

Where do we go from here?

Terrorism Insurance 2005

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ALTHOUGH NUMEROUS EFFORTS HAVE been undertaken during the last three years to prevent new terrorist attacks on U.S. soil, the economic impact of another large-scale attack has to be considered seriously. Who should pay for future losses so as to assure business and social continuity should the terrorists be successful?

The Terrorism Risk Insurance Act of 2002 (TRIA) signed into law by President Bush established a temporary national insurance program that provides up to \$100 billion commercial coverage against terrorism losses perpetrated by foreign interests on U.S. soil. The centerpiece of the legislation is a specific risk-sharing arrangement between the federal government and insurers. TRIA's three-year term ends this December, so Congress has to determine in the next few months whether the act should be renewed, whether an alternative terrorism insurance program with government involvement should be substituted for it, or whether insurance coverage should be left solely in the hands of the private sector.

BEFORE AND AFTER 9/11

Even after the terrorist attack on the World Trade Center in 1993 and the Oklahoma City bombing in 1995, insurers in the United States did not view either international or domestic terrorism

as a risk that should be explicitly considered when pricing commercial insurance. After all, losses from terrorism had historically been small and, to a large degree, uncorrelated. Thus, prior to September 2001, terrorism coverage in the United States was an unnamed peril that was essentially offered to business free of charge in most standard all-risk commercial and homeowners' policies covering damage to property and contents.

The September 11 terrorist attacks killed more than 3,000 people from over 90 countries. Insured losses, currently estimated at \$32.5 billion, were the most costly in the history of insurance, nearly twice that of Hurricane Andrew, the previous record-holder. Commercial property, business interruption, workers' compensation, life, and general liability insurance lines each paid out claims in the billions of dollars. According to data provided last summer by the Insurance Information Institute, business interruption claims alone accounted for \$11 billion, one third of the total insured losses.

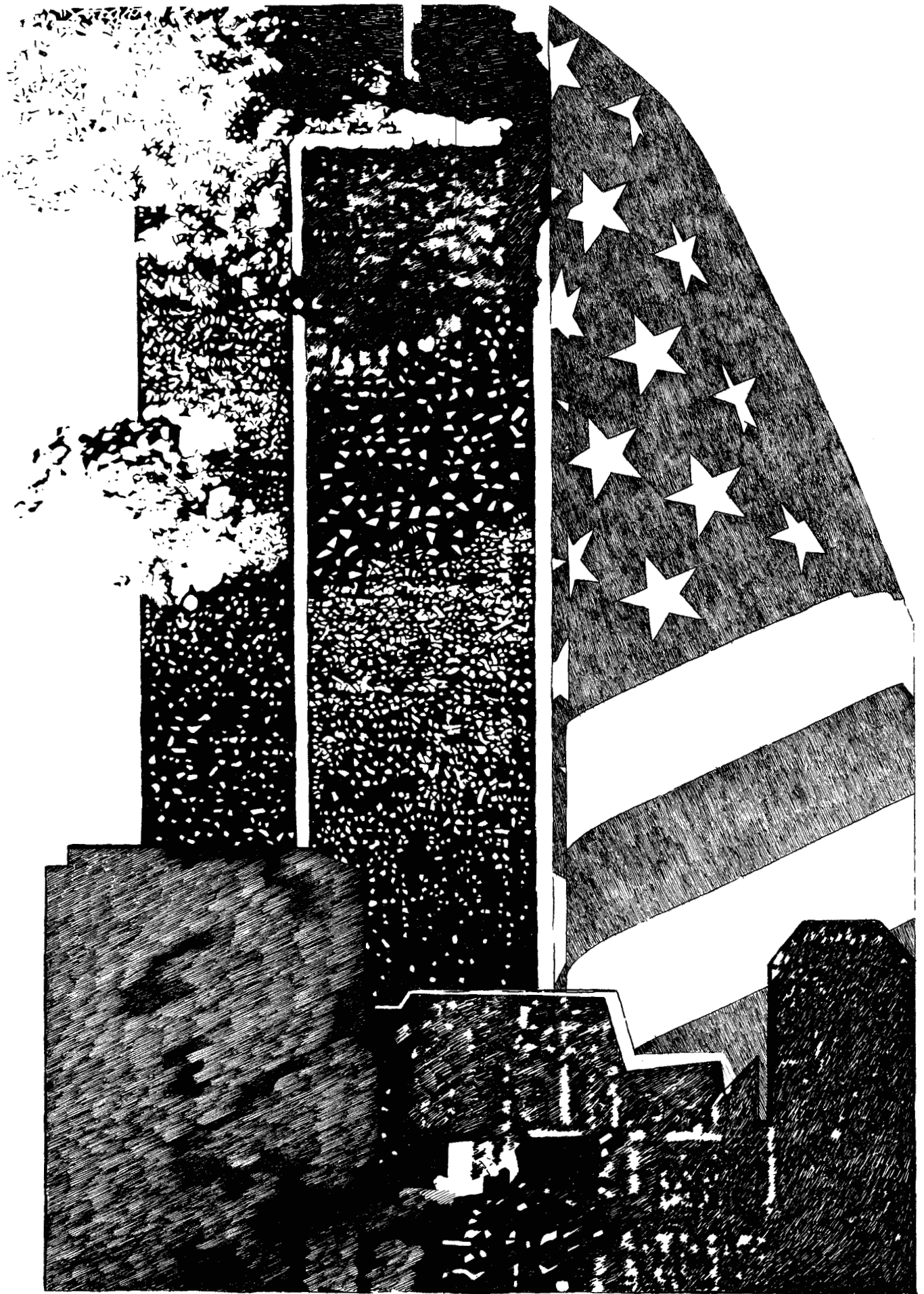
Nearly 150 insurers and reinsurers were responsible for covering the losses, with European reinsurers assuming the largest financial burden. The reinsurance payments came in the wake of other outlays triggered by a series of catastrophic natural disasters over the past decade and portfolio losses from stock market declines. With their capital base severely hit, most reinsurers decided to reduce their terrorism offerings drastically or even to stop covering the risk.

