Public Policy Monograph

May 2004

P/C Terrorism Insurance Coverage: Where Do We Go Post-Terrorism Risk Insurance Act?

American Academy *of* Actuaries

A m e r i c a n   A c a d e m y *o f* A c t u a r i e s

The American Academy of Actuaries is the public policy organization for actuaries practicing in all specialties within the United States. A major purpose of the Academy is to act as the public information organization for the actuarial profession. The Academy is non-partisan and assists the public policy process through the presentation of clear and objective actuarial analysis. The Academy regularly prepares testimony for Congress, provides information to federal elected officials, comments on proposed federal regulations, and works closely with state officials on issues related to insurance. The Academy also develops and upholds actuarial standards of conduct, qualification and practice and the Code of Professional Conduct for all actuaries practicing in the United States.

P/C Terrorism Insurance Coverage: Where Do We Go Post-Terrorism Risk Insurance Act?

Prepared by the American Academy of Actuaries Extreme Events Committee
John J. Kollar, FCAS, MAAA, Chairperson
James E. Biller, FCAS, MAAA
Peter Burchett, FCAS,MAAA
Kay A. Cleary, FCAS, MAAA
Dennis D. Fasking, FCAS, MAAA
Pat Furst, FCAS, MAAA
Steven F. Goldberg, FCAS, MAAA
Dave Lalonde, FCAS, MAAA
Barry C. Lipton, FCAS, MAAA
Stuart Mathewson, FCAS, MAAA
Anthony Pipia, ACAS, MAAA
Jack Swisher, ACAS, MAAA
Thomas A. Weidman, FCAS, MAAA
Affiliate Member: Sean Ringstead, FIA

May 2004

Richard C. Lawson, Executive Director
Noel Card, Director of Communications
Craig Hanna, Director of Public Policy
Greg Vass, Casualty Policy Analyst

American Academy of Actuaries
1100 Seventeenth Street NW
Seventh Floor
Washington, DC 20036
Tel (202) 223-8196
Fax (202) 872-1948
www.actuary.org

P/C Terrorism Insurance Coverage: Where Do We Go Post-Terrorism Risk Insurance Act (TRIA)?

Table of Contents

Section 1: Introduction/Executive Summary

The property/casualty (P/C) insurance market was hardening before the Sept. 11, 2001 terrorist attacks on the World Trade Center and the Pentagon. The events of Sept. 11, 2001, created additional uncertainty and accelerated price firming as indicated by surveys conducted in the aftermath. These surveyes indicate that most commercial insurance accounts saw premium rate increases of 10 percent to 50 percent in 2002. Coverage for some risks was difficult to obtain. The passage of the Terrorism Risk Insurance Act (TRIA) in 2002 has helped to stabilize the market. Primary insurers have found that reinsurance is available but expensive. However, it is unclear how well private reinsurance markets would respond to the gap created—representing the removal of 90 percent of the reinsurance capacity above an insurer's deductible—if federal reinsurance coverage lapses.

Much uncertainty in the terrorism insurance market remains due to issues in quantifying terrorism exposures as well as concerns over accumulation of exposures, in spite of the progress made in these areas. The small reduction in uncertainty coupled with the modest increase in overall insurer surplus (capital) since Sept. 11, 2001 may not be sufficient to offset the reduced supply of terrorism reinsurance. This could push more of the terrorism risk back on insurers, and ultimately policyholders.

Primary commercial lines of insurance, such as workers' compensation and fire, are still mandated by statute to cover many risks with no or limited exclusions. Insurers and reinsurers have increased their efforts to manage their geographic concentration of risk. If reinsurance availability decreases when TRIA sunsets, insurers may have to reduce their concentration of risks resulting in reduced availability of all commercial insurance in some areas.

While TRIA mandates that insurers offer coverage for terrorism risks to commercial lines

policyholders, it is estimated that less than 20 percent of these policyholders are purchasing such coverage. Many perceive the coverage to be expensive or unnecessary. This could result in adverse selection where only those who need the coverage the most purchase it. This adverse selection can exacerbate severe net losses after an event (if premiums remain inadequate) or unaffordable premiums and de facto unavailability (if premiums spiral upward pre-event). The threat of inadequate premium rates puts more pressure on insurers to manage their geographic concentration of exposures in high terrorism risk areas.

Section 2: Terrorism Risk Insurance Act of 2002 (TRIA)

The U.S. Congress tried to stabilize the marketplace by enacting TRIA in the fourth quarter of 2002. While a full analysis of TRIA is beyond the scope of this monograph, the key features of the act are summarized as follows:

- The federal government is a reinsurer for "certified" terrorism events.
- For an event to be "certified," it must be committed by a foreign person or interest to coerce the civilian population of the United States or influence U.S. government policy, and it has to result in aggregate commercial insured losses of $5 million . Domestic terrorism, such as the bombing of the federal building in Oklahoma City, is not covered by this act.
- Coverage is for P&C commercial lines only (workers' compensation, property, and liability).
- Federal coverage is 90 percent of losses in excess of a deductible. This deductible is a fixed percentage of a group's earned premium. This percentage rises from 7 percent in 2003 to 10 percent in 2004 to 15 percent in 2005. (See the charts below.)
- TRIA sunsets at the end of 2005. Any events occurring after Dec.31, 2005 are not covered by the expired TRIA. And insurers must decide what coverage to offer on policies extending beyond Dec.

31, 2005.

- During 2003 and 2004 (and possibly 2005), commercial insurers are required to participate in the federal Terrorism Risk Insurance Program (TRIP) established by TRIA by offering coverage for certified acts of terrorism. Such coverage can be excluded or limited only upon rejection by the insured
- Insured losses to all parties are capped at $100 billion, although TRIA charges Congress with addressing possible remedies for insured losses above $100 billion.

Figure 1.
Terrorism Risk Insurance Program (TRIP)

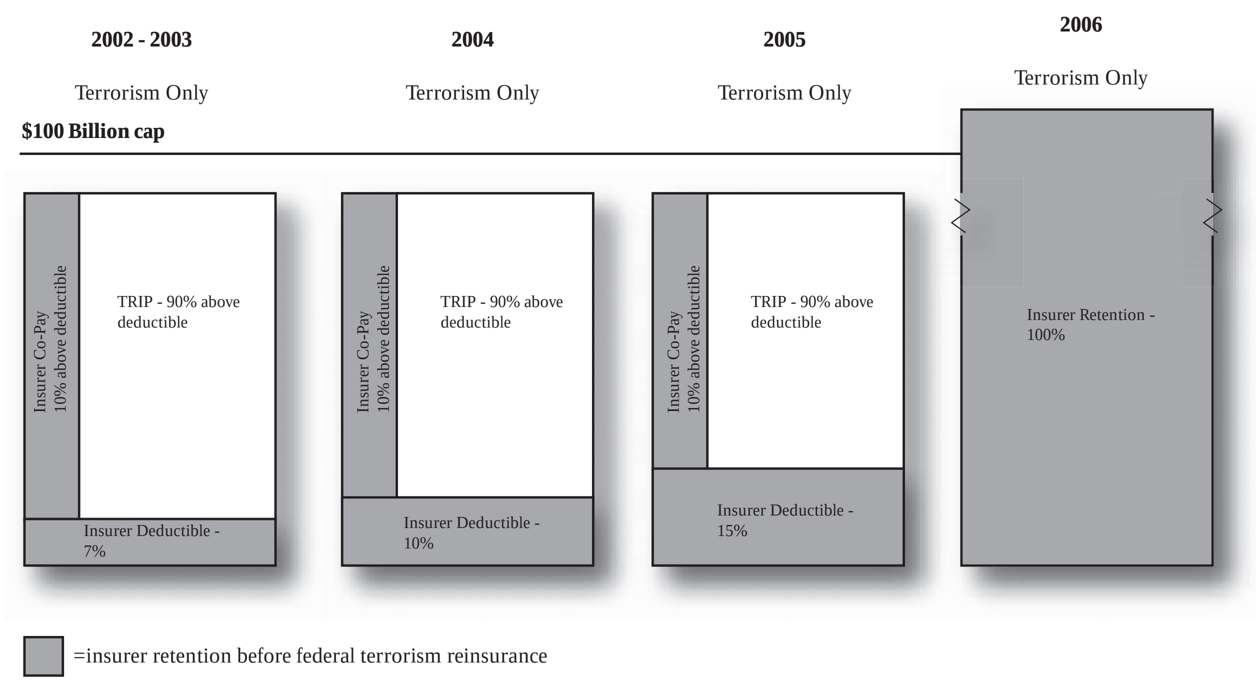
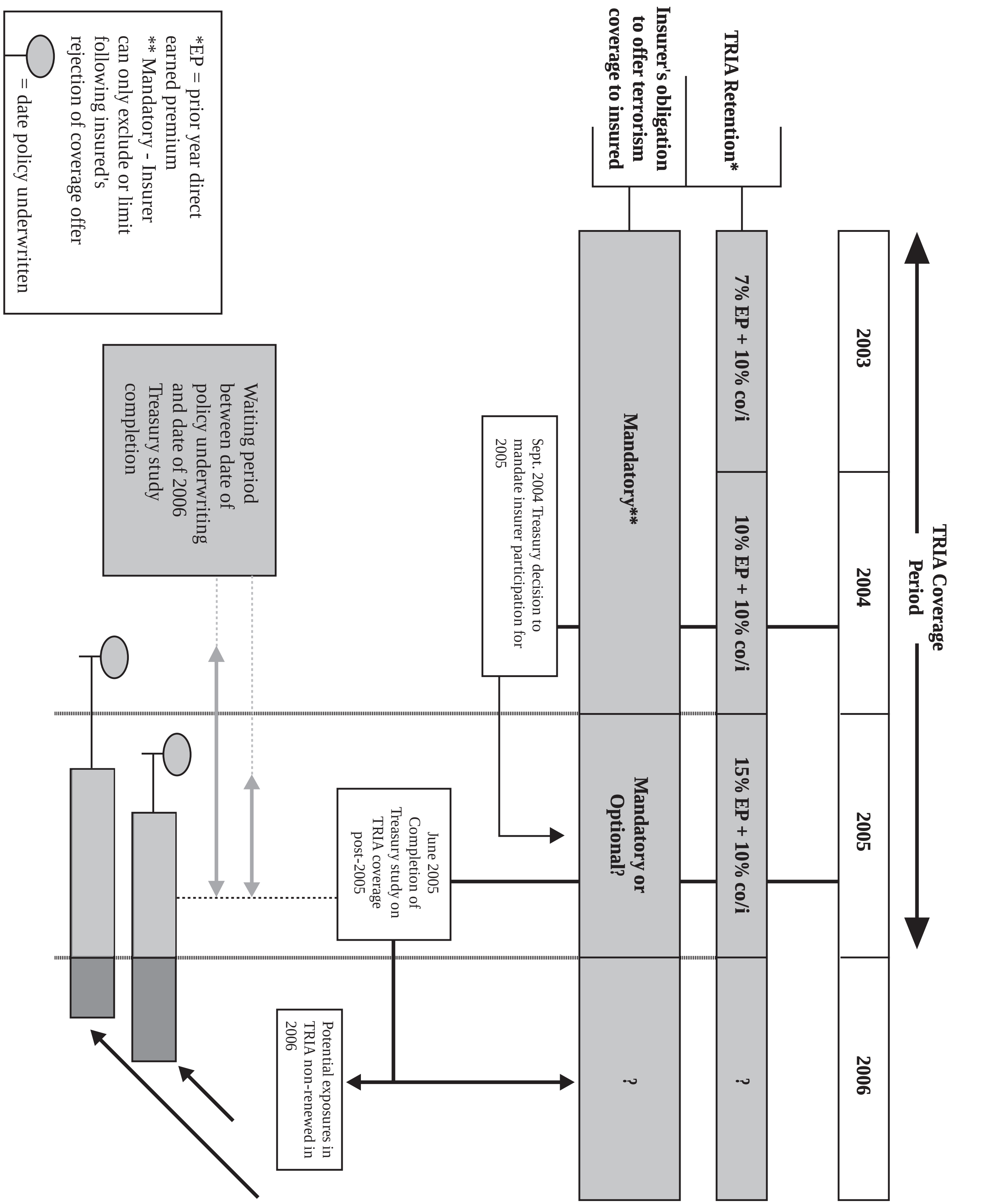


Figure 2.
Terrorism Risk Insurance Program (TRIP)



Post TRIA Issues

The Department of the Treasury will decide by Sept.1, 2004, whether insurer participation in TRIP will be optional or mandatory for 2005. An optional third year could ease the transition to a post-TRIA environment. But insurers and their reinsurers will be responsible for 100 percent of the losses above their deductible instead of the 10 percent for 2005—a nine-fold increase.

The "hard ending" (because TRIA's expiration on a particular date does not coincide with the expiration of individual insurance contracts) of TRIA on Dec. 31, 2005 poses serious operational issues for insurers, apart from the obvious issues relating to marketplace capacity. The decision on extending TRIA will be made sometime after the conclusion of a Treasury study in June 2005, too late for evaluating insurance contracts that will be underwritten in late 2004 and become effective in 2005, with policy periods ending in 2006.

Contracts written in the TRIA environment will continue in force after it ends. The terrorism coverage provided in those contracts incorporated TRIP reinsurance which will no longer exist in the post-TRIA environment without additional federal action (see Fig. 2).

Section 3: Terrorism Risk and the P/C Insurance Market: From 2002 to the Present

P/C insurance is often considered an inherently cyclical industry; as it entered 2002, the P/C insurance market was in the price-firming phase of its underwriting cycle. The tragic events of Sept. 11, 2001 created additional pricing uncertainty and accelerated the price firming. While state statutes mandate certain coverage requirements and restrict options available to insurers writing workers' compensation and fire coverage, there was significant activity in other lines. Insurers attached terrorism exclusions on many commercial policies to reduce this uncertainty, resulting in the migration of the terrorism risk from the insurance/reinsurance sector back onto the business community at large.

These terrorism exclusions became commonplace in 2002. The Insurance Services Office (ISO), which offers advisory and filing services for much of the P/C insurance industry, had filed and secured approval for terrorism exclusions on commercial policies in 45 states by February. Most of the insurance industry began to exclude this coverage using these or their own approved forms. According to a July 18, 2002 Council of Insurance Agents and Brokers (CIAB) press release,[i] "terrorism coverage is scarce." An Oct. 25 release[ii] also noted higher rates, tougher terms and conditions, and lower capacity.

Overall, 2002 was an unstable year for the P/C insurance marketplace. Insurer uncertainties about terrorism coverage as well as the sluggish economy, plus other factors, contributed to the disruption. Premium rate increases and coverage limitations were significant reactions to the marketplace conditions of the time.

For example, surveys by CIAB in 2002 consistently showed that the two-thirds or more of their member brokers who participated in the survey reported average premium rate increases of between 10 percent and 50 percent for their accounts. All sizes of accounts and generally all lines of commercial coverage were affected.

So, with TRIP, 2003 began with a newly defined federal reinsurance backstop in place and a market that had just completed at least two years of price firming. Similar surveys by CIAB in 2003 suggest that the P/C insurance environment was much more stable. While some premium rates continued to increase, the pace of increase slowed. According to CIAB pricing surveys, a majority of the brokers were seeing average premium rate changes of between 0 percent and 20 percent. This was significantly lower than the values noted for 2002. By the fourth quarter of 2003, the small accounts were averaging increases of five percent, medium sized accounts were at six percent and the large accounts were at four percent. In fact, the fourth quarter survey shows that brokers reported average premium rate reductions on 10 percent of the small, 13 percent of the medium and 23 percent of the large accounts.

