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UNCERTAIN FUTURE:
EVOLVING TERRORISM RISK

GLOBAL TERRORISM
REPORT
JUNE 2014



MARSH & MCLENNAN
COMPANIES



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I. EXECUTIVE SUMMARY



AL-QAEDA AND ITS AFFILIATES, ALONG WITH INDIVIDUALS INSPIRED BY THE MOVEMENT, STILL POSE A SIGNIFICANT THREAT TO WESTERN INTERESTS AROUND THE WORLD AS EVENTS OVER THE LAST EIGHTEEN MONTHS HAVE SHOWN.



The threat from terrorism has undergone significant change since the attacks of September 11, 2001. Heightened and more effective counter-terrorism activities in the following years have prevented repeat attacks on the scale of those carried out in New York and Washington D.C. Nevertheless, al-Qaeda and its affiliates, along with individuals inspired by the movement, still pose a significant threat to Western interests around the world as events over the last 18 months have shown.

The first successful major attack on US soil since September 11, 2001 occurred a year ago in April when two bombs exploded near the finish line of the Boston marathon.¹ Individuals inspired by al-Qaeda also carried out relatively low capability attacks in other Western countries in 2013, including the United Kingdom. Furthermore, attacks on the In Aménas gas facility in Algeria and the Westgate shopping mall in Kenya's capital of Nairobi in 2013 showed that groups are still capable of launching destructive and sophisticated attacks on commercial entities given the opportunity.

Although there has been a significant increase in the number of terrorist attacks and fatalities around the world over the past five years, evolving capacity and the absence of a major terrorism loss for reinsurers have resulted in a softening terrorism reinsurance market in areas with less perceived risk. This reflects the wider reinsurance market's environment of having adequate capacity and, for some countries, the presence and support of stable terrorism pools that are designed to mitigate the withdrawal of (re)insurance capacity following significant terrorism events. Reinsurance buyers that have purchased terror cover in these countries have consequently benefited from rate decreases and improved terms and conditions in some instances, depending on where and what they write.

However, the US market continues to be challenged by the uncertainty over the potential expiration of the Terrorism Risk Insurance Program Reauthorization Act (TRIPRA) on December 31, 2014. Concern remains that non-renewal or substantial changes to the Act could lead to the withdrawal of terrorism coverage in the United States. The ramifications could also impact terrorism pools around the world. One possible outcome if TRIPRA is not renewed could see other pool structures coming under pressure to dissolve, resulting in fragmentation towards a more open market approach.

A recent study carried out by Guy Carpenter concludes that the (re)insurance sector does not have the capital necessary to withstand certain high loss scenarios that involve nuclear, biological, chemical or radiological (NBCR) weapons. For example, a nuclear bomb detonated in Midtown Manhattan in New York City produces a modeled loss of approximately USD900 billion (assuming a 100 percent take-up rate for NBCR terrorism cover).

The uncertainty over TRIPRA's future was evident during the first five months of 2014 as several workers compensation renewals with sizeable employee concentrations in large US cities changed carriers and in some cases moved into the residual market. Should TRIPRA expire without a replacement or is materially changed, further capacity shortfalls would likely occur in large US urban areas that have the greatest need for coverage. Increased pricing would inevitably follow. Some form of federal backstop is therefore needed if the private (re)insurance market is to continue to provide capacity to higher risk areas.

Given a number of insurance carriers continue to rely on TRIPRA to provide the terrorism insurance limits they currently offer, Marsh and McLennan Companies (MMC) and Guy Carpenter strongly support the reauthorization and modernization of the Act. The bipartisan agreement to reauthorize TRIPRA for an additional seven years as proposed in the US Senate in April 2014 is therefore a welcome development. MMC and Guy Carpenter continue to lobby for TRIPRA's renewal in an effort to prevent disruption to the US terrorism marketplace and ensure a stable insurance environment for the economic recovery to continue. We will keep clients, prospects and markets informed of all significant renewal developments throughout the year.

1. While the Boston bombings have not been classified as an act of terrorism under TRIPRA's requirements, President Barack Obama described the event as an "act of terrorism."



II. GLOBAL TERRORISM

FOR INSURERS WITH TERRORISM-RELATED RISKS ON THEIR BOOKS, IT IS IMPORTANT TO UNDERSTAND THE THREAT AND HOW IT IS EVOLVING, THE VARYING RISKS IN DIFFERENT REGIONS AND WHAT DEVELOPMENTS AND RISKS ARE LIKELY IN 2014 AND BEYOND.





The global terrorism landscape has changed considerably since the September 11, 2001 attacks. During this time, improved intelligence and counter-terrorism operations around the world have weakened the threat posed to the West by the core al-Qaeda group. Military operations in Afghanistan and Pakistan and the killing of several key terrorist operatives, including Osama bin Laden, have marginalized al-Qaeda and its affiliates and prevented other spectacular attacks on the scale of September 11, 2001.

The threat from Islamic militants has consequently shifted to softer targets with attacks and plots becoming more localized as senior al-Qaeda leaders have increasingly called on individuals to execute unsophisticated attacks in their home countries and regions. A heightened focus on inflicting civilian casualties and the targeting of “un-Islamic” assets such as government buildings and personnel and nightclubs has resulted. This trend has been reflected in developments over the last 18 months as individuals and cells inspired by al-Qaeda carried out relatively low capability but high profile attacks in several cities around the world. A number of other unsuccessful attacks perpetrated by lone attackers have also taken place.

All of these attacks (realized and attempted) emphasize that the threat from terrorism remains. In addition to the threat from homegrown jihadists, al-Qaeda and its affiliated groups remain committed to launching major terrorist attacks in the West. Core al-Qaeda and its Yemeni affiliate, al-Qaeda in the Arabian Peninsula (AQAP), in particular still aspire to carry out large-scale attacks that could result in significant property damage and high insured losses.

Events in Syria are also causing considerable concern as a number of Western citizens have joined Syrian-linked extremist groups to fight government forces in the country’s civil war. The expansive reach of the internet and social media has made it easier for extremist groups to spread their message, recruit new members and incite attacks. The greatest threat from Syrian-linked extremism is currently likely to come from individuals or cells that have fought in Syria returning to their home countries and launching attacks on their own (or perhaps with the tacit approval of the groups operating in the country). Such individuals are likely to be trained in the use of weapons and explosives.

The volatile landscape in Syria and other Middle Eastern and North African countries raises important questions about the future of the international terrorist threat. The instability in the region has created opportunities for militants to launch attacks and target Western interests.

Although the Arab Spring movement has not resulted in an immediate wave of increased terrorist activity against Western countries, security officials warn al-Qaeda affiliated groups are continuing to attempt to exploit power vacuums in these territories to secure a base and obtain new recruits to facilitate future attacks.

Other events such as the recent violent protests in Ukraine, Brazil, Venezuela, Vietnam and Turkey have highlighted some of the limitations of standalone terrorism insurance coverage and resulted in increased demand for political violence cover as companies look for comprehensive protection to ensure that claims are dealt with swiftly and effectively in today’s unpredictable socio-political environment.

For insurers with terrorism-related risks on their books, it is important to understand the threat and how it is evolving, the varying risks in different regions and what developments and risks are likely in 2014 and beyond.





EVOLVING TERRORIST THREAT

Terrorist activity over the last 18 months has reflected the changing terrorism landscape. Several important developments have occurred since the beginning of 2013, starting with French military intervention in Mali in January 2013 to prevent the country from becoming a failed state and base for jihadist terrorists.

This was quickly followed by a terrorist attack in Algeria that targeted the In Aménas gas plant operated by the Algerian state oil company, Sonatrach, along with BP and Statoil. The attack by a group led by Mokhtar Belmokhtar, a former leader of al-Qaeda in the Islamic Maghreb (AQIM), resulted in the death of at least 39 foreign workers. Although (re)insurers escaped significant losses from the attacks, the event demonstrated the threat against Western interests in the region.

