Maritime Piracy and Foreign Policy

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Abstract

With Somali-based piracy in the Greater Gulf of Aden no longer a significant threat to commercial shipping, and great power competition, along with the COVID-19 pandemic, driving media attention, maritime piracy no longer remains the salient global security concern it was a decade ago. The number of attacks attributable to Somali-based pirates dropped dramatically between 2011 and 2015, and has remained low ever since. In the first six months of 2021, only five incidents were reported in the Greater Gulf of Aden and none of the attacks were successful or definitively involved Somali perpetrators. The boundaries of the High-Risk Area (HRA) in the Indian Ocean have been reduced significantly since 2011 and small, private maritime security firms have begun to go out of business as demand for armed guards on ships has diminished. But recent increases off the coast of West Africa and in the Singapore Straits confirm that the threat has not been entirely eliminated. Previous surges in sea-crime led Indonesia, Malaysia, Singapore, and Thailand to initiate coordinated patrols in the Malacca and Singapore Straits. The dramatic increase over the past three years in armed robbery on ships off of the Riau Islands in the east-bound lane of the Traffic Separation Scheme has produced calls from local authorities, as well as the Information Sharing Center at ReCAAP, for increased surveillance, coordination, and enforcement. While the international community mounted a significant counter-piracy response to attacks in the Greater Gulf of Aden beginning in 2009 and shipping companies started to implement protective measures to safeguard their transports, piracy endures because the conditions driving it persist. Successful attacks against ships produce sizable payoffs and the risk of capture remains low in most places. Further, the continued presence of fragile governments, corrupt elites, joblessness, and illegal foreign fishing ensure that pirates will continue to pose a threat to marine traffic. Recognizing the enduring hazard of sea-piracy, the IMO Assembly in December 2021 called for a decade-long commitment to capacity building so that governments would have the tools to suppress organized criminal violence and protect seafarers.

Current research efforts focus on the subnational drivers of pirate attacks. While structural (country-level) indicators of poverty and institutional fragility correlate with piracy, local conditions on land proximate to anchorages and shipping lanes where incidents occur provide additional leverage in explaining where pirates locate and why piracy endures. Existing research also suggests piracy is connected to armed insurgency. As rebels seek resources to help fund their anti-state or separatist campaigns, piracy, like gemstones, oil, and narcotics, can serve as a means to pay fighters and purchase weapons. Spatially and temporally disaggregated analyses as well as the synthesis of research on civil war, organized crime, and maritime piracy will open up new lines of inquiry into the relationship between rebel fighters,

transnational crime, and state capacity. Not only do we observe connections between trafficking, piracy, and illegal fishing, but inter-state rivalry and resource competition enables maritime crime by impeding coordinated government efforts to apprehend sea-criminals.

Keywords

maritime piracy, political capacity, illegal fishing, maritime security, armed conflict, transnational crime

Introduction

The sudden, dramatic rise of Somali piracy beginning in 2008 increased attention to the issue of maritime security. Attacks against cargo ships, such as the *MV Faina* and the *Sirius Star*, produced consternation among security officials.[1] However, the hijacking of the *MV Maersk Alabama* in April of 2009 and the subsequent rescue of the ship and its captain from Somali pirates drew worldwide media attention. The incident, while dramatic, was only one of nearly 50 hijackings that occurred in the Greater Gulf of Aden that same year. In fact, Somali pirates hijacked seven ships prior to the April 8th *Alabama* attack and 18 after. Another 19 attacks occurred off the coast of Yemen and one off of Oman. In total, over 200 piracy attacks and attempted attacks occurred in the Greater Gulf of Aden in 2009. This represented a 20% increase from 2008 and an astounding 230% increase from 2007. The attacks off Somalia, coupled with earlier incidents such as the bombing of the *USS Cole* and the sinking of the *SuperFerry 14*, the former by Al Qaeda and the latter by the Abu Sayyaf, linked maritime piracy to the challenge confronting the international community from violent non-state groups more generally. These modern sea brigands were no longer merely a criminal nuisance confined to certain ports and anchorages in Africa and Southeast Asia. Perhaps pirates and their connections to rebel groups, organized criminal networks, and terrorists, now represented a more significant threat to global security and economic prosperity.[2]

The linking of maritime piracy to terrorism clearly led to increased awareness and media attention. Yet, high-profile ship seizures, such as the *Alabama*, or the more recent attack on the *MT Mercer Street* off the coast of Oman in July of 2021 tend to provide a sensationalized picture of piracy that mostly obscures rather than elucidates key features of the contemporary maritime security environment. The relative absence of systematic and sustained research into both the structural conditions associated with piracy as well as the demand and supply side forces propelling variation in attacks over time and space has produced a narrow and limited understanding of this kind of criminal violence. Consequently, two very different conclusions are typically drawn about the threat of piracy, each of which demands different policy responses. On the one hand, pirates become linked to terrorists and a maritime 9/11 is the anticipated end result. Explosives get detonated on or against a very large crude oil carrier effectively closing a narrow waterway, such as the Suez Canal or Strait of Hormuz.[3] Or, pirates hijack and ram a vessel into stationary ships at port, creating devastation and shuttering the harbor for a period of time. Such attacks could impose significant economic costs on the global community as well as generate widespread media coverage.[4] On the other hand, piracy is frequently denoted as a local criminal problem driven by corruption, poverty, and illegal fishing. Attacks remain extremely rare, are opportunistic, and occur principally at ports and anchorages resulting in minor damage or theft. Piracy as a tool of terrorists requires collective and concerted effort by the global community. Piracy as armed robbery demands

improved policing and local political leadership. These two very different narratives lead to both an over- and underestimation of the threat from modern pirates.

Compared to research on the correlates and consequences of civil war and insurgency, maritime piracy remains understudied, relying too heavily on individual case studies and anecdotes as evidence to draw general conclusions regarding the drivers of pirate attacks. But recent data collection efforts on maritime piracy (MPD, CMPD, MPELD) begin to offer researchers the opportunity to explore the underlying drivers of, and temporal trends in, piracy more systematically and comprehensively.[5] Figure 1 illustrates global yearly counts of sea-piracy and armed robbery on ship incidents from 1995-2020. All three datasets show similar temporal trends. The bivariate correlations are above .75 for MPELD with the two other databases. Access to this information led scholars initially to describe the extent, location, and type of maritime

Figure 1. Comparing three Maritime Piracy Data Collection Efforts
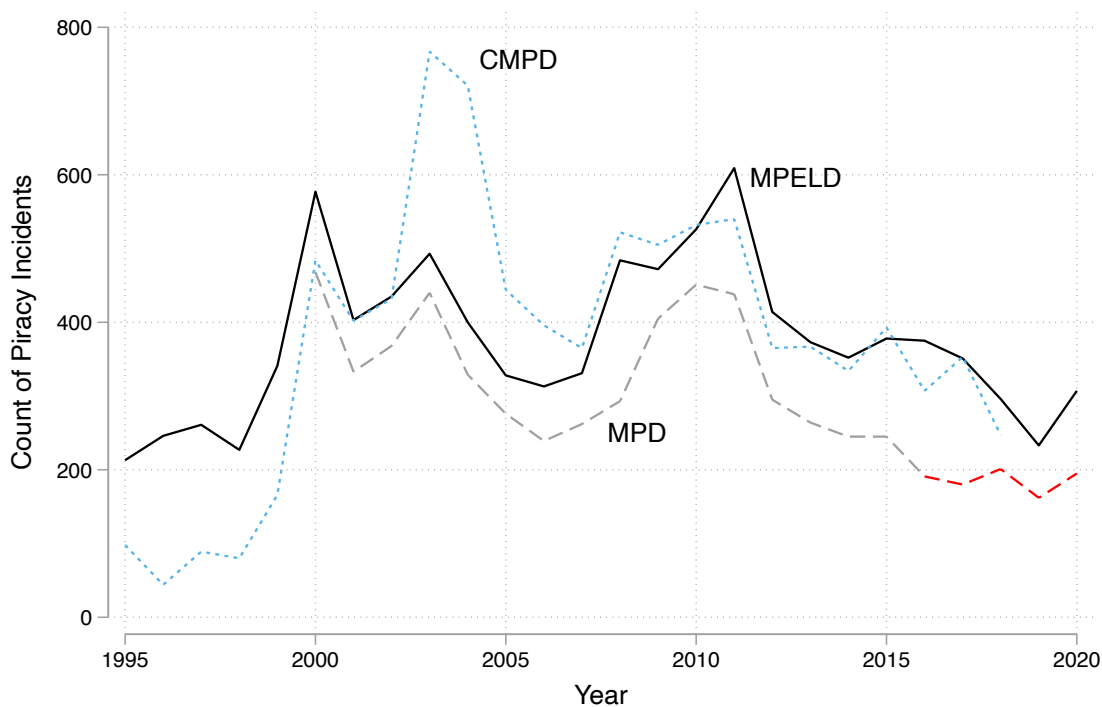
piracy observed regionally and globally. Such research set the stage for a second wave of studies that began to document factors associated with the incidence of piracy as well as explain piracy's temporal and spatial ebb and flow. Studies have also explored the economic and political consequences of maritime piracy and in some cases compared the effects to those caused by political and social unrest (Besley, Fetzer, & Mueller, 2012; Oliver, Jablonski, & Hastings, 2017; World Bank, 2013).[6]

Scholarly efforts continue to explore the subnational conditions associated with pirate attacks. This work connects to a larger research program that assesses the relationship between lootable resources and armed insurgency. Drugs, gemstones, and oil appear to help finance armed groups and increase the value of

contested territory (Fearon, 2004; Ross, 2006). Conflict appears to erupt in and around such resource-rich areas (Buhaug & Rod, 2006; Lujala, 2010). Armed robbery on ships, kidnapping for ransom, and the reselling of stolen oil may similarly represent funding strategies for violent non-state groups. Evidence appears to connect piracy in the Gulf of Guinea to Niger Delta militants (Pérouse de Montclos, 2012), and the Tamil Tigers of Sri Lanka used attacks against ships to seize weapons and ammunition (Liss, 2003). More recently, the Abu Sayyaf used kidnapping for ransom to raise funds for their insurgent activities in and around the Southern Sulu Archipelago.[7] Rebels may additionally partner with local or regional criminal organizations to operate more effectively in spaces lacking order and authority.

