

**SEARCHING FOR SANCTUARY**  
Government Power and the Location of Piracy<sup>1</sup>

by

Ursula Daxecker  
*University of Amsterdam*

&

Brandon C. Prins  
*University of Tennessee*

**Abstract**

Recent systematic work on the incidence of maritime piracy shows the importance of various political, economic, and geographic correlates at the country level. Yet these findings tell us little about the determinants of piracy location off states' coasts, despite the fact that piracy is well known to cluster locally. Conceptualizing pirates as strategic actors who consider the risk of detection and capture, this paper argues that states' ability to project power over distance affects pirates' decisions on where to organize and operate. As state capacity increases, piracy will locate further away from government power centers, whereas piracy can flourish closer to state capitals in weak states that struggle to project power across space. Using geocoded data from the International Maritime Bureau for the 2005-2013 period, results show that increases in state capacity are associated with greater average capital-piracy distances. These findings are robust to a number of changes in model specification.

Keywords: Maritime piracy, geography, state capacity

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## **Introduction**

With the dramatic decline in 2013 of maritime piracy off the coast of Somalia, some have been quick to declare victory over modern day pirates.<sup>2</sup> It's certainly true that piracy in the Greater Gulf of Aden decreased and decreased quickly. In 2011, the IMB reporting center listed 160 incidents off Somalia, which was a slight increase from the 139 in 2010. But with only 7 confirmed attacks (and all unsuccessful) in 2013, the flotilla of naval vessels in the area and improved onboard security measures, such as the placement of private security guards on commercial ships, appears to have made it more difficult to seize ships (reducing the reward) and increased the risk of capture. Conditions in Somalia have also improved somewhat due to domestic improvements as well as international support both for capacity building measures and the rule of law.<sup>3</sup> But it may be too soon to announce an end to this maritime threat. Indeed, as has been noted elsewhere, piracy has surged in the Gulf of Guinea increasing by over 200% from 2011 to 2013 (Naftalin, 2013; Bridger, 2013). In the waters off Indonesia piracy also appears to present a renewed threat. In 2009 only 15 incidents were reported in Indonesian waters. By 2013 that number had increased to 106. Pirate attacks are on the rise even off Somalia's coast. There have been at least 10 incidents in the first five months of 2014, which is more than all of 2013. Piracy and pirates have not yet disappeared.

Piracy endures because the conditions driving it have not been eliminated. Successful attacks against commercial vessels still produce lucrative rewards and the likelihood of capture remains low in most places. The average GDP per capita in piracy

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<sup>2</sup> See, for example, stories in USA Today (December 20, 2012) and the Southern Times of Africa (December 20, 2013).

<sup>3</sup> The Contact Group off the Coast of Somalia and the UNODC have focused on law enforcement, the creation of a dedicated pirate court in the Seychelles and prisons in Somalia, and the disruption of financial flows from piracy. These efforts have apparently met with some success as Somalia's fragility score has decreased from 24 in 2011 to 20 in 2013.

prone countries is less than a third as high as countries without piracy. Governments struggling with piracy are also significantly weaker, thus lacking the ability to enforce order over geographic space. Extant research convincingly demonstrates that state fragility and lack of economic opportunity increase piracy (Daxecker and Prins, 2013; Jablonski and Oliver 2013; Hastings 2009), but has also neglected how both of these explanations are impacted by a regime's loss of strength gradient (Boulding, 1962). Loss of strength gradient implies that governments, depending on their capacity, can only project coercive power so far. It also implies that pirates should recognize the geographic limits of government authority and position themselves away from areas controlled by government forces. Yet to this date, no research systematically examines the relationship between state weakness and the geographic location of pirate attacks. If pirates are rational, they should strategically locate themselves away from government power centers to avoid detection and reduce the risk of capture. We measure the average distance between capital cities (government strongholds) and piracy incidents and find that this distance increases with state strength. Our argument draws on Ken Boulding's (1962) work on loss of strength gradient, whereby the coercive power of government authority diminishes as geographic distance increases. We conclude from our distance results that pirates strategically consider a regime's power projection ability when deciding where along a coast to organize and launch attacks against ships.