The first successful major attack on US soil since September 11, 2001 also occurred in 2013 when two bombs detonated near the finish line of the Boston marathon in April. The bombings were carried out by brothers Dzhokhar and Tamerlan Tsarnaev. Dzhokhar, a US citizen, and Tamerlan, his application for citizenship pending, were seemingly self-radicalized individuals who had lived in the United States for a number of years and received no known assistance from overseas groups. The attack took a degree of sophistication and planning that set it apart from the mass shootings by lone individuals that had previously occurred in the United States. The explosions killed three people and approximately 260 more were injured. According to the Massachusetts Division of Insurance, property and casualty (P&C) insurers have paid a total of approximately USD2 million in bomb-related P&C claims (despite the event not being certified a terrorist act for TRIPRA purposes).

The Boston attack served as a stark reminder that the United States and other Western countries remain vulnerable to radicalized homegrown terrorists that use relatively simple improvised explosive devices (IEDs). While such individuals and small cells have no direct links to al-Qaeda, they have heeded the call from senior al-Qaeda leaders, such as Ayman al-Zawahiri, to carry out attacks in their home countries with the resources at their disposal rather than risk detection by forming larger groups with other extremists.

This has resulted in an increased frequency of low capability attacks by lone attackers with no direct connection to al-Qaeda. In addition to the Boston bombings, a number of attacks perpetrated by individuals inspired by al-Qaeda have occurred recently, including shooting attacks by Mohommed Merah in France in 2012, the stabbing of Lee Rigby, a British soldier, in London in 2013 and the gun attack on a Jewish museum in Belgium in 2014. A number of failed attacks have also occurred during this time.

However, al-Qaeda continues to harbor ambitions of larger-scale attacks as evidenced by the promotion of AQAP's Nasir al-Wuhayshi (a clear advocate of transnational attacks) within the core group. The resilience of al-Qaeda and its affiliates was also demonstrated when al-Shabaab conducted its highest profile transnational attack in September 2013. Despite suffering repeated territorial setbacks in Somalia and a persistent counter-terrorism campaign in 2013, al-Shabaab militants armed with assault rifles, machine guns and grenades attacked the Westgate shopping mall in the Kenyan capital city of Nairobi. The Westgate mall was likely to have been selected as a high profile, soft target popular with wealthy Kenyans and foreigners. The attack resulted in the death of at least 67 people, inflicting significant damage to the building and causing the largest terrorism-related loss to the (re)insurance sector for a number of years.

Technical advancements have also given terrorist organizations relatively new vehicles to promote their ideology, recruit new members and incite attacks, whether it is by utilizing the internet or communicating via email, social networking, chat rooms or mobile applications.





AL-QAEDA AND ISLAMIST TERROR GROUPS

Despite the undoubted counter-terrorism gains that have been made since September 11, 2001, it is clear that the threat from large Islamist terrorist groups has not been eradicated. Indeed, a number of Islamist terrorist organizations continue to aspire to conduct complex attacks against Western countries and interests around the world. The attacks carried out in Indonesia (2002), Madrid (2004), London (2005) and Mumbai (2008) are a stark reminder of the objectives of such groups.

The core al-Qaeda group still has the intent and capability of launching high impact attacks in the West while AQAP is among the most active and dangerous al-Qaeda affiliate, becoming a preeminent threat to Western interests. Al-Shabaab, Lashkar-e-Tayyiba (LeT) in Pakistan, AQIM and Boko Haram in Nigeria are also growing in influence and pose an increased risk within their regions of operation. In addition, there are fears jihadist groups currently operating in Syria are increasingly likely to carry out transnational attacks as the civil war in the country continues.

The relative strengths and weaknesses of each group are assessed below, along with their overall threat to the Western world.

CORE AL-QAEDA

The core al-Qaeda group remains fully committed to launching major terrorist attacks against the West. However, the probability of successfully carrying out a large-scale attack has been reduced as the group has been marginalized by strong counter-terrorism measures around the world such as the death of bin Laden and the elimination of other senior al-Qaeda operatives in sustained drone strikes. Although core al-Qaeda's top leadership has demonstrated a prolonged commitment to acquire and use NBCR material, the risk of such an attack remains low.

Senior al-Qaeda leaders are therefore increasingly calling on individuals to carry out relatively unsophisticated attacks in their home countries while they attempt to plot more ambitious attacks. Notable intent and capabilities remain within al-Qaeda and the impact of any successful high-profile attack by the group in the West would likely be high.

AL-QAEDA IN THE ARABIAN PENINSULA

AQAP was formed in January 2009 as the result of a merger between al-Qaeda's Yemeni and Saudi branches. The group originally carried out attacks in Yemen and Saudi Arabia but has expanded operations to target the United States. AQAP was responsible for Umar Farouk Abdulmutallab's attempted bombing of a Northwest Airlines flight as it approached Detroit on December 25, 2009 and the plot the following year that aimed to detonate two explosive-laden packages on cargo planes bound for the United States. Both plots ultimately failed but underscore the bomb-making skills and intent of the group.

The heightened risk from AQAP seemed to be confirmed in 2011 when National Counterterrorism Center (NCTC) Director Michael Leiter said the group could be the most significant risk to the United States. Since then, AQAP has been weakened by the deaths of its American-born leader, Anwar al-Awlaki, and other senior AQAP operatives in drone attacks. However, AQAP's repeated attempts to assassinate high level Yemeni government officials and an attack on the country's defense ministry in December 2013, which killed 52 people, have demonstrated its ability to regroup and continue to mount destructive attacks throughout the country.

Although the group's capability outside of Yemen is lower, it continues to harbor ambitions to carry out complex and sophisticated attacks beyond its borders. Indeed, US intelligence services said they foiled a plot by AQAP to target a US bound passenger plane in May 2012 while another alleged large-scale plot by the group forced the mass closure of Western embassies across the Middle East and North Africa in August 2013.



AL-SHABAAB

Al-Shabaab is the most prominent insurgent group in Somalia and is known to have successfully recruited American and European Muslims. It is reported to have enlisted 200 foreigners, with up to a quarter coming from the United Kingdom. The group declared it had merged with al-Qaeda in February 2012.

Despite being forced to retreat from Somalia's capital of Mogadishu in 2011 and their southern stronghold of Kismayo in 2012 by Somali and African Union forces, al-Shabaab proved its transnational capability remains intact by launching the attack on the Westgate shopping mall in September 2013. It had also previously carried out a suicide attack in the Ugandan capital of Kampala on July 11, 2010, which killed more than 70 people.

However, al-Shabaab's direct transnational intent has so far been limited to launching attacks against countries contributing troops to the African Union force in Somalia, which includes Kenya, Uganda, Ethiopia and Djibouti. In addition, the Westgate attack suggested that al-Shabaab's capability outside of Somalia is limited to crude explosives such as grenades.

SYRIAN JIHADISTS

There are a number of Islamist extremist groups currently fighting in the Syrian civil war. Among the most prominent are Jabhat al-Nusra and the Islamic State in Iraq and the Levant (ISIL). The greatest threat to the West from Syrian-linked extremism is currently likely to come from individuals or cells that are fighting (or have fought) in Syria returning to their home countries to launch attacks there.

UK government estimates indicate that around 500 British nationals alone are currently fighting in Syria, with possible access to explosive-building techniques. As the conflict in Syria persists, jihadist groups in the country are likely to pose an increased threat to Western countries as they expand their focus beyond their immediate areas of operation.

Although the presence of NBCR weapons in Syria has raised fears that they could fall into Islamist hands, the United Nations-agreed program for the removal of the country's NBCR arsenal has reduced the risk of this happening.

