
August 2008 Overview of Terrorism Risk: U.S. terrorism risk set for long term outlook**Recommended Risk Outlook for use in U.S. Terrorism Risk Model: RMS Standard (2009)**

NO PROSPECT FOR QUICK END TO TERRORISM RISK IN THE U.S.

The update of the RMS U.S. Terrorism Risk Model for 2009 has entailed a review of terrorism activity worldwide and a detailed examination of disrupted preparation for attacks that have occurred in the U.S. New trends in threat groups are incorporated.

RMS has completed its seventh annual release of the U.S. Terrorism Risk Model, including a detailed threat review with its network of world-leading specialist advisors. Overall, the expected annual insured loss in the U.S. for next year is 9% higher than this year. The security services maintain their almost-perfect record of interdiction, however jihadist desire to attack the West appears undiminished, and there is evidence of gradually increasing capabilities that is likely to result in occasional successful attacks. The targeting objectives and attack mode preferences have remained fairly constant over the past several years: the main changes have been chiefly tactical modifications and technique changes.

RMS argues that terrorism risk continues to be relatively stable because the increased threat is balanced by counter-terrorism activity: as the threat changes, our security forces try to respond to contain the threat. The threat persists and cannot easily be extinguished by Western action. It is a stand-off – a dynamic equilibrium – that has lasted several years. It is likely to persist, unless the stalemate is broken in some way.

Recent studies by RMS of long term outlooks for terrorism risk have examined possibilities of the current threat cycle reducing, due to 'defeating' the terrorist groups or undermining their support. Scenarios also considered possibilities for terrorism risk to assume a new trajectory of increased risk, through political events triggering a new wave of violence worldwide. Both of these new trajectories are unlikely, but there is more chance of a worse risk outlook than a reduced risk future.

Consistent government investment, improved intelligence sharing and more effective counter-terrorism policies have limited the operational space needed for terrorists to function. The efforts of DHS and other U.S security agencies have helped to improve the interdiction rate in stopping attempted attacks, particularly larger scale plots in America.

Nevertheless, Al Qaeda remains undaunted in attacking the U.S. Through Al Qaeda's media arm, *Al-Sahab*, Osama Bin Laden continues to motivate his followers to attack U.S. assets and interests. The number of attack attempts and the high likelihood of attack plots being interdicted remains much the same. Unless there are significant breakthrough events that change the equilibrium, insurers should continue to expect a low frequency of spectacular attacks.

Conventional bombs remain the most probable attack scenario because of Al Qaeda's proficiency with such weapons. Beyond non-conventional weapons, Al Qaeda is believed to have resumed their CBRN program and is actively attempting to acquire such materials. Al Qaeda's continued interest means that a CBRN attack in the U.S. cannot be discounted, resulting in a slight increase in modeled losses at the longer return periods.

The RMS U.S. Target Database continues to reflect the city and target type prioritizations of radical Islamic militant terrorist groups worldwide. These patterns are likely to be sustained in 2009. The target database has been expanded to include additional chlorine storage facilities, convention centers, as well as State Capitol buildings. Both the city of Atlanta and Orlando have moved up from a Tier 5 to a Tier 4 city. While both cities may not be a target of the magnitude of New York City, being some of the larger metropolitan cities in the south of the U.S. makes them attractive targets.

The 7th annual update of the RMS terrorism product suite will be released in August 2008, incorporating parameterization of terrorism risk for 2009 and beyond. This year's RMS terrorism seminar on *7-Year Retrospective and 7-Year Forecast* is accompanied by the release of an RMS whitepaper. Documentation on *U.S. Terrorism Risk Model: Parameterization for 2009*, is available to clients on request.

FBI DIRECTOR DISCLOSES HOW INTELLIGENCE PARTNERSHIPS PREVENT ATTACKS

On April 7, 2008, FBI Director, Robert Mueller delivered a lecture at Chatham House London, entitled, "From 9/11 to 7/7: Global Terrorism Today And The Challenges Of Tomorrow" He disclosed that the vast majority of the FBI's terrorism cases originate from information developed by partners overseas — even those cases in which the suspected terrorists and the potential targets are on American soil.

