The Politicization of Crime:
Electoral Competition and the Supply of Maritime Piracy in Indonesia

Electoral competition in weakly institutionalized settings has been shown to increase the incidence of violence. While much of the literature focuses on political violence, recent research links electoral processes to criminal violence, in particular homicides. Electoral competitiveness, by virtue of threatening the ability of incumbents to maintain informal corruption agreements with criminal networks, is argued to increase crime because of violent competition among criminal groups over future influence (Hoelscher 2015; Villarreal 2002). We draw on this work to link elections to maritime piracy, a form of criminal behavior that has increased substantially since the end of the Cold War and for which cross-national, temporally and spatially disaggregated data are available. We argue that electoral competition increases piracy because political changes threaten to disrupt collusion agreements with government authorities. Anticipating a disruption of criminal activity, pirates increase the rate of attacks before political changes can undermine these agreements and to signal their influence to local elites. This disruption effect suggests that competitive electoral contests should experience more maritime piracy. We test our hypothesis on electoral competitiveness and piracy with subnational data for the 1999 and 2004 elections in Indonesia. Our results show that piracy increases in in the proximity of highly competitive electoral districts.

1 Introduction

Elections in unconsolidated regimes are often accompanied by significant political and criminal violence, which has potentially deleterious consequences for democratic consolidation. The political science literature has linked elections to various types of political violence, yet comparatively little work has explored whether elections influence criminal violence, i.e. violence without clear political goals. Important contributions by Villarreal (2002) and Hoelscher (2015) identify a competition effect, arguing that the prospect of electoral competition induces violent bargaining between criminal groups over future influence. Evidence from Mexico and Brazil shows that elections, especially if competitive, increase the incidence of homicides (Hoelscher 2015; Villarreal 2002). However, we do not know whether these findings on homicides hold for criminal activity rather than just competition, other types of crime, and other regional contexts. In this paper, we hypothesize a link between elections and maritime piracy, a form of crime that has yet to be authoritatively connected to electoral processes. We argue that competitive elections are associated with increased piracy because this competition threatens to disrupt existing collusion between criminal actors and local elites. Evidence from Indonesia supports this conjecture.

Our paper makes three contributions to research on competitive elections and violence. First, we provide one of the first systematic, subnational assessments of the relationship between electoral competition and piracy. Some observers note that piracy increased during Indonesia's first democratic elections in 1999 (e.g. Amirell in Chong 2008), but do not explore it further.[1] Gaibulloev and Sandler (2016) examine the effect of decentralization, including the holding of bottom-tier elections, but do not assess the competitiveness of elections. We use subnational data on electoral competition and piracy for the first two democratic elections in Indonesia in 1999 and 2004 to provide a systematic examination. Our findings show that areas close to competitive electoral districts experience more piracy. In additional, cross-national analyses covering the 1993-2010 period, we also establish a positive effect of electoral competition on piracy for a global sample. While these results are weaker, both analyses suggest that piracy is linked to electoral processes, which broadens the empirical relevance of the election-crime link. Second, we expand on existing work on elections and crime by establishing how the anticipated disruption of crime in competitive elections increases criminal activity. A limitation of the emphasis on homicides

[1] Using data from the Maritime Piracy Event and Location Data (MPELD), Indonesia experienced 140 incidents from 1995-1997 compared to 304 from 1998-2000, which includes the 1999 elections (Daxecker and Prins 2015a).

in existing work is that they are an indicator of competition among criminal groups rather than criminal activity itself, which often remains unobservable. Yet for piracy, attacks indicate actual criminal activity (and also competition between groups), allowing us to explore the effects of elections on crime more generally. We argue that elections threaten to disrupt existing patronage networks between pirates and politically relevant actors, producing incentives to increase piratical activity around elections before political changes could disrupt their business, but also to signal pirates' influence to local elites. This supply-centered argument suggests that piracy increases around elections, especially if competitive, which we corroborate in empirical analyses. A third contribution of our paper stems from the nature of the piracy data. An advantage of data on piracy is that they are based on reports from crew, ship owners, and government authorities, which should make them less prone to over-reporting during election periods than media-based data commonly used in studies of political violence (Earl et al. 2004). An additional advantage is that piracy is unlikely to conflate criminal and political violence, which is more challenging with data on homicides.

We proceed as follows. We first review the literature on elections and political and criminal violence. We then develop our theory hypothesizing a disruption effect. Our empirical section consists of a subnational analysis of piracy in the 1999 and 2004 Indonesian elections. Robustness tests, including a cross-national analysis, confirm the importance of competitive elections.

2 Elections and violence

Elections offer peaceful means for contestation yet are often accompanied by significant violence. A growing literature links elections to various forms of political violence, including low-level civil violence, government repression, ethnic conflict, civil war and terrorism.[2] Research suggests that electoral processes in weakly institutionalized settings produce political violence because the stakes are high, incumbents are concerned about their performance, and fragile political structures may not guarantee elite interests (Fjelde and Höglund 2016; Hafner-Burton et al. 2014; Salehyan and Linebarger 2014). Others suggest a more nuanced relationship, arguing that weaker incumbents prefer using violence while stronger ones use nonviolent forms of manipulation (Chaturvedi 2005; Collier and Vicente 2011). In contrast, Wilkinson's (2006) analysis of India argues that ethnic violence is less common when partisan competition is more intense because incumbents must rely on

[2] Related research examines how political violence, in particular terrorism, influences electoral processes (Berrebi and Klor 2006; Gould and Klor 2009).

minority votes. Work on terrorism also emphasizes the use of violence to disrupt electoral processes or overthrow the status quo (Staniland 2014). Newman (2012) finds that terrorist incidents peak around election time, in particulary in dictatorships, while Aksoy (2014) shows that terrorism increases around elections only in democracies with low levels of electoral permissiveness.

In comparison, the literature on elections and criminal violence, i.e. violence committed by actors lacking clear political goals, is much less developed. Yet if electoral competition in weakly institutionalized political environments fosters violence because it threatens elite hold on power, such competition should similarly threaten criminal networks that could be disrupted by elite changes. Collusion with political actors is crucial for the long-term viability of criminal organizations (Bailey and Taylor 2009), and the impending upheaval of electoral competition could thus lead to increased criminal contestation and violence. Villareal (2002), for example, argues that electoral competition and its potential to disrupt patron-client relations leads to increased homicidal violence in Mexico. Consistent with this expectation, he shows that rural municipalities, where support for the incumbent was lower, experience higher homicide rates. Similarly, Hoelscher (2015) hypothesizes that political competition threatens to disrupt coercive institutions used to protect political advantage and is thus linked to greater violence. Municipal-level results from Brazil confirm the link between elections, competitiveness, and homicidal violence (Hoelscher 2015). Outside of Latin America, Alesina, Pinotti, and Piccolo (2016) establish that electoral cycles lead to increased homicide rates in regions dominated by the Mafia. While focused on party structures rather than elections, Moro, Petrella, and Sberna (2016) argue that party fragmentation lowers criminal violence because it provides multiple access points for criminal organizations. Evidence from Italy shows that Mafia killings are higher during times of single-party dominance but decrease when parties are fragmented. Moro, Petrella, and Sberna's (2016) findings seem compatible with work on a competition effect – crucially, criminal activity increases when actors fear that their ability to engage in crime will be constrained. More generally, evidence on crime and elections is also consistent with arguments linking democratization to criminal violence, especially in the Latin American context (Grillo 2012; Kalyvas 2015).

In contrast, other research hypothesizes a political business cycle and argues that elections can be crime-reducing since political elites have incentives to reduce crime in the run-up to elections (Ghosh 2006; Meloni 2012). While this argument hinges on the assumption that concerns over crime rank highly for voters, subnational analyses of

Argentina and India in Meloni (2012) and Ghosh (2006) show a reduction of crime before elections, although this effect is absent for violent crime.

