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NATIONAL SECURITY AND PRIVATE-SECTOR RISK MANAGEMENT FOR TERRORISM

Lloyd Dixon and Robert Reville

Government policies and programs have been developed over many decades in the United States to address risks to private businesses and individuals associated with a wide range of disasters and adverse events. Programs such as riot insurance, unemployment insurance, and workers' compensation have been created to cushion the effects of urban riots, job loss, and workplace injuries. Programs have been developed at the federal and state levels to share risks and provide compensation for losses due to large natural disasters such as earthquakes, floods, and hurricanes. Another risk to citizens and businesses in the United States became more evident on September 11, 2001: the risk of terrorism. Stakeholders and the policy community have been proposing and discussing government programs and policies for addressing this new risk, although the need for a public role is still being debated. This chapter explores the public role in addressing terrorism risk, and specifically the role of terrorism insurance and compensation in national security.

Much of the recent debate on terrorism risk management has focused on insurance and the Terrorism Risk Insurance Act of 2002 (TRIA). Insurance is just one tool for addressing risk, however, and we begin this chapter with a brief description of the broader set of mechanisms that have been used in the United States to provide risk management and compensation for adverse events. The next section discusses unique public policy issues that arise in the context of terrorism risk, and in particular how national security considerations set this risk apart from other risks. How the compensation system can contribute to national security is then illustrated with the experience after 9/11. We then describe trends in terrorism since 9/11 and the increasingly complex public-private interdependence of terrorism risk. Finally, we explore some of the policy

challenges at the intersection of public policy and private risks for terrorism. We identify several policy issues that should be researched and ultimately addressed in crafting the public role.

THE RISK SHARING AND COMPENSATION SYSTEM

The institutions, programs, and policies that provide benefits to businesses and individuals affected by an accident, natural disaster, terrorist attack, or other type of loss can be thought of as a system composed of four primary compensation mechanisms: insurance, the tort system, government programs, and charity. Together these mechanisms determine the fraction of losses borne by injured parties, the parties responsible for paying for the losses, the time to payment, and the transaction costs associated with the transfers. Together they also create incentives for physical and financial risk management for both businesses and individuals.¹ Ultimately, their combined operation contributes to the resilience of a local economy or a country to a catastrophe. Very little research has explored the appropriate roles and interrelationships of these institutions for terrorism.

The role that each compensation mechanism plays in the United States varies by the type of injury or loss. For example, the tort system and life insurance play the lead role in providing benefits to individuals who are killed or injured in commercial aviation accidents. In contrast, the tort system does not play a major role in compensating losses caused by floods. Instead, flood insurance, Federal Emergency Management Agency disaster assistance programs, and charities provide benefits to flood victims. It may be stating the obvious, but in the absence of benefits from insurance, the tort system, the government, or charity, the business or individual harmed bears the loss.

Failure to consider the larger system when evaluating proposals for any one mechanism can lead to unsatisfactory conclusions for two basic reasons. First, focusing on only one mechanism can result in neglect of approaches that may be more effective. In particular, the recent debate on terrorism compensation policy in the United States has focused almost exclusively on TRIA (see Chapters 19 and 20). Broader questions about whether insurance is the best mechanism for addressing terrorism risk have rarely been addressed. Second, the interactions themselves between the different mechanisms can be important, and focusing on only one aspect of the compensation system can result in overlooking significant indirect impacts caused by those interactions. The interaction between the extent of tort liability for terrorism and the cost and availability of terrorism insurance is an important example.

THE LINK BETWEEN COMPENSATION AND INSURANCE FOR TERRORISM LOSSES AND NATIONAL SECURITY

Insurance and compensation for terrorism losses have implications for national security. This link with national security is typically absent from insurance and compensation policy for other disasters, such as earthquakes and hurricanes. As a general rule, the provision of national security is an accepted role for government. Thus the connection of terrorism compensation and insurance policy with national security provide another rationale for public involvement in markets for terrorism insurance. This involvement goes beyond the different types of market failures in terrorism insurance markets discussed in other parts of this book and elsewhere.² Three aspects of national security are related to the compensation system: reducing physical vulnerability, promoting solidarity, and enhancing economic resilience.³

REDUCING PHYSICAL VULNERABILITY

The compensation system can alter incentives to reduce physical vulnerability to terrorism. This connection between terrorism and national security is the most direct and obvious, but the extent to which compensation and insurance affect terrorism risk mitigation decisions is not well understood. Several issues need to be further explored. An important one is the extent to which subsidies for insurance or extensive government assistance after an attack reduce the incentives for a firm to avoid risky situations or invest in security measures. Recent work by the Congressional Budget Office has raised the prominence of this issue.⁴ However, some analysts have argued that left to themselves, private markets may create excessive incentives to take security measures. Lakdawalla and Zanjani point out that because terrorists can adapt their strategies in response to security measures, securing one target may just cause terrorists to switch their attention to another target.⁵ The outcome may be a security arms race that results in over-protection. Possible policy responses to such interdependencies include government subsidies of terrorism insurance, which would reduce the likelihood that firms would take excessive protection measures.