With London being exposed to the highest terrorist threat of any city in the Western Alliance, it is not surprising that the F.B.I. should have a London office. FBI personnel have as many as thirty meetings every week with British intelligence and law enforcement officials, sharing intelligence and supporting investigations. Robert Mueller likened FBI operations to panning for gold. "First, we have to determine in which streams we are likely to find gold. Which suspected networks? Which human sources? Which websites? Then, agents and analysts must take their pans and wade through the waters of intelligence, carefully searching for nuggets of gold amid streams of repetitive or irrelevant information."

One "nugget" was found only through the cooperation of British counter-terrorism police. In March 2008, a home-grown radical, Hassan Abu-Jihaad, was found guilty in a U.S District court in Connecticut of espionage and material terrorist support. Formerly known as Paul H. Hall, the convicted U.S. citizen had served as a signalman on board USS Benfold, where he passed on classified information on the ship's approach to the Persian Gulf, and its vulnerability to RPG attack. The treachery of Abu-Jihaad was disclosed when a file containing this classified information was found in 2003 by British counter-terrorism police on a password-protected computer disk in the London apartment of Babar Ahmad, who has since been charged with fund-raising for Al Qaeda.

Once the FBI learned of Abu-Jihaad from the British authorities, investigation revealed that he had been the roommate of a man named Derrick Shareef. Through wiretaps, the FBI then learned that Abu-Jihaad and Derrick Shareef discussed attacking military targets in Phoenix and San Diego. Shareef was arrested in December 2006 and charged with plotting to detonate hand grenades at a large shopping mall outside Chicago at the height of the Christmas season. He pleaded guilty to this in November 2007. This case illustrates the need for strong partnerships throughout the global intelligence and law enforcement communities. The investigation ranged from a battleship in the Persian Gulf to a shopping mall in suburban Chicago. But the intelligence needed to convict both men came from a house in London.

Unfortunately, nation-states are often reluctant to cooperate fully in certain areas. For instance, numerous countries have complained that counter-terrorism intelligence cooperation with the United States is too often a one way street, with American intelligence agencies reluctant to provide detailed intelligence. While they do acknowledge that the U.S. has acted promptly to help foreign governments thwart imminent terrorist attacks, they complain that follow-up information upon which to base their prosecution on is frequently lacking. If the U.S. is serious in fashioning an effective and coherent counter-terrorism strategy, it is imperative that it has a global strategy that emphasizes the continuity of cooperative efforts that are bilateral, regional, and multilateral.

Global Islamist network links can expedite the capture of terrorists. Through tracking UK citizen Babar Ahmad, British police were able to put the FBI on the trail of two terrorists planning attacks against the US: Hassan Abu-Jihaad and Derrick Shareef. The RMS Terrorism model takes account of the counter-terrorism environment so as to determine attack likelihoods. The defense preparedness of each country influences terrorist decision-making on targeting selection. Parameters such as defense and security infrastructure, expertise and capabilities of intelligence services and public awareness all define a country's effectiveness to prevent future attacks.

WHY SWARM ATTACKS ARE FORCE MULTIPLIERS

“Swarm attacks” have long been a military strategy of coordinated attacks from all directions from small, dispersed and networked units. Terrorist organizations like Al Qaeda have leverage such swarm tactics with devastating results.

Simultaneous attacks have become incorporated into Al Qaeda’s attack repertoire. With the exception of the assault on the USS Cole in Yemen, all the major macro attacks by Al Qaeda have been coordinated simultaneous suicide attacks. In addition, Al Qaeda has influenced its associated groups to conduct coordinated simultaneous attacks. For instance, Jemmah Islamiyah (JI), Al Qaeda associate group in Southeast Asia, successfully attacked 16 churches in Indonesia on Christmas Day in 2000 and five targets in Manila, Philippines on December 30, 2000.

