

The Return of Violent Maritime Organizations to Southeast Asia

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Abstract

While piracy and maritime terrorism in Southeast Asia have never totally disappeared, recent years have seen the reemergence of sophisticated ship and cargo hijackings and maritime terrorist attacks in regional waters. Violent maritime organisations face regional state counterterrorism and counterpiracy efforts, broader political and economic conditions, and changing market incentives and constraints, all of which should ordinarily make it difficult for them to operate. Drawing on both quantitative and qualitative data, I argue that violent maritime organisations have adapted by reforming their organizational structures, and engaging in creative use of the maritime domain, as a means to carry out attacks and more broadly to make money. I close with implications for the study of maritime security, as well as piracy and terrorism in Southeast Asia.

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1. Introduction

What explains the resurgence of sophisticated pirate attacks in Southeast Asia over the past decade? In the 1990s, piracy in Southeast Asia was primarily a concern in the South China Sea itself, as ships were hijacked and their cargo seized (often in Chinese ports). Attacks in the Malacca Strait peaked in 1999 and 2000, leading to worries that Southeast Asia was the main hotspot for piracy globally (Johnson and Pladdet, 2003, Liss, 2003, Chalk, January/February 1998). After the September 11, 2001 terrorist attacks, academic and policy focus shifted to the possibility of maritime terrorism in Southeast Asia (Ong, 2004, Raymond, 2005, Ong, 2007, Murphy, 2007, Chen, 2007, Chalk, 2008, Young and Valencia, August 2003), and the region was through 2006 the main focus of academic and policy studies of the potential for serious maritime violence.

This changed with the rise of piracy off the coast of Somalia, beginning in 2007, and accelerating from 2007. While maritime piracy in Southeast Asia never actually went away, from 2007, as piracy off the coast of Somalia took off, the attention that had been lavished on Southeast Asian piracy by both the popular media and academics dropped off to virtually nothing, while Somali piracy saw rises in academic attention (Besley et al., 18 November 2012, Shortland, 2012, Murphy, 2010, Shortland, 2011, Bueger, 2013, Coggins, 2016, Geopolicity, May 2011, Dua and Menkhous, 2012, Shortland and Vothknecht, 2011, Percy and Shortland, 2013, Groot et al., 2011a). This was largely due to the threat posed by Somali pirates off the Horn of Africa (and to a lesser extent pirates in the Gulf of Guinea), but 2007 was in fact when piracy in Southeast Asia hit a low of 51 successful attacks, and one of the few years when the Horn of Africa saw more attacks than Southeast Asia (Figure 1).

Yet even as Southeast Asia continued to be ignored relative to the Horn of Africa, attacks began creeping up, until 2015 (161 attacks) marked the highest number attacks since 2000. Southeast Asia has in fact seen more successful attacks than East Africa and the Arabian Sea for every year since 2010, and saw more attacks than the rest of the world combined between 2011 and 2015 (Figure 1). In the meantime, over the same period, successful Somali pirates dropped off to virtually nothing, with no successful hijackings off the Horn of Africa between 2013 and 2015, as UN best practices, internationally coordinated naval patrols, and perhaps most importantly, armed guards on merchant vessels deterred pirates.

Sophisticated attacks - attacks that rise above the level of a simple robbery at sea (or in port) -- followed a similar pattern. While ship/cargo seizures peaked in 2002 in Southeast Asia, and declined until 2007, as with attacks overall, they also rose, however irregularly, from 2007, and reached their highest frequency since 2002 in 2014 and 2015. Kidnappings in Southeast Asia peaked in 2004 at the height of the Gerakan Aceh Merdeka insurgency in Aceh, and then declined precipitously from

there, remaining relatively low until 2016, when they increased substantially, this time at the intersection of the Philippines, Malaysia, and Indonesia (Figure 2).

In this paper, I place the explanation for the resurgence of Southeast Asian sophisticated piracy since its inflection point in 2007 in the realm of adaptation by violent maritime organizations (both piracy syndicates and terrorist and insurgent groups capable of maritime operations) to the conditions that caused the drop in maritime piracy attacks in the region before 2007. After discussing the data used as the basis for analysis in this paper, I move on to alternative explanations for the increase in piracy attacks, and find that in general, they are lacking, inasmuch as many enabling conditions in Southeast Asia have not changed significantly since 2015.

Instead, I offer an organizational adaptation-based explanation, based on the factors that constrain the operations of different types of sophisticated pirates, with a focus on explaining, first, the resurgence of ship/cargo seizures, and second, the more recent rise in kidnappings in Southeast Asia. Ship/cargo seizure syndicates have adapted to measures intended to make the disposal of hijacked ships unprofitable by shifting to attacks that do not require the disposal of hijacked ships. Kidnappings in Southeast Asia have shifted from being a phenomenon concentrated in the Malacca Strait to one perpetrated in waters adjacent to the southern Philippines, as Abu Sayyaf Group, and those operating under cover of ASG, shift to a maritime version of their land-based kidnapping for ransom campaign. I close with implications for the study of violent maritime organizations in Southeast Asia.

2. Data and definitions

The data for this paper comes from two datasets. First, I use a dataset built on reports of successful piracy incidents, as recorded by the International Maritime Organisation (IMO), between 1997 and 2016. This totals 4676 incidents, of which 2122 took place in Southeast Asia. Of the Southeast Asian attacks, 1876 were robberies, 159 were ship seizures, cargo seizure, or ship and cargo seizures, 61 were kidnappings or kidnappings for ransom, and 23 were attacks where the pirates' intentions could not be divined, or failures. Where possible, I coded the time and date of the attack, the tonnage and flag country of the ship targeted, the location (whether in port, territorial waters, or international waters), nearest country, nearest city, and region of the attack, the status of the ship (whether underway or not), whether and what level of violence was used, the number of pirates involved, whether the ship, cargo, or people were taken away, what was stolen (if a robbery), and what weapons the pirates were using.

While some of these factors are not typically used or disaggregated in quantitative piracy studies -- (Daxecker and Prins, 2015a, Daxecker and Prins, 2013) make no distinction among different types of hijackings, for instance -- the purpose of

collecting them here is to shed light, indirectly, on piracy organizations themselves, and the extent to which constraints on piracy organizations result in changes in the nature of the attacks.

Although the IMO records alleged attempted attacks in addition to successful attacks, in this paper, I refer only to successful attacks (those where the pirates are successful in boarding the ship, even if they steal nothing and attack no one) rather than to all attacks (which would include attempted attacks) for two reasons. First, since we are interested primarily in differentiating types of attacks, attempted attacks are less useful to analyse because there is no way to know what type of attack they might have been. Second, since many attempted attacks are reported as suspicious movements by boats or individuals in waters near ships, it is not always that an attempted attack is actually a failed pirate attack or merely

Here I understand ship and cargo seizures as attacks where pirates hijack the ship, and then remove the cargo (usually to another ship) or take the entire ship and its cargo, and dispose of them profitably (usually by disguising and reselling the ship and cargo). I consider kidnappings to be attacks where pirates seize the ships, and take hostages off the ship (usually to another ship or a land-based hideout), or keep the hostages on the ship, and demand ransom for the hostages, or both the ship and the hostages.

Second, along with standard datasets on terrorism and conflict (Uppsala Conflict Data Project, and the Global Terrorism Database), I merge data on revenue-raising maritime attacks with Big Allied And Dangerous (BAAD2.0) (Asal and Rethemeyer, 2015), a dataset that tracks the characteristics on a yearly basis of several active hundred terrorist and insurgent organizations around the world during the period 1998 to 2012. This will allow us to compare individual insurgent organizations' propensity for revenue-raising maritime attacks with known sophisticated attacks, thus giving us insight into the organizational characteristics of groups that are likely behind the increase in sophisticated attacks in Southeast Asia.

3. Explaining the rise of piracy in Southeast Asia

In the literature on piracy, the most straightforward explanations for piracy incidence are generally (1) a breakdown in state capacity, (2) an increase in conflict, and/or (3) an increase in economic privation.

All three threads are interrelated. In the economic privation thread, workers turn to maritime piracy as their ability to make a living outside of piracy decrease, or as non-piracy occupations become less lucrative (Eklöf, 2006, Frecon, 2007). A decline in fisheries stocks, for example, can lead fishermen to turn to piracy as their economic opportunities decline (Daxecker and Prins, 2013), or at least to claim that protecting their livelihood (against foreign fishing vessels, for instance) their reason

for engaging in piracy (Hansen, 2009, Hansen, 2011, Dua and Menkhaus, 2012). Similarly, an increase in labor and capital-intensive commodity prices can decrease the number of piracy attacks in an area, as individuals who would otherwise engage in piracy find it more profitable to go into other industries (Jablonski and Oliver, 2013). Economic privation does not consistently lead to different types of piracy, however. (Tominaga, 2016) finds that unsophisticated piracy attacks do increase a fisheries production declines, but sophisticated piracy attacks are unrelated to fish values or production in a given area. This is arguably because sophisticated attacks are often masterminded by individuals who

In the state capacity thread, a decrease in institutional capacity can lead to an increase in opportunities for pirates to attack, as they are able to operate with less concern about being taken down by law enforcement officials and military units, or tried successfully in courts (Murphy, 2008a, Murphy, 2009, Chalk, 2008, Chalk, January/February 1998). This is part of the wider literature on how state failure provides opportunities for violent actors, including criminal actors, to operate (Rotberg, 2003). Economic privation can also be connected with a decrease in state capacity, as coast guard personnel rendered unemployed by state budget crises turn to piracy themselves, as happened in Puntland after its budget crisis in 2008 (Hansen, 2009, Hansen, 2011, Jablonski and Oliver, 2013, Bueger, 2013). Piracy incidents also tend to occur farther away from centers of state power within a country as state institutions become more powerful, and closer to centers of state power as they become weaker (Daxecker and Prins, 2015b).

