

NEED OF AN HOUR: ACTUARIAL AWAKENING AGAINST TERROR

In the wake of recent attack on financial capital of India, Mumbai, the debate on the readiness of Actuarial industry has once again stirred the still waters. By this article, we hope to make an honest attempt to touch base the concerned areas and try to propose a framework that could assist in achieving the initial frontiers of terror related insurance policies.

Risk Management

The objective of risk management is to reduce different risks related to a preselected domain to the level accepted by society. It may refer to numerous types of threats caused by environment, technology, humans, organizations and politics. On the other hand it involves all means available for humans, or in particular, for a risk management entity (person, staff and organization).

Risk management is a structured approach to managing uncertainty related to a threat, a sequence of human activities including: risk assessment, strategies development to manage it, and mitigation of risk using managerial resources.

Phases of Risk Management

1. Risk Identification - The process of examining and determining the potential sources of loss faced by the organization.
2. Risk Analysis - The assessment of the potential impact, in terms of economic loss, that various exposures can have on the organization.
3. Risk Mitigation - Any action taken to minimize, at the optimal cost, losses which strike the organization.
4. Risk Finance - The acquisition of funds, at the optimal cost, to pay for the losses which strike the organization.
5. Risk Monitoring - The implementation and monitoring of risk management policies and procedures.

Terrorism

Terrorism means activities against persons, organizations or property of any nature committed by an individual or individuals acting on behalf of any foreign person or foreign interest:

1. *that involve the following or preparation for the following:*
 - a. use or threat of force or violence; or
 - b. commission or threat of a dangerous act; or
 - c. commission or threat of an act that interferes with or disrupts an electronic communication, information, or mechanical system; and
2. *when at least one of the following applies:*
 - a. the effect is to intimidate or coerce a government or the civilian population or any segment thereof, or to disrupt any segment of the economy; or
 - b. it appears that the intent is to intimidate or coerce a government, or further political, ideological,

religious, social or economic objectives or to express (or express opposition to) a philosophy or ideology.

Role of Insurance in Risk Management

Insurance is a valuable risk-financing tool. Few organizations have the reserves or funds necessary to take on the risk themselves and pay the total costs following a loss. Purchasing insurance, however, is not risk management. A thorough and thoughtful risk management plan is the commitment to prevent harm. Risk management also addresses many risks that are not insurable, including brand integrity, potential loss of tax-exempt status for volunteer groups, public goodwill and continuing donor support.

Terror Risk

The seven years since Sept. 11, 2001, have been the most active period in terrorism history. There have been 1,450 "macro" terrorist attacks (a car bomb or worse) in 43 countries worldwide. More than 25,000 people have been killed in the attacks and more than 45,000 people injured. In the past three years, more than 60 percent of these have been in Iraq and Afghanistan.

Although London and Madrid were targeted in 2005 and 2004 respectively, the West has suffered relatively few major terrorist attacks. Some have suggested that the risk must be exaggerated--after all, there have been no attacks in the United States since 2001. However, research shows that more than 30 attempted U.S. attack plots have been unravelled in this time, ranging from sophisticated plans to blow up five buildings in the financial centers of New York and Washington, to cyanide attacks on the New York subway. The security forces have clearly been instrumental in protecting the public and minimizing losses.

9/11 Attacks hit Insurance Industry the most



Terror Risk as faced by USA

No one would dispute the events of September 11th, 2001 forever changed the world. Our knowledge of terrorism has substantially increased and we have begun to take countermeasures to protect virtually all aspects of business, government and society. The economic impact of terrorist attacks often times exceed the direct costs associated with the events. While no one can truly put a price on the human losses, the financial impact can be measured and is represented in the above statement.

Prior to September 2001 attacks on the United States, insurers generally did not exclude or separately charge for terrorism risks. The risk of terrorism was seen as so remote that it generally was not

considered in writing insurance policies.

