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**Security Concerns: Piracy at Sea and the
Carriage of Essential Commodities by Merchant
Shipping – The impact on commodity pricing
and availability**

Dr. Stephanie Jones

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1. *Associate Professor, Organizational Behaviour, Maastricht School of Management, the Netherlands and
Tilburg University, the Netherlands*



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ONLY

ABSTRACT AND INTRODUCTORY

With the focus of this conference on resource scarcity and resource constraints, it seemed to me that a key aspect of ensuring resource availability is distribution. But distribution depends on the perception of risk, which therefore determines price and availability. When can distribution be risky? Surely it's just a matter of moving goods from A to B?

But what if A to B is on the high seas, in pirate-infested waters? The overall cost of global piracy – ultimately borne by consumers of commodities – has been estimated at reaching up to \$15 billion per year by 2015. This year already, a huge increase was observed in the first quarter, when pirates attacked 142 vessels, seized 18, including three tankers over 100k deadweight, murdered seven crew members and injured 34 – an all-time high in only three months. The war-zone is predominantly the 2.5m square nautical miles off Somalia, which has increased from 1.5m two years ago (Feldman, 2011, also quoted by Leach, 2011).

My interest in shipping, trading and seafaring – now reinforced by owning my own 40 foot sailing boat – started as a teenager and was the subject of my doctoral research. With the MSM focus on emerging markets, we are increasingly concerned with fair economic development for all, sustainable world commodity flows, and poverty reduction... and maritime piracy is arguably standing in the way of these goals.

Ironically, one of the findings of this paper is an observation that many maritime pirates are 'biting the hand that feeds them' – they are attacking ships that bring food aid from the developed, so-called 'rich countries' designed to alleviate poverty and starvation in their own backyard – deterring future aid deliveries due to increased insurance costs and high personal risk. The pirates may be getting rich, but their compatriots are poorer than ever. Meanwhile, countries desperate for international aid are corruptly laundering pirate ransom income and continuing to support pirate warlords and tribal leaders. They may also be living in ritzy apartments in London, New York and Geneva, whilst global inequalities are perpetuated.

We are not just looking at increased prices of commodities carried by sea – we are looking at matters of life and death for seafarers, as maritime pirates become more aggressive and violent. The further they venture out, the more desperate they become to successfully attack and hijack ships. Even 'suicide bombers' are now taking to the seas, navigating small craft packed with explosives directly alongside their targets. Now, over the last year, I have a partner who is an ex-navy captain and who now commands a superyacht. He has helped me with the research for this paper and it has occurred to me more than once that he might be in danger...

Let us start with two short definitions of piracy. The International Marine Board [IMB] talks about "an act of boarding any vessel with the intent to commit theft or any other crime and with the intent or capability to use force in the furtherance thereof"; the

International Maritime Organisation [IMO] refers to “armed robbery against ships – any unlawful act of violence or detention or any act of depredation or threat thereof... directed against a ship or persons or property on board such a ship...” quoted in Beckman (2002).

This paper firstly attempts to quantify the issues involved – numbers of ships and crew members, ransoms paid – and looks at global trends, all indicative that this problem is becoming greater rather than lesser. Piracy – with swashbuckling cutlasses, pieces of eight, parrots and eye-patches, romanticised in movies and novels – is no longer attractive and exciting, but desperate, corrupt and deadly, and bad for world trade and the future of developing nations. We will also look secondly at the detailed economic implications, the background to how it began and what happens in an attack. We will suggest a) some practical ideas for tackling the problem and b) finally, we will reflect on the lack of concerted international action to date to deal with the issues, considering the reasons for the failure to respond and therefore the continuing deterioration of the situation.

SECTION 1

Attacks by seaborne pirates on merchant shipping have increased dramatically in recent years. The IMB piracy reporting centre has been operating for the last 20 years (Leach, 2011b), and the statistics are scary - a report issued [in January 2010] by the International Chamber of Commerce said incidents of maritime piracy and armed robbery grew from 293 in 2008 to 406 in 2009 and that 1,052 crew members were taken hostage during the year. A total of 354 seafarers and 16 ships were held hostage in Somalia in late September 2010 (Tradewinds, 2010). By mid-January 2011, there had been at least four ship hijackings off the coast of Somalia with 83 crew members taken hostage. A few weeks later, Somali pirates were holding 29 vessels and 693 hostages, according to the EU Naval Force Somalia (Lewis, 2011). Smith (2010), quoting IMB data, saw 2009 as a 38.5% increase over 2008 and third successive year of double-digit percentage increase, with 153 vessels captured, during which shipowners paid \$90m in ransoms. The statistics vary, and the agencies monitoring the events argue about the numbers, and there is no concerted response. But what if they were airliners? And passengers? Would there be more of a reaction?

For example (Excell, 2009):

April 2008, luxury yacht *Le Ponant* seized. Boat and crew released following \$2m ransom payout. French forces capture six pirates and recover some money

September 2008, pirates board and hijack MV *Faina*. Ship and crew released four months later when ransom payment is parachuted into the water

November 2008, hijack of Saudi oil tanker *Sirius Star* causes price of oil to jump more than \$1 a barrel. Ship and crew freed after \$3m ransom payment

April 2009, container ship *Maersk Alabama* becomes the first US victim of piracy for 200 years. Crew and ship freed days later when US Navy SEAL snipers kill three pirates

April 2009, Greek-owned bulk carrier MV *Irene* seized in Gulf of Aden. Ship and 21 crew released after hijackers receive \$2m ransom payment

The pirates are not interested in the cargoes they could capture – they are just concerned with the ransoms they can receive for freeing a ship and crew they capture.

But in the process, the cargoes are not going where they are needed. The sharp rise seen in 2011 was driven by a surge in piracy off the coast of Somalia, where 97 attacks were recorded in the first quarter, up from 35 in the same period last year (Leach, 2011). The piracy problem is bad and getting worse, most sources say. The average ransom paid to Somali pirates in 2010 was \$5.4 million compared with \$150,000 in 2005, according to One Earth Future, a non-governmental foundation based in the USA (quoted by Bradford, 2011).