The security implications of illegal, unreported, and unregulated (IUU) fishing have also become increasingly apparent. Not only do fish account for a large percentage of the proteins consumed by populations in the Indo-Pacific and Africa, but millions of people rely on fishing for their livelihoods. Moreover, food insecurity remains a concern in many developing countries and IUU fishing exacerbates it. As foreign fishing fleets deplete critical marine resources, former fishers transition away from the legal economy to illicit activities, such as piracy, smuggling, and human trafficking. Concerted efforts by local policymakers as well as international and non-governmental organizations to elevate the importance of IUU fishing appear to have worked. Littoral state governments now prioritize endeavors aimed at curbing illegal fishing and sustainably managing valuable marine ecosystems, even as some of the same governments subsidize fishers that operate illegally in the waters of foreign states. Sea-piracy will be difficult to eliminate without first addressing IUU fishing.

In this article, we explore the conditions associated with modern maritime piracy. First, we describe the temporal and spatial trends in our data on ship attacks. Then we review extant research on the drivers of piracy, focusing particular attention on capacity and grievance. IUU fishing has emerged as a critical element tied importantly to modern maritime piracy through both governance voids and individual privation. Next, we address the regional and international response to piracy and the effectiveness of countermeasures. We then consider how insurgencies, lootable resources, and piracy connect and what implications such associations may have on conflict patterns. Finally, we conclude by briefly reviewing our findings and suggest future directions for research and analysis.

Defining and Visualizing Contemporary Maritime Piracy

Maritime piracy was codified after World War II with the international Law of the Sea Convention, which entered into force in 1994 (after decades of deliberation) with the deposit of the 60th ratification document (Article 308). The Treaty delineates maritime piracy, but it does so in only eight short articles (100–107) that stretch little more than one page in length. Article 101 establishes that "illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship" against another ship on the high seas constitutes piracy and is punishable by member states. The definition, while seemingly reasonable, actually excludes most of the attacks against ships we observe today. Indeed, pirates operate predominantly in the territorial waters of states, which extend up to 12 nautical miles from a country's shoreline.[8] Consequently, we use a broader definition, developed by the International Maritime Bureau (an arm of the International Chamber of Commerce) that includes attacks within a country's territorial waters (more correctly referred to as armed robbery).[9] The IMB classification also incorporates ship attacks that occur at port, which would not trigger the two-ship

requirement under the Law of the Sea Convention (Twyman-Ghoshal & Pierce, 2014).[10] In these incidents, robbers climb aboard ships from docks and quays and proceed to steal items, such as communication equipment, spare engine parts, ropes, and personal effects of the crew. Although rare, single-ship incidents are included in our data collection and curation effort, but we exclude these incidents from many (but not all) of the figures reported in this article.

Using the broader IMB definition that includes ship attacks in international and territorial waters, and information taken from our own data collection effort (The Maritime Piracy Event and Location Dataset, MPELD), we observe 307 piracy incidents in 2020.[11] This represents a 32% increase from 2019, but a 40% decrease in total incidents from 2010 when Somali piracy was approaching its apex. Figure 2 below
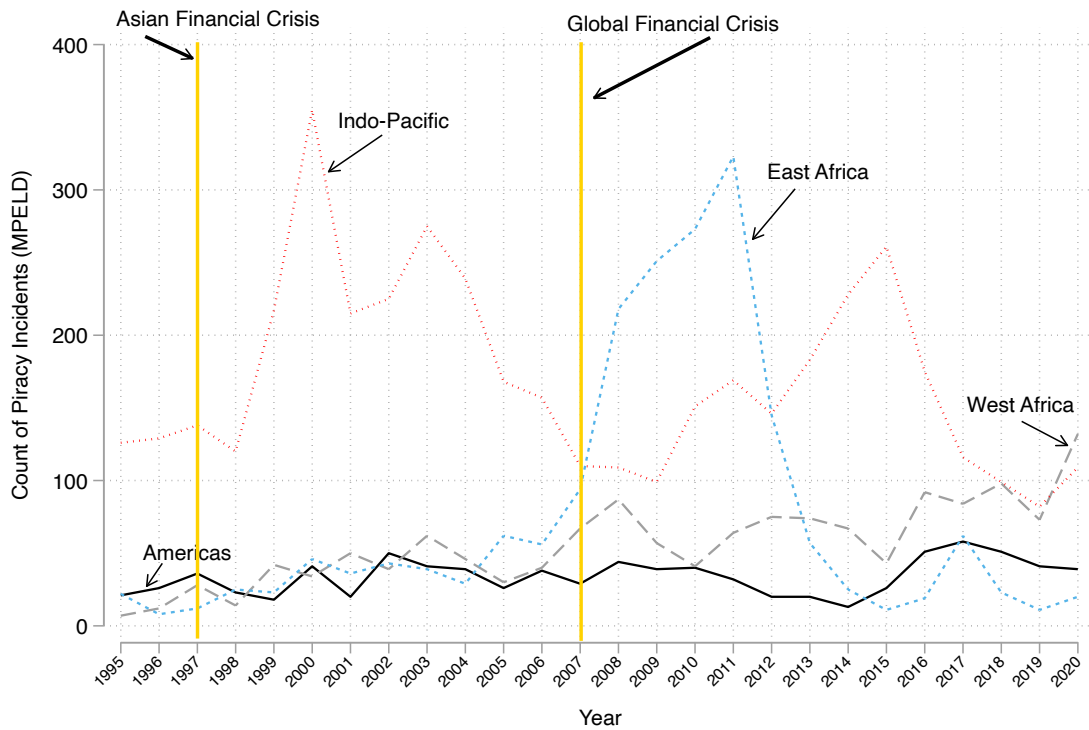

Figure 2. Piracy Incidents by Year and Region.

illustrates self-reported piracy incidents from 1995 to 2020. Since the mid 1990s (when data on sea-piracy became more reliable and consistent), reports of maritime pirate attacks have increased substantially but also ebbed and flowed over time. Pirates in Southeast Asia drove the first wave of piracy. With the collapse of the Suharto regime in 1998, coupled with the Asian financial crisis that hit one year earlier, attacks jumped substantially from 1998 to 2000, increasing by over 170% in a short three-year period. In response, Malaysia, Singapore, Indonesia, and Thailand increased aerial and naval surveillance as well as improved information sharing specifically in the Malacca Straits where pirates were operating, which helped reduce the number of attacks against *steaming* ships from nearly 80 incidents in 2000 to 2 by 2008, and only 1 incident in 2018. Yet, success in combating piracy specifically in the Straits of Malacca displaced attacks to the South China Sea, the Singapore Straits, and the ports and anchorages on the Indonesian islands of Borneo and Java. Incidents jumped dramatically in the Singapore Straits beginning

in 2014. Indonesia and Malaysia once again responded, this time by creating a rapid reaction force that could act quickly in the event of an illicit ship-boarding. Recorded instances of armed robbery on ships fell between 2015 and 2018 only to rise again in 2019 and 2020. Increased poverty and joblessness, an expansion in ship traffic, and reduced crew on commercial vessels have helped drive the most recent surge in sea-piracy in the Singapore Straits.

Just as regional counter-piracy efforts in Southeast Asia were showing real effect, piracy in African waters began to increase. The number of incidents nearly doubled from 2006 to 2007 and doubled again from 2007 to 2008. Mostly Somali pirate gangs drove the increase, but attacks in the Gulf of Guinea against oil transports emerged as well. Working from hubs in both Northeastern (Puntland) and Southern Somalia (Jubaland), Somali pirates eventually extended the reach of their attacks far across the Indian Ocean to the Maldives and north to the Strait of Hormuz. The reach of Nigerian pirates also increased, moving from ports and anchorages in and around Port Harcourt and Lagos to steaming ships transiting the Gulf. The international community responded forcefully to piracy off Somalia beginning in 2009 by creating three separate naval operations (EU's Atalanta, NATO's Ocean Shield, and the Combined Task Force 151) and establishing a protected transition corridor through the Gulf of Aden. The shipping industry also began to take the threat more seriously by both hardening and protecting ships.[12] The effect on piracy took some time, but by 2015 the IMB reported no Somali attacks in the Greater Gulf of Aden.[13] While some Somali pirates returned to their skiffs in 2020, the 13 attacks or attempted attacks recorded in the MPELD dataset remained far below 2012 highs. Unfortunately, a similar counter-piracy effort was not mounted in the Gulf of Guinea and the problem has only worsened. While piracy has generally decreased in Southeast Asia and East Africa over the past several years, ship attacks have mostly trended upward in the waters surrounding West Africa. The number of attacks increased substantially in 2020 compared to 2019 and are at their highest level since record keeping began in the early 1990s. Kidnapping also expanded in the Gulf of Guinea. Over 95% of abducted sailors worldwide are removed from commercial ships in the waters off of West Africa.[14]
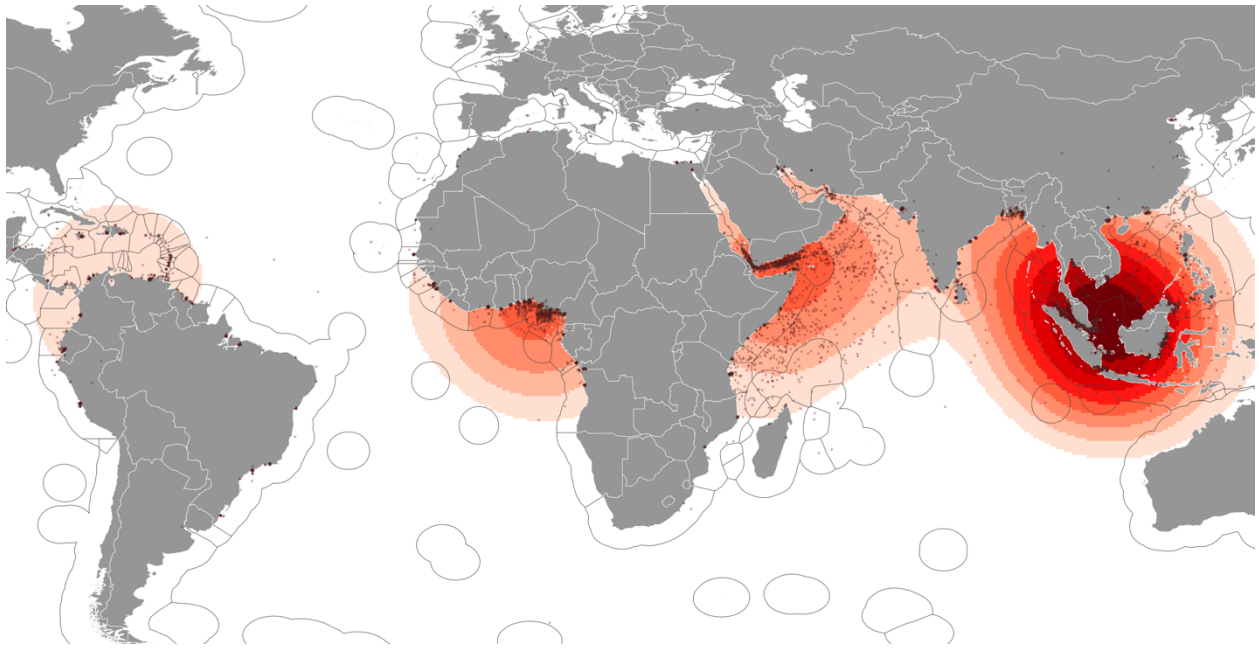
Figure 3. Global Heat Map of Pirate Attacks, 1995–2020.