Often this breakdown in state institutional capacity is either precipitated by or causes violent conflict, the third thread (Murphy, 2008b). In a conflict, criminal elements may take advantage of the breakdown in law and order to engage in crime, the militants themselves may turn to maritime attacks as a way to raise revenue for their cause, or the maritime targets themselves may be part of the larger political conflict. In the case of the Niger River conflict in the Gulf of Guinea, for instance, maritime piracy, particularly hijackings of oil tankers, and kidnapping of oil company personnel was associated with a conflict in which militants used piracy both to seize profits from and to protest both the environmental destruction caused by oil companies, and the economic neglect shown by the central government to the oil-producing Nigerian states (Onuoha, 12 June 2012, Orogun, 2009, Montclos, 2012, Ukiwo, 2007). In a conflict, state institutions may also divert resources away from fighting piracy to fighting other types of violence, leading to openings for pirates (Daxecker and Prins, 2013, Daxecker and Prins, 2015a).

Of particular relevance to Southeast Asia, other studies have built a nuanced picture of the relationship between state failure, conflict, and piracy incidence. To the extent that state weakness and failure can be associated with fragmentation of elites

in a given territory, too much fragmentation is not necessarily ideal for piracy operations. While unsophisticated pirate attacks (such as armed robbery at sea and in port) increase as a state approaches anarchy, sophisticated pirate attacks thrive when states are weak but still functioning, not when the state has totally collapsed (Coggins, 2016, Coggins, 2011). If elites in a state or territory are united against piracy, then pirates have no ability to co-opt or otherwise compromise state institutions, and elites are likely able to crack down. If elites are incredibly fragmented (as might happen in a major civil war), individual elites are unable to provide pirates with any security assurances (Percy and Shortland, 2013, Groot et al., 2011b, Bank, 2013).

This is arguably why, for instance, piracy in Somalia flourished from 2007 to 2011 in Puntland, one of the less conflict-prone regions of Somalia but with a moderate level of elite fragmentation (resulting in elites who were willing and able to shelter pirates) (Coggins, 2011, Bank, 2013, Murphy, 2010), while southern Somalia and Yemen, both of which experienced extremely high levels of conflict, produced very few piracy hijackings. Neither, on the other end of the spectrum, did Somaliland, a breakaway territory of Somalia that did not have particularly effective state institutions, but did have elites who were united against piracy (Phillips and Hastings, 2017).

Applied to Southeast Asia, an increase in economic privation (such as through a downturn in the economy or a decrease in fishing stocks) could lead to an increase in unsophisticated pirate attacks, but is less able to explain a rise in sophisticated piracy attacks. Southeast Asian countries have been growing relatively robustly since the dark years immediately after the Asian Financial Crisis. While there was an economic downturn in Southeast Asia 2008 and 2009 in line with the Global Financial Crisis, 2008 and 2009 were actually part of the trough in successful pirate attacks in the region (Figure 1) (and in any case, only Malaysia actually experienced negative growth (Bank, 2017).

In terms of state institutions and conflict, terrorist and ethnic conflicts have either been on the decline or (with the exception of the southern Philippines, which we discuss below) have not been in areas that are particularly close to piracy hotspots (the southern Thai insurgency, for example, is located near very few maritime attacks). Moreover, Southeast Asian state capacity has not taken any noticeable hit in the past ten years. Measures of state capacity indicate, in fact, that the state capacity of the relevant states - Indonesia, Malaysia, Singapore, and the Philippines, were either already high to begin with (as in Singapore), remained relative constant over the time period (as in Indonesia and Malaysia) or actually improved after bottoming out (as in the Philippines). Figure 3, which plots the World Bank political stability indicators (Bank, 2016) of Indonesia, Malaysia, and the Philippines against successful piracy

attacks, and the subset of those attacks that are sophisticated, actually suggests that piracy (including sophisticated piracy) has increased as political stability in the three countries has improved (although the Philippines remains relatively low even after improvement). This trend of improving stability and increasing piracy is especially evident from 2007 onwards. In fact, for the first period (1996-2006), there is either no correlation at all, or a negative correlation between political stability in Southeast Asian countries and pirate attacks. For the second period (2007-2015), however, increased political stability is correlated with increased pirate attacks, suggesting the standard explanations for piracy incidence may not work as well for this particular time period and region (Figure 3 and Table 1).

Table 1. Pairwise correlations between Political Stability and Pirate Attack Frequency in Southeast Asia (1996-2006 v. 2007-2015)

Years	Indonesia	Malaysia	Philippines
1996-2006	-0.57	0.00	-0.38
2007-2015	0.61	0.59	0.67

Lost in many structural arguments about piracy incidence are the decisions by the piracy organisations themselves. I argue that the return of sophisticated piracy to Southeast Asia is a function of adaptation and innovation by organizations capable of violent maritime attacks. Moreover, these innovations are bifurcated by different types of sophisticated attacks. For ship and cargo seizures, what are likely organized crime syndicates have adapted to the main measures against ship/cargo seizures in the past designed to make hijacked ships unsellable by staging attacks where selling or disguising the ship is unnecessary, decreasing the time frame. In doing so, reversing the pattern from before 2007, they have been able to attack larger ships using smaller gangs. They have also moved to attacking ships that are more likely to have cargo that can be seized than ships that might have resale value.

For kidnappings for ransom, by contrast, insurgent groups in the southern Philippines, long capable of staging attacks across international borders and operating long distances over water, have moved to staging attacks against ships underway. Given the requirements for successful kidnappings for ransom, kidnappings where the pirates take the hostages and leave the ship are the norm in Southeast Asia because the pirates operate with a very small amount of political space and territorial control within states that are, overall, functional. This results in a situation where they are able to kidnap individuals and negotiate ransoms, but hold them for somewhat shorter periods of time than Somali pirates did, and must do so in secret, as opposed to out in the open as in Somalia.

4. Violent maritime organizations and sophisticated pirate attacks

Violent maritime organisations must deal with two constraints to carry out sophisticated attacks. First, pirates need political space and time to carry out the operation to its profitable conclusion. Second, they need economic infrastructure to allow the operation to be concluded profitably. Different types of sophisticated attacks require these inputs in different quantities to be successful. Ship and cargo seizures require little political space and time, but require more supporting economic infrastructure. Kidnappings for ransom do not require particularly sophisticated economic infrastructure, but they do require political space and time (Hastings, 2012, Hastings, May 2009).

Because ship and cargo seizures can be completed relatively quickly, they do not necessarily require much time. Hijacked ships are often repainted and disguised within hours, although selling the ship may take days (assuming the hijackers already have a buyer arranged). Seizures where the cargo (usually oil in recent cases) is offloaded onto another ship can also be accomplished within hours. Kidnappings for ransom, however, can require a significant amount of time, particularly in cases where the pirates are demanding high ransom amounts. Several Somali hijackings, for instance, took over a year from hijacking to payment of the ransom and release of the ship and hostages (Oliver et al., 2016). More generally, kidnappings for ransom require political space - an unwillingness or at least inability of law enforcement and political elites to clamp down on their operations. Because negotiations can take months, pirates are at risk of capture from capable, non-pliant local authorities, and so must either hide or buy off local elites. By contrast, while ship and cargo seizures may involve some collusion with local port authorities or industry insiders, they do not require buy-in in any major way from local political elites (Hastings, May 2009).

While ship and cargo seizures do not require time or political space, they do require a sufficiently sophisticated infrastructure underlying the economy in the region to allow them to dispose of the ship and cargo. Hijacked ships need to be disguised and re-registered, often in port, implying an inattentive but functioning port authority. Perhaps more importantly, the pirates need to access a market sufficiently large to absorb potentially tens of thousands of ton of stolen cargo without taking notice, implying a fairly sophisticated economy (Hastings, 2010, Rosenberg, 2009). By contrast, for pirates engaged in kidnappings for ransom, the only economic infrastructure they require is food, vehicle, weapon, and fuel suppliers necessary to support the pirates, hostages, and ship during negotiations. Everything else, including the ransoms, and the financiers of the attack itself, can come from abroad.

These constraints can encourage the prevalence of different types of sophisticated piracy attacks, conditional on there being attacks at all, in a given

region. Somalia, for instance, had little economic infrastructure to absorb ships and their cargo, but did have fractious elites who could be bought off by pirates in exchange for political space and time to do negotiations, which is why kidnappings for ransom dominated the piracy landscape so totally in the Horn of Africa between 2005 and 2012. By contrast, Southeast Asia had relatively capable law enforcement authorities, few political elites who were willing to waste substantial political capital protecting pirates for long periods of time, and a functioning regional economy that could absorb ship and cargo. As a result, sophisticated attacks were dominated by ship and cargo seizures, except for a brief period (1998-2005) when sophisticated attacks on the Indonesian side of the Malacca Strait were primarily kidnappings for ransom, a by-product of the Acehese insurgency (which locally increased the political space for pirates to hold hostages, and decreased the availability of stable economic infrastructure) (Hastings, May 2009) (Hastings, 2012).

Many counter-piracy measures, particularly those implemented in Southeast Asia, are designed to reduce the availability of political space and time, and access to relevant economic infrastructure. Multinational counterpiracy patrols off the Horn of Africa (among them, the European Union's EUNAVFOR and the US-sponsored CTF-151), for instance, not only escorted ships along dangerous corridors in the Gulf of Aden, but also responded quickly whenever a ship was reported hijacked. This resulted in standoffs that often led to the pirates being shot, captured, or losing control of the ship (as in the case of the *Maersk Alabama*) (Kane, 7 May 2008, 13 April 2009, Pflanz, 21 January 2011), in effect decreasing the time available to the pirates to take over the targeted ship. On land, local elites opposed to the pirates moved to either attack pirates holding hostages (decreasing the time available for negotiation) (Osman, 9 May 2010) and attempted to decrease the political space for piracy by forming a united front (where possible) against allowing pirates to operate out of their territory (Council, 22 October 2012) (as happened in the main part of Somaliland (Phillips and Hastings, 2017)).