In comparison with all of 2010 – when 445 vessels attacked – the pirates captured 53 ships – and far fewer seafarers were hurt. 53 vessels with 1,181 crew members were taken in 2010, the highest number the IMB had seen. Of the hijackings, 49 of the 53 were off the coast of Somalia. At the end of 2010, 28 vessels and 638 hostages still were being held by Somali pirates.

Five years ago pirates didn't go so far as to murder crew members and injuries were few (Feldman, 2010). But there have been instances of crews fighting back and being supported by navies (discussed in more detail below). In early January 2011, South Korean naval forces stormed a ship held by Somali pirates, rescuing all 21 crew members. Eight pirates were killed and five were captured in the raid. The captain of the South Korean chemical tanker was wounded by the pirates (Bradford, 2011).

Paying ransoms and insurance premiums, the costs of rerouting ships, purchasing security equipment and providing naval forces totals \$7 billion to \$12 billion per year, according to the pressure group One Earth. Ole Wikborg, president of the Zurich-based International Union of Marine Insurance and director of the Bergen, Norway-based Norwegian Hull Club, said the piracy situation is worsening as the geographic area where pirates operate has expanded to include "almost every part of the Indian Ocean" (quoted by Bradford, 2011).

The observer might remark that if only 18 vessels were seized in three months, when around 30,000 vessels transit the Gulf of Aden and the Indian Ocean per year, this is not a big deal. But maritime piracy has been quantified as the greatest maritime risk currently impacting shipping (Feldman, 2011). What if it's your ship, your cargo, you are the end consumer, and crew members are your family?

According to recent estimates, piracy currently costs the global economy around \$7bn-12bn a year, and is increasing the costs of using some of the world's busiest shipping routes. Most of those costs are incurred as a result of attacks by Somalia-based pirates, whose activities are spreading across the Indian Ocean -- although piracy is a worldwide problem. Around \$238m was paid to Somali pirates in 2010 alone, with the largest known ship ransom ever paid, of \$9.5m, made in November to secure the release of a South Korean oil tanker (Lewis, 2011).

Specific incidents have had a powerful impact on the media, but have not necessarily led to concerted action. The capture [of the Saudi-owned *Sirius Star*] on November 15th [2008], with \$110m of crude oil bound for America [off Kenya – the largest ever ship seizure to date, freed on 9 January 2009 having paid a \$3m ransom], was followed by several other hijackings by Somali pirates, including a Thai tuna boat, a Turkish chemical tanker, an Iranian freighter loaded with wheat and a Greek bulk carrier. Against this, an Indian warship, the *INS Tabar*, reported that it had blown a Somali pirate 'mother ship' to smithereens in retaliatory fire on November 18th. Warships from several countries now patrol the Somali coast (The Economist, 2008). A 'mother ship' – see below – is a larger vessel (often originally captured by the pirates) which can sail long distances and from which smaller pirate skills and rigid-inflatables [RIBs] can be launched.

When a Ukrainian ship was captured in September 2008 with \$30m weapons on board – US and Russian naval ships responded – and the *Maersk Alabama* incident of April 2009 was an even greater wake-up call, and made all concerned stop and think (Edmonson and Leach, 2009). Owned in the US, and operating under the US flag, the *Maersk Alabama* was carrying US food and other relief aid – to Mombasa from Djibouti – as part of the UN World Food Program. Captain Richard Phillips was captured but later released in a dramatic rescue by Navy SEALs, referred to above. The ship's chief cook, Richard Hicks, sued the Maersk Line and Waterman Steamship Corporation on grounds that company ignored crew requests to improve security (JoC, 4 May 2009). The 28 crew and the captain had been held on 28 April, and the ship was attacked again on 18 November – but this time the pirates were repelled with evasive manoeuvres and long-range acoustic devices and small arms fire (JoC, 30 Nov 2009).

Many observers feel that attacks by Somali pirates could result in starvation of millions in Africa, and were not just taking money out of the pockets of the 'rich countries'. In 2008, 200 ships delivered 800k tons of food to Africa, and became increasingly concerned with pirate attacks. At this point, the US government said the area too big to patrol, and was just telling ships to look after themselves. In 2009, the situation was much the same, with only around 24 naval vessels from US, EU and NATO available to defend merchant ships against pirates. One welcome intervention was the tsunami – otherwise disastrous but probably piracy in the Malacca Straits was partly reduced by this tidal wave, which destroyed many pirate ships (Edmonson and Leach, 2009).

So, where are these ships when they are attacked? What cargoes do they carry? Which routes do they ply? Who are the owners, the shippers, the insurers, the consumers?

SECTION 2

These ships being attacked by pirates are carrying vital commodities essential for manufacturing and the sustainability of local economies. Where? Which cargoes? Routes? Which kinds of ships and size – container ships, bulk cargo ships – for which owners? And which shippers?

Where. Piracy is prevalent around the Somali coast, up into the Red Sea and out into the Indian ocean, also from Sumatra out into the straits of Malacca, and also around the coast of Nigeria where pirates prey on the oil tankers even up the rivers to the depots. These just want the oil and kill the crews rather than take hostages (but in many situations, the pirates just want ransoms – see below). It is also beginning to happen more as armed robbery around the Caribbean and north coast of South America (Carrington-Wood, 2011).

An estimated 70% of attacks in first quarter of 2011 were off Somalia – and many sources have suggested that 95% of piracy generally is caused by Somalis. This can take place up to 100s of km offshore, There were also nine attacks off Malaysia, five off Nigeria, and a number off Indonesia (Feldman, 2011).