As with the other terrorism model parameters, simultaneous attacks can be explained through mathematical game theory. Given that Al Qaeda has the objective of inflicting maximum damage to human and physical infrastructure, a series of simultaneous attacks would be advantageous to their cause. High multiplicity attacks would not only maximize losses, but also provide inspiration for radical Islamic militants in their global Jihad. Furthermore, simultaneous attacks improve the chances for at least one strike to be successful.

However, beyond the risk tolerance level, increasing the multiplicity of an attack would be counter-productive in a harsh security environment. The more operatives involved in a mission, the higher the chance of the plot being compromised. For example, apart from the successful synchronous attacks, such as the double U.S. embassy bombings in East Africa in 1988 and the plane attacks on 9/11, there have been numerous interdicted simultaneous attacks such as the Bojinka plot to down 11 aircraft over the Pacific in 1995 as well as more recently the Transatlantic plot to detonate liquid explosives carried on board several airliners in 2006.

Thus, for terrorists planning a swarm attack, there is an optimal stopping point, beyond which the marginal benefit of adding another point of attack is outweighed by the risk of being detected and the conspiracy being compromised, with the loss of all the accrued benefits of previous plan attacks. An analogy of our “swarm” parameter would be that of a thief who stashes his gains after every burglary, running the risk of a police bust of his storage facility. At some stage, the thief would be prudent to realize the value of his gains, rather than keep adding to them.

Moreover, the smaller the chance of arrest during attack planning, the bolder and more ambitious terrorists can afford to be in boosting attack multiplicity. For low values of arrest likelihood, such as with simple package bombs or off-the-shelf military weapons like AK47’s, mortars and RPG’s, terrorists can afford to aim for high multiplicities, perhaps even reaching double figures, as in Madrid on March 11, 2004. For moderate values of arrest likelihood, such as with vehicle bombs, multiplicities beyond four would be unusual in proficient counter-terrorism environments. For high values of arrest likelihood, such as with attacks involving substantial new weapon development, terrorists would be prudent to stick with low multiplicities of one or two – storing a nuclear weapon while trying to procure another would be unduly foolhardy.

The September 11 airplane hijackings, the Madrid bombings of 2004 and the London bombings of 2005 are all examples of simultaneous, or “swarm” attacks. Such attacks are incorporated into the RMS terrorism modeling process, as is the potential for multiple coordinated events to take place during the course of a single year.

PROJECT AL ZABADI VERSION 2.0: AL QAEDA'S CBRN PROGRAM RESURFACES

One of the more critical elements in the assessment of terrorism risk is the estimation of likelihood of an attack using weapons of mass destruction, known as chemical, biological, radiological and nuclear (CBRN) agents. The latest RMS assessment of the likelihood of Al Qaeda and their associate groups deploying a CBRN weapon sees incremental progress towards their aims.

CBRN agents appeal more to groups such as Al Qaeda than other kinds of terrorist organizations. The reasoning behind this is that while more "secular" terrorists groups might hesitate to kill great numbers of civilians for fear of alienating support, religious terrorists organization regard such violence as not only morally justified but expedient for the attainment of their goals.

As of 2008, there have been no successful macro CBRN attacks reported anywhere in the world. However, there have been a number of disrupted attacks worldwide and there are strong indications that terrorist groups such as Al Qaeda are exploring the use of various CBRN agents in preparation for possible attacks. Osama Bin Laden has opened the door for his supporters to use CBRN weapons to further the goal of global jihad. Through a series of statements by senior Al Qaeda leaders, Al-Qaeda has strengthen the acceptance of such weapons within the jihadi milieu, dispelled objections of such attacks and prepared the framework for jihadi leaders to operationalize such weapons into their repertoire of tactics.

Recent intelligence reports also indicate that Al Qaeda has regenerated at least some of its CBRN research and development effort that it lost when the American military forces bombed Al Qaeda's Afghanistan headquarters and training camps in late 2001. Known as Project Al Zabadi, Al Qaeda's CBRN program was established in 1998 after the African embassy bombings under the leadership of an Egyptian scientist named Midhat Mursi, a man far better known as Abu Khabab. It was located in the Darunta camp, 8 miles south of Jalalabad, and consisted of several chemical and biological weapons labs.