Piracy tends to cluster in certain geographic areas and the clustering has remained fairly constant over time. Figure 3 maps over 9,000 pirate attacks that occurred between 1995 and 2020, and several hotspots clearly emerge in Africa and Asia. We have already noted piracy in the Gulfs of Guinea and Aden but we also observe a high hazard of attack in ports and anchorages on the eastern side of Borneo (Balikpapan and Samiranda) and throughout the Southern Sulu Archipelago (Sandakan and the Sulu and Celebes Seas). The Indian ports of Kandla and Visikhapatnam also experience significant piracy as well as recently the Vietnamese port of Vung Tau. A somewhat lesser-known piracy hotspot is Bangladesh and its primary port city of Chittagong. Over the 26 years of data contained in our dataset, Bangladesh is the fifth most piracy prone country in the world, after Indonesia, Somalia, Nigeria, and Malaysia (see Figure 4). On average, Bangladesh experiences nearly 20 attacks per year, most occurring while ships are stationary, loading, and unloading cargo.[15] In fact, 80% of piracy in Bangladesh occurs while ships are stationary, typically at offshore anchorages (this includes berthed incidents). In contrast, only 50% of piracy globally happens at ports and anchorages and less than 35% in Malaysian waters (again, these figures include berthed incidents where ships are located at quays). Nearly 60% of pirate attacks in Indonesia occur while ships are stationary (anchored or berthed), but attacks against steaming vessels have increased over the past two years (2019-2020), especially in the east bound lane of the Singapore Straits Traffic Separation Scheme (TSS), perhaps indicating a resurgence of more sophisticated pirate operations.[16]

Figure 4. Top 10 Most Piracy Prone Countries, 1995-2020
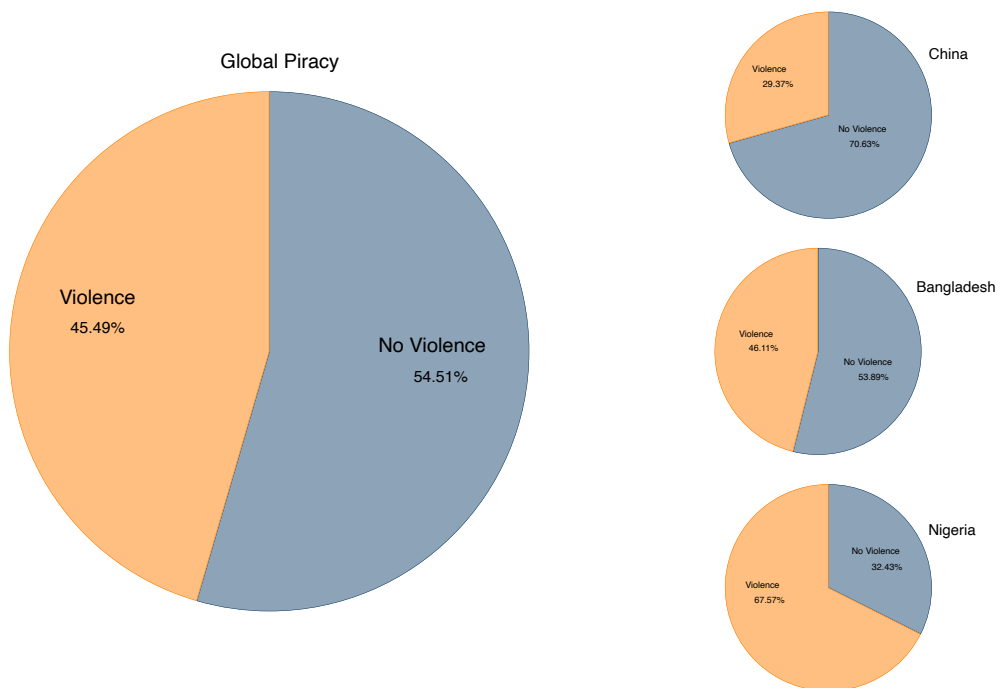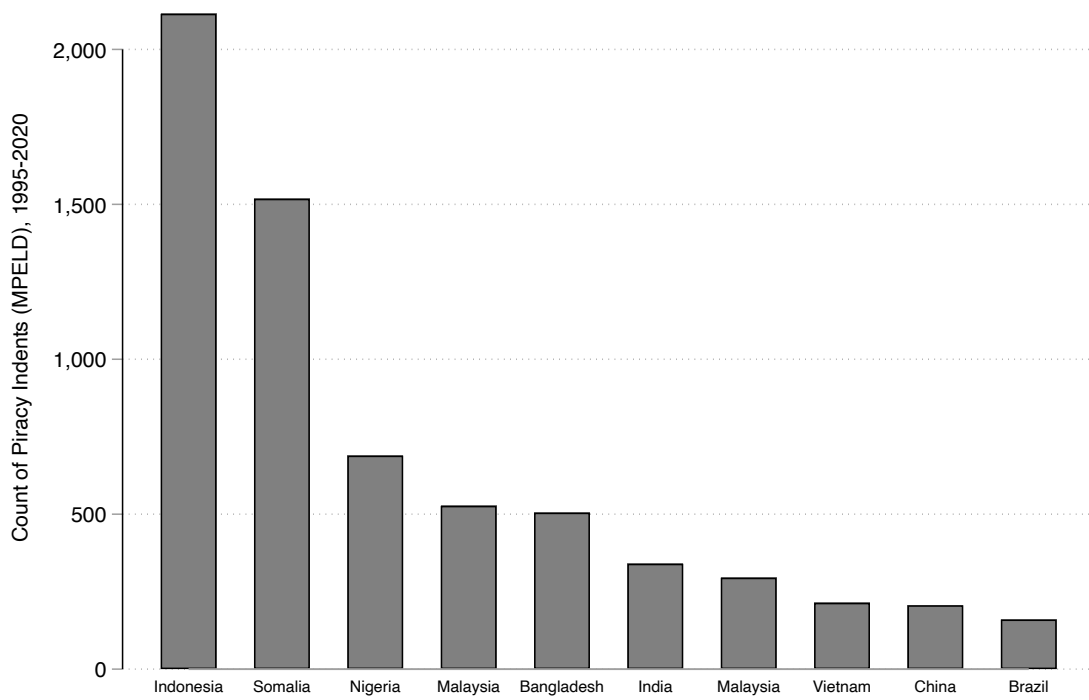
Figure 5. Pie Chart Showing Percentage of Violent Pirate Attacks, Globally and in Specific Countries (1995-2020).

We also see certain characteristics of pirate attacks shifting over time and space. Globally, about half of pirate incidents are violent, where the threat or use of force is reported (MPELD from 1995-2020). However, the use of violence by pirates varies considerably by country (see Figure 5). In China, for example, piracy mostly occurs at ports and remains nonviolent. Only 30% of incidents involve violence. In contrast, piracy in Nigerian and Somali waters has frequently been violent. Nearly 70% of Nigerian attacks between 1995 and 2020 and 85% of Somali attacks during the height of the surge in 2012 and 2013 involved violence. Much of this is a function of where attacks take place. Opportunistic piracy at ports and anchorages frequently avoids confrontation. Pirate operations against steaming ships, however, will undoubtedly involve clashes between ship personnel and the assaulting brigands. Since 1995, nearly 65% of the pirate attacks in Nigerian waters have been directed against steaming ships. Compare that to only 45% in Indonesia over the same time period. So, the larger percentage of attacks against moving ships in Nigerian waters means more violence. But even stationary incidents are violent in Nigeria. Only 30% or so of incidents at ports or anchorages involve violence in Indonesia. In Nigeria, though, over 50% of stationary incidents are violent and nearly 75% of steaming incidents involve violence. It may be that piracy occurring in conflict zones reflects the overall higher level of violence transpiring on the ground.[17]