TABLE 1:**Danger Zones**

The Joint War Committee's list of areas at risk for hull, war, strikes, terrorism and related perils, as of 20 June 2005:

Africa

- Algeria
- Djibouti
- Ivory Coast
- Nigeria and Bakassi Peninsula
- Somalia

Asia

- Pakistan
- Thailand, southern Gulf coast of, between and including Songkahia and Narathiwat

Indonesia/Maiaysia

- Ambon [Seram]
- Balikpapan [SE Borneo]
- Borneo, northeast coast of, between and including Kudat and Tarakan
- Jakarta
- Malacca Strait and adjacent ports
- Poso [Sulawesi]

Middie East

- Bahrain
- Iraq
- Israel
- Lebanon
- Qatar
- Saudi Arabia

Philippines

- Mindanao, southern coast of, between and including Polloc Harbor and Mati
- Sulu Archipelago including Jolo Quoted in Pilla (2005)

Which cargoes? Mostly the pirates are not interested in the cargoes per se except what owner will pay in ransom, and the pirates can cause delays in shipping cargoes of several months, and some of the cargoes may perish (Feldman, 2011). In terms of quantities, they are getting bigger – even 100,000 ton oil tankers are attacked and have been successfully hijacked (Feldman, 2011). One-third of world’s crude oil is carried through the Gulf of Aden – the world’s worst route for piracy – and in some cases the pirates will sell the oil. The *Maersk Alabama* was carrying food aid when she was boarded in April 2009 (Murphy, 2010) – and in this case, as in most others, the pirates are looking for the ransom, not the cargoes.

Which routes? The availability of these commodities is also threatened as shipowners try to avoid needlessly expensive voyages, and may consider alternative transportation methods – such as by air – add to costs further. Transport by land can also be more costly and time-consuming – and is not danger-free.

An estimated \$2.4 - \$3 billion is spent in rerouting ships to avoid high-risk areas (Feldman, 2011). Alternative ocean routes, quoted by Kendall and Kendall (2010) have been suggested, but the days at sea increase dramatically, as do the costs:

TABLE 2:

Shipping Distances and Times: Yokohama to Bremen via Various Ocean Routes (e-ships.net, 2010)

Yokohama, Japan to Bremen, Germany

1 Route

2 Average Speed (Knots)

3 Days at Sea

4 Distance (Nautical Miles)

5 Central Value (Median) Daily Operating Cost USD‡

6 Central Value (Median) Voyage Operating Cost USD‡

Suez Canal	10	47.6	11,420	\$7,050	\$335,580
Panama Canal†	10	53.2	12,767	\$7,050	\$375,060
Good Hope	10	61.4	14,735	\$7,050	\$432,870
Magellan	10	70.5	16,915	\$7,050	\$497,025
Cape Horn	10	70.8	16,980	\$7,050	\$499,140

† Widening of the Panama Canal is expected to be completed in 2014 to handle most existing ships.

Which kinds of ships? Mostly, bulk and general cargo ships, container carriers and oil tankers are preferred. Maximo et al (2009) looked at data reporting attacks on vessels 1996-2005 and data on the total world merchant fleet – and considered that both flag of registry and type of vessel are significant factors in explaining incidents of piracy...

The authors note that bulk carriers, general cargo ships and oil tankers are most frequently attacked, and also found that Asian flagged vessels – especially when fully-laden chemical tankers and product carriers – tended to be vulnerable because of their low freeboard and thus ease of boarding...

TABLE 3:

Descriptive statistics of the sample

Variables	Not attacked (%)	Attacks (%)	All (%)	Number of observations
Ship type				
Bulk carrier	16.97	28.51	17.06	59 760
General cargo	30.57	25.16	30.53	106 967
Containership	7.10	16.08	7.16	25 103
Tanker	20.57	15.70	20.53	71 932
Chemical	21.76	10.58	21.67	75 940
Liquid gas	3.04	3.96	3.05	10 674
All types	100.00	100.00	100.00	350 376

Flag

Panama	13.72	17.05	13.74	48 159
Singapore	2.61	8.66	2.65	9297
Liberia	4.17	7.81	4.20	14 701
Malaysia	1.22	5.00	1.25	4 390
Cyprus	3.74	6.85	3.76	13 175
Malta	3.58	5.27	3.59	12 571
Bahamas	2.73	4.46	2.74	9597
India	1.02	3.31	1.04	3627
Hong Kong	1.17	3.35	1.19	4166
Others	66.05	38.25	65.84	230 693
All flags	100	100	100	350 376

Source: IMB and ILS data 1996–2005.

Which owners and shippers? Maersk Line, one of the world’s largest carriers, expects that its own piracy-related costs will double in 2011 to at least \$200m, in order to cover insurance premiums, hardship allowances, and the rerouting vessels. They are making increased piracy risk surcharges of \$110-170 per 40ft equivalent unit on containers effective May 2011 (Leach, 2011b), inevitably adding to the costs of end-consumers.

Maritime piracy costs the global shipping industry anywhere from \$3.5 billion to upwards of \$8 billion a year, according to Ron Widdows, group president of Neptune Orient Lines and chairman of the World Shipping Council (Leach, 2011).

Costs are borne largely by shippers – who have to pay for security equipment, training, insurance premiums, ransoms, loss of income from cargo impounded, ship stuck (Feldman, 2011).

One solution is to operate larger and larger vessels (The Economist, 2011c), described in the article “The Danish armada - Maersk orders ten colossal vessels” which can go

faster than the pirates. These will be the biggest container ships ever when they are launched in 2013. Maersk have ordered 10 for \$1.9 billion from South Korea's Daewoo Shipbuilding, with an option to purchase 20 more. This may help change the economics of container shipping, and may also reduce the threat of piracy. Called Triple E ships, they will carry 18,000 boxes each, 2,500 more than currently and will use 50% less fuel. These are bigger than anything attacked by pirates, but it doesn't mean they are pirate-proof..

Maersk profits were \$2.6 billion for 2010 – and there are thoughts that global trade could grow by 6-8% in 2011 – Clarksons, the world's biggest shipbroker, is predicting something closer to 10%. This might also explain why maritime piracy is on the rise...

But Maersk and others are certainly worried. The three largest ocean container carriers formed an alliance to fight piracy in 2011 – including Maersk, the Mediterranean Shipping Company, and CMA CGM – and we are yet to see the effectiveness of this initiative.

SECTION 3

Imagine a recruitment ad for being a pirate: “Low risk, high reward opportunity. Fresh air. Sunshine. Work part-time from your own boat. Earn fifty times your expected lifetime income in one day. Little experience needed. Be the envy of your friends and neighbours!” (Frump, 2009). It sounds amusing, but it is entirely accurate.