LASHKAR-E-TAYYIBA

Lashkar-e-Tayyiba (LeT) is a Pakistan-based jihadist group best known for its involvement in the 2008 Mumbai attacks in India. Targets during this attack included Western tourists, the Jewish run Chabad House as well as high-profile government assets to enhance their impact and media coverage.

Although the LeT is not known to have directly launched attacks in the West, it runs a number of training camps in Pakistan that have trained Western nationals who have gone on to carry out such attacks. Indeed, one of the perpetrators of the July 7, 2005 attacks in London (Shehzad Tanweer) was alleged to have been trained at a LeT camp.

AL-QAEDA IN THE ISLAMIC MAGHREB

AQIM is made up of two groups, a northern faction based near the Tunisian border and another group located in southern Algeria, southern Libya and northern Mali. A third faction, commanded by Mokhtar Belmokhtar (the man thought to be responsible for carrying out the attack on the In Aménas gas plant), split from AQIM in 2012.

AQIM has a pan-regional agenda, meaning risks to Western interests are likely to be concentrated in the Maghreb region. Any move to launch attacks outside the area would likely initially focus on US or French targets (given the latter's involvement in the region).



BOKO HARAM

Boko Haram is a Nigerian militant Islamist group intent on overthrowing the Nigerian government and establishing an Islamic state in the country. It is thought to have been responsible for a number of recent operations in Nigeria, including a bomb attack at a bus station in the capital of Abuja that killed at least 71 people and the abduction of more than 200 girls attending boarding school in the Northeastern Borno state (both in April 2014). Although the group has developed ties with the al-Qaeda network, it has so far focused primarily on its domestic aims. The group's international reach is therefore believed to be currently limited to neighboring Cameroon and possibly Chad and Niger.

DOMESTIC (NON-ISLAMIC) TERRORISM

Despite being overshadowed by the transnational Islamist terrorist threat since September 11, 2001, a number of destructive and costly attacks have been carried out by non-Islamic domestic groups and individuals. These include the Irish Republican Army (IRA) in the United Kingdom, Timothy McVeigh of the Oklahoma bombing in the United States and the Tamil Tigers in Sri Lanka. Such acts have resulted in significant property losses for (re)insurers. Indeed, as shown by Table 1, seven of the top ten most costly terrorist attacks (in terms of insured property losses) between 1990 and the first quarter of 2014 were carried out by these domestic groups.

T-1 | TEN MOST COSTLY TERRORIST ATTACKS - 1990 TO Q1 2014

Date	Country	Event	Insured Property Loss (USD Millions)*	Fatalities
September 11, 2001	United States	Attacks in New York and Washington DC	24,721	2,982
<i>April 24, 1993</i>	<i>United Kingdom</i>	<i>IRA bomb attack in London</i>	<i>1,193</i>	<i>1</i>
<i>June 15, 1996</i>	<i>United Kingdom</i>	<i>IRA bomb attack in Manchester</i>	<i>980</i>	<i>0</i>
<i>April 10, 1992</i>	<i>United Kingdom</i>	<i>IRA bomb attack in London</i>	<i>883</i>	<i>3</i>
February 26, 1993	United States	World Trade Center bomb attack	822	6
<i>July 24, 2001</i>	<i>Sri Lanka</i>	<i>Tamil Tiger attack at Colombo Airport</i>	<i>525</i>	<i>20</i>
<i>February 9, 1996</i>	<i>United Kingdom</i>	<i>IRA bomb attack in London</i>	<i>341</i>	<i>2</i>
<i>April 19, 1995</i>	<i>United States</i>	<i>Oklahoma City bomb attack</i>	<i>192</i>	<i>166</i>
<i>April 11, 1992</i>	<i>United Kingdom</i>	<i>IRA bomb attack in London</i>	<i>127</i>	<i>0</i>
September 21, 2013	Kenya	Mass shooting at shopping mall in Nairobi	115	72

Source: Insurance Information Institute, Swiss Re, U.S. Bureau of Labor Statistics

*All losses adjusted to 2013 dollars. Entries in italics represent attacks carried out by non-Islamic domestic groups or individuals.

More recently, several high-profile domestic attacks have included fatal bombings and shootings in Russia, Northern Ireland and Norway. The Fuerzas Armadas Revolucionarias de Colombia (FARC) insurgent group also stepped up military operations and terrorism activity across Colombia in October 2013. In addition, a recent study by the US Congressional Research Service shows that domestic terrorists have been responsible for more than two dozen incidents in the United States since 2004. Although amendments were made in TRIPRA's 2007 reauthorization to include domestic terrorism as well as foreign acts, uncertainty remains over whether domestic attacks will receive federal cover beyond 2014.

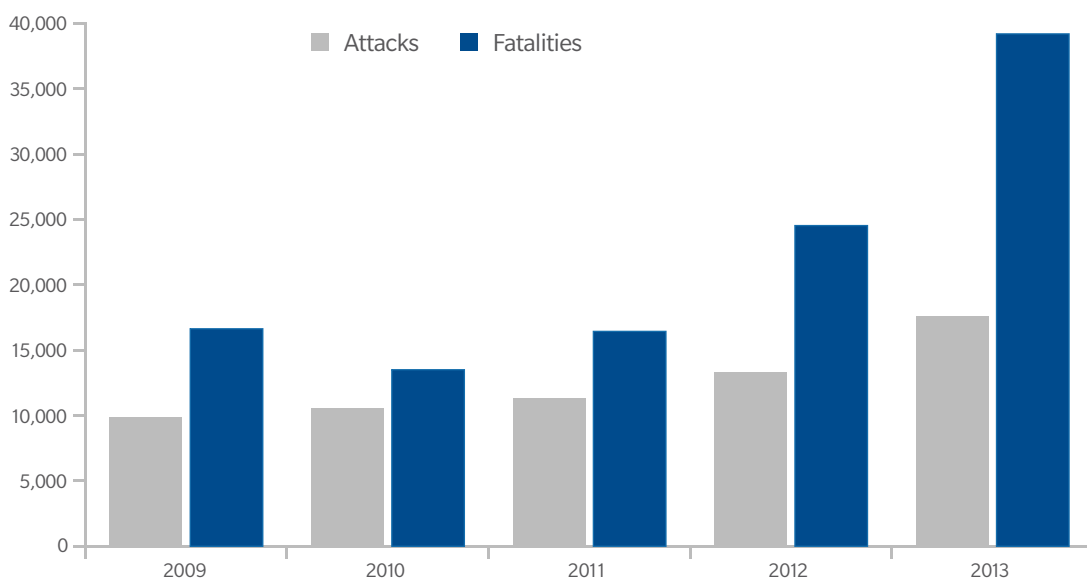




GLOBAL TERRORIST ATTACKS

According to data supplied by IHS Aerospace Defense & Security, a leading public source of defense and security information worldwide, the increasingly diverse and dispersed threat has seen terrorist activity around the world rise since 2009 (see Figure 1). There has also been a considerable rise in the number of fatalities from terrorist attacks during this period.

F-1 | GLOBAL TERRORIST ATTACKS – 2009 TO 2013



Source: IHS Jane's Terrorism & Insurgency Centre

Unlike some other perils, (re)insurers often struggle to quantify the risk posed by terrorism due to its unpredictable nature. The human element means the nature of the threat is forever changing as groups relocate and adapt their tactics in response to counter-terrorism measures. However, there are some steps (re)insurers can take to improve risk awareness.

Monitoring the location and number of foiled attacks can help (re)insurers better understand terrorism risks in certain countries and regions. In 2013, for example, the epicenter of terrorist activity was located in the Middle East while parts of North Africa also saw a rapid rise in the number of attacks. According to IHS, the highest number of terrorist attacks occurred in Syria and Iraq in 2013. These two nations accompanied Pakistan, Afghanistan and India in making up the top five most attacked countries during the course of the year. The emergence of Islamist militant groups also saw terrorist activity spike in 2013 for countries affected by the Arab Spring movement, including Egypt, Libya and Tunisia.