As discussed in Section 2, TRIP came into effect in 2002 and the federal government offered to reinsure certified terrorism coverage. But according to a CIAB news release of March 24, 2003[iii], 60 percent of the brokers responding to the study said that fewer than 10 percent of their small commercial insurance accounts, and fewer than 20 percent of the medium sized accounts, purchased terrorism coverage; and 48 percent of the brokers reporting said that fewer than one-in-five large accounts purchased terrorism coverage

One reason for the low take-up rate for terrorism coverage may be that the price of coverage is too high for the amount of perceived risk being transferred. For small and medium accounts, the premium rate was about 10 percent of the premium while for large accounts the price was just under 20 percent. Another reason for the low take-up rate for terrorism coverage may be that many accounts, particularly in non-urban areas, do not believe they have terrorism exposure. A continuous build-up of terrorism exposure of those that think they are high-risk on an insurer's portfolio could become problematic. This type of adverse selection may also have affected the pricing (see Section 8).

In 2004, the market may be expected to continue along a path similar to 2003, with modest premium rate fluctuation and a reasonable purchasing environment. However, toward the end of 2004, the first set of policies that expires after the end of TRIP (Dec. 31, 2005), will begin to be underwritten. Will many commercial policyholders continue to demand terrorism coverage and will insurers be willing and able to meet that demand?

The risk from terrorism continues to exist, as demonstrated by the events in Madrid on March 11, 2004. And since the beginning of 2002, the national terror alert system has been elevated from yellow (elevated) to orange (high) several times. According to a 2004 CIAB study, 80 percent of the leading commercial P/C brokers say that TRIA should be extended. If a large terrorism event were to occur before TRIA expires, there would undoubtedly be renewed calls for federal assistance going forward.

Section 4: Reinsurance Marketplace Conditions

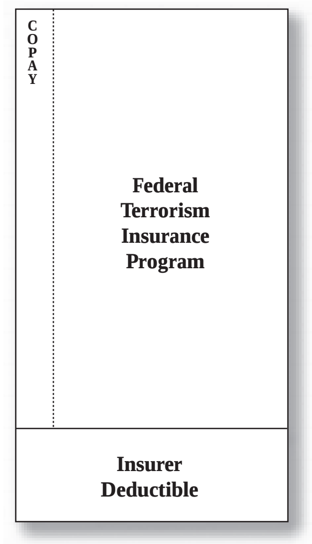
Since the publication of our previous monograph in May 2002, major changes have occurred that have altered the landscape of reinsurance for terrorism events. The two most important milestones have been the November 2002 passage of TRIA (see Section 2) and the further development of probabilistic risk assessment models that address terrorism (See Section 5 for a discussion of these models). By responding to these developments in conjunction with market demand, private reinsurance capacity has evolved and is still evolving. In this section we discuss reinsurance market conditions from the perspective of ceding insurance companies (cedants).

Terrorism Reinsurance From The Cedent's Perspective

By the time TRIA became law, reinsurers had largely excluded terrorism from coverage. Many primary insurers had followed as well, especially in commercial lines, where insurance regulators permitted exclusions. TRIA mandated that terrorism coverage be offered and the government provided insurers with a backstop as discussed in Section 2. One issue was that the amount of coverage retained before federal reinsurance stepped in was calculated as a percentage of insurance company group premium, leading to some anomalies. For example, similar companies who were in larger company groups were treated differently from those that were independent solely because of their parentage. The mandatory offering provision anticipated a potential for higher demand for commercial insurance. The marketplace reality, however, was that the ultimate take-up rate tended to be very low in most places (see discussion of surveys in Section 3).

As cedents contemplated their need for terrorism coverage, they faced two threshold questions. The first was whether to purchase terrorism reinsurance at all. Depending on that answer, the second question was how much should they buy. Reinsurance brokers offered advice on how clients could look at their coverage, providing structures that covered gaps in the TRIP federal backstop. A generalized way in which the federal coverage was laid out is depicted in the chart below, which applies to TRIP eligible lines only.

Terrorism only



Typically, companies have based their reinsurance model on the availability and cost of a stand-alone terrorism reinsurance policy.

- This policy could be an annual aggregate coverage to follow the annual changes in the federal program. With rate increases and the increasing percentage retentions, more and more coverage would need to be reinsured.
- It could also include all perils not covered in traditional contracts. These could include, for instance, noncertified terrorism or nuclear, chemical, or biological perils.
- To eliminate the possibility of double recovery, any federal program recoveries could insure to the benefit of the separate terrorism coverage.
- There could be separate towers of coverage for property or workers' compensation insurance, with the contracts constructed to optimize capacity and price. However, the circumstances could warrant combined coverage to reduce capacity charges.

Cedants found that with the help of the federal program in place, reinsurance capacity for terrorism, while in many cases perceived as expensive, was available. A variety of domestic and international highly rated reinsurers have continued to participate in this emerging market.

Capacity for terrorism reinsurance tended to flow more easily to those companies that had good information on where their exposures were located. As a result of pressure from reinsurers, more companies are now closely underwriting and managing their aggregate exposures. Many are trying to capture more detailed information such as the number of employees by location or payroll by location for workers' compensation insurance.

The reinsurance market has responded to the needs of insurers in conjunction with the federal backstop coverage provided by TRIP. If TRIA were allowed to expire, however, there would be a large gap to fill. Insurer terrorism exposure would increase nine-fold increase above its TRIP deductible.

It is still unclear how well the private markets would fill this gap. Until Sept. 11, 2001, most insurers considered the risk of terrorism to be insignificant. Now, with the ever present threats as witnessed through reminders of varying national warning levels, those who have to take risks are looking for added assurance and peace of mind. Individual risk managers have to assess their tolerance for risk against the added cost. With this uncertainty, these assessments will remain quite challenging.

Section 5: Uncertainty

> "By definition, extreme events are infrequent, possibly unprecedented, unanticipatable as to timing, and generally "unthinkable" in their diverse and far-reaching consequences."
>
> "While advances are being made in the determination of possible extreme terrorist events, the frequency of these events remains unpredictable."

These points, made in our May 2002 monograph, still hold true. Though TRIA has decreased the financial uncertainty, much uncertainty still remains. And if TRIA expires with no replacement, the uncertainty associated with these exposures will revert back to reinsurers, insurers, or ultimately policyholders.

Capital markets require greater returns on business with higher risk. The biggest contribution of TRIP may not be its impact on average retained losses, but rather its reduction of uncertainty. This in turn leads to a reduction in the capital needed to provide terrorism insurance.

Like any legislation dealing with complex issues, TRIA does not provide sufficient detail to cover every possible situation. Varying coverages and differences by lines of business give rise to many different possibilities. Some have been addressed in interim Treasury guidelines, but most would not be addressed until payments become necessary under TRIP.

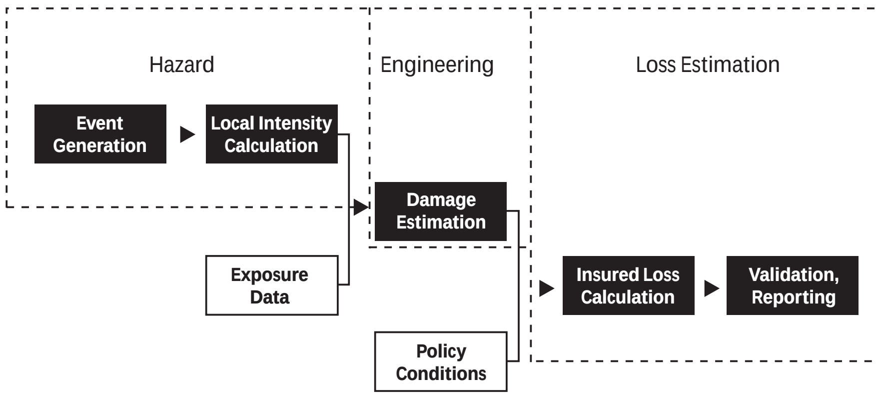
Reduced Uncertainty in Terrorism Exposure Estimation

Catastrophe modelers have refined their terrorism models since introduction of the models and are better able to help insurers assess exposure both at individual locations and for aggregations of exposures. But the models are two years old compared to property models for catastrophe exposures which have been around and have been used and tested over a 15-year period. The engineering sciences have built a large body of data relating to building damage and to peril intensity. As a result, the problem of understanding the severity of building damage given a certain type of terrorist attack is based on existing techniques that are carried over to terrorism models. While uncertainty is still substantial, having a distribution of possible outcomes allows use of statistical techniques that allow insurers to understand the exposure and the required capacity to insure it.

However, many aspects of terrorism risks remain unknown, and may not be quantifiable in the foreseeable future. Although progress has been made on quantifying the potential costs of defined types of attack on locations with specified characteristics, the probabilities associated with occurrence of an attack remain judgmental.

Probabilistic Models

Following the events of Sept. 11, 2001, the insurance industry turned to the catastrophe modeling firms, with their probabilistic models for natural disasters such as hurricanes and earthquakes, to develop similar risk assessment tools for terrorism events. The firms were able to extend the catastrophe modeling framework illustrated below to the terrorism event modeling challenge.



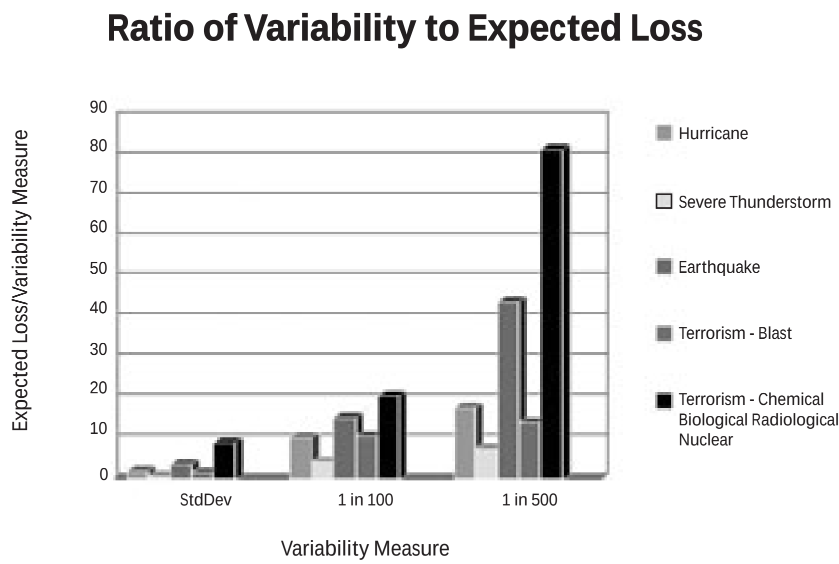
Source: AIR Worldwide

The major challenge in assessing the risk of terrorism is that the losses are based on acts of deliberate destruction rather than on acts of nature that can be measured scientifically. The models had to address the following questions relative to acts of terrorism:

- How frequently are they likely to occur?
- Where are future terrorist attacks likely to occur?
- How big are they likely to be?

Rather than relying on vast statistical records and the understanding of meteorological or geologic science, designers of terrorism event models must rely on the intellectual capital of experts who have studied the motivation and behavior of terrorists to develop the model's frequency and severity assumptions. Such assessment includes an understanding of who the groups are, their objectives, their finances, their history, and the effect of counter measures. Locale of attack and type of attack weapon are postulated based on the expertise resulting in probabilistic estimates of severity and frequency by location. For the damageability relationships, modeling firms are able to incorporate the results of experimental and analytical studies from the defense and engineering industries' research of how different building types respond to such assaults, as well as historical data from actual events.

Logically, one would expect that the uncertainty inherent in postulating human behavior can be much greater than in natural perils. No natural peril model will predict with any certainty precisely when an event will occur. Unlike earthquakes and other natural disasters, whose occurrence has a physical basis that can be understood scientifically, terrorist attacks are a function of the malicious intent of groups of individuals of varying size and with varying agendas. The uncertainty surrounding the frequency, location, and severity of future terrorist activity is therefore much higher than for natural catastrophes as illustrat-



Source: AIR Worldwide Corporation

https://www.actuary.org/pdf/casualty/tria_may04.pdf (retrieved 9 April 2016)

ed below.

Progress has also been made in extending these models to lines that involve bodily injury, such as workers' compensation. Refinements already implemented include: appropriate representation of deductibles and limits, time of occurrence, as well as other relevant coverage issues. These are huge improvements over not having models at all and further improvements are likely to be developed.

The key here is how a risk bearer will perceive any model as adequately representing the transferable risk. That is a decision made by capital providers, backed up by the analysis of insurance regulators and rating agencies. Having a framework for making these decisions is just a start, for natural perils as it is for human behavior perils. Proven risk-management techniques would suggest beginning with the most thorough risk assessment possible. Decisions in the terrorism market are being made, to some extent, based on these models as a starting point, with a rightful degree of skepticism added for good measure.

Given the difficulty of assessing frequency, methods that use models for severity only have evolved. By reviewing damage scenarios from the terrorism models, a maximum probable loss (MPL) is developed. The MPL is then funded over a funding period based on both threat levels and practical considerations relating to revenue generation.

Section 6: Primary Insurance Coverage Issues

The primary insurance agreements for workers' compensation, general liability, property, auto, and other affected lines of insurance are not as easily amended as the reinsurance contracts. Workers' compensation insurance and parts of the property policy are woven into state law. Primary insurers for all these lines of insurance are subject to state insurance regulation.

Workers' compensation insurance policies include no exclusions (even for war.) The benefits provided do not have a maximum. Property and the other lines typically have a maximum per policy, but even so, they are exposed to potentially enormous large-scale losses.

Workers' compensation insurance has relatively little policy variation, since it is directly tied to state statutes. By contrast, property and liability insurance coverage has considerable variation from company to company. Recognizing the variations cited above, this brief summary intends to portray policy coverage before Sept. 11, 2001, changes as a result of Sept. 11, and the impact on terrorism coverage. Immediately following is a brief summary of TRIP coverage issues and a brief discussion of coverage issues if TRIA expires without replacement.

Workers' Compensation Insurance

Coverage

Workers' compensation insurance provides wage replacement and unlimited medical benefits to workers injured in the course of their employment. When a covered employee dies, it provides a death benefit to the surviving spouse and children. These benefits are specific to state laws and are tied to the employee's level of earnings. Workers' compensation insurance also covers employers against some types of liability that allow employees to pursue actions against their employer. That coverage is subject to a limit.

Exclusions

Workers' compensation insurance has no exclusions for either war or terrorism.

Terrorism Exposure

The statutory nature of this coverage makes it impossible for the company to alter its contract to exclude terrorism. It therefore exposes the issuing company to a large potential loss when the insured has a significant number of employees at a single location. For example, even a modest-sized insured with 200 employees could easily generate a terrorism related event of $50 million. This presumes death of all employees and a typical death benefit of $250,000 per employee.

Reinsurance is really the only effective mechanism workers' compensation carriers have for transferring such catastrophic loss potential. However, reinsurers don't have the statutory obligations on coverage terms, and terrorism exclusions are possible on workers' compensation reinsurance. The issues surrounding workers'compensation reinsurance availability are similar to those in other lines.

To the extent that reinsurers exclude terrorism and that primary insurance includes it, insurers will likely be constrained as to the amount and kind of exposure they can put on company books.

Property Insurance

Coverage

Property policies cover damage to the building, its contents, and in some cases the interruption of business caused by a covered event. There are standard fire policy requirements, by statute or regulation, in 29 states, but seven states have amended them to exclude terrorism. As a result, standard fire policy coverage contains a mandated minimum terrorism coverage in approximately 22 states. Thus, fires following terrorism events would be covered by law even if a terrorism exclusion were attached to the policy.

Exclusions

There are numerous types of property policies in the P/C insurance industry; most of them exclude war. Whenever any action comes within the terms of this exclusion and involves nuclear reaction/radiation or radioactive contamination, this war and military action exclusion supersedes the nuclear hazard exclusion.