In Southeast Asia, the IMO and Southeast Asian government similarly responded to the spike in ship/cargo seizures by changing the constraints faced by pirates. Beginning in 2004, the IMO required all ships above a certain size to be registered (with embossed names on their hulls), and the shipping industry moved to implement Automatic Identification System (AIS) trackers for essentially all ships that would be likely to move in international waters. In 2005, Lloyds of London declared the Malacca Strait to be a war zone for the purposes of insurance premiums due to piracy. The littoral states protested strenuously (given that piracy in the Strait had been declining since 2000), but nonetheless they responded with a renewed vigor in conducting joint patrols (dubbed MALSINDO for Malaysia, Singapore, and Indonesia, the three participating nations), establishing better coordination mechanisms, and

improving maritime police response times (Rosenberg, 2009, Hastings, 2010). Malaysia also began operating a coast guard in November 2005. In response, in 2006, Lloyd's took the Malacca Strait off its list of war zones. In general, since 2005, littoral states have responded to reported pirate attacks, particularly hijackings, with relative speed and overwhelming resources. In the case of the 2015 *Orkim Victory* hijacking, for instance, the MMEA deployed "one helicopter, three ships and five boats" after receiving the report of the seizure (ReCAAP 2016: 52).

The effect of these measures was to decrease the time and political space pirates had to reach a profitable conclusion for their operation, and to deny them access to economic infrastructure which they could use to offload, hide, and re-register the stolen ship. Mandatory registration for large ships (over 500 tons) meant that the ability of piracy organizations to take advantage of local authorities who were willing and able to look the other way when a suspicious ship entered port was decreased. Real-time tracking (AIS) allowed ship owners and maritime police to track the location of a ship if it was diverted from its original course. While pirates often turned off the AIS upon seizure of the ship, this in itself alerted the authorities to begin pursuit, which decreased the time the pirates had to bring their operation to a conclusion.

Understood in the context of these constraints, changes in the quality and quantity of sophisticated pirate attacks in Southeast Asia can be seen as adaptations by violent maritime organizations to decreases in time, political space, and access to economic infrastructure. For ship/cargo seizures, while piracy syndicates initially adapted to counter-piracy measures by attacking smaller ships, more recently they have adapted by minimizing their need for time, collusion with local authorities, and access to port facilities or the administrative machinery of the shipping industry. In practice, this means ignoring the ship, and seizing only the cargo, which can be used or sold off with less scrutiny, and which allows the operation as a whole to be done in a matter of hours, and totally at sea.

For kidnappings for ransom, groups adapt by operating largely in local areas characterized by conflict and state weakness (thus allowing them some amount of time and political space for ransom negotiations). Given that the groups themselves are often the ones creating the conflict, this means that Southeast Asian kidnappings for ransom are often associated with specific insurgencies capable of maritime attacks, and an increase in conflict intensity is associated with an eventual increase in kidnappings. However, because the larger states have law enforcement and military capabilities that function at the most basic level, the pirates do not have extensive political space or time. They are unable to operate in the open or access an extensive economic infrastructure that is required to support long-term negotiations for both ships and crew. The result is a type of kidnapping for ransom in which the pirates pull

crew off ships, abandon ships, and take the hostage to hidden locations, where ransoms are negotiated relatively quickly.

5. The return of ship and cargo seizures

From a low of two attacks in 2008, ship and cargo seizures rebounded to 14 in each of 2014 and 2015 (although they decreased to 4 in 2016) (Figure 2). The attacks were almost entirely concentrated in the Malacca Strait, the Singapore Strait, and the shipping lanes off the east coast of the Malay Peninsula, with the vast majority of attacks occurring in or near the waters of Malaysia and Indonesia. Notably, while the number of ship/cargo seizures increased from the 2008 low, the *characteristics* of those attacks also changed.

The measures implemented beginning in 2004 were so successful that discussions with ReCAAP officials in 2013 indicated that they felt that hijackings where the ship is taken, disguised, and then resold were largely a thing of the past, due to the aforementioned changes. In theoretical terms, the effect of the anti-piracy measures was to further decrease the already limited time pirates had to complete their transactions profitably (due to improved security forces response time), and to remove the ability of pirates to take advantage of ports for hiding and disguising ships, as well to use the economic infrastructure of the region to sell off the ships (through registration of ships, real-time tracking, and better procedures in ports).

Pirate organizations' initial response to constraints on their time and access to economic infrastructure was to move to attacking smaller ships, inasmuch as smaller ships were less likely to be registered internationally, and were theoretically easier to slip into ports without much suspicion. This can be seen in the declining tonnage of the targets in ship/cargo seizures up through 2006 (Hastings 2012). Since 2007, however, the average tonnage of ships in ship/cargo seizures has actually increased, with 2014 and 2015 seeing some of the largest ships subject to seizures in the region (see Figure 4).

This change in trend appears to be largely because of an innovation by pirate groups where they hijacked ships but left the ship and instead seized the cargo (often by transferring the cargo on to a waiting ship at sea). While the majority of ship/cargo seizures continue to see the ship taken (at least from the point of hijacking), the increase in ship/cargo seizures since 2011 is largely down to an increase in hijackings where pirates seize the cargo of a ship, but otherwise leave the ship itself alone. Attacks where ships are not taken have edged out or equalled those where the ships are taken since 2014 (see Table 1).

This shift had advantages for the pirates. By ignoring the ship itself, pirates were able to address some of the constraints imposed by the counter-piracy measures of the early 2000s. Since they did not have to disguise the ship, take it to

port, furnish it with forged registration papers, or find a seller, the pirates had less need for access to port facilities, and needed less time to complete the operation (shifting the operation from a time of days from start to finish, to hours). Since they only needed to dispose of the cargo profitably (often using their own ship), they could take advantage of regional markets that could absorb relatively large amounts of cargo, as long as they took suitable precautions.

Ignoring the need to dispose of the ship also allowed pirate organizations to attack larger ships (presumably with larger and more valuable cargo) than before (see Figure 4). Indeed, since 2007, the average size of a ship taken in a ship/cargo seizure is 1043 tons, while the average size of a ship hijacked but not taken in a ship/cargo seizure is 6213 tons (a t-test shows a statistically significant difference, p-value < 0.05). It has also allowed them to shift the demographics of the gangs themselves. While the mean number of pirates in attacks is essentially the same before 2007 (8.0), and since 2007 (8.3), the 'efficiency' of the pirates varies significantly. Before 2007, pirate groups used more pirates per attack to hijack larger ships, which is not entirely surprising, as more pirates may be needed to overwhelm the crew and take control of larger ships. Since 2007, pirate groups have actually used smaller gangs on average to take on larger ships (even when removing outliers, the trend line is basically flat, indicating a lack of relationship between piracy gang size and targeted ship size) (see Figure 5).

This shift in the logistics of ship/cargo seizures is also reflected in the types of ships that are attacked post-2007. While the early years of piracy attacks saw a variety of ships seized, including general cargo ships and passenger ships, post-2007 ship/cargo seizures have focused more strongly on carriers, tankers, and tugs and barges – ships that can easily be relieved of their cargo (such as palm oil) at sea, and fishing vessels, which do not need to be sold, but can be used for their ability to fish (Table 2).

Delving into the specifics of ship/cargo seizure incidents since 2007 suggests that cargo seizures have indeed largely been of commodities that are difficult to track once stolen, namely different types of oil. While not all ship/cargo seizures are oil thefts -- in the case of the *Permata* tug and barge combination in 2015, for instance, the pirates made off with a substantial amount of scrap metal (ReCAAP 2016: 62) – most are. Since 2014, in fact, oil cargo thefts have so come to dominate ship/cargo seizures in Southeast Asia that ReCAAP reported in its 2015 that all 11 (by its count) hijackings in the South China Sea were oil cargo thefts (Centre, 2016a). Typically, in post-2007 ship/cargo seizures, a group of pirates in one or more small boats comes alongside an oil or chemical tanker or gas carrier and, after boarding the ship, forces the crew into the mess or another contained area to deprive the crew of any knowledge of what is going on. The pirate gang then takes the ship to a meeting

point, drop anchor, and brings another tanker or carrier alongside, and transfers the oil to the other vessel. Along with transferring the oil, the pirate gang often destroys the communications and navigation equipment so that the crew cannot call for help or move the ship after the pirates escape. While it is unclear what the pirates do with the oil after they siphon it, it is likely that they sell it to a pre-arranged buyer or use it themselves (Studies and Centre, 2015): 6.

While it is unlikely that the organizations themselves are the same pre- and post-2007, the changes in attack characteristics are unlikely to be due to changes in the structure of the groups, as opposed to changes in response to the counter-piracy measures. The structures of the piracy syndicates themselves are difficult to know with accuracy, but to the extent that the structures are known, they are largely the same as pre-2007 hijacking syndicates: a mastermind, with knowledge of and connections with the shipping and cargo industries, and information needed to attack ships and take their cargo, hires a middleman to organize the actual attack and deliver the ship and/or cargo to the buyer. Usually, but not always, the mastermind has found a buyer beforehand. The middleman in turn hires a pirate crew (usually from unemployed or underemployed sailors and fishermen), procures the weapons and attack vessels, and then stages the attack using the information given to him by the mastermind (or the mastermind's representative) (Hastings 2010; Hastings 2012). (Von Hoesslin, 2012) suggests that three piracy syndicates in the western half of Southeast Asia have been involved in recent hijackings, with their bases approximating the location of incidents (see Map 1). As with pre-2007 syndicates, Southeast Asia's fairly well-integrated regional economy meant that the ship/cargo seizure syndicates continue to be transnational in scope. In 2015, the *Rehobot* hijacking, for instance, took place near Indonesia, but the mastermind was arrested in the Philippines (ReCAAP 2016: 21). Likewise in the case of the *Orkim Harmony*, while the ship was hijacked off the east coast of the Malay peninsula, the Indonesian pirates steered the ship to Vietnam, where they were arrested (ReCAAP 2016: 21, 53).