KEY BATTLEGROUND

The next 18 months are likely to be an important period for Afghanistan and Pakistan in determining whether the impending withdrawal of US-led coalition forces from Afghanistan could be exploited by militant groups and a precursor to increased terrorist activity in both countries. In particular, there are fears Afghanistan could descend into civil war as the Taliban seeks to reassert its control over certain areas of the country after coalition troops withdraw, thereby recreating a sanctuary for militants similar to the one that existed before the September 11, 2001 attacks.

Events in the Middle East and North Africa will also have important consequences on the future of the international terrorist threat. More than four years on from the beginning of the Arab Spring, countries at the center of the movement such as Tunisia, Libya, Yemen, Syria and Egypt continue to experience political instability and violence. The turmoil has also emphasized the importance of understanding the different coverages that exist in the (re)insurance market and the need for adequate terrorism and political violence protection.

Although there has been no sustained campaign of violence in Tunisia since the ousting of President Zine El Abidine Ben Ali in early 2011, a suicide attack in the tourist coastal town of Sousse in October 2013 (blamed by the government on the radical Islamist group Ansar al-Sharia Tunisia) demonstrated the growing capability and intent of militant groups to carry out attacks in the country. There are also fears that AQIM is looking to exploit tensions in Tunisia.

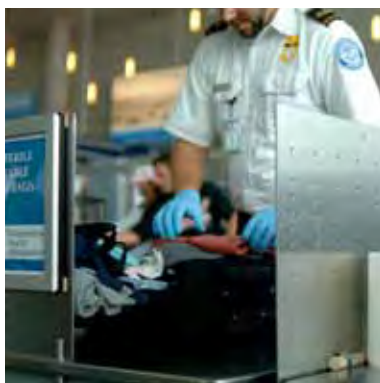
The security vacuum in Libya left in the wake of Colonel Muammar Gaddafi's overthrow in 2011 has also left the country vulnerable to extremist militant groups exploiting the instability. Security in Yemen also remains perilous. Initial gains made against AQAP in southern regions in 2012 were short-lived and the group continues to destabilize Yemen by conducting large-scale and destructive operations. As explained earlier, AQAP also remains a global threat as it continues to pursue spectacular attacks against the West.

SYRIAN CIVIL WAR

However, the situation in Syria is currently causing the most concern in the Western world. According to United Nations figures, more than 100,000 people have died and another 4.5 million have been displaced since the outbreak of the civil war. The conflict is unlikely to be resolved any time soon.

The war in Syria is extremely complex, drawing on sectarian tensions that go back centuries. This environment has seen extremist groups emerge as dominant forces among Syria's rebels, raising fears that Syria could become a training ground for terrorists in the same vein as Afghanistan and Iraq.

As mentioned earlier in the report, Jabhat al-Nusra and the ISIL are currently the most prominent extremist groups in Syria. Although there have been recent reports of fighting between the two groups, they continue to attract foreign fighters at an increasing rate as the conflict continues. The threat from Syria was highlighted by Charles Farr, Director of the Office for Security and Counter-terrorism in the UK Home Office, when he said in February 2014 that the size of extremist groups in Syria had become "the biggest challenge" facing intelligence agencies and the police. He added that the number of foreign fighters in Syria was higher than anywhere since Afghanistan in 1989.





POTENTIAL FUTURE RISKS

The spillover of violence from Syria to other Middle Eastern countries is a clear risk in 2014 and beyond. The conflict, and the sectarian tensions that underpin it, could destabilize a number of countries that share borders with Syria and be a catalyst for further violence in countries such as Lebanon, Iraq, Turkey and Jordan. ISIL has already exploited conditions in Syria to its advantage in Iraq, where the level of violence is at its highest for a number of years. The group has also made significant territorial gains in Iraq recently, advancing its aim of creating a caliphate in parts of Syria and Iraq.

Worsening violence in Lebanon, the threat of attacks in Turkey and the proxy involvement of several other Gulf states in the Syrian conflict (such as Saudi Arabia, Qatar and Iran) are likely to exacerbate sectarian hostilities across the Middle East and play an important part in determining the terrorist threat to Western interests around the world.

The situation in Egypt is also volatile following the ousting of democratically-elected President Mohammed Morsi by the army in 2013 and the banning of his Muslim Brotherhood party. Violent clashes have continued between Muslim Brotherhood supporters and police in 2014. Militants are using the removal of Morsi to call for a holy war against security personnel, especially in the Sinai region. It has also persuaded some to take up arms rather than participate in the political process. This has culminated in an increasing number of terrorist attacks in Egypt, including an assassination attempt in Cairo on the country's interior minister and a failed attack on a vessel passing through the Suez Canal. Such attacks reflect the highly unstable situation in Egypt and the growing desire and intent of groups to target government and commercial entities that have strategic or economic importance.

Cyber terrorism and cyber security also have the potential to threaten countries' national security. Critical infrastructure, including nuclear plants and other industrial facilities, is increasingly being targeted by cyber hackers intent on causing damage, disruption and potentially loss of life. Nevertheless, terrorist groups such as al-Qaeda are currently seen as lacking the necessary sophistication and capability in this area to successfully disrupt a major facility. The risk is more related to state-sponsored cyber activity such as the Stuxnet virus that targeted Iranian nuclear plants in 2010.

The recent leaking of government secrets by Edward Snowden, a former US government contractor, has also exposed new potential cyber vulnerabilities after classified material was released in newspapers. A number of intelligence officials in the United States and United Kingdom said the leaks damaged their counter-terrorism efforts as terrorist groups reacted to the disclosures and reassessed the way they operate and communicate.

The leaks have consequently heightened fears about cyber security. The Snowden case has also focused minds on how a relatively low ranking employee was able to download and ultimately leak such classified material. Both government and commercial entities are therefore using the case to assess the potential vulnerabilities it has exposed, the impact such occurrences can have on national security and how (re)insurance can help provide protection against such events.





III. THE TERRORISM REINSURANCE MARKET

THE CURRENT ENVIRONMENT OF ADEQUATE SUPPLY IN THE (RE)INSURANCE MARKETPLACE HAS LED SOME TO QUESTION GOVERNMENT INVOLVEMENT IN PROVIDING COVER FOR TERRORISM AND WHETHER THERE IS AN OPPORTUNITY FOR THE PRIVATE MARKET TO PROVIDE ADDITIONAL CAPACITY. HOWEVER, GOVERNMENT INVOLVEMENT IS NECESSARY IN CERTAIN COUNTRIES TO SUPPORT THE TERRORISM MARKET'S UNIQUE CHARACTERISTICS AND REQUIREMENTS.



SECURITY



Despite the recent spike in terrorist-related activity, evolving capacity and the absence of a major terrorism loss for reinsurers have resulted in a softening terrorism reinsurance market in areas with less perceived risk. Although localized terrorism and political violence activity has impacted certain facultative programs and affected pricing and capacity at the local level, adequate terrorism capacity continues to be available in the reinsurance treaty marketplace for certain countries and territories.

This reflects the wider reinsurance market's environment of ample capacity due to low loss experiences, strong balance sheets and an influx of capital from alternative sources. Much of this alternative capital is being deployed in the US property catastrophe market, prompting reinsurers to move some of their capacity away from this business segment and into other lines. Recent reinsurance renewals have manifested this competitive environment and pricing has fallen notably across most lines of business.

