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1033

Discussion  
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#### IMPRESSUM

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# The Business of Piracy in Somalia<sup>∇</sup>

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Updated version

## Abstract

This article argues that it will be difficult, if not impossible, to control Somali piracy for four reasons. First, Somali piracy is a land-based problem and naval control mechanisms are not changing the incentives for pirates. Second, improving Somalia's anarchic political situation will not necessarily stop piracy. Our analysis demonstrates that piracy is a business which improves with a more stable operating environment. Third, piracy is organized criminal activity, and like other organized crime groups will be difficult to control, especially if it becomes embedded in state structures. Finally, we argue that few of the relevant players have any real incentives to alter their behaviour.

**Keywords:** Piracy, Somalia, Law Enforcement, Organised Crime, EU Atalanta

**JEL:** K42, O17, P48

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The continued growth and increasing violence of piracy off the coast of Somalia has threatened international shipping in one of the world's busiest shipping corridors and raised the spectre of maritime-based Islamist terrorism (Stevenson 2010, 36). Controlling piracy is a top priority for international policymakers. The EU has its first joint naval mission patrolling the area,<sup>1</sup> and there are NATO<sup>2</sup> and US-led missions present.<sup>3</sup> We argue that despite these initiatives, Somali piracy will at best be difficult, and at worst impossible, to control.

Somali piracy threatens commercial shipping and poses a potentially significant threat to international peace and security. Data from the International Maritime Bureau reveals that there were 22 pirate attacks in 2000, rising to 108 in 2008 and 216 in 2009, 218 in 2010 and 117 incidents up to 13 May 2011.<sup>4</sup> The shipping corridor off the coast of Somalia is strategically and economically important. 7% of the world's oil supply travels through the Gulf of Aden (Kraska 2009, 243). Several shipping companies are diverting vulnerable ships and lengthening their journeys around the Cape of Good Hope to avoid the Gulf of Aden altogether (Otten 2008). The total cost of piracy off the Horn of Africa including public and private counter-piracy efforts is estimated to be in the region of US\$7-12bn annually (Bowden 2010). Pirate attacks have grown increasingly sophisticated (Saltmarsh 2009), both in terms of targeted vessel and location of attack. Pirates are now able to attack vessels more than 1100nm off the coast of Somalia (Saltmarsh 2009). This development has required a significant improvement in tactics and equipment.<sup>5</sup> Over the course of 2010-2011, piracy has become noticeably more violent (Hurlburt 2011).

The usual explanation for the intransigence of pirates in face of international control efforts is a two-step argument: first, piracy is a land-based phenomenon that manifests itself at sea, and second, the land-based problem is Somalia's lawlessness. The view that "anarchy on land means piracy at sea" (Kaplan 2009), and the attendant policy prescription that truly ending piracy requires rebuilding Somalia, dominates the academic and policy worlds. US

Navy Vice Admiral William E. Gortney has stated that “the problem of piracy is and continues to be a problem that begins ashore” (American Forces Press Service 2009). NATO General William Craddock points out that “You do not stop piracy on the seas. You stop piracy on the land” (Charter 2008). The Ethiopian foreign minister has argued that “The pirates are not fish who just sprang up out of the sea. They came out of Somalia. It is far-fetched to try to clamp down on piracy without first having put the situation in mainland Somalia under control” (Charter 2008).

Academic commentators agree. Max Boot (2009) argues that the discussion of counter-piracy would be largely superfluous “if only Somalia had a responsible government capable of policing its own territory.” James Kraska and Brian Wilson (2008/9, 46) point out that “any long-term solution to the region’s piracy threat requires addressing lawlessness in Somalia.” Ken Menkhaus (2009, 22) argues that “the Somali piracy epidemic is unquestionably an on-shore crisis demanding an on-shore solution.” Peter Pham (2010, 326) claims that piracy is a “land-based crime which happens to manifest itself at sea” making it difficult to control at sea alone.

We argue that Somali piracy presents a worrying combination of factors that might make it nearly impossible to control. Even if some sort of land-based solution could be imposed, it would be unlikely to work, because piracy is organized crime and can benefit from more effective government structures.

Somali piracy is difficult to control for four reasons. First, Somali piracy is indeed a land-based problem in that the expected pay-offs from piracy dwarf the returns from any legal activity in Somalia, and therefore naval solutions are unlikely to work. We statistically analyse the pattern of piracy from 2002 to 2010 and show that naval control mechanisms have not had a significant effect on the number of attacks mounted by pirates. Instead, as the probability of disruption and arrest in the Gulf of Aden has risen, pirates have moved further

offshore, invested in better equipment and changed their tactics, rather than giving up piracy. But if naval efforts are unlikely to be successful, does this imply that Somali piracy must be solved on land, and if so, how?

Second, we argue that current views on how Somali piracy could be solved on land are misguided. Somali piracy does not thrive under conditions of anarchy. The statistical analysis demonstrates that pirates benefit from improvements in the business environment in Somalia, while gang warfare and territorial conflict reduce the incentives to hijack ships. This is because pirates need reliable supplies to feed their hostages and safe havens during the lengthy ransom negotiations. We therefore posit that stability is good for Somali piracy. ‘Solving’ the problems of Somalia, even if it is possible, may not solve the pirate problem.

Third, we argue that Somali piracy is a business with significant features of mafia-style organized crime groups. These groups co-exist with legal structures, often in symbiosis; there is no reason to expect that a stronger Somali state would stamp out the pirate problem. We present evidence that piracy took off in earnest when the Puntland government became unable to pay its security forces in April 2008, allowing pirates to capture governance in this region. The idea that Somali piracy is a criminal business that prefers stability to conflict poses a serious obstacle to resolution.

Fourth, we argue that many of the relevant players (Somali pirates, local communities, nascent government in pirate regions, international navies, private security and the insurance industry) have no incentive to stop piracy. In fact, there is a relatively stable relationship between these groups, many of whom share a clear business interest in maintaining piracy at its current level.

We make the argument that Somali piracy may be impossible to control in five sections. First, we provide a brief history of Somali piracy. Second, we provide statistical evidence that naval interdiction efforts have not changed incentives for Somali pirates. Third,



we show that Somali piracy does not thrive in conflict but improves in periods of economic stability. In the fourth section we argue that the reason for Somali piracy's success is that it is a criminal business, with mafia characteristics, and that these characteristics suggest that building up state capacity may not solve the pirate problem, because the administration has been captured by pirates. The relationship between Somali pirates, local government, and even international government and non-government players may have evolved in to a stable relationship where the costs of altering the relationship are greater than the benefits of doing so. Fifth, we examine the skewed incentives of all the players involved in Somali piracy.

## **1. Origins and evolution of Somali piracy**

Somali piracy has its roots in a cocktail of factors: the background of civil war in the state, the failure of domestic and international efforts to create central governance in Somalia; poverty and displacement; and geographic opportunity. The tale of Somalia's gradual decline from corrupt dictatorship to civil war and state failure, culminating in the UN intervention of the early 1990s, is well-known (Menkhaus 2007, 357-390). Somalia has been, if not in all-out civil war, in periods of substantial unrest for nearly twenty years, leading to a ready supply of small arms and those experienced in their use.

Somalia has not been able to establish a central government. Since 1991, 14 governments "formed in exile have tried and failed to govern Somalia" (Stevenson 2010, 28). The latest, the Transitional Federal Government, met for first time in February 2006. From March to May 2006 fighting erupted between militias loyal to the Union of Islamic Courts (UIC) and the TFG. In June 2006, the militias of the UIC took control of Mogadishu and parts of Southern Somalia. In December 2006 they were driven out of Mogadishu by Ethiopian troops and troops of the transitional government. However, conflict between Islamist insurgents fighting under the *Al Shabaab* banner and government troops continued through 2010, with Southern Somalia and Mogadishu seeing the greatest disruption. Somalia

“still epitomizes the failed state. The TFG has not collected taxes or provided effective social services, established a sound civilian law-enforcement organization enjoying anything like a monopoly on the use of force, or been able to make collective decisions for the populace” (Stevenson 2010, 32). Moreover, it has never been able to extend its authority much beyond Mogadishu. However, in Puntland and Somaliland, local polities have emerged in which Islamic courts backed by clan elders, business people and Muslim clergy have established some form of rule of law (Menkhaus 2006-2007). In Somaliland these structures have resulted in stable governmental structures with orderly transfers of power after elections (Walls 2009, 371-389; Hansen and Bradbury 2007, 461-476). Conflict and disorder is mainly restricted to Southern and Central Somalia.<sup>6</sup>

There is no question that Somalia’s dire economic situation and geographic location make piracy desirable. 2.87 million Somalis received food aid in 2009, and in 2008 GDP per capita was estimated at \$298 (*United Nations World Food Program - Somalia/Operations; UN Data - Somalia*). A single pirate hijack can result in a ransom ranging from USD\$500,000 to USD \$3 million, with individual pirates’ profits estimated at about USD \$10-15,000 (Gilpin 2009; Osma 2008). The Gulf of Aden is a busy shipping route offering a tempting series of targets. Somalia then represents a perfect collision of means (extensive small arms), motive (poverty) and opportunity (lack of governmental authority and proximity to shipping) for effective pirate operations.

Somali piracy began in the early 1990s when local fishermen tried to expel foreign fishing trawlers (McKenzie 2008).<sup>7</sup> Local resistance evolved into an extortion racket that saw local militias extracting money from foreign fishing vessels for ‘licenses’; those who did not pay faced the threat of capture and kidnapping. (Menkhaus 2009, 22; Kraska and Wilson 2009b, 225). Gradually – as trawlers began to arm themselves - maritime extortion became more organized and transformed into piracy targeted at merchant shipping, which was well-

established by 2005 (Kraska and Wilson 2009a, 75). It is estimated that as many as 5000 Somali men are working as pirates, divided into five large groups (Kraska and Wilson 2009b, 225).