The following section elaborates our mechanism linking elections to maritime piracy, a form of criminal behavior that has increased substantially since the 1990s.

3 Electoral competition and maritime piracy

Maritime piracy reemerged as a common form of criminal violence with the end of the Cold War. Compared to other crime such as robberies, rape, or homicides, piracy is geographically more limited since it occurs at sea or in ports. Yet piracy nevertheless affects many coastal states. Between 1993 and 2014, 97 of 177 states with coastlines experienced at least one piracy incident, 47 states experienced more than 10 incidents, and 13 states experienced over 100 pirate attacks. Conceptually, many piracy incidents (particularly those occurring in ports) may be closest to armed robbery, although piracy incidents can involve significant violence against crewmembers (or the threat thereof) and may also involve the hijacking of crewmembers and/or ships and bargaining for ransom with foreign ship owners. Maritime piracy thus encompasses individuals engaging in sporadic, isolated acts but also small and medium-sized groups with substantial organization and hierarchy (Hastings 2012). With two important exceptions (Gaibulloev and Sandler 2016; Shortland and Varese 2015), scholarship on piracy has not yet examined whether electoral processes influence the behavior of pirate organizations.[3] Existing research has largely focused on the role of weak institutions and lack of legal employment opportunities in creating permissive conditions for piracy (Axbard 2015; Daxecker and Prins 2013, 2015b; Hastings 2009; Jablonski and Oliver 2013). We theorize a supply-centered mechanism, arguing that elections influence pirates' incentives to increase criminal activity.

Drawing on the existing literature on elections and criminal violence, we expect that competitive elections threaten to disrupt existing agreements between pirate groups and local elites. Collusion between pirates and local authorities is often noted as critical for flourishing pirate organizations since such connections help stabilize the environment in which pirates operate (Hastings 2012; Hastings and Phillips 2015; Murphy 2009; Shortland and Varese 2014). Hastings (2012: 689), for example, observes that incidents in the South China Sea essentially disappeared once the Chinese government cracked down on pirate-government

[3] Using cross-national and subnational data, Gaibulloev and Sandler (2016) show that the holding of regional elections reduces piracy. We focus on the consequences of electoral competitiveness for piracy rather than the presence or absence of elections.

collusion. Empirical studies of piracy in Africa and Southeast Asia have shown the presence of pirate group connections – whether through payoffs or other arrangements - with government actors (Hastings 2012; Hastings and Phillips 2015; Pérouse de Montclos 2012; Shortland and Varese 2014). In Indonesia, for example, corrupt customs officials, port employees, or crew members were known to provide information on ship movements and cargo to pirates (Storey 2008). Further, when is rampant such as during the New Order era in Indonesia, ties between criminal actors and various levels of the state bureaucracy often served as a form of regime maintenance (Wilson 2006). Yet given these connections between pirate organizations and local elites, pirates (and other criminals) might be concerned about potential disruption of such networks produced by elections. These effects are particularly likely in areas where elections are expected to be competitive, threatening arrangements in the regions where pirates are criminally active. Concerns about major political changes triggered by elections should thus translate into increasing numbers of attacks because pirate groups are unsure about their future ability to manage operations.[4]

Different from existing work on elections and crime, we thus do not anticipate increases in crime primarily because pirate groups violently compete with each other over future influence in electorally competitive areas. While some increased pirate activity may be the result of increased intergroup competition, we primarily expect that pirates increase the rate of attacks fearing a disruption of their business because of electoral changes. This supply-centered argument focuses on the bargaining relationship between local political elites and pirate organizations. The threat to target ships travelling to and from a country's port facilities provides leverage with local officials that fear a disruption in ship traffic. Port charges remain an important source of government revenue in many countries and shipping companies may avoid sea-lanes and anchorages where the risk of piracy is too high. In principle, a stable equilibrium rate of piracy maximizes profits and revenue for pirates and local elites. The ability to increase the rate of pirate attacks demonstrates the power of local pirate organizations, resulting in bargaining and collusion around election time. Piracy is thus expected to increase before and during elections because groups carry out more attacks

[4] An observationally equivalent explanation would be that voters punish incumbents who are unable to reduce crime, leading to a negative association between victory margins and piracy. We think this is unlikely for two reasons. First, we do not think that voters' perceptions of the government's counterpiracy efforts matter early on in the democratization process because citizens are preoccupied with other issues. For example, in a survey of Indonesian citizens following first democratic elections, only seven percent of respondents identified crime as a significant concern, while the overwhelming majority cited economic issues (Wagner 1999). Moreover, unlike other crime such as theft, robbery, or murder, piracy is less likely to negatively affect the daily lives of a large number of voters because its targets are international or domestic ships.

before their business can be disrupted. In addition to fearing disruption, pirate groups could also use income from piracy to support their preferred candidate. Research on Somalia has connected ship and crew ransoms to collusion between local politicians and pirates (Shortland and Varese 2015). A share of the revenue generated by the attacks flows into the pockets of political elites that use the funds on campaign activities.[5] After elections, piracy may continue at higher rates if the incumbent or the incumbent party is ousted from office, leading to increased piracy until new elites assume or consolidate power. Our first hypothesis thus specifies a direct effect of electoral competition on piracy.

Hypothesis 1: Electoral competition increases the incidence of piracy.

The theoretical rationale above outlines that piracy should increase when existing collusion agreements are threatened by electoral competition. These implications should thus hold in particular during transitional periods when major political changes threaten existing patronage networks (Villarreal 2002). Once democratic competition becomes more routine and institutionalized, voter evaluations of incumbents' performance on crime may start to figure more prominently, which is why we expect that the empirical implications of our arguments are most pronounced in the immediate democratization periods. The hypothesized association between elections and piracy could decline or even disappear once democracy is more established.

4 Elections and piracy in Indonesia

We test the empirical implications of our arguments with subnational data on the 1999 and 2004 elections and piracy in Indonesia. A disaggregated analysis has several advantages, including allowing for an assessment of the effects of both national and regional elections, accounting for subnational differences in the competitiveness of elections, and fully considering the spatial variation in the location of piracy incidents.

We choose Indonesia as the case for subnational analyses for two reasons. First, we purposely choose a case with pervasive piracy since the implications of our arguments should be most apparent in countries where pirates are historically active and where organized piracy

[5] The disruption mechanism emphasizes local and regional actors, suggesting that elections with important local or regional consequences should be more likely to trigger an increase in piracy. In subnational analyses for Indonesia, we distinguish legislative and regional elections, and find effects for both. Our cross-national robustness tests include only national elections, not all of which may have important local-level effects, thus biasing the analysis against finding a relationship.

is present. Indonesia witnesses some of the most extensive and entrenched maritime piracy in the world, which works well for our argument expecting an escalation of criminal activity through political changes (rather than elections causing piracy in the first place).[6] Second, the 1999 and 2004 elections are useful cases with regard to effects of electoral competition on criminal behavior. Before the fall of Suharto in 1998, elections were not competitive and ought to not have affected Indonesian pirates' considerations. The 1999 and 2004 legislative elections were the first two democratic, multi-party elections in more than five decades and this prospect should have impacted pirate organizations as hypothesized in our theory.[7] Endemic state patronage during the Suharto regime permeated many layers of government bureaucracy, including a symbiotic relationship existing between street-level criminals and military, political, and social elites (Wilson 2006: 266). The threat of major political changes disrupting these networks for pirate and other criminal actors was thus substantial. Importantly, both the 1999 and the 2004 elections led to major political changes. The 1999 legislative elections resulted in a defeat of incumbent party Golkar (Suharto's party) by the newly formed opposition party Indonesian Party of Struggle (PDI-P) in 18 of 34 provinces. Yet in the 2004 legislative elections, disappointment with the reformists brought a victory of Golkar and defeat of the PDI-P in a majority of provinces, meaning that both elections had significant consequences for criminal actors concerned with access to elites for collusion. While existing research on Indonesia has only anecdotally linked elections to piracy as a result of changes in patronage networks (Amirell 2008), other work has pointed to the importance of political protection for criminal activity in Indonesia (Choi 2007; Wilson 2006). Scholars have also noted that increases in criminal violence, including robberies, extortion, and gang violence, coincided with the end of the Suharto era (Welsh 2008; Wilson 2006).