Although the relative uncertainty associated with terrorism risk and the inherent challenges of terrorism catastrophe modeling has limited the extent of capacity being redeployed to the terrorism peril, some insurance companies that provide terrorism cover have benefited from falling reinsurance prices, depending on where and what they write. Moreover, some insurers have looked to further capitalize by pushing for improvements to terms and conditions, with cover for acts of terrorism being added to catastrophe excess of loss contracts in some instances. Terrorism pools that purchase retrocession cover have also benefited from rate decreases. Furthermore, there has been a notable trend towards multi-year deals as some pools have sought to take advantage of the competitive market.





GOVERNMENT POOLS

Terrorism pools have been set up by governments in a number of countries to mitigate the withdrawal of (re)insurance capacity from the private market following significant terrorism events. The pools were established in reaction to specific threats faced within each country. Each pool generally requires a formal declaration that a terrorist event has occurred to trigger coverage.

The current environment of adequate supply in the (re)insurance marketplace has led some to question government involvement in providing cover for terrorism and whether there is an opportunity for the private market to provide additional capacity. However, as the following examination of TRIPRA shows, government involvement is necessary in certain countries to support the terrorism market's unique characteristics and requirements.

T-2 | COUNTRIES OPERATING TERRORISM POOLS

Country	Names of Terrorism Pool or Reinsurance Mechanism
Australia	Australian Reinsurance Pool Corporation (ARPC)
Austria	Österreichischer Versicherungspool zur Deckung von Terrorisiken (The Austrian Terrorpool)
Bahrain	The Arab War Risks Insurance Syndicate (AWRIS)
Belgium	Terrorism Reinsurance & Insurance Pool (TRIP)
Denmark	Danish Terrorism Insurance Scheme
Finland	Finnish Terrorism Pool
France	Gestion de l'Assurance et de la Réassurance des Risques d'Attentats et Terrorisme (GAREAT)
Germany	EXTREMUS Versicherungs-AG
Hong Kong - China	The Motor Insurance Bureau (MIB)
India	The General Insurance Corporation of India
Indonesia	Indonesian Terrorism Insurance Pool
Israel	Terrorism (Intifada Risks) - The Victims of Hostile Actions (Pensions) Law and The Property Tax and Compensation Fund Law
Namibia	Namibia Special Risks Insurance Association (NASRIA)
Netherlands	Nederlandse Herverzekeringsmaatschappij voor Terrorisemeschaden (NHT)
Northern Ireland	Criminal Damage Compensation Scheme Northern Ireland
Russia	Russian Anti-terrorism Insurance Pool (RATIP)
South Africa	South African Special Risks Insurance Association (SASRIA)
Spain	Consortio de Compensación de Seguros (CCS)
Sri Lanka	SRCC/Terrorism Fund – Government
Switzerland	Terrorism Reinsurance Facility
Taiwan	Taiwan Terrorism Insurance Pool
United Kingdom	Pool Reinsurance Company Limited (Pool Re)
United States	Terrorism Risk Insurance Program Reauthorization Act of 2007 (TRIPRA)

Source: Guy Carpenter



US TERRORISM MARKET

TRIPRA

The focus on the availability and affordability of terrorism (re)insurance coverage comes as the US House of Representatives and Senate are currently considering various changes to TRIPRA. TRIPRA expires on December 31, 2014 and the future of the federal backstop is the headline issue within the terrorism market this year given that either substantial modification or non-renewal have the potential to impact terrorism coverage in the United States. Implications could also be felt outside the United States. How the expiration of TRIPRA would affect the global terrorism market remains unclear but one possible outcome could see increased pressure on other pool structures to dissolve, resulting in fragmentation towards a more open market approach.

Many organizations with large concentrations of insured employees in the United States are already experiencing significant pressure on their workers compensation insurance programs (from rate increases to the possibility that insurers will not renew coverage) due to the uncertainty surrounding TRIPRA's future.

This uncertainty has impacted workers compensation coverage more than any other line of insurance due to the uniqueness of the coverage. Workers compensation is regulated by state laws that preclude carriers from putting a policy limit on the coverage, or exclude any perils (including conventional or NBCR terrorism) on workplace injuries. Furthermore, employers in nearly all US states are required to secure workers compensation coverage, resulting in terrorism insurance take-up rates of effectively 100 percent. Due to its compulsory nature, employers will always need to have the ability to secure coverage through some combination of private market solutions, state funds, assigned risk pools or as a qualified self-insured. Without the essential support of TRIPRA, private market alternatives would be significantly reduced for those insureds most in need of the coverage. Demand for coverage could easily begin to outpace the supply of available capacity and in effect cause harm to the US economy.

PRIVATE MARKET INVOLVEMENT IN US MARKET

Prior to September 11, 2001, coverage for terrorism-related losses was generally included in standard catastrophe reinsurance agreements without specific charges. However, the USD20 billion loss that reinsurers paid out following the September 11, 2001 attacks prompted companies to quickly exclude terror coverage in standard agreements for most lines of business. Terrorism exclusions therefore became standard in catastrophe reinsurance programs at the January 1, 2002 renewal, seriously diminishing the availability of terrorism reinsurance capacity. Concerned that the lack of terrorism coverage would hit the American economy, the US Congress passed the Terrorism Risk Insurance Act (TRIA) into law in November 2002.

Since its inception, TRIA has been reauthorized twice in the form of TRIEA in 2005 and TRIPRA in 2007 (see Table 3). During this time, the Act has required the private risk market to assume a larger share of the program by increasing deductible and co-share requirements.



T-3 | EVOLUTION OF THE TERRORISM RISK INSURANCE ACT

Term	January 1, 2008 – December 31, 2014	January 1, 2006 – December 31, 2007	November 26, 2002 – December 31, 2005
Official Legislative Name	Terrorism Risk Insurance Program Reauthorization Act of 2007 (TRIPRA).	Terrorism Risk Insurance Extension Act of 2005 (TRIEA).	Terrorism Risk Insurance Act of 2002 (TRIA).
Date of Enactment	December 26, 2007	December 22, 2005	November 26, 2002
Coverage	The extension eliminates the distinction between acts of foreign or domestic terrorism.	Acts committed by individual(s) acting on behalf of any foreign person or interest to coerce the civilian population of the United States or to influence the policy or affect the conduct of the US government by coercion.	Acts committed by individual(s) acting on behalf of any foreign person or interest to coerce the civilian population of the United States or to influence the policy or affect the conduct of the US government by coercion.
Territory	US only.	US only.	US only.
Certification	USD5 million.	USD5 million.	USD5 million.
Federal Backstop Trigger	USD100 million.	USD50 million in 2006 and USD100 million in 2007.	USD5 million.
Insurer Retention	20% – applied against prior year direct earned premium.	17.5% in 2006 and 20% in 2007 – applied against prior year direct earned premium.	7% in 2003, 10% in 2004 and 15% in 2005 – applied against prior year direct earned premium.
Government Share-Excess of Retention	85%	90% in 2006 85% in 2007	90%
Recoupment/ Pay-Go	Formula will be calculated using several factors: the size of the total loss, the amount of the industry aggregate retention, the amount that the insurers actually retain and the amount of the federal government reimbursement. There is no maximum on the amount that will be applied to future policyholders' premiums. For events that occur before 2011, this amount must be collected by 9/30/2012. For events that occur after 1/1/2012, it must be collected by 9/30/2017. Congress and the Treasury Department will have some flexibility in how this is implemented.	Included with much discretion on the part of the Secretary of the Treasury – subject to maximum 3% per year applied to policyholders' premiums.	Included with much discretion on the part of the Secretary of the Treasury – subject to maximum 3% per year applied to policyholders' premiums.