How did piracy start? The recipe for piracy sees the main ingredients as a seafaring but poor people, living near to a prosperous trade route, with no government control. Somalia is has it all – including no government for twenty years. Dominated by lawless tribes and warlords, the country has a low per capita income – of around \$500 pa – and the people began seafaring as fishermen protecting their fishing grounds from foreign trawlers. Then they ventured further out and attacked bigger vessels (Feldman, 2011) turning from fishery protection to out-and-out piracy.

As a nascent and profitable industry in a failed and starving state, the Somali pirates will not lack for recruits. A share in a ransom translates into an easier life of meat and

honey; not just pirate parties but a beautiful bride, a camel, a home, even a car (*The Economist*, 2008). ...But, arguably, in the end piracy will be bad news even for Somalia, accelerating the Talibanisation of the south by armed Islamist groups as more secular-minded gunmen abandon their poorly paid defence of Mogadishu for adventures at sea (*The Economist*, 2008).

The Economist (2011b) suggests that pirates need a degree of economic development to promote their 'business' – but not too much or too little. The recent article "Brigands seeking harbours... why pirates like a little law and order" argues that there is a need for a certain amount of economic development to have a pirate industry. "Piracy [is] flourishing off the coast of Somalia... [Somalis] took nearly 1,200 people hostage 2010... [thriving on the fact that] Somalia [is] a failed state – [but do] anarchic conditions on land leading to piracy at sea?" A Royal Economic Society conference noted that within Somalia most pirates are from Puntland rather than the truly anarchic south part of Somalia as, *The Economist* argues, pirates need basic level of law and order to ply their dangerous trade. Piracy is a 'market-dependent' crime – "pirates may benefit from protection from other criminals. Selling the loot requires transport and the ability to store goods. All this requires some rule of law – but not enough to cramp bandits' style..."

So piracy may at least initially increase if a country goes from anarchy to law and order... then this 'industry' may eventually decline as a country becomes better governed. Academics are now testing this theory using a new set of figures on global piracy, based on reports filed by ships' captains to the International Maritime Bureau, seen as more comprehensive than government data.

The Economist suggests that in countries with very low levels of governance (as assessed by the World Bank Index, for example) small improvements in law enforcement, stability and security can lead to more piracy. "Piracy can become endemic in weakly governed states but rarely takes root in ones where the state has completely collapsed [and] truly well-governed countries produce few brigands..."

For instance, Cambodia and Cameroon provide far more conducive environments for piracy than do Haiti, Liberia and Sierra Leone – they are just too dysfunctional. As *The*

Economist argues, “helping such anarchic places to improve their governance a bit has many benefits. Cutting down on pirate attacks may not be among them”.

Piracy is also encouraged by the possibility of successful money-laundering and increasing and unthreatened wealth for the pirate warlords. Authors such as Smith (2010), looking at legal issues, points out that the liability for aiding and abetting piracy has been established in American jurisprudence since pre-colonial times – but there are places which see themselves as outside of this domain. In Kenya, for example, Somali pirates can work effectively within Kenya’s apparently lax and corrupt legal system to launder their ransom money. Pirate warlords (and particularly successful individual pirate operatives) can buy real estate in Kenya – and then the Kenyan government assesses a 30% withholding tax on gross rental income. They also charge a 1% tax on the value of the property and an 8% land value tax – but it’s a win-win – the Kenyan authorities make money and it’s worth it to the pirates to launder their money in a more stable environment.

The Financial Times (weekend of 15-16 October 2011) featured a spoof ‘guided tour’ of a wealthy, up-market Paris suburb favoured by despotic African politicians – being part of their number is clearly a goal of pirate warlords, who may well already be their neighbours – and not just in Paris, but in London and Geneva...

SECTION 4

What often actually happens in a pirate attack? It usually takes place early in the morning, when skiffs set off from the pirates’ ‘mothership’, which might be moored around 100km or even further offshore. Using grappling hooks and ladders, the pirates – armed with AK 47s – mount an attack. Speed is of the essence, as they try to capture the bridge of the target ship, and then they take the captured vessel to Somalia, where they may disperse the crew (Feldman, 2011). One-eighth of vessels attacked are successfully hijacked (Edmonson and Leach, 2009), so at least some vessels get away (see next section on how they achieve this).

To board the *Sirius Star*, one of the world's largest oil tankers, Somali pirates had to haul themselves up ropes tied to grapnel hooks the height of London's Big Ben, with the 330-metre (1,100feet) long ship pitching all the while in the tropical swell. Then there was the location, way out in the high seas, fully 450 nautical miles off the coast of Kenya. The feat of vertiginous thuggery will be taken everywhere as proof of what is possible; it was the biggest ever catch by any pirate, anywhere in the world (*The Economist*, 2008).

...[This took place in late November 2008, when] the *Sirius Star* had dropped anchor off the Somali pirate port of Harardheere. There it joined a dozen or more other vessels, all anchored at ransom, their crews, about 250 people in all, held at gunpoint. Among them is the MV *Faina*, a Ukrainian freighter captured in September [2008] with a cargo of [military] tanks almost certainly bound for south Sudan (with Kenyan government help). Ransom demands for the *Faina* have dropped from \$20m to \$8m since it was surrounded by American and Russian warships, but there is still no agreement on its release. The pirates are likely to ask in excess of \$30m ransom for the *Sirius Star* (*The Economist*, 2008).

Negotiations for the release of the Saudi-owned supertanker *Sirius Star* seized by pirates off Somalia continued [November, 2008]... with the pirates [originally] asking for \$25 million in ransom, news agencies reported... The hijacked supertanker... is anchored a few miles off the coast of Somalia, near the town of Xarardheere. Its cargo of 2 million barrels of Saudi crude is worth about \$100 million; the ship itself is worth more than \$100 million. There are 25 crew members aboard... (Otterman and Slackman, 2008).