Since subnational analyses of a single case do not allow for generalizing, we also present cross-national analyses of elections and piracy in robustness tests (table 3).

5 Research design

5. 1 Data and variables

[6] Twenty-five percent of the incidents in the MPELD database from 1993-2014 occur in or near Indonesian waters.

[7] We focus on legislative elections because Indonesia did not have direct presidential elections until 2005. Legislative elections are also likely to have more significant local-level implications than presidential elections. Research on Indonesia highlights the important local and national-level role played by political parties such as Golkar and the PDI-P in Indonesia (Slater 2004).

Our unit of analysis for Indonesia consists of PRIO grids (55x55 kilometer cells) within Indonesia's Exclusive Economic Zone (EEZs) (Tollefsen et al. 2012).[8] 2,340 grids fall within Indonesia's EEZ, which extends (up to) 200 nautical miles from its coastline. We choose EEZs rather than territorial waters since most accounts suggest that piracy in this area is committed by Indonesian pirates (Nautilus Institute 2007). Moreover, we add 27 grids in the Malacca Straits outside of Indonesia's EEZ since observers attribute these incidents to Indonesian pirates by (Nautilus Institute 2007).

Our dependent variable measures the number of piracy incidents one year before, during, and after the 1999 and 2004 elections (i.e, 1998-2000 for the 1999 elections and 2003-2005 for the 2004 elections). To make sure that the inclusion of post-election piracy events do not drive these results, we also present a model where we omit events in the year after elections (model 2). Data for maritime piracy, the main dependent variable, come from the Maritime Piracy Event and Location Data (MPELD).[9] These data include piracy incidents from the International Maritime Bureau (IMB). Using MPELD, we calculate the sum of piracy incidents for each EEZ grid in Indonesia. The variable ranges from 0 to 35, and 4% of all grids experience one or more incident. Our estimation method is negative binomial regression because our dependent variable is an event count with over-dispersion. We include grid-clustered standard errors in all regressions.

To test hypothesis 1, our key independent variables measure subnational electoral competition. We use province-level election results from the Global Elections Data (Brancati 2014) for the 1999 elections (Brancati 2014) and constituency-level election results from the Constituency Level Election Archive (CLEA) for the 2004 elections (Kollman et al. 2011).[10] We then calculate the margin of victory in each of the 34 provinces for the 1999 elections, and each of the 70 constituencies for the 2004 elections, respectively. Margin of victory is calculated by subtracting the second-place party's votes from the winner and then dividing this number by total votes in each province/district. Smaller values thus indicate more competitive elections. Because elections happen on land and piracy at sea (or in ports), we use ArcGIS to create buffers of the margin variable that extend to all EEZ grids. We then

[8] PRIO GRID is available at http://grid.prio.org/#/download. EEZ shapefiles come from http://www.marineregions.org/downloads.php. ArcGIS 10.3 was used to create the dataset and calculate distance controls.

[9] In line with the IMB definition, incidents are included if they meet UNCLOS definition of piracy or the IMO's definition of armed robbery.

[10] For the 1999 elections we are limited to provinces, the first-order administrative units, because neither GED nor CLEA have more disaggregated results. Because CLEA does not provide a shapefile of the 77 constituencies in Indonesia, we created one ourselves by georeferencing constituencies with maps available at the following website: http://www.seasite.niu.edu/indonesian/Indonesian_Elections/Districts04.htm.

calculate average values for margin buffer variables for all grids. Margin ranges from 0.03 to 0.48. The map below (figure 1) shows Indonesia's provinces with election victory margins (with lighter shades representing smaller margins) and Indonesian EEZ grids for the 1999 elections. The black dots show piracy incidents from 1998-2000.

[Figure 1 near here]

Figure 2 provides the same information for the 2004 elections. Indonesia's constituencies are shown with election victory margins (with lighter shades representing smaller margins) and surrounding EEZ grids. The black dots show piracy incidents from 2003-2005. We note that piracy persists in some regions, in particular Riau, despite only intermediate levels of electoral competition in 2004.

[Figure 2 near here]

Data for several control variables come from the PRIO GRID, version 2.0 (Tollefsen et al. 2012). To control for economic development, we include data on nighttime light emissions in the year before elections for all grids in Indonesia. For nighttime lights, we use a similar procedure with buffers as described for elections above.[11] We do not include additional controls for GDP or population size because these variables correlate extremely highly at the ocean grid level (corr>0.95). We control for the number of ports for grids bordering Indonesia because access to ports is likely associated with greater pirate activity.[12] We include data for rainfall in grids in the year before elections because excessive rains could reduce the potential for piracy, again creating buffers because the PRIO GRID does not include information for ocean grids. We also control for average temperatures in the year before elections since higher temperatures have been shown to result in increases in crime. We also include the distance between each grid and the coast as a standard control in all models since grids further removed from the coasts are likely at lower risk of attacks. The distance variable measures the kilometer distance between each grid and Indonesia's coastline, which we calculate in ArcGIS. The variable ranges from 0 (for grids adjacent to Indonesia's coast) to 369 kilometers. The statement that the origins of piracy are land-based has become a cliché in the piracy literature, but suggests that we should expect that grids at greater distances experience less piracy. Further, we include a dummy coded 1 for the 67 grids adjacent to the Malacca Straits (again calculated in ArcGIS), a major shipping chokepoint creating opportunity for piracy. Even a visual inspection of figures 1 and 2 makes

[11] DMSP OLS Nighttime Lights, data from http://ngdc.noaa.gov/eog/dmsp/downloadV4composites.html
[12] Date come from the World Port Index, available at http://msi.nga.mil/NGAPortal/MSI.portal?_nfpb=true&_pageLabel=msi_portal_page_62&pubCode=0015

the strong effect of this chokepoint on piracy in proximate grids apparent. Finally, we account for temporal and spatial dependence of piracy. For temporal dependence, we calculate the average number of incidents in MPELD in each grid for three years preceding the measurement of our dependent variable (1995-1997 for the 1999 elections, and 2000-2002 for the 2004 elections). For spatial dependence, we calculate a spatial lag of piracy based on grid contiguity. The variable ranges from 0 to 7 and measures whether the incidence of piracy in contiguous grids influences the risk of piracy in each cell. A final control variable is a dummy for the year 2004 to account for temporal variation in the incidence of piracy between elections in our dataset.

5. 2 Results

[Figure 3 near here]

Figure 3 presents a coefficient plot with two models of competitiveness and piracy in the 1999 and 2004 elections (see table 1 for full results below). Model 1 includes the measure for victory margins in legislative elections. The coefficient is negative and significant, thus showing that piracy decreases in the proximity of less electorally competitive elections and supporting hypothesis 1. Results for controls are in line with expectations from the literature. Grids further away from the coast are less likely to experience piracy. We also find evidence of temporal and spatial dependence. Grids with piracy incidents in years before elections are at greater risk of piracy around elections. The spatial lag is also positive and significant, indicating spatial diffusion of piracy. Grids bordering the Malacca Straits also experience more piracy. Similar to findings for other crime, we find that higher average temperatures increase piracy. We find no significant of nighttime lights, although it is not clear that cross-national findings for economic opportunities have similar implications at the subnational level. It may still be that poorer regions attract more individuals to piracy, but this could be counteracted by the fact that pirates also need to be close to areas of economic activity to find targets, i.e. ports with ships. The fact that the ports variable is positive and significant lends supports to this conjecture. We do not find an effect for rainfall.