Source: U.S. Congressional Research Service

The private market's ability and willingness to cover terrorism risks has therefore increased since 2002 because of the federal program. In fact, terrorism capacity has increased over the last year as several factors converged at the January 1, 2014 renewal to culminate in additional (re)insurance terrorism coverage. The inflow of capacity from alternative sources was an important development, prompting traditional reinsurers to become more supportive of terrorism reinsurance opportunities for traditional property catastrophe programs. The scheduled expiration of TRIPRA also resulted in increased capacity as a number of insurers initiated or enhanced trading relationships with reinsurers that offered terrorism reinsurance solutions in an effort to anticipate and mitigate non-renewal. The prevailing soft market pricing for catastrophe coverages also had an impact, even driving pricing down by as much as 10 percent for workers compensation programs that included terrorism coverage at January 1, 2014. However, in the event of TRIPRA not being renewed, capacity required and sought from the private market would rise significantly and likely result in increased prices while also making it difficult to obtain the appropriate amount of coverage.



Warnings to insurers from rating agencies have also helped drive an increase in terrorism reinsurance. In late 2012, rating agencies warned insurers that an overreliance on TRIPRA in their risk management strategy would cause negative rating pressure. Companies that took the warning seriously were motivated to improve datasets and refine aggregations with the overriding objective of reducing their probable maximum losses (PML) from large individual accumulations. These companies were ultimately rewarded with lower reinsurance pricing as their new aggregation profile and datasets assisted in more accurately determining required reinsurance capacity. Any significant change to or non-renewal of TRIPRA will see all the main rating agencies reassess the required capital needed to support writings. A number of rating downgrade warnings would likely follow as a result.

US SECTOR CAPACITY

Despite this increase in market capacity, it is not sufficient on its own to provide comprehensive terrorism cover in the United States. According to a Guy Carpenter (re)insurance capital study, dedicated global capital to the US (re)insurance market is estimated to be approximately USD700 billion.² Catastrophe models that produce NBCR event scenarios estimate losses from a large nuclear attack in Manhattan (at greater than USD900 billion) would likely exceed the total amount of capital in the US market (see Figure 2). The study consequently concludes that the (re)insurance sector does not have the capital necessary to withstand such a scenario. Some form of federal backstop is therefore needed if the private (re)insurance market is to continue to provide capacity to higher risk areas.

F-2 | LOSS SCENARIOS AND PRIVATE MARKET CAPITAL

Private Industry Capital



Loss Scenarios

September 11, 2001

- USD32.5bn (2001 dollars)
- USD42.9bn (2013 dollars)¹

Largest Modeled Conventional Weapon Loss

- USD38.6bn²: 10 ton truck bomb in Midtown Manhattan

Largest Modeled NBCR Loss

- > USD900bn²: nuclear detonation in Midtown Manhattan

(Re)insurance industry is not adequately capitalized to support NBCR loss

Notes:

1. 2013 dollars based on Bureau of Labor statistics CPI Index.
2. The loss figures above assume a 100% property take-up rate inclusive of NBCR among commercial insureds.
3. Industry capital figures presented assume 100% of capital is available, or deployed, to cover terrorism. In reality, many (re)insurers — particularly capital/convergence markets — have little-to-no appetite to write terrorism because of connections with financial markets loss.

Source: GuyCarpenter

Should TRIPRA expire without a replacement, insurers that have the option are likely to select where to deploy their terrorism capacity and will do so at preferred locations and price. In this scenario, reinsurers would also only provide additional capacity at their price, meaning capacity shortfalls would be likely in key urban areas as well as workers compensation accumulations generating significant modeled losses relative to surplus.



US REINSURANCE CAPACITY

Guy Carpenter conducted a survey in the fourth quarter of 2013 with a number of reinsurers to help quantify the amount of terrorism reinsurance capacity that is currently available in the US market for all lines of business. At the market’s price, multiline terrorism reinsurance capacity is estimated to be approximately USD2.5 billion per program for coverages that include conventional weapon terrorism. Reinsurance capacity for coverages that include NBCR is estimated to be approximately USD1 billion per program.

However, it is important to note that these estimates represent theoretical maximums per program and assume the continuation of TRIPRA’s backstop protection. They are also highly sensitive to individual portfolio characteristics, with programs that have significant exposures to central business districts in major cities and notable workers compensation accumulations potentially having less supporting capacity. Furthermore, in the event TRIPRA is allowed to expire or is renewed with significant modifications, multiple programs are likely to simultaneously enter the reinsurance market and the impact this will have on aggregate US reinsurance sector capacity remains untested and is not clearly known.

RELIANCE ON TRIPRA

In 2012, there were over 850 insurers participating in TRIPRA, writing over USD183 billion in premiums. Using the current 20 percent deductible requirement of TRIPRA and policyholder surplus as a filter, Guy Carpenter found that the smaller to mid-sized insurance carriers would be most affected should there be an increase in the deductible of any program that replaces TRIPRA (see Table 4). Without TRIPRA, insurers with less than USD300 million in surplus would likely need to incorporate additional private reinsurance market capacity to protect their capital and to satisfy rating agencies and regulators.

T-4 | TRIPRA STATISTICS BY POLICYHOLDER SURPLUS (PHS)

Policyholder Surplus (USD)	< 50m	50m to 100m	100m to 300m	300m to 500m	500m to 1bn	1bn to 5bn	> 5bn
Number of Companies	487	83	129	41	40	50	24
Applicable TRIPRA Premium	7,993	40,872	88,980	191,811	354,906	847,944	3,913,612
Avg. TRIPRA Deductible	1,598	8,174	17,784	38,362	70,981	169,589	769,862
Avg. Deductible as Percentage of Policyholders’ Surplus	17.03%	11.65%	10.29%	9.63%	10.42%	7.90%	6.51%

Source: Guy Carpenter, SNL Financial

Reinsurance capacity for terrorism can differ by reinsurers’ preference, appetite and expertise for the various applicable lines of business. For conventional weapon loss scenarios, reinsurers can deploy multiple aggregates to individual geographical footprints. However, the loss footprints for NBCR events are much larger and “net” to reinsurers as typical retrocessional facilities do not cover NBCR losses.





TRIPRA RENEWAL

MMC, the parent company of Guy Carpenter, strongly supports the reauthorization and modernization of TRIPRA. MMC and Guy Carpenter consider the Act to be a model public-private partnership that has provided affordable and widely available terrorism cover. Thankfully, thus far, the federal government has not made any payments under TRIA and its successors. Non-renewal or a major change in the program would almost certainly affect existing TRIPRA coverage, standalone terrorism pricing and TRIPRA captive programs. In addition, the workers compensation market would be severely impacted from a capacity, availability and pricing basis.

The development in April 2014 of a bipartisan agreement in the US Senate to reauthorize TRIPRA for a further seven years is therefore encouraging news. MMC and Guy Carpenter welcome the proposed bill, which would retain the deductible at 20 percent but increase insurers' co-pay from 15 percent to 20 percent so that the government covers 80 percent of each insurer's losses above its retention, with the increase phased in over five years. A second change, again phased in over five years, would see the mandatory recoupment threshold rise from USD27.5 billion to USD37.5 billion, meaning the government would recoup TRIA payments outlaid to insurers when the sector's aggregate uncompensated losses were below the USD37.5 billion threshold.

In addition to the proposed Senate bill, a separate bill was introduced in the House of Representatives in June (with significantly different terms and durations to the Senate proposal). Table 5 on page 26 provides an outline of both proposals as of June 11, 2014.

REINSURANCE STRATEGIES

Even if TRIPRA is renewed without wholesale changes, the recent organic growth in US nationwide workers compensation premiums as a result of rate rises and payroll growth is likely to cause insurance companies' deductibles to increase. This in turn is likely to increase demand for terrorism reinsurance.


Guy Carpenter has therefore been exploring additional coverages for terrorism protection over the last couple of years. Multiple options have been priced for terrorism on both a combined basis (with current catastrophe coverages) and a standalone basis. These include traditional excess of loss cover by expanding current catastrophe limits and including terrorism, aggregate excess of loss cover to be structured to attach within/above TRIPRA deductibles and option contracts in 2014 for terrorism capacity at January 1, 2015 with fixed prices.