Due to compressed time frames imposed by more aggressive coast guard response times, the pirates must move quickly. The hijackers of the product tanker *Lapin* in February 2015, for instance, took over the ship at 8pm local time, dropped anchor at a designated meeting at 4am, then moved another ship alongside, siphoned five tons of diesel, destroyed communications equipment, secured the crew and stole their belonging, set up a supposed IED, and left by 7am (ReCAAP 2016: 40). In the case of the *Sun Birdie*, a chemical tanker attacked in January 2015, the Malaysian coast guard managed to locate the ship within eleven hours of the ship owners notifying authorities that they had lost contact with the ship (ReCAAP 2016: 39). Likewise, the *Singa Berlian* was hijacked in March 2015, and the pirates managed to siphon off the marine fuel oil and escape in the seven hours between the ship was

hijacked and when the Malaysian coast guard located the ship (only five hours after ReCAAP was notified of the hijacking (ReCAAP 2016: 42).

The perils of attempting to maintain a modus operandi where the ship is taken for any length of time post-2007 is illustrated by the fate of the pirates in the *Orkim Harmony* incident. The *Orkim Harmony* was hijacked on 11 June 2015, but not located by 17 June 2015. In that time, the pirates had repainted the ship and changed the name to *Kim Harmon* in an attempt to disguise it. While the pirates initially escaped when challenged, they were arrested two days in Vietnam (ReCAAP 2016: 53). If they had offloaded the cargo more quickly and had not held on to the ship for six days, they likely would have escaped.

Adaptation can also take the form of changing aspects of the operation to push back against the limits imposed by counter-piracy measures. Pirates can attempt to buy themselves more time by maintaining communications and tracking systems so as not to raise suspicions. In the case of the *Suratchanya* hijacking in 2014, the Singapore Police Coast Guard contacted the ship after it security alerts on the ship. The crew (or the pirates) responded that they were all safe and were having engine problems. The pirates then siphoned the oil *after* the Singapore PCG moved away (ReCAAP 2015: 34).

Pirates have also moved to buy more time by repainting and renaming the ship, thus throwing off searchers for at least some time. The *Srikandi 515*, for example, was hijacked on 9 October 2014 in Indonesia, off the southern coast of Kalimantan, and was not found until 27 November, having been repainted and renamed the *Chongli 2*, and sailed to southern Thailand (Centre, 2015): 33. While pirates are not able to dispose of the ship, given enough time, oil theft operations can take nearly all the cargo without a trace. In the case of the *Joaquim* attack in August 2015, for instance, the pirates siphoned 3000 tons out of 3500 tons of fuel oil carried by the ship (ReCAAP 2016: 59). Likewise, pirates managed to siphon 450 tons of oil from the *Sri Phangna* in 2014 and repaint and rename the ship within six hours in 2014 (ReCAAP 2015: 57). Similarly, the pirate gang that attacked the *Orapin 4* in May 2014 repainted the ship name to *Rapi* and then siphoned 3700 tons of oil in the ten hours they had control of the ship (ReCAAP 2015).

In sum, piracy syndicates seeking to engage in ship/cargo seizures have responded to counter-piracy measures designed to decrease the political space and time they had to complete their operations, and to deny them access to economic infrastructure necessary to dispose of ships and cargo not by changing their organizational characteristics but by shifting to operations that do not require them to dispose of the ship at all, that take less time than previous operations, and that do not require extensive economic infrastructure access other than access to a functioning commodities market.

6. The return of kidnappings for ransom

Kidnappings are much less frequent in Southeast Asia than ship/cargo seizures, let alone robberies, so we should be careful not to draw strong conclusions from a relatively small number of cases. With that said, kidnappings also saw a rise from 2007 onward, with intermittent kidnappings until 2016, which saw 11 kidnappings in one year (Figure 2). The majority of post-2007 kidnappings were in eastern archipelagic Southeast Asia, with the main cluster in the waters where Indonesia, Malaysia, and the Philippines meet (Map 2).

As with ship/cargo seizures, the shifting characteristics of kidnappings since 2007 can give us entrée into understanding how piracy organizations have adapted in response to counter-piracy measures in Southeast Asia. Kidnappings have always been more difficult in Southeast Asia than in the Horn of Africa or the Gulf of Guinea, inasmuch as they require time and political space for ransom negotiations, and the relatively effective law enforcement of Southeast Asian countries has limited the time and political space available to piracy operations. As a result, kidnappings have remained relatively infrequent in the region, unless there is a localized breakdown in law and order (or more specifically, a breakdown in state capacity that provides time and political space to maritime kidnappers). The previous surge in kidnappings in Southeast Asia took place in one of the few time periods and locations where state authority had broken down – in Aceh during the last period of the Free Aceh Movement insurgency in 2001-2005, when the vast majority of the kidnappings in Southeast Asia emanated from the Indonesian side of the Malacca Strait (Hastings 2009).

As with the surge in kidnappings in 2001-2005 in the Malacca Strait, the post-2007 surge in Southeast Asian kidnappings can largely be attributed to attacks where the pirates took the crew off the ship, left the ship, and held the hostages on the pirates' own ships or, more frequently, held them in undisclosed locations on land (see Table 3). While the ransoms for ships and crew, taken together, are often much higher than those ransoms that can be extracted simply for the crew, such ransoms can take much longer to negotiate, and it is nearly impossible to hide the location of the ship. Ships and crew in Somalia eventually sometimes attracted \$10 million in ransom, and negotiations could take over a year. By contrast, while ransom amounts are difficult to come by in Southeast Asia, the *Brahma 12* hijacking reportedly fetched 50 million pesos (\$1.45 million Singapore dollars) in ransom for ten crewmembers (Centre, 2016b): 3, and the median time from hijacking to release of crew in 2016 was 68 days.¹

¹ Calculated by author.

By taking only the crew hostage, and abandoning the ship, pirates are able to address (to a certain extent) the problems for their operations caused by counter-piracy measures that decrease the time, political space, and economic infrastructure accessible by the pirates. The time that the pirates spend on the ship before departing with their hostages is usually quite short, mitigating the constrained time issue. Kidnappings can require even less time on the ship for pirates than cargo seizures, and can be done in the daytime. In the *Massive 6* kidnapping, for example, in which four Malaysia crew members were kidnapped off a tug boat southeast of Sabah, the pirates boarded the ship no later than 18:40 local time, and left by 20:00 (Centre, 2017a): 49. The *Dong Bang Giant No. 2* was attacked in October 2016 at 2pm local time, and the pirates succeeded in carrying off the captain and second officer back toward Sibutu island (ReCAAP 2017: 69).

While organizations engaged in ship/cargo seizure shifted the types of ships they targeted from 2007 to maximize their ability to profit from cargo seizure and minimize the need to take the ship, there was no corresponding shift in the types of ships targeted for kidnappings in Southeast Asia (Table 4). In fact, even the mix of ship types that was targeted remained the same in the post-2007 period as in the pre-2007 period, suggesting that varying the type of ship attack is not a particularly useful way of adapting to anti-kidnapping counter-piracy policies, since in attacks where the ship is left behind and the crew is taken, the actual type of ship is irrelevant, except for judgments about which ships may be easier to board, and which ships are likely to have more valuable crew.

Much of the expense incurred by the pirates in Somalia – paying for food, water, oil, transportation and communications equipment, and rotating pirate crews to guard the hostages and the ship to prevent against attack by foreign navies, local Somali elites, and other pirate gang – was because they needed to maintain the hijacked ship out in the open for a lengthy period of time (Bahadur, 2011, Shortland, 2011). In Southeast Asia, without a ship to maintain, these expenses, and the need for access to infrastructure (such as food and fuel suppliers), are diminished. Although the pirates sometimes take the entire crew, as happened with the *Ramona 2* attack in December 2016, when pirates took all four crew (ReCAAP 2017: 77), the pirates can also choose to select specific crew to take hostage as well, and leave the rest, minimizing cost relative to the potential for ransom. In the case of the *Royal 16* attack in November 2016, the ten pirates only took six out of nineteen crew members (ReCAAP 2017: 72). The pirates can also pick and choose hostages: when a fishing trawler was hijacked off Lahad Datu in Sabah, Malaysia in July 2016, for example, the pirates kidnapped the three crew with passports (likely because their identities could be verified), and left the rest (ReCAAP 2017: 62).

Once they have acquired hostages, by retreating to and hiding in land they control (or that is at least beyond the reach of the central state), the pirates can buy themselves more time and political space for negotiations. They can also minimize the additional economic infrastructure needed to maintain the hostages, inasmuch as they already have a support structure in place for their land-based insurgent activities. All of the hostages kidnapped off ships in 2016 and 2017 appear to have been taken to land immediately. The *Super Shuttle Tug* attack, for example, in which pirates kidnapped two crew and took them to Basilan on 23 March 2017, saw Philippines land forces stage rescues two and four days later (Centre, 2017b).