In model 2, we limit our dependent variable to piracy incidents in the year before elections (i.e. 1998 and 2003) and the election-year (i.e. 1999 and 2004). Arguably, a post-election effect of competitiveness on piracy should be conditional on whether the incumbent was ousted from office. The coefficient for victory margins remains negative and significant, again showing that larger margins are associated with less piracy. Hence, our results are not conditional on including post-election piracy.

Hypothesis 1 expects a direct effect of electoral competition on piracy, regardless of where piracy happens. Yet since piracy occurs at sea while elections take place on land, the effect of electoral competition on piracy likely declines with distance. For piracy far removed from the coast, it becomes much more difficult to establish where pirates originated and a link between electoral competition and piracy is hence less plausible. We therefore expect that the effect of electoral competition is stronger in grids close to the coast and compare the effect of victory margins on piracy for close and far away distances. Figure 4 plots the predicted probability of piracy for grid-coast distances of 0 (=grids adjacent to the coast) and 180 kilometers, which corresponds to values of one standard deviation below and above the mean.

[Figure 4 near here]

The solid line in figure 4 indicates the effect of vicory margins for grids adjacent to the coast (distance=0), while the dashed line shows the effect of margins for grids at one standard deviation above the mean of distance (distance=180). The results fit our expectations: Greater margins decrease piracy in grids contiguous to the coast (solid line), whereas the effect is absent for grids far away (dashed line). The rug plot of victory margins at the bottom of the left panel also shows that this effect covers empirically relevant cases. Table 1 presents coefficients for both models.

[Table 1 near here]

6 Robustness tests

We present two sets of robustness tests. We first specify additional models for Indonesia to account for alternative explanations, other operationalizations of electoral competitiveness, dynamic controls, and an alternative specification of the dependent variable. Our second robustness test uses a cross-national, yearly research design to show that a relationship between competitiveness and piracy is not limited to Indonesia.

6.1 Additional model specifications for Indonesia

[Table 2 near here]

Table 2 presents results for additional models. Models 3 and 4 assess an important alternative explanation for a relationship between electoral competition and piracy, which suggests that political elites, law enforcement, and the security apparatus are preoccupied with the electoral process and hence reduce their attention to crime during elections. This distraction argument implies that crime in competitive areas increases not because criminals anticipate a disruption

of their activities or signal their influence, as we argue, but rather because actors usually involved in combating crime focus their attention elsewhere. While both explanations would expect a relationship between electoral competitiveness and piracy, claims about distraction also suggest that elites would shift their attention to the most contentious and unstable areas, in particular those experiencing political violence.[13] If the distraction argument is correct, electoral competition should thus increase crime in areas where elites focus little attention (i.e. areas far from political violence) but decrease crime in areas where elites focus their interests (i.e. areas experiencing political violence). Conversely, if our arguments about disruption effects hold, we would expect that proximity to political violence has little effect on the relationship we hypothesized. Controlling for proximity to electoral violence should make it more difficult for the electoral competition-piracy relationship to survive since this variable is more consistent with the distraction argument. In model 3, we include a dummy indicating proximity to election violence on land. We use data from the Electoral Contention and Violence (ECAV) project (Daxecker and Amicarelli 2016) to calculate whether a grid was within 75 km of an electoral violence event on land in 1999 or 2004, 0 otherwise. We present two models, one in which we control for the proximity to political violence, and another in which we interact victory margins with proximity. As model 3 shows, the margins variable remains negative and significant even when we control for proximity to election violence, which suggests that distraction does not fully explain the competition-piracy link. In model 4, we also interact victory margins with proximity to election violence. Of concern to our inferences would be if the effect of electoral competition on piracy is strong in grids far away from political violence, but absent in grids experiencing such violence, since this would be most consistent with claims on distraction. The interaction is not statistically significant, thus not supporting the alternative explanation.

Model 5 examines whether electoral competition seems to capture preexisting regional conditions that could be correlated with victory margins.[14] If, for example, regional

[13] Models controlling for political violence also help address whether our results simply pick up a more generally unstable environment in electorally competitive regions.

[14] Another alternative explanation focuses on the demand for criminal violence by political elites. Similar to claims on election violence as a form of manipulation, a demand-centered argument would expect that political elites incite piracy to make their opponents appear incapable and influence voter's decisions at the ballot box. For example, Perouse de Montclos (2012: 536) describes how politicians in the Niger Delta hired pirates to show the inability of the federal government and regional governor to maintain order in the run-up to the 2011 general elections in Nigeria. Crucially, this argument hinges on voters evaluating candidates with regard to their performance on crime. As we mention above, we do not think that citizens are preoccupied with crime early on in the democratization process, and piracy is also a form of crime less likely to prey on ordinary citizens. While we would like to confirm our intuition empirically, survey data on citizen perceptions of crime in Indonesia do

differences in state capacity correlate with electoral competitiveness, these preexisting factors might explain the empirical relationships rather than our explanation. To assess whether this is likely, we change our dependent variable to piracy events several years before elections (1995-97 for the 1999 elections, and 2000-2002 for the 2004 elections). We expect our significant results for margins to disappear in this model if our argument is correct. Indeed, the coefficient for margins is insignificant in this model, making it unlikely that preexisting factors associated with competitiveness are responsible for our empirical findings.

Model 6 includes a measure of electoral competitiveness in provincial rather than legislative elections. Theoretically, it makes sense to expect the strongest empirical relationship for elections with the most local implications, as our discussion of connections between pirates and local elites has emphasized. Unfortunately, we are limited to assessing provincial elections for 1999 only since we could not locate these data for 2004. For the 1999 provincial elections, we therefore calculate the margin of victory, which ranges from 0.03 to 0.47. As the results show, we find that greater margins reduce piracy in provincial elections, corroborating our findings from legislative elections.

In model 7, we include first differences of measures for night lights, temperature, and rainfall instead of levels, thus capturing how changes in these controls could affect the rate of attacks rather than static measures. Because of the lagged dependent variable, static measures make it difficult to assess controls' effect on piracy. We use data from the PRIO GRID to calculate first differences for controls. In model 7, victory margins remain negative and significant. For first-differenced controls, only increases in rainfall are significant, showing that such increases are associated with lower piracy. Model 8 uses a dummy dependent variable instead of the count to make sure that the relatively small number of grids with a high number of piracy events does not unduly influence our results. In model 8, margins remains negative and significant.

6.2 Cross-national analyses

We present results from cross-national analyses to demonstrate that the elections-piracy relationship holds more generally than in the Indonesian case. These cross-national analyses have several disadvantages, including a limitation to national elections, losing significant subnational variation in the competitiveness of elections, and aggregating piracy to the country-level. Further, while we expect our empirical implications to hold most strongly in

---

not provide information on respondent location for the time period analyzed here (email correspondence with Asiabarometer staff).

transitional periods, the cross-national analysis includes transitional as well as more routine elections. For these reasons, we expect fairly weak findings but nevertheless hope to establish some support. The unit of analysis in our cross-national analyses is the country-year.

We use data from MPELD to create our dependent variable. Our dependent variable is a count of piracy incidents attributed to each country per year.[15] We use negative binomial estimation because our dependent variable is an event count with over-dispersion. Further, we use fixed-effects estimation to account for unit heterogeneity. Employing fixed effects also means limiting our sample to coastal states experiencing at least one piracy incident between 1993-2010. Our theoretical mechanism outlines how the incidence of competitive elections affects the strategic considerations of existing criminal actors rather than producing new criminal groups, hence it makes sense to presuppose piracy as a viable option.

