Maritime Terrorism

Risk and Liability

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Attractiveness of Cruise Ships as Targets of Terrorism

There are several facets of the luxury-oriented, yet highly popular cruise liner industry that would appear to have particular relevance for future terrorist attack contingencies. Most fundamentally, these vessels constitute an attractive target that directly resonates with the underlying ideological and operational rationale of al Qaeda and the wider international jihadist movement. Not only do cruise ships cater to large numbers of people who are confined to a single geographic space—which makes them ideal venues for carrying out assaults intended to maximize civilian casualties (a hallmark of jihadist terrorism in the post–September 11 era)—they are also highly iconic in nature, reflecting the type of explicit Western materialism, affluence, and discretionary spending to which bin Laden–inspired extremists are opposed.[2] Moreover, the fact that an overwhelming majority of passengers on cruise lines are of Judeo-Christian background means that indiscriminate attacks can be carried out with little or no risk of negatively affecting wider Muslim interests (anonymous former defense intelligence official, 2005). This is not necessarily the case with land-based incidents, as bombings of Western embassies in Kenya and Tanzania (1998), tourist resorts in Bali (2002), and hotels in Jakarta and Amman (2003 and 2005, respectively) clearly demonstrated.[3]

On a more general level, a decisive strike against a major ocean-going carrier would almost certainly result in a global CNN effect. Indeed, as the November 2005 attack against the *Seabourn Spirit* off the coast of Somalia demonstrates, even comparatively small-scale events have the potential to elicit considerable international media attention and interest. Generating this type of publicity is critical to the dynamics of any terrorist entity, not least because it can be readily exploited to

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[2] A dossier captured with Nashiri in 2003 specifically listed cruise liners sailing from Western ports among al Qaeda's targets of opportunity, highlighting their "attractiveness" in terms of mass casualty attacks. See Köknar (2005) and English, Gallagher, and Sommerfeld (2003).

[3] All of these attacks resulted in inordinately high casualty rates for local Muslims, which, at least in the case of the embassy bombings, far outweighed Western fatalities and injuries.

demonstrate operational vibrancy, which is vital for attracting recruits and boosting the morale of existing cadres.

Vulnerability of Cruise Ships to Terrorist Attacks

Besides being an attractive target, there are also vulnerabilities pertinent to the cruise industry that terrorists could potentially exploit. Although more rigorous since September 11, 2001, security checks remain far less stringent than those employed for commercial aviation. According to UK officials, while prominent British companies like Cunard require all boarding passengers to pass through a metal detector and x-ray all carry-on luggage, only about 2 percent of those embarking ships are physically inspected. Moreover, under normal circumstances bags are not scanned before they are transferred to cabins. In addition, while virtually all major operators thoroughly vet their own crew and maintenance staff, many of the service employees who have access to ships at overseas docks may not have undergone any form of comprehensive background checking. These personnel, who are often highly receptive to bribes and other forms of subversion (given the low wages they are routinely paid), offer terrorists a ready conduit through which to smuggle and stash weapons or explosives for subsequent attacks (anonymous UK customs and excise officials, 2005).

Besides these problems, there are certain operational traits that could conceivably open up cruise ships to possible terrorist risks. Vessels frequently anchor off shore for extended periods of time (sometimes up to 24 hours) to allow those on board an opportunity to sight-see and take day trips. It is during these prolonged stops that a liner would be most exposed to a collision assault—either from a fast approach and explosive-laden suicide craft or a more sizable boat (2,000+ tonnage) that is deliberately smashed into its side (anonymous Control Risks Group [Netherlands] personnel and Department of Homeland Security Liaison attache, 2005). The traditional practice of passengers congregating on upper decks and waving to onlookers, friends, and relatives at a departing port could be just as problematic in terms of inviting attacks, particularly land-based strikes involving flat trajectory

weapons such as rocket-propelled grenades (RPGs), missiles, shoulder-launched missiles, and sniper rifles (anonymous former defense intelligence official, 2005).