PROMOTING SOLIDARITY

RAND Corporation counterterrorism expert Bruce Hoffman has described terrorism as the use of violence by non-state actors with the goal of changing the policies of governments by dividing them from their citizens through the use of fear.⁶ Countering terrorism fundamentally involves countering this

fear, which undermines the terrorists' goal of dividing the government from its citizens. While providing security is the most direct way to reduce fear, the government may be able to reduce fear by demonstrating solidarity with victims through government assistance and compensation. Such compensation policies that encourage cohesion and solidarity may frustrate the terrorists' aims. For example, in the aftermath of 9/11, federal, state, and city governments all scrambled to offer assistance to businesses and individuals, which was no doubt intended in part to offer reassurance to citizens to counter the fear stoked by the terrorists. Policies that spread the cost of providing compensation broadly across the nation may further the perception in the United States that terrorism is an attack on the nation as a whole.⁷ Whereas promoting solidarity does not immediately deter future attacks, it could deter them in the long run by causing terrorism to be less effective in achieving the ultimate goals of terrorists.

ENHANCING ECONOMIC RESILIENCE

Economic resilience refers to the speed with which the economy bounces back after an adverse event. By enhancing the resilience of the economy to attack, the compensation system can reduce economic vulnerability to terrorism. Insurance payments (and other types of compensation for losses) allow disrupted businesses to continue operation, allow owners of buildings to rebuild, and provide income support and medical care for the families of the deceased and injured. Without insurance or some other means of managing the risk, terrorist attacks targeting businesses will lead to greater disruption, dislocation, and joblessness, which will increase the fear of future attacks. Putting productive assets and people back to work reduces the economic ripples that can result from major terrorist attacks. Reducing the economic impact of attacks can help control the hardship and fear caused by attacks, thus thwarting the aims of terrorists, and it is not inconceivable that thwarting the aims of terrorists could ultimately reduce the likelihood of attacks.

Further investigation is needed to understand the complex role that resilience and solidarity play in security against terrorism. In addition, it is unclear which specific approaches to insurance or compensation are more or less effective in improving resilience or solidarity. For instance, Ken Feinberg, the Special Master of the federal September 11th Victim Compensation Fund (VCF; discussed in the next section), has noted that paying different amounts to victims, as was done through the VCF, may increase divisiveness. Further investigation is needed to relate particular policies with solidarity and resilience, and to relate improved solidarity and resilience to the inability of terrorists to achieve political goals, and ultimately to deterrence of future attacks.

THE RESPONSE OF THE COMPENSATION SYSTEM TO THE 9/11 ATTACKS

The response of the public and private sectors to the 9/11 terrorist attacks illustrates how the compensation system can further national security goals.

The 9/11 attacks caused tremendous loss of life, health, property, and income to individuals, businesses, and public assets. The attack also resulted in a massive multi-pronged compensation response. Insurance payouts to businesses, homeowners, and individuals injured or killed in the attacks (including loss adjustment expenses) are expected to total \$32 billion – the largest amount for any single event in U.S. history up to that time.⁸ Congress limited the role of the tort system in compensating losses after the attacks and set up the VCF to provide compensation to those who suffered serious physical injury or to the families of those who were killed in the attacks. Overall, the fund distributed more than \$7 billion to 2,680 individuals who were injured and to the survivors of 2,880 people killed in the attacks or in the rescue efforts conducted thereafter.⁹ The federal government also provided billions to compensate businesses and workers, and to rebuild New York City. The charitable response was unprecedented. Approximately two-thirds of U.S. households made contributions to charities for victims of the 9/11 attacks, and charitable donations exceeded \$2.9 billion.¹⁰

The economic effects of the 9/11 attacks were far-reaching, but the compensation response after the attacks arguably reduced economic impacts and sped economic recovery, compared to what would have occurred in the absence of such programs. Insurance payments for property damage and business interruption allowed businesses to repair damages and pay their workers for at least part of the time that operations were interrupted. Government grant and incentive programs encouraged small businesses to return to Lower Manhattan at a time when the prospects for Lower Manhattan were extremely uncertain.¹¹ The response of government, insurers, charity, and plaintiff lawyers who donated their time to help victims apply to the VCF, was a demonstration of national solidarity against the aims of terrorism. Special Master Ken Feinberg has described the VCF as “vengeful philanthropy” – showing the terrorists that they cannot hurt or divide the country because the United States will support the families of the dead and seriously injured.¹² Arguably, the response limited the effectiveness of the attacks in causing economic damage, and therefore to some extent, frustrated the ultimate aims of the terrorists.