Under Khabab, these labs tested nerve gas and conducted filmed experiments with cyanide on dogs. The most famous alumnus of the Darunta Camp was the "millennium bomber" Ahmed Ressam, convicted in July 2005 for a plot to bomb Los Angeles Airport on New Year's Eve 1999. Ressam testimony showed that Al Qaeda was testing toxins at the camp for use in assassination attempts. From this period, Khabab was active in publishing and distributing training manuals that contained recipes for crude chemical and biological weapons.

Following U.S. Operation Enduring Freedom in Afghanistan, most of Al Zabadi's infrastructure was destroyed. Khabab fled Afghanistan and seek refuge with Chechen jihadis at the Pankisi Gorge in Georgia. It is in the Caucasus that Khabab then resumed Project Al Zabadi. Khabab's name has appeared in investigations into several attempted unconventional weapons attacks, such as the failed ricin attack in the UK in November 2003. Some of the arrested suspects in these attacks had received training in the Pankisi Gorge in Georgia, confirming information that Project Al Zabadi had resumed.

Khabab was believed to have been killed by American forces in Afghanistan in January 2006. However, recent reports in 2007 indicate that reports of Khabab's demise were premature. Intelligence analysts believe that Abu Khabab is still alive and has re-established his labs in Afghanistan. Despite Khabab's resumption of Al Qaeda's CBRN program, it is believed that current capability remains relatively small scale and unlikely to cause the kind of mass-casualty attack feared from weapons of mass destruction. Currently, it is believed that Khabab's efforts have been focused on developing and using cyanide, chlorine and other poisons. For instance, Abu Khabab is alleged to have developed "contact poisons" that could be rubbed on a doorknob or some other common area, and experimented with adding crushed glass to the mixture to help get it into a potential victim's bloodstream.

Osama Bin Laden does not appear to have been deterred by the formidable challenges of manufacturing and then effectively weaponizing and disseminating CBRN agents. Al Qaeda will continue with efforts to obtain these materials to launch a CBRN attack in the United States. RMS has slightly increased the assessment of the likelihood of a CBRN attack in the latest update of the US Terrorism Risk Model for 2009.

TERRORISM INSURANCE POOLS

Many countries have taken an alternative approach to that of the Terrorism Risk Insurance Act in the U.S. Instead of providing zero-premium reinsurance themselves, governments are financially backing terrorism insurance and reinsurance pools.

Terrorism insurance pools are essentially a body of funds collected from all insurers in order to spread the risk to offset possible future losses: A group of companies provides co-insurance to each other. Insurers tend to form an insurance pool to deal with specific lines of coverage. For example, most terrorism insurance pools provide both property and business interruption coverages. Typically, an individual insurer will pay the first layer of claims, and the mutual reinsurance pool pays the higher layers. In return for sharing the financial losses, the other members of the pool receive a portion of the insurer's premiums. Generally, the government picks up losses once a pool's resources become exhausted. However, the government's explicit liability to the terrorism pool is usually capped.

Terrorism insurance pools have the advantage of spreading the risk over a large number of insurers members. Thus, pools are an efficient way to handle layers of risk that are difficult to price. However, it remains unclear whether an insurance pool would provide adequate coverage against a catastrophic terrorism attack. A Towers Perrin study found that while the pool could potentially create additional capacity for each of its members, it would not be enough in the case of a large-scale terrorism attack such a CBRN attack. The report maintains that extreme terrorist attacks could inflict workers' compensation losses of \$90 billion, three times the capital backing of the private industry's capacity for covering this line of business. In addition, the report concluded that it would be difficult to reach an agreement on the rates that should be charged based on terrorism exposure of pool participants. As of July 2008, 18 countries have developed specific multi-layered pools addressing terrorism risk while 3 other countries are planning to establish their own terrorism insurance pool. The following table summarizes the existing terrorism insurance pools.