Pirates clearly confront dangerous and challenging conditions when attacking ships on the open water. Wind, waves, and rain make any assault against vessels at sea risky and potentially deadly. Consequently, pirates sensibly avoid precarious meteorological conditions. Hijackings by Somali pirates show distinct seasonality and drop substantially when wind and rain pick up due to the southwest monsoon in late spring and summer. Similarly, increasing rainfall in late summer in the Gulf of Guinea increases the risks associated with open water attacks and consequently results in fewer incidents (see Figure 6). Pirates also time their attacks with an eye toward the cover of darkness. Most piracy and armed robbery at sea occurs after the sun has gone down.
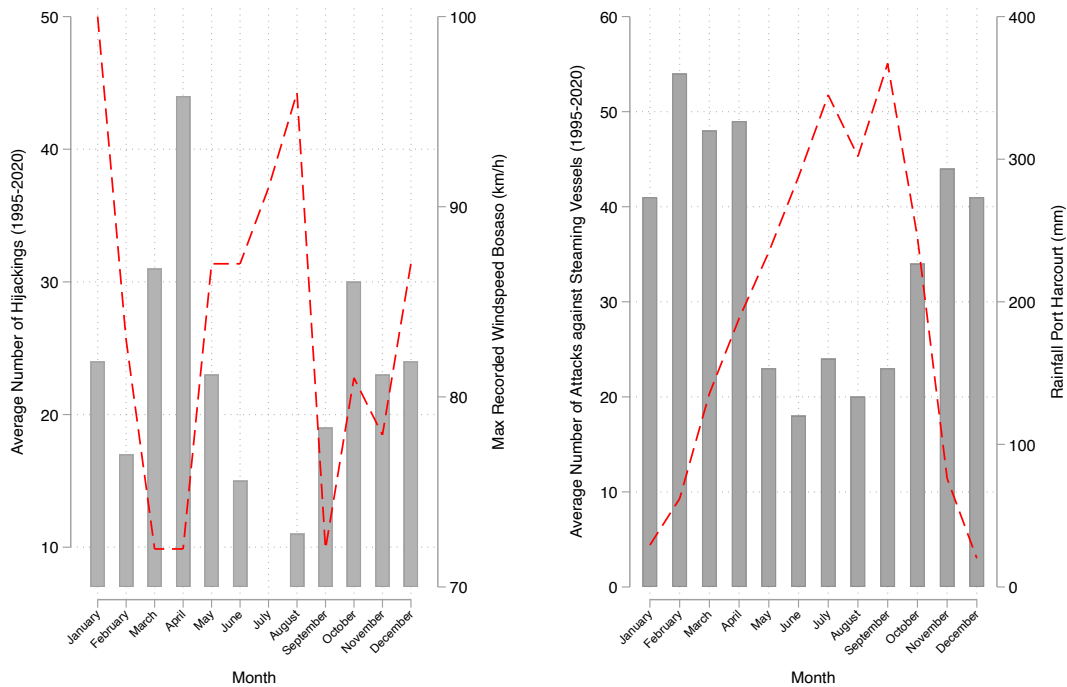
Globally, approximately 50% of incidents from 1995–2020 occur after midnight and before 6 am local time as Figure 7 shows. Opportunistic piracy, in particular, similar to armed robbery of convenience stores[18] on land follows this pattern. Yet, pirate strikes against steaming ships occur more frequently during daytime hours due to the complexities and difficulties operating on the water in darkness. In fact, piracy off of Somali during the height of the crisis from 2009–2013 mostly occurred during late morning and early afternoon.
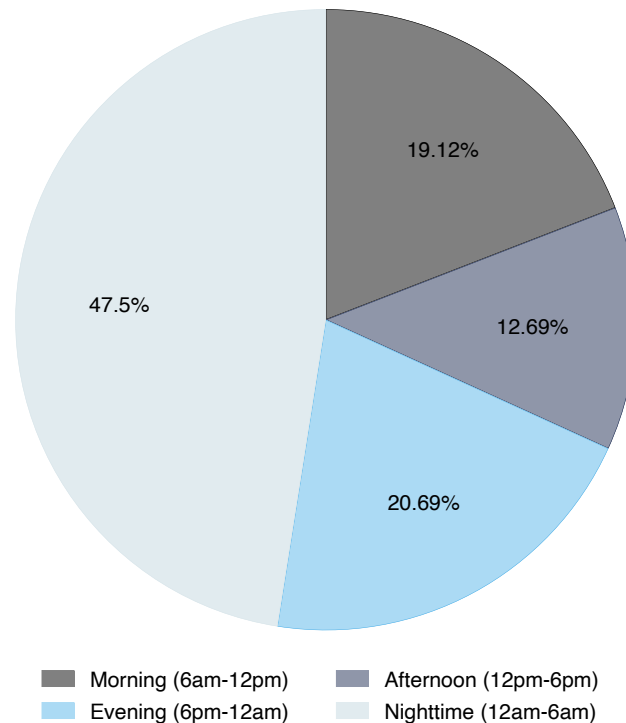
Figure 7. The Timing of Pirate Attacks (MPELD), 1995–2020 Global Data.

Despite persistent fear of a maritime 9/11 and continuing apprehension about higher shipping costs, piracy globally has decreased substantially since 2011. In fact, piracy counts in 2020 are half of what they were in 2011. But, the number of incidents in 2020 is also over 45% higher than in 2019 (MPELD).[19] It's possible that the COVID-19 pandemic will push sea-piracy up through its economic effects, similar to previous financial crises. The World Trade Organization (WTO) found merchandise trade volume to have decreased significantly during the second quarter of 2020 and is not expected to return to projected pre-pandemic levels until late 2022. Most countries also saw their economies contract and joblessness rise in 2020 (IMF). World poverty likely increased by 50 million people as a consequence of Coronavirus (World Poverty Clock). Still, despite these economic challenges, the IMB reported only 132 pirate attacks in 2021, the lowest global count of incidents since 1994. Other piracy reporting agencies, however, recorded higher numbers of attacks. We may need to wait for 2022 data before determining the how the Coronavirus pandemic impacted global sea-piracy.

The Drivers of Modern Maritime Piracy

Describing spatial and temporal variation in pirate attacks clarifies the scope of the security problem confronting the international community. Piracy remains temporally persistent but geographically concentrated.[20] Hundreds of attacks occur each year, yet the vast majority occurs within or around the waters of a small subset of countries.[21] What underlying political, economic, and geographical conditions do these states confront that increase the hazard of attack? Do certain conditions have a larger effect on piracy than others?

Extant research demonstrates that the presence of fragile governments, poverty, illegal fishing, and armed conflict, coupled with large populations and geographic opportunity, all help to explain the emergence and persistence of maritime piracy. Political weakness, in particular, helps facilitate the development of pirate groups. Weak institutions provide the space for criminal organizations to operate without fear of investigation by, or opposition from, security forces.[22] Indeed, fragile states tend to be associated with corruption, crime, and social volatility, all of which enable piracy.[23] The Center for Systemic Peace (CSP) measures political weakness using an ordinal scale ranging from 0 to 25, with higher values representing increasingly fragile states. The average fragility score for countries without piracy is about 7. The same score for countries with piracy is 70% higher. We observe a similar relationship using World Bank data on government corruption, where piracy-prone countries are on average 60% more corrupt than countries lacking piracy. Clearly corruption, institutional weakness and maritime piracy associate, but they also are reinforcing. Trans-criminal organizations gravitate toward fragile states, yet these groups also entrench corruption and collusion.[24] Still, the poorest and most fragile states may not experience the highest levels of pirate activity. Some evidence shows a curvilinear relationship between state capacity and maritime piracy, which suggests that a certain level of infrastructural development may be required for pirate groups to successfully unload their stolen cargo (de Groot, Matthew, & Shortland, 2011; Hastings, 2009). Daxecker and Prins (2013), however, observe a more linear relationship. It remains an open question whether the relationship observed at the country level applies sub-nationally. Indeed, pirate groups may emerge in weak states, but then locate in more institutionally stable regions of a country. Recent evidence appears to support an inverted U relationship between local capacity and maritime piracy. In Indonesia, Nigeria, and Somalia, Daxecker and Prins (2021) find more attacks against steaming vessels in areas with moderate levels of governing capacity. These locations seem to offer pirates both the infrastructure needed for successful operations as well as the bribable regime personnel that facilitate illicit activity.

If state fragility provides the opportunity for criminal activity, economic deprivation provides the demand or willingness. Joblessness creates a pool of young men that can serve as the foot soldiers for rebel groups and pirate gangs (Daxecker & Prins, 2013; Iyigun & Ratisukpimol, 2010; Jablonski & Oliver, 2013).[25] Average GDP per capita in piracy-prone countries over the 1993 to 2012 time period was less than $2,000. Average incomes are nearly 400% higher in countries without piracy. Some of the countries that experience significant piracy represent some of the poorest places on the planet. According to the CIA's World Factbook, Somalia had a 2014 per capita gross domestic product (PPP) of $400. Both Bangladesh and Nigeria are significantly wealthier ($3,400 and $6,100 respectively), but both also suffer from considerable poverty and joblessness. Nigeria faces significant unemployment and nearly 70% of the population falls below the poverty line. In 2020, the World Poverty Clock identified Nigeria as the country with the largest number of people in extreme poverty (living on less than $1.90 per day). Such

deep-rooted and persistent poverty makes piracy eradication difficult. Individual fishers, farmers, and shopkeepers can earn several thousand U.S. dollars from even one successful pirate attack, substantially more than several months' worth of difficult labor in the legal economy.[26] Of course, as piracy increases, alternative employment options decrease. Indeed, profits from pirate attacks push up prices, appreciating the local currency and resulting in decreases in primary commodity exports (Murphy, 2011). Farmers and fishers suffer accordingly. Clearly, an effective counter-piracy strategy must address wage stagnation, lack of job growth, and extreme poverty on land.

Evidence suggests many pirates are former fishers. Foreign fleets frequently enter the territorial waters of weak countries and deplete rich marine areas. This is certainly true in Somalia where illegal, unregulated, and unreported (IUU) fishing threatened the sustainability of valuable aquatic resources. According to the One Earth Foundation, foreign trawlers used to catch more than three times as many fish as Somalis, which helped to create the piracy problem in the Greater Gulf of Aden in the first place.[27] Awet Weldemichael (2019) agrees and insists that the first wave of Somali piracy was undoubtedly driven by foreign illicit over-fishing. Foreign fleets were subsequently chased away by the threat of pirate attack and fish stocks recovered. With piracy eliminated, many Somalis fear that IUU fishing will return. We find that in many places the health of the fishing industry correlates with maritime piracy (Axbard, 2016; Daxecker & Prins, 2013). As the price fishers receive from their catch increases, attacks against ships decrease, suggesting piracy remains a reluctant occupation for many.[28] A recent study by Raj Desai and George Shambaugh (2021) shows that IUU fishing and maritime piracy transpire in geographically proximate maritime spaces. The authors conclude that artisanal fishers may transition to piracy when marine resources are depleted, again linking ecological security to maritime crime.