The pirates can be bare-faced in their demands. "What we want for this ship is only \$25 million, because we always charge according to the quality of the ship and the value of the product," a man who identified himself as Abdi Salan, a member of the hijacking gang, told Bloomberg in a telephone interview from Xarardheere. ...A man on the *Sirius Star* answered the ship's telephone three times, but hung up without answering any questions. The ship's owner, Vela International Ltd., a subsidiary of Saudi Aramco, has declined to comment on the negotiations.... Maritime experts said that ransom demands from Somali pirates generally start much higher than will

ultimately be paid, but that the ransom paid would likely be in the millions of dollars. Pirates have already collected from \$25 million to \$30 million in ransoms this year [2008], the United Nations secretary general, Ban Ki-Moon, said Tuesday (Otterman and Slackman, 2008).

Since the seizure of the *Sirius Star*, other pirate groups have hijacked at least three other ships, maritime officials say. On Wednesday, the Indian Navy said that one of its warships fought a battle at sea with would-be hijackers in the Gulf of Aden, sinking one suspect vessel and forcing the pirates to abandon a second as they fled.

In Rome, Prince Saud al-Faisal, the Saudi foreign minister, confirmed that the owners of the *Sirius Star* "are negotiating on the issue" and were "the final arbiter of the issue", despite the Saudi government's official opposition to such discussions with "pirates, terrorists or hijackers," according to news reports. But he did not elaborate (Otterman and Slackman, 2008).

Another well-known example of a ship hijacking is that of the *Maersk Alabama*, especially famed for the April 2009 dramatic rescue by US Navy SEALs – mentioned in Sections 1 and 2.

One particularly scary new development in maritime piracy is that we now (Leach, 2010) have to deal with possibility of pirate suicide attacks. An explosion damaged the VLCC *MOLM Star* in the straits of Hormuz on 28 July 2010, when the ship was rammed by a rigid inflatable boat [RIB] full of explosives – and the pirate on board could die safe in the knowledge that his family would get his share of the loot and he would be a hero forever.

SECTION 5

The dangers these ships are now facing – of being captured and boarded and their cargoes stolen, as well as the threat to the lives of their crews, and the loss of the ships themselves – are being handled in different ways. Some ships hire security forces for the duration of the voyage, to fend off attackers or at least act as a deterrent. Other ships take circuitous voyages to try to avoid certain seas and specific areas known for

piratical activity (as discussed in Section 2). Counter-piracy training for all crew is now being widely recommended.

Captain Clive Carrington-Wood, reflecting on over thirty years' of experience in the Royal Navy and current responsibilities managing and commanding a superyacht, considers that anti-pirate strategies include four 's' – speed, size, safety, and scariness – and the importance of a strong naval presence. Firstly, speed is important as fast ships are very difficult to catch and a lot more difficult to board. So owners should build fast ships, but this comes at a price in fuel. Secondly, big ships, with barbed wire and other obstacles including – thirdly – locked watertight doors and gated ladders preventing access to the crew who control the ship from inside a 'safe room' and leave it to automation and shelter within this 'safe room' until the pirates get bored and leave - which has proved to be effective in the past.

Pirates are not brave, just very greedy and aggressive, Captain Carrington-Wood suggests. So his advice is to make the experience – fourthly – scary and dangerous for them. Very loud noise transmitted at enormous volume through outward pointing speakers will raise the alarm as well as make their approach painful and unbearable. Water-flooding systems that pump a curtain of water around the vessel will quickly sink the small skiffs they attack from, by filling them with water when they approach. Pumps cost a bit of money, pipe work very little and the sea water is free.

Finally, the captain argues that authorities should give the Royal Navy (and other Navies) the rules of engagement – establishing internationally-agreed rules between all nations so that navies know what they can do and what they can't do – and provide them with the assets required to defend the nation's wealth and the freedom of the seas. "It is upon the Navy, under the providence of God, that this Island's wealth, safety and prosperity chiefly depends" - Charles II (quoted by Carrington-Wood, 2011).

An *Economist* article, discussing new riot-control technology, is also useful for looking at equipment which can protect ships against piracy. "The sound and the fury" looks at firms in this business making anti-riot shields, batons, helmets, responding to demand, increasing from police and military services in Europe, South America and Africa. This equipment is needed more than ever to deal with war, unrest and natural disasters - and piracy. Armour is one issue, including goggles, shields, and other kit made of

lightweight, flame-resistant, unshatterable and stab-proof materials – which could be used as protection for crew members. As is used in riot-control – ochlophonics and others - include:

- Coloured water
- Heat ray – painful zapping of skin
- Big sound-blasters – “long-range acoustic devices” (LRADS)
- ‘Scream’ device – affects inner ear and induces nausea
- Skunk bombs of smelly liquid
- Strobe torch affects eyes – makes attackers dizzy and disoriented
- ‘Dazer lasers’ – green beam for dazzling attackers up to 2.4km away
- Water cannons
- Rubber bullets, (*The Economist*, 2011a).

Also, these are ways we can protect a ship from pirates without killing them and creating a difficult international incident – all agree that armed guards are limited in their application and can create shoot-outs (see below).

In dealing with this threat of piracy, it is easy to see how a crew can suffer fatigue through their heightened vigilance for seven-eight days – especially as pirates out at sea up to 1,000 miles away from home can start getting more desperate when they are running out of fuel. Commentators suggest various techniques – such as making a ship look ready to fend off pirates – by covering the deck with razor-wire, showing fire hoses visibly, using dummies to look like armed guards, and creating safe rooms with communications devices. Many experts think armed guards should be last resort (Leach, 2010).

Looking at the bigger picture, the use of the internationally-recognised transit corridor through Gulf of Aden where naval forces concentrated – and where ships can use a group transit plan, where ships are grouped by speed – is seen as offering increased safety, although of course this cannot be guaranteed (Feldman, 2011). And ships are still taking their own private measures – such as sailing over 18 knots to outrun pirates – putting razor wire around the ship, firing water cannons or blasts of foam to knock the pirates into the sea, also create safe haven/citadel of bridge – with its own air

conditioning, rations, water (Feldman, 2011), which sounds very similar to the advice of the Captain (above).