Hence, in the immediate aftermath of the September 11 attacks, U.S. insurers found themselves not only with significant amounts of terrorism exposure from existing portfolios, but also with limited possibilities of obtaining reinsurance to cover the losses should a future attack occur. The few reinsurers that did provide coverage to their clients charged very high prices. For example, at a presentation of the National Bureau of Economic Research insurance group meeting in 2003, Dwight Jaffee and Thomas Russell indicated that before September 2001, Chicago's O'Hare airport carried \$750 million of terrorism insurance at an annual premium of \$125,000; after

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Both authors serve on the OECD Task Force on Terrorism Insurance. This article is based on Kunreuther and Michel-Kerjan's article "Policy Watch: Challenges for Terrorism Risk Insurance in the United States," that appeared in the Fall 2004 issue of the *Journal of Economic Perspectives*.



the terrorist attacks, insurers only offered \$150 million of coverage at an annual premium of \$6.9 million.

Insurers warned that another event of comparable magnitude to September 11 could do irreparable damage to the industry. Furthermore, they contended that the uncertainties surrounding large-scale terrorism risk were so significant that the risk was uninsurable by the private sector alone. In October 2001, the Insurance Services Office, on behalf of insurance companies, filed a request in every state for permission to exclude terrorism from all commercial insurance coverage. By

er has included those risks in its standard commercial policy.

TRIA coverage is activated for insured losses in excess of \$5 million. If that happens in 2005, insurers will be responsible for losses equal to 15 percent of the direct commercial property and casualty earned premiums last year. This deductible level can be large. Dowling & Partners has published their estimates of TRIA retentions for major publicly held insurance companies for 2005 and notes that AIG has a deductible of \$3.25 billion, St. Paul Travelers has a deductible of \$2.4 billion, and three other companies (CNA Insurance, Hartford, and Chubb) have

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early 2002, 45 states permitted insurance companies to exclude terrorism from all their policies except for workers' compensation insurance, which by statute covers occupational injuries without regard to the peril that caused the injury. With that exception, the *Washington Post* indicated that by September 11, 2002, very few firms had other insurance coverage against a terrorist attack.