### **The Expected Utility of Maritime Piracy**

Piracy is driven by rational calculations about the expected costs and benefits from attacks (Hansen 2009). Potential pirates compare the reward from a successful attack to the income one can draw from work in the legal economy. The risk of capture and

incarceration by government authorities also helps determine the expected utility for piracy. As the prize from piracy increases compared to a daily wage and the likelihood of arrest decreases as a result of government weakness, then the pool of recruits should expand and the number of incidents increase. The evidence collected to date supports this logic. Piracy in the Greater Gulf of Aden increased as ransom rewards went higher. More generally, joblessness and low wages correlate with increasing numbers of pirate attacks (Frecon, 2005; Jablonski and Oliver, 2013). Weak governments also associate with piracy as state officials either have too few resources to find and capture pirates or are complicit in the business of piracy (Murphy, 2009; Hastings, 2009; Daxecker and Prins, 2013). Most countries confronted with serious piracy have insufficient coast guard and or naval resources to devote to counter-piracy efforts. Even more importantly, ship captains, local government officials, and pirate leaders often appear to collaborate and share in the spoils of piracy. This is certainly true in the Gulf of Guinea, where coastlines are shorter than East Africa and Southeast Asia, but where vessels anchor for extended periods of time waiting for crude oil to be transported to the ship or refined fuel to be transported off the ship. The ships are easy targets for even moderately sophisticated pirate gangs that buy off government officials and easily evade the limited security presence in the area (Naftalin, 2013).

A country's geographic profile also conditions maritime piracy. Long coastlines and endless inlets provide sanctuary for pirates and make policing difficult for government authorities. Models of piracy consistently show coastline length to be positively related to pirate attacks. But pirates are also strategic in their decision-making and take advantage of adjacent maritime boundaries that enable escape from pursuing

naval or coastguard vessels. Sovereignty concerns and regional rivalry in both Southeast Asia and West Africa have prevented agreements that would allow effective cross-border policing. For example, neither Malaysia nor Indonesia have yet joined the Regional Cooperation Agreement to Combat Piracy and Armed Robbery against ships in Asia (ReCAAP) that is credited with helping to drive down piracy in and around the Malacca Straits beginning in about 2006 partly due to concerns over sovereignty. Sovereignty also forbids “hot pursuits” across borders, limiting the effectiveness of counterpiracy operations in the Straits (Frecon, 2014). Similar concerns regarding sovereignty as well as territorial control inhibit counter-piracy efforts in the Gulf of Guinea and South China Sea. Pirates exploit the lack of coordination among governments to organize attacks, avoid detection, evade capture, and seek new recruits.

If state weakness and economic deprivation directly affect maritime piracy, both also interact with geographical conditions to influence the decision-making of pirates. The coastal bases from which to launch attacks against ships are not randomly selected but quite deliberately reflect the two critical elements in a pirate’s utility function: maximizing the prize and reducing the likelihood of capture. Pirates quite naturally position themselves where the opportunity to seize ships exists. But within this opportunity zone, the ability to acquire shelter from state authority should impact the location of pirate bases.

Similar expectations apply to rebel forces and terrorist cells. The ability of both insurgents and terrorists to organize, recruit, train, and carry out attacks against government forces and or civilian targets is contingent on avoiding detection. Indeed, Crenshaw (1981) insists that a key source of terrorist violence remains a government’s

inability to prevent it. Takeyh and Gvosdev (2002) similarly conclude that state weakness facilitates the recruitment of new terrorist cadres.<sup>4</sup> While neither study notes the location of terrorist camps, insurgent forces have been found to strategically locate away from government power. Buhaug and Rod (2006), for example, find that separatist conflicts tend to occur in the peripheral regions of a country. Buhaug et al. (2008) also observe that ethnic civil wars erupt far from capital cities (also see Rustad et al., 2011) and Cederman et al. (2009) find that the risk of civil war increases with the distance between capital and a politically excluded ethnic group. Arguably, the success of insurgent movements is dependent on rebels' ability to shelter themselves from government forces. Fearon and Laitin (2003, 80) note that nascent insurgencies survive because governments cannot "reach ...into rural areas" and Gates (2002, 126) determines that "sanctuary implies a place to retreat away from government forces." Buhaug (2010) finds evidence of this search for sanctuary as conflict in more capable states is observed to occur in more physically distant regions of a country.