Our main independent variables focus on electoral competitiveness. Our first independent variable is a dummy indicating whether a competitive election was held in a particular country-year. We lag elections by one year to capture increases in piracy in anticipation of competitive elections. Data for competitive elections come from the National Elections in Democracies and Autocracies dataset (NELDA, (Hyde and Marinov 2012). Second, we use data on the effective number of parties as a proxy for the competitiveness of the electoral system. Wilkinson (2006), for example, uses party fractionalization as an indicator of competitiveness. Data on the number of effective parties come from Teorell et al. (2015) and Bormann and Golder (2013). The variable is lagged by one year so we do not estimate the effect of elections on fractionalization. While we would have preferred to use data on victory margins, they are either not available in existing datasets on elections (e.g. NELDA), or available only with lots of missing observations (e.g. V-Dem).[16]

We control for a variety of factors that likely also affect piracy, including state capacity, GDP per capita, the number of ports per country, population size, the occurrence of civil war, coastline length, average yearly rainfall and temperatures, and temporal dependence. We use data on government effectiveness from the World Bank Governance Indicators to control for state capacity (Kaufmann et al. 2009). Data on per capita GDP and population size also come from the World Bank. Port data are again from the World Port Index. The civil war variable is a dummy coded 1 if a country experienced ongoing civil war,

[15] We assigned pirate incidents to states if they occurred within 12 nautical miles of coastlines, to the country from which the pirates originate (if indicated in the IMB report), or to the coastal country closest to the pirate incident for incidents outside of 12 nautical miles. ArcGIS was used to assign incidents to individual countries.

[16] After calculating victory margins with data from V-Dem (Coppedge et al. 2015), we retained only 182 observations.

0 otherwise. Data come from the UCDP Dyadic Dataset, version 1-2014 (Gleditsch et al. 2002). Coastline length (in km) comes from the CIA factbook and is time invariant. We control for climate factors with average temperatures and average precipitation, data come from the World Bank.[17] We control for temporal dependence with a three-year moving average of the dependent variable. Finally, we include year dummies to account for temporal heterogeneity. Independent variables are lagged by one year unless specified otherwise.

[Table 3 near here]

Table 3 presents results for fixed effects negative binomial regressions. In model 9, we include the dummy variable for competitive elections coded 1 for election-years, 0 otherwise. We see a significant positive effect of elections on piracy for this variable. In model 10, we include the party fractionalization variable instead of the elections dummy. This variable is positive and significant, indicating that countries with more fractionalized party systems experience more piracy, which is consistent with our expectations.

Conclusion

An emerging literature links elections to criminal violence, in particular homicides (Alesina et al. 2016; Hoelscher 2015; Moro et al. 2016; Villarreal 2002). Our paper is the first to examine whether elections similarly create incentives for maritime piracy. An empirical focus on piracy has several advantages: Piracy constitutes a type of criminal activity that is more easily distinguishable from political violence than for example homicides, it allows for observing criminal activity rather than mainly competition among criminal actors, and cross-national data that are spatially and temporally disaggregated are available for piracy.

We theorize that elections increase piracy because of disruption effects, expanding on existing theories focusing primarily on competition. Pirates, like other criminal actors, depend on agreements with local law enforcement, coast guard, or elected officials to maintain flourishing businesses. In consequence, the prospect of political changes through competitive elections can induce pirates to increase criminal activity to show their influence, compete with rival actors, and engage in piracy before new actors take office. Our empirical models use disaggregated data on electoral competitiveness and piracy for the 1999 and 2004 elections in Indonesia. As first democratic elections, these are well-suited for an empirical test of our arguments. Results show that close electoral contests increase the risk of piracy, particularly in grids close to the coast. These results remain consistent across a number of

[17] http://data.worldbank.org/developers/climate-data-api

robustness tests. Importantly, we also find a positive effect of competitive elections on piracy in a sample of all states with at least one piracy incident. The evidence thus shows that elections generally increase criminal activity, while the scarcity of cross-national crime data limited previous work to single case studies.

These findings help put research positing a link between elections and non-political violence on more solid grounding. We establish a relationship for elections and piracy, a form of criminal activity not previously examined. Further, we demonstrate an effect of elections using both subnational and cross-national analyses. Our disaggregated analyses of Indonesia do justice to micro-level, spatially varied patterns in electoral competitiveness and piracy, while the cross-national findings help demonstrate a general pattern. Our results are also in line with research on the connection between democratization processes and criminal violence (Grillo 2012). While this research has focused primarily on Latin America, we show that the adoption of competitive elections can increase crime in other regions. Democratization may nevertheless have long-term positive implications for stability. While we demonstrate some short-term negative effects of the introduction of electoral processes, we expect the crime-inducing effect of electoral processes to decline over time. Once elections become routinized and citizens increasingly evaluate politicians on their performance on corruption and combating crime, the effect of elections on crime should become weaker or even non-existent.

References

Alesina, A., Piccolo, S., & Pinotti, P. (2016). *Organized Crime, Violence, and Politics*. National Bureau of Economic Research. http://www.nber.org/papers/w22093. Accessed 22 June 2016

Axbard, S. (2015). Income Opportunities and Sea Piracy in Indonesia“ and” Extractive Industries, Production Shocks and Criminality. http://www.diva-portal.org/smash/record.jsf?pid=diva2:787097. Accessed 15 April 2016

Bailey, J., & Taylor, M. M. (2009). Evade, corrupt, or confront? Organized crime and the state in Brazil and Mexico. *Journal of Politics in Latin America*, *1*(2), 3–29.

Berrebi, C., & Klor, E. F. (2006). On terrorism and electoral outcomes theory and evidence from the Israeli-Palestinian conflict. *Journal of conflict resolution*, *50*(6), 899–925.

Bormann, N.-C., & Golder, M. (2013). Democratic electoral systems around the world, 1946–2011. *Electoral Studies*, *32*(2), 360–369.

Brancati, D. (2014). Global elections Database [computer file]. *New York: Global Elections Database [distributor], Date Accessed*, *1*, 20.

Chaturvedi, A. (2005). Rigging elections with violence. *Public Choice*, *125*(1-2), 189–202.

Choi, N. (2007). Local elections and democracy in Indonesia: the Riau Archipelago. *Journal of contemporary Asia*, *37*(3), 326–345.

Chong, T. (2008). *Globalization and Its Counter-forces in Southeast Asia*. Institute of Southeast Asian Studies.

Collier, P., & Vicente, P. C. (2011). Violence, bribery, and fraud: the political economy of elections in Sub-Saharan Africa. *Public Choice*, *153*(1-2), 117–147. doi:10.1007/s11127-011-9777-z

Coppedge, M., Gerring, J., Lindberg, S. I., Skaaning, S.-E., Teorell, J., Altman, D., et al. (2015). *V-Dem [Country-Year/Country-Date] Dataset v5*. Varieties of Democracy (V-Dem) Project.

Daxecker, U. E., & Amicarelli, E. (2016). *Electoral Contention and Violence (ECAV): A New Dataset.*

Daxecker, U. E., & Prins, B. C. (2013). Insurgents of the Sea: Institutional and Economic Opportunities for Maritime Piracy. *Journal of Conflict Resolution*, *57*(6), 940–956.

Daxecker, U. E., & Prins, B. C. (2015a). *The Maritime Piracy Location and Event Data (MPELD)*.

Daxecker, U. E., & Prins, B. C. (2015b). Searching for Sanctuary: Government Power and the Location of Maritime Piracy. *International Interactions*, *41*(4), 699–717.

Earl, J., Martin, A., McCarthy, J. D., & Soule, S. A. (2004). The Use of Newspaper Data in the Study of Collective Action. *Annual Review of Sociology*, *30*, 65–80.

Fjelde, H., & Höglund, K. (2016). Electoral institutions and electoral violence in Sub-Saharan Africa. *British Journal of Political Science*, *46*(02), 297–320.

Gaibulloev, K., & Sandler, T. (2016). Decentralization, institutions, and maritime piracy. *Public Choice*, 1–18. doi:10.1007/s11127-016-0346-3

Ghosh, A. (2006). *Electoral Cycles in Crime in a Developing Country: Evidence from the Indian States*.