A TEMPORARY ANSWER

The lack of availability of terrorism insurance one year after the 2001 attacks led to a call from some private sector groups for federal intervention. The U.S. Government Accountability Office reported in 2002 that the construction and real estate industries claimed that the lack of available terrorism coverage delayed or prevented several projects from going forward because of concerns by lenders or investors. In response to those concerns, TRIA was passed by Congress and signed into law by President Bush. Although three bills to extend TRIA for an additional two to three years beyond 2005 were introduced in 2004, it is unclear what type of terrorism insurance program will emerge in the United States when the act expires.

Under TRIA, insurers are obligated to make available to all their clients an insurance policy against terrorism carried out by foreign persons or interests. The coverage limits and deductibles under the act must be identical to non-terrorism coverage, but TRIA does not provide any guidance as to what rates should be charged. The insured can decline the offer.

The act does not cover domestic terrorism. That means that an event like the Oklahoma City bombings of 1995, the most damaging terrorist attack on domestic soil before September 11, would not be covered under TRIA. The act does not cover life insurance and prohibits the federal government from paying punitive damages awarded by courts for acts of terrorism certified under TRIA. The risks related to a terrorist attack using chemical, biological, radiological, and nuclear weapons of mass-destruction are covered under TRIA only if the primary insur-

TRIA deductibles between \$900 million and \$1.15 billion.

During any given year, the federal government would pay 90 percent of each insurer's primary property-casualty losses between their deductible and \$100 billion; the insurer would cover the remaining 10 percent. An important component of the program lies in the free-of-charge federal reinsurance. Hence the reinsurers' role has been limited to covering the deductible portion of the insurer's potential liability. However, few reinsurers have provided that protection because of a lack of capacity for covering the risk.

Government outlays after a terrorist event are partially recouped by the U.S. Treasury through a mandatory policy surcharge levied against insurers. Insurers, in turn, can impose a surcharge on all property and casualty insurance policies, whether or not the insured has purchased terrorism coverage. If final payments by the insurance industry in 2005 exceed \$15 billion, the federal government pays for the losses above that amount. Should the insurance industry's losses exceed \$100 billion during the year, then the U.S. Treasury determines how the losses will be divided between insurers and the federal government.

DEMAND FOR TERRORISM INSURANCE

Data compiled quarterly by the insurance broker Marsh from more than 800 businesses and government entities that renewed their property insurance policies indicated that approximately 45 percent also bought terrorism insurance in each of the first three quarters of 2004. Another survey by Aon found that 57 percent of 500 commercial accounts that renewed their coverage between October 1, 2003 and September 30, 2004 purchased terrorism insurance. Those figures reveal a significant increase in the demand for coverage over the 20–30 percent range early in 2003.

One explanation for the increase in demand is the decline in the price of terrorism coverage in 2004 to half of what it was during the first quarter of 2003, just after TRIA was implemented. At that time, terrorism rates represented about

10 percent of the total premium for property insurance (and much higher in downtown Manhattan). In the third quarter of 2004, according to the Aon data, the median rate had fallen to approximately 3.5 percent of total premium, making coverage more affordable. Coupled with the general decrease in property insurance rates, firms have been able to free up funds to purchase terrorism insurance coverage, according to Aon and Marsh.

Another factor that has led to increased purchases of terrorism insurance is the alerts released by the federal government in 2004 on possible attacks in the United States that have increased firms' concern with the risk. In the current Sarbanes-Oxley environment, it is likely that executives preferred buying insurance rather than exposing themselves to the risk of being sued for negligence should the firm be the target of a terrorism attack.