The same strategic reasoning used by rebel and terrorist leaders to locate away from government power should also apply to pirates. Certainly anecdotal evidence suggests this to be the case. Piracy in the Malacca Straits is facilitated by the presence of multiple maritime boundaries (Singapore, Malaysia, Indonesia, and Thailand) and numerous island chains both of which enable pirates to escape law enforcement. Frecon's (2014) work on piracy in the Straits, for example, shows that pirates hide in remote areas separated by sea or long roads to pursue their illegal activities. Complex maritime boundaries and the extensive Niger Delta also present challenges to combatting piracy in the Gulf of Guinea. Not only does the Niger estuary provide numerous mangrove swamps

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<sup>4</sup> Lai (2007) also notes that trans-national terrorist organizations tend to survive in weak states.

and coastal barrier islands for taking cover, but also pirates can easily evade authorities by fleeing into the territorial waters of Benin, Cameroon, Equatorial Guinea, or Sao Tome and Principe.<sup>5</sup>

Extant research on maritime piracy has focused mainly on institutional and economic drivers and has not examined the location of piracy. Scholars certainly incorporate geographical information in piracy models. Measures of coastline length, distance between capital cities and sea-lane chokepoints, as well as the number of deep water ports all clearly associate with pirate attacks (Hastings, 2009; de Groot et al., 2011; Daxecker and Prins, 2013; Daxecker and Prins, 2014). Further, Daxecker and Prins (2014) integrate Boulding's loss of strength gradient into a model of piracy by interacting a measure of state weakness with distance between capital and coast. They find that the impact of government fragility on piracy incidents increases with distance. Weak and strong states have similar levels of piracy when capital-coast distances are short. But as distance increases, weak states experience considerably more pirate attacks in their territorial waters. Still, these results do not directly assess the location of piracy along a country's coastline. The evidence only indicates that weaker states have greater difficulty projecting power with the result that pirate attacks increase. It remains unclear where the piracy is actually occurring, and to what extent state capacity affects the location of piracy.

Presumably, insurgents position themselves far away from government power centers and behind natural terrain barriers to avoid detection. The concealment afforded by both distance and difficult topography enables insurgents the time and space to

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<sup>5</sup> See Samuel Oyadongha. "Nigeria: Piracy Activities Heighten in Niger Delta. *Vanguard News*, 5 February 2014.

organize, recruit, and strategize. Pirates also need sanctuary from the scrutiny of government authority. Bribing bureaucrats may be one method to elude exposure. But distance itself from government power centers provides a certain level of camouflage. Resource limitations naturally constrain the geographic allocation of state personnel. Weak states simply do not possess sufficient police, military, and intelligence forces to monitor extensive geographical areas. Consequently, pirate gangs can organize and operate in ungoverned spaces.

If pirates, like rebels, consider a regime's loss of strength gradient, then the location of pirate operations should be a function of government capacity (Buhaug 2010). As state capacity increases, pirates will locate geographically farther away from a government's center of power in order to find adequate shelter from detection and incarceration by regime authorities. Weak states, therefore, will experience piracy closer to a country's power center compared to stronger states. This discussion leads to the following hypothesis:

*H<sub>1</sub>: As state capacity increases, the geographic distance between a regime's power center and pirate activity should increase.*

## **Research Design**

### *Data*

We empirically examine our expectations with cross-national time-series data on the location of piracy from the International Maritime Bureau (IMB). As part of a larger project on maritime piracy that includes the creation of a comprehensive dataset with all piracy incidents from the IMB and other reporting sources for the 1990-2013 period, we



use the currently completed subset of incidents covering the years 2005-2013.<sup>6</sup> The coding procedure included standardizing information available for all incidents, pruning duplicates, and geocoding incidents where location information was missing. In addition, pirate incidents were assigned to coastal states if they occurred within 12 nautical miles of maritime boundaries, or to the coastal country closest to the pirate incident for incidents outside of 12 nautical miles.<sup>7</sup> ArcGIS was used to assign incidents to individual countries. For the analyses in this paper, incident-level data were aggregated into country-year data for all coastal states from 2005-2013. Our unit of analysis is therefore the country-year.