Somali piracy is a low-technology business. Pirates, armed with AK-47s and rocket propelled grenade launchers, “use small speedboats to capture a dhow or fishing vessel, and then use that as a mothership to ply waters far from shore in search of unguarded, lightly manned, slow-moving cargo ships” (Menkhaus 2009,22). The use of motherships extends the radius of operations well beyond Somalia’s coastal waters. Looking like legitimate fishing or trading vessels, pirate ships move unnoticed in the shipping lanes<sup>8</sup> and are no longer confined to harbor during the monsoon season. Motherships are either ransomed or abandoned when the stores run out or the vessel’s use as a mothership is suspected by naval forces (EU NAVFOR Public Affairs Office 2009).

Hijacked ships are anchored in territorial waters near pirate strongholds in the Puntland villages of Eyl, Hobyo and Gharardeere until ransom negotiations are concluded (Harper 2008). There are no harbors which could accommodate a modern tanker or bulk carrier nor a land-side infrastructure which would allow pirates to move cargo off the ships and sell it in regional markets (Hastings 2009, 213-223). Nor can Somali pirates credibly threaten to give a ship a new identity and sell it off. Somali piracy is therefore a hijack and ransom business. The lack of infrastructure explains the surprisingly low ransoms relative to the value of the cargo.<sup>9</sup> Around USD \$20-\$40 million was paid in ransom in 2008, (Menkhaus 2009, 23) while the figure for 2009 was £70mn.<sup>10</sup> It also explains why Somali piracy is unlike the form of piracy common in the Straits of Malacca through the 1990s, where pirates typically killed the crew and used existing infrastructure to sell the ships and their cargos (Raymond 2009, 31-42).<sup>11</sup> However, it does appear that in 2010-2011 piracy has become more violent, a point which we will discuss further below.

## **2. Effectiveness of naval intervention**

There are now three multinational naval operations working to control piracy off the coast of Somalia. The European Union launched its first ever joint naval operation, Operation Atalanta, in November 2008, with the aim of protecting shipping in the region and ensuring that the vessels of the World Food Program (WFP) are able to deliver aid to Somalia. NATO's Operation Allied Protector began in October 2008 and was replaced with Operation Allied Provider in March 2009. NATO's operations similarly began to protect WFP aid and have now been extended to include general counter-piracy. Under the auspices of the Combined Maritime Forces, based with the US Fifth Fleet in Bahrain, Combined Task Force 151 (CTF-151), a multinational counter-piracy force, was set up in January 2009 to "deter, disrupt, and criminally prosecute those involved in piracy" (Kraska and Wilson 2009c, 244). CTF-151 is multinational, including Turkey, Australia, Denmark, the Netherlands, and France. In addition, a number of navies patrol the area protecting their own shipping, such as Russia, India and China. These multinational naval initiatives are backed up with the authority of a series of UN Security Council resolutions.<sup>12</sup>

These naval efforts represent unprecedented multinational naval cooperation (Kraska and Wilson 2008/9); the fact that the EU has authorized its first ever joint naval operation, out of area, signals the importance of counter-piracy for international navies. How successful are these unparalleled efforts? Is the claim that piracy is a land-based problem requiring a land-based solution borne out by the success of naval counter-piracy projects? Assessing the impact of counter-piracy operations is important not only because of the strategic and commercial impact of piracy, but because of the nature of the naval missions themselves. The multinational naval cooperation in the Gulf of Aden may represent the future for navies, both because it overcomes the problem of 'sea-blindness' (the current focus of most Western

militaries on ground troops) (Gerard 2009) and because of the high degree of international cooperation and coordination the naval missions represent.

In this section, we probe the success of counter-piracy in two steps. First, we undertake a brief qualitative assessment of counter-piracy. Are navies achieving the goals they set out for themselves? Second, we confirm the insights of this assessment through quantitative analysis of the data available on piracy.

## **2.1. Qualitative assessment of counter-piracy**

One way to assess the success of counter-piracy is to examine the criteria of the naval operations themselves. The EU naval mission, Operation Atalanta, has three main goals: 1) “the protection of vessels of the World Food Program (WFP) delivering food aid to displaced persons in Somalia”, 2) the “protection of vulnerable vessels” transiting through the area, and 3) to “bring an end to acts of piracy and armed robbery” in the region (EU Provides Long-Term Protection for WFP Lifeline to Somalia 2008; EU Anti-Piracy Naval Mission Successful 2009).<sup>13</sup>

The naval mission appears to be an unqualified success in relation to food aid. A naval escort system was implemented in November 2007 in order to ensure food aid reached Somalia, allowing the WFP to scale up its operations. A total of 620,000 metric tons of food was safely delivered since the implementation of naval protection in November 2007 (*United Nations World Food Program - Somalia/Operations*).

To achieve the second aim of protecting shipping, naval forces use a variety of tactics. The first is to advise ship-owners about security measures to minimize the risk of attacks, such as speed and route of travel, evasive actions and securing decks with barbed wire (*Maritime Security Centre - Horn of Africa*). Secondly, ships are advised to travel through the Gulf of Aden in a specific transit corridor, the Internationally Recommended Transit Corridor (IRTC). Ships contact Operation Atalanta and are given a recommended time to enter the

transit corridor, and a speed at which to travel. Naval vessels patrol the area, spaced out along the corridor so that they are always relatively close to commercial shipping. Ships that come under attack can request assistance from naval vessels, though there is no guarantee that assistance will be rendered in time to prevent pirates from boarding.<sup>14</sup> Once pirates have boarded a ship, the naval forces generally do not intervene to avoid risking the lives of the crew or endangering the cargo (Harper 2008; Sörenson 2008).<sup>15</sup>

The success of the above measures in protecting vulnerable shipping is debatable. On the one hand the IMB reports dozens of attacks abandoned at the arrival of naval ships and helicopters.<sup>16</sup> On the other hand many pirates were not deterred from trying their luck right under the noses of the navies: according to the statistics compiled by the International Maritime Board (IMB), 218 attacks occurred in the Gulf of Aden between February 2009 and the end of December 2010, and 29 of these were successful.<sup>17</sup> Senior Royal Navy officers involved with Operation Atalanta assert that there have been only three attacks on ships using the transit corridor as advised by Atalanta officials and that preventive measures put in place by ship owners do deter attacks of piracy.<sup>18</sup> Naval officials argue that most recent attacks occurred on ships that chose not to use the transit corridor system and did not make the alterations recommended to save time or money.<sup>19</sup>

The naval mission's third aim is to bring Somali piracy to an end. Three main tactics have been used in pursuit of this goal: the detention and trial of pirates caught in the act of piracy; the use of naval vessels to aid attacked ships; and the confiscation of pirates' equipment.

The detention and trial of captured pirates has four main problems. Firstly, the financial desirability of piracy means that recruiting new pirates to replace those arrested is easy (Hunter 2008). Secondly, pirates might actually seek to be arrested in order to gain political asylum, either immediately or after serving a sentence, a concern shared by Western

powers.<sup>20</sup> Thirdly, trying pirates is difficult. Somalia's deficient legal system makes local trials impossible (Treves 2009, 399-414), and an agreement to try pirates in Kenya stopped in April 2010.<sup>21</sup> Fourthly, the burden of proof required for a conviction is high and the shipping industry is reluctant to produce witnesses because it is costly to do so in an industry where 'time is money'.<sup>22</sup> Therefore several trials have collapsed or have resulted in the release of suspects.<sup>23</sup> Accordingly pirate arrests are now derisively called 'catch and release' (Ungoed-Thomas and Woolf 2009). It is widely recognized that arresting and trying pirates will not have a significant deterrent impact on Somali piracy.<sup>24</sup> Destroying equipment during an arrest will have a limited effect because of the low cost of arms and technology like GPS.

Finally, the use of the transit corridor is meant to deter pirate activity by making it substantially more difficult to successfully attack the shipping passing through the region and aid navies in catching pirates. We now examine whether such deterrence has in fact taken place.

## **2.2. The Model**

We model the monthly number of pirate attacks carried out by Somali pirates between January 2000 and December 2010 according to the IMB annual piracy reports. We also split these into attacks carried out in the Gulf of Aden and in the wider Somali Basin. The series are depicted in diagram 1. Our model includes the following explanatory variables. First, we have three variables exploring the business practices of Somali piracy. We test whether pirate businesses continue over time (using a lagged dependent variable) and reinvest their profits (we include past successful hijacks with several lags to take into account the length of ransom negotiations). We also include a dummy variable for seasonal effects: risk-averse businesses might avoid periods of high winds during the monsoon seasons.<sup>25</sup>

Secondly, we include a number of proxies for the stability of the land-side business environment in Somalia.<sup>26</sup> We use the number of regional markets monitored by the Food

Security and Nutrition Analysis Unit in Somalia in which the food staple “red rice” was not traded as a proxy for the impact of local conflict on supply lines (*Food Security and Nutrition Analysis Unit - Somalia*). We use the proportion of pre civil-war stations under contract with the weather monitoring network SWALIM as a proxy for the feasibility of entering into arms-length contracts (for supply and security services in the case of the pirates).<sup>27</sup> The FAO world food price index is included to test whether increased poverty in Somalia (which is largely dependent on food imports) drives more people into piracy or whether it improves the returns from agricultural activities and thereby reduces piracy. We use a dummy for the period of the UIC advance June to December 2006 and the Al Shabaab territorial gains from April 2010 as a measure of the impact of territorial contests along the Puntland coast (Hobyo was captured in 2006 and Gharardeere in 2006 and 2010).