Losses stemming from the destruction of the World Trade Center and other buildings by terrorists on September 11, 2001 totaled about \$31.6 billion, including commercial liability and group life insurance claims—not adjusted for inflation—or \$35.9 billion in 2006 dollars. About two thirds of these losses were paid for by reinsurers.

Concerned about the limited availability of terrorism coverage in high-risk areas and its impact on the economy, Congress passed the Terrorism Risk Insurance Act (TRIA). The Act created a federal "backstop" for insurance claims related to acts of terrorism. The Act is intended as a temporary measure to allow time for the insurance industry to develop their own solutions and products to insure against acts of terrorism. The Act provides a temporary program that, in the event of major terrorist attack, allows the insurance industry and federal government to share losses according to a specific formula. TRIA was signed into law on November 26, 2002 and renewed again for two years in December 2005. Passage of TRIA enabled a market for terrorism insurance to begin to develop because the federal backstop effectively limits insurers' losses, greatly simplifying the underwriting process. TRIA was extended for another seven years to 2014 in December 2007

Background

Prior to September 11, 2001, insurers provided terrorism coverage to their commercial insurance customers essentially free of charge because the chance of property damage from terrorist acts was considered remote. After September 11, insurers began to reassess the risk. For a while terrorism coverage was scarce. Reinsurers were unwilling to reinsure policies in urban areas perceived to be vulnerable to attack. Primary insurers filed requests with their state insurance departments for permission to exclude terrorism coverage from their commercial policies.

Terrorism Risk Insurance Act (TRIA)

There is general agreement that TRIA has helped insurance companies provide terrorism coverage because the federal government's involvement offers a measure of certainty as to the maximum size of losses insurers would have to pay and allows them to plan for the future. However, when the Act came up for renewal in 2005 and in 2007, there were some who believed that market forces should be allowed to deal with the problem.

Both the U.S. Government Accountability Office and the President's Working Group on Financial Markets published reports on terrorism insurance in September 2006. The two reports essentially supported the insurance industry in its evaluation of nuclear, biological, chemical and radiological (NBCR) risk—that it is uninsurable—but unlike the insurance industry, the President's Working Group said that the existence of TRIA has negatively affected the development of a more robust market for terrorism insurance, a point on which the industry disagrees. TRIA is the reason that coverage is available, insurers say. The structure of the program has encouraged the development of reinsurance for the layers of risk that insurers must bear themselves—deductible amounts and coinsurance—which in turn allows primary insurers to provide coverage. Without TRIA, there would be no private market for terrorism insurance.

How TRIA Functions: The Terrorism Risk Insurance Act and its extensions authorized the creation of a federal reinsurance plan, which is triggered when insured terrorism losses exceed a predetermined amount. The program, a sharing of losses between the insurance industry and the federal government according to a preset formula—a type of reinsurance—has enabled the commercial insurance market to function, even though the threat of terrorism remains.

Structure of assistance

- Eligibility of Insurers: An eligible insurer is any entity or affiliate that:
 - Is a recipient of direct earned premiums for any type of commercial property and casualty insurance coverage;
 - Is licensed (or admitted) to provide insurance in any State, approved for the purpose of offering property and casualty insurance by a Federal agency in connection with maritime, energy, or aviation activity, or is a State residual market insurance entity or State workers' compensation fund
 - And meets any other criteria that the Secretary may reasonably prescribe.
- Program Trigger: Program is triggered following occurrence of event determined by Secretary of the Treasury to be act of terrorism. Losses from the act must exceed \$50 million in 2006 and \$100 million in 2007
- Individual Company Trigger (or Deductible): Trigger or deductible for individual company is 17.5 percent of premiums in 2006 and 20 percent in 2007.
- Industry-wide Retention: The industry as a whole must cover a certain amount of the losses before federal assistance is available. This amount rises from \$15 billion in 2005 to \$25 billion in 2006 and rises again in 2007 to \$27.5 billion. The difference between this amount and the aggregate amount that insurers must pay (deductibles and co-payments) can be recouped from commercial policyholders through a surcharge not to exceed 3 percent of premium for insurance coverages that fall under the TRIEA program. This reinsurance takes the form of a 90 percent quota share in excess of variable deductibles based upon a percentage of earned premium income.
- Cap on Assistance: \$100 billion per year
- Post Trigger Federal Assistance: When program is triggered, Federal government is to pay 90% of insured terrorism losses in excess of individual insurer trigger/deductibles while the insurer pays 10%. In 2007, this rises to 85 %/15%.
- Recoupment of Assistance: Recoupment to be through surcharges of up to 3% of annual premiums on all policyholders. Mandatory recoupment for all amounts provided to insurers under industry-wide retention. No mandatory recoupment of uncompensated losses in excess of industry-wide retention. Secretary of the Treasury has discretion to recoup additional amounts.