Given these changes (or lack thereof) in kidnapping tactics, it behoves us to look at the organizations that would be willing and able to carry out maritime kidnappings in Southeast Asia, and the conditions that would lead to a rise in piracy attacks. Taking data from the BAAD2.0 dataset, I mapped out incidents of revenue-raising maritime attacks by insurgent organizations (measured by a binary variable of whether an insurgent group committed an act on the water in a given year that could be used to raise revenue) against the set of organizational and contextual variables for insurgent groups on a group-year basis used in (Asal et al., 2017) which finds that the propensity for an insurgent group to engage in maritime attacks is increased when the group controls territory, participates in the drug trade, or has separatist ideology. Propensity to take to the sea is associated with greater lethality of the group's attacks, more intense conflict, and a higher number of allied insurgencies (although this effect disappears when al-Qaeda is removed from the model).

The logit model results (shown in Table 5) suggest that separatist ideology, involvement in drug trafficking, territorial control, increased conflict intensity, and a higher level of violence perpetrated by the group are all associated with an increased probability of engaging in a revenue-raising maritime attack in a given year. At base, this suggests that not all insurgent groups are equally likely to engage in revenue-raising maritime attacks, and not all conflicts are equally likely to result in parallel maritime piracy problems.

More generally, it suggests that maritime kidnappings are in fact associated with higher levels of conflict. While ship/cargo seizures in Southeast Asia are unlikely to be associated with conflict for several reasons - they require economic infrastructure which is unlikely to function well during a violent conflict (Hastings, May 2009), and the vast majority of ship/cargo seizures in Southeast Asia since 2007 have taken place in locations, east and west of the Singapore Strait up and down the Malay Peninsula that don't actually have any conflict - kidnappings for ransom are more likely to be associated with conflict due to their operational needs of some amount of time and political space.

The results allow us to put together predicted probabilities of revenue-raising maritime attacks for individual insurgent organizations in Southeast Asia over the period for which we have data (1998-2012). For Philippines groups operational in the southern Philippines (where all kidnappings for ransom took place, according to our dataset), over the years 2007 to 2012, the model predicts that Abu Sayyaf Group is consistently the group most likely to stage revenue-raising maritime attacks in a given year, with an average probability of staging a maritime attack of 0.21 between 2007 and 2012. This is unsurprising given Abu Sayyaf Group's separatist ideology, consistent drug trafficking control of a small amount of territory in the southern Philippines, and violent encounters with the Philippine military and other insurgent groups. Since 2012, the number of violent incidents associated with Abu Sayyaf Group have skyrocketed (see Figure 6), suggesting an increased probability of ASG moving to maritime kidnappings for ransom, which duly happened in 2016.

A map of the Sulu Sea area at the intersection of the Philippines, Malaysia, and Indonesia shows that all of the maritime kidnappings (in red in Map 2) in eastern Southeast Asia were not only in the Sulu Sea area, they were largely within the shipping lane between Sabah, Malaysia and Mindanao, and close to the location of incidents involving Abu Sayyaf Group (in green in Map 2). This does not prove that Abu Sayyaf Group was behind the attacks, of course, but it does suggest that pirates operating from the same locations as ASG strongholds were able to stage maritime kidnappings in the Sulu Sea. The Sulu Sea has been the home of extensive piracy networks (often engaged in slave raids) for hundreds of years (Warren, 2002, Warren, June 2003), so it is not surprising that an escalating conflict in the Sulu Sea would result in a return of piracy.

Abu Sayyaf Group leaving its 'comfort zone' and staging sea-based maritime kidnapping operations is not new: famously, the group kidnapped 21 tourists and hotel workers out of a dining hall in Sipadan island in Sabah, Malaysia, and took them by sea back to the Philippines (GTD 2016). Narratives of the 2016 incidents suggest that ASG is associated with the attacks. Abu Sayyaf Group was confirmed to be the group for a number of the kidnappings in the Sulu Sea. Members of ASG reportedly got into a firefight with Malaysian Marine Police while kidnapping four crew from the *Henry* in April 2016, for instance (ReCAAP 2016: 52). In the case of the *Charles 00* hijacking in June 2016, the ASG gang abducted three crew, then returned and carried off four more an hour later (ReCAAP 2016: 61). In the *Serudong* tug-and-barge hijacking, the ASG pirates abducted the entire crew and left the ship's engines running (ReCAAP 2016: 63). In the case of the *Brahma 12*, in March 2016, a gang of 17 pirates boarded the tug and barge (then subsequently cast the barge adrift), kidnapped all ten crew, and made off to a Philippine island. Both the tug and barge were left adrift in the water. In this case, Abu Sayyaf Group appears to have taken

delivery of the hostage from the pirate gang, which could indicate that the pirates were acting on behalf of ASG but were not in fact ASG core members (Centre, 2017a): 48.

In sum, the post-2007 rise of maritime kidnappings in Southeast Asia arose from a shift in insurgent organizations' tactics that took into account the constraints (in time, political space, and access to economic infrastructure) imposed on them by relatively functional state institutions and relatively effective counterpiracy measures in the region. Abu Sayyaf Group was capable of engaging in maritime kidnappings for a number of years before 2016, and an increase in ASG-related conflict went hand in hand with the appearance of kidnappings by sea.

7. Conclusion

Southeast Asian violent maritime organizations have demonstrated resilience over the past several years in response to counter-piracy measures. They have adapted how they carry out their operations so as to minimize their dependence on the factors – time, political space, and economic infrastructure – that the counter-piracy measures were designed to deny to the pirates. This organizational adaptation allows pirates to operate in Southeast Asia – a region that, in comparison to the other two piracy hotspots in the world, the Horn of Africa and the Gulf of Guinea, has relatively functional governance, relatively few conflicts, and a relatively robust regional economy. With that said, the ability of Abu Sayyaf Group to shift its ransom-based funding model from land to sea does suggest that a localized increase in conflict can be indicative of maritime piracy incidence, assuming the presence of a maritime-capable insurgent group.

While the study of the causes of maritime piracy has often focused on privation, conflict, and dysfunction as environmental conditions responsible for a rise or fall in piracy, relatively little attention has been given to the piracy organizations themselves, and how the organizations adapt to changing conditions. Given a lack of data, this is understandable, but much about the organizations can be gleaned from examining changing attack characteristics, as with ship and cargo seizures. In the case of kidnappings for ransom by sea, we can also look into the organizational characteristics of insurgent and terrorist groups who are likely to engage in revenue-raising maritime attacks.

Figure 1. Total successful attacks in Southeast Asia v. Rest of World (1996-2016)

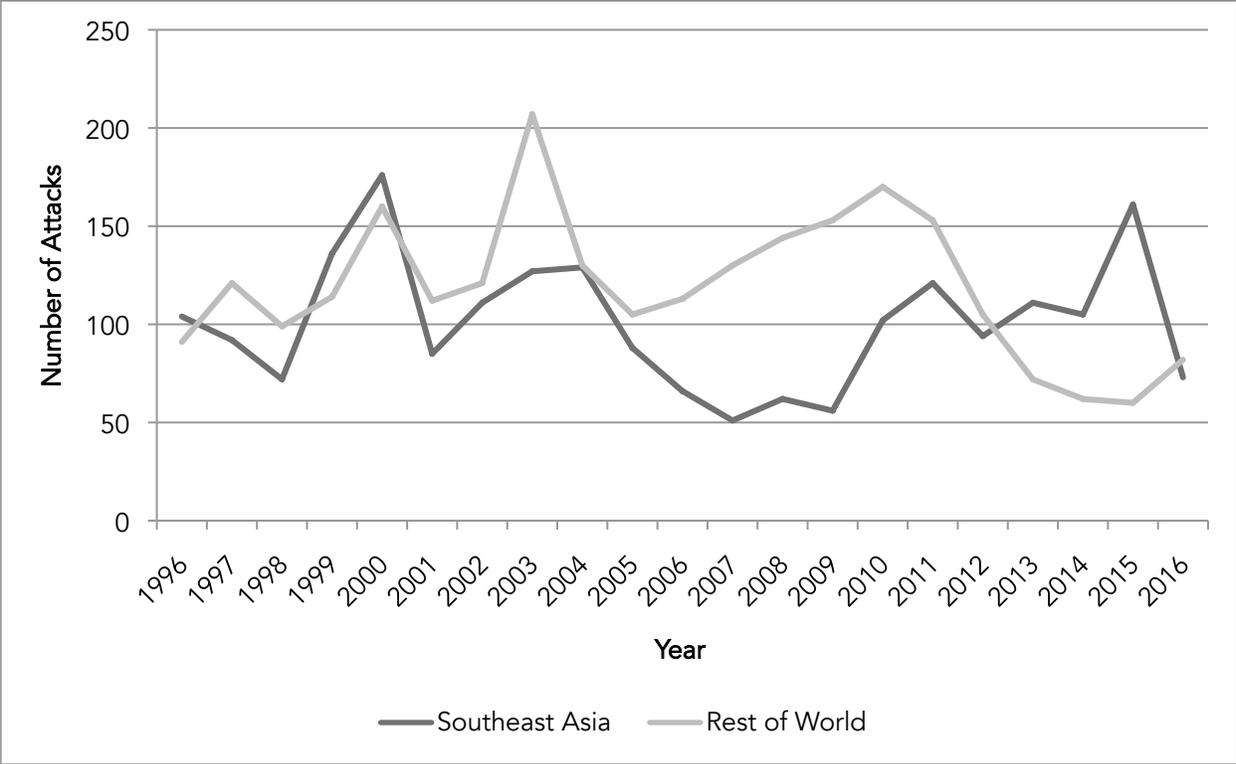


Figure 2. Sophisticated attacks in Southeast Asia (1996-2016)