Thirdly, we include a dummy variable from April 2008 to test whether there were significant changes in the pirates’ operating environment when the collapse of the Puntland authorities’ budget removed the threat of land-side counter-piracy enforcement through security forces (Hansen 2009). We assume that as pirate ransoms are a multiple of the government budget (70mn vs 17.6mn in 2009) pirates have been able to buy off the relevant authorities from this point onwards. Finally, we include two dummies for the naval intervention: the initial Maritime Patrol Area along the Yemeni Coast from August 2008 to January 2009 and the IRTC from February 2009.<sup>28</sup>

Given concerns about possible under-reporting of acts of piracy before 2008 and potential over-reporting thereafter, we log the dependent variable to de-emphasise the large number of reported attacks after the naval deployment relative to the period before. We use a Tobit model to reflect that the dependent variable is not normally distributed. If piracy is not sufficiently attractive in a particular month we observe no attacks, so the variable is left-censored at zero.<sup>29</sup> The results are summarised in tables 1 and 2, summary statistics for all



the non-dummy variables are reported in table 3. We show both the full models including all variables and restricted models obtained by step-wise deletion of statistically insignificant variables.<sup>30</sup> The final preferred specifications maintain most of the explanatory power of the full models.

### **2.3. Quantitative assessment of counter-piracy**

The only maritime intervention variables that are statistically significant show a positive effect of the maritime patrol area on pirate activity in the Gulf of Aden. This naval initiative served pirates well by concentrating and slowing down shipping in a dog-legged corridor while naval forces were too few in number to provide effective cover. This was realised by naval commands and the counterproductive effect was remedied in the IRTC. However, despite the reduced success rate in the Gulf of Aden, successful attacks still took place in and outside the transit corridor. Overall pirate activity appears to not to have been significantly influenced by the presence of the naval forces.

The evidence that counter-piracy efforts have improved the delivery of food aid to Somalia (but at the cost of three multinational naval missions) is convincing; however, it does not appear that extensive naval counter-piracy efforts have had a deterrent impact on piracy. The main effect seems to have been to move piracy further away from Somalia's shores (UNITAR Operational Satellite Applications Programme 2009). Even in the Straits of Malacca, where piracy has been drastically reduced, this reduction has had little to do with naval patrols and in fact has occurred because of the devastation caused by the Asian tsunami in 2004 and political changes within Indonesia itself, and, less notably, air patrols over a much smaller area of ocean than in the Indian Ocean (Raymond 2009, 37). If naval operations have not succeeded in deterring pirates, it suggests that the pirate problems of Somalia will require a land-based solution, which we analyse further in the following section.

### **3. Somali piracy, disorder, and stability**

In the introduction we set out some of the many arguments that solving Somalia's pirate problem will require an effective solution to the problems caused by the absence of governmental structures in Somalia. The prevalent opinion is that piracy thrives on lawlessness and disorder (Murphy 2007). However, our results suggest that pirates benefit from improvements in the contracting environment that allow them to 'do business.' This seems to be especially true for piracy expeditions in the Somali Basin, where pirates are at sea (often without means of communication) for weeks and therefore need to make a decision based on long-term indicators of stability. Short-term disruptions to business and trade such as those picked up by our "missing markets" proxy have a negative effect on pirate activity in the Gulf of Aden, which can react more rapidly to changes inland. This contradicts the common assertion that pirates thrive on domestic chaos. Instead the suggested interpretation is that pirates need an infrastructure and contract security: hostages need to be fed, kept in reasonable condition and under the pirates' control for ransoming.

In all our models civil strife reduces piracy (we often have a highly significant negative coefficient for the UIC dummy), contradicting the hypothesis that pirates benefit from disorder. Outbreaks of civil unrest disrupt food supplies and raise the cost of guarding hostages from other groups who could extract ransoms. Alternatively, with a limited supply of weapons, warlords might deploy their armed men either in piracy or in battles over resources on land. During the UIC period piracy was banned under *sharia* law. There were threats that any captured ships would be freed and traditional pirate ports were invaded by UIC militias. Unsurprisingly during this period of turmoil, unrest and uncertainty pirates had no guarantee that they would see any gains from successful hijacks and piracy stopped for a number of months.<sup>31</sup>

We argue, therefore, that on a continuum between highly unstable (war and conflict) and very stable (a fully functional state) there is a large ‘sweet spot’ where piracy can flourish. While total disorder is bad for piracy, moderate order is better than moderate disorder for the pirate business. If the political situation deteriorates into violence and extreme instability pirates will be too busy either acting as land-based militia, or protecting themselves, to continue pirate activities.<sup>32</sup>

The evolution of Somali piracy, as reflected in our data, demonstrates some potential parameters of the sweet spot for piracy. Piracy during the early 2000s was a pure extortion business, where pirates ‘fined’ ships for their presence and sent them on their way. This required no stability for contracting or long-term investment. Throughout this period our business environment measures indicate that economic development was thwarted by lack of trust, roving bandits and outbreaks of local conflict, meaning that business of all types were struggling. In January 2005 less than a third of water stations had been re-contracted, but thereafter it rapidly became easier to ‘do business’ in Somalia and work around instability when it occurred. From a business perspective hijack and ransom piracy might have taken off earlier, if it had not been for the disruption caused by the UIC period in 2006 and the struggles over possession of Las Anood between Puntland and Somaliland during 2007.<sup>33</sup>

#### **4. Piracy is an organized criminal business**

The idea that there should be a ‘land-based’ solution to piracy is a catch-all phrase without much discussion of what type of land-based problem piracy is, and accordingly, what land-based policy (if any) will have an impact. The difficulty with Somali piracy is that despite its relatively unsophisticated methods, its business structure is complex. Pirates are *organized* criminals, not come-by-chance robbers. Somali piracy has echoes of *mafias* like those in Sicily and Russia. If pirates are organized criminals, then this will have a significant impact on many of the available ‘land-based’ solutions to the problem. This section will first

make the argument that piracy constitutes fairly sophisticated organized crime, then argue that this type of organization requires a degree of stability to thrive, and finally point out the challenges that such organization poses for any 'land-based' solution to piracy.

#### **4.1. Piracy as organized crime/business**

Pirates are not opportunistic criminals. This is reflected in our result that piracy is not driven by rising food insecurity (caused by rising international food prices). If anything, piracy is reduced when food imports become more expensive, creating alternative business opportunities in the agricultural sector. In fact, poor Somalis are not able to raise the resources (weapons, motors for boats, telecommunications) to mount successful piracy expeditions. Somali piracy clearly contains elements of organized crime. Criminal organizations can be defined as “organisations that have durability, hierarchy, and involvement in a multiplicity of criminal activities” and further take over some of the functions of government (Hill 2006, 8).<sup>34</sup>

#### ***Durability***

The durability of Somali piracy is clear, given its intransigence in the face of significant attempts to control it, and the fact that although pirate incidents over the past 10 years have ebbed and flowed, it has not come close to disappearing. The only real challenge to piracy was the UIC period in 2006 as shown above. Somali piracy has been unaffected by (admittedly ineffectual) arrests and seizures, suggesting that there are enough potential pirates and pirate material to fill gaps caused by captured pirates or equipment.

We note four aspects of durability: first, in the patience required of pirates; second, in the ability of pirates to innovate; third, in the reinvestment of profits back into the pirate business, and fourth, in the use of foreign investment in piracy.

Piracy requires considerable patience and confidence in both the long-term existence of the pirate gang and the continuation of optimal conditions for piracy. After a vessel is

captured, pirates wait for several months for the ransom to be agreed and delivered, and this waiting period seems to be increasing as pirates drive ransoms higher and higher.

Pirates have also been able to innovate. One noticeable difference since 2009's implementation of the IRTC has been the willingness and ability of pirates to attack far offshore, well into the Indian Ocean. The Royal Navy has noted the use of larger and better equipped motherships, which supply smaller vessels operating at some distance from shore, connected by satellite phones and GPS. These smaller vessels wait near known shipping routes, sometimes for days, to attack vessels. These attacks are better planned and less opportunistic than those immediately off Somalia's coast.<sup>35</sup> Innovation occurs because pirates are committed to the business in the long-term and cannot simply give up; moreover, the change in practice requires more patience and discipline among pirates working far offshore.

A further piece of evidence suggesting that pirate activities are well-coordinated and rely on confidence in the long-term prospects of the situation is the fact that pirates reinvest their profits. Pirates themselves can invest in an operation (a pirate can provide himself and a gun, or a skiff), as can other investors. There are different classes of payments in the event of a successful ransom, calculated against the type and size of investment or nature of participation (UN Security Council 2010, 99). Bossasso's police chief, Osman Hassan Uke argues that: "Whenever 10 guys get paid ransom money, 20 more pirates are created" (Harding 2009). Our data suggests that there is an upsurge in attacks five months after a successful attack, and we argue that this is because pirates wait on average 3-4 months for a ransom to arrive and then reinvest the profits.

It is also possible to invest in Somali piracy from overseas, suggesting that it is not only pirates who have long-term confidence in the contracting environment and the survival of the pirate business. There is even a pirate stock exchange in the pirate hotspot of

Gharadheere, where enterprises can be listed and investors can invest (Dealbook 2009). Furthermore, the idea that the Somali diaspora can invest through informal financial exchange channels is an ‘open secret’ in the Canadian Somali community (Bridger 2011). Clearly, there is enough governance in the area to allow sophisticated investment and enough trust in the stability of the system that investors will be paid back.

### ***Hierarchy***

There is considerable evidence indicating the hierarchical nature of Somali piracy. Within a pirate gang, different individuals perform different functions, and receive different levels of payment from ransom payout (Report of the Monitoring Group on Somalia pursuant to Security Council Resolution 1811 (2008)). Moreover, piracy is a business that relies heavily on sub-contracting. Every task associated with piracy is contracted out: guarding hostages, providing hostages with food, and ransom negotiations are all performed by pirate subcontractors.<sup>36</sup> These services are provided “in anticipation of reimbursement, with a significant margin of profit” when the ransom is paid (UN Security Council 2010, 99). In other words, there is enough trust in the contracting environment to facilitate substantial payment after the fact.