Gleditsch, N. P., Wallensteen, P., Eriksson, M., Sollenberg, M., & Strand, H. (2002). Armed conflict 1946-2001: A new dataset. *Journal of Peace Research*, *39*(5), 615–637.

Gould, E. D., & Klor, E. F. (2009). Does terrorism work? http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1533194. Accessed 21 June 2016

Grillo, I. (2012). *El Narco: inside Mexico’s criminal insurgency*. Bloomsbury Publishing USA.

Hafner-Burton, E. M., Hyde, S. D., & Jablonski, R. S. (2014). When Do Governments Resort to Election Violence? *British journal of political science*, *44*(01), 149–179.
Hastings, J. V. (2009). Geographies of state failure and sophistication in maritime piracy hijackings. *Political Geography*, *28*(4), 213–223.
Hastings, J. V. (2012). Understanding Maritime Piracy Syndicate Operations. *Security Studies*, *21*(4), 683–721. doi:10.1080/09636412.2012.734234
Hastings, J. V., & Phillips, S. G. (2015). Maritime piracy business networks and institutions in Africa. *African Affairs*, *114*(457), 555–576.
Hoelscher, K. (2015). Politics and social violence in developing democracies: Theory and evidence from Brazil. *Political Geography*, *44*, 29–39. doi:10.1016/j.polgeo.2014.08.002
Hyde, S. D., & Marinov, N. (2012). Which elections can be lost? *Political Analysis*, *20*(2), 191–210.
Jablonski, R. S., & Oliver, S. (2013). The Political Economy of Plunder Economic Opportunity and Modern Piracy. *Journal of Conflict Resolution*, *57*(4), 682–708.
Kalyvas, S. N. (2015). How Civil Wars Help Explain Organized Crime—and How They Do Not. *Journal of Conflict Resolution*, 0022002715587101. doi:10.1177/0022002715587101
Kaufmann, D., Kraay, A., & Mastruzzi, M. (2009). *Governance Matters VIII: Aggregate and Individual Governance Indicators, 1996-2008* (SSRN Scholarly Paper). Rochester, NY: Social Science Research Network. Accessed 11 March 2014
Kollman, K., Hicken, A., Caramani, D., & Backer, D. (2011). Constituency-level elections archive (CLEA). *Ann Arbor, MI: University of Michigan Center for Political Studies*.
Meloni, O. (2012, June 19). Is there an electoral-motivated crime rate cycle? Evidence from Argentina. MPRA Paper. https://mpra.ub.uni-muenchen.de/40177/. Accessed 12 January 2016
Moro, F. N., Petrella, A., & Sberna, S. (2016). The Politics of Mafia Violence: Explaining Variation in Mafia Killings in Southern Italy (1983–2008). *Terrorism and Political Violence*, *28*(1), 90–113. doi:10.1080/09546553.2014.880835
Murphy, M. N. (2009). *Small boats, weak states, dirty money: The challenge of piracy*. Columbia University Press.
Pérouse de Montclos, M.-A. (2012). Maritime Piracy in Nigeria: Old Wine in New Bottles? *Studies in Conflict & Terrorism*, *35*(7-8), 531–541. doi:10.1080/1057610X.2012.684651
Salehyan, I., & Linebarger, C. (2014). Elections and Social Conflict in Africa, 1990–2009. *Studies in Comparative International Development*, 1–27.
Shortland, A., & Varese, F. (2014). The Protector's Choice: An Application of Protection Theory to Somali Piracy. *British Journal of Criminology*. http://bjc.oxfordjournals.org/content/early/2014/07/01/bjc.azu046.short. Accessed 3 November 2015
Shortland, A., & Varese, F. (2015). State-Building, Informal Governance and Organised Crime: The Case of Somali Piracy. *Political Studies*, n/a–n/a. doi:10.1111/1467-9248.12227
Slater, D. (2004). Indonesia's accountability trap: party cartels and presidential power after democratic transition. *Indonesia*, (78), 61–92.
Staniland, P. (2014). Violence and democracy. *Comparative Politics*, *47*(1), 99–118.
Storey, I. (2008). Securing Southeast Asia's sea lanes: a work in progress. *Asia Policy*, *6*(1), 95–128.

Teorell, J., Dahlberg, S., Holmberg, S., Rothstein, B., Hartmann, F., & Svensson, R. (2015). The quality of government standard dataset, version jan15. *University of Gothenburg: The Quality of Government Institute*.

The Nautilus Institute. (2007). The roots of piracy in Southeast Asia. *Nautilus Institute for Security and Sustainability*. http://nautilus.org/apsnet/the-roots-of-piracy-in-southeast-asia/. Accessed 16 January 2016

Tollefsen, A. F., Strand, H., & Buhaug, H. (2012). PRIO-GRID: A unified spatial data structure. *Journal of Peace Research*, *49*(2), 363–374.

Villarreal, A. (2002). Political Competition and Violence in Mexico: Hierarchical Social Control in Local Patronage Structures. *American Sociological Review*, *67*(4), 477–498. doi:10.2307/3088942

Wagner, S. (1999). Survey of the Indonesian electorate following the June 1999 elections. *International Foundation for Election Systems, August*. http://www.ifes.org/sites/default/files/indonesia_public_opinion_2000_2.pdf. Accessed 2 September 2016

Welsh, B. (2008). Local and national: Keroyokan mobbing in Indonesia. *Journal of East Asian Studies*, 473–504.

Wilson, D. I. (2006). Continuity and change: The changing contours of organized violence in post–New Order Indonesia. *Critical Asian Studies*, *38*(2), 265–297. doi:10.1080/14672710600671244