Attack on Mumbai, India 26/11



Terror risk as faced by India

Terrorist attacks so far in India have resulted in loss of human life and damage to public and government property and damage to corporate property was minimal. Hence, monetary claims have not been significant till now. The largest terrorism-related claim in India till the Mumbai attacks was made by Coca-Cola, for a plant that was blown up by naxalites in 2001.

The damage caused to Indian Hotels' Taj Palace and Oberoi's Trident in Mumbai may turn out to be the first major terror-related claim in the country. After terrorism was made an 'excluded' risk post-9/11 by global insurers, there has not been any major terror insurance claim on Indian non-life insurers. Non-life insurance companies have received claims worth Rs 1.3 crore on account of terror acts this year so far, while it was around Rs 1 crore last year. The claims included personal accident cover — claims submitted by persons who had been injured in bomb attacks.

Both the five-star hotels were insured against terrorism and hence the insurance companies will have to bear the burden towards reconstructing and refurbishing the damaged hotels. Although the extent of damage to hotels is yet to be ascertained, industry sources said, while Tata-AIG General Insurance was the lead insurer in case of Taj Hotel, the Oberoi-Trident was insured with a consortium led by state-owned Oriental Insurance. Besides the cost of reconstructing the damaged properties, the insurers will also have to compensate the owners for loss of business.

Apart from the lead insurer, in case of Taj Hotel, ICICI Lombard provided 30 percent and Iffco-Tokio General Insurance gave 5 percent cover. A Part of the insurance cover in case of Oberoi-Trident was provided by Chennai-based United India Insurance.

There are 12 public and private sector insurance companies that provide terrorism insurance cover as an add-on cover to the standard fire insurance policy. The premium is Rs 0.21 per Rs 1,000 of the total sum insured. "The premium needs to be increased by at least 50% so that we can cover the damages incurred. The IRDA should also provide approval to sell terrorism cover as a stand-alone policy," said an insurance official.

Terrorism cover in the country is offered by general insurance companies through a common pool, which has a corpus of about Rs 1,000-1200 crore. It is estimated that the total losses incurred by Taj and Oberoi hotels due to the recent terror attacks could be around Rs 800 crore. Insurers estimate that establishments from across the city pay around Rs 50-60 crore every year as premium to buy insurance cover against terror attacks. The idea of a pool to deal with acts of terror was mooted after the insurance companies refused to provide cover after the attacks on the World Trade Centre in the US in 2001. In India too, the general insurers formed a collective pool and all the premium collections done by the industry towards terrorism cover are put into it.

Irda also mandated that all general insurance companies should be allied to a common pool for terrorism insurance. As a result, premium of terrorism insurance collected by all general insurance companies is collected in this common pool, the money is used for settlement of terrorism related insurance claims. Terrorism cover can be given for property or personal accident. It is offered as an add-on cover and an individual has the choice to request for the same while insuring property.

Company	Terror Insurance
Bajaj Allianz	At additional cost
Oriental insurance	Not Covered
United India insurance	Not Covered
National insurance	Not Covered
ICICI Lombard	At additional cost
Royal Sundaram	Excluded
New India assurance	Inbuilt in policy

Special Terrorism Insurance Programs in Other Countries

The United States is not the first country to establish a terrorism insurance program. Some countries created programs to cover terrorism after September 11 or earlier, following a terrorist attack on their own soil. Below are some examples.