Another sign of the hierarchical nature of Somali piracy is its relative non-violence. Of course pirates use violence against hostages, but until recently this has been limited. When ships are taken there is an understanding that the crew will give themselves up rather than defend the ship.<sup>37</sup> Some news articles claim that no hostages have ever been harmed by pirates (Williams 2008; Bahadur 2009). However, the International Maritime Bureau reports that during the 217 incidents involving Somali pirates in 2009 (during which 867 hostages were taken), 10 crew members were wounded and 4 were killed (ICC International Maritime Bureau 2010, 21). On closer inspection it appears that Western hostages receive the best treatment, as they command the highest ransoms (Carney 2009). Western casualties seem to

have occurred only accidentally, due to indiscriminate firing during the boarding of ships or during rescue attempts (Bremner 2009), though rough treatment may be used to create pressure when negotiations are stalled (Carney 2009; Jones 2010). The four Americans killed by Somali pirates in February 2011 may be an anomaly, or they may demonstrate what happens when the ‘rules’ of the game are not followed: information about what sparked pirate violence in this case is limited but the pirates were being pursued by the US Navy while negotiations were occurring (Sciutto and Hopper 2011).

Even more surprising is the fact that there is very little pirate-on-pirate violence; for example, one pirate group kidnapping the hostages of another.<sup>38</sup> This suggests that pirate activity is coordinated to a considerable degree. Hill argues that gangs “develop supra-gang mechanisms for cooperation and the avoidance of conflict” and that “if crime is centrally coordinated, criminals as a group have an interest in moderating the behaviour of all” (Hill 2006, 17-18).

Pirate behaviour in Somalia appears to be moderated by an agreed set of rules for conduct. The idea that there is a pirate ‘code of conduct’ or that all parties follow the rules of the game, which largely excludes violence, came up repeatedly during our interviews.<sup>39</sup> Captured pirates have apparently referred to a written code of conduct that bans mistreatment of (Western) hostages (Leveque 2008).<sup>40</sup> Pirates have also claimed in interviews with Western media that they do not harm or mistreat hostages (Querouil 2008; Cawthorne 2009). The main reason for the relative non-violence of Somali piracy is likely to be that it is a ransom-based business. In the Straits of Malacca, pirates have little incentive to keep the crews alive because they are interested in ships and cargo (Raymond 2009). In Somalia, focus on ransoming hostages means that piracy is less violent.

Finally, Somali piracy’s hierarchy is facilitated by the fact that it has been grafted on to the hierarchy of existing clan structures in Puntland (Hansen 2009; UN Security Council

2010, 99) which in turn may provide further explanation for why piracy is durable and relatively non-violent.

### ***Multiplicity of criminal activities***

Somali piracy is composed of many different types of crime. From the initial kidnap of crew and theft of the cargo, through to the illegal activity that must support a ransom business (holding victims captive, charging and receiving ransoms, threat of or use of actual violence), piracy requires a host of criminal behaviours. It is not easy to find ways in which piracy has organized other criminal business, given that the line between legal and extralegal behaviour is necessarily blurred in countries where government and enforcement mechanisms are weak. However, there is evidence to suggest that that the money piracy has brought into Puntland has also brought with it prostitution and drug use (Hunter 2008), although it is not certain whether or not pirates have attempted to control these related criminal activities.

The governmental functions provided by piracy are, simply, revenue and jobs. Pirate ransoms find their way to Puntland state and local government coffers (UN Security Council 2010, 37). The Puntland authorities' tax base is weak and underdeveloped, being based almost solely on customs receipts from Bosasso port.<sup>41</sup> This barely covers the bill for the governments' security forces, and only 3% of the official budget is dedicated to social expenditure (Samantar and Leonard 2010). Despite this, Peter Leeson shows significant progress in Somalia's development indicators (Leeson 2007).

### ***Why solutions for organized crime are tricky***

Somali piracy, then, shares many of the features of organized criminal behaviour seen elsewhere. The idea that organized criminal behaviour does not flourish in an environment of total anarchy is not surprising to analysts of organized crime (Gambetta 1996; Hill 2006; Varese 2001, 2006). For an organized criminal business to have hierarchy, durability, and



diversification the environment must be relatively stable. It cannot be a “Hobbesian underworld” where criminals operate as their own enforcers (Hill 2006, 12).

Unfortunately, organized crime, particularly *stable* organized crime (in other words, a criminal group which has established a durable monopoly on crime) is notoriously difficult to control, and the strength, capacity, or centralization of the state seems to have no bearing on whether or not control will be successful. Hill became interested in the Japanese *yakuza* because of the puzzle posed by “clearly identifiable criminal gangs operating openly within a society widely regarded as one of the industrialised world’s most crime-free societies” (Hill 2006, 1). Even in very strong states, organized crime can flourish. This is because governments and criminal organizations can actually exist in symbiosis.

Symbiosis is more likely to occur (in weak and strong states alike) when organized criminal activity minimizes violence and provides public goods. Hill (2006, 33) (quoting Schelling (1984, 173) argues that

the government must accept that it does not have a total monopoly of power and must therefore come to terms with other power groups. On the other side organized crime groups will tend to adopt codes of practice (i.e. not killing police officers) that avoid their coming into direct confrontation with law-enforcement. This need not imply any cordiality between the two parties; it can be likened to two powers locked in a military confrontation having a tacit understanding as to the ‘limitation of war . . . and the delineation of spheres of influence.’

In other words, there can be little incentive for governments to alter criminal businesses that do not cause excessive violence.

It is difficult, if not impossible, to eradicate most types of crime. Even the most orderly of states still has criminal activity. Criminal businesses can flourish inside a strong state (as do *yakuza* in Japan, or drugs businesses in parts of the United States). They can also succeed in strong states with high degrees of corruption (in other words, where criminal business can ‘capture’ crucial organs of the state and use them to facilitate business), as is the case with *mafias* in Russia and Italy.

Somali piracy's resemblance to organized crime means that it will be similarly difficult to control, especially considering the weakness of the Somali state and increasing 'capture' of local authorities. Hill notes that there is little incentive to enforce laws involving "victimless transactions between consenting adults" (Hill 2006, 34). Somali piracy is not victimless (Hurlburt 2011), but crucially, its victims are not members of the community. The impact upon the community (as argued in more detail below) is largely positive. Local authorities have little incentive to clamp down on pirate behaviour, given that it does not victimize the community.

In Somalia, stable symbiosis has included pirates, local authorities, and even international authorities. Puntland is becoming increasingly corrupted by the proceeds of piracy. Menkhaus (2009, 24) argues that "the fact that ransom money touches so many hands in northeastern and central Somalia creates a serious disincentive on the part of leaders of those regions to address the problem...the autonomous state of Puntland in northeast Somalia is becoming a pirate version of a narco-state." The UN monitoring group in the area notes that the administration of General Abdirahman Mohamed 'Faroole' is "nudging Puntland in the direction of becoming a criminal State" with several key officials receiving payments from piracy (UN Security Council 2010, 39).

Our evidence demonstrates that Puntland's governmental structures have been subverted by pirate-financed corruption. The "captured government" variable is statistically significant in all the preferred model specifications<sup>42</sup> showing that there was a major breakthrough for piracy at the point when the Puntland government lost its grip on its budget and ceased paying its security forces in April 2008 (Hansen 2009). This resulted in an explosion of crime in Puntland, including piracy. Even when the Puntland government resumed paying its forces, corruption had become entrenched. With police officers earning less than \$50 a month, successful pirates can buy off local forces if they cannot avoid them

altogether. Occasional arrests and detentions are easily resolved with a small bribe and backhanders ensure good relations with the Puntland administration. Pirate enterprises (especially those with clan links to the Puntland government) have therefore been able to operate mostly with impunity.<sup>43</sup> Even if Puntland authorities thought that piracy was undesirable (and given its victimless nature, this is unlikely), they are being paid off to prevent any enforcement.

Organized criminals can also achieve a symbiotic relationship with the state by providing a public good, either explicitly on behalf of the state or by simply filling a vacuum left by the state (Varese 2006, 412). Providing a public good buys the support of the local community, and in some cases, facilitates symbiosis with the state (by limiting violence and providing a quasi-state function within a criminal sphere). Usually the sorts of goods criminal organizations provide are related to protection, dispute settlement, or informal loans (Varese 2006, 412). In the Somali case, as argued above, the pirates are providing the one public good neither the state itself nor the international community has been able to provide: jobs, and the money necessary to create a local economy that would not exist without piracy.

The sort of violence-limiting symbiotic behaviour Hill describes in relation to organized crime groups in other contexts may be occurring between the international community (as represented by multinational naval missions) and the pirates in Somalia. Pirate violence and behaviour is limited by 'codes of conduct', and a situation much like the one Hill describes has resulted: pirates limit their violence against Western hostages (most of the navies they encounter are Western). It is very much like there are two sides each recognizing spheres of influence. There have been few calls to use military forces to tackle Somali piracy on land (despite near-universal agreement that piracy is a land-based problem) and even recognition from Western military leaders that eradicating piracy is probably impossible. Commodore Simon Williams of the UK Ministry of Defense argues that

“because piracy is rather similar to any form of crime, getting to zero is a very, very difficult thing to do. Getting to a minimum acceptable level is probably the closest that one can get” (International Institution for Strategic Studies 2008). One problem with controlling piracy is that pirates may not be crossing enough lines to make them worthy of land-based control efforts, which would be costly in financial terms and in terms of violence. If pirates were more violent, or victimized the local community, or stepped outside their own codes of conduct, we might then see more incentives to end piracy. The next section examines further how the symbiotic nature of Somali piracy means that no side has a genuine incentive to alter their practices.

The organized criminal nature of Somali piracy severely limits the utility of two potential solutions to the pirate problem. First, rebuilding the Somali state may not do anything to end the problems of piracy for two reasons: strong states can coexist perfectly effectively with organized crime and pirates could capture (and are capturing) nascent state structures, and in addition a strong Somali state might well be an Islamist state, which would not be high on the list of desirable outcomes for the international community. Second, aggressively attacking pirates on land to reduce piracy at sea may not have the intended effects. This solution, which is problematic for reasons outlined further below, may disrupt the relatively non-violent behaviour of pirates and turn them more violent by breaking the ‘code of conduct’ that facilitates symbiosis. Moreover, violent solutions to other types of organized criminal activity have not been especially effective, and could draw the international community into an undefined ‘war on piracy’ with the same success rates as the ‘war on drugs’.