Global Terrorism Insurance Pools

Countries	Program	Limit (USD)	Compulsory or Elective
Australia	Australian Reinsurance Pool Corporation	\$7.6 Billion	Compulsory
Austria	Terrorpool Austria	\$6.1 Million	Elective
Belgium	Terrorism Reinsurance & Insurance Pool	\$1.5 Billion	Elective
Finland	Finnish Terrorism Pool	NA	Elective
France	Gareat	Total Insured Value	Compulsory
Germany	Extremus	\$2.4 Billion	Elective
India	General Insurance Corporation	\$66.4 Million	Elective
Indonesia	Indonesia Terrorism Pool	\$4.5 Million	Elective
Israel	Israeli Terrorism Pool	\$20 Million	Compulsory
Malaysia	Malaysian Terrorism Facility	NA	Elective
Namibia	National Special Risks Insurance Association	\$4.0 Million	Elective
Netherlands	Dutch Terrorism Risk Reinsurance Company	\$90.9 Million	Elective
Spain	Consortio de Compensacion de Seguros	Total Insured Value	Compulsory
Russia	Russian Antiterrorism Insurance Pool	\$32.76 Million	Elective
South Africa	Special Risk Insurance Association	\$79.0 Million	Elective
United Kingdom	Pool Re	Total Insured Value	Elective
Sri Lanka	Sri Lankan Terrorism Fund	\$500 Thousand	Elective

The global terrorism insurance market is constantly reshaped by new regulatory developments. In response to such changes, RMS is releasing a new suite of tools designed to help insurers manage terrorism risk outside North America. Known, as the Terrorism Risk Management System, it is a visualization tool designed for underwriters and portfolio managers to gain better insight into their exposure to terrorism risk.

OTHER DEVELOPMENTS

A suicide bomb attack on the Indian Embassy in Kabul, Afghanistan killed 58 people and wounded 141, July 7, 2008. The attack took place near the gates of Indian embassy while the officials were trying to get inside. The blast was considered to be the deadliest since the U.S.-led offensive began in Afghanistan on October 2001 and first ever on an Indian Embassy abroad. Indian government sources believe that this could be handiwork of Taliban.

Indonesian police arrested 10 radical islamic militants in the Sumatran port city of Palembang, foiling a major attack, July 4 2008. The men were alleged to have planned to attack Western tourists on the Island of Sumatra, but changed their minds after realizing too many Indonesian lives could be lost. They then considered an alternative plan to launch an attack in the capital, Jakarta, instead. The arrests highlighted the lingering terror threat in Indonesia, which has been hit by a string of suicide bombings blamed on the regional terror group Jemaah Islamiyah (JI) since Sept. 11, 2001, including the 2002 attacks on Bali Island that left 202 people dead, many of them foreign tourists.

Al Qaeda or one of its affiliates was probably behind an explosion outside the Danish embassy in Pakistan, Denmark's intelligence service, June 3. The massive blast in the capital city of Islamabad killed at least six people, injured 24 others and damaged the embassy wall and a neighboring United Nations building. It also left a 4-foot-deep crater in the road. Danish embassies in predominantly Muslim countries, such as Pakistan, have been the scene of protests since Danish newspapers reprinted cartoons that Muslims say insult their prophet.

Seven bomb blasts took place within minutes of each other in the northwestern historic city of Jaipur, May 13. 60 people were killed and more than 150 injured in the simultaneous attacks. Though, there was no immediate claim of responsibility for the attack, it is likely to have been the work of radical Islamic militants operating in the area. India security agencies have claimed that the bombings that rocked the city of Jaipur is linked to Harkat-ul-Jehadi Islamia (HuJI), a South Asian Al Qaeda associate group.

A bomb hidden on the baggage rack of a packed rush-hour bus exploded outside Colombo, killed 24 and wounded 50 people, April 25. The military blamed the Tamil Tiger rebels for the attack. The blast happened during rush hour while the bus stopped to pick up passengers in the city's southern suburb of Piliyandala. A government spokesman blamed the Tamil Tiger rebel group. Violence in Sri Lanka has intensified since January, when the government pulled out of a ceasefire agreement.

