>
<td>14</td>
<td>27</td>
<td>33</td>
<td>77</td>
</tr>
</tbody>
</table>
NOTES

1 See Herbst (2000) for some excellent maps of the population distribution in African countries.
2 Recognizing this, several African state leaders have (unsuccessfully) attempted to redistribute the population by force through “villagization” (Herbst 2000).
3 The relationship between poverty and conflict is most certainly a reciprocal one in that conflict might also lead to poverty (see Alesina and Perotti 1996).
4 There is also a considerable literature focusing on the potential relationship between resource scarcity and conflict. That research focuses on depletion of renewable resources (water, soil) and is generally preoccupied with future scenarios, and therefore not immediately relevant to this assignment.
5 Whether oil can be considered lootable is an open question, although recent events in e.g. Nigeria show that the sabotage of pipelines, or threats thereof, can be a significant source of income.
7 The Digital Chart of the World (DCW) is a comprehensive 1:1,000,000 scale vector base-map dataset of the world. It consists of spatial and textual data that can be accessed, queried, displayed, and manipulated with GIS software. The database was originally developed by the Environmental Systems Research Institute (ESRI) for military use, and then released for commercial use in the mid-1990s.
8 www.fao.org/forestry.
9 We also tested a more powerful spatial lag that gives the sample-average share of contiguous cells in conflict. The choice of spatial lag had little influence on the behavior of the other covariates so results with the alternative spatially lagged dependent variable are not reported here.
10 These four variables are obviously related, e.g. people settle along roads and roads are developed in populated areas, even though regression diagnostics do not indicate severe multicollinearity problems. A rich variety of interaction terms were also tested, without success.
11 See Raleigh and Hegre (2005) for an investigation along this line.
12 The classification of units as “politically relevant” or “irrelevant” is quite common among empirical studies of international interactions where the units of observation are pairs of states (dyads), see e.g. Lemke & Reed (2001).
13 Both the Uppsala/PRIO list of Armed Conflicts and Fearon and Laitin’s sample of civil wars include a higher number of governmental wars (65%) than wars over territorial control (35%). For the spatio-temporal domain of this investigation – Africa since 1970 – the dominance of governmental conflicts (48 versus 11) is even more striking.