## **5. Symbiosis at work: skewed incentives**

The players on the Somali pirate stage (from the pirates, to the shipping companies, to international navies) may be in a symbiotic state, where there are few incentives for anyone

involved in any aspect of piracy – whether perpetrating it or attempting to control it – to alter what they are doing. The idea that only repairing Somalia will solve the Somali pirate problem contributes substantially to many of these difficulties. This section addresses how incentives for multinational naval forces, the shipping industry, pirates, and local governments all work against potentially effective solutions for counter-piracy and may exist symbiotically.

### **5.1. Multinational naval forces**

The stakes for success in counter-piracy are high for many of the world's navies. Naval officials point out that counter-piracy work is an excellent way of overcoming 'sea blindness.'<sup>44</sup> In recent years the public profile of land forces has greatly superseded that of naval forces, assisted by the fact that both Iraq and Afghanistan have been land-based operations not requiring much naval expertise. Success for the world's navies in Somalia demonstrates their continued importance and hence the importance of continued naval funding.

For Operation Atalanta, the stakes of success are perhaps the highest. Military cooperation within the EU has been an oft-asserted and never achieved goal of the organization. Atalanta represents a singular success.<sup>45</sup> Nicolas Sarkozy, during France's presidency of the EU, was one of Atalanta's main advocates and it seems certain that EU support for the mission will continue.

Navies, then, have a large incentive to undertake counter-piracy operations. However, it could be argued that navies have defined counter-piracy missions in such a way that 'success' is inevitable and significant change unlikely to result. If navies repeatedly argue that they can control or limit Somali piracy, but cannot end it because it is ultimately a land-based problem, then all navies have to do to show that they are successful is *hinder* rather than *end* piracy. If piracy continues, navies will be able to say that they do not have the

resources to end the Somalia problem, and that the failure is then not the failure of naval missions, but the failure of broader policy.

It is likewise important to note that if this logic is correct, it makes much less sense to actually attempt to create a land-based solution, by force, via aid, or otherwise. Put simply, it seems quite likely that any attempts to build a more effective Somali state will either fail entirely or take many years to come to fruition. Navies need counter-piracy to be successful and the European Union needs to demonstrate continued success in military cooperation. Broadening counter-piracy to include rebuilding Somalia would be very likely lead to failure.

Some commentators suggest that a more forceful military solution might bring an end to Somali piracy. Some EU member states likewise would be keen for more aggressive action against pirates.<sup>46</sup> Chasing pirates to their strongholds, this argument runs, would provide a much more significant deterrent. There are two problems with this approach. First, it is not clear that the international community would support repeated incursions into Somali territory to deal with pirates. Second, Somali piracy is relatively bloodless. All parties involved know the rules of the game, and violence is not commonly used. A more violent approach dealing with pirates may make pirates more violent in dealing with hostages, as may have been the case during the 2011 episode where the passengers on an American yacht were killed by pirates under pursuit from the US Navy.

## **5.2. The shipping and insurance industries**

The shipping industry represents perhaps the largest obstacle to ending piracy. Piracy simply does not affect enough ships in the region to convince ship owners that it is economically viable to institute even the cheapest of changes across the board.

It is important to remember that piracy only affects a tiny percentage of shipping through Somalia's coastal waters and the Indian Ocean. Of an estimated 30,000 ships transiting the Gulf of Aden in 2009, 116 were attacked, less than one in 250. Moreover, the

final ransoms are still only a small fraction of the overall value of the ship, crew and cargo.<sup>47</sup> Ship-owners have chosen to play the odds: it is cheaper to take out insurance than to pay for the type of safeguards advocated by multinational naval missions. Atalanta officials estimate that 80% of ships choose to use the IRTC.<sup>48</sup> The remaining 20% are reluctant to slow down their journey and wait for an approved time and prefer to take their chances. Many ship owners are choosing not to spend the money to institute even the cheapest of practices recommended by the navy, like putting barbed wire on ships.

The low probability of a pirate attack, combined with the willingness of ship owners to gamble that they will not be attacked, partially explains why ships do not defend themselves against pirates. In addition, having armed security guards on a ship is costly, and has potential legal ramifications (guards would have to declare their weapons at every port of call, where they may be impounded). Arming the crew is another possibility. However, a risk analyst who deals with Somali pirates draws the analogy that arming the crew would be like arming bank tellers in response to armed robbery, placing the responsibility on the crew. Moreover, he argues that it would be exceptionally dangerous for a crew of an oil tanker to engage with pirates and then be hit by a rocket-propelled grenade launcher. Given that piracy is currently not particularly violent, most crew (particularly when hired on short contracts and on low pay) would prefer to give themselves up and wait for a ransom to be paid rather than risk firing on pirates.<sup>49</sup>

Two policy solutions might persuade the shipping industry to alter its practices. The first is to force insurance companies to require ship owners to adopt safeguards. Using insurance to affect behavior has been implemented in other contexts. In the private security sector in the UK, the insurance industry is not prepared to offer cover “unless recognizable and enforceable standards are instituted upon the basis of which insurers can assess risk and set premiums” (Zedner 2006, 276). Similar standard setting, which would include taking

counter-piracy measures, could be set up for the shipping industry. However, this would require internationally binding legislation, as insurance firms could circumvent such legislation by selling hijack and ransom cover through foreign subsidiaries.

Insurance companies, although they have to pay out ransoms, can make considerable profits due to their ability to raise premiums for piracy, which is still very rare. It is therefore not in their interest for piracy to stop altogether. So-called risk analysts and companies that provide services in ransom negotiation also do very well out of Somali piracy. As one senior naval officer remarked, “this is a business where everyone makes money” – not just pirates. The cost of the ransom is in the region of only a fifth of the total costs arising from the average successful hijack.<sup>50</sup> Piracy is therefore not just profitable in Somalia, but creates opportunities for businesses around the world; thereby further reducing incentives to bring piracy to an end.<sup>51</sup>

Another potential solution is to make the paying of ransoms illegal. This would require coordinated international legal action, but could potentially ruin the pirate business. It is not clear, however, that it would be possible to create or enforce such a law internationally. Currently, ransom negotiators evade strong British regulations by conducting the ransom negotiations abroad.

### **5.3. Local communities**

Piracy harms outsiders, not insiders. Unlike other types of organized crime, which prey on members of the community in order to make a profit, piracy’s victims are all external to Somalia. Moreover, piracy is profitable for many in Puntland, providing jobs and investment capital, raising local wages and alleviating poverty through redistribution of profits in the wider clan (Shortland 2011). Accordingly, there is little incentive for local Somalis to end piracy.



#### **5.4. Pirates**

Pirates themselves obviously have no incentive to end what is a lucrative, and, importantly, a relatively safe business. The possibility of arrest is both unlikely and potentially desirable, as it might carry with it a ticket out of Somalia.<sup>52</sup> The use of violence is rare, meaning that pirates do not take significant personal risks compared to those encountered in daily life in Somalia. The financial rewards are significant. Ending piracy in Somalia faces the crucial obstacle of finding alternative forms of employment for the 5,000 or so Somalis directly employed in the pirate business as well as those who rely upon them.

The fact that piracy “works” for the local community and the difficulty of otherwise employing pirates is therefore an important stumbling block to building the kind of significant stability in Somalia that would allow the state to end piracy. Somalia is a long way away from being able to produce a similarly lucrative legitimate industry. This demonstrates further that a Somali state (or local state) with the *capability* to end piracy may nonetheless not wish to end piracy.

### **6. Conclusion**

Our analysis of Somali piracy does not provide a rosy policy picture. The nature of Somali piracy – the fact it is land-based, and a clear manifestation of organized crime – means that it will be hard to control from the sea but perhaps no easier to control on land, even if the Somali state (or even Puntland) grew stronger. We cannot offer many effective policy prescriptions that would have a dramatic effect on piracy in Somalia, but it is vital to be realistic about the prospects of ending piracy in Somalia. It is hard to imagine how the incentives for criminal business, the state, and other international players existing in a symbiotic relationship could be altered.

Given that the policy options for Somali piracy are few, and contain many pitfalls, it might be most helpful to conclude by outlining the largest obstacles to resolving piracy rather

than proposing solutions. These obstacles are what stand in the way of reducing piracy off the coast of Somalia to occasional criminal behaviour. The first, and most serious, obstacle is the lack of alternate employment at similar financial levels for pirates. To have a noticeable impact, any policy prescription would have to find something else for pirates to do given how easy it is to become a pirate. Alternate employment would have to be accompanied by significant disincentives for piracy, although providing a disincentive to an activity which has significant financial gain in a situation as desperate as Somalia will be difficult.

The second obstacle to ending or severely limiting piracy in Somalia is the problem posed by corruption. Examining piracy and organized crime in other contexts demonstrates that considering state weakness as the main variable is a red herring: 'strong' states like Italy and Russia can have significant organized crime elements, and even strong states regarded as well governed, like Japan, suffer from organized criminal behaviour. The key task is to limit the degree to which relevant officials are corrupt and can be corrupted. However, the relationship between statebuilding and corruption is complex, and it is very difficult to build state institutions without at the same time building up criminal capacity (Cheng and Zaum, forthcoming). Somalia is at a crucial juncture in this regard: the further Puntland travels down the track of becoming a pirate-state, the harder it will be to stamp out piracy in the region.

The fact that piracy is 'victimless' is a third obstacle to its disappearance. If a local community sees a reason to refuse to participate or support criminal activity, it can have an impact on attempts to reduce it. This impulse is likely to remain absent in Somalia. To make matters worse, the external 'victims' of piracy – the hostages – are principally sailors on commercial ships who come from nations without much ability to advocate for their release. These hostages are not headline news: the rare occasions when British or American yacht owners are taken get media attention and spur governmental action. Savvy pirates would simply stop attacking these ships and focus on commercial shipping, trusting in the fact that

these hijackings are lower profile. A spate of attacks on Western ships or crew would force a stronger international response.