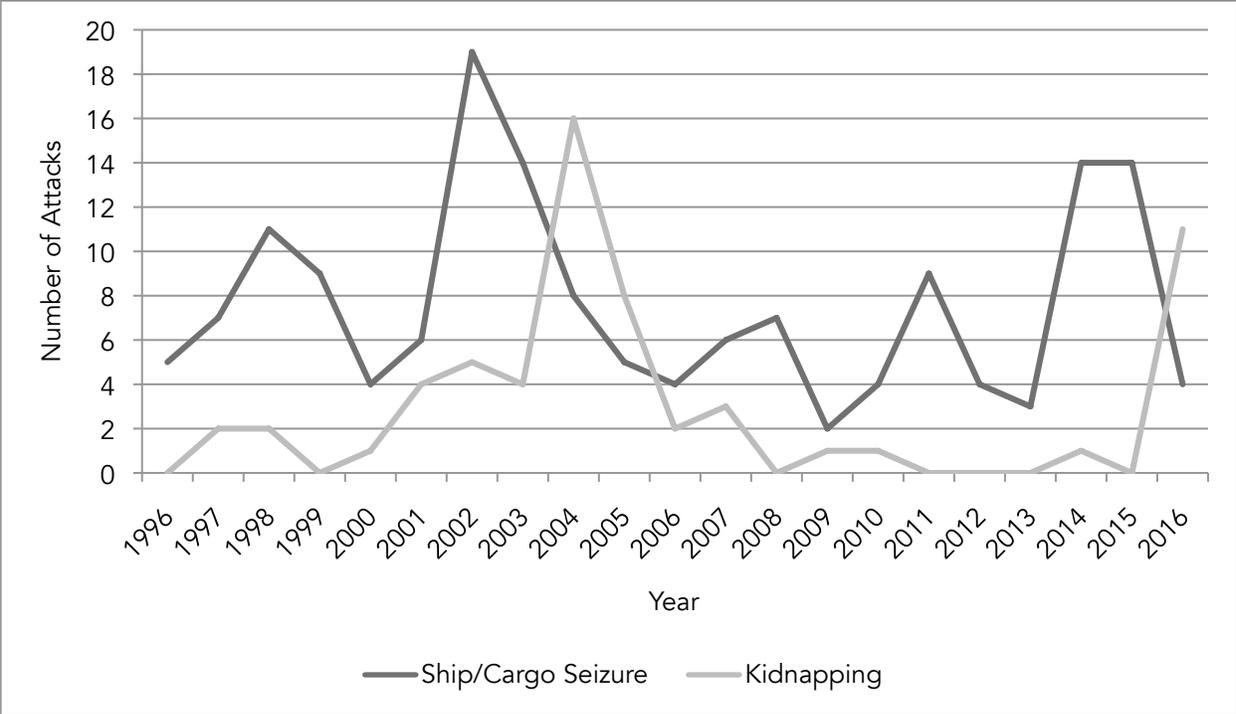


Figure 3. Political Stability v. Pirate Attacks in Southeast Asia (1996-2016)

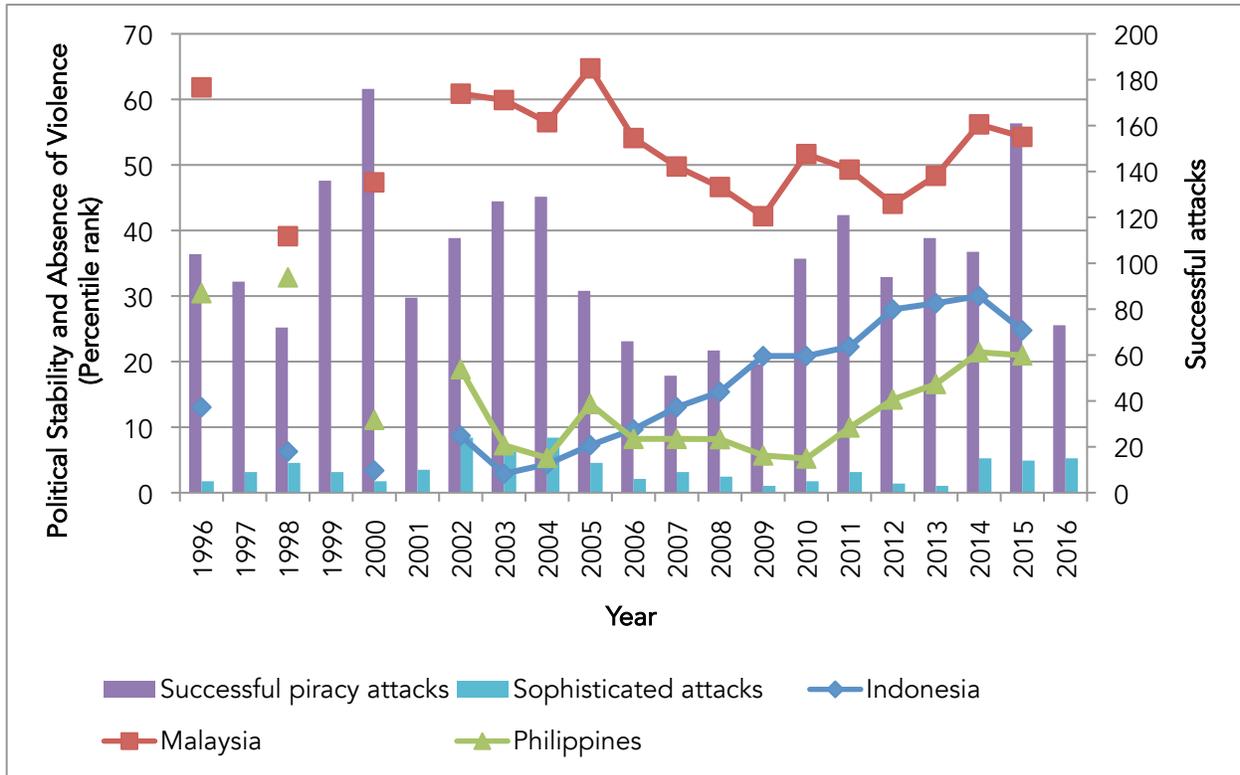
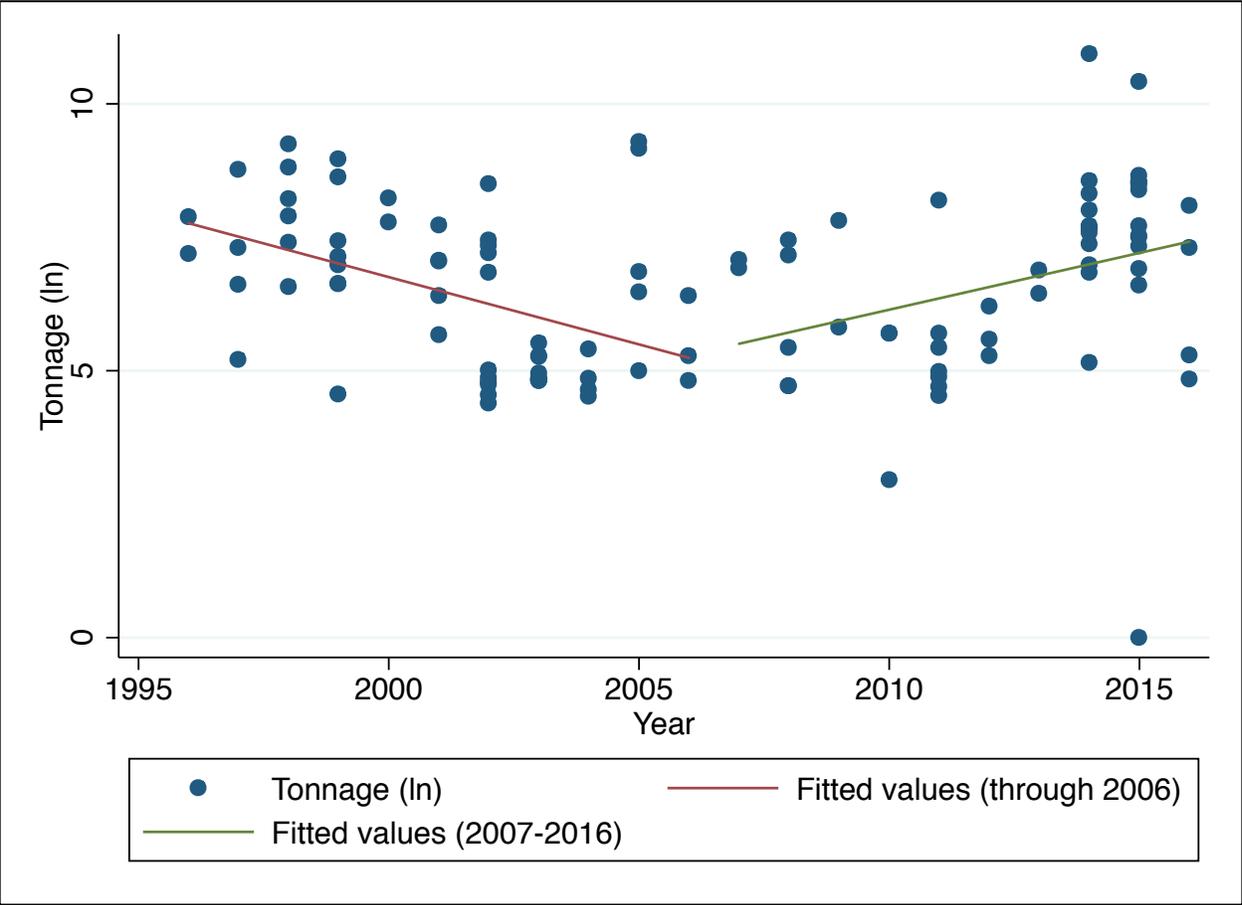