Finally, virtually all luxury liners sail according to precise schedules and preplanned itineraries that are readily available through the Internet, advertising brochures, or travel agents. This information constitutes a highly valuable source of intelligence for terrorists, allowing a perpetrating group to pick the time and place for easiest covert expedition of transfer of explosives and operatives to a targeted vessel or when a ship will be most susceptible to a mid-sea assault. Though this does not distinguish cruise ships from other modes of public transportation, it does provide information that contributes to their vulnerability to attack. Such advanced knowledge, if adroitly exploited, would help to offset greatly the uncertainty that is normally associated with attack planning and logistics (anonymous Control Risks Group [UK] personnel and Department of Homeland Security Liaison attache, 2005).

While these vulnerabilities make cruise ships potentially susceptible to many types of terrorist attack, most experts agree that sinking a cruise liner would be extremely difficult. These vessels are built with safety as a foremost priority. Hulls are double-lined and, in most cases, interiors are compartmentalized with largely if not fully watertight systems in place.[4] Attempting to overcome these safeguards through an on-board explosion would require several highly powerful bombs as well as a sophisticated understanding of the structural integrity of the target in question, particularly in terms of being able to discern quickly and accurately locations where explosions could be expected to cause the most damage (anonymous International Maritime Bureau personnel, 2005).

An external small-boat ramming attack has a far greater prospect of causing extensive damage. However, even here, the possibility of a critical breach is questionable. In the United States, the security mea-

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[4] It would be impossible to construct a cruise liner that has a fully compartmentalized, watertight system in place, as the recreational and luxury-oriented nature of these vessels necessarily requires an on-board configuration that is open and accessible (within the constraints of allowable safety limits).

sures that are put in place around cruise ships as they enter and dock in port provide an outer layer of defense against this type of attack. Moreover, the suicide strikes on the USS *Cole* and M/V *Limburg* highlight the general difficulty of critically damaging a large ocean-going vessel if the site of impact does not correlate with weak points in the craft's "skeleton" design.

Another terrorist option for sinking a cruise liner is through an underwater attack, specifically by attaching mines or other "parasitic devices" to a berthed ship's hull.[5] Although possible, this type of combat diving requires considerable training and skill both requiring swimming undetected and avoiding the high volume of traffic that typically traverses major maritime terminals.[6] Moreover, in the case of a shallow-water port such as Rotterdam, the net effect of a submersible strike would merely be to cause the stricken vessel to settle on the bottom of the seabed, not to sink it (anonymous Control Risks Group [Netherlands] personnel and independent maritime expert, 2005).

There are several other terrorist scenarios, however, that, while somewhat less dramatic in manifestation, could still elicit considerable fear, damage, or publicity. In each of these cases, the relative freedom of movement throughout a ship and comparatively low level of screening feasible for passengers and crew leave cruise ships potentially vulnerable to attack. For instance, a group could bomb venues where passengers routinely congregate for relaxation and recreation on board, including restaurants, casinos, and cinemas. Plastic or C4 explosive would be well suited for this type of attack, as it is both hard to detect and highly malleable in nature (which means it can be broken down

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[5] It would be highly difficult to carry out an attack of this sort against a moving ship, given the extremely strong currents and undertow that its engines would necessarily generate. The U.S. government issued a warning in spring 2002 specifically highlighting the threat posed to cruise liners by "swimmers" attaching incendiary devices to ship hulls. See Sinai (2004, p. 65) and Newman (2003).

[6] Anonymous Control Risks Group (Netherlands) personnel (2005). One group that is acknowledged to have mastered combat scuba techniques is the LTTE. Indeed, the Tigers are known to have developed their own two-person mini submarine specifically for the purpose of covertly debussing divers inside Sri Lankan harbors (anonymous Sri Lankan intelligence officials and Western diplomat, 2005). For further details, see Davis (2000).