The presence of strong naval vessels can make a difference. While incidents off the coast of Somalia remain high, the number of attacks in the Gulf of Aden fell by more than half in 2010, to 53 from 117 in 2009. The IMB attributed the decline to the presence of navies that have been patrolling the area since 2008 and by better self-protection measures adopted by shipowners. "The naval units in the seas off the Horn of Africa should be applauded for preventing a huge number of piracy attacks in the region," Pottengal Mukundan, director of the IMB's Piracy Reporting Center, said in a statement. "The continued presence of international navies is vital in protecting merchant ships along these important trade routes." (Quoted by Bradford, 2011).

Meanwhile, the possibility of the formation of a 'private navy' by a major insurance company is looking increasingly realistic. Jardine Lloyd Thompson [JLT] is working with Dobson Fleet Management Ltd., a Limassol, Cyprus-based company that will provide crews and a range of management services for the convoy escort program they advocate. "They will operate the marine side," the JLT spokesman said. "The program is being developed [by JLT] amid a longstanding debate over how much force should be used against pirates. Opponents of merchant vessels arming themselves argue that doing so increases the danger that someone will be killed or injured, but some ships have taken to carrying armed crews and insurers have begun providing coverage that will pay for liability connected to onboard armed security personnel. An armed escort service should serve to cool the debate by removing the need for merchant ship crews to be armed" (Bradford, 2011).

This source continued to suggest that "some ships, though, may not see the need for a convoy if they are armed themselves, said Joseph J. Cox, president and CEO of the Chamber of Shippers of America in Washington. Some shipowners likely will weigh the cost of arming their own vessels against that of using the escort, he said. "Will this idea go?" Mr. Cox asked. "Maybe. It depends on cost." That's not to say a private-industry effort to battle piracy is a bad idea, Mr. Cox said. "The industry has to start talking about what we can do for ourselves because the government can't do it all."

Establishing the escort program has not been without opposition from many sides, the JLT spokesman said. "People opposed what they perceived as a commercial venture" in the role of a navy, he said, and expressed concerns about armed crews, rules of engagement and other aspects of the program. A spokesperson said that the escort program would be a far cry from a "private navy" as some had worried. "It's an international effort to help reduce the pirate problem," he said. Even if the program is implemented, substantial piracy risk will remain, sources agreed (Bradford, 2011).

Leach (2010) argues that crews trained with BMP3 (see references) have successfully repelled pirate attacks – and this may be seen as a readily-available, low-cost and self-empowering way of reducing risk in the event of an attack. If seven in eight pirate attacks can be foiled, and if the ration can be increased to nine out of ten or 19 out of 20, this could make a real difference. This intensive training is supported by the Baltic and International Maritime Council, Intertanko, Intercargo, the IMB and EU naval forces – and ships can get lower insurance if they can show they have heightened security procedures.

SECTION 6

The economic impact of piracy is becoming enormous – and the insurance rates payable are reaching prodigious and prohibitive levels, becoming one of the biggest problems for shippers and shipowners. Ocean carriers looking to pass the soaring insurance premiums onto shippers – in surcharges – shows how much costs are rising. It costs more now to import goods from SE Asia and India through Suez – making a negative impact on these export-led emerging economies.

Container lines are now paying higher premiums for coverage against war-risks and kidnap-and-ransom insurance – and these have jumped 20% since January 2011. With the trend of pirates capturing ships and using them as 'mother ships' for bases further into the Indian Ocean means that insurance companies have extended the war risk zone from 150 to 200 miles off the coast. The big question is, will carriers be able to afford the increased insurance? And will insurers be able to afford the pay-outs? What

do the shippers think? The supply chains are now getting so long that not all shippers know their cargoes are going through dangerous areas... (Leach, 2011b)

What does war-risks and kidnap-and-ransom insurance mean? There can be gaps in insurance cover – the kidnap-and-ransom is a new kind of insurance – which may even pay ransoms and the costs of negotiating and the opportunity-cost of the loss of hire of the ship, seen as business revenues. Some insurers pay medical costs of the crew, and even death benefits (Feldman, 2011) – but not all do.

The Convoy Escort Program of JLT – referred to above – could significantly reduce insurance costs. A separate, nonprofit company that is planned to operate 16 armed patrol boats in the Gulf of Aden with crews consisting mainly of ex-military personnel who are trained to intercept pirates before they can hijack merchant ships (Bradford, 2011)... JLT is structuring the program so it includes war risk insurance written by Lloyd's of London insurer Ascot Underwriting Ltd. to provide protection for a three-day transit through the Gulf. The cost of the service for shipowners is expected to offset the expense of additional war-risk coverage and security that they incur, the spokesman said. Any broker could access the program, he said (Bradford, 2011).

SECTION 7

The impact on freight rates and therefore the impact on food/commodity prices is therefore considerable. In terms of the overall economic impact, whichever way is chosen to reduce the threat of pirates, the increased costs of these commodities as a result, when finally delivered, are eventually passed on to consumers. These costs are including the \$4-5m ransom payments in each case – in the form of cash dropped from a small plane – in which a successful raid can make thousands for pirates, and millions for warlords (Feldman, 2011) – reducing the availability of affordable foodstuffs through cheap, bulk transport – which now does not exist in some strategically important parts of the world.

What are the shipping lines now paying for anti-piracy protection? Insurance (including war risk and kidnap-and-ransom, anti-piracy equipment such as high-pressure hoses, safe rooms, ear-splitting loudspeakers, blinding searchlights and additional fuel for steaming at high speed or diverting around the most dangerous zones... meanwhile, probably the only one advantage shipping lines have is that normal hull insurance is currently low because of over-capacity in the insurance industry (Leach, 2011b). This all adds up - estimates vary from \$7-12 billion to \$15 billion per year by 2015 in overall costs of global piracy (Feldman, 2011).