As our analysis demonstrates, a fifth major obstacle to ending Somali piracy is that it is a land-based problem that manifests at sea, and imposing land-based solutions on a state with significant internal problems will be difficult. Clearly, naval missions cannot ever really 'end' Somali piracy, but there are few alternatives short of a comprehensive and uncorrupted statebuilding project that might take generations, or a violent incursion into pirate territory. Piracy crosses the boundaries between land and sea, but also between war and crime, thus making it harder to devise an appropriate policy response.

Finally, perhaps the most obdurate obstacle to ending Somali piracy is presented by shipowners and insurers. As long as it is financially viable for shipowners to run the risks associated with not following international naval advice or taking counter-measures, and as long as insurance payouts continue to be less than the profits made through premiums, pirates will continue to be an issue. Unprotected shipping off the Somali coast is a bit like driving an open truck filled with money through a dangerous neighbourhood: it is true that stamping out crime and stopping criminals is the responsibility of local police, but it is also true that securing the money and deterring attack is part of the solution. Piracy is only possible because shipping is unprotected.

While these obstacles are significant, it is important to recognize that Somali piracy is organized criminal activity, and this may open up further avenues of research and lead to more effective policy prescriptions. Violently pursuing organized criminals in other contexts has not been a successful strategy, but it is worth examining how other organized crime groups have been stopped or had their activities reduced. Piracy also has clear echoes of other types of international crime stemming from relatively ungoverned spaces, like the trade in opium in Afghanistan, and poses a similar set of obstacles. Focusing clearly on the nature of

piracy, and viewing it through the lens of crime, may reveal the best policy solutions possible.

## Tables and Figures

**Table 1**

Dependent Variable	Total Acts of Piracy Committed by Somali Pirates			
Business organisation	Attacks <sub>t-1</sub>	0.365*** (0.1352)	0.463*** (0.108)	0.418*** (0.100)
	Success <sub>t-1</sub>	0.022 (0.044)		
	Success <sub>t-2</sub>	-0.023 (0.039)		
	Success <sub>t-3</sub>	-0.072 (0.041)		
	Success <sub>t-4</sub>	-0.011 (0.040)		
	Success <sub>t-5</sub>	0.050 (0.040)	0.073** (0.035)	0.081** (0.035)
	High Winds	-0.254* (0.156)	-0.378** (0.152)	-0.323** (0.144)
Business environment	Contract security	0.015** (0.007)	0.006* (0.004)	
	Missing markets	-0.070 (0.045)		-0.076* (0.046)
	UIC	-1.118*** (0.407)	-0.815** (0.386)	-0.739** (0.368)
	Al Shabaab	0.356 (0.340)		
	Food prices	-0.010 (0.007)		
Governance	Captured governance	0.808 (0.515)	0.591** (0.255)	0.766*** (0.254)
Naval Intervention	MPA	0.487 (0.528)		
	IRTC	0.086 (0.486)		
	Constant	1.346*** (0.641)	0.320 (0.212)	0.690*** (0.171)
	Pseudo R2	0.358	0.329	0.288
	Log likelihood	-108.67	-113.30	-138.64
	Total observations	108	108	127
	Left-censored observations	26	26	30

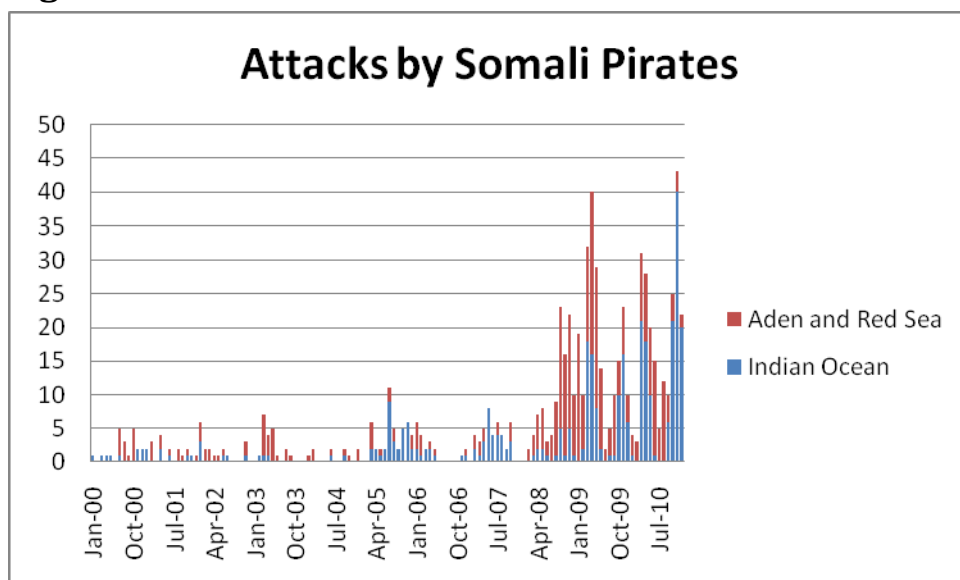
**Table 2**

Dependent Variable		Acts of Piracy in the Gulf of Aden		Acts of Piracy in the Somali Basin	
Business Practices	Attacks <sub>t-1</sub> in region	0.173 (0.142)		0.612*** (0.168)	0.607*** (0.118)
	Success <sub>t-1</sub>	0.463 (0.046)		-0.057 (0.054)	
	Success <sub>t-2</sub>	0.043 (0.040)		-.113** (0.045)	-0.114** (0.044)
	Success <sub>t-3</sub>	-0.028 (0.042)		-0.119** (0.051)	-.115** (0.050)
	Success <sub>t-4</sub>	0.025 (0.042)		-0.047 (0.047)	
	Success <sub>t-5</sub>	0.101*** (0.041)	0.076** 0.037	0.002 (0.046)	
	High Winds	-0.073 (0.165)		-0.493*** (0.185)	-0.517*** (0.183)
Business environment	Contract security	-0.009 (0.007)		0.029*** 0.009	0.028*** (0.007)
	Missing markets	-0.155*** (0.058)	-0.127** .056808	0.006 (0.053)	
	UIC	-0.627 (0.465)	-1.126*** (0.444)	-1.052** (0.464)	-0.983** (0.444)
	Al Shabaab	-0.120 (0.347)		0.150 (0.394)	
	Food prices	0.001 (0.008)		-0.019** (0.008)	-0.018*** (0.006)
Governance	Captured governance	1.079** (0.537)	1.255*** (0.222)	0.707 (0.584)	1.033*** (0.300)
Naval Intervention	MPA	0.494 (0.538)	0.793** (0.358)	0.654 (0.613)	
	IRTC	-0.148 (0.497)		0.657 (0.566)	
	Constant	0.543 (0.673)	0.466*** (0.122)	1.318* (0.711)	1.224** (0.581)
	Pseudo R2	0.341	0.272	0.338	0.325
	Log likelihood	-101.80	-129.79	-98.36	-100.29
	Total observations	108	127	108	108
	Left-censored observations	39	39	45	45

**Table 3**

	Obs	Minimum	Maximum	Mean	Standard Deviation
lnTotal	132	0	3.78	1.304	1.035
lnAden	132	0	3.218	0.907	0.916
lnSom	132	0	3.714	0.749	0.878
Success	132	0	16	1.341	2.405
Missing Markets	132	0	10	1.197	1.749
Contract Security	108	7.692	86.538	53.971	27.518
Food Prices	133	90.2	197.1	120.068	27.278

**Figure 1**



## Bibliography

- American Forces Press Service. 2009. Multinational Task Force Targets Pirates. United States Department of Defense.
- Bahadur, Jay. 2009. 'I'm not a pirate, I'm the saviour of the sea'. *The Times* (16 April), <http://www.timesonline.co.uk/tol/news/world/africa/article6100783.ece>.
- Boot, Max. 2009. Pirates, Then and Now: How Piracy Was Defeated in the Past and Can be Again. *Foreign Affairs* 88 (4):94-107.
- Bowden, Anna. 2010. The Economic Cost of Maritime Piracy. One Earth Future Foundation.
- Bremner, Charles. 2009. Hostage dies as rescuers attempt to free family from pirates. *The Times* (11 April), <http://www.timesonline.co.uk/tol/news/world/article6073928.ece>.
- Bridger, James. *Following the Somali Pirates' Money Trail* (26 April). The Atlantic Council of Canada 2011. Available from <http://atlantic-council.ca/?p=2569>.
- Carney, Scott. 2009. Exclusive Interview: Pirate on When to Negotiate, Kill Hostages. In *Danger Room: What's next in National Security*, edited by N. Shachtman: Wired.
- Cawthorne, Andrew. 2009. WITNESS: "Hi, is that the Somali pirates?". *Reuters* (12 April), <http://www.reuters.com/article/2009/04/12/us-somalia-piracy-witness-idUSTRE53B1NX20090412>.
- Charter, David. 2008. Royal Navy admiral Phillip Jones heads EU Somali pirate task force. *The Times*, <http://www.timesonline.co.uk/tol/news/world/europe/article5309165.ece>.
- Cheng, Christine, and Dominik Zaum. Forthcoming. Corruption and Post-Conflict Peacebuilding: Selling the Peace, Routledge, Abingdon.
- Clashes rock Somali pirate port. 2009. (8 August), <http://news.bbc.co.uk/1/hi/8191442.stm>.
- De Groot, Olaf , Matthew D. Rablen, and Anja Shortland. 2011. Gov-aargh-nance: "even criminals need law and order".
- Dealbook. 2009. Somali Sea Gangs Lure Investors at Pirate Lair. *New York Times* (2 December), <http://dealbook.nytimes.com/2009/12/02/somali-sea-gangs-lure-investors-at-pirate-lair/>.
- EU Anti-Piracy Naval Mission Successful. 2009. *German Information Centre*, [http://www.german-info.com/euro\\_union\\_shownews.php?pos=EU\\_anti-piracy\\_naval\\_mission\\_successful&pid=201](http://www.german-info.com/euro_union_shownews.php?pos=EU_anti-piracy_naval_mission_successful&pid=201).
- EU force frees Somali 'pirates'. 2010. *BBC News* (25 March), <http://news.bbc.co.uk/1/hi/8586729.stm>.
- EU NAVFOR Public Affairs Office. 2009. EU NAVFOR Assists Indian Dhow Released by Pirates. (30 November), <http://www.eunavfor.eu/2009/11/eu-navfor-assists-indian-dhow-released-by-pirates/>.
- Repeated Author. 2010. EU High Representative Catherine Ashton visited EU NAVFOR Flag ship HSwMS Carlskrona. (21 May), [http://www.eunavfor.eu/2010/05/eu-high-representative-catherine-ashton-visited-eu-navfor-flag-ship-hswms-carlskrona/100521\\_ashton\\_2\\_u/](http://www.eunavfor.eu/2010/05/eu-high-representative-catherine-ashton-visited-eu-navfor-flag-ship-hswms-carlskrona/100521_ashton_2_u/).
- EU Provides Long-Term Protection for WFP Lifeline to Somalia. 2008. *Medical News Today* (15 December), <http://www.wfp.org/content/eu-provides-long-term-protection-wfp-lifeline-somalia-0>.
- Event Data Project on Conflict and Security*. Governance in Areas of Limited Statehood. Available from [http://www.sfb-governance.de/teilprojekte/projekte\\_phase\\_1/projektbereich\\_c/c4/The\\_EDACS/index.html](http://www.sfb-governance.de/teilprojekte/projekte_phase_1/projektbereich_c/c4/The_EDACS/index.html).
- Food Security and Nutrition Analysis Unit - Somalia*. Available from <http://www.fsnaui.org/>.