#### *Dependent Variables*

In line with hypothesis 1, our primary dependent variable measures the average distance (in kilometers) between coastal states' capital cities and the location of all piracy incidents attributed to these states for each year.<sup>8</sup> Quantum GIS was used to create this measure. Capital-piracy distances range empirically from 0.37 (Guyana) to 10,555 kilometers (Russia), but we take the natural log because the data are right-skewed, which is problematic for the normality assumption in OLS regression. However, since non-missing values of capital-piracy distance require the occurrence of at least one piracy incident per country-year, and the location of piracy is likely not independent of the

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<sup>6</sup> An initial robustness check covering a larger time frame is presented in model 4 in table 1. Data for this model come from the Anti-Shipping Activity Messages (ASAM) data collected by the U.S. National Geospatial-Intelligence Agency, but we have not yet examined incidents for duplicates, checked geocoding information, or compared them to IMB data.

<sup>7</sup> For the 2005-2013 time period, 90% of pirate incidents recorded by the IMB occur within the territorial waters (12 nm) and exclusive economic zones (200 nm) of states.

<sup>8</sup> The main model in table 1 includes all incidents, including attacks that occur while vessels are steaming and those that occur while ships are stationary. However, since pirates cannot find permanent sanctuary at sea, we show a robustness test that includes only incidents that occur while vessels are berthed at port.

initial onset of piracy, we specify a Heckman selection model that allows us to model the location and onset of piracy concurrently (Heckman, 1979; Dubin and Rivers, 1989). Since the incidence of piracy may be systematically related to its location, we estimate the probability that a coastal state will experience one or more piracy incidents in the selection equation, and the average distance between capital cities and piracy incidents in the outcome equation. Therefore, in addition to estimating capital-piracy distances using OLS regression in the outcome equation, empirical models estimate the incidence of piracy as a second dependent variable in the selection equation. To measure the presence of piracy, we create a dummy variable that is coded 1 if a coastal state experienced one or more piracy incident in a given year, 0 otherwise.

#### *Independent Variables*

**Piracy Location:** Our key independent variable in the outcome equation of the Heckman model is a measure of state capacity. Recall that our primary hypothesis expects that piracy in weak states occurs more geographically proximate to power centers than piracy in moderately capable states. We measure state capacity with data on the effectiveness of governments from the World Bank Governance Indicators (World Bank Group 2012). Government effectiveness measures “perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies” (Kaufmann et al., 2009, 6). Countries are scored in percentile rank terms, which range from 0 to 100, with higher values corresponding to better outcomes.<sup>9</sup> We divide government effectiveness by 10 when including it in our

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<sup>9</sup> In a robustness test, we use an alternative indicator measuring state fragility from the Center for Systemic Peace scoring countries on the effectiveness and legitimacy of economic, political, social, and security

empirical models to make the range of this variable more comparable to other indicators.

We include three control variables that likely influence the location of piracy and state capacity: Country size (CIA Factbook), GDP per capita (World Bank), and a dummy variable for Somalia. First, the size of a country clearly influences how physically distant piracy incidents from a capital can be, which is why we include the log of square kilometers for each country in the outcome equation.<sup>10</sup> Second, our theoretical discussion mentions how decisions to engage in piracy are a function of economic opportunity and the risk of capture, and others have suggested that GDP per capita captures both economic strength and the ability to project power (Buhaug 2010, 118). Third, the period under analysis includes the height of Somali piracy (2005-2012), yet Somalia is arguably an outlier in terms of the extent and geographical scope of piracy. We therefore include a dummy variable to control for Somalia in all models.<sup>11</sup>

#### *Independent Variables*

**Piracy Incidence:** Drawing on other systematic research on the determinants of piracy, we include five variables in the selection equation of the Heckman model. Two of the variables in the outcome equation, government effectiveness and GDP per capita, have been established as significant determinants of piracy incidence and are therefore included in the selection equation (Daxecker and Prins 2013; Daxecker and Prins 2014). Research has also shown that coastline length and population size affect the incidence of piracy (Hastings 2009, Jablonski and Oliver 2013, Daxecker and Prins 2013). We measure coastline length (in km) and (log) population size with data from the CIA

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conditions. Results support our main expectation.