Australia: Legislation was passed in 2003, under which terrorism exclusions in commercial policies are nullified once the government has declared that a terrorist incident has occurred. The legislation also created a reinsurance pool to cover insurance company losses from property, business interruption and third-party liability coverages, subject to a certain insurance company deductible, about 4 percent of property insurance premium. Insurers pay premiums into the pool which is back-stopped by the government. The program covers chemical and biological attacks but not nuclear attacks.

Austria: A terrorism pool has been in operation in Austria since January 2004. The pool provides reinsurance protection against property damage and business interruption up to a certain limit. Insurers issue a separate terrorism policy and then transfer or "cede" the business to the pool. Participation in the pool is voluntary but almost all insurers belong.

Belgium: Under requirements that took effect in May 2008, all insurers must offer coverage for terrorism under most of the policies they issue, with the exception of coverage for certain kinds of risks such as nuclear facilities and mass transportation mechanisms such as trains, airplanes and ships. Insurers are not required to offer stand-alone policies for terrorism. The law creates a terrorism pool with total limits of 1 billion euros, divided into three tiers: direct market, first tier 300 million euros; reinsurance, second tier 400 million euros; and the Belgian government, upper tier, \$300,000.

France: Under a law passed in 1986, terrorism must be covered. Since 2002, terrorism has been covered by a reinsurance pool to which terrorism risk above a certain retention level is transferred. Insurers pay premiums to the pool which are divided up among the participants in each of the four different layers of risk with the government-owned Caisse Central de Reassurance (CCR) receiving 10 percent of premiums for providing the top layer of unlimited coverage. The government pays for all terrorist claims that exceed a specific amount. Premiums are set according to the insured amount, not the riskiness of the location.

Germany: Private insurers cede commercial insurance coverage written above a certain limit to a pool. The pool, in turn, cedes all its risk to other insurance companies, which act as reinsurers. The ultimate layer of protection, for which insurers pay reinsurance premiums, is provided by the government. The program was extended for two years at the end of 2007 and after 2009 will probably be renewed again but for a lower amount, Germany's Finance Minister said in making the announcement of the extension. The government pays claims above an aggregate amount.

Netherlands: A terrorism reinsurance company was created to reinsure its member companies who retain a percentage of the risk. Coverage is limited per member and in the aggregate. Life and property/casualty insurers participate in the pool, as well as health insurers.

Spain: Beginning in 1941, Spain has had a government-sponsored but privately managed pool which provides coverage against injury, property damage and business interruption due to catastrophes, natural and man-made. Personal lines as well as commercial are covered. Coverage for extraordinary risks is mandatory. The original need for terrorist coverage stemmed from acts of violence carried out by the Basque separatist movement, which has been active in Spain for many decades. The 2004 Islamic terrorist bomb attacks in Madrid exacerbated the risk. Private insurers may provide catastrophe coverage but they are still required to make payments to the pool, which is backed by an unlimited guarantee from the government.

Switzerland: Beginning in 2003, insurers can cede all property risk insured for a sum above a certain amount to a reinsurance facility.

United Kingdom: The government formed a mutual reinsurance pool for terrorist coverage in 1993, following acts of terrorism by the Irish Republican Army. Insurance companies pay premiums at rates set by the pool. There are two geographic zones, one for major cities, with an adjustment for a "target risk," and the other for the remainder of the country. The primary insurer pays the entire claim for terrorist damage but is reimbursed by the pool for losses in excess of a certain amount per event and per year. This is based on its share of the total market. The maximum industry retention increases annually per event and per year. Following the World Trade Center disaster, coverage was extended to cover all risks, except war, including nuclear and biological contamination, aircraft impact and flooding, if caused by terrorist attacks. The government acts as the reinsurer of last resort, guaranteeing payments above the industry retention.