It is not clear whether the demand for terrorism coverage will change in the coming months if TRIA is renewed. Should the prices remain at their current levels, then it is likely that firms who are now buying coverage will continue to do so if they believe there is a serious risk of a future terrorist attack. On the other hand, if TRIA is not renewed and terrorism insurance premiums rise significantly from current levels, then one would expect demand for coverage to fall.

INSURABILITY OF THE TERRORISM RISK

Traditionally, two conditions must be met before insurance providers are willing to offer coverage against an uncertain event. First, they have to be able to identify and quantify, or estimate at least partially, the chances of the event occurring and the extent of losses likely to be incurred. Second, they must have the ability to set premiums for each potential customer or class of customers.

If both conditions are satisfied, a risk is considered to be insurable. But it still may not be profitable. In other words, it may be impossible to specify a rate for which there is sufficient demand and incoming revenue to cover the development, marketing, operating, and claims processing costs of the insurance, and still yield a net positive profit over a prespecified time horizon. In such cases, the insurer will opt not to offer coverage against the risk.

In the field of risk management and insurance, terrorism presents a set of very specific challenges regarding its insurability by the private market alone: the potential of catastrophic losses, the dynamic uncertainty and ambiguity associated with terrorism, and the existence of interdependent risks.

CATASTROPHIC LOSS POTENTIAL As discussed above, insurers did not change their behavior in the aftermath of the first terrorist attacks against the World Trade Center in 1993, implying that they are willing to provide coverage for local terrorist attacks using conventional weapons. Following the September 11 attacks, insurers have been concerned with the possibility that catastrophic losses from future terrorist attacks may have a severe negative impact on current surpluses and could possibly lead to insolvency. Empirical evidence provided by experts on terrorism threats supports their concern. There are an increasing number of extremist, religious-based terrorist groups that

have emerged in the past 20 years, many of whom advocate mass casualties and directly target U.S. economic interests.

Attacks using chemical, biological, and radiological weapons have the potential to inflict large, insured damage, especially on workers' compensation and business interruption. The bombing of a chlorine tank in Washington, D.C. could kill and injure hundreds of thousands of people. Plausible scenarios elaborated by Risk Management Solutions, one of the three leading modeling firms examining catastrophe risks, indicate that large-scale anthrax attacks over New York City could cost between \$30 and \$90 billion of insured losses. Nuclear attacks could have a much more severe impact. Indeed, there is evidence that terrorist groups such as Al Qaeda explored the possibility of obtaining a nuclear device to build "luggage nuclear bombs," and the groups continue to see value in this form of terrorism. The impact of a combination of such attacks in several major cities could be devastating to the country.

The September 11 attacks, as well as the anthrax attacks that followed, also demonstrated a new kind of vulnerability that one of us (Michel-Kerjan) has analyzed: the use of networks as "weapons of mass disruption." Terrorists can use the capacity of a country's critical networks to have a large-scale impact on the nation. Each element of the network (e.g., transportation)—every aircraft, every piece of mail, every marine container—can become a potential weapon that endangers the entire network. For example, what would be the impact of a supply chain disruption on the retail industry (e.g., Wal-Mart, Home Depot, Target) should the federal government order a major port to shut down after discovering that a few cargo marine containers contained nuclear devices designed to be exploded in Miami, New York, and Los Angeles?

DYNAMIC UNCERTAINTY Although terrorism risk models have been developed in the past two years, they are primarily designed to specify insurers' potential exposure to losses from a wide range of scenarios characterizing the attack. Data on terrorist groups' activities and current threats are normally kept secret by federal agencies for national security reasons. For example, the public still has no idea today who manufactured and disseminated anthrax in U.S. mailings during the fall of 2001. Without that information, it is difficult for modelers to make projections about the capability and opportunities of terrorists to undertake similar attacks or disruptive actions in the future. In contrast to other catastrophic risks such as natural hazards, where large historical databases and scientific studies on the risks are in the public domain, terrorism models are not well-suited to estimating the likelihood of specific attacks.