Finally, coastlines and the physical positioning of states influence the incidence of piracy. Proximity to maritime chokepoints, such as the Bab el-Mandeb passage from the Red Sea to the Gulf of Aden or the Malacca straits separating Malaysia from the Indonesian Island of Sumatra, correlates with piracy. Thousands of cargo ships, oil transports, and fishing vessels transit both channels each year, presenting lucrative targets for local pirate groups. Coastline length also relates to piracy. Not only do long shorelines offer countless shelters that create logistical problems for maritime security forces, but also the light and fast boats used by pirates enable them to elude security forces by hiding in the bays, coves, and waterways of countries, such as the Philippines, Indonesia, Malaysia, Nigeria, and Bangladesh. It would seem impossible to police the 55,000 kilometers of coastline in Indonesia or the 36,000 kilometers in the Philippines. Robust and consistent evidence ties both coastline length and chokepoint proximity to pirate attacks. Pirates clearly locate where opportunity exists as well as away from state power (Daxecker & Prins, 2015).

The Challenges and Effectiveness of Counter-Piracy Operations

The maritime security challenge presented by Somali pirates in the Greater Gulf of Aden was arguably met with a combination of intensified interdiction efforts and vessel hardening. Beginning in 2009, naval patrols increased, especially near the Bab al Mondeb waterway linking the Red Sea with the Indian Ocean. The expansion in the number of naval ships in the area, as well as improved information sharing

and convoying increased the risk of capture. The result initially was a decrease in the success rate of pirate attacks, particularly in the Gulf of Aden, although the actual numbers of attacks continued to increase from 2009 through 2011 (Di Salvatore, 2016). As the naval operations entered their fourth year, a dramatic reduction in the number of attacks occurred. While partly a function of the increased display of force, ship protection also improved over these four years making ship seizures more difficult.[29] Razor wire, water hoses, armed guards, and increased speeds all made successful ship attacks more difficult and more dangerous.[30] Couple naval efforts and ship hardening with improved stability on land, and the benefits of pirate attacks became less visible.[31]

If counter-piracy naval deployments and vessel protection eradicated piracy in the Greater Gulf Aden, then why have such efforts not been exported to other piracy hotspots?[32] It appears that the specific type of piracy practiced by Somali buccaneers as well as the near complete absence of political order on land facilitated interdiction efforts (Anyimadu, 2013). The hijacking of steaming vessels on the open water presented plain and visible targets for international naval forces despite the large risk area, and ship hardening increased the hazard of boarding and seizing transiting ships. State failure in Somalia also allowed naval forces greater freedom of action. Indeed, the UN Security Council adopted resolutions 1846 and 1851 in 2008 that legalized the pursuit of pirates into Somali waters and onto land. So, in part the unique features of Somali piracy rendered the international efforts effective.

Piracy in the Gulf of Guinea and Southeast Asia presents a different challenge, one that is not as straightforwardly addressed with the deployment of naval forces. Attacks are predominately launched against stationary vessels with the intent of stealing equipment and cargo, and consequently police and local coastguard forces remain the most effective and immediate response. In West Africa, the UN Security Council has called for international support (resolution 2039) to help address regional piracy efforts. After many years where little besides intelligence sharing and training occurred, governments in the region now seem more committed to counter-piracy efforts. Nigeria's Deep Blue Project, officially launched in 2021, represents a significant new endeavor to suppress maritime crime through increased capacity, coordination, and surveillance. Still, complex maritime boundaries, high levels of corruption, and prohibitions on the deployment of privately contracted armed guards on ships ensure counter-piracy operations will remain difficult.[33] In Southeast Asia, recent cooperative efforts by Indonesia and Malaysia have seemed to help reduce incidents of sea-piracy. Indeed, members of hijacking gangs have been apprehended and prosecuted, including what appear to be the architects of several recent attacks. Such collaborative actions were necessary as piracy incidents spiked in Southeast Asia from 2014 to 2015, increasing by 30% and accounting for 70% of all attacks worldwide. Two incidents, in particular, drove increased efforts to counter the maritime threat. The *Orkim Harmony*, a Malaysian tanker ship carrying 5 million U.S. dollars' worth of gasoline, was seized by 8 armed men on June 11, 2015. Two months later the *MT Joaquim*, another large oil tanker, was taken as it steamed through the Straits of Malacca. Both ships were recovered but the brazen and high-profile nature of these attacks spurred action from regional governments. Malaysia and Indonesia formed a joint rapid deployment force and the Malaysian Maritime Enforcement Agency now has a helicopter-equipped rescue squad stationed at Johor Bahru, which is located adjacent to the Singapore Straits (Yee & Din, 2016). As Figure 8 shows, attacks dropped dramatically starting in the fall of 2015, especially attacks directed against steaming ships, as a result of the concerted actions taken by the Malaysian and Indonesian governments. Increases in the Singapore Straits since 2018 are thought to be in part driven by readiness problems and jurisdictional disputes over

the Horsburgh Lighthouse, as well as increased poverty in the region. Piracy in the Malacca Straits, especially attacks against steaming ships, remains marginal. This may in part be a consequence of increased U.S. naval transits and exercises in the area.

Still, experts think more needs to be done. Privately contracted armed security guards would likely help to push down attacks by increasing the danger to pirates. However, strict firearm regulations in many Southeast Asian countries preclude such a countermeasure (Yee & Din, 2015). Expanded intelligence sharing among port and anchorage authorities throughout the region could also help by increasing the likelihood that hijacked vessels are identified and reported to authorities, plus increased surveillance would make off-loading stolen cargo more difficult.[34] Further, neither Indonesia nor Malaysia have signed on to the Regional Cooperation Agreement on Combatting Piracy and Armed Robbery against Ships in Asia (ReCAAP), which was established in 2004, entered into force in 2006, and is designed to "promote and enhance" cooperation among member states to combat piracy.[35] Territorial disagreements, sovereignty concerns, and disputes over exclusive economic zones continue to frustrate full ReCAAP participation (Panda, 2013). The integration of Indonesia and Malaysia into ReCAAP would likely build trust and deepen cooperative counter-piracy endeavors, both of which would help with piracy suppression. The creation of the Malacca Straits Sea Patrol (MSSP) in 2004, the Eyes in the Sky in 2005, and the Trilateral Cooperative Agreement in 2016 have all helped reduce pirate attacks in Southeast Asia (see Figure 8).
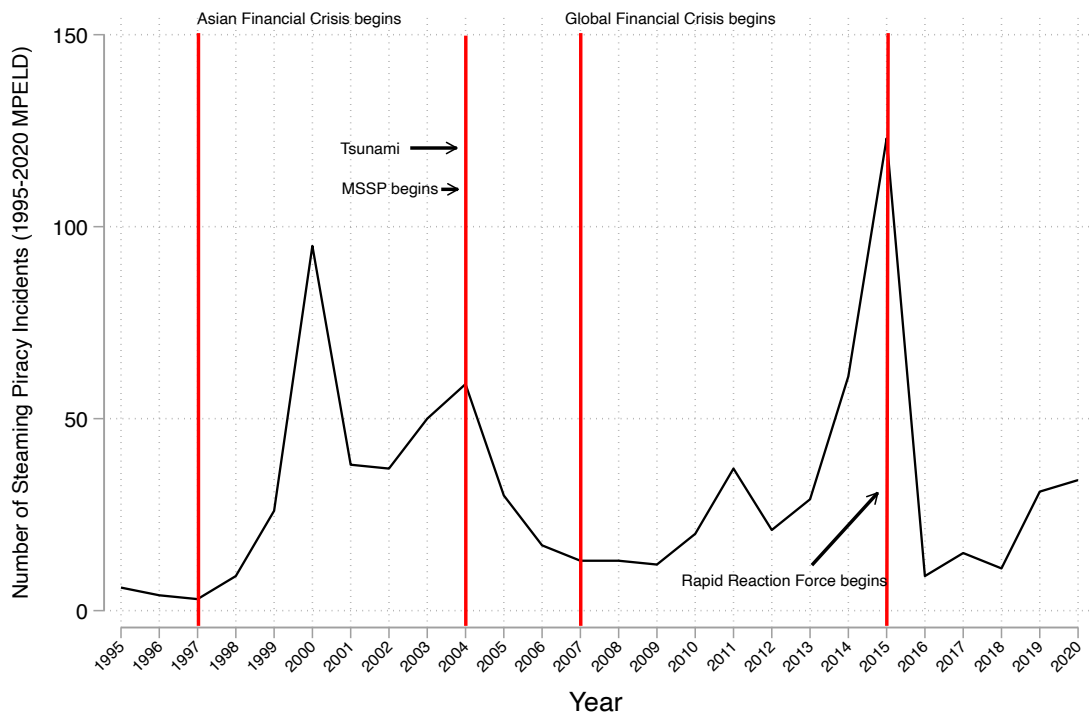
Figure 8. Piracy in Malacca and Singapore Straits (MPELD), 1995-2020.