- Gambetta, Diego. 1996. *The Sicilian Mafia*. Boston: Harvard University Press.
- Gerard, Jasper. 2009. Ministers accused of 'sea blindness' by Britain's most senior Royal Navy figure. *The Telegraph* (12 June), <http://www.telegraph.co.uk/news/newsttopics/politics/defence/5517833/Ministers-accused-of-sea-blindness-by-Britains-most-senior-Royal-Navy-figure.html>.
- Gettleman, Jeffrey. 2009. The West Turns to Kenya as Piracy Criminal Court. *New York Times* (23 April), <http://www.nytimes.com/2009/04/24/world/africa/24kenya.html>.
- Gilpin, Raymond. 2009. Counting the Costs of Somali Piracy Working Paper. United States Institute of Peace.
- Hampton, Kim. 2008. Le Ponant Pirate Attack – The Released Hostages and Pirates Speak. *YachtPals.Com* (17 April), <http://yachtpals.com/boating/le-ponant-3>.
- Hansen, Stig Jarle. 2009. Piracy in the greater Gulf of Aden: Myths, Misconceptions and Remedies. Norwegian Institute for Urban and Regional Research.
- Hansen, Stig Jarle and Bradbury, Mark. 2007. Somaliland: A New Democracy in the Horn of Africa? *Review of African Political Economy* 34 (113):461-476.
- Harding, Andrew. 2009. Postcard from Somali pirate capital. *BBC News* (16 June), <http://news.bbc.co.uk/1/hi/world/africa/8103585.stm>.
- Harper, Mary. 2008. Life in Somalia's pirate town. *BBC News* (18 September), <http://news.bbc.co.uk/1/hi/7623329.stm>.
- Hastings, Justin. 2009. Geographies of State Failure and Sophistication in Maritime Piracy Hijackings. *Political Geography* 28 (4):213-223.
- Hill, Peter B. E. 2006. *The Japanese Mafia: Yakuza, Law and the State*. Paperback ed. New York: Oxford University Press.
- Hunter, Robyn. 2008. Somali Pirates Living the High Life. *BBC News* (28 October), <http://news.bbc.co.uk/1/hi/7650415.stm>.
- Hurlburt, Kaija. 2011. The Human Cost of Somali Piracy - Oceans Beyond Piracy One Earth Future Foundation.
- ICC International Maritime Bureau. 2010. Piracy and Armed Robbery Against Ships: Annual Report 1 January - 31 December 2009.
- International Institute for Strategic Studies. 2008. The 5th IISS Regional Security Summit: Fourth Plenary Session - Question & Answer Session. In *The Manama Dialogue*. Bahrain: International Institute for Strategic Studies.
- Jasparro, Christopher. 2009. Somalia's Piracy Offer Lessons in Global Governance Yale Center for the Study of Globalization.
- Jones, David. 2010. My rape terror at hands of Somali pirates: New ordeal for British hostage as yacht couple face being starved to death. *The Daily Mail* (10 March), <http://www.dailymail.co.uk/news/article-1250361/Rachel-Chandler-My-rape-terror-hands-Somali-pirates.html>.
- Kaplan, Robert D. 2009. Anarchy on Land Means Piracy at Sea. *New York Times* (11 April), <http://www.nytimes.com/2009/04/12/opinion/12kaplan.html>.
- Kraska, James and Wilson, Brian. 2008/9. Fighting Pirates: The Pen and the Sword. *World Policy Journal* 25 (4):41-52.
- Repeated Author. 2009a. The Co-operative Strategy and The Pirates of the Gulf of Aden. *The RUSI Journal* 154 (2):74-81.
- Repeated Author. 2009b. The Global Maritime Partnership and Somali Piracy. *Defense & Security Analysis* 25 (3):223-234.
- Repeated Author. 2009c. The Pirates of the Gulf of Aden: The Coalition is the Strategy. *Stanford Journal of International Law* 45:243-249.
- Leeson, Peter T. 2007. Better Off Stateless: Somalia Before and After Government Collapse. *Journal of Comparative Economics* 35 (4):689-710.

- Leveque, Thierry. 2008. Somali pirates tell French police of "sea militia". *Reuters* (17 April), <http://www.reuters.com/article/2008/04/17/us-france-somalia-pirates-idUSL1783854020080417>.
- Maritime Security Centre - Horn of Africa*. EU NAVFOR. Available from <http://www.mschoa.eu/>.
- McKenzie, David. 2008. No Way to Stop Us, Pirate Leader Says. *CNN World* (1 December), [http://articles.cnn.com/2008-12-01/world/pirate.interview\\_1\\_international-maritime-bureau-somali-coast-pirate-attacks?\\_s=PM:WORLD](http://articles.cnn.com/2008-12-01/world/pirate.interview_1_international-maritime-bureau-somali-coast-pirate-attacks?_s=PM:WORLD).
- Menkhaus, Ken. 2006-2007. Governance without Government in Somalia: Spoilers, State Building, and the Politics of Coping. *International Security* 31 (3):74-106.
- Menkhaus, Kenneth John. 2007. The crisis in Somalia: Tragedy in five acts. *African Affairs* 106 (204):357-390.
- Repeated Author. 2009. Dangerous Waters. *Survival: Global Politics and Strategy* 51 (1):21-25.
- Murphy, Martin M. 2007. Contemporary Piracy and Maritime Terrorism: The Threat to International Security. London.
- Osma, Jamal. 2008. We Are Hungry. There is No Government, No Economy, So It Is a Good Way to Earn Money. *The Times* (12 December), <http://www.timesonline.co.uk/tol/news/world/africa/article5327626.ece>.
- Otten, Christina. 2008. Reeder-Verband Schickt Brandbrief an Merkel. *Focus Magazine Online*.
- Percy, Sarah and Shortland, Anja. 2010. The Business of Piracy in Somalia. German Institute for Economic Research.
- Pham, J. Peter. 2010. Putting Somali Piracy in Context. *Journal of Contemporary African Studies* 28 (3):325-341.
- Puntland State of Somalia Ministry of Finance*. Puntland State of Somalia 2006-2009. Available from [http://www.puntland.gov.net/m\\_finance.asp?minid=Mt204071512094871](http://www.puntland.gov.net/m_finance.asp?minid=Mt204071512094871).
- Querouil, Manon. 2008. As brigands hold the Sirius Star supertanker to ransom, we go inside the Somali pirates' lair *The Daily Mail* (23 November), <http://www.dailymail.co.uk/news/article-1088515/As-brigands-hold-Sirius-Star-supertanker-ransom-inside-Somali-pirates-lair.html#ixzz1TuoWFFf1>.
- Howes F H R. 2011. Paper read at RUSI Future Maritime Operations Conference 2012, 6-7 July, at London.
- Raymond, Catherine Zara. 2009. Piracy and Armed Robbery in the Malacca Strait: A Problem Solved? . *Naval War College Review* 62 (3):31-42.
- Report of the Monitoring Group on Somalia pursuant to Security Council Resolution 1811 (2008). 2008. United Nations.
- Rivkin, David B. and Casey, Lee A. 2008. Pirates Exploit Confusion About International Law. *The Wall Street Journal*, 19 November.
- Saltmarsh, Matthew. 2009. Pirates Widen Range Off Somalia, Straining Naval Patrols. *New York Times*, <http://www.nytimes.com/2009/11/20/world/africa/20pirates.html>.
- Samantar, Mohamed and Leonard, David. 2010. Puntland and the Quandary of Somali Piracy
- Schelling, Thomas C. 1984. *Choice and Consequence: Perspectives of an errant economist*. Cambridge, MA: Harvard University Press.
- Sciutto, Jim and Hopper, Jessica. 2011. Bodies of Americans Killed By Somali Pirates Headed Home. *ABC News*, <http://abcnews.go.com/International/bodies-americans-killed-somali-pirates-headed-home-uss/story?id=12978946>.
- Seeräuber in Hamburg vor Gericht. 2010. *Spiegel Online* (11 June).