TABLE 4: Annual estimates of piracy costs:

Ransoms (excess on insurance cover)	\$148m
Insurance premiums	\$460m - 3.2bn
Ship rerouting	\$2.4 - 3bn
Security equipment	\$363m - 2.5bn
Naval forces	\$2bn
Prosecutions of pirates	\$31m
Anti-piracy organisations	\$19.5m
Cost to regional economy	\$1.2bn
Total estimated cost annually	\$7-12bn

www.oceansbeyondpiracy.org quoted by Leach 2011b

So, while the ransoms are high, it is the cost of insurance, naval protection and rerouting of vessels to avoid piracy hot-spots that really push up the spend for ship owners and consumers, especially in east Africa, who bear the brunt of higher commodity prices resulting from difficulties moving tankers through the area (Lewis, 2011).

... the ransoms mean higher insurance premiums for the rattled shipping industry, delays for customers as more ships choose the longer passage around the Cape of Good Hope, lower revenues for the Suez Canal, and for the oil markets yet another variable to work into already volatile prices (*The Economist*, 2008).

For example, US importers of finished apparel from Kenya are paying \$400 per forty-foot equivalent unit container [FEU] – up from \$60 two years ago – so the cost of piracy surcharges is becoming a major portion of ocean freight costs from the region. It's still cheaper for US importers as they enjoy low tariffs under African Growth and Opportunity Act (Leach, 2011b). However, this can be seen as a further aspect of the 'biting the hand that feeds you' – with the Kenyans being large recipients of US aid and meanwhile profitably laundering pirate ransom money.

SECTION 8

What can be done? The following is a short bibliographical summary of suggested long-term solutions, especially those based on international co-operation in attacking the heart of the issue. What are the solutions? Security forces are expensive to maintain on board, and their accommodation takes up valuable cargo space. If they attack potential pirates before the threat is realised, they can be accused of inflammatory behaviour against innocents. If the threat is realised, it may be too late. Taking longer voyages to avoid pirates costs more in time and fuel and – as pirates extend their areas of prey – is no guarantee of safety.

What are the options? 1. Leadership through the UN via the IMO? Will this really get enough support? 2. Independent business people influenced by enlightened self-interest? Is this enough to ensure consistency and strength? 3. Bailing out Somalia and building-up its defence forces? But might this potentially make things worse, as *The Economist* suggests? 4. Creating a private navy supported by a major insurance group, also related to the UN? Would this really attract enough international support? And would it provoke open warfare with pirates and more fatalities? 5. How about each affected country responding in its own way – Egypt, Russia, Denmark, Norway, Japan? As each country's interests are different? And many countries don't want to work with others? 6. Or would an internationally-co-ordinated response through the International Chamber of Commerce be much more effective? 7. Finally, how about refusing to play along with the pirate games, smoking-out the pirate warlords from

their offshore dens, exposing their dirty money and bringing them to justice, James Bond-style? Or is that too jingoistic in the culturally-sensitive, appeasing 21st century?

1. With pirate attacks, and their associated costs for shipping companies, escalating, the UN wants to bring a more joined-up approach to what has been, so far, an ineffective international response... The international effort to tackle the problem has so far made little impact. While a UN-led response has had some success in reducing piracy in the Straits of Malacca, the problem is worsening in the Gulf of Aden, the Indian Ocean and also the Gulf of Guinea, prompting a push for greater co-ordination in the response. A new programme designed to improve international co-ordination is being kick-started when UN secretary general Ban Ki-Moon speaks at the International Maritime Organisation's (IMO) London headquarters on World Maritime Day, which is themed: Piracy: orchestrating the response. The IMO, a UN agency, is urging governments in regions where piracy is prevalent to make greater efforts to prosecute pirates and for states, the shipping industry and international agencies to collaborate further to improve naval support and increase political pressure to speed up the release of hostages. The UN's own approach is also likely to come under scrutiny, given an apparent lack of co-ordination between its own bodies. As well as the IMO, the Office of the Law of the Sea, the Office of Drugs and Crime, and the World Food Programme are among agencies involved in the fight against piracy. While such efforts to improve co-ordination are hardly new -- the IMO's anti-piracy project has been running since 1998 -- the IMO hopes the continuing escalation of piracy will produce a more concerted international political response (Lewis, 2011).
2. Fu, Ng and Lau (2010) have investigated the impact of maritime piracy on global economic development... with data between 2003 and 2008, they model shipping demands and competition in the Far East-Europe container liner shipping service and investigate the economic welfare loss effects due to reduced volumes of trade and shipping, as well as efficiency loss due to geographical re-routing of shipping networks which would be otherwise uneconomical. The substantial economic loss simulated from their model indicates that, even from purely the perspective of

economic interests, more efforts from the international community should be dedicated to tackle maritime piracy.

3. The Somali transitional government's foreign minister, Mohammed Abdulahi Omar Asharq, told the counter-piracy conference [in Dubai in April 2011] that the world is losing the battle against piracy. "The race between the pirates and the world is being won by the pirates," he said... Asharq said the solution to piracy lies on land, not at sea. "Consequently the status quo view that manages acts of piracy is no longer a viable strategy. It is equally clear that piracy can only be uprooted on land, where it grows and persists," Asharq said, appealing for international aid. "The international community must make the urgent and necessary investment in the Somali security forces to build up the capability of the state and to establish its national authority... "Without this twin strategy of military authority and political reform and reconciliation," which Asharq said the transitional government is also pursuing, "we cannot end the consequences of the civil war in Somalia, and unless we do so, we will not resolve the causes of piracy." (Leach, 2011)
4. The Convoy Escort Program [set up by insurers Jardine Lloyd Thompson Group P.L.C.] will have its main office in London and a regional operation in an undisclosed location. "JLT is facilitating establishment of this program for the shipping industry," the spokesman said. "As far as we are aware, there aren't any proactive solutions" such as the escort program to protect ships from pirates, he said. The program will be led by a CEO and an executive board chaired by a shipping company executive, none of which have yet been named. Its profits derived from fees for services provided will be donated to the International Trust Fund established by the Contact Group on Piracy off the Coast of Somalia, which was set up to combat the problem through more rigorous prosecution of pirates and by improving conditions in the country which foster piracy. The fund is managed by the United Nations Office on Drugs and Crime (Bradford, 2011).