Figure 4. Tonnage of ships attacked in ship/cargo seizures in Southeast Asia by year (1996-2016)



Map 1. Locations of Ship/Cargo Seizures (2007-2015)

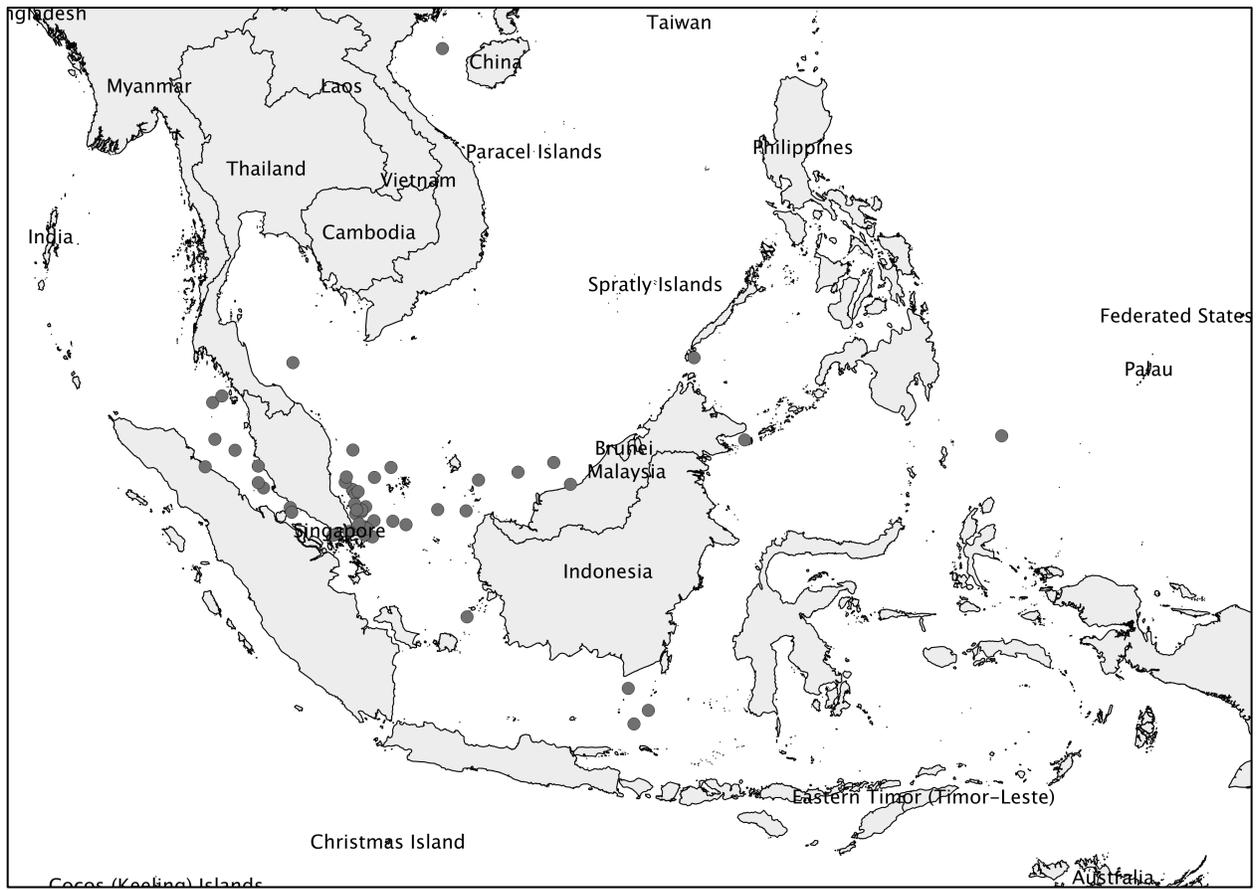


Table 1. Ships taken in ship/cargo seizures by year (2007-2016)

Year	Ship not taken	Ship taken
2007	0	6
2008	0	7
2009	0	2
2010	0	4
2011	2	7
2012	1	3
2013	0	3
2014	8	6
2015	10	4
2016	2	2

Figure 5. Number of pirates versus tonnage of ships attacked in ship/cargo seizures in Southeast Asia

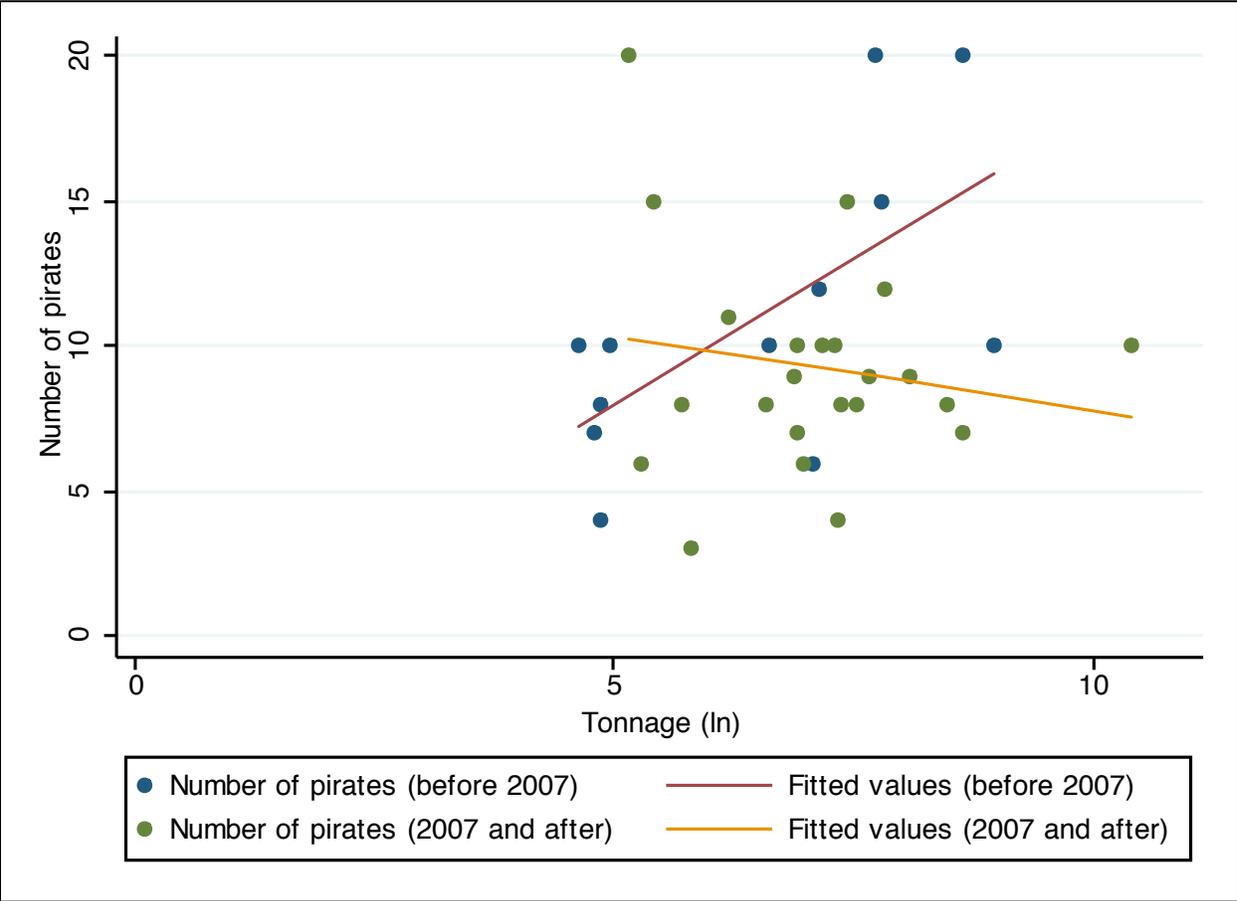


Table 2. Ship type in ship/cargo seizures over time

Type of ship attacked	1997-2006	2007-2016
Cargo	15	0
Carrier or Tanker	20	32
Fishing	18	10
Miscellaneous	5	0
Passenger	4	0
Tug and/or Barge	30	25

Pearson $\chi^2(5) = 26.2271$ Pr = 0.000

Map 2. Abu Sayyaf incidents (2007-2015) and locations of maritime kidnappings (2007-2016)