Counter-piracy, like conflict resolution and the elimination of entrenched criminal networks, remains difficult. Clearly, local coastguard forces confront difficult and complex terrain that can make counter-

piracy operations challenging. Pirates of course understand the physical environment and the ability (or inability) of state security forces to project power over geographic space and consequently locate away from government authority (Daxecker & Prins, 2015). Disputes over maritime boundaries further complicate counter-piracy efforts. Pirates evade security patrols by fleeing into the territorial waters of neighboring states, which impedes hot pursuit. In two prominent piracy hotspots (Southeast Asia and the Gulf of Guinea), maritime boundaries frustrate efforts to apprehend pirates. The South China Sea, in particular, provides many options for pirates to elude security forces since several territorial claims remain both unresolved and salient. Governments hesitate to chase pirates across these boundaries as jurisdictional conflict continues to aggravate relationships (Changgang, 2017; Prins, Phayal, and Gold, 2021). Similar boundary problems confront maritime security forces in the Gulf of Guinea (Lucia, 2015). Indeed, the discovery of offshore oil in many Gulf of Guinea countries contributes to forceful sovereignty claims.[36]

To be sure, many security experts insist more attention to root causes of piracy will have larger effects on piracy suppression than most interdiction efforts.[37] In the long term, poverty, entrenched corruption, economic and political marginalization, and environmental degradation all must be addressed more significantly to reduce the demand for piracy. Efforts need to include improving the efficacy and transparency of political institutions as well as facilitating economic development.[38] In the short term, vigorous policing of illegal, unreported, and unregulated (IUU) fishing should be prioritized. A recent report by the Overseas Development Institute estimates that "IUU fishing accounts for between one third and half of the total regional catch" in West Africa's waters (Daniels et al., 2016, p. 11). Not only do foreign fishing fleets push local fishers out of work and into illicit activities, but they also increase local malnourishment, hunger, and community instability. Further, governments lose millions of dollars in lost revenue that could be used for poverty reduction, education, and sustainable development.[39] A recent agreement signed by 43 African states recognizes the high cost of IUU fishing and focuses new resources and efforts on preventing it (African Union Charter on Maritime Security, Safety and Development). The Port State Measures Agreement, which entered into force in 2016, may help with IUU fishing by denying port entry to vessels suspected of engaging in illicit fishing operations. Of course, it remains to be seen whether any efforts to combat IUU fishing can compete with the high demand for seafood in developed countries that incentivizes the illicit harvesting of marine resources.

Piracy and Political Violence

If countering IUU fishing can reduce the demand for piracy, so too can efforts to resolve rebellion. Many of the conditions facilitating maritime piracy also enable insurgency. Indeed, piracy and rebellion occur in many of the same places (see Figure 9 below).[40] It could be that weak states,[41] poor governance, and extreme economic dislocation drive individuals toward both rebel groups and pirates. Each group provides social belonging and an income to jobless and frustrated young men (Barrios, 2013).[42] Successful attacks against ships result frequently in profits of around $5,000-$15,000 U.S. dollars, which is significantly more than what can be earned in the legal economy (UNODC, 2013; Valencia & Johnson,

2005).
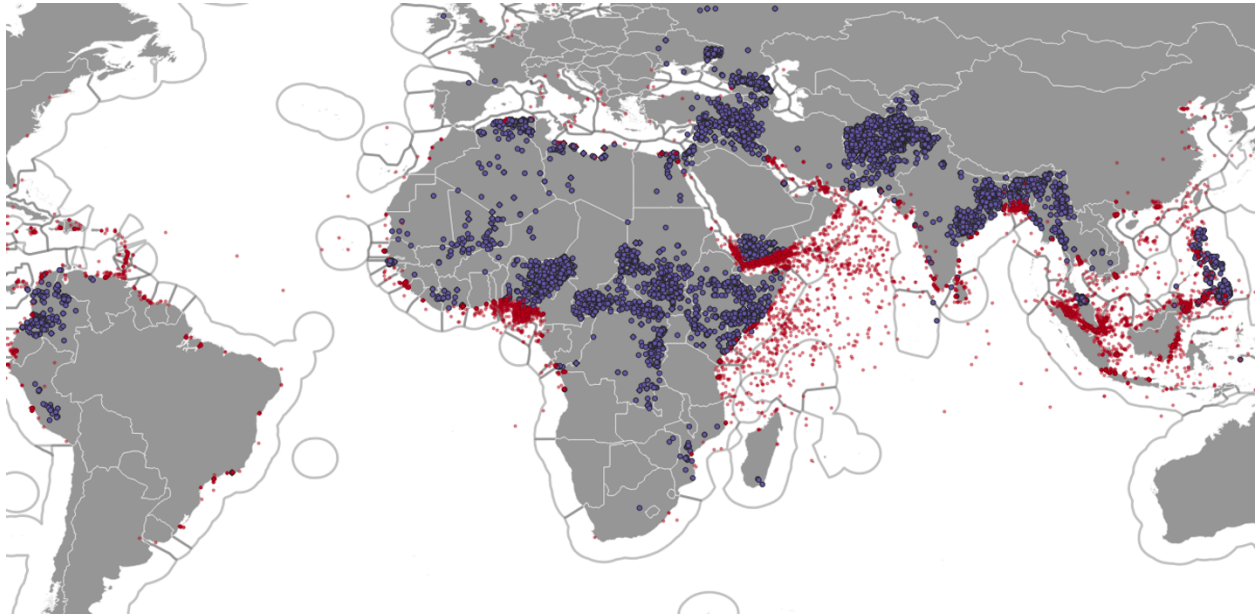
Figure 9. Maritime Piracy and Civil War (MPELD and GED Geo-Referenced Data). Blue dots = conflict events. Red dots = piracy attacks.

While similar conditions associate with both insurgency and maritime piracy, rebellion itself may contribute to the extent of the piracy problem witnessed in many countries. For example, the Abu Sayyaf militant group located predominately in the Southern Sulu Archipelago of the Philippines increased kidnappings of fishermen and sailors to raise funds for rebel activities (Kemp, 2014; Liss, 2014).[43] The attacks clearly concern both the Indonesian and Filipino governments as they moved quickly to counter the threat. Indonesian President Joko Widodo approved military rescue operations to free the kidnapped mariners and the U. S. Navy offered to assist countries in the region in their fight against terrorist groups (Marine Executive, 2016). Niger Delta militant groups have also carried out attacks against ships transiting the Gulf of Guinea to both raise revenue for insurgent activities and impose reputational and financial costs on the Nigerian Government (Rinkel, 2015).[44] Pirates target oil tankers carrying refined petroleum for siphoning and resale on the black market (Brock, 2013). Such activities likely raise substantial funds for Nigerian rebels. Since 2010, perhaps $100 million of oil have been siphoned from tankers in the Gulf of Guinea.

Evidence similarly ties Islamist rebels in Somalia to piracy. Alexander (2013, p. 69), for example, determines, "there is an increasing nexus between pirate organizations, al-Shabaab, and AQAM. It is known that funding from ransom is used to assist in financing terrorist organizations." Tsvetkova (2009, p. 49) also notes the possibility of ransom payments from kidnappings and ship seizures going to al-Shababb. Indeed, al-Shabaab seized Haradheere in 2010, a known pirate den, and allegedly negotiated a financial arrangement on all ransoms collected (Kambere, 2012; Shortland & Varese, 2014, 2015). Finally, the Tamil Tigers of Sri Lanka engaged in extensive piracy during their 26-year insurgency. The rebel force created its own naval arm (Sea Tigers) that carried out attacks against the Sri Lankan navy, but

the Sea Tigers also raided and looted merchant ships on the open water to raise funds for their anti-state campaign (Raman, 2006).

If insurgents depend on local resources to pay fighters, procure materiel, and maintain civilian support, then oil bunkering, kidnapping for ransom, and simple armed robbery represent funding opportunities for many rebel groups. Indeed, siphoning hundreds of thousands of gallons of refined petroleum is worth several million U.S. dollars on the black market (UNODC, 2013).[45] Moreover, since many pirates raid ships at port or anchorage stealing simple ship-stores, carrying out such attacks does not necessarily require marine equipment or navigation skills (Murphy, 2009). This kind of armed robbery describes much of the piracy observed in Indonesia, Malaysia, Bangladesh, and Nigeria (likely resulting in profits of several thousand U.S. dollars per attack).[46]

Since resource appropriation empowers rebel groups, insurgencies can persist much longer. Possessing a consistent revenue stream helps facilitate and sustain rebellion. Fearon (2004), for example, finds contraband-funded wars to last 2.6 times longer than wars without lootable goods while Lujala (2010) concludes that extractable resources located within conflict zones increase conflict length by over 100%. The illicit selling of diamonds, narcotics, and timber provides rebel leaders with funds to build fighting forces capable of challenging the government. When accompanied by difficult terrain and located far from state power centers, rebel movements are difficult to suppress. Recent evidence suggests piracy similarly increases conflict length (Daxecker & Prins, 2017; Prins, Phayal, and Daxecker, 2019). Pirate attacks provide significant revenue that incentivizes continued rebellion. It seems, then, that the elimination of lootable resources accessible to insurgents may help shorten conflicts. Without the sizeable rewards from resource exploitation, rebel leaders find settlement a more attractive option. Leaders of the Free Aceh Movement (GAM) in Indonesia may have made just such a decision. Attacks against steaming ships spiked in the year 2000, many attributable to GAM. Governments in the region responded to the maritime threat and incidents dropped by 80% within five short years. Revenue loss, together with renewed government offensives on land, may have combined to produce a diplomatic opening that ultimately terminated the long-running insurgency in 2005.

Conclusion

Despite the recent elimination of maritime piracy in the Greater Gulf of Aden, the threat to shipping in many waterways remains. Corruption, poverty, and illegal fishing persist, which all ensure a steady supply of pirates.[47] Armed conflict continues to erupt as well. In fact, 2020 witnessed the highest number of ongoing intrastate conflicts since 1946 (UCDP). Pirates and criminal gangs gravitate toward conflict zones intending to capitalize on the economic and political instability created by rebellion. The international community currently contributes over 60,000 soldiers to 12 UN peacekeeping operations worldwide, but conflict resolution remains especially challenging in places where resources motivate perpetual fighting.