In the wake of Sept. 11, 2001, ISO filed optional endorsements to exclude terrorism events resulting in aggregate insurance industry losses over $25 million (See Section 2). The $25 million threshold did not apply to biological-chemical incidents, which were excluded regardless of the size of the event. Nuclear events remained excluded by the policy's war exclusion or nuclear hazard exclusion. The ISO filings were approved in most states, but California, Florida, Georgia, New York, and Texas did not grant approval.

Terrorism Exposure

The property insurance industry, as shown by the World Trade Center loss, is vulnerable to attacks against high-valued structures. That event caused underwriters to revalue their probable maximum loss assessments of a building if coverage for terrorism is provided.

Insurers and their reinsurers now consider not only the property they are writing at the moment, but also structures within a radius of that property. That consideration of geographic concentration restricts the coverage provided in a geographic area. Pricing, reinsurance, and risk sharing are more intrinsic to the property insurance industry, but even so, availability may be an issue on certain structures and in certain areas as discussed earlier.

Liability Insurance

Coverage

Policies for general, auto, and umbrella liability indemnify the policyholder for amounts up to a stated policy limit. In the case of primary coverage, legal defense costs are generally unlimited. Depending on the theory of liability alleged in connection with terrorist attacks against the policyholder, claims could be filed against the insured.

Exclusion

General liability insurance and auto standard insurance industry forms cover bodily injury and property damage with exclusions for war, limited to assumed liability. Standard language is "bodily injury" or "property damage" due to war, whether or not declared, or any act or condition incident to war. War includes civil war, insurrection, rebellion, or revolution. This exclusion applies only to liability assumed under a contract or agreement.

The second paragraph above under property exclusions, endorsements, and state filing activity applies to liability insurance as well. In addition, ISO has implemented a war exclusion that applies to all liability insurance coverages.

Terrorism Exposure

The effect of terrorism on this type of coverage is less clear than it is for property and workers' compensation insurance. Nonetheless, it is possible to envision scenarios in which a policyholder's action or a failure of the policyholder's product during a terrorist act, could result in large losses to an insurer(s)

Insurance industry organizations and individual insurers may develop additional exclusionary language for both war and terrorism. This additional language would require the approval of state insurance regulators.

TRIP and Primary Coverage Issues

In response to TRIA, ISO filed a set of endorsements to replace the original post-Sept. 11, 2001 set. The new endorsements provide the following: a certified acts exclusion for the rejection scenario; a cap on liability for certified-acts coverage in the acceptance scenario (reflecting a cap in the federal statute relating to aggregate losses); optional exclusions for non-certified acts of terrorism (so-called domestic terrorism); optional exclusions of both certified and non-certified acts for the situation where certified coverage has been rejected; and endorsements enabling terrorism to be written at a sub-limit upon negotiation with the insured following rejection of certified-acts coverage. Variation of these endorsements limits the exclusions to the nuclear-biological-chemical (NBC) terrorism risk. The so-called TRIA endorsements relating to certified acts were approved by all of the states. The endorsements relating to domestic terrorism and a combination of certified/domestic terrorism were not approved in Florida, Georgia, New York, and Texas.

Post TRIA Coverage Issues

Contracts written in the TRIA environment will continue in force after it expires on Dec. 31, 2005. Endorsements that complement TRIP (federal certification of a foreign act of terrorism implied distinction between foreign and domestic acts) will not be relevant in the post-TRIA environment. ISO is in the process of developing endorsements for the transition period, but the uncertainties inherent in the timeline cannot fully be addressed through the implementation of such updated products.

In the uncertainty of the present climate, the so-called "conditional" endorsements would enable insurers to implement their underwriting decisions for policies with terms that extend into the post-TRIA time period. The conditional endorsements are designed to be placed on policies that become effective beginning Jan. 1, 2005, without other terrorism endorsements or along with the current TRIA-based endorsements. Thus, coverage at the beginning of the policy period would reflect coverage (or exclusions or limitations) under TRIA. The conditional endorsement on a policy would not come into play unless the federal program terminates or is renewed with certain changes.

The conditional endorsements circumscribe terrorism in pre-TRIA terms, with a $25 million threshold (on events other than NBC events) and a definition with no distinction between certified and other acts. There are three versions of the conditional endorsements: exclusion of conventional and NBC terrorism; exclusion of NBC terrorism; sub-limit on terrorism when an incident exceeds the $25 million threshold, provided the terrorism is otherwise covered. Underlying policy exclusions (war and nuclear hazard, for example) remain intact under all versions of the conditional endorsements.

The conditional endorsements, like today's terrorism endorsements, are optional. If an insurer decides to cover terrorism on a policy in the post-TRIA environment, that coverage could be provided by omitting a terrorism exclusion or limitation endorsement. In that case, underlying policy provisions (including war and nuclear hazard exclusions) would govern coverage. The following conditions trigger applicability of the provisions of the conditional endorsements:

- If the federal program terminates;
- If TRIA is extended without the make-available requirement *and* terrorism is redefined under the extended program or terrorism insurance coverage becomes subject to provisions or requirements that differ from those that apply to other events or occurrences; or
- If TRIA is extended without the make-available requirement *and* the backstop provisions (retention, federal share in losses) are less favorable to insurers (for example, higher insurer retention percentage)

Section 7: Growth in Industry Surplus and Exposures

The U.S. P/C industry's surplus stood at $347 billion at year-end 2003. Although up 21.6 percent from $285.4 billion at year-end 2002, the industry's surplus is only 4 percent higher than the $334 billion at year-end 1999. While insured World Trade Center (WTC) losses are ultimately expected to tally $25 billion to $35 billion on a direct basis, ISO has estimated that only about $9 billion of WTC losses were included in U.S. insurers' financial results through 2003. Some of the differences from the total insured estimate are due to non-U.S. reinsurance and the continuing uncertainty in the numbers, even after two years.

Since Sept. 11, 2001, the industry has experienced growth in net written premiums due to price and exposure growth (2002 over 2001 growth was 14.3 percent and 2003 over 2002 growth was 9.8 percent). This small increase in surplus since 1999, coupled with the growth in exposures over the same period, suggested that the insurance industry has not yet developed the capacity to underwrite large increases in terrorism exposure.

Section 8: Potential for Adverse Selection

Private insurance mechanisms have proven to be effective means of risk transfer for many of the hazards faced by individuals, businesses and governments. Insurance approaches are effective in situations where:

- Adequate credible data exists to project future risk transfer costs;
- Insurers are able to earn an adequate return on capital invested;
- Risks are spread across homogeneous classifications;
- Adverse selection by insured policyholders is minimal.

Other sections of this monograph describe issues associated with the first three of these conditions; this section describes the potential for adverse selection in underwriting terrorism insurance.

Adverse selection occurs when purchasers of insurance have greater knowledge of their exposure to loss than the insurance company underwriters and the policyholders then utilize their greater knowledge to "select against" the insurer's underwriting and pricing schedules. For example, people who live closer to earthquake fault lines are more likely to purchase earthquake insurance.

The consequence of adverse selection is that insureds who have a higher probability of loss than that covered by the insurance premium will tend to buy insurance coverage to a greater extent than those who have a lower probability of loss. The insurer is then unlikely to achieve the targeted rate of return projected by its underwriting/pricing strategy. Another option would be to raise premiums to a level high enough to reflect the likely degree of adverse selection. While all insurance programs are subject to a degree of adverse selection, insurers have also developed underwriting methods to counteract its impact. For example, adverse selection is a critical concern for life and health insurers but its impact is controlled through medical exam requirements.

Adverse selection could possibly arise in TRIA's current terrorism insurance underwriting and pricing approaches. Under TRIA, it is mandatory that terrorism coverage be provided in P/C insurance policies covering U.S. exposures. In return, insurers are protected against catastrophic loss by the federal government. Insureds, on the other hand, upon receipt of a premium quote for terrorism coverage, have the *option* to either purchase or decline the coverage. The mandatory offer/optional purchase nature of current TRIA coverage could cause greater adverse selection when compared to an optional offer/optional purchase approach, which is the usual nature of private insurance transactions.

The first two years of TRIP coverage provide some evidence that adverse selection may be occurring. A substantial majority of policyholders, estimated to be over 80 percent, are electing to decline TRIP coverage while the policyholders who have elected to purchase terrorism coverage are much more likely to be located in the downtown areas of major cities. This could indicate that insurers' initial prices for terrorism coverage may be too high in non-urban areas and too low for major urban centers. In addition, regulators in New York and Washington, D.C. approved premium rates that were lower than proposed in urban areas.

Less than 10 percent of small businesses and 20 percent of midsize companies have purchased terrorism coverage, according to a March 2003 survey by the CIAB .[iv] Only large, high-profile companies or properties are taking it up.[v]

Though there has been some interest in such insurance in major cities like New York, Washington, and Chicago, commercial property owners are not buying the coverage at the pace originally envisioned by lawmakers when they passed TRIA. Since the passage of TRIA, carriers and brokers have indicated that actual purchases of terrorism coverage nationally have been low, usually driven by lending requirements or the profile of a property. The take-up rate (the number of policyholders who agree to buy the coverage) has been about 15 percent nationally, with the concentration mostly at high-profile properties in so-called Tier One (high risk) cities such as New York, Washington, Chicago, Los Angeles, and San Francisco.[vi]

One broker in the New York area said the take-up rate is about 50 percent for clients with properties valued at more than $50 million. Between $15 million and $50 million, property owners are buying the coverage about 40 percent to 50 percent of the time. The rate is only about 15 percent among clients with properties valued at less than $15 million.[vii]

Whether these take-up rates are evidence of adverse selection is unknown. Given the uncertainties of insurers' initial pricing assumptions and classification schemes, and the randomness of terrorist acts, it would be difficult to conclude that there is adverse selection by individual policyholders who have better knowledge of their expected loss costs than insurers. It is also suggested that another impetus for take-up only by high-value, high-profile owners is their mortgage loan covenant requirements.[viii]

If terrorism insurance evolves into a product that is purchased almost exclusively by a few owners of high-valued, high profile buildings in our major cities, it will make it additionally difficult for insurers to provide terrorism insurance coverage in the post-TRIA environment. It is likely that pricing and underwriting adjustments would be necessary for insurers to manage their terrorism exposures in this scenario because their original assumptions for pricing, spread of risk, and classification structure would need to be revisited.

In today's TRIA environment, the risks are shared between insurers and the government, with the catastrophic exposures and risks of inadequate pricing underwritten largely by the government. In a future post-TRIA environment, the issues of adequate pricing, adverse selection, and the sharing of risk among the wider community over an extended period will be paramount in making terrorism an insurable risk for the world's private insurance industry. If nothing else, insurers will be faced with retaining more risk or paying more for reinsurance than under TRIA.

Section 9: Pros and Cons to TRIP renewal, Variations to TRIP and Alternatives

Representatives from the insurance industry, the real estate industry, and others have asked Congress to consider renewal of TRIA or replacements to TRIP. The following is a brief discussion of the pros and cons of renewing TRIP and TRIA "as is" or letting it expire.

TRIA Renewed "as is"

Deductibles are frozen at the 2005 (third year) levels.

Pros:

- Minimal change and disruption for everyone involved (policyholders, insurers, Congress, Treasury).
- Current reinsurance capacity for certified terrorism risks stays in place.
- Current market stability is retained.

Cons:

- Insurer deductible remains at 15 percent of prior year's direct earned premium. It is unclear that this provides sufficient protection from impairment an insurer's ongoing operations or even insolvency.
- Does not provide for potential improvements to the program.

TRIA expires without alternatives

Pros:

- Reduces federal government involvement in insurance.
- Forces development of alternative solutions.

Cons:

- Although limited coverage is available, insurance industry may be unwilling or unable to provide broad based coverage to all who want it.
- Might return market to pre-TRIP conditions where availability and affordability were limited.
- Currently all workers' compensation insurance policies cover terrorism risk (and are required to cover it by state law). Without a federal backstop and without opportunities to manage the exposure through limits and exclusions, availability of workers' compensation insurance will suffer.
- Increased overall insurance market uncertainty may cause concern in the financial markets.

Alternatives to TRIA

Various stakeholders have also considered and examined alternatives to TRIP extension "as is" or letting it expire. Other countries have developed systems that address the uncertainty of terrorism risk in other manners, such as pools. Stakeholders have discussed the applicability of using these alternatives as well as others conceived solely to work within the U.S. insurance system. These alternatives, and other considerations are detailed in Appendix A, TRIP alternatives. These three prominent sources are a sample but not an exhaustive list.

Section 10: Personal Lines Terrorism Considerations

Exposures

Personal insurance policies cover smaller exposures than commercial insurance policies and, as a result, provide a broader spread of risk. Representative personal lines exposures include single- and multiple-family homes, rental units, condominiums, mobile homes, farms, automobiles, boats, motorcycles and other recreational vehicles, jewelry and other valuable articles, and personal umbrella policies.

Even with this broad spread of risk, there are concentrations of personal lines exposure to terrorist attack in major cities and along both coasts. . Resulting damage could be similar to that experienced in large hurricanes (Hurricane Andrew in 1992) and earthquakes (the Northridge earthquake in 1994). Also, there are concentrations of exposure surrounding potential terrorist targets, such as nuclear power plants, dams, bridges, and drinking water reservoirs.

Many personal lines carriers rely on reinsurance to provide a financial backstop for catastrophic events. However, many reinsurance companies have revised their contracts to exclude terrorism events and, as noted earlier, TRIP does not provide a backstop for personal lines losses. This leaves many carriers with no support in the case of a terrorism catastrophe.

One might assume that carriers can avoid this exposure either by adding a terrorism exclusion to their polices or by invoking existing exclusions. But a number of state insurance regulators have taken a hard stance against terrorism exclusions, particularly for personal lines. And it is uncertain just how the courts would treat existing exclusions in the event of a terrorist attack. For example, most policies contain a nuclear exclusion, but fire following a nuclear explosion might be covered under the specified peril of fire if courts find that fire is the proximate cause of damage rather than the nuclear explosion. Other exclusions that will face uncertain court interpretation include the mold exclusion (when damage is caused by a bacterial weapon), the toxic exclusion (when damage is caused by a biological or chemical weapon), and the war exclusion (when damage is caused by a terrorist group with links to a sovereign country). The regulators' position toward terrorism exclusions, together with the uncertain applicability of existing exclusions to terrorist events, leaves carriers with no clear way to avoid terrorism exposure.

Claims Considerations

Personal lines companies face a major source of uncertainty as they attempt to quantify losses that could arise from a terrorist event. The new terrorism models noted earlier use terrorism experts to help hypothesize probable damage severity and frequency of events executed by both foreign and domestic terrorist groups. Determining damage is difficult enough, but interpreting the personal lines insurance coverage and relevant impact of exclusions adds an extra dimension of uncertainty. This highlights a loss exposure for personal lines companies that had not been recognized before Sept. 11, 2001.

Other open questions include how much additional living expense (ALE) and how much loss adjustment expense (LAE) would be needed for personal lines risks under the policy language, adding to the personal lines loss exposure. In the event of a biological or chemical attack or a radiological dirty bomb detonated by a conventional weapon, contamination could extend over a significant area. The government would likely quarantine the entire area. Personal lines carriers could be found liable for their insureds' ALE, even if there was no damage to physical structures. It would be very difficult for personal lines companies to know how long it would be before anyone could be allowed into the contaminated area after clean-up. Recent hurricane evacuations have resulted in pressure by state insurance regulators on personal lines insurers to pay ALE to insureds even though no covered peril actually damaged their homes. Such a loss of use could be quite expensive and would be difficult to estimate in advance.