RMS EVENTS

Terrorism Risk: 7-Year Retrospective and 7-Year Forecast

RMS Terrorism Seminar, July 23, 2008, Hudson Theater, Millennium Broadway Hotel, New York, New York

This half-day event brought together some of the world's leading terrorism experts to discuss how the global terrorism threat has evolved since 9/11, how it will continue to evolve in the future, the likely impact on the insurance industry and how the RMS terrorism model has performed in assessing this risk. Topics and speakers included for this event were as follows:

- **The Evolution of the Terrorist Threat over the Past 7 Years** - Dr. Rohan Gunaratna, Head of the International Centre for Political Violence & Terrorism Research at Nanyang Technological University, Singapore
- **The Evolution of the Terrorist Threat over the Next 7 Years** - Dr. Bruce Hoffman, Professor of Security Studies at Georgetown University's Edmund A. Walsh School of Foreign Service
- **What Will It Take To Win the War On Terror?** - Dr. Rohan Gunaratna, Head of the International Centre for Political Violence & Terrorism Research at Nanyang Technological University, Singapore
- **Managing Terrorism Risk over a 7 Year Timescale** - Dr. Gordon Woo, RMS, Inc.
- **Terrorism Risk Modeling 2002-2009** - Dr. Andrew Coburn, RMS, Inc.

To complement the seminar, RMS published a white paper on terrorism risk. The first section of this publication gives a retrospective view of how the global terrorism landscape has changed over the past 7 years, and offers insights on how the risk might evolve in the next seven years. The second section focuses on how RMS terrorism risk modeling has adapted to changes over the same timeframe and provides an appraisal of how well RMS models have performed compared to what has been observed.

A copy of the white paper can be found at : http://www.rms.com/Publications/Seven_Years_of_Terrorism_Risk.pdf

RMS TERRORISM PRODUCTS

U.S. Probabilistic Terrorism Model Version 2.6, released in July 2007 incorporates parameterization for terrorism risk in the United States in 2008. Version 2.7 will be released in August 2008. Some of the primary features include:

- Updated analysis of terrorism risk from foreign and domestic terrorist organizations
- Conventional and CBRN attack modes
- Multiple Risk Outlooks for the terrorism threat environment in 2008: expected as well as increased and decreased risk perspectives

New documentation *U.S. Terrorism Risk Model: Parameterization for 2009*, is available to clients on request.

RiskLink® and RiskBrowser® Version 7.0, released in May 2007 includes worldwide capability for exposure and accumulation management and modeling terrorism scenarios with geocoding available in over 150 countries, including street-level resolution for Western Europe. Version 8.0 will be released in August 2008.

Global Terrorism Risk Model Version 2.6, released in July 2007 includes coverage of 228 countries, incorporating site-specific EP curves and portfolio management capability. Modeling provides terrorism loss rates for insured assets by class, city, and ownership anywhere in the world. Risk assessment is available for both property and human exposures. Version 2.7 will be released in August 2008.

Terrorism & Security Risk Manager is an online information service for insurers and risk managers, linked to the RMS Global Terrorism Risk Model. It is produced in collaboration with Jane's Information Group, the leading independent provider of defense and security information.

RMS TERRORISM RISK MODELING

Terrorism is a rapidly changing peril. This confidential briefing represents the latest installment in a series of interpretations of current events relating to the assessment of terrorism risk around the world and to the modeling of this risk for insurance decision support.

The RMS® Terrorism Risk Model was initially released to clients in September 2002 and has been updated to incorporate new information and insights each year. The current release, from July 2007, constitutes the sixth version of the model, now parameterized for 2008.

Commentary on current events and their interpretation for terrorism risk modeling is provided by Risk Management Solutions and its advisors, including:

- RAND: Center for Terrorism Risk Management Policy
- The International Centre for Political Violence and Terrorism Research (ICPVTR) at the S. Rajaratnam School of International Studies (RSIS)
- The Center for Terrorism and Intelligence Studies (CETIS)
- Center for Asymmetric Threat Studies, Swedish National Defence College, Stockholm.
- The Center for Nonproliferation Studies (CNS) at the Monterey Institute of International Studies in Monterey, California.
- Jane's Strategic Advisory Services, the leading independent provider of defense and security information.