Many questions exist about how the finance and insurance companies will respond to the continued threat of terrorism. Some of these questions have been answered. Disclaimers on insurance policies and higher premiums for insurance policies and government back reinsurance all are part of the response.

The Difficulty of Insuring Terrorism Risk

From an insurance viewpoint, terrorism risk is very different from the kind of risks typically insured. To be readily insurable, risks have to have certain characteristics.

The risk must be measurable. Insurers must be able to determine the possible or probable number of events (frequency) likely to result in claims and the maximum size or cost (severity) of these events. For example, insurers know from experience about how many car crashes to expect per 100,000 miles driven for any geographic area and what these crashes are likely to cost. As a result they can charge a premium equal to the risk they are assuming in issuing an auto insurance policy.

Insofar as acts of terrorism are intentional, terrorism risk doesn't have these characteristics. In addition, no one knows what the worst case scenario might be. There have been very few terrorist attacks, so there is little data on which to base estimates of future losses, either in terms of frequency—the number of attacks per year—or the size of the losses, known in insurance jargon as severity. Terrorism losses are also likely to be concentrated geographically, since terrorism is usually targeted to produce a significant economic or psychological impact. This leads to a situation known in the insurance industry as adverse selection, where only the people most at risk purchase coverage, the same people who are likely to file claims.

Under Terrorism Insurance Rules, Insurers don't have to pay for the material damage caused by security forces, but only for that caused by terrorist, which is often difficult to distinguish.

Is there any available policy framework for handling the Risk cover of Terrorism?

There is no known standard procedure of risk management against terror activities globally, but there is a terrorism risk that has to be factored in. An actuarial framework can be established only if we can put an empirical formula and measure some kind of potential damage of the perceived risk. But when you are dealing with bizarre form of attacks like people who are capable of flying planes into buildings or a hostage crisis-like situation, the risk cannot be measured. Here, the potential losses could vary from single life to cohort group that can include people from different strata of society.

Incomplete Solution

All these efforts add up to an incomplete solution to the problem of terrorism risk management. In the new era of corporate risk, technology plays an even more important role. A new approach to risk management must be developed that includes private intelligence in order to reduce or mitigate an organizations exposure. Combining core technologies such as intelligence and location technology will provide the foundation necessary to achieve these goals. The component that is missing is intelligence that evaluates and monitors the threats.

The ability to identify and monitor risks is greatly diminished because the insurance and financial community does not have access to geographic based intelligence and threat data. Financial impact of business disruption and the catastrophic financial impact of insurance claims are risks that must be addressed by organizations large and small. Failure to address this gaping hole will cause undue financial harm to the economy and our financial and insurance services industries.

The Answer

What should we do? A much more serious attempt is required to understand the gravity of the risks involved. As time passes by, there is a tendency to relax and lower our guard just to be awakened by the next terrorist activity. Vigilance is of the utmost importance. In the new era of corporate risk, technology plays an even more important role in accessing the risks and measuring the possible impact. It is not a question if there will be another attack now it more seems like '*When*'. There are forces at work as you read this that are planning attacks designed to disrupt our way of life and inflict physical, social, economic and political damage on nations of the free world. Risk management has taken on a whole new meaning after the events like September 11th, 2001 and November 26th, 2008. A need for insurance policy dedicated to cover such incidents is strongly felt and it becomes inevitable to create the supporting framework. Terror alone insurance policies (individual as well as corporate) are imminent and we believe the sector will come up strongly to fulfill the basic need of the hour.

About the Author

Rakesh Gupta

- Completed Mathematics (Honors) from Delhi University in 2004.
- Student Member of Institute of Actuaries of India and UK
- Cleared 4 papers of CT Series.
- Completed Diploma in Software System from IP University Delhi in 2001.
- Founder Member of FUTURE TRACK , Complete solution to ACTUARIAL Career.

Subhash Goyal

- Completed Economics (Honors) from Sri Venkateshwara College, Delhi University in 2007.
- Student Member of Institute of Actuaries, India.
- Appeared for CT 1, 3, and 7 in November 2008.