Another concern is the cost of decontamination when it is practical and the loss of personal goods when it is not. Considering that the cost of the Washington, D.C., Brentwood Post Office clean-up caused by anthrax contamination amounted to many times the actual value of the building, it is likely that many homes and personal possessions could become total losses. The government might choose to decontaminate only public infrastructure, critical facilities, and government buildings and structures. Homeowners would then look to their personal lines insurers for assistance in decontaminating their homes and possessions. The expense could be very high, possibly including the cost of expensive sensing and testing equipment, the involvement of experts, and the use of expensive lab tests before, during, and after the clean-up. Personal lines companies have little experience with this sort of disaster response and recovery. The federal government, through its Federal Emergency Management Agency (FEMA), its connection to state emergency management agencies, and its ability to mobilize military and civilian experts and coordinate volunteer groups, could play a crucial role in the recovery from such far-reaching disasters.

Though this discussion has focused on exposure to loss from foreign or domestic terrorism, it is possible for natural and manmade disasters to combine within any given year. A prudent insurer must manage its portfolio of risks so that it can meet its obligations. This is especially true for those risks that could cause a significant reduction of surplus without sufficient time to recoup before the next large event or events. Losses from foreign or domestic terrorist attacks in a concentrated area and at the wrong time could be disastrous for many personal lines companies.

Personal lines carriers must face terrorism exposure with little support from the reinsurance community, no support from TRIP, limited and uncertain ability to limit the exposure through policy exclusions, uncertain ability to quantify potential losses, and limited expertise in the sort of disaster recovery likely to be required after a terrorist attack. In addition, the size of the terrorism exposure, especially when viewed together with traditional catastrophe exposures, could threaten the solvency of many personal lines carriers. Should TRIA or an alternative to TRIA be considered, personal lines insurers may have a strong interest in the discussion and outcomes.

Section 11, Conclusion: Can the Insurance Industry Provide the Needed Terrorism Coverage on its Own?

The U.S. insurance industry plays an essential role in the domestic economy through the assumption of risk from companies and individuals purchasing insurance to reduce uncertainty. Insurance companies achieve this risk transfer into their sector through the pooling of risk among policyholders and lines of business, or by geography or time. Risks that can't be quantified or diversified, increase the chance of insolvency for both individual insurers and the industry as a whole.

Despite the advances in analytical tools (see Section 5), it remains difficult to quantify the loss from an extreme terrorist attack, making it equally difficult to successfully understand and pool the risk. This issue is exacerbated by the terrorist's ability to devise new types of attacks that maximize both damage and casualties and their own chance of a successful attack.

Second, the perceived concentration of extreme terrorism risk in major urban areas also makes it harder for an insurer to diversify the risk. Coverage under lines such as workers' compensation is mandatory, which also places restrictions on risk diversification. Typically, when the insurance industry cannot diversify nor retain risk by itself, the industry relies upon the reinsurance market to hedge and transfer its risk. But in the wake of the TRIA enactment in 2002, a vibrant and viable reinsurance market for terrorism coverage has yet to develop which is a powerful indicator of the quantification and risk management issues around terrorism.

Third, the latest estimate from ISO for insured property loss from the Sept. 11, 2001 attacks is $18.8 billion from a total insured loss of between $25 billion and $30 billion which has highlighted the potential for extreme aggregation of losses across multiple lines of business. The cost to commercial lines of a future extreme terrorist attack ranges from $50 billion to $100 billion, compared with industry surplus at year-end 2003 of $347 billion across all lines. The insurance industry therefore has systemic balance sheet risk arising from an extreme terrorist attack, the financial consequences of which could cause widespread insolvency.

Fourth, the industry needs to overcome legal, regulatory, financial, and actuarial hurdles in creating a new mechanism to manage the risk.

For the reasons highlighted above, the insurance industry is not in the position of being able to play its usual risk management role in the economy. Furthermore, in a non-TRIA environment, the industry's exposures will increase significantly. It is likely that a long-term successful solution to the problem of terrorism coverage in the U.S. economy in general will require the partnership of the insurance sector with other sectors and / or including government.

In the past, federal government has recognized the inability of the private sector to insure certain types of risk and has set-up programs to offer coverage for risks as diverse as crop, flood, nuclear, and investor's deposits. Following both Hurricane Iniki (1992) and the Northridge earthquake (1994), programs were formed afterwards by Hawaii (Hawaii Hurricane Relief Fund) and California (California Earthquake Authority) to respond to the resulting lack of insurance. These programs were characterized by public-private partnerships, in particular with the reinsurance and capital markets, and a defined strategy that shifted capacity to the private sector over time.

Endnotes

[1]"Council Releases 2nd Quarter 2002 Market Index." Council of Insurance Agents and Brokers. July 18, 2002. http://www.ciab.com/Template.cfm?Section=20022&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=21&ContentID=751

[2]"Commercial Insurance Market Index Released." Council of Insurance Agents and Brokers. October 25, 2002. http://www.ciab.com/Template.cfm?Section=20022&CONTENTID=1074&TEMPLATE=/ContentManagement/ContentDisplay.cfm

[3]Ibid.

[4]"Many Commercial Interests Are Not Buying Terrorism Insurance, New CIAB Survey Shows." Council of Insurance Agents and Brokers. March 24, 2003. http://www.ciab.com/Template.cfm?Section=20036&CONTENTID=548&TEMPLATE=/ContentManagement/ContentDisplay.cfm

[5]"Many Firms Shun Federal Terrorism Insurance; Costly, Limited Coverage Sends Them Elsewhere." Christine Dugas, USA Today. April 2, 2003.

[6]Dow Jones News Service, Chad Bray. June 17, 2003.

[7]Damian Testa, President of Kaye Insurance Associates

[8]Aaron Davis, VP of Aon Risk Services—Property Syndication

Appendix A.1

Property/Casualty Insurers Association of America

Examination of Alternatives to TRIA and Programs in Other Countries

PCI Property Casualty Insurers Association of America
Shaping the Future of American Insurance

Examination of Alternatives to TRIA and Programs in Other Countries

The majority of the information below was excerpted from materials developed by Dave Anderson and others at the Alliance and is presented as background information.

Since the enactment of TRIA, there have been attempts, some reasonably successful, at creating yet other mechanisms for covering the economic losses associated with terrorism. The purpose here is to provide the highlights associated with these alternatives or supplements to TRIA. This material will also provide some insights as to how some current mechanisms, namely guaranty funds and residual markets may play in this regard.

Alternatives to TRIA

Workers' compensation Voluntary Terrorism Pool Proposal

A small group of insurers have been working over the past year to explore the feasibility of creating a voluntary pool to cover terrorism exposure as a supplement to the federal Terrorism Risk Insurance Act (TRIA). Both the NAII and the Alliance have been involved in this project, monitoring its progress and participating in discussions about various aspects of the proposal. The project also includes participation by the AIA, the NCCI, and about a dozen individual insurers. All funding for this project has come from the participating insurers themselves, not from any of the trade groups.

The project has been entirely conceptual, intended to identify issues which would be involved in creating a pool and to consider the feasibility of the idea. Some of those involved in the project have also viewed a feasibility study as a necessary precursor to any Congressional action to renew or extend the coverage provided by TRIA, given Congress' desire that private markets be relied upon wherever possible to provide terrorism insurance and reinsurance coverage. In this view, the industry must demonstrate a "good faith" effort in exploring such private market solutions before the Congress will consider extending TRIA.

The premise underlying this project was a view that industry currently lacks adequate mechanisms to cover catastrophic workers' compensation losses tied to a terrorism-related event that would not be reinsured by the federal government under the federal TRIA. While TRIA represents a critical legislative safeguard for insurers, there are significant limitations in it for workers' compensation writers, including; TRIA sunsets/disappears in three years, coverage under the program is limited to terrorism events resulting from international forces, not domestic-inspired terrorism events, company retentions – 7%, 10% and 15% of direct earned all-lines premium (adjusted for residual market pool premium) – can be significant and may be higher than individual companies' target risk tolerance, exclusions for coverage or caps upon coverage in workers' compensation are not allowed generally under state law, and although increasingly available, coverage from private reinsurers provides an incomplete and expensive solution.

Tillinghast was retained by a group of insurers to facilitate a study of the issues likely to be involved in creating a voluntary terrorism pool for workers' compensation. Goals for such a pool were established by the project funders as including: (1) to mutualize the extreme event risk across the insurance industry (or more broadly) to maximize the effective use of industrywide capacity and minimize risk of insolvency or ruin; (2) to provide a tangible measure of terrorism cost; and (3) to create a mechanism by which a "solution" could be established quickly.

In addition, the project has sought to incorporate several design considerations, including: (1) to provide a cost-effective, equitable and competitively neutral mechanism for managing this risk; (2) to create a mechanism that can serve as a "window" or complement to any proposed ongoing federal backstop program for the most extreme events; (3) to provide a tax-efficient mechanism to build up a fund over time to pay for terrorism losses when they eventually occur; (4) to retain incentives for individual companies to manage risk appropriately; and (5) to keep the data requirements and administrative aspects of the program simple.

Tillinghast is about to release its final report on the efforts of this group. The draft paper makes a very good case for the fact that a voluntary pool will <u>not</u> generate sufficient funds to cover large workers compensation terrorism losses when TRIA expires.

<u>Aviation Pools</u>

Less than two weeks after 9/11, a private sector scheme covering "war third party liability" for bodily injury and property damage was created and launched. This new voluntary facility, commonly referred to as the AIG scheme, provides two layers of protection in excess of a USD 50 million primary. The first layer of USD 150 million in excess of USD 50 million offers an unlimited events cover with a proviso to attack from ground up in case of exhaustion or cancellation of the underlying primary. The second layer extending cover for up to USD 850 million in the annual aggregate in excess of USD 150 million brings the total limit under the scheme to USD 1 billion for third party war liabilities. Under this layer, policy limits can be tailor-made in slices of USD 100 million. The overall limit of USD 1 billion meets all current requirements by state authorities, airport operators, and finance/leasing companies.

In May 2002, a second voluntary market feasibility led by the Alliance Group was created to assuage criticism of the aviation industry operating a monopoly. This scheme offers cover in one layer in excess of a USD 50 million primary and carries a limit of USD 1 billion. There is no limit per individual policy. However there is an aggregate limit of 4 master events (i.e., a maximum of USD 4 billion during the 12-month contractual period of the scheme).

Government financially supported programs to assist the airlines in this regard have pretty much expired.

A third scheme is the International Civil Aviation Organization backed GLOBALTIME. It attempts to create equal rights of access with USD 1 billion limit per event with a quota share government reinsurance reduction from 80% in the first year to 45% in the third year.

<u>Nuclear Pools</u>

The nuclear insurance pools were formed in the 1950's to address the desire of Congress and the federal government that insurers provide substantive coverage to the newly formed nuclear power industry. The coverage provided includes protection against a terrorist attack upon an insured nuclear power facility.

The first layer of third party liability coverage is mandated by the Price-Anderson Act and is provided by insurers through a voluntary pool in an amount up to $300 million. The second layer of coverage is derived from assessments of most commercial reactor operators. This layer is also mandated by the Price-Anderson Act. Finally, if the first two layers are exhausted, the Price-Anderson Act requires Congress to assess the incident and take whatever action is determined to be necessary to provide full and prompt compensation to the public. It was this provision of Price-

Property Casualty Insurers Association of America
Shaping the Future of American Insurance

Anderson that was referred to by the Treasury Department when it first proposed solutions to the terrorism insurance problem on October 15, 2001.

Over the years since its enactment in the 1950's the role of insurers and the government have receded as the nuclear industry's capacity to self-insure has grown.

State Residual Markets

State residual markets are the markets of last resort which many states have for various lines of insurance (e.g., property, workers' compensation, auto, etc.). They take various forms but in the end all insurers, licensed in each state, must write its proportional share of such risks or must be responsible for its share of any deficit such a residual market may have. Typically each state plan, with the exception of NCCI's workers' compensation plan, provides caps on the exposures that it will cover. If a sizeable terrorist incident occurred and there was no TRIA, those plans would be "on the hook" providing coverage up to the maximum cap per risk in the plan, and the plan's number of risk in the plan each with its own cap would likely grow substantially. All companies licensed in a state for the applicable line of insurance would be subject to assessment to meet any shortfall. There are no caps in workers' compensation because state law does not provide for such caps upon each employer/insured. State indemnity benefits are capped for each injured worker, but no cap even like this exists for medical benefits. Caps or exclusions on liability for non-workers compensation insurance might be allowed if TRIA expired, but that cannot be assured. The larger states are much less likely to allow such caps or exclusions.

PCI staff recently discussed the possibility of creating a "national" residual market plan for terrorism coverage. It would contain elements from the National Flood Insurance Program (NFIP), as well as the former federal Urban Riot Reinsurance Program, such as collection of premiums, payment of loses, a "write-your-own" provision, and a federal subsidy, if losses outstripped premiums collected. However, only risks unable to obtain adequate coverage in the private insurance marketplace (either admitted or surplus lines) would be eligible for coverage in the program. Hopefully, such a program could be established utilizing simpler rating and underwriting rules than those of the NFIP. While this would require the establishment of another federal insurance program, it is not without precedent. Eventually, the need for the Urban Riot Reinsurance Program subsided, as these types of losses became less frequent, and the private insurance sector accepted these risks; however, it took considerably longer than three years.

State Guaranty Funds

Every state has a guaranty fund to cover the losses of insurers in a particular line of property/casualty insurance. These funds would pay the claims of policyholders of insolvent insurers, including insurers becoming insolvent due to losses from terrorism. Again, there are caps on the liability of the guaranty fund per policyholder claim filed, as well as exclusions from guaranty fund coverage. Many states have now enacted net worth exclusions to exclude large commercial insureds. Most state guaranty funds do not pay claims under "any insurance provided or guaranteed by government." Those exemptions were drafted to prevent claims from federal riot, crop and flood programs from coming into the guaranty funds upon insolvency of the insurer. If a federal residual market program was established for terrorism losses, these claims could fall under the provision above.

Property Casualty Insurers Association of America

Shaping the Future of American Insurance

Capital Markets

Regretfully, very little information has been found on this source of funding for terrorism losses. Basically, it involves raising money to cover terrorism losses through futures trading of a stock interest. We understand that securitization covering the World Cup Goal Finance Ltd. was the first of its kind covering terrorism risk and in the minds of some could be the sign of things to come for large sporting and non-sporting events. This $260 million transaction was structured by Credit Suisse First Boston to provide for capital markets coverage of revenue lost to organizers in the event of the tournament failing to run to completion. Beyond this, not much else has been written on this subject.

We also understand that the administration is interested in this option as a possible solution for terrorism losses when TRIA sunsets. Securitization programs have been done on a limited basis for individual catastrophes and individual companies. Nothing as large-scale as would be necessary to provide adequate protection for terrorism losses has been attempted (e.g., USD 50 billion or USD 100 billion), and the attractiveness of this type of securities investment may be limited. While it may expand capacity for the insurance industry, these instruments would draw investors away from other market investments (i.e., reducing capacity in other areas) and may have a detrimental effect on the U.S. economy at-large.

Terrorism Exclusions or Liability Caps on Policies

Under TRIA, these can be placed upon most insurance policies at least to a limited extent and provided the state insurance department does not preclude them in some way. The most notable exception is workers' compensation and states having mandated the use of the "standard fire policy."

If TRIA is not extended, insurers and insureds would lose the federal backstop reinsurance as well as the federal preemption over any state restriction will also be lost if TRIA goes away. An effort would have to be made for insurers to be able to exclude or cap terrorism exposures in all property and casualty lines. However, it likely would be a "hard sell" in a number of important insurance markets. In the case of workers' compensation and state standard fire policy laws, an actual change in the law would be needed.