Figures and Tables

Figure 1: Indonesia EEZ PRIO grids, 1999 election margins, and piracy incidents

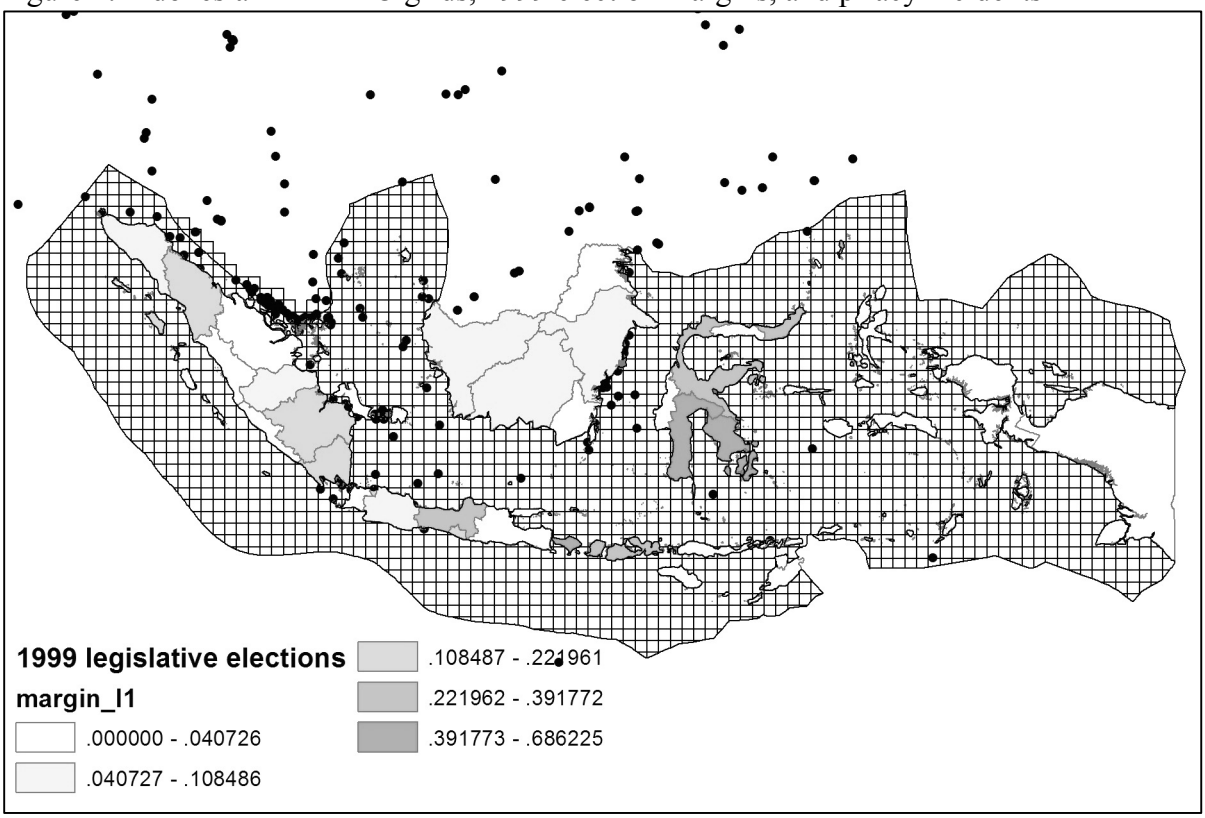

Figure 2: Indonesia EEZ PRIO grids, 2004 election margins, and piracy incidents

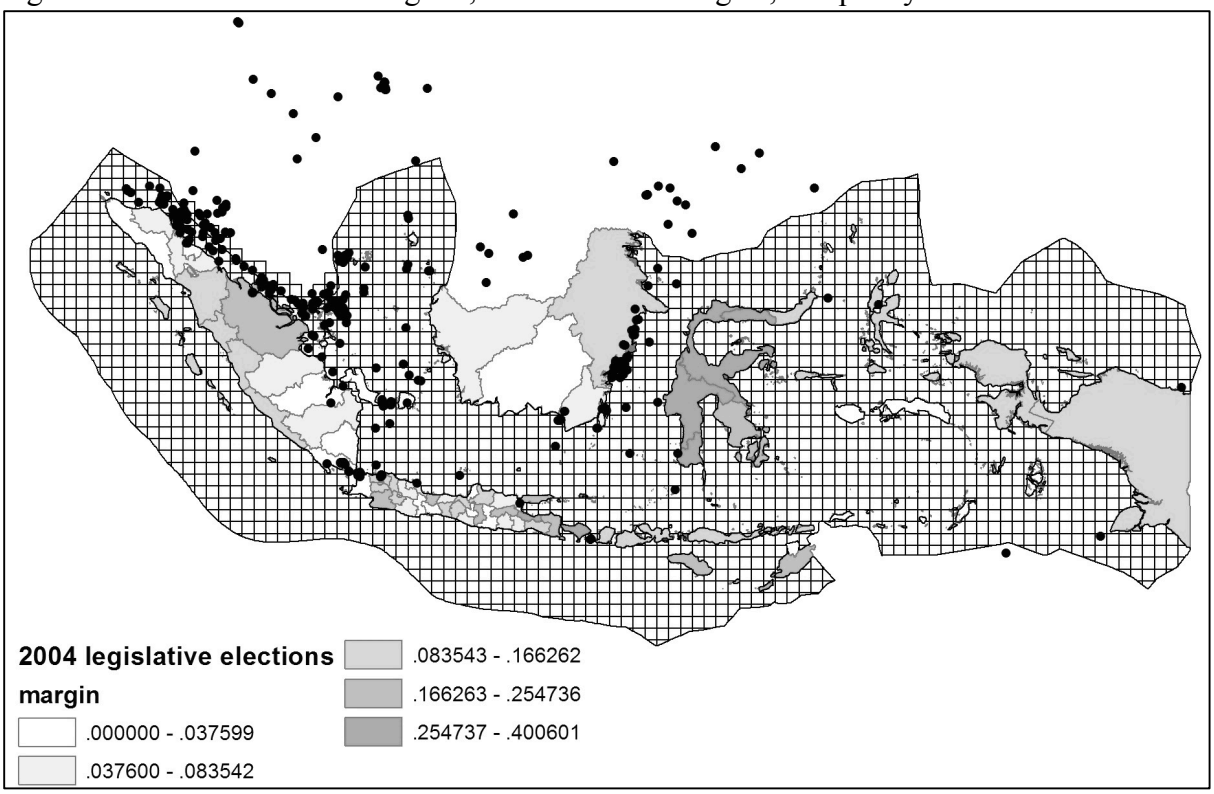

Figure 3: Coefficient plot of elections and piracy in Indonesia, models 1-2

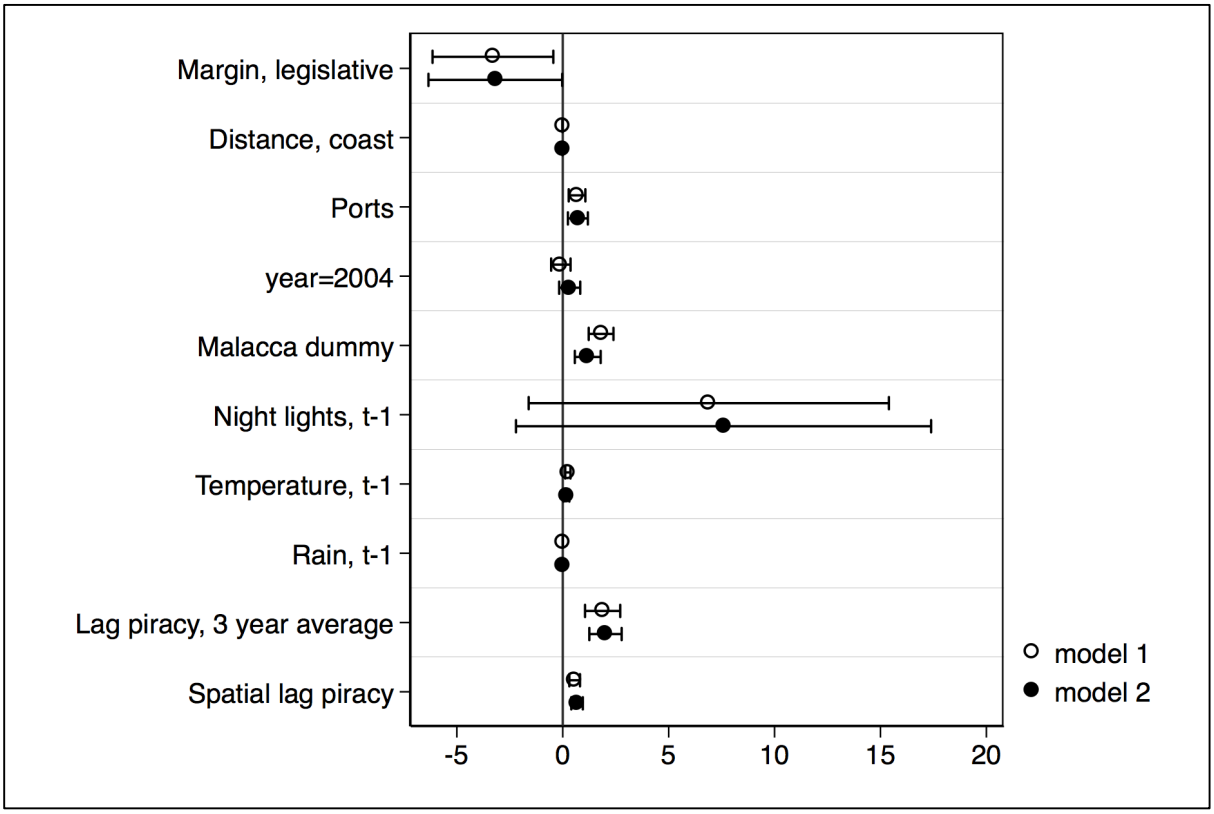

Figure 4: Effect of victory margins on piracy, varying grid-coast distance ± 1 SD (model 1)