- Shortland, Anja 2011. "Robin Hook": the Developmental Effects of Somali Piracy. In *CEDI Discussion Paper Series: Centre for Economic Development & Institutions*.
- Shortland, Anja and Vothknecht, Marc. 2011. Combating "Maritime Terrorism" off the Coast of Somalia. *European Journal of Political Economy* (Forthcoming).
- Somalia Water and Land Information Management*. Available from <http://www.faoswalim.org/>.
- Sörenson, Karl. 2008. State Failure on the High Seas-Reviewing the Somali Piracy. FOI (Swedish Defence Research Agency).
- Stevenson, Jonathan. 2010. Jihad and Piracy in Somalia. *Survival: Global Politics and Strategy* 52 (1):27-38.
- Treves, Tullio. 2009. Piracy, Law of the Sea, and Use of Force: Developments off the Coast of Somalia. *The European Journal of International Law* 20 (2):399-414.
- UN Data - Somalia*. United Nations. Available from <http://data.un.org/CountryProfile.aspx?crName=Somalia>.
- UN Security Council. 2010. Report of the Monitoring Group on Somalia pursuant to Security Council Resolution 1853 (2008). United Nations.
- Ungoed-Thomas, Jon and Woolf, Marie. 2009. Navy releases Somali pirates caught red-handed. *The Times* (29 November), <http://www.timesonline.co.uk/tol/news/world/africa/article6936318.ece>.
- UNITAR Operational Satellite Applications Programme. 2009. Spatial Analysis of Somali Pirate Activity in 2009. United Nations Institute for Training and Research.
- United Nations World Food Program - Somalia/Operations*. United Nations. Available from <http://www.wfp.org/countries/Somalia/Operations>.
- Van der Meijden, Leonard Remondus. 2008. The Influence of Modern Piracy on Maritime Commercial Transport, Erasmus University.
- Varese, Frederico. 2001. *The Russian Mafia: private protection in a new market economy*. Oxford: Oxford University Press.
- Repeated Author. 2006. How Mafias Migrate: The Case of the `Ndrangheta in Northern Italy. *Law & Society Review* 40 (2):411-444.
- Walls, Michael. 2009. The Emergence of a Somali State Building Peace from War in Somaliland. *African Affairs* 108 (432):371-389.
- Williams, David. 2008. Somali pirates are treating us well, says British hostage on hijacked supertanker. *The Daily Mail* (25 November), <http://www.dailymail.co.uk/news/article-1089321/Somali-pirates-treating-says-British-hostage-hijacked-supertanker.html#ixzz1Tugd4myX>.
- Zedner, Lucia. 2006. Liquid Security: managing the market for crime control. *Criminology and Criminal Justice* 6 (3):267-288.

## Endnotes

<sup>1</sup>Operation Atalanta.

<sup>2</sup>Operation Allied Protector.

<sup>3</sup>Combined Task Force CTF-151.

<sup>4</sup>See Diagram 1. The figures include incidents carried out by Somali pirates in the Arabian Sea.

<sup>5</sup>Interview with Admiral Philip Jones and Captain Paul Chivers, London, 15 February 2010.

<sup>6</sup>See maps provided at the EDACS conflict data project website: [http://www.sfb-governance.de/teilprojekte/projekte\\_phase\\_1/projektbereich\\_c/c4/The\\_EDACS/index.html](http://www.sfb-governance.de/teilprojekte/projekte_phase_1/projektbereich_c/c4/The_EDACS/index.html) (*Event Data Project on Conflict and Security*).

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<sup>7</sup> In 2005 it was estimated that up to 700 foreign fishing trawlers operated illegally in Somali waters, often using destructive methods (Jasparro 2009). While the argument that Somali fishermen were defending themselves against the predations of foreign fishing has been criticized as self-serving, it seems clear that piracy began this way and quite quickly evolved into an extortion business.

<sup>8</sup> Fish are attracted to the air-rich wake of large ships.

<sup>9</sup> For example, the Sirius Star hijacked in November 2008 contained oil worth US\$100mn, while the ransom was 3mn.

<sup>10</sup> Personal communication with Bundespolizei, Luft- und Seesicherheit, Bundesministerium des Innern, Germany.

<sup>11</sup> This point will be addressed in further depth in a subsequent section in this paper.

<sup>12</sup> UN Security Council Resolutions 1816, 1838, 1846 (2008).

<sup>13</sup> However, this seems to have been amended recently to “deterrence, prevention and repression of acts of piracy and armed robbery off the Somali coast” (EU NAVFOR Public Affairs Office 2010).

<sup>14</sup> If a pirate attack in the Gulf of Aden can be resisted by a ship for just twenty minutes, naval forces will generally be able to come to their assistance. Interview with Captain Richard Farrington.

<sup>15</sup> The only exceptions occur where the entire crew retreats to a strongroom within the ship, so rescuers know that anyone visible on board is a pirate.

<sup>16</sup> Major General Howes, commander of the EU naval forces claimed that naval forces had repelled 100 attacks in the last 12 months (RUSI conference on Future Maritime Operations 2011).

<sup>17</sup> In the same period 190 attacks occurred in the Indian Ocean, 58 of these were successful.

<sup>18</sup> Of these ships, two missed convoys, so technically were not protected by the IRTC. Interview with Capt. Farrington.

<sup>19</sup> Interviews with Capt. Farrington, Capt. Chivers, and Adm. Jones.

<sup>20</sup> The British Foreign Office allegedly advised naval authorities that pirates seeking political asylum was a distinct possibility (Rivkin 2008).

<sup>21</sup> Arrangements were made to prosecute pirates in Kenya to make arrest less attractive (Gettleman 2009).

<sup>22</sup> Interview with Capt. Chivers. See also (EU force frees Somali 'pirates' 2010).

<sup>23</sup> The Combined Maritime Forces reported on 23 October 2009 that 611 pirates were encountered between 22 August 2008 and 23 October 2009. Of these 358 were immediately released. 242 were turned over for prosecution. Out of 59 trials, 24 resulted in the release of the pirates.

<sup>24</sup> Interviews with Capt. Farrington, Capt. Chivers, and Adm. Jones.

<sup>25</sup> We use a dummy variable for monsoon months with average wind-speeds over 6 on the Beaufort scale to pinpoint the exact timing of the monsoon winds. See also (Shortland and Vothknecht 2011; UNITAR Operational Satellite Applications Programme 2009).

<sup>26</sup> These variables are shown to be highly significant in explaining the development of prices and wages in the Somali economy (Shortland 2011).

<sup>27</sup> SWALIM gave up on re-establishing the old rainwater collection stations in June 2009 in favour of automated collection in a few locations. We therefore extrapolate the data from this point forwards: see <http://www.faoswalim.org> (*Somalia Water and Land Information Management*).

<sup>28</sup> Further disaggregation of the IRTC dummy into its 2009 and 2010 components to reflect improved collaboration, a larger naval contingent and better co-operation by the private sector in 2010 was not statistically supported.

<sup>29</sup> In (anonymized) an earlier working paper version, we additionally employed Poisson and Negative Binomial specifications obtaining very similar results to the Tobit regressions. With an extra 18 months of data the variable distribution has become appropriate for Tobit analysis.

<sup>30</sup> The SWALIM contracting variable is only available from 2002 and is negatively correlated with the missing markets variable, so we report separate models for the two samples where appropriate.

<sup>31</sup> There is no equivalent effect for the Al-Shabaab dummy in Southern and Central Somalain 2010, indicating that piracy is indeed mainly a Puntland phenomenon, rather than originating from the highly unstable Southern and Central Somalia.

<sup>32</sup> De Groot, Rablen and Shortland (2011) argue that the best case scenario for pirates would be a government that was highly effective but also corrupt: it would provide better infrastructure for pirates but allow them to work unimpeded. Hijack and ransom gives pirates approximately 2% of the value of their cargo while theft/sale gains 60-80% of the value – in other words enough governance to allow for a theft/sale model would be ideal.

<sup>33</sup> See maps provided at the EDACS conflict data project website: [http://www.sfb-governance.de/teilprojekte/projekte\\_phase\\_1/projektbereich\\_c/c4/The\\_EDACS/index.html](http://www.sfb-governance.de/teilprojekte/projekte_phase_1/projektbereich_c/c4/The_EDACS/index.html).

<sup>34</sup> Classically the governmental function mafias provide is protection, in a situation where the state is unable or unwilling to provide it. In the case of Somalia, where the expectation of protection from the state is non-existent,

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we argue that the main good provided is employment and suggest the subject of protection for other criminal business is a future avenue for research.

<sup>35</sup> Interviews with Capt. Farrington, Captain Chivers, and Admiral Jones.

<sup>36</sup> Interview with Captain Farrington, interview with Captain Chivers, interview with Admiral Jones.

<sup>37</sup> Interview with risk analyst and tanker captain / Marine Superintendent.

<sup>38</sup> In August 2009, a gun battle between pirate gangs apparently killed 17; interestingly, the battle appears to have been fought “over land and a girl who was raped in the forest” rather than hostages. The pirates were concerned that the fight would damage their activities (Clashes rock Somali pirate port 2009).

<sup>39</sup> Interviews with Capt Farrington, Capt Chivers, Adm. Jones.

<sup>40</sup> A copy of such a manual was apparently found by French police on a released yacht (Hampton 2008).

<sup>41</sup> Customs receipts constitute 85% of total revenues (*Puntland State of Somalia Ministry of Finance 2006-2009*).

<sup>42</sup> It is not always significant in the full models due to its collinearity with the naval intervention dummies.

<sup>43</sup> Although Bossasso’s prison has a number of pirate inmates, these tend to be from non-local clans (Hansen 2009).

<sup>44</sup> Interview with Canadian NATO naval contingent, 19 June 2009. Interviews with Capt. Farrington, Capt. Chivers, and Adm. Jones.

<sup>45</sup> Interview with Adm. Jones.

<sup>46</sup> Interview with Capt. Chivers.

<sup>47</sup> With the slowdown in world trade during the financial crisis of 2008 and 2009 the losses due to having a ship out of commission for a few months have also fallen.

<sup>48</sup> Interview with Capt. Chivers.

<sup>49</sup> Crews are aware that pirates reward compliant crews with better treatment. Interview with tanker captain.

<sup>50</sup> Interview with Captain Farrington.

<sup>51</sup> See for example the detailed analysis of costs in Van der Meijden (2008).

<sup>52</sup> See for example (Seeräuber in Hamburg vor Gericht 2010).