Risk Retention Act Expansion

Another alternative suggested to address terrorism losses would be expansion of the federal Risk Retention Act to allow workers' compensation and property insurance (amongst other commercial lines) to be written in addition to commercial liability. While this may allow risk retention groups or companies to be formed, and provide them with easier entry into the marketplace; once again, it is doubtful that this approach would increase capacity dramatically enough to offset the sunset of TRIA. In the insurance industry, reinsurance capacity is limited, and although risk retention groups do have certain regulatory advantages, they would still be competing for reinsurance protection with standard insurers, and we do not see that these "special" groups would be particularly better at insuring terrorism risk (as the underwriting process would basically remain the same) than those of the admitted or surplus lines markets.

Pre-Funded, Tax-Deferred Catastrophe Reserve

Another method of accumulating reserves, that has been introduced but not passed in previous congressional sessions, is to allow individual insurers to pre-fund catastrophe losses (e.g., earthquake and windstorm) by setting aside a reserve, on a tax-deferred basis, to be drawn upon only if a qualifying event occurs. The advantage to this type of program is that insurers would be able to accumulate funds more quickly (due to the tax-deferred status) for these potentially large losses. PCI certainly would encourage this approach. However, by itself, given the fact that previously introduced bills have called for an accumulation period of 20 years, and then only to an amount equal to about USD 20 billion, would not provide the immediate level of protection, nor, once again, the capacity of TRIA. This type of program does have some merit, if any reduction in coverage under a federal program was tied to a corresponding increase in the pre-funded, tax-deferred reserve, and that this reserve could be drawn upon for other natural disaster losses.

Foreign Terrorism Reinsurance Mechanisms

In the post-Second World War Era, several major European countries experienced acts of terrorism. Eventually, terrorism spread to the United States with the first World Trade Center attack in 1993 and eventually The World Trade Center tragedy in 2001. Some countries, like Canada, have allowed insurers to exclude terrorism and thus have had little insurance availability problems. However, in other countries, waves of terrorism attacks have in the past caused a shortage in the supply of insurance covering terrorism and terrorism exclusions have not been allowed. An examination of several such mechanisms in foreign countries follows in the hope of not only providing background information, but as well possibly as identifying some possible alternative “tweaks” in the United States Federal Terrorism Risk Insurance Act, if it were extended.

The United Kingdom’s (UK) Pool Re

It was created in 1993 as a “mutual insurance company” authorized to transact reinsurance business for property and business interruption losses resulting from terrorism. The goal was to ensure that original insureds have terrorism coverage available under policies issued by Pool Re’s member-insurers to the extent of the original policy limits.

Member-insurers are required to provide terrorism insurance to those commercial property and business interruption insureds requesting the coverage. Any insurance company authorized by the UK or an overseas regulatory authority to transact property insurance in the UK is eligible and may be a member of Pool Re. The territorial scope of the reinsurance cover is limited to England, Wales, and Scotland, excluding the territorial seas. Pool Re has a retrocession agreement with the UK Treasury to provide funding to Pool Re if the latter exhausts all its financial resources for claim payments. Only those so electing to be members of Pool Re are entitled to benefit from this UK Treasury backstop. Pool Re is not required to pay a premium for this cover to the UK Treasury unless and until its surplus exceeds GBP £1 billion. Any amounts claimed by Pool Re under the Retrocession Agreement have to be subsequently repaid to the Treasury. The intention is that the net cost to the taxpayer is nil over any span of time. Pool Re has reimbursed insurers for 10 large claims since it was established, yet the ceded premiums have declined dramatically and the government indemnity has yet to be called upon.

Under the terms of the Retrocession Agreement, the Treasury is obliged to issue a certificate whenever a particular event is an act of terrorism. There is an independent tribunal to resolve disputes in cases of dispute over a particular act of terrorism. In entering these agreements in 1993, the UK made clear its intention to withdraw from the arrangement when the insurance market is able to provide terrorism cover without the requirement for government support.

Property Casualty Insurers Association of America

Shaping the Future of American Insurance

Prior to 9/11, insurance cover for damage and consequential loss caused by acts of terrorism was normally available within the ordinary fire or similar policy covering industrial and commercial property. As a result of the 9/11 attack on the World Trade Center and its impact on the reinsurance market for terrorism insurance, the scope of cover provided by Pool Re was expanded from only acts of terrorism resulting in fire or explosion to be an "all risk" policy. The existing nuclear exclusion was deleted and thus this will be covered. The only excluded loses after January 1, 2003 will be war risks, civil war, riot, strike, computer hacking, virus and service denial attacks. Also, effective January 1, 2003, Pool Re will no longer set the rate for terrorism that the members will charge to their insureds. Rather each insurer will be free to set their own terrorism premiums for their underlying policies according to normal commercial arrangements and Pool Re will continue to make reinsurance cover available. Insurer members have a maximum loss retention per event combined with an annual aggregate limit which will be based upon the extent of their participation in the Pool Re program. The retention for each member insurer will be set annually as a proportion of an industrywide figure and advised to the member at the start of the relevant underwriting year. It is intended that the industry retention will increase each year from GBP £30 million per event and GBP £60 million per annum in the aggregate in 2003 to GBP £100 million per event and GBP £200 million per annum in the aggregate in 2006.

Effective January 1, 2003, the payment of reinsurance commission to members will cease and Pool Re will no longer control the basis upon which members supply terrorism cover to their insureds.

Before Pool Re can make any payment to an insurer or reinsurer members in respect to losses from Acts of Terrorism, Pool Re must obtain the Secretary of State's certification that the losses have been caused by an Act of Terrorism. Those certifications or lack thereof can be appealed to a tribunal made up of representatives from Pool Re and the government.

The Secretary of State has access to all books and records of Pool Re. The Government has indicated that it will not require Pool Re to make premium payments to it unless the surplus in Pool Re exceeds £1 billion. The actual sum paid will be limited so that the surplus remaining in the fund after payment will not reduce below the GBP £1 billion.

France's GAREAT

It began January 1, 2002. It covers commercial/industrial risks with insured values in excess of €6 million Euros and is backed by an unlimited state guarantee. Their terrorism coverage extends to riot, civil commotion, malicious acts, and sabotage.

It first should be noted that, in September 1986, a law was enacted that made having a terrorism cover compulsory for all property policies. A June 1987 decree subsequently provided that the terrorism cover deductible could not be different from the property deductible. A bodily injury fund (FGTI) for the victims of terrorist attacks was created, supported by a contribution from every property policy. In 1990, this was extended to include all victims of assault and violence.

In 2002, the French government established a reinsurance pool to respond to terrorism reinsurance shortages in that country. All insurers and reinsurers in France must register with this pool, GAREAT (Gestion de l'Assurances et de la Reassurance des Risques). All such insurers and reinsurers must cede to it all terrorism coverage for local commercial that have combined property and business interruption values of more than $6 million.

GAREAT was structured around five fundamental principles, namely:

1. Separation of small and medium/major risks.
2. Maximal mutualization for medium/major risks.
3. Maximal cover (perils, amount and frequency). This includes all risk cover (very few exclusions) with an annual aggregate excess of loss market retention, a reinsurance layer, and unlimited reinsurance through a state guarantee of CCR (The Caisse Centrale de Reassurance), the institution which reinsures the French insurance companies against natural catastrophes under French law.
4. Pricing on a progressive scale – Net reinsurance rates are proportional to the property premium and on a scale of 1 to 3 times the minimum rate. Overall, original rates are adjusted on a real scale of 1 to 1.5. The weighted average reinsurance rate is about 12% of the property premium (i.e. about .012% of sums insured).
5. Waiver of the right to subrogation against motor vehicle insurers in the case of a terrorist attack involving a vehicle.

Auto hull, rail hull, aviation hull, or marine hull, cargo and goods in transit, as well as fire and natural perils are all covered by GAREAT.

The state requires property policies (and certain other policies) to cover terrorism at a minimum in the amount of 20% of the original limit. The government also authorized equalization reserves for insurers on terrorism premiums in the accumulated limit of 500% of the annual terrorism premium. As a result, all French risks above €6 million Euros, covering material damage and loss of profits from Fire and Engineering Insurance, were insured, equating to an estimated total sum insured of €1,400 billion Euros (based upon a related property premium of €1,500 million Euros). GAREAT was the first national pool organized with state support after New York's 9/11 tragedy.

GAREAT is focused upon damage risk policies exceeding €6 million Euros (including engineering, bankers blanket bonds, and information technology risks). Policies below that threshold can nevertheless be ceded to the pool for accumulation and/or geographical concentration purposes. All policies are individually identified and must be declared to the pool, to allow for premiums to be calculated and to clearly define protected risks in case of a claim. A scale of reinsurance rates (6-12-18%) apply to property premiums respectively for the three risk categories €6-20 million Euros/€20-50 million Euros/above €50 million Euros. The limits are 100% per risk and according to the total cumulative amount of the property and business interruption covers.

The 2003 reinsurance arrangement consists of four excess of loss layers, namely:

1. €400 million Euros – This is the direct insurers' retention level. Insurers all committed in proportion to their total ceded premium.
2. Up to €1,100 million Euros layer in excess of the €400 million Euros – This is placed in the global reinsurance market with the possibility for insurers to participate. This layer is priced at 50% of the total pool premium.
3. Above €1,500 million Euros, another €250 million Euros – Financial reinsurance by private reinsurers lead by Swiss Re.
4. Above €1,750 million Euros an unlimited layer by the CCR with state guarantee.

Terrorism is defined broadly according to the French Penal Code as a concerted violent action, intended to influence the state or public authorities. GAREAT's board certifies the loss in conjunction with the CCR. The decision would then be immediately endorsed by insurers and the reinsurers, according to the pool's status and reinsurance treaties. It covers French nuclear plants. It also includes coverage for nuclear, biological and chemical risks, as long as it is not formally excluded from original policies by a market decision and by a legislative change. All forms of terrorism must be covered in property policies by law. However, exclusions are allowed for life, transport, liability, and bodily injury. There is no deductible beyond the insured's original ones.

GAREAT offers protection against <u>all</u> types of terrorism in <u>any</u> kind or form for all affected French property risks whatever their type or exposure under the original policy conditions, with a firm duration, but with no amount or frequency limit. It also provides equal treatment for risks of equivalent size. GAREAT is not a monopoly; alternative arrangements are possible.

The financial year total premium estimate is around €195 million Euros. In 2002, the pool had two regional claims representing a combined loss of less than €10 million Euros and, therefore, well within the original insurer's retention. Insurer commitments through GAREAT are known and limited per event and in the annual aggregate. GAREAT assumed the maximum loss in France would be €8-10 billion Euros. GAREAT would cover up to 2/3 of this loss, the rest would be covered by insurer retentions, normal reinsurance, and the FGTI bodily injury fund. It is estimated that the retention of insurers for all property classes is €1.5 billion Euros (including €400 million to GAREAT) with reinsurer capacity at around €2.5 billion Euros (including €1,250 million to GAREAT). In 2003, total insurance/reinsurance capacity is about €3.75 billion Euros, including €1.75 billion to GAREAT.

<u>Germany's Extremus Versicherungs</u>

It began on October 24, 2002 as a specialized insurance company set up to cover commercial property risks with a total sum insured in excess of €25 million Euros and is also backed by an unlimited state guarantee. Specifically, it was established to cover buildings and contents as well as business interruption losses arising from acts of terrorism. (B, P29) The company has capital of €50 million Euros and the founding shareholders are 16 insurance and reinsurance groups active in the German market. It is voluntary for private insurers and reinsurers to participate in Extremus. Extremus only writes terrorism and cedes 100% of the business. Insurance coverage extends only to risks located in Germany with a total insured value – property damage and business interruption combined – of at least €25 million. All risks below this threshold continue to be covered against terrorism under the usual property policies in the private insurance industry. The maximum (first loss) limit that can be purchased is €1.5 billion per policyholder in the annual aggregate. The coverage is restricted to <u>losses</u> due to terrorism.

The premium for terrorism coverage with Extremus does not vary according to the type or location of the risk. The premium rate depends only upon the sum insured and the yearly aggregate limit (which can be selected per policy or per insured) up to the maximum limit of €1.5 billion Euros per insured. There is a deductible of 1% of the agreed yearly aggregate policy limit. The other costs are limited to 10% of the yearly aggregate limit. Extremus has a ground up annual reinsurance capacity of €13 billion Euros for losses caused by terrorist attacks. German insurance companies put up a first layer of €1.5 billion Euros co-reinsurance capacity. The international reinsurance market has supported Extremus with a second layer of €1.5 billion Euros excess capacity. <u>The German government has agreed to back a third layer of €10 billion in excess of €3 billion Euros only for an initial period of 3 years, that is to the end of 2005. It would obviously need to be considered whether to extend it</u>.

Insurable risks for purposes of Extremus are "risks in Germany with sum insured for property damage/business interruption combined in excess of €25 million." This definition has caused confusion. The coverage is given in respect of fire, explosion, aircraft or vehicle impact, and other malicious damage, caused by an act of terrorism committed in Germany, for property damage as well as business interruption following insurable property damage. Terrorism definition is similar to UK's definition, i.e. an act of terrorism shall be all acts by persons committed for political, religious, ethnic or ideological purposes suitable to create fear in the population or any section of the population and thus to influence a government or public body.

Losses caused by the following perils are excluded: war and civil war, civil commotion, looting, nuclear explosion, nuclear radiation, contamination if caused by chemical, biological dirty bomb attack, hacker attacks/cyber risks (particular to financial institutions), contingent business interruption, business interruption caused by terror attack abroad, and long distance business corporation (failure of power supply).

The distribution of premium is as follows:
- Premium to first layer: 54%
- Premium to second layer: 28.5%
- Premium to state layer: 9% in year 1, 12.5% in year 2004, and 14% in year 2005

Comparing Extremus to GAREAT, the latter's cover is broader in the following ways:
- Number of risks, i.e. terrorism coverage in France is compulsory which brings almost all eligible risks to the pool. GAREAT's €6 million threshold for eligibility is lower, bringing more medium sized risks to the pool.
- Limits – The reinsurance cover is unlimited and there is no limitation per risk.
- Type of risks – nuclear installations are covered.
- Scope of cover – extended to dirty bombs, biological and chemical terrorism.

Austria's Terrorism Pool

It became effective January 1, 2003. The Austrian terrorism pool gives automatic protection for commercial risks up to €5 million Euros. Risks between €5 and 25 million Euros can be ceded to the pool with payment of additional premium, while risks exceeding €25 million Euros must be covered on a facultative basis. Biological and chemical contamination is excluded.

The pool retention is €50 million Euros in the annual aggregate apportioned between Austrian insurers according to market share. Reinsurance in the amount of €150 million Euros in the annual aggregate excess of €50 million Euros retention, is placed in the international reinsurance market. It still is not clear whether the Austrian government will ultimately assume the risk in excess of €200 million Euros.

Luxemburg's SRIR

It is a free market specialized company which seeks to overcome exposure problems via strict monetary and geographic limitations on accepted business. Its policy limits are $150 million per policy, which is also based upon strict control of exposures per location.

Spain's Consorcio de Compensacion de Sequras (Consortium of Insurance Compensation) (CCS)

It began in 1941 to indemnify losses (bodily injury, death, and material damages) from the Civil War and from 1986 used for financial compensation for other major events, or as it refers to extraordinary risks, including natural perils (earthquake, volcanic eruption, flood, storm) civil commotion, army and police interventions in time of peace, riots, or popular unrest and terrorism. It is a state company, but still is managed as a private company with a board whose members are half from the private insurance market and half from the public administration. Its assets are distinct from those of the state and are subject to commercial law the same as a private company. This cover is integrated into policies issued by private insurance companies which collect premium on behalf of the CCS. As such, all private insurers must participate in CCS.