The Baltic & International Maritime Council, a Bagsværd, Denmark, shipowner association, is analyzing the Convoy Escort Program, said Giles Noakes, the group's London-based chief maritime security officer. It intends to support the effort as long as it is cost-neutral to shipowners, can provide funds to battle the piracy problem onshore

in Somalia through the International Trust Fund, and it enhances existing military efforts in the Gulf of Aden, all of which appears to be the case, he said. If the program is implemented, the presence of armed escorts off the coast of Somalia could free military resources there to patrol other waters, Mr. Noakes said. "The aim is for the CEP to take over escorts in the Gulf of Aden so that naval warships can be relieved to move to the north Indian Ocean," Mr. Noakes said. Under the escort program, a patrol boat outfitted with weapons and carrying armed crew members will escort up to three merchant vessels through the Gulf of Aden. The JLT spokesman would not elaborate on the firepower that will be in place except to say that it will be "fit for purpose." "There will be plenty of warning before they engage anybody with firepower," the spokesman said. "Training for the teams will be intensive and the rules of engagement will be made very clear by our legal team." It is impossible to patrol the entire Indian Ocean, the JLT spokesman said. "So what we are hoping for is to at least help with the three days it takes to get through the Gulf of Aden." "It's too vast," a shipowner said of the area where pirates operate. "It's my personal opinion that the whole problem emanates from the failed state of Somalia, and they need to sort that out before anything else." (Quoted by Bradford, 2011).

5. ... delegates from Arab nations met in Cairo to discuss how better to protect the region's vital shipping lanes.... [and] released a statement condemning the hijacking of the Saudi ship and stating that piracy by Somalis was a result of the deteriorating political and humanitarian situation in Somalia. Egypt has been particularly threatened by the burgeoning number of attacks, as fees collected for transit through the Suez Canal are a key source of national revenue. "We are all thinking of how to deal with this phenomenon and we are establishing our initial positions when it comes to dealing with it," said Hossam Zaki, a spokesman for Egypt's Ministry of Foreign Affairs. "We are open to discussing with any party ways to help combat and eliminate this phenomenon." Egypt assembled senior foreign policy officials from Jordan, Saudi Arabia, Sudan, Yemen, Djibouti and Somalia. It was the first time regional governments had gathered to discuss the issue of piracy, and sovereignty was one immediate concern. "We don't want a military presence in the Red Sea to become permanent under the pretext of combating

piracy," Mr. Zaki said. The group agreed to coordinate efforts and to meet again in Yemen, though no date was set. Traffic through the canal is already due to decrease...

Russia's navy chief, Adm. Vladimir Vysotsky, meanwhile, was quoted by the Russian news agency Ria Novosti Thursday as saying that Russia would dispatch additional military vessels to the region after a warship currently patrolling with a multinational naval coalition leaves. Russia's ambassador to NATO, Dmitri Rogozin, also called for an international amphibious operation against pirate strongholds in Somalia, Reuters reported, but such a move seems unlikely.

The Danish shipping group A.P. Moller-Maersk, Europe's largest, said in a statement on Thursday that some of its vessels "will, for the time being, avoid the Gulf of Aden and seek alternative routing south of the Cape of Good Hope and east of Madagascar." The Norwegian chemicals shipping line Odfjell SE announced Monday it would also reroute its ships. (Otterman and Slackman, 2008).

Self-Defense Forces expanded operations to include non-Japanese vessels - Japanese naval vessels escorted a total of 150 commercial ships in the waters of the Gulf of Aden off Somalia between July 28 and September 30 to protect them against pirate attacks under a law that took effect in late July, the Japanese government said. Only one of the ships is Japanese-registered; 57 are operated by Japanese shipping firms, four by U.S. firms and two by Canadian firms, according to the Ministry of Land, Infrastructure, Transport and Tourism. Japanese Self-Defense Forces escorted 79 oil tankers, 44 general cargo ships, 11 specific cargo vessels, six automobile carriers, six container ships, three liquefied petroleum gas carriers and one liquefied natural gas carrier. The Anti-Piracy Law, which was enacted in Japan's parliament in June and took effect on July 24, allows the SDF to escort foreign commercial ships and fire at pirate boats if they ignore warning signals and approach merchant ships. The SDF had previously been allowed to escort only Japan-related ships, such as Japanese-registered and Japanese-operated vessels, and its use of weapons had been limited to legitimate self-defense (Masaki, 2009).

6. The International Chamber of Shipping, in an impassioned plea on behalf of ocean trade, on Monday called on governments around the world to launch a stronger, more coordinated effort to wipe out piracy off the coast of Somalia. "The unacceptable situation prevailing now, with seafarers' lives being threatened on a daily basis -- and Somali pirates still operating with impunity -- cannot be allowed to continue." ICS Chairman Spyros M. Polemis said in statement released by the London-based merchant shipping trade association. The ICS said some 1,500 seafarers have been taken hostage during the explosion in piracy in the Indian Ocean in the past couple of years near the Gulf of Aden and that they are often held for ransom "for months at a time."... "If a similar number of aircraft passengers had been taken hostage there would undoubtedly have been a more robust response," Polemis said. "However, many governments seem oblivious to the fact that ships carry around 90 percent of world trade, and that security of major seaways is strategically vital to the functioning of the global economy." Western governments have launched protective convoys of military vessels in the region this year, but the attacks have escalated this year as Somalia-based pirates have adapted to the various strategies carriers have used to protect their ships (Journal of Commerce Online, 2010).
7. Economics is of course the answer. Cut off the money. The Pirate bosses live in Knightsbridge, New York and Switzerland. They send flunkies to do all the work, fly back to Somalia occasionally to collect the loot, take it to Switzerland to put in the bank and then live the good life. Find the money, cut it off and stop the profits then the pirates will show their faces! Better still, stop paying ransoms. They cannot use the ships or sell the cargos if they are traceable. Yes, they will kill a few people but then the rest will be safe as there will be no purpose to it. We have to stop making it profitable for the men at the top before it will stop (Carrington-Wood, 2011).

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dfeldman@chubb.com

Kendall@tarleton.edu

lynnkendall@my.unt.edu

Hisane Masaki yu45535@nifty.com

ssmith@williamsmullen.com

www.oceansbeyondpiracy.org