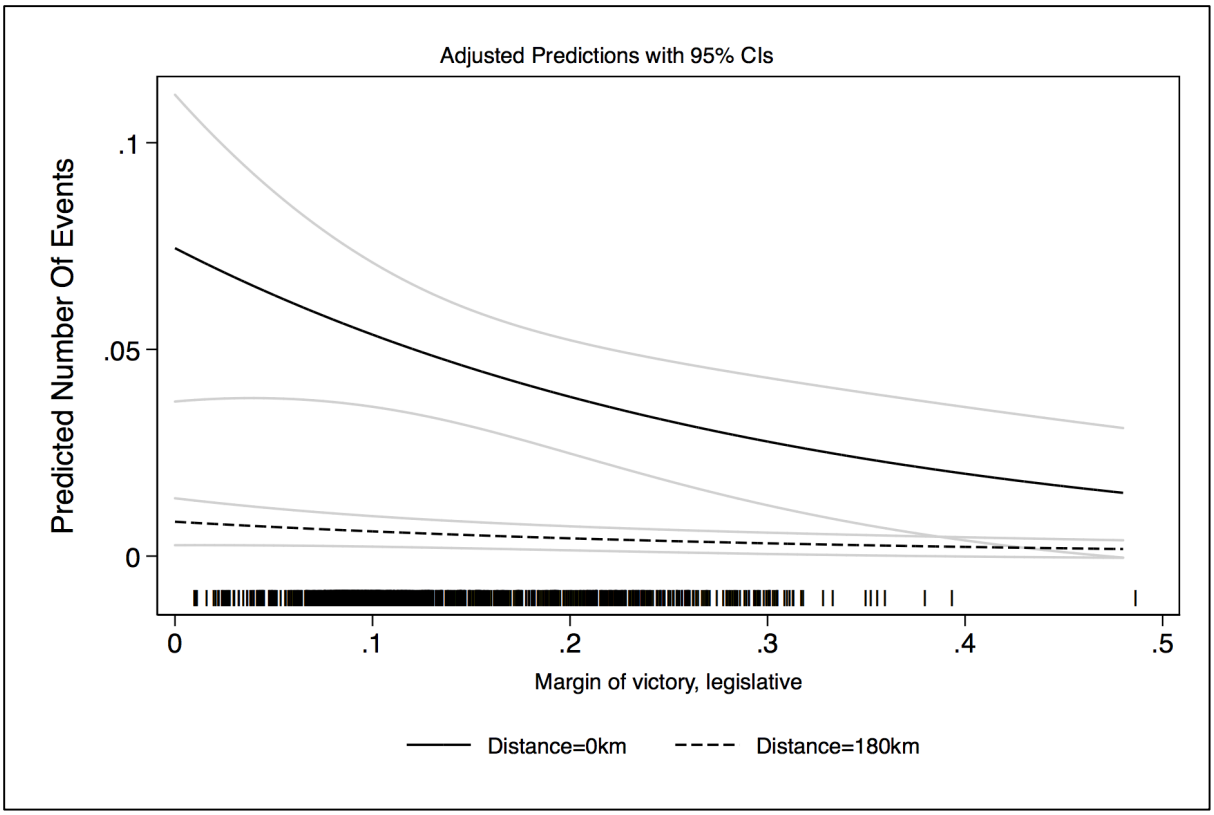

Table 1: Event Count regression of piracy and elections in Indonesia

	(1) DV=Piracy *t, t-1, t+1*	(2) DV=Piracy *t, t-1*
Margins, legislative	-3.297*	-3.184*
	(1.455)	(1.611)
Distance to coast	-0.012*	-0.012*
	(0.002)	(0.002)
Ports	0.674*	0.715*
	(0.201)	(0.240)
Year=2004	-0.091	0.327
	(0.234)	(0.254)
Malacca, dummy	1.808*	1.180*
	(0.298)	(0.311)
Night lights	6.895	7.592
	(4.339)	(5.000)
Temperature	0.241*	0.176*
	(0.063)	(0.070)
Precipitation	-0.001	-0.001
	(0.001)	(0.001)
Piracy lag, MA	1.883*	2.017*
	(0.423)	(0.389)
Spatial lag piracy	0.563*	0.675*
	(0.129)	(0.139)
N	4542	4542
AIC	1754.425	1372.624
BIC	1831.478	1449.677

Standard errors clustered on grids in parentheses.
***p<.01 * p<.05 +p<.1*

Table 2: Event count regression of maritime piracy and elections in Indonesia, robustness

	(3) Distance election violence	(4) Distance * margins	(5) DV=Lag of piracy	(6) Provincial elections	(7) Δ Controls	(8) DV= Dummy
Margins, legislative	-3.579*	-3.187+	-0.728		-4.011*	-2.566*
	(1.511)	(1.627)	(3.109)		(1.351)	(1.290)
Political violence	0.405	0.865+				
	(0.331)	(0.482)				
Violence*margins		-3.746				
		(3.094)				
Margins, provincial				-6.182*		
				(2.133)		
Ports	0.635*	0.640*	1.420*	0.940*	0.859*	0.419*
	(0.200)	(0.199)	(0.336)	(0.255)	(0.214)	(0.157)
Distance to coast	-0.012*	-0.012*	-0.015*	-0.011*	-0.013*	-0.011*
	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.001)
Year=2004	-0.004	-0.010	0.986*		-0.482	-0.003
	(0.236)	(0.237)	(0.292)		(0.487)	(0.131)
Malacca, dummy	1.814*	1.822*	1.737*	1.643*	2.175*	1.102*
	(0.307)	(0.307)	(0.437)	(0.557)	(0.331)	(0.217)
Night lights	5.720	5.963	11.155+	12.130*		6.178*
	(4.437)	(4.412)	(6.745)	(6.063)		(2.948)
Δ Night lights					-1.038	
					(38.768)	
Temperature	0.243*	0.247*	0.376*	0.330*		0.216*
	(0.063)	(0.065)	(0.064)	(0.078)		(0.042)
Δ Temperature					-0.332	
					(0.408)	
Precipitation	-0.002	-0.002	-0.002	-0.004*		-0.001+
	(0.001)	(0.001)	(0.001)	(0.001)		(0.001)
Δ Precipitation					-0.002*	
					(0.001)	
Piracy lag, MA	1.880*	1.888*		2.091+	2.312*	0.253*
	(0.432)	(0.427)		(1.070)	(0.459)	(0.047)
Spatial lag of piracy	0.577*	0.579*		0.664*	0.750*	0.234*
	(0.132)	(0.132)		(0.160)	(0.157)	(0.069)
N	4542	4542	4542	2202	4542	4542
AIC	1754.446	1755.649	742.487	774.154	1797.887	1248.507
BIC	1837.921	1845.545	806.699	836.822	1874.941	1319.140

Standard errors clustered on grids in parentheses.
***p<.01 * p<.05 +p<.1*

Table 3: Cross-national event count regression of maritime piracy, 1993-2010

	(9) Elections dummy	(10) Party fractionalization
Competitive election	0.087^{+}	
	(0.045)	
Party fractionalization		0.072*
		(0.033)
Ports	0.001	0.001
	(0.002)	(0.002)
Government effectiveness	-0.006	-0.012^{+}
	(0.005)	(0.007)
Coastline, logged	0.033	0.427
	(0.155)	(0.321)
GDP per capita	-0.180	-0.046
	(0.136)	(0.267)
Population	0.453*	0.566*
	(0.111)	(0.198)
Temperature	-0.017	-0.040
	(0.061)	(0.080)
Precipitation	0.011*	0.011^{+}
	(0.002)	(0.006)
Lag of piracy, MA	0.007*	0.009*
	(0.002)	(0.003)
N	1001	473
Country FE	yes	yes
Year FE	yes	yes
AIC	2302.886	1072.368
BIC	2415.788	1168.028

***p<.01 * p<.05 +p<.1*