Other options have included 24 month contracts to reserve capacity for 2015 that include cancellation provisions in the event of TRIPRA being renewed with similar terms and evolution of prior reauthorizations, multi-line bundling of catastrophe programs to consolidate capacity that may result in expanded program limits and facultative cover for select locations and policies contributing to the largest PMLs.

It is important to note that the influx of capacity from alternative sources into the US property catastrophe reinsurance market has not yet been widely deployed into terrorism risk. This is mainly due to a lack of confidence in the probability component of terrorism models, the tail risk/payout patterns for workers compensation and the possible correlation of a downturn in the equity/investment market to a large-scale terrorism event.



IV. TERRORISM SOLUTIONS



THE DYNAMIC NATURE OF TERRORISM AND THE UNCERTAINTY IN IDENTIFYING TARGETS AND THE FREQUENCY OF ATTACKS REQUIRES A SPECIALIZED APPROACH TO MANAGE THE RISK.



To support the process of managing and underwriting the terrorism peril, (re)insurers utilize data management and modeling tools to analyze the risk. The dynamic nature of terrorism and the uncertainty in identifying targets and the frequency of attacks requires a specialized approach to manage the risk.

MODELING TERRORISM

Modeling methodologies for terrorism have been continually refined and updated since the three major modeling companies – AIR Worldwide (AIR), EQECAT and Risk Management Solutions (RMS) – released their first terrorism models in 2002. Quantifying the economic, insured and human losses from a terrorist attack continues to pose major challenges for (re)insurers and alternative capacity providers. There are three main techniques to model terrorism risk:

- **Probabilistic modeling** estimates losses based on a large number of events. A key factor is the estimated frequency being attached to all the events that could occur. Due to the difficulty in predicting the probability of terror events, there is considerable uncertainty associated with probabilistic terrorism modeling.
- **Exposure concentration analysis** identifies and quantifies concentrations of exposures around potential terrorist targets. Target-based accumulation assessments utilize predetermined targets (typically with high economic, human and/or symbolic value) and aggregate an insurer’s exposures in and around various distances from these targets.
- **Deterministic modeling** represents a compromise between the lack of accuracy in accumulation analysis and the uncertainty surrounding probabilistic models. By imposing an actual event’s damage “footprint” at a specified target, a specific, yet hypothetical, scenario can be analyzed with some certainty. Major modeling firms offer an array of deterministic-analysis tools for conventional and NBCR attacks at defined target and non-target locations.

Compared to natural hazards such as hurricanes and earthquakes, terrorism modeling continues to be faced by unique challenges due to its lack of acceptance by rating agencies and some markets. Insurers, reinsurers and modeling companies are constantly refining their models and the assumptions that underlie their products, thereby increasing their ability to manage terrorism risk in an educated and more quantitative fashion. Currently, deterministic, scenario-based testing is the most common tool used by (re)insurers to assess their vulnerability to terrorism.

COMMERCIAL MODELS

The catastrophe modeling companies have regularly updated their terrorism models over the years to reflect the changing threat landscape and help (re)insurers and other market participants perform robust terrorism risk assessments. Such updated products from RMS and AIR include:

- **RMS Probabilistic Terrorism Model (PTM) Exceedance Probability (EP) Analysis:** EP results and deterministic losses for certain weapon/target combinations.
- **RMS RiskLink Deterministic Analysis:** Identifies accumulations around designated RMS terror targets as well as portfolio-specific hot spots used to respond to the A.M. Best Supplemental Rating Questionnaire.
- **AIR CLASIC/2 Terrorism Analysis:** EP results and deterministic losses for certain weapon/target combinations. Accumulation analysis is available on a consulting basis.
- **AIR Touchstone Terrorism Analysis:** Next generation version of AIR platform incorporating terrorism-related features of CLASIC/2 along with interface usability and analysis efficiency enhancements.



AIR US TERRORISM MODEL

AIR implemented significant model updates in version 13 of CLASIC/2™, released in 2011. The updates impacted hazard components such as the target and landmark database, event frequency estimates and exposure and policy conditions.

AIR's target and landmark database now includes approximately 300,000 landmarks and 100 high-risk trophy targets across the United States. Several hundred new structures were added to the database to account for newly prominent and constructed landmarks.

AIR also updated its frequency estimations in the release of version 13, using intelligence analytics and the AIR expert group threat assessment. The result was a significant fall in the number of likely events per year, causing a reduction in the average annual loss (AAL) of approximately 70 percent for property and workers compensation.

Additionally, AIR released software updates in version 13 that added flexibility in choosing analysis options. Examples included terror event fire loss covered under the standard fire policy as well as exclusions such as pollution and bacteria and virus resulting from NBCR.

In 2012, AIR released version 14 of CATRADER® and CLASIC/2™. Although no changes were made to the terrorism model in this update, standard yearly workers compensation benefit level updates were released to reflect updated legislation and cost estimates for injury payments. In 2013, AIR released its next generation modeling platform, Touchstone™ and also updated CLASIC/2 version 14 to version 15. There was no change in the terrorism model on either platform.

RMS GLOBAL PROBABILISTIC TERRORISM MODEL

RMS released an updated PTM in July 2012, version 3.1.2. The new model revised the annual frequency of a terrorist attack on US soil. No updates were made to geographies outside the United States.

RMS used a panel of terrorism experts and closely tracked data from the past ten years on terrorist arrests and indications of planned and thwarted attacks. The result of this research was a reduction in the annual number of planned macro attacks in the United States from four to three, implying a 19 percent reduction in average frequency and a 19 percent reduction in the AAL. The reduction in frequency was the only change made to the model. The impact on the AAL was therefore the same across all books of business, but could vary by return period.

In August 2012, RMS reported that the overall macro attack frequency rate was reduced from 0.61 to 0.49 for the standard risk outlook for 2013, resulting in a change in the average number of macro attack plots annually. The interdiction rate and the suppression factor remained unchanged.

The reduced risk outlook was also updated, resulting in the average number of plots decreasing from three to two and the average frequency decreasing from 0.49 to 0.36. The increased risk outlook also decreased from an average of five attempted plots to 3.5, giving an average frequency of 0.55.

RMS updated its US workers compensation cost severities in October 2013 to reflect the latest legislation and cost estimates for injury payments.



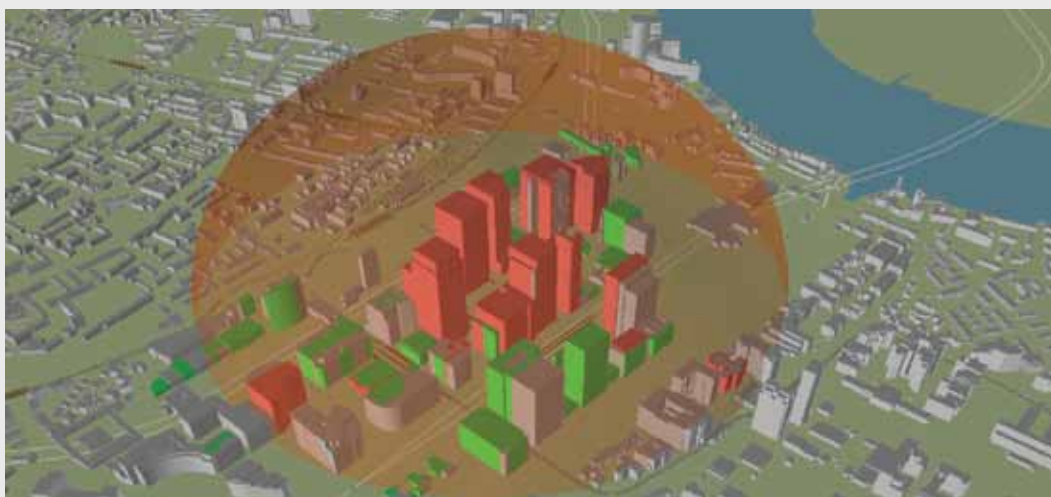


GUY CARPENTER SOLUTIONS

3-D Terrorism Modeling

Guy Carpenter has enhanced terrorism modeling capabilities to take into account the 3-D nature of structures in the vicinity of a target. The method considers the dampening effect on the hazard by shielding objects before it contacts a risk. Our method identifies a more realistic estimate of the risks affected by an event.