In addition, the terrorism risk depends on actions by both the private and public sectors (e.g., foreign policy) and on what protective measures are undertaken by those at risk. Unlike natural disasters, terrorists can quickly change their targets and modes of attack to whatever offers their best chance of success and will cause the greatest damage. That produces *dynamic uncertainty*, which makes the likelihood of future terrorist events extremely difficult to estimate.

AMBIGUITY The inability to estimate the likelihood of another terrorist attack and the resulting consequences translates

into a high degree of ambiguity of the risk. This factor is considered by insurers when determining what premiums to charge their clients. Studies of the pricing of insurance by actuaries and underwriters undertaken prior to September 2001 revealed that when either probabilities and/or outcomes were highly ambiguous, the recommended premiums would be considerably higher than if there was more predictability in the risk. After the 2001 attacks, many insurers focused on their risk concentration without weighting potential losses by the likelihood of future terrorist attacks. It is thus not surprising that they were reluctant to provide terrorism coverage during the months following the attacks, and when they did offer policies the rates they charged were extremely high. Interesting enough,

insurance compensation for business interruption losses caused by the Federal Aviation Administration's decision to ban takeoffs of all civilian aircraft regardless of destination following the September 11 attacks. The specific clause of the insurance contract specified that business interruption losses were only covered as a "direct result of a peril not excluded." This territorial limitation excludes interdependent effects from the response to an attack.

A SUSTAINABLE PROGRAM

Congress requires that the U.S. Department of the Treasury assess the effectiveness of TRIA no later than June 30 to determine whether it should be renewed, whether an alter-

The challenge in terrorism insurance is to spread the risks appropriately between the insured parties, insurers, the capital markets, and the government.

some industrial firms were still willing to purchase coverage at prices that implied likelihoods of a terrorist attack on their business that appeared unrealistic, such as paying a \$900,000 premium for \$9 million of insurance coverage.

INTERDEPENDENCE Another challenge in pricing terrorism risk insurance stems from the existence of interdependencies. In contrast to other insurance policies that offer premium reductions to policyholders who undertake preventive measures (like making buildings safer against fire), an insurer may not be in a position to offer this type of economic incentive for terrorism coverage because of the interconnectedness between firms with respect to this risk.

The vulnerability of one organization, critical economic sector, and/or country depends not only on its own choice of security investments, but also on the actions of other agents. One of us (Kunreuther) and Geoffrey Heal have introduced the concept of *interdependent security* and developed a formal game theoretic model to examine its effects. Failures of a weak link in an interdependent system can have devastating impacts on all parts of the system.

Interdependencies do not require proximity, so the antecedents to catastrophes can be quite distinct and distant from the actual disaster. In the case of the September 11 attacks, security failures at Boston's Logan airport led to crashes at the World Trade Center, the Pentagon, and in rural Pennsylvania. There was not a thing that firms located in the Trade Center could have done on their own to prevent the aircraft from crashing into the twin towers.

The interdependencies associated with terrorism risk pose another limitation to insurance, because losses are normally not covered unless the insured is the direct target of an attack. For example, in March 2004 the city of Chicago was denied

native terrorism insurance program should be substituted for it, or whether insurance coverage should be left to the private sector. We now consider several alternative terrorism insurance programs and scenarios, and discuss the pros and cons of each one.

MARKET APPROACH In this scenario, the Terrorism Risk Insurance Act of 2002 would expire and a private market for terrorism insurance would be allowed to operate without any federal backstop or mandatory offer requirement. Some economists contend that the private market has the capacity to develop a market for covering terrorism risks and that government participation limits the development of private solutions. (See "A Role for Government?" Winter 2002–2003.) Others argue that certain changes in tax, accounting, and regulation would make it less costly for insurers to hold surplus capital and allow prices to adjust freely. Private insurers would then be more likely to cover the terrorism risk adequately. To date, no serious legislative efforts have been undertaken to initiate such changes.