Still, counter-piracy efforts have had important successes. According to the Piracy Reporting Center of the International Maritime Bureau (IMB), pirate attacks in 2021 dropped sharply from 2020 and may be at their lowest level in many years (see Figure10). Greater awareness by crews, ship-hardening improvements, and recent cooperative endeavors against pirates by states, such as Indonesia and the

Philippines, have made ship seizures more difficult. Further, the UN Office on Drugs and Crime established its Maritime Crime Program (MCP) in 2009 to assist governments with the apprehension, prosecution, and imprisonment of captured pirates. Not only have correctional facilities been built or refurbished in Somaliland and Puntland to hold many of the pirates captured during operations in the Gulf of Aden and Indian Ocean, but also the MCP now assists with counter-piracy capacity building in the Gulf of Guinea. The subsequent deployment of additional Nigerian warships in the Gulf of Guinea, as well as an increase in coastguard capacity along with a Danish Royal Navy presence, may have helped reduce attacks in the area in 2021.[48]
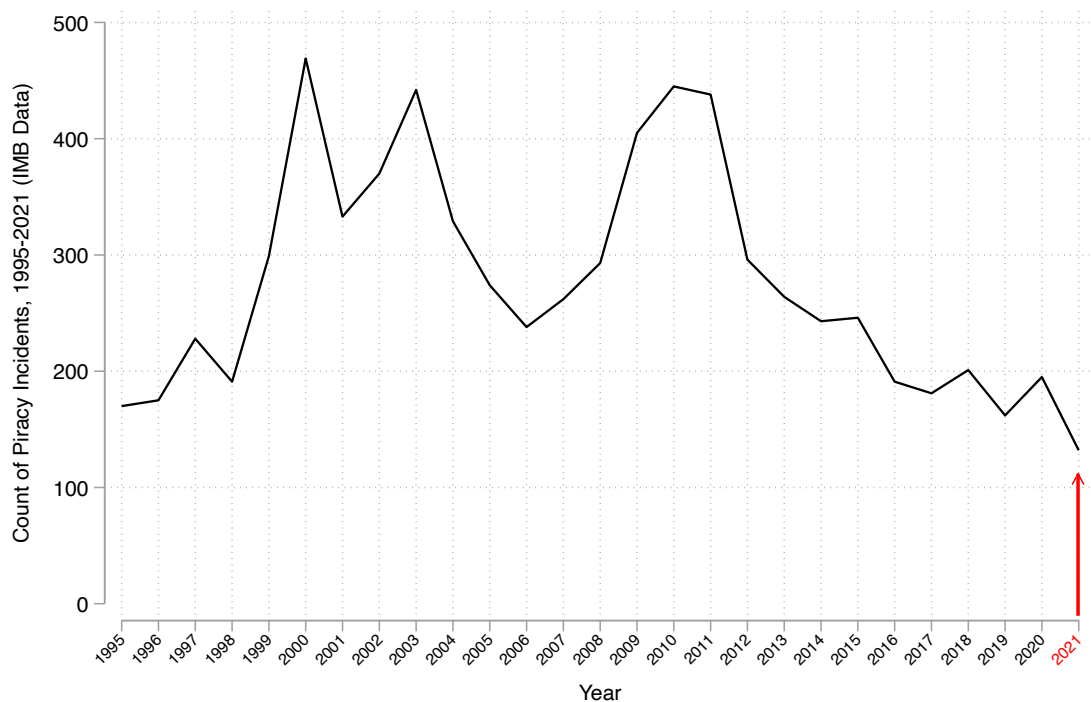
Figure 10. Yearly Global Piracy Incidents, IMB Data.

Security officials and maritime stakeholders also must address institutional corruption that leads to collusion between government office holders and pirates (Hastings, 2012; Hastings & Phillips, 2015; Murphy, 2009; Shortland & Varese, 2014). Hastings (2012, p. 689) notes, for example, that incidents in the South China Sea largely disappeared after the Chinese government eliminated collusion among local officials and pirate leaders. Similarly, corrupt customs officials and port employees have been known to provide information on ship movements and cargo to pirates operating in Indonesian waters (Storey, 2008). Consequently, counter-piracy efforts that ignore corrupt national and local elites will ultimately fail to eradicate the modern pirate scourge.[49]

Finally, more attention to subnational conditions associated with maritime piracy and armed conflict seems essential. Indeed, increasingly scholars employ disaggregated data to model variation in conflict risk within individual countries (De Juan & Pierskalla, 2014; Lujala, 2010; Tollefsen & Buhaug, 2015) and such research remains essential in confirming causal processes. For example, a government's ability

to project power may fluctuate significantly across a country's territory. Noting such spatial variation can help to explain where rebels locate within a country and why insurgency erupts. Similarly, pirates locate away from state power and noting capacity at the center (typically a country's capital city) may help explain overall levels of piracy within a country's waters but cannot clarify variation in piracy across, for example, the Indonesian Islands of Sumatra or Kalimantan. Capturing subnational variation in both the opportunity and motivation to engage in maritime piracy will improve forecasts of pirate attacks and illuminate the factors driving such illicit activity (e.g., Axbard, 2016; Daxecker & Prins, 2016). To be sure, significant challenges confront scholars that investigate pirate activity subnationally. Little information on pirate groups exists, such as where they are located, which group carries out attacks, and connections pirate groups may have to corrupt local elites and insurgents. Still, the inferential benefits of substate data collection and analysis remain compelling.

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Notes

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[1] The *MV Faina* was a Ukrainian cargo ship in route to Kenya carrying 33 T-72 Soviet tanks plus ammunition that was seized off the east coast of Somalia. The dangerous cargo and the fear that the weapons cache would fuel violence in Africa led to coordinated efforts by the United States, United Kingdom, and Russia to recover the vessel. The *Sirius Star* was seized off Somalia's southern coast less than two months later while carrying $100 million worth of crude oil.

[2] As early as 2005, when serving as chief of naval operations, Admiral Mike Mullen noted the problem of piracy. It "can no longer be viewed as someone else's problem," he argued. "It is a global threat to security because of its deepening ties to international criminal networks, smuggling of hazardous cargoes, and disruption of vital commerce" (17th International Sea-power Symposium Report of Proceedings 2005, p. 4). Admiral Mullins also alluded to the challenge of violent non-state actors but did not connect pirates and rebels. Some evidence suggests that in some places they are indistinguishable.

[3] Detonating a bomb on a ship is not required to cause supply-chain problems and impose severe economic costs. The *Ever Given*, an ultra-large container vessel, ran around in the Suez Canal in March of 2021, shuttering the strategic waterway for nearly a week.

[4] Lloyd's List concluded that the *Ever Given's* blockage of the Suez Canal impeded the passage of nearly $10 billion dollars in trade each day that the vessel was stuck in the waterway. Dozens of container ships were forced to anchor outside both ends of the canal as workers tried to free the ship. Rerouting of cargo vessels around the southern tip of Africa cost shipping companies tens of thousands of dollars daily in added fuel expenses.

[5] For MPD (Maritime Piracy Dataset), see Coggins (2012). For CMPD (Contemporary Maritime Piracy Database) see Twyman-Ghoshal and Pierce (2014). For MPELD (Maritime Piracy Event and Location

Database), see Daxecker and Prins (2016). Coggins' dataset is based purely on information collected and reported by the International Maritime Bureau (IMB). We have extended the Coggins data by including information taken from the IMB annual reports for the years 2016-2020. The CMPD involves curating IMB and ASAM data. MPELD curates IMB, IMO, and ASAM data. In Figure 1, the MPELD data include berthed (one-ship) incidents to make more comparable to the other two datasets displayed.

[6] The price paid by mariners has been documented as well. Interviews with former hostages show abuse and elevated levels of symptoms associated with PTSD (e.g., Seyle, 2016).

[7] In June of 2016 the governments of Indonesia, Malaysia, and the Philippines created a transit corridor in the Sulu and Celebes Seas for steaming ships (*Straits Times*, June 21, 2016). The *NY Times* reports kidnapping for ransom by the Abu Sayyaf. Retrieved from http://www.nytimes.com/2016/09/18/world/asia/philippines-piracy-abu-sayyaf.html.

[8] These attacks are by definition armed robbery on ships and fall under the jurisdiction of the country where they occur. Globally, we find that 65% of pirate attacks occur within the territorial waters of states, and another 30% occur within their Exclusive Economic Zones (up to 200 nautical miles from shore). Fewer than 5% of incidents actually occur on the high seas (international waters). Given the archipelagic makeup of countries in Southeast Asia, the percentage of ship attacks within territorial waters increases to 75%.

[9] ReCAAP, the Regional Cooperation Agreement on Combatting Piracy and Armed Robbery against Ships in Asia, was the first multilateral agreement to define the crime of armed robbery on ships.

[10] The IMB only includes self-reported incidents in its database. Some experts believe this results in significant undercounting, but the extent of the underreporting remains unclear, and false claims also may be a concern.

[11] MPELD was funded by the Office of Naval Research (grant # N00014-1-0050). This data collection and curation effort combines piracy information from three separate sources, the IMB, the IMO (International Maritime Organization), and the ONI's (the Office of Naval Intelligence)Anti-Shipping Activity Messaging System (produced by the U.S. National Geospatial Intelligence Agency). When complete, we will have the most comprehensive dataset on maritime piracy. The Maritime Piracy Event and Location Database (MPELD) corrects for duplication, errors, and omissions in the incidents recorded by each individual dataset and will increase the number of observations by approximately 25%. Currently, MPELD contains nearly 10,000 incidents between 1995 and 2020.

[12] Shipping companies began employing armed security guards and retrofitting ships with protective measures, such as electrified deck wiring, high-pressure hoses, and sound guns, to combat piracy.

[13] The International Maritime Organization and the US Office of Naval Intelligence together recorded fewer than 7 sea-piracy incidents off the coast of Somalia in 2015.

[14] The International Maritime Bureau reports a drop in both piracy incidents and kidnappings in the Gulf of Guinea in 2021. Nigerian authorities maintain that increased capacity, including new patrol boats and an aerial surveillance system known as Falcon Eye, helped suppress piracy and armed robbery on ships in West African waters. A Danish Royal Navy presence further hindered the actions of pirates.

[15] The loading and unloading of cargo at the Chittagong Port typically takes several days. Insufficient personnel and equipment to move goods as well as a lack of storage facilities on land contribute to the lengthy port stay for ships (Hoque & Biswas, 2007; Menefee, 2010). Bangladesh has markedly improved its vessel turnaround time in recent years, going from 12 days in 2005 to less than four in 2013. Still, vessel turnaround time in the United States and China typically remains less than 24 hours (Ducruet, Itoh, & Merk, 2014). It is also worth noting that most of these attacks are petty thefts and so not all that different from opportunistic crime on land. Port security has clearly improved in the Chittagong Port as armed robberies on ships were at a 25 year low in 2020.