<sup>10</sup> Alternative specifications using coastline length as an indicator of geographic opportunity produced similar results.

<sup>11</sup> While not shown, alternative specifications excluding the dummy confirmed the main results.

Factbook and the World Bank, respectively. To account for temporal dependence, we include a control counting the number of years since the last piracy incident and three cubic splines (Beck et al., 1998). Cubic splines are not reported to conserve space. All independent variables except for constants and the peace years measure are lagged by one year to reduce concerns over reverse causality. Descriptive statistics can be found in table A1 in the appendix.

### *Results*

#### TABLE 1 ABOUT HERE

Table 1 presents results examining our expectation of the effect of state capacity on capital-piracy distance. As seen in the outcome equation of model 1, the coefficient for government effectiveness is positive and significant, and a one unit change in government effectiveness (which ranges from 0 to 10) results in a 0.16 increase in log kilometer distance. Figure 1 more helpfully illustrates the effect of government effectiveness on distance by varying effectiveness across its entire range. Varied from the minimum to the maximum, (log) average distance increases from 4.8 to 6.4, which corresponds to an increase from 120 kilometers to 580 kilometers between capitals and piracy incidents. Findings in model 1 provide initial support for our claim on how state capacity influences the location of piracy, showing that piracy in weak states occurs closer to power centers.

#### FIGURE 1 ABOUT HERE

Results for control variables in the outcome equation also confirm our expectations. The coefficient for Somalia is positive and significant and indicates that Somalia experiences a 1.6 increase in (log kilometer) distance, which is equivalent to one standard deviation of

distance. States with higher per capita GDP also have longer capital-piracy distances, confirming expectations regarding the effect of economic strength and power projection on piracy location. Finally, larger countries expectedly experience longer capital-piracy distances. We present a visualization of the effect of significant variables in models 1-6 in Figure 2 (the coefficient for Somalia is excluded).

#### FIGURE 2 ABOUT HERE

With regard to the selection equation, variables have the expected effect on the probability of piracy. Most relevant for our study is that states with higher levels of government effectiveness have reduced probabilities of piracy, but simultaneously experience longer capital-piracy distances, which fits our theoretical expectations and confirms earlier research on state capacity and piracy.

We next examine whether results in model 1 hold up to a number of changes in model specification. One concern with connecting state capacity on land to piracy location is that (at least some) piracy occurs at sea, and we can thus not be sure that incidents at sea can be attributed to proximate areas on land since they could theoretically be carried out by pirates originating from other states.<sup>12</sup> Because most piracy at sea occurs in territorial waters, we consider this quite unlikely. Yet to ensure that this possibility is not influencing our results, we take advantage of the fact that approximately 47 % of piracy incidents happen at anchor or berthed, which more than likely have been committed by individuals in those areas. We recalculate our distance measures to include only distances between capitals and piracy incidents in ports and at anchorages. The coefficient for government effectiveness in model 2 remains positive and significant.

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<sup>12</sup> We additionally think that this concern is less warranted for an analysis at a relatively aggregate level, since we are examining the relationship between capacity and location only at the level of the state.

In model 3, we assess whether the inclusion of inland capitals unduly influences our results. States with inland capitals will per definition have longer capital-piracy distances, and these distances are less likely to be influenced by variation in state capacity.<sup>13</sup> To account for this possibility, we include a dummy variable coded 1 for states with capitals on coastlines (0 otherwise) and interact it with government effectiveness. The coefficient for the interaction in model 3 thus represents the effect of state capacity on piracy location only for states with coastal capitals. The coefficient remains positive and significant, and similar in strength as in the first two models, thus showing that our results are not simply a function of the coastal or inland location of capitals.