Should the federal government withdraw its free financial support, most private insurers are likely to offer terrorism insurance only if they can protect themselves against catastrophic losses by purchasing reinsurance or through securitization of risks via innovative mechanisms like catastrophe bonds. A catastrophe bond transfers the risk of a large loss from the insurance/reinsurance industry to the financial markets. It has the following structure: Under explicit conditions specified at its issuance, the bond pays a higher-than-normal interest rate, but the interest and/or principal payments will be lost if a catastrophe occurs.

Neither of those risk transfer mechanisms seems especially promising today. Even with TRIA in place, reinsurers have

only cautiously returned to terrorism insurance. Catastrophe bonds were initiated in 1996 to cover the risk of large losses from some natural disasters. To date, only two terrorism-related bonds have been issued and neither of them is actually a pure terrorism bond issued for a specific type of attack, but instead they are multi-event bonds associated with the risk of natural disasters or pandemics. A sustainable market to cover losses from terrorist attacks has not emerged in the wake of September 11. It is not clear whether that situation will change in the near future, at least in the United States.

In fact, as noted by the Government Accountability Office, there has been little movement and coordination between insurers and reinsurers toward developing a private-industry program that could provide sufficient capacity without government participation. If nothing is done after TRIA expires, insurers are likely to increase the price of coverage significantly because free federal reinsurance will no longer be available. Many insurers may even decide not to offer the coverage to their clients because they would no longer be required to do so by law. On the demand side, many firms are likely to conclude that such insurance is too costly and not strictly necessary as memories of September 11 fade.

This outcome may be considered efficient until after the next terrorist attack, when providing adequate financial protection to victims of catastrophes will again take center stage. Under public pressure, it would be politically difficult for the government to not compensate the uninsured for damage they sustain. Because of the uncertainty of the risk and the fear of future catastrophic losses, many insurers would likely withdraw temporarily from the market as they did right after the September 11 attacks. Under such a scenario, new legislation is likely to impose legal requirements for terrorism insurance.

Such a cycle is common in the aftermath of a catastrophic natural disaster. Following Hurricane Andrew in 1992, which inflicted \$20 billion of insured losses (measured in 2002 dollars), insurers were prepared to cancel windstorm coverage in hurricane-prone areas of Florida. The state legislature passed a law the next year that individual insurers could not cancel more than 10 percent of their homeowners' policies in any county in any one year and they could not cancel more than 5 percent of their property owners' policies statewide. At the same time, the Florida Hurricane Catastrophe Fund was created to relieve pressure on insurers should there be a catastrophic loss from a future disaster. In California, insurers refused to renew homeowners' earthquake policies after the 1994 Northridge earthquake that caused \$17 billion of insured losses (in 2002 dollars). This led to the formation in 1996 of a state-run earthquake insurance company, the California Earthquake Authority, with funds for its operation provided by insurers and reinsurers.

MUTUAL INSURANCE POOLS Another proposal is to allow insurers to form an insurance pool to deal with specific lines of coverage. In effect, a group of companies would provide reinsurance to each other. This solution has the advantage of spreading the risk over a large number of insurers who join the pools, but it is unclear whether this alternative would provide

adequate coverage against large-scale terrorist attacks.

In 2004, a group of 14 U.S. workers' compensation insurers that accounts for roughly 40 percent of the market, working with Towers Perrin, assessed the feasibility of a workers' compensation terrorism reinsurance pool. Indeed, as discussed, terrorism protection cannot currently be excluded from workers' compensation coverage. The feasibility study concluded that, while the pool could create some additional capacity for each of its members, it would not be enough to matter in the case of a large-scale terrorist attack. The report stated that extreme terrorist attacks could inflict workers' compensation losses of \$90 billion, three times the capital backing of the private industry's capacity for covering this line of business. In addition, the report concluded that it would be difficult to reach an agreement on the rates that should be charged based on the terrorism exposure of pool participants.

There are challenges associated with the creation and operation of a pool arrangement. Should it hold funds before a terrorist attack, or should it be an arrangement to supply such funds after an attack? Should participation in the pool be voluntary or mandatory? To what extent could the pool diversify risk and create additional capacity for each of its members? What rating scale should be charged to each of its members, and how could one reach a consensus by those considering joining? What would be the relationship between premiums charged by primary insurers to policyholders and those charged by the pool to cover each member insurer? What arrangements are made for covering losses above the pool's limited capacity?