Subsequent to 1990, it became possible to insure the above risks privately, where upon CCS became a provider of "subsidiary coverage only, paying out indemnities when the private insurance company does not cover the risk in question or when it does cover them but is insolvent." The coverage is a full reinsurance cover, not limited to a certain number of losses or to any specific amount of loss. There is no direct insurance from Consorcio. Indemnification is linked to insurance policies from any company in the private market for fire, theft of property, motor damage, theft, machinery breakdown, information technology all risks, construction all risks and personal accident. <u>Terrorism coverage is mandatory for all these policies and is provided directly by Consorcio</u>. It also acts as a guaranty fund when a private insurer can no longer fulfill its obligations, i.e., insolvency. Consorcio is backstopped by an unlimited state guaranty if it is unable to pay its losses. However, so far this has not been needed.

CCS policies define "terrorism" as "any violent action with the aim to destabilize the established political system or cause fear and security within the groups of people targeted." The conditions of terrorism coverage are the same as the original policy. The terrorism coverage only covers property damage, including salvage and debris removed, and after January 1, 2002 added business interruption. Terrorism coverage cost is collected by the insurer for the underlying policy which transfers it to Consorcio after deducting 5% for its administrative costs. Consorcio administers claims made by the insureds. Claims can also be processed by insurers. Indemnification is paid directly to the insured.

The total loss from terrorism paid in 1989 through 2001 is €10.3 million Euros. With the recent inclusion of business interruption protection, the Consorcio now covers all property policies generally without the need of the international reinsurance market.

<u>Overall Observations</u>

The private insurance industry is still providing terrorism coverage for small commercial and personal lines business in most European countries. However even then, insurers and reinsurers generally impose an exclusion of cover for nuclear, biological, or chemical perils, i.e., weapons of mass destruction.

It appears that the private sector, relying heavily on government backing, has proven to be flexible, responsive, and capable of coping with a crisis of hither to unknown magnitude. All the above schemes rely heavily on government backing. Note the principal dichotomy in approaches is whether individual insurer participation is voluntary or mandatory in each of these plans to get the benefit of the government backstop. Great Britain and Germany, for example, are voluntary, while France and Spain are mandatory.

As regards indemnity, private sector solutions, where provided in an economically sound manner by highly rated security, should be given official support instead of being challenged by under-priced governmental schemes. Many feel the private sector solutions currently available in the European market, along with their government backing, will be able to match client needs in the

Property Casualty Insurers Association of America
Shaping the Future of American Insurance

foreseeable future. However, it needs to be quickly noted that the capacity of these methods is still arguably inadequate and certainly is less than the Terrorism Risk Insurance Act (TRIA), with its current government backing, provides in the United States. It also needs to be noted that any voluntary plan for insurers to participate raises concerns, particularly for the United States of the effect upon all property/casualty insurers due the mandatory participation requirement for guaranty funds and residual markets.

References:

Please note that some of the information above comes from a review of several secondary sources namely:

1. Terrorism Risks in Property Insurance and Their Insurability After 11 September 2001; published by Swiss Reinsurance Company in 2003.
2. Terrorism Insurance – Pools and Market Solutions in Europe; published by Partner Re in 2003.
3. War and Terrorism; published by Trans Canada Insurance Marketing, Inc. on September 19, 2003.
4. Provisions of Terrorism and Riot Coverage in Different Countries; published by SCOR Reinsurance in August, 2002.
5. Comparative Examples of Existing Catastrophe Insurance Schemes; published by the United Nations Conference on Trade and Development on 29 September 1995.

Appendix A.2

U.S. General Accounting Office

TERRORISM INSURANCE: Alternatives for Protecting Consumers

United States General Accounting Office

GAO

Testimony

Before the Senate Committee on Banking, Housing and Urban Affairs
United States Senate

For Release on Delivery
Expected at
10:00 a.m. EDT
on Wednesday
October 24, 2001

TERRORISM INSURANCE

Alternative Programs for Protecting Insurance Consumers

Statement of Thomas J. McCool
Managing Director, Financial Markets and Community Investment

GAO
Accountability * Integrity * Reliability

GAO-02-199T

Statement

Terrorism Insurance: Alternative Programs for Protecting Insurance Consumers

Mr. Chairman and Members of the Committee:

The tragic events of September 11, 2001, bring to light numerous areas of concern within the financial services sector, especially as threats of future terrorist attacks continue. One area of concern voiced by various industry groups and the Congress is how the insurance industry should respond to risks posed by potential terrorist attacks and the extent to which the government should play a role alongside the industry to address these risks. We appreciate the opportunity to discuss this issue.

Prior to September 11th, insurance coverage for losses from terrorism was included as a normal feature of insurance contracts. According to industry analysts, this was because insurers' experience suggested that domestic exposure to terrorism, both in the number of occurrences and the magnitude of losses, was limited. The September 11th attacks have changed insurers' perception of their potential risk exposure. Insurance companies have indicated that they will pay their share of the losses from these tragic events. However, both insurers and the reinsurers who share the industry's risks, have indicated that they don't know how much to charge for this coverage going forward because they cannot predict future losses. As a result, it has been reported that industry leaders may exclude insurance for terrorism from future insurance contracts unless the federal government provides some form of assistance to the industry.

A financially strong insurance industry is essential to the smooth functioning of the economy. Industry officials have indicated that insurance coverage for catastrophic events such as a major terrorist act is necessary for investors and other financial decision-makers to be willing to provide capital to promote continued economic growth and stability. If the federal government chooses to provide financial backing to this industry, the primary driving force should be to safeguard the economy's access to necessary insurance protection. At the same time, care needs to be taken to ensure that the interests of both the federal government and American taxpayers are safeguarded, and that the industry is assuming its fair share of risks.

Any mechanism established by the federal government to support the ability of individuals and businesses to get insurance for terrorist acts should address several significant concerns. Most importantly, the program should not displace the private market. Rather, it should create an environment in which the private market can displace the government program. Second, it should be temporary, at least initially. Finally, any program should be designed to ensure that private market incentives for prudent and efficient behavior are not replaced by an attitude that says, "Don't worry about it, the government is paying."

In the aftermath of the September 11th terrorist attacks, the Congress is considering whether and how to provide financial backing to the insurance industry so that insurance is available for losses due to terrorist acts. As requested, we will present (1) features of several existing insurance programs, both domestic and international; (2) alternative mechanisms for funding insured losses; and (3) some broad principles or guidance that the Congress may wish to bear in mind as it considers possible ways to support the insurance industry in case of future catastrophic losses due to terrorist acts. My observations are based on publicly available information on a variety of insurance programs within the United States and other countries and from prior GAO work.

Features of Selected Insurance Programs Covering Catastrophic or Terrorist Events

Today, a number of insurance programs exist in the United States and other countries to help ensure that insurance will be available to cover risks that the private sector has been unable or unwilling to cover by itself, including losses from catastrophic events and terrorism. Certain insurance programs are completely controlled and managed by the government, while others have little or no explicit government involvement. Likewise, in many programs the public and private sectors share risks, though in several different ways.

For this testimony, we are highlighting features from selected insurance programs, including some established by the federal government as well as some from other countries, the states, and others. For example, the federal government insures individuals and firms against natural disasters under the flood and crop insurance programs and bank and employer bankruptcies under the deposit and pension insurance programs. Some federal programs cover political risk insurance for overseas investment activities, third-party claims for nuclear accidents, and protection against war-related risks. Other countries and organizations have also developed insurance programs covering catastrophic or terrorist events. These programs can provide useful insights in developing an appropriate insurance mechanism to cover losses from terrorist acts.

For government insurance programs, the question of long-term cost and program funding needs to be addressed before the program is established. Some federal insurance programs have the statutory intent to provide subsidized coverage, while others are intended to be self-funding. As noted in some of GAO's previous work, whatever merits the federal government has as an insurer, the same characteristics that inhibit private insurance firms from covering certain events could also make a federally-sponsored insurance program a costly undertaking.[1]

In some cases, the federal government subsidizes insurance programs in order to achieve a public policy objective. For instance, catastrophic coverage under the crop insurance program is subsidized in an attempt to reduce reliance on ad hoc disaster assistance. In other cases, the federal government may set up premium and fee structures intended to cover the full cost of providing insurance. However, regardless of statutory intent, if federal insurance is underpriced relative to its long-run costs and the federal government pays the difference, a government subsidy results. For example, under the Flood Insurance Program, program operating losses have been financed through borrowings from the U.S. Treasury or covered by appropriated funds.

Selected Insurance Programs Established by Federal Statute

The federal government's size and sovereign power provide it with the unique ability to offer insurance when the private market is unable or unwilling to do so. Currently, the federal government has a variety of mechanisms, including insurance programs, to cover risks that the private sector has traditionally been unable or unwilling to cover. Appendix I, table 1, highlights key features of several selected programs. We will describe some of them further today.

Insurance for Catastrophic Nuclear Accidents

Features:

- *Mandatory participation*
- *Liability of the private sector is limited*
- *Implicit government backing*

A system that limits liability and provides indemnification for operators of nuclear reactors was established through the passage of the Price-Anderson Act of 1957. Specifically, the act limits the total liability of individual reactor operators for any accident. First, the operators must obtain insurance up to the maximum amount of private insurance available to the operator, which is currently about $200 million per reactor per accident. In addition, in the event of an accident at any single reactor that results in losses exceeding $200 million, all operators of the 106 commercial nuclear power reactors in the United States would be required to provide additional protection by paying into a secondary insurance fund. Depending on the amount of the claims, these contributions could be as high as $88.1 million per reactor per accident. Following an incident, the operators of commercial power reactors would be required to pay as much as $10 million annually for 9 years to complete the secondary

[1] Budget Issues: Budgeting for Federal Insurance Programs, (GAO/AIMD-97-16), September 1977.

insurance fund. For the 106 reactors in the United States, the nuclear industry's current exposure to third-party liability claims would be approximately $9.5 billion before the Congress intervenes.

In the event of an accident that involves damages that exceed the amount in the secondary insurance fund, the government is not explicitly required to fund the balance. Rather, Price-Anderson commits the Congress to investigate the accident and to take whatever action it deems necessary. This action could include, among other things, appropriating funds or requiring the nuclear industry to provide additional funding to satisfy remaining claims. No nuclear accidents have occurred since Price-Anderson was enacted that cost more than was provided by the available private insurance. As a result, the industry has never had to pay into the secondary insurance fund, nor has the Congress been required to take action on excessive losses.

Insurance Against Overseas Political Risk

Features:

- *Voluntary participation*
- *Federal government is the insurer and risk bearer*

The Overseas Private Investment Corporation (OPIC), which began operations in 1971, was established to facilitate private investment by U.S. investors in developing countries and countries with emerging markets. OPIC insurance programs reduce the risk to U.S. investors in these countries by offering protection against several political risks. In general, the coverage offered by OPIC is more comprehensive both in scope and duration than the coverage currently available from private sector insurers. OPIC operates as a self-financing government agency. A significant portion of its income is derived from premiums and fees, but the program is also backed by $100 million in borrowing authority from the U.S. Treasury. Premium rates are based on a standard pricing table for different business sectors, with adjustments for project-specific risks. The risk assessment methods OPIC uses to establish insurance reserves and set premium rates rely heavily on expert judgment and are not highly quantitative. According to OPIC officials, no standard actuarial model exists for quantifying political risks. Over the life of OPIC, the government has made money on the insurance provided.

Insurance Against Urban Riots and Civil Disorder

Features:

- *Voluntary participation*
- *Encouraged states and the private sector to provide insurance in urban areas*
- *Offered federal reinsurance for insured property in urban areas*

The National Insurance Development Program was established by the Housing and Urban Development Act of 1968 (P.L. 90-448). The program sought to ensure the availability and affordability of fire, crime, and other property insurance to residential and commercial owners located in high-risk urban areas. The act created a Federal Insurance Administrator within the Department of Housing and Urban Development to administer the reinsurance program, but responsibility was later transferred to the Federal Emergency Management Agency. The program was a response to the urban riots and civil disorders of the 1960s, when many of America's cities suffered major property losses.

As a result of these losses, insurers became reluctant to underwrite property insurance in communities considered to be at risk for such events. The program had two purposes. First, the program encouraged state insurance regulators and the industry to develop and carry out programs to make property coverage more readily available. Second, it provided a voluntary federal program of reinsurance for urban property owner relief against abnormally high property insurance rates in private markets. Under this program, federal reinsurance was made available to property insurance companies operating in states that voluntarily adopted Fair Access to Insurance Requirements Plans. Insurers were required to retain a small portion of the liability,[2] which had to be paid first in the event of a claim. Insurers could transfer most of the remaining risk by making a premium payment to the federal government, which then assumed the remaining liability. This liability ranged from 90 to 98 percent of the remaining insured amount, and coverage increased as losses grew. The program was backed by $250 million in borrowing authority from the U.S. Treasury.

The program also included a requirement that states share in program losses with the federal government.[3] According to a former program official, state sharing of program losses was a feature designed in part to keep states from setting property insurance premiums too low. At the

[2] A "net retention amount" of not more than 2.5 percent of the premiums paid by owners, calculated on a state-by-state basis, depending on the line of insurance offered. Insurers purchasing reinsurance could also be assessed an amount in the event of losses in excess of all reinsurance premiums paid nationwide.

[3] If federal reinsurance payments exceed premiums from the property-casualty companies in a state, the state must pay an amount up to 5 per cent of the aggregate property insurance premiums earned in that state during the preceding year of those lines of insurance reinsured by the federal government.

program's inception, federal reinsurance was to last less than 5 years. However, former officials reported that the program made money because claims never reached the anticipated levels and, beginning in the early 1970s, the program premiums were used to subsidize a crime insurance program. Reinsurance was discontinued in 1984 because of the small number of insurers participating.

Insurance Against Floods

Features:

- *Voluntary participation*
- *Federal government is the insurer for flood risk*
- *Subsidized rates offered to encourage mitigation*

The National Flood Insurance Program, which was established by the National Flood Insurance Act of 1968, makes federal flood insurance available to property owners living in communities that join the program. Some of the key factors that led to the program's establishment were private insurers' reluctance to sell flood coverage, increasing losses from floods because of floodplain encroachment, and high federal expenditures for relief and flood control. This program, which is financed primarily through premiums, fees, and interest income, aims to reduce federal spending on disaster assistance. By design, this program is not actuarially sound, because it does not collect sufficient income from premiums to build reserves to meet long-term expenditures on flood losses. Though the Federal Insurance Administrator is authorized to subsidize a significant portion of the total policies in force, its annual appropriations do not cover these subsidies. As a result, the Congress has appropriated funds for the program from time to time. In addition, the Federal Insurance Administration has periodically borrowed from the U.S. Treasury to finance operating losses.[4] The program is backed by $1 billion in borrowing authority from the U.S. Treasury.

Selected Insurance Programs of Other Countries

Many other countries have government-sponsored insurance programs that cover catastrophes, terrorist events, or both. Some of these programs are essentially run by the government, while others have little or no government backing. Appendix I, table 2, highlights key features of such programs in Israel, Japan, Switzerland, and the United Kingdom. We will briefly discuss these programs.

[4] Flood Insurance: Information on Financial Aspects of the National Flood Insurance Program, (GAOT-RCED-00-23), October 27, 1999.

Japan's Insurance Against Earthquakes

Features:

- *Mandated insurer participation*
- *Private/public risk sharing*
- *Government share increases as losses increase*

Japan's earthquake insurance program, originally conceived in 1966, arose out of a major earthquake in that country in 1964. The insurance is purchased as a supplement to residential fire insurance and covers homes and household goods. Private insurers and the government share in any losses that result from a disaster according to a three-tiered payment system. Under the first tier of coverage, private insurers are responsible for the first $625 million[5] of damages before government assistance is triggered. This initial amount effectively acts as a deductible. Losses above this amount trigger a second tier of coverage, for damages up to $6.821 billion. The Japanese government pays 50 percent of the losses in this second tier. The third tier of coverage involves losses of between $6.821 billion and $34.166 billion, with the government paying 95 percent of losses exceeding $6.821 billion. The Japanese government receives reinsurance premiums from primary insurers, but its total liability is not necessarily limited to the total amount of premiums received.