The fourth model uses piracy data from ASAM to assess whether the use of IMB piracy data and a relatively short period affects our results. While the IMB data are generally seen as the most comprehensive and accurate, we are currently limited to the 2005-2013 period because of ongoing data coding. We use the procedure outlined earlier to create the distance measure and dummy variable indicating the presence of piracy. Results in model 4 cover the 1996-2013 time period (data for government effectiveness are available from 1996 onwards) and also show that government effectiveness significantly increases distance.

In model 5, we replace our measure of state capacity with an alternative conceptualization from the Center for Systemic Peace. State fragility ranges from 0 to 25, with larger values indicating more fragility. The coefficient for fragility is negative and significant, showing that more fragile states have shorter average capital-piracy distances.

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<sup>13</sup> The positioning of capitals inland, however, could well be a result of lower state capacity, but is not something we can examine here.

A final sensitivity test considers an alternative estimation method. The instability of estimates in the Heckman model has been documented in the literature, and while we have considerable theoretical reason to expect piracy onset and location to be interdependent processes, the rho parameter is not statistically significant in all of the models. To examine whether our results hold without modeling location as endogenous to the determinants of piracy onset, we estimate a simple OLS regression including only states that experience one or more piracy incident. We again confirm that government effectiveness increases the average distance between capitals and piracy incidents.

## **Conclusion**

As discussed at the outset, recent systematic work on piracy has demonstrated the relevance of political, economic, and geographic correlates at the country level, but tells us little about the determinants of piracy location off state coasts. Since we know that piracy is not uniformly distributed across states' coastlines and their territorial waters, we need more knowledge on what explains the location of piracy. Drawing on Boulding's (1962) seminal work on the loss of strength gradient, and Buhaug's (2010) application to civil war, our paper shows that piracy follows a strategic logic in which the government's ability to project force influences piracy location. Since state power in weak states declines more rapidly as distance from power centers increases, piracy in those countries occurs closer to capitals than in more capable states. Estimating a selection process in which several determinants of piracy incidence also affect its location, our empirical findings show that average capital-piracy distances are shorter in less capable states. This result holds across a number of sensitivity tests, including alternative measures of state

capacity and piracy, different types of piracy, a restriction to coastal capital-piracy distances, and use of a different estimation method.

To conclude, an important reason why pirates in moderately capable states like Indonesia locate themselves in remote areas cut off by sea or long roads is that the risk of detection and capture decreases with physical distance. More generally, our paper shows that because weak states pose less of a threat to pirates, piracy occurs closer to capital cities.



**Table 1: Determinants of Capital-Piracy Distance**

	(1) Main	(2) Incidents at Port	(3) Coastal Capitals	(4) ASAM Piracy	(5) Fragility	(6) OLS w/o selection
<b>Outcome (piracy location)</b>						
Government Effectiveness	0.155** (0.004)	0.150** (0.005)	0.080* (0.004)	0.116** (0.003)	-	0.155** (0.004)
State fragility	-	-	-	-	-0.059** (0.018)	-
Somalia	1.611** (0.182)	1.103 (1.224)	2.422** (0.224)	1.231** (0.143)	1.701** (0.226)	1.607** (0.183)
Land area	0.583** (0.069)	0.561** (0.086)	0.511** (0.062)	0.522** (0.043)	0.617** (0.071)	0.626** (0.055)
GDP per capita	0.210* (0.091)	0.387** (0.139)	0.143+ (0.078)	0.070 (0.065)	0.219* (0.094)	0.154* (0.072)
Costal Capital	-	-	-1.663** (0.245)	-	-	-
Effectiveness*Coastal Capital	-	-	0.151* (0.006)	-	-	-
Constant	0.088 (0.646)	-0.953 (0.729)	1.808** (0.591)	1.538** (0.453)	1.087 (0.864)	0.068 (0.652)
<b>Selection (piracy yes/no)</b>						
Government Effectiveness	-0.064+ (0.003)	-0.009 (0.004)	-0.062+ (0.003)	-0.020 (0.002)	-	-
State Fragility	-	-	-	-	0.024 (0.015)	-
GDP per capita	-0.189** (0.063)	-0.273** (0.068)	-0.192** (0.063)	-0.207** (0.041)	-0.203** (0.063)	-
Population	0.219** (0.039)	0.298** (0.042)	0.215** (0.038)	0.121** (0.026)	0.200** (0.040)	-
Coastline Length	0.078* (0.039)	0.002 (0.041)	0.080* (0.039)	0.090** (0.027)	0.080* (0.038)	-
Peace Years	-0.850**	-0.510**	-0.857**	-0.569**	-0.849**	-