PUBLIC-PRIVATE PARTNERSHIPS The challenge in providing terrorism insurance is to spread the risks appropriately between the insured parties, the insurance industry, broader capital markets, and the government (the taxpayers). For those who recognize terrorism risk coverage as an important tile in the mosaic of national security, the specific characteristics of terrorism risk call for federal participation. The creation of a pure government program would certainly present a set of important limitations by excluding the insurers' expertise and financial and operational capacity.

Building on the strengths of private insurers (such as nationwide operating networks to collect premiums, estimate the losses, and provide claims payments rapidly), another alternative would be to have a specific arrangement between the private and public sectors by continuing TRIA or through another program. State and federal reinsurance could cover losses for extreme events that exceeded the predefined layers of private coverage. Indeed, the public sector has the capacity to diversify the risks over the entire population and to spread past losses to future generations of taxpayers, a form of cross-time diversification that the private market cannot achieve because of the incompleteness of intergenerational private markets and legal limitations for insurers to accumulate financial reserves.

Here again, there are some questions that need to be addressed to assure the program provides the country with the most effective way to recover from large-scale terrorism. How much capacity should insurers provide to cover terrorism with-

out exposing themselves to liquidity problems, downgrading of their credit rating, or even insolvency? How much capacity could reinsurers provide? What will they charge for protection? Above what threshold level should the government bear the risk, and at what price? Should the government cover specific risks, such as losses from workers' compensation or terrorist attacks using nuclear weapons? Those questions need to be addressed when considering some type of public-private partnership for providing terrorism coverage.

REQUIRED INSURANCE Insurance could be required for certain types of risks through the private sector. For example, banks can require terrorism insurance coverage as a condition for loans and mortgages to protect their own financial interests, as they do for fire coverage today. A survey published last year by the Mortgage Bankers Association of 123,000 commercial/multifamily loans (total of \$656 billion) showed that terrorism insurance has been required by the mortgage investor and/or servicer on \$616 billion (i.e., 94 percent of that debt).

Workers' compensation policies cover occupational injuries regardless of their cause, so coverage for workers harmed in a terrorist attack is included under current law in all states even for chemical, biological, radiological and nuclear attacks. Even before the passage of TRIA, five states (California, Florida, Georgia, Texas, and New York) required terrorism coverage to be

soil. Indeed, the more an industrialized country has suffered from international terrorism, the more likely such coverage has been made mandatory, as in France and Spain. Obviously, it is much easier to defend a voluntary private market approach for providing terrorism insurance when few losses have been incurred.

LINKING MITIGATION WITH INSURANCE A report by the U.S. Congressional Budget Office, released last January, suggests that terrorism insurance premiums be based on "actuarial" rates should the private sector be forced to provide coverage without any federal assistance in the form of TRIA. The CBO report concludes that under such a program, higher premiums could encourage firms to adopt measures to reduce potential losses.

There is no empirical evidence, however, that such a scenario characterizes the response by firms to the risk of terrorism. Indeed, firms appear to be reluctant to invest in mitigation for other reasons. Those who are considering risk-reducing measures may conclude that they lack the information on the likelihood and consequences of the terrorism threat to evaluate the cost-effectiveness of specific security measures. They may also view terrorism as a national security issue and consider that it is the role of the government to protect the country against possible terrorist attacks. Such firms are likely to feel that additional substantive investments in security will nega-

The challenges associated with terrorism risk financing are fundamental, but they will not be solved overnight.

included in commercial property and casualty insurance. Unless changed at the state level, those requirements would continue to apply whether or not TRIA is renewed.