3D MODELING SAMPLE



Source: Guy Carpenter

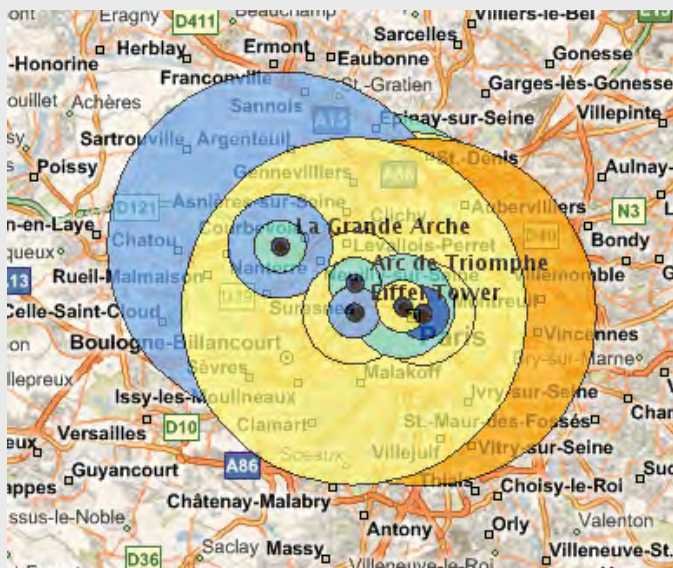




i-aXs

In addition to our 3-D modeling capabilities, Guy Carpenter offers a number of other tools to help clients manage their terrorism risks. i-aXs®, our web-based data management platform, allows insurers to quantify their exposure to a potential terrorist attack and highlight concentrated areas in their portfolio. Managing exposure to terrorism loss is an integral function within i-aXs, with several different tools on offer to help insurers assess their largest levels of accumulation.

I-AXS MAP SHOWING EXPOSURE TO TERROR TARGETS IN PARIS



Source: Guy Carpenter i-aXs®

The following global proprietary terrorism exposure reports are available within i-aXs:

- Cluster Accumulation: Clusters of total exposure within grid points spaced at various grid sizes.
- Portfolio Accumulation: Top portfolio accumulations for 1, 0.5, and 0.25 mile radiuses.
- Terror Accumulation: Portfolio terror for all targets by total exposure and zone.
- Terror Target by Zone Accumulation: Terror accumulation for global portfolios using targets from Exclusive Analysis (part of IHS), RMS and Guy Carpenter compiled databases.

Thematically shaded maps and satellite imagery, along with easy-to-understand reports, provide detailed accumulation information within a user-defined geographic range.

i-aXs allows companies to measure parameters such as total insured value, exposed limits, risk count, deductibles and premiums. Users can also drill down to individual policy details within terror accumulations such as construction type or line of business.

GC Risk Profiler assesses new locations and combines them with existing portfolios to determine proximity to terror targets and risks already in a portfolio. The tool also allows an overlay of infrastructure maps such as highways, railways and airports while it geocodes the risk and accesses a satellite image. GC RealCat, meanwhile, evaluates loss potential from the very onset of an event and delivers insight and guidance all the way through the claims management process. Such an event would include a major terrorist attack, such as a large-scale bomb blast impacting a significant geographic area.

APPENDIX

The Republican-led Financial Services Committee in the House of Representatives put forward a draft proposal outline to reauthorize TRIPRA on May 1, 2014. After further negotiations, the House Republican leadership presented the TRIA Reform Act of 2014 on June 11 that proposes a five-year reauthorization of the federal program (to the end of 2019) with a similar copay structure to that of the Senate bill. However, a number of changes have also been proposed that have the potential to impact the market if fully implemented, including higher program triggers for non-NBCR events, an increase to the recoupment rate and an enhancement to the program's taxpayer repayment requirements. Table 5 outlines the different terms and durations that have been put forward by the Senate and the House.

Significant uncertainty therefore remains over the final terms and timing of reauthorization. Further clarifications are expected in the coming weeks and months. Guy Carpenter will keep clients, prospects and markets informed of all significant developments as the renewal progresses throughout the year.

T-5 | OVERVIEW OF TRIPRA AND EXTENSION PROPOSALS AS OF JUNE 11, 2014

	Terrorism Risk Insurance Program Reauthorization Act of 2007	Terrorism Risk Insurance Program Reauthorization Act of 2014 (Senate)	TRIA Reform Act 2014 (House)
Termination	December 31, 2014	December 31, 2021	December 31, 2019
Make-Available Provision	Must make coverage available for certified acts of terrorism on same terms and conditions as for other covered risks.	No change.	January 1, 2016 — small insurers (to be defined) can opt-out of the mandatory "make available" requirement.
Covered Acts	Foreign and domestic terrorism in the United States and on specific US interests abroad (such as embassies, missions, consulates, air carriers or flag vessels). Includes an act of war for workers compensation policies only.	No change.	No Change
Certification Level	USD5 million.	No change.	<ul style="list-style-type: none"> Remove USD5 million threshold. January 1, 2015 — the Secretary of Treasury must consult with the Attorney General and the Secretary of Homeland Security (replaces the Secretary of State from previous legislation).
Program Trigger	USD100 million insured loss in a program year.	No change.	<ul style="list-style-type: none"> 2015 - USD100 million 2016 - USD200 million 2017 - USD300 million 2018 - USD400 million 2019 - USD500 million Nuclear, biological, chemical, or radiological (NBCR) certified acts trigger at USD100 million.
Covered Lines	Commercial property/casualty insurance (including excess insurance, workers compensation and directors and officers insurance).	No change.	January 1, 2016 - separate the definition of an "act of terrorism" into two categories: <ul style="list-style-type: none"> NBCR acts Non-NBCR acts.
Insurer Deductible (percent of direct earned premium)	20%	No change.	No change
Federal Reinsurance Quota Share	85%	<ul style="list-style-type: none"> 2016 - 84% 2017 - 83% 2018 - 82% 2019 - 81% 2020 - 80% 	For non-NBCR acts of terrorism <ul style="list-style-type: none"> 2015 - 85% 2016 - 84% 2017 - 83% 2018 - 82% 2019 - 80% For NBCR acts of terrorism <ul style="list-style-type: none"> 2015-2019 - 85%
Insurance Industry Retention for Mandatory Recoupment	USD27.5 billion	Increase the Treasury's recoupment rate from 133% to 135.5%. <ul style="list-style-type: none"> 2015 - USD29.5 billion 2016 - USD31.5 billion 2017 - USD33.5 billion 2018 - USD35.5 billion 2019 - USD37.5 billion 	<ul style="list-style-type: none"> January 1, 2016 - increase the Treasury's recoupment rate from 133% to 150%.
Cap on Liability	USD100 billion.	No change.	No Change
Timing of Certification	Not addressed	Final rule from the Treasury Department no later than 180 days from the enactment that would establish a time line for certifying an event as covered or not covered.	<ul style="list-style-type: none"> Preliminary certification by the Secretary of Homeland Security no later than 15 days after an occurrence. Final certification no later than 90 days after an occurrence.

Source: Marsh, Guy Carpenter



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