Japan's program has several distinguishing features. First, the private sector is responsible for the initial portion of losses. This feature helps to ensure the development of a private market for earthquake insurance that is unencumbered by a monopoly. Additionally, industry pool arrangements are mandated under the program. The government takes on an increasing share of losses as they rise, up to a maximum cap on the total amount of exposure, but the private sector still bears some cost even at higher levels. This feature helps to ensure that risk of disaster is spread throughout the entire country and economy. Finally, the Japanese program was not established to provide coverage for all potential losses, but rather as a first step toward providing some level of coverage, with the government and private sector working together.

[5] Dollar figures presented are based on the conversion of yen to dollars from documents on the program provided by Japan's Board of Audit.

United Kingdom's Insurance Against Terrorist Events

Features:

- *Voluntary participation*
- *Created because of withdrawal of private reinsurance*
- *Insurers pay 110 percent of premium received before government pays*

The United Kingdom's Pool Reinsurance (Pool Re) program was established in 1993 to provide insurance against losses and damages caused by terrorists attacks on industrial, commercial, and residential properties located within the British mainland. There are several distinct layers of coverage. All policyholders who buy basic property coverage from insurers have the option of buying additional coverage from the same insurers to protect against terrorism. Insurers are responsible for the first 100,000 pounds of coverage per coverage type, with no reimbursement from the government. Claims exceeding 100,000 pounds are paid from premiums accumulated within a pool made up of insurance companies and Lloyd's syndicates. (The British government and the insurance trade group established a mutual company from these companies and syndicates to provide terrorism reinsurance.) If the pool of funds is exhausted, all participating insurers face a call of up to 10 percent of the premiums they have collected during the year. Beyond the 10 percent call, the pool investment income is tapped, and the government meets any claims in excess of this. According to United Kingdom officials familiar with the program, the government has not yet had to bail out the pool as the reinsurer of last resort.

Israel's Insurance Against Terrorist Attacks

Features:

- *Mandatory participation*
- *Government bears all risk*
- *Funded by tax revenues*

Israel has two programs for covering losses resulting from a terrorist attack. The first is the Property Tax and Compensation Fund, which covers property and casualty insurance. The second is the Law for the Victims of Enemy Action, which covers life and health insurance. The Israeli government funds and administers both programs. Under the Property Tax and Compensation Fund, the Israeli Income and Property Tax Commission levies a national property tax predominantly on Israeli businesses. The commission pays claims on property damages that are the direct result of a hostile terrorist attack (including losses of business inventory), on the basis of the market value of a property immediately before the attack. All indirect damages, including those for business-interruptions, must be covered through private insurance. Private supplemental coverage or additional state coverage can be purchased to cover the difference between a property's current market value and the cost of rebuilding (known as the replacement value). State coverage is capped by implementing regulations.

The second program, the Law for the Compensation of Victims of Enemy Action, is a state-run program administered by the National Insurance Institute (NII) and is also funded by the government. The NII is similar to the U.S. Social Security Administration. Coverage is provided for medical care, lost wages, extended payments to the families of attack victims, and personal injury. Coverage also extends to visitors and tourists who are in

Israel. Coverage amounts for this program are again determined by implementing regulations.

Switzerland's Insurance Against Selected Catastrophic Events

Features:

- *Mandatory participation*
- *No government risk exposure*

Switzerland's Catastrophe Insurance program was established to insure against natural disasters, including storms, hail, floods, landslides, and avalanches. Earthquakes are not covered under this program. This program does not set up a separate catastrophic insurance fund, but instead obliges insurers to include coverage for specified catastrophes in fire insurance policies for buildings and their contents at a statutorily fixed rate. These compulsory premiums are the sole means of financing the catastrophe insurance program. Although this scheme does not set up a separate catastrophe insurance fund, Swiss insurers have created a reinsurance pool where these additional premiums are deposited. Membership in this pool is optional for insurers, but currently 85 percent of claims are ceded to it. Should claims exceed the funds in the pool, the difference would be payable from the insurers' capital and assets. There is no government involvement or exposure associated with the operation of the program, since the Swiss government does not provide any guarantee. For this reason, the private sector has an incentive to reduce risks. Insurers that participate in the pool are also subject to a cash-call in proportion to their participation in the pool to cover claims that exceed pool capacity.

Insurance Programs Sponsored by States or Other Entities

Other insurance programs that may provide useful insights in developing insurance coverage for terrorist acts include those established by state governments and private sector entities. Appendix I, table 3, highlights the features of several state and private sector insurance programs, and I will describe these programs here.

Israel. Coverage amounts for this program are again determined by implementing regulations.

Switzerland's Insurance Against Selected Catastrophic Events

Features:

- *Mandatory participation*
- *No government risk exposure*

Switzerland's Catastrophe Insurance program was established to insure against natural disasters, including storms, hail, floods, landslides, and avalanches. Earthquakes are not covered under this program. This program does not set up a separate catastrophic insurance fund, but instead obliges insurers to include coverage for specified catastrophes in fire insurance policies for buildings and their contents at a statutorily fixed rate. These compulsory premiums are the sole means of financing the catastrophe insurance program. Although this scheme does not set up a separate catastrophe insurance fund, Swiss insurers have created a reinsurance pool where these additional premiums are deposited. Membership in this pool is optional for insurers, but currently 85 percent of claims are ceded to it. Should claims exceed the funds in the pool, the difference would be payable from the insurers' capital and assets. There is no government involvement or exposure associated with the operation of the program, since the Swiss government does not provide any guarantee. For this reason, the private sector has an incentive to reduce risks. Insurers that participate in the pool are also subject to a cash-call in proportion to their participation in the pool to cover claims that exceed pool capacity.

Insurance Programs Sponsored by States or Other Entities

Other insurance programs that may provide useful insights in developing insurance coverage for terrorist acts include those established by state governments and private sector entities. Appendix I, table 3, highlights the features of several state and private sector insurance programs, and I will describe these programs here.

State Insurance/Guarantees Against Insolvent Insurers

Features:

- *Mandatory participation*
- *Funded by post event assessments*
- *Operated by industry*
- *No explicit subsidy*

Every state has guaranty funds to protect policyholders when an insurance company fails. These funds exist for property-casualty as well as life-health insurers. While there are differences between the funds for the two insurance sectors, in general they operate similarly. Insurance guaranty funds are not really funds. In nearly all states, the money used by guaranty funds to pay policyholders of failed insurers is collected through post-failure assessments. After an insurance company is found to be insolvent by a state regulator, the regulator and the guaranty funds in each state where policies were sold determine by how much the failed company's policyholder claims exceed the value of the company's assets. The guaranty funds then provide sufficient funds to ensure that all claims are paid (up to each state's statutory limits). Guaranty funds are not operated by state governments, nor are they funded by public money (i.e., there is no explicit subsidy).

However, the funds were created by statute and operate as part of the insurance regulatory system. Even though no appropriated funds are used to fund the guaranty funds, insurers do not bear the entire cost of guaranty fund assessments. While tax treatment varies among states, many states allow the insurers to offset their premium taxes for assessments paid to guaranty funds. Where this tax credit is permitted, insurers can usually reduce their premium tax bill by 20 percent each year for 5 years. Other states allow insurers to recoup assessments by increasing or adding a surcharge to policyholder premiums.

California's Insurance Against Earthquakes

Features:

- *Participation based on statutory requirements*
- *Funded by assessments on insurance companies*
- *No public funding*

The California Earthquake Authority was established to insure California residents against losses caused by earthquakes. The Earthquake Authority was set up by state statute. The state of California, however, does not contribute any funding to the authority. After the Northridge, CA earthquake in 1994, insurance companies determined that the premiums they had been charging for earthquake coverage were inadequate. Furthermore, the companies did not know how to set an actuarially sound price. Insurance companies attempted to stop selling insurance against earthquake damage, but were opposed by the state. After negotiations, insurers were permitted to exclude earthquake coverage from their property-casualty policies if insurance companies representing at least 70 percent of the market agreed to participate in the Earthquake Authority.

Participation meant agreeing to pay an initial assessment totaling $717 million plus two additional assessments of $2.15 billion and $1.434 billion after certain levels of earthquake-related losses occurred. Thus, potential Earthquake Authority losses are to be funded by a multilayered financing arrangement involving insurer contributions, premiums, conventional reinsurance, and pre-established debt financing. In early 2000, these layers totaled about $7 billion. In the event that all authority funds were expended, claims payments would be prorated. The Earthquake Authority currently provides virtually all of the earthquake insurance available in the state of California.

Ship Owner Insurance For Ocean Pollution

Features:

- *Voluntary participation*
- *Risks are pooled and funded by pre and post assessments*
- *No government involvement*

The International Group of Protection and Indemnity Clubs (Group) includes the 14 protection and indemnity associations or "clubs" that insure about 90 percent of the world's seagoing tonnage. The individual clubs are nonprofit-making mutual insurance organizations that cover third-party risks of shipowning members. The American Steamship Owners Mutual Protection and Indemnity Association, Inc., known as the American Club, was established in New York State in 1917 and is the only U.S. domiciled member.[6] The American Club has no government subsidy. The Group arranges collective insurance and reinsurance that covers risks such as those arising from oil spills and other polluting substances. The program uses primarily a prefunded approach to pool funds through advance calls of premium. The advance premiums paid by shipowners are 80 percent of estimated claims for the policy year. Premiums are invested by the Group. Should loss experience prove higher than anticipated, the program also encompasses other reinsurance and a post assessment call feature.

The pooling arrangement is a four-layered system. Claims of less than $5 million are essentially risk of loss retained by the club member shipowners. The program then enables the pooling of claims from $5 million to $30 million between clubs based on a formula incorporating tonnage size, premium income, and claims record. The next layer, called "excess of loss reinsurance," is reinsurance purchased by the Group for third-party claims incurred in a single incident in excess of $30 million—up to $1 billion in the case of oil pollution liabilities and up to $2 billion for all other liabilities. Finally, the program encompasses an "over spill" layer to cover claims in the $2 billion to $4 billion range. This layer is funded through a post assessment of club members.

[6]The American Club became a signatory to the Pooling Agreement in February 1998. Prior to that, the American Club was reinsured with the Group via the London Club. Protection and Indemnity is the traditional name for insurance to cover ship owners and ship chartering firms against their legal liabilities to third parties.

Alternative Mechanisms for Funding Insured Losses

In order to pay claims when an insured event occurs, a mechanism must exist to ensure that the funds will be available when they are needed. Currently, there are two possible models for such a mechanism. First, insurers can prefund for expected losses by estimating potential liabilities (establishing a reserve liability) and collecting assets (premiums) to pay claims when an insured event occurs. Alternatively, under certain circumstances, after an insured event when losses are known with certainty, assessments can be levied to provide the necessary funds. Both models, and in many cases a combination of the two, are widely used in the insurance industry.

Prefunding Versus Post Assessment

The deposit insurance provided by the Federal Deposit Insurance Corporation (FDIC) is an example of a prefunded system. Banks pay premiums into a fund. When a bank fails, the deposit insurance fund is used to make up the difference between the bank's remaining assets and customer deposits, up to a legal limit. Of course, if the deposit insurance fund falls below a certain level because of large payouts, banks must pay additional amounts into the fund to ensure that sufficient funds are available for future failures. In contrast, most of the state insurance guaranty funds described earlier are examples of post assessment plans. After an insurance insolvency, the remaining insurance companies in each state where the company operated are assessed the difference between the failed insurer's legal obligations to its policyholders and its assets. Some of the programs described earlier in this statement include a combination of both prefunded and post assessment mechanisms, including the British Pool Re and the California Earthquake Authority.

For ordinary, noncatastrophic events, insurance companies set up reserves (liabilities) that measure their expected losses[7] and set aside assets to offset those liabilities. For catastrophic events, when both the timing and magnitude of losses are difficult or impossible to predict, insurance companies generally do not set up reserves.[8] These losses are

[7] For a reserve to be established by an insurance company, the losses must have already occurred (either reported but unpaid, or incurred but not reported), or be "probable" and "estimable."

[8] Accounting standards and tax law discourage the establishment of "contingency reserves." That is, insurers must usually build such contingency reserves from after-tax income (retained earnings). As a result, it is unusual for insurers to establish contingency reserves for events like hurricanes, since it is impossible to measure either the probability of such occurrences or the expected loss that is likely to occur during the current accounting period, irrespective of the long-term predictability of the event.

generally paid out of the company's ongoing premium stream, the company's capital, or both. If income from premiums is too low or losses are too high, an insurer's capital can be depleted, and the insurer may become insolvent. In the long run, if an insurer does not become insolvent, it can recoup catastrophic losses by adjusting the premium rates charged to policyholders. Thus, even insurance companies postfund some of their insured losses. Both prefunding and post assessment are reasonable ways to fund the exposure to losses from large catastrophic events, including terrorism. Both mechanisms have advantages and disadvantages. Used together, they could provide a multilayer mechanism for funding levels of risk exposure that otherwise could limit the availability of needed insurance.

Reinsurance: A Further Means of Protection

Insurance companies that insure catastrophes can also reduce the potential for insolvency by purchasing reinsurance. The insurer remains liable for any claims when they are presented, but is later reimbursed by the reinsurer for the portion of the liability that was reinsured. The problem for the insurer then becomes one of liquidity rather than solvency. Of course, over time both the insurer's and the reinsurer's solvency depend on a reasonable correspondence between premium income (plus investment income) and losses.

Reinsurers remain in business if the direct insurer can charge premiums that provide sufficient income to pay claims and related expenses and to record a profit. If a reinsurer does not believe an insurer is capable setting a price commensurate with the risk, or of generating enough premium income to pay those risks, it will not reinsure that business. According to the insurance industry, it is now facing that situation in the aftermath of the September attacks. One possible solution would be for a group of insurers to establish a pool to take the place of the unwilling reinsurers. In this case, losses from any terrorist event that affect only one or a few members can be spread across the entire pool, reducing the likelihood that individual members will become insolvent. However, while the pool may take the place of the reinsurers, the pool faces the same difficulties in establishing catastrophic (contingency) reserves as the individual insurers. It would also be holding the same risks that the reinsurers were unwilling to accept. Hence, the desire to add the government to the equation.

How the Federal Government Can Support Insurers Facing Catastrophic Losses

The federal government could help the insurers in a number of ways. It could allow the pool to build tax-free, multiyear reserves for potential losses that do not have a measurable probability or estimable value. Such a pool arrangement has been used in Britain for the purposes of increasing pool assets for catastrophic losses. This tax-free status would increase the pool's ability to pay for future terrorist events. However, if the insured event occurs before the pool builds up substantial reserves, or if the prices insurers are charging for coverage turn out to be too low, the pool's reserves would still be depleted. If so, the member insurers would still risk insolvency, since they would be obligated to pay all legitimate claims whether they could recover the funds from the pool or not. To alleviate this possibility, the government could also stand behind the pool as a risk-bearer. In this case, if the pool's assets were depleted, the government would assume the contingent liability, using its resources to pay additional losses and reducing the risk of insolvency for the insurance companies.

The government could also fund its contingent liability to the pool in a variety of ways. It could charge the pool a premium for the reinsurance-like protection it provides, accumulating a fund it could use to pay for losses. Of course, any premiums charged to the pool would reduce the pool's assets and accelerate both the time when the government would have to begin covering losses and its total exposure. Alternatively, the government could fund its losses out of tax revenues, either with or without repayment requirements.