The insurance system provided more than half of the total payout of the compensation system after 9/11.¹³ Insurance payments were so large because terrorism was not yet recognized as a distinct peril by insurers (despite the previous attempt to destroy the World Trade Center in 1993), and therefore was

neither excluded nor priced as a stand-alone policy. In addition, insurers did not attempt to invoke war damage exclusions. As a result, a large number of insured businesses and individuals received payouts on their policies.¹⁴ This, too, contributed to the national response and likely improved resilience from the attacks.

The benefits paid out after the 9/11 attacks were the result of a unique combination of resources from insurance, government programs, and charity. There is, however, no guarantee that a similar mix of resources will be available for victims of future attacks: The VCF was event specific, the take up of terrorism insurance has been spotty even with TRIA, and the charitable response for future attacks is unpredictable.

FUTURE ATTACKS AND THE EVOLVING RISK

Terrorism is an evolving risk. New groups engage in terrorism, and existing groups cease to exist or discontinue terrorist activity. Technology evolves, and the capabilities of terrorist groups evolve accordingly. In addition, existing groups react to government counterterrorism strategies by adapting their methods of operation. This constant change complicates the design of institutions to address the risk. In this section, we describe some research on the evolving threat of terrorism in the United States and its implications for terrorism insurance policy.¹⁵

Three trends in the threat of terrorism in the United States have emerged since 9/11 that together portend a significant shift of the risk of terrorism from the public sector to the private sector. The three trends are the degradation of Al Qaeda's capabilities, the shift of risk toward softer targets due to the hardening of government facilities, and the increased targeting by Al Qaeda and its affiliated groups on attacks that lead to cascading economic effects.¹⁶

Since 9/11, Al Qaeda has seen significant damage inflicted on its Afghanistan safe haven, its top leadership, and its ability to operate unnoticed or unimpeded. As a result, Al Qaeda has shifted from a centralized and hierarchical organization to a "movement of movements," with affiliated local cells in multiple countries. These local cells are technologically and organizationally less capable of complex attacks on high-profile targets, but they are able to attack in many places around the world, leading to an increased tempo of attacks focused on more accessible, less protected, civilian-centric targets.

Simultaneously, there has been a dramatic increase in security at many of the traditional targets, such as embassies and other government properties. Strengthening security is referred to as "hardening," and many terrorism experts have noted that the hardening of one kind of target displaces risk toward

other “softer” targets. In combination with the transformation of Al Qaeda, this displacement of risk phenomena has been used to explain Al Qaeda’s post-9/11 attention on targets such as hotels, nightclubs, places of worship, transportation systems, office complexes, passenger aircraft, commercial shipping, and foreign workers and contractors.¹⁷

This displacement of risk toward softer targets also shifts the targets from predominantly government facilities to those that are typically privately owned.¹⁸ This implies that there has been a displacement of risk toward targets that are more likely to result in private sector losses – and if insured, insurance losses. Ultimately, the displacement of risk to the private sector is one part of a broader set of policy questions that are only now being explored by researchers and policymakers alike: what is the appropriate allocation of security resources across targets, and what are the vehicles for encouraging this allocation? Among the unexplored questions is whether government support of terrorism insurance encourages a more appropriate allocation of security resources in circumstances where government security measures tend to shift risk onto the private sector.

A third recently observed trend in terrorism is the increased interest by Al Qaeda in wreaking economic damage. Osama bin Laden’s rhetoric has glorified the economic damage that the 9/11 attacks generated. He has claimed that this damage exposes the fatal weakness of the United States – that it is a “paper tiger,” and that attacks focused on undermining the country’s economic pillars will topple it, like the Soviet Union during its ill-fated occupation of Afghanistan. As a result, he has exhorted his followers to plan future attacks on targets that lead to damage to the economy. Realizations of such a shift in targeting strategy include the alleged plots against financial institutions in New York and New Jersey, as well as the terrorists’ interest in attacking targets that would lead to economic disruptions that would exceed the losses to the particular target, such as airlines, oil shipping, and tourist destinations.

As with the first two trends, the third trend shifts risk to the private sector and highlights the role of insurance. In this case, however, because causing economic damage is an explicit goal of the terrorists, institutions that prevent or buffer the cascading economic effects are directly countering the terrorists’ aims. To the extent that targeting economic damage is the terrorists’ strategy for achieving their ultimate goals, encouraging insurance and other financial terrorism risk management is explicitly a counterterrorism policy.

As with the displacement of risk through hardening of government targets, the increased focus on causing economic damage has also shifted risk to the private sector. Not only does this change in focus increase risk to insured property and assets, but it also increases risk in areas where losses are only partially insured. In particular, much of the follow-on economic losses from a terrorist attack, such as increased hotel vacancies as a result of decreased travel,

are uninsured. This suggests that new government policies to mitigate indirect effects of terrorist attacks should be considered.