Constant	(0.123) -2.258** (0.718)	(0.123) -2.988** (0.716)	(0.121) -2.200** (0.708)	(0.056) -0.615 (0.489)	(0.123) -2.376** (0.796)	
Rho	-0.197	-0.520	-0.176	-0.150	-1.932	
Rho 95% CI	-0.530/0.189	-0.780/-0.107	-0.488/0.174	-0.384/0.102	-0.526/0.191	
R-squared	-	-	-	-	-	0.435
N (select)	743	824	743	1303	743	-
N (outcome)	295	214	295	642	295	-
N (total)	1,038	1,038	1,038	1,945	1,038	295

Robust standard errors in parentheses. Cubic splines not reported.

\*\* p<0.01, \* p<0.05, + p<0.1

Figure 1: Marginal Effect of Government Effectiveness on Capital-Piracy Distance, Model 1

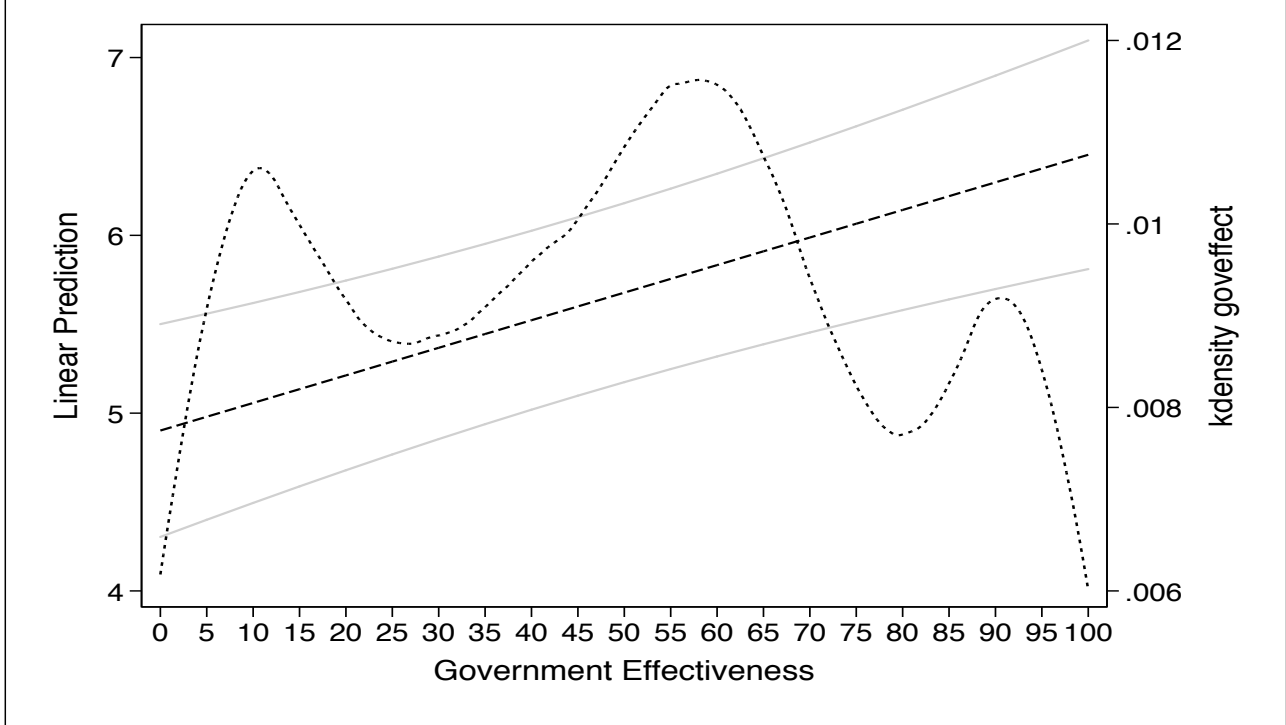