Given that the problem currently facing the insurance industry is an inability to correctly price the risk of a terrorist act, prefunding may not generate sufficient funds to fully pay potential insured losses from major terrorist events. A postfunding (post assessment) mechanism could be used either to substitute for or to augment a prefunded reserving mechanism. Post event assessments could be a feature of the pool, of the government mechanism, or both. Pool Re, the British plan for public/private sharing of terrorism risk, includes a call on each member-insurer after the private pool is exhausted, in an additional amount equal to 10 percent of the total premium that insurers collected for terrorism coverage. Alternatively, the government could pay that portion of the losses that exceed the pool's resources and then assess the member companies over time in order to recoup part or all of its expenditures. In this variant, the government would be lending the insurance companies part or all of the cash needed to meet liquidity demands resulting from the terrorist event, but not bailing the industry out.

Principles to Consider When Providing Financial Assistance

At this point, we would like to discuss some broad principles that we have drawn from lessons learned over several decades of supporting congressional efforts to assist industries and firms in moments of crisis, including the savings and loan industry and, most recently, the aviation industry.[9] These principles may provide guidance as you consider whether the government should take actions to ensure the continued availability of insurance and reinsurance for terrorist-related acts. We believe that the following three principles are key to such efforts:

- Clearly define the problem to be solved.
- Ensure that the program protects the government and taxpayers from excessive and unnecessary losses.
- Avoid a self-perpetuating program, that is, the government's involvement should be temporary.

Defining the Problem the Industry Faces

The industry and federal government need to work together to clearly define the specific nature of the problems confronting the industry, separating short-term needs from long-term challenges and wants from genuine needs. It seems clear, given insurers increased recognition of their exposures in the aftermath of the unprecedented events on September 11, 2001, that coverage for terrorist acts is not now amenable to normal insurance underwriting, risk management, and actuarial techniques. As a result, insurers and reinsurers are concerned about their ability to set an appropriate price for insurance coverage for terrorist acts. Given this uncertainty if this kind of insurance were to be offered at all, it is likely that either the prices insurers set would be prohibitively high or so low as to invite insolvency. However, even if we conclude that insurers cannot price and, therefore, cannot sell this kind of insurance, defining the nature of the problem facing both the economy and the insurance industry is a critical first step. Many important questions need to be addressed. Among them are:

- What is the appropriate definition of a terrorist act?
- How would the lack of insurance coverage for terrorist events affect other sectors of the economy?
- What are the public policy objectives to be achieved by an assistance program?

[9] Commercial Aviation: A Framework for Considering Federal Financial Assistance (GAO-01-1163T, Sept. 20, 2001).

Protecting the Government From Excessive Losses

Whatever program or mechanism is put in place, protecting the government—and, therefore, taxpayers—from inefficiency and excessive costs needs to be a primary objective. When the government becomes involved in providing insurance, it is usually because the private insurance market is having difficulty underwriting and pricing certain risks. For instance, some risks are difficult to predict and can be catastrophic in size. Additionally, some risks may not be independent—that is, the losses may strike a large number of insured individuals or entities at the same time. Furthermore, spreading the risk to a large and diverse population may be difficult. This difficulty sometimes results from adverse selection, which occurs when those with the highest probability of loss tend to purchase insurance, while those with the least risk opt out.

While these factors may provide a basis for government intervention in the market, they also complicate efforts to measure the government's exposure to loss. Nevertheless, the government can take steps to control and limit losses. For example, any program should have keep market incentives where they belong—with private firms. As long as private firms have their own money at risk, the private market is a better choice than the government for handling traditional insurance functions such as setting prices, underwriting policies, and handling and adjusting claims. If the government is bearing all or most of the risk, private firms will not have the same incentives to maximize efficiency.

Thus, any government program must be structured to ensure that private insurers have the same incentives they would have if the government were not involved. For example, firms should have an incentive to set the best prices they can (even in an environment of insufficient information), to require risk mitigation on the part of their customers in exchange for a reduced premium, and to carefully investigate losses to ensure that claims payments are appropriate. Creating a mechanism that places part of each company's capital at risk—as well as premium income—could serve to maintain the correct incentive structure. If insurance companies believe that their own exposure to losses is insignificant, they are not likely to behave the same way they would if their own money was at stake.

Reevaluating Future Government Involvement

Finally, in the current crisis environment any government solution should be temporary and needs to be revisited periodically. Congress may decide that ensuring the continued ability of the insurance industry to serve all its customers is in the national interest. However, given the lack of information about the scope and nature of the long-term problem, it does not seem prudent to establish such assistance in a program that may become permanent. However, government programs that are not carefully designed tend to become self-perpetuating. We can find examples of such programs in our own government experience and in some of the foreign programs we have described today. Fortunately, several strategies are available to minimize the possibility that a program will perpetuate itself. First, government bureaucracy should be kept to a minimum. An established bureaucracy tends to find reasons for its own continued existence. Second, any program should have an exit strategy from the beginning. An exit plan will provide the insurance industry and program administrators with congressional guidance on how the industry should emerge from the assistance program. Finally, a primary goal of any federal insurance program must be to create an environment in which the private market can and will be reestablished.

Conclusions

The government may have an important role to play in helping the insurance industry establish insurance coverage for losses from terrorist acts. GAO believes that should any assistance program be established it would be most successful if based on the principles we have described today. Following these principles will help ensure that assistance addresses market problems, protects taxpayers from excessive and unnecessary losses, and does not displace the private market for providing such insurance coverage.

Mr. Chairman, this concludes my statement. We would be pleased to respond to any questions that you or other members of the Committee may have.

Contacts and Acknowledgments

For further information regarding this testimony, please contact Richard J. Hillman, Director, or Lawrence D. Cluff, Assistant Director, Financial Markets and Community Investment Issues, (202) 512-8678. Individuals making key contributions to this testimony included James Black, Emily Chalmers, Darryl Chang, Ryan Coles, Rachael Demarcus, Jeanette Franzel, Thomas Givens III, Rosemary Healy, Ronald Ito, Stefanie Jonkman, Monty Kincaid, Barry Kirby, Robert Pollard, and Angela Pun.

Appendix I: Summary of Alternative Programs

Table 1: Summary of Insurance Programs Sponsored by the Federal Government[1]

Program	Description	Government subsidy	Sources of financing
Castrophic Nuclear Accidents	Insures operators of commercial power nuclear reactors from large liability claims from a major nuclear accident regardless of cause such as terrorism, negligence, and natural disasters.	Unclear	Operators of commercial power nuclear reactors obtain maximum amount of private insurance available. After an accident occurs, they pay into a secondary insurance fund.
Overseas Private Investment Corporation (OPIC) Political Risk Insurance	Insures the investments of U.S. companies in developing countries against several political risks, including expropriation, currency inconvertibility, and political violence.	No. Self-financing but guaranteed by the full faith and credit of the U.S. government.	Premiums, insurance claim recoveries, and interest earnings.
National Insurance Development Program (Riot Re)	Insures against property losses due to riot and civil disorder. Provides owners with affordable insurance in high-risk urban areas.	Provided federal reinsurance mechanism. Capped Treasury borrowing authority at $250 million.	Deposited insurer premiums into a Treasury account. Required states to provide funds for program losses.
National Flood Insurance	Insures buildings and contents against losses due to flooding in communities nationwide that enact and enforce appropriate flood plain management measures.	Yes	Premiums, interest earnings, and appropriated funds.
Bank Insurance Fund	Insures deposits up to a specified amount.	Deposits up to a specified amount, backed by the full faith and credit of the U.S. government.	Premiums, recovery of assets acquired in receivership, deposit assumption transactions, and interest earnings.
Aviation War-Risk Insurance	Insures against losses resulting from war, terrorism, and other hostile acts when commercial insurance is unavailable on reasonable terms and conditions and continued air service is in the interest of U.S. policy.	No. Self-financing from premiums for assumption of anticipated risks.	Premiums, interest earnings, and one-time registration fees for nonpremium insurance.
Federal Crop Insurance	Insures against crop damage from unavoidable risks associated with adverse weather, plant diseases, and insect infestations.	Yes	Premiums and appropriations.[2]

[1] Sources of information for these program summaries included (GAO/AIMD-97-16) and various publicly available documents describing the programs.

Appendix I: Summary of Alternative Programs

Program	Description	Government subsidy	Sources of financing
Maritime War-Risk Insurance	Insures losses resulting from war, terrorism, and other hostile acts when commercial insurance is unavailable on reasonable terms and conditions and continued service is in the interest of U.S. policy.	No. Self-financing from premiums for assumption of anticipated risks.	Premiums, interest earnings, binder fees, and claim reimbursements.
National Credit Union Share Insurance	Insures member shares (deposits) up to a specified amount.	Deposits backed by the full faith and credit of the U.S. government up to a specified amount.	Premiums, interest earnings, and 1-percent deposit from insured credit unions.
Pension Benefit Guaranty Corporation Insurance	Insures retirement benefits of workers and beneficiaries covered by private sector-defined benefit pension plans.	No. Self-financing from premiums paid by employers on behalf of their employees.	Premiums, assets from terminated plans, and investment income.
Savings Association Insurance Fund	Insures deposits up to a specified amount.	Deposits backed by the full faith and credit of the U.S. government.	Premiums, recovery of assets acquired in receivership, deposit assumption transactions, and interest earnings.
Service-Disabled Veterans Insurance	Provides life insurance to veterans with service-connected disabilities.	Yes	Premiums, interest on policy loans, policy loan repayments, and appropriations.
National Vaccine Injury Compensation	Provides compensation for vaccine-related injury and death.	No	Excise tax on manufacturers and interest earnings.

[2] The Federal Crop Insurance Corporation is authorized under the Federal Crop Insurance Act, as amended, to use the funds from issuance of capital stock, which provides working capital for the Corporation.

Table 2: Summary of Insurance Programs Sponsored by Other Countries[3]

Program	Description	Government subsidy	Sources of financing
Japan's Earthquake Insurance	Provides a public/private, three-tiered payment system for damages resulting from an earthquake.	Not presently known	Participating insurer and reinsurer premiums; some government tax revenue.
United Kingdom's Pool Re	Insures against losses resulting from terrorism.	Self-financing from premiums, pool members, and the government as last source of funds.	Premiums, collections from pool members, investment income, and government contributions.
Israel's Insurance for Victims of Enemy Action	Provides government-funded property/casualty and health/life insurance for victims of a terrorist attack.	Yes	Government property taxation, and premiums for additional state coverage. Although not explicitly stated, general tax revenues stand behind the primary funding sources.
Switzerland's Catastrophic Insurance	Insures against losses from natural disasters (excluding earthquakes).	No. Intent was that it would be self-financing from premiums for assumption of anticipated risks. If claims exceed premium payments, the difference would be payable from the insurer's capital and reserves.	Premiums on buildings and their contents.

[3] Information on these program summaries was collected from a United Nations document and various publicly available sources describing the programs.

Table 3: Summary of Insurance Programs Sponsored by States or Other Entities[4]

Program	Description	Government subsidy	Sources of financing
State Insurance Guaranty Funds	Protects policyholders when an insurance company fails.	No. However, in some states companies can deduct assessments from state taxes or recoup by increasing insurance premiums.	In all states but New York, insurers are only assessed after a failure occurs. In New York, insurers pay a premium into a state guaranty fund, similar to the way federal deposit insurance is funded.
California Earthquake Authority	Insures California residents and businesses against losses associated with earthquakes.	No subsidy.	Funding is provided by a multilevel mechanism, including insurance premiums, insurance company assessments, and debt financing.
The International Group of Protection and Indemnity Clubs	Insures shipowners against third-party claims for oil spills and other risks	No subsidy.	Member contributions via pre- and post-funding mechanisms.
Workers Compensation Residual Market Reinsurance Pool	National Council on Compensation Insurance (NCCI) is operating mechanism for paying claims from a pool fund.	No subsidy.	Premiums and additional contributions from member carriers in the state when pool funds cannot pay claims.

[4] Information on these program summaries was collected from various publicly available documents describing the programs.

Appendix A.3

National Association of Insurance Commissioners Guiding Principles for Federal Legislation Related to Property and Casualty Insurance Coverage for Losses Caused by Terrorism

National Association of Insurance Commissioners Guiding Principles for Federal Legislation Related to Property and Casualty Insurance Coverage for Losses Caused by Terrorism

The insurance industry has repeatedly encountered new, unexpected, and severe risks in the past and has always, given reasonable time and experience, been able to develop creative ways to price its products. However, certain events may exceed the capacity and willingness of the property and casualty insurance industry to provide future coverage for terrorism exposures. State insurance regulators recognize that federal legislation is urgently needed to provide a federal backstop to buttress the ability of the property and casualty insurance industry to protect Americans from financial losses associated with terrorism, while at the same time safeguarding insurer solvency so that insurance companies can continue to meet all of their other claims obligations. Outlined below are the governing principles and essential elements of any federal disaster insurance legislation that state insurance regulators support. The National Association of Insurance Commissioners (NAIC) urges Congress to take immediate action to enact legislation consistent with these principles. For purposes of this document, the use of the word "terrorism" includes the war risk for workers' compensation that insurers are required to provide coverage for as a result of statutory provisions contained in state workers' compensation laws.

A. The Role of a Federal Government Program

1. Federal legislation in this area should "sunset" at a date certain of limited duration after enactment in order to allow a reevaluation of the need for and design of the program.

2. To take advantage of the substantial experience of state-based insurance regulation, the expertise of the NAIC should be made available to any federal program in this area and consideration should be given to including representatives of the NAIC as members of the governing body of such a program.

B. The Content of a Federal Program

3. Federal legislation should supplement but not replace other private and public insurance mechanisms where those mechanisms can provide coverage more efficiently.

4. Federal legislation should include clear and non-ambiguous definitions of terrorism to be applied to all policies nationwide.

5. Rates should consider all reasonable factors that can be feasibly measured and supported by theoretical and empirical analysis, including relative risk.

6. Federal legislation should encourage loss reduction and hazard mitigation efforts.

7. State residual market mechanisms and other pooling mechanisms providing coverage should be allowed to participate in any program established by federal legislation but in such a way as to not create incentives for business to be placed in those residual markets.

8. Federal legislation should recognize that terrorism exposures subject insurers to potential "adverse selection," i.e., entities with lower risk are less likely to voluntarily purchase coverage, while those with greater risk are more likely to purchase coverage. If possible, the federal program should encourage the inclusion of both low-risk and high-risk entities to promote greater risk spreading in a way that does not subject risk-bearing entities, including the federal government, to adverse selection.

9. Federal legislation should address coverage and cost for all risks exposed to terrorism, regardless of geographic, demographic or other classification, such as "more-at-risk" or "less-at-risk."

10. There should be a safety net protection, within reasonable limits, for any private program created by federal legislation in the event of the insolvency of the program or its participants.

11. Tax law changes should be encouraged to avoid penalties on and encourage the accumulation of reserves for the portion of terrorism losses insurable in the private marketplace.

12. Federal legislation should not unnecessarily preempt state authority.

C. Participation in the Program

13. Federal legislation should encourage individuals and businesses to maintain private coverage for terrorism exposure.

14. Federal legislation should promote or encourage awareness that coverage is available for any property and/or casualty risk that meets reasonable standards of insurability.

15. Federal legislation should encourage or mandate that eligible entities participate in the program or run the risk of losing access to federal disaster assistance.

D. Administration of the Program

16. There should be an appropriate balance of the different private and public interests in the governance of regulatory oversight over the program.

17. Federal legislation should recognize the expertise of the states in insurance regulation with respect to such areas as licensing insurers, solvency surveillance, oversight of rates and forms in most jurisdictions, licensing producers, assisting policyholders and consumers during the claim settlement process and performing market conduct examinations.

18. To more efficiently achieve the objectives of any federal terrorism program, there should be coordination of state and federal regulatory responsibilities.

19. Jurisdiction over insurer claim settlement practices should remain with the states.

American Academy of Actuaries
1100 Seventeenth Street NW
Seventh Floor
Washington, DC 20036
Tel (202) 223-8196
Fax (202) 872-1948
www.actuary.org