and repackaged in everyday items unlikely to raise suspicions). A series of random killings or hostage-takings could also be staged, using either basic weapons that are accessible on board (for example, knives stolen from kitchen galleys) or more lethal assault rifles and pistols that had already been predeployed by co-opted members of the crew. Similarly, an organization could carry out localized acts of arson in areas where fire doors are absent or where sprinkle systems and alarms had first been disabled. Finally, various biological assaults might be possible, ranging from high-tech releases of airborne viruses through a ship's ventilation system, to more rudimentary (and, therefore, arguably more probable) disseminations of foodborne contaminants such as salmonella, E. coli, botulinum toxin, and mercury.[7]

Potential Consequences of Terrorist Attacks on Cruise Ships

The consequences of terrorist strikes on cruise liners are relatively open-ended and depend on the dimensions of the ship attacked; extent of damage caused to the vessel; and how the government, private, and public sectors respond to the event. However, it is possible to bound the potential ramifications of various scenarios by considering the size of passenger liners, the size of the cruise ship industry, and economic effects of previous terrorism events that have actually taken place. An assessment of these consequences is provided in Table 5.1.

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[7] Anonymous UK customs and excise officials, former defense intelligence official, and Control Risks Group (UK) personnel (2005). See also Sinai (2004, p. 65) and Watkins (2002).

Table 5.1
Potential Consequences of Terrorist Attack Scenarios Involving Cruise Ships

Maritime Terrorism Scenario	Potential Human Consequences	Potential Economic Consequences	Potential Intangible Consequences
Hijack ship at sea	Tens to hundreds of fatalities and injuries	Hundreds of millions of dollars in life and injury compensation Hundreds of millions of dollars in increased security Billions of dollars from changes in individual purchasing patterns, such as decreased cruise travel *Cost of response*[a] *Increased insurance rates*[a]	*Loss of human capital*[a]
Ram ship in port with IED	Hundreds to thousands of fatalities and injuries	Same as hijack of a ship, plus hundreds of millions of dollars from repair or loss of ship[b]	
Suicide dive bomber or limpet mine attack	Hundreds to thousands of fatalities and injuries	Same as hijack of a ship, plus hundreds of millions of dollars from repair or loss of ship[b]	
Suicide bombing on ship at port or sea	Tens to hundreds of fatalities and injuries	Same as hijack of a ship	
Standoff mortar or grenade launcher attack	Tens to hundreds of fatalities and injuries	Same as hijack of a ship	
Biological attack on ship food or water	Tens of fatalities and hundreds to thousands of injuries	Same as hijack of a ship	

[a] Bounding cost estimates have not been identified for items in italics.

[b] "Cruise Ship Listing" (undated).

Human Consequences

As mentioned above, the largest cruise ships can carry over 3,000 passengers and 1,000 crew members. Thus, in the most extreme cases, it is theoretically possible that a terrorist attack could claim the lives of

several thousand people in a single strike. Even in cases short of a cataclysmic sinking, potential fatalities from a major on-board explosion would probably still number in the dozens, if not the hundreds.

Looking at the 652 suicide bombings in the RAND terrorism database, the median number of deaths and injuries per suicide attack is 5 and 12, respectively. For maritime incidents, the corresponding figures are 1 and 5. Thus, based on empirical evidence from historical bombing attacks, potential consequences can be expected to result in tens to, at most, hundreds of fatalities and injuries. This magnitude of human consequences would appear comparable for standoff artillery attacks or even ship hijackings that included fatalities, assuming munitions of a comparative size were used.

Historical evidence of contagious disease outbreaks on land and at sea provides benchmarks for the human consequences of biological attacks on cruise ships. Though a sophisticated strike on a cruise ship using weaponized anthrax or engineered viruses could theoretically kill thousands of people, obtaining such materials and successfully infecting a sufficient number of passengers and crew to achieve these results would be difficult. Successfully carrying out an attack using these pathogens requires resources and capability to obtain and handle the microbe as well as skill to administer an infective dose successfully. In contrast, attacks that have consequences similar to food- and waterborne illnesses require less sophistication and thus may be more likely. Toxins such as botulinum and bacteria such as E. coli and salmonella can be easily produced and handled and are difficult to detect by taste, smell, or color in food or water that has been contaminated. Scenarios involving these agents to could kill tens of people and require treatment of hundreds to thousands of other victims are easily envisioned.