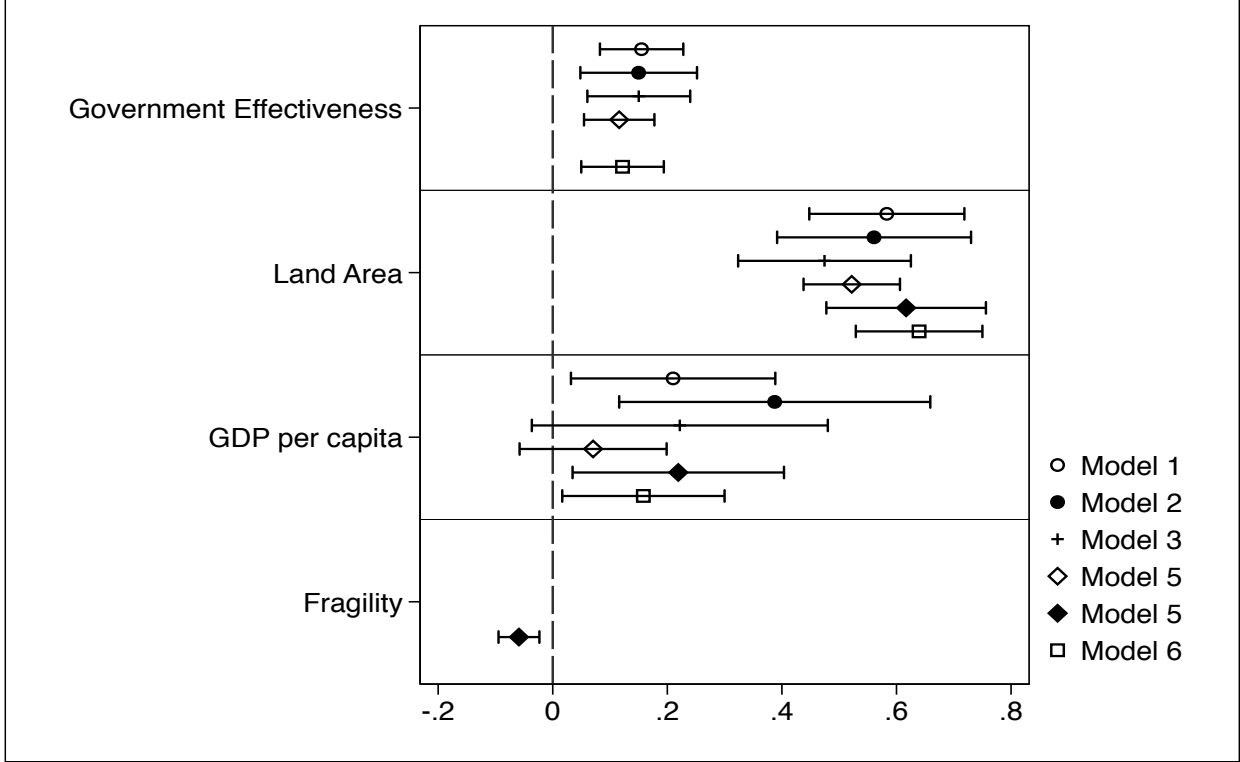


Figure 2: Marginal Effects, Models 1-6



Note: Government effectiveness divided by 10, ranges from 1-10.

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**Table A1: Descriptive Statistics**

	Mean/Mode	Standard Deviation	Minimum	Maximum
Capital-Piracy Distance, logged	5.578	1.651	0.152	9.316
Government Effectiveness Somalia	4.980 0	2.947 -	0 0	10 1
Land Area, logged	5.262	1.921	0.525	9.701
GDP per capita, logged	8.249	1.587	4.899	11.124
Population, logged	16.294	1.653	13.059	21.024
Coastline, logged	7.162	1.696	2.996	12.216
Peace Years	2.456	2.621	0	8
Observations	1038			