One option is for the federal government to mandate that all firms purchase a certain amount of terrorism insurance. Such a requirement would reduce the demand for government aid that is likely to arise after an attack by those who failed to purchase insurance. The recovery process would be facilitated through insurance claims dispersed rapidly to those suffering losses. By expanding the market for terrorism coverage, the insurance industry could diversify its risks across structures, industries, and geographical areas, and stabilize premium incomes.

To date, the question as to whether coverage should be required has not been explicitly part of the debate regarding the future of terrorism insurance in the United States. It was discussed 50 years ago as part of a dialog on the creation of a war damage insurance program in the aftermath of World War II. Such a proposal might be given serious consideration if other terrorist attacks, even small-sized ones, occur on U.S.

territory and/or globally. Those arguments partially explain the federalization of airline security in the aftermath of September 11.

The existence of interdependencies may lead to a situation in which all or many organizations decide not to invest in protection because they know that the failure of others to take similar actions can harm them even if they exert care themselves. This interdependency and interconnectedness of the global economy provides economic disincentives for firms to undertake protective measures voluntarily and for insurers to reward those actions with lower premiums. In theory, a social insurance program can institute regulations, standards, and incentive programs (e.g., tax reduction) to reduce the negative externalities. One current example is the National Flood Insurance Program, where insurance is supplemented by land use regulations and building codes to reduce flood losses for structures located in high hazard areas.

Finally, it is worth noting that the absence of any link between insurance and mitigation with respect to the terrorism risk is not specific to the United States. According to a

recent study on terrorism insurance markets in several countries undertaken by the Wharton Risk Center in conjunction with European research institutions, programs established in France, Germany, Spain, and the United Kingdom have not developed either any systematic incentive policy, such as premium or deductible reduction, for encouraging insured firms to invest in security measures.

RATING AGENCIES Rating agencies are important players that affect how commercial enterprises make financial decisions. Consider the market for commercial mortgages. The demand for terrorism insurance is high in the real estate sector because of requirements imposed by third parties such as credit rating agencies. For example, Moody's often requires terrorism insurance for a commercial mortgage-backed security to receive its highest rating.

Rating agencies are also likely to play a role should TRIA not be renewed by affecting how much terrorism coverage an insurer will want to provide and still maintain its credit rating. On the demand side, one factor a rating agency may take into account in evaluating the financial characteristics of a firm is whether it is insured against future terrorism losses.

CONCLUSION

The insurance industry can play a key role in contributing to the social and economic continuity of the country should a large-scale terrorist attack occur. In the aftermath of September 11, the insured costs associated with the terrorist attacks were spread across the U.S. and European economies. There have been debates here and abroad on the role and responsibilities of the federal government and the private sector in providing adequate protection against terrorism. In the United States, this led to the passage of the Terrorism Risk Insurance Act of 2002.

One question that needs to be thoroughly examined is whether and how the public sector could partner more systematically with the private sector to create a large and sustainable insurance market for terrorism risk. Such a policy may mean providing some degree of government reinsurance and possibly covering certain losses from terrorism where the private sector may not have sufficient capacity. The public sector may also facilitate the linkage of terrorism insurance with private expenditures to better prepare the nation by reducing interdependent risks of terrorism and hence the direct and indirect consequences of an attack.

If a two-year extension of TRIA is approved, Congress could explicitly request a study involving the affected stakeholders for developing a sustainable terrorism insurance program in the United States. We also are concerned that if nothing coherent is done should TRIA expire, another large terrorist attack could have a much greater financial and social impact than what the nation experienced after September 11.

As stated by the White House in its 2002 National Strategy, homeland security is "the concerted effort to prevent attacks, reduce America's vulnerability to terrorism, and minimize the damage and recover from attacks that do occur." To succeed, security must be a comprehensive national effort. As

part of that effort, the White House could consider establishing a national commission on terrorism risk coverage. Indeed, the challenges associated with terrorism risk financing are fundamental, but they will not be solved overnight. Experts and representatives from the public and private sectors could be called upon to suggest what would be the most effective and sustainable way for the nation to recover from future terrorism and the appropriate roles of the private and public sectors in that regard. There is no clear answer to this question today. **R**

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