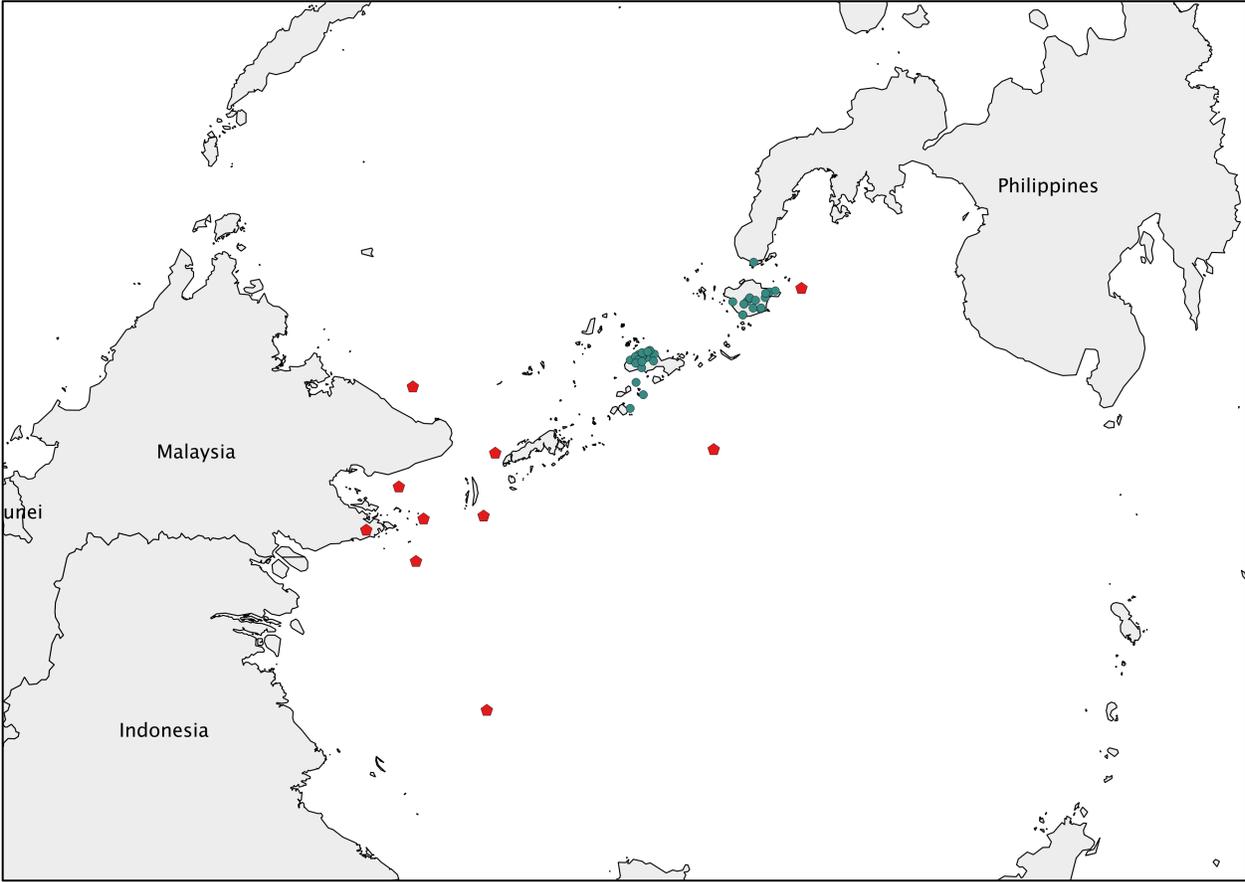


Table 3. Ships taken in kidnappings in Southeast Asia (1997-2016)

Year	Ship not taken	Ship taken
1997	0	1
1998	0	2
1999	1	0
2000	1	3
2001	2	3
2002	2	2
2003	15	1
2004	8	0
2005	2	0
2006	3	0
2007	1	0
2009	0	1
2010	1	1
2011	0	0
2012	0	0
2013	0	0
2014	1	0
2015	0	0
2016	11	0

Table 4. Ship type in kidnappings over time

Type of ship attacked	1997-2006	2007-2016
Cargo	8	3
Carrier or Tanker	7	2
Fishing	13	6
Miscellaneous	2	0
Passenger	1	0
Tug and/or Barge	13	6

Pearson $\chi^2(5) = 1.5640$ Pr = 0.906

Figure 6. Abu Sayyaf Group and GAM attacks (GTD) and maritime kidnappings in Southeast Asia

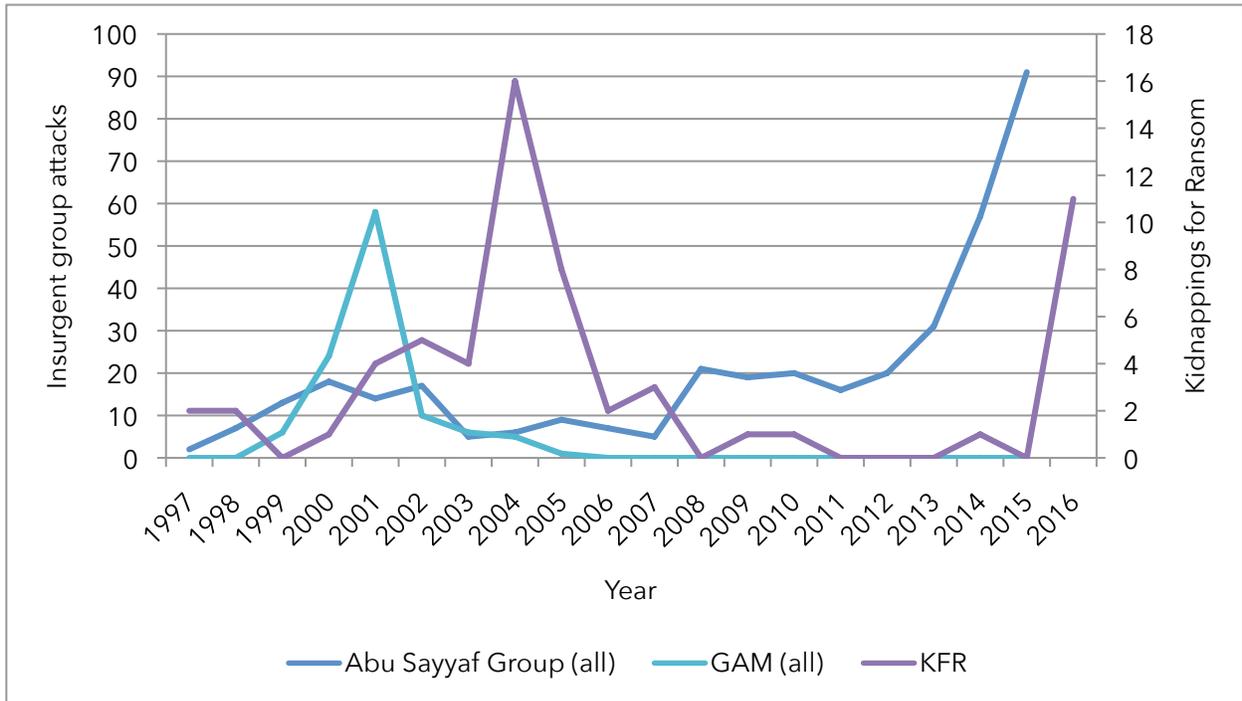
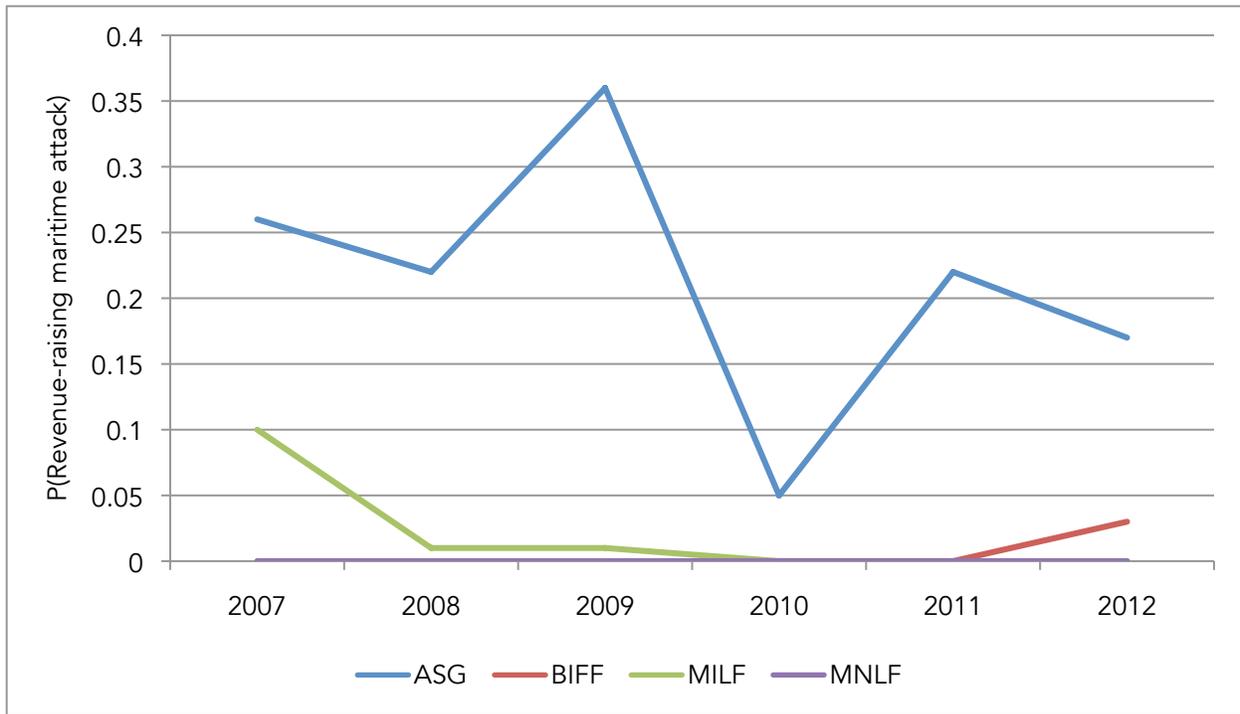


Table 5. Logit model of probability of a revenue-based maritime attack (1998-2012)

Independent Variable	Coefficient	Robust Standard Error
Religious ideology	-0.070	0.793
Separatist ideology	2.059	0.918*
Leftist ideology	-1.028	0.704
Rivalry degree	-0.296	0.353
Alliance degree	0.175	0.156
Drug trafficking	3.065	0.585***
Territorial control	1.752	0.577**
Organizational size	0.405	0.376
Battle deaths	0.001	0.000**
Fatalities	0.004	0.001***
Freedom House/Polity IV score	0.218	0.0163
GDP per capita	0.000	0.000
Constant	-10.416	1.673***
Observations	1102	
Wald Chi-squared	1235.13	
Pseudo R-squared	0.4591	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; Clustered by insurgent group; Results for year dummy variables not shown.

Figure 7. Predicted probability of a revenue-raising maritime attack by Philippines insurgent group (1998-2012)



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