[16] Somali piracy also predominately occurred at sea as ships were transiting the Greater Gulf of Aden. In part this is explained by the absence of ports and anchorages. Somalia has only four small ports compared to Indonesia's 154 (see http://www.worldportsource.com/index.php).

[17] Not only do insurgent movements located within Nigeria contribute to the overall higher level of violence observed in pirate attacks, but also the ease with which weapons are obtained (many flowing in from Libya) plays a role as well.

[18] The timing of home invasions is different. Since most residences are unoccupied during working hours, burglars target homes between 10:00am and 3:00pm.

[19] The International Maritime Bureau reports a 20% while the US Office of Naval Intelligence (ASAM data) finds a 90% increase.

[20] The geographical spread of piracy has changed over time. In 1995, 30 separate countries experienced pirate attacks. This represented 16% of the recognized nation-states on the planet. In 2000, 48 separate countries suffered pirate attacks. This was close to 26% of the international system. Piracy clearly expanded spatially from the early 1990s to early 2000s. In 2020, 41 countries experienced at least one pirate attack.

[21] In 2020, over 70% of pirate attacks occurred within or around the waters of only 10 countries: Indonesia, Nigeria, Ghana, Malaysia, Benin, Angola, Yemen, India, Brazil, and Malaysia.

[22] The type of piracy observed may vary by institutional context. Hastings and Phillips (2015) suggest that informal governance in Somalia constrained and influenced pirates and their activities while more formal state institutions in Nigeria regulated pirate attacks in the Gulf of Guinea. Gaibulloev and Sandler (2016) also note that fiscal decentralization may associate with fewer piracy attacks.

[23] Piracy not only flows from weak state institutions. It also promotes institutional corruption. Leaders of pirate action groups, like other trans-criminal organizations, collude with public officials to ensure the

continuation of their profitable activities. A similar relationship has been found with other valuable resource extraction endeavors (see Knutsen et al., 2016).

[24] Local security personnel in Indonesia have purportedly received payments from pirate groups to act as informers, provided material support, or simply at times to turn a blind eye (Liss 2017; Biggs 2017; Hoesslin 2017). In Aceh, there are reports that some hijackings were carried out by rogue Indonesian navy personnel (Hoesslin 2017, 145).

[25] Low wages and unemployment correlate with increasing numbers of pirate attacks (Frecon, 2005; Jablonski & Oliver, 2013).

[26] Such payoffs enable pirate leaders the ability to recruit new members. According to Valencia and Johnson (2005), successful attacks result in payoffs in the amount of $5,000 to $15,000 U.S. dollars.

[27] Many Somali fishers also argued that the illegal dumping of toxic waste in their waters damaged marine ecosystems and forced them into piracy. Few trusted such accounts, but clear evidence of dumping emerged after the 2004 Tsunami, which washed broken containers onto Somali beaches (BBC News, March 2, 2005).

[28] Fearon and Laitin (2003, p. 80) similarly note "recruiting young men to the life of a guerrilla is easier when the economic alternatives are worse."

[29] Shane, Piza, and Mandala (2015) find that specific safety and security measures, such as increased speed, safe rooms, fencing, and armed guards, reduce pirate attacks.

[30] Jurisdictional quandaries led naval authorities to release many apprehended pirates. The opening of courts in Kenya, Mauritius, the Seychelles and Tanzania has reduced the incidence of catch and release. The UNODC's Piracy Prisoner Transfer Program was also designed to prevent the release of captured pirates.

[31] Mohammed Abdi Hassan's arrest in 2013 by Belgian authorities supports the conclusion that piracy was becoming too risky and less profitable. Hassan was a notorious pirate leader in Somalia responsible for dozens of attacks over two decades. As the international community responded to piracy in the Greater Gulf of Aden, Hassan began working with U.S. and EU authorities to assist in counter-piracy. Belgian authorities invented a fictitious movie company interested in Hassan's story to lure the former pirate to Brussels where he was arrested for the hijacking of a Belgian ship in 2009 (http://www.independent.co.uk/news/world/africa/the-pirate-who-fell-into-a-movie-trap-kingpin-mohamed-big-mouth-abdi-hassan-arrested-in-belgium-8880645.html).

[32] The European Union's counter-piracy naval operation in the Greater Gulf of Aden has been extended through 2018, but the size of the force has decreased.

[33] Due to extensive political violence in West Africa, as well as the availability of weapons (many flowing south from chaotic Libya), political elites fear that privately contracted armed guards will only

further militarize the environment. Nigerian piracy, in particular, is already decidedly violent and weapons on cargo vessels may only produce more and deadlier attacks.

[34] Marteache, Viollaz, and Petrossian (2015) maintain that illegal fishing vessels easily find busy ports for the off-loading of illegal catches and the same surely applies to pirated goods.

[35] http://www.recaap.org/AboutReCAAPISC.aspx.

[36] In October of 2016, African leaders agreed to improve intelligence sharing to thwart pirates moving easily across boundaries and thereby avoiding capture. See https://www.enca.com/africa/african-nations-hail-maritime-deal. It remains to be seen whether the deal will have any effect.

[37] Counter-piracy operations are extremely costly and thus difficult to keep indefinitely. Oceans Beyond Piracy estimates that around 1.33 billion U.S. dollars were spent in 2015 alone, which included vessel hardening, fuels costs, as well as over 300 million U.S. dollars spent on naval patrols. While still high, the costs are significantly lower than the 7 billion price tag of Somali piracy in 2010. See http://oceansbeyondpiracy.org/reports/sop2015/summary.

[38] Institutional corruption impacts criminal activity more generally as well (see Coggins, 2010). However, increased policing, coupled with more trust in political institutions, appears to improve crime prevention (Greene, 1999).

[39] The African Union estimates that IUU fishing costs West Africa approximately 285 million U.S. dollars each year (https://www.enca.com/africa/african-nations-hail-maritime-deal).

[40] The figure hints at an association between piracy attacks and conflict events. The five most piracy prone countries from 1993 to 2015—Indonesia, Bangladesh, Nigeria, India, and Somalia—all experience, or have experienced, substantial political violence (Daxecker & Prins, 2017b). Piracy data come from the International Maritime Bureau (IMB). See Sundberg and Melander (2013) for a description of UCDP GED data.

[41] Research on the onset of civil war expects and finds a similar causal effect from weak political institutions. Hegre, Ellingsen, Gates, and Gleditsch (2001), for example, observe the presence of anocracy related to civil war onset (also see Ellingsen, 2000; Sambanis, 2001). Political grievances likely exist in every country, but the inability of a government to project power over space enables group emergence and the ability to challenge state authority. Hegre, Ellingsen, Gates, and Gledtisch (2001, p. 44) interestingly note that political stability improves as governments shift toward the extreme ends of the Polity scale. Stable democratic governments, it seems, provide the economic and political conditions that alleviate popular grievances, while stable authoritarian states possess the institutional capacity to suppress emerging insurgencies (Mason, Gurses, Brandt, & Quinn, 2011).

[42] Economic development also decreases the hazard of insurgency (Hauge & Ellingsen, 1998; Hegre et al., 2001). Collier and colleagues (2003, p. 53) write, "they key root cause of conflict is the failure of economic development." Dixon (2009) concurs and remarks that the vast majority of research studies that

include measures for affluence (such as GDP or GDP per capita) observe a negative and statistically significant relationship with civil war onset. A similar relationship tends to be found with piracy as well (see de Groot et al., 2011; Iyigun & Ratisukpimol, 2010). Collier (2000) insists that at the individual level, political entrepreneurs (rebel leaders) entice recruits with monetary payoffs (also see Gates, 2002).

[43] Hastings (2012, p. 689) observes an increase in kidnappings for ransom during the height of the Aceh rebellion on the Indonesian Island of Sumatra. It is likely that some of the attacks, if not many, were carried out by insurgents themselves. The Trilateral Cooperative Agreement signed in 2016 established coordinated naval operations involving maritime and air patrols by Indonesian, Malaysian, and the Filipino forces. Previously, groups such as the Moro National Liberation Front (MNLF) and Moro Islamic Liberation Front (MILF) used maritime crime (including in the Sulu Sea) to finance their armed insurrections. The Trilateral patrols have helped reduce pirate attacks in the Sulu and Celebes Seas over the past 4 years and show what can be done when countries cooperatively address transnational maritime challenges.

[44] The Movement for the Emancipation of the Niger Delta (MEND) has additionally extorted oil companies through the kidnapping and ransoming of company employees (Kamal-Deen, 2015). The attacks embarrass the Nigerian government and threaten to reduce ship traffic in the Gulf of Guinea. In one attack in June of 2008, militants opened fire on a vessel owned by Royal Dutch Shell. The incident forced Shell to shutdown one of its primary oil fields in Nigeria, imposing significant costs on the company (Kamal-Deen, 2015; Kashubsky, 2011).

[45] On July 15, 2014, pirates near the Malacca Straits captured a tanker carrying diesel fuel. The cargo was worth nearly two million U.S. dollars. See http://www.strategypage.com/htmw/htseamo/20140819.aspx.

[46] The availability of lootable resources may produce a rebel-fighting force that is less concerned with the central grievances motivating the conflict.

[47] The Contact Group on Piracy off the Coast of Somalia (CGPCS), which was created in 2009 to address pirate attacks against ships in the Greater Gulf Aden, now sees IUU fishing, drug trafficking, and insurgency in northern Mozambique as more pressing threats.

[48] See http://www.tv360nigeria.com/navy-extends-anti-piracy-operation/.

[49] Daxecker and Prins (2016) maintain that elections sometimes trigger spikes in pirate attacks. Pirates (and other criminals) fear potential disruption to collusion agreements produced by elections. The disturbance is particularly likely in districts where elections are anticipated to be competitive.