These three trends in the threat of terrorism underscore the complex public-private relationship that is intrinsic to terrorism risk. Government and private sector actions combine to shape the character of the risk at any given time. Physical and financial security are equally interwoven. Ultimately, research and policy must consider both financial and physical protection in the design of robust and effective institutions to address this risk. As these interdependencies are often not recognized, and certainly poorly understood, considerable work remains.

NATIONAL SECURITY CHALLENGES IN PUBLIC-PRIVATE RISK SHARING FOR TERRORISM

Terrorism experts expect terrorism to be increasingly targeted at private sector assets that have the potential to lead to substantial economic disruption. In this section, we explore several issues related to national security that should be addressed in developing risk-sharing mechanisms for terrorism. We focus here on insurance, but additional work is needed to understand how policies focusing on government compensation, liability, and charitable organizations should be integrated with government policies on insurance.¹⁹

COVERAGE REQUIREMENTS

Even with the federal TRIA, insurance coverage for losses caused by foreign acts of terrorism is currently only carried by about one-half of firms that buy property and casualty insurance.²⁰ What is more, many of the firms that do buy insurance do not buy it up to the same coverage limits they purchase for other perils. One approach for ensuring that resources are available to cover property losses and rebuilding after an attack is to require the purchase of insurance. Other countries (such as Spain and France) require terrorism insurance, and the United States requires insurance for some other risks in certain settings – such as flood insurance for properties with federally regulated mortgages in flood-prone areas.

Mandatory coverage would likely increase the resilience of the economy to terrorist attacks, and priority could be placed on requiring firms in economic sectors that are critical to the continued operation of the economy (such as transportation and communication) to hold appropriate amounts of insurance coverage. Requiring insurance would also solve any under-estimation of risk by firms that would cause them to decline terrorism insurance. A downside

of mandatory coverage is that there are many different ways for a firm to spread risk, and purchasing insurance may not be the most efficient approach for all firms (for example, a firm could spread its risk by diversifying its holdings geographically and across different sectors of the economy). Another drawback of mandatory insurance is that government interventions in insurance markets would likely be necessary to ensure that adequate insurance capacity were available at reasonable rates. Such an intervention may involve the federal government acting as the insurer of last resort. Insurance can in principle also deter investments in measures that enhance security or resilience (moral hazard) although, as discussed later, insurance also has the potential to encourage such investments by linking premiums to risk-mitigation practices.

THE CHALLENGES OF INFORMATION SHARING

One challenge that has received scant attention in the literature on terrorism insurance is information sharing, and specifically the implications of government control of information about the risk. Intelligence agencies have greater knowledge of the risk of terrorism than do the private sector targets increasingly at risk. Considerable recent controversy has accompanied the attempts to share information among intelligence agencies; sharing information with the private sector is arguably the next frontier in intelligence policy.

Intelligence agencies must limit the information they provide to insurers and policyholders about terrorism risk to avoid compromising sources or causing terrorists to simply alter their targets or attack modalities. However, withholding information from the private sector may hinder efforts by businesses to take appropriate risk mitigation measures and may hinder insurer ability to set insurance rates accordingly. Complex issues also arise in deciding just who intelligence agencies should share information with in the private sector. The first inclination may be to share information only with the firms subject to increased risk and not with their insurers. But such a policy could lead to asymmetric information about terrorism risks between the insurer and the policyholder. This asymmetry is a classic cause of market failure, because businesses that have private information that they are at greater risk will be more likely to buy insurance, and low risk firms will increasingly be priced out of the market.

PRE- VERSUS POST-FUNDING

Insurance premiums are typically collected up front to pay for later losses, but it is very difficult to set premiums for terrorism coverage with any level of confidence because of the difficulties in predicting the type and frequency of attacks. If losses were post-funded, surcharges could be placed on a wide

range of property-casualty policies (for example all commercial property-casualty policies in the United States) to cover the losses.²¹ An advantage of broad-based post-funding is that it avoids setting rates and collecting premiums before an attack. Also, spreading losses broadly with ex post surcharges would be consistent with the belief that terrorism is directed at the country as a whole and that the country should come together to reimburse losses. A potential disadvantage (discussed later) is that insurance premiums could not be used to signal firms about what types of risk mitigation and security measures are prudent. Broad-based post-funding might also be perceived as unfair by some who argue that low-risk areas of the country should not subsidize high-risk areas. Finally, it is worth noting that in practice, mechanisms for post-funding may not in fact be applied if policymakers determine that they are better uses of post-attack resources.

LINKING INSURANCE PREMIUMS TO RISK MITIGATION PRACTICES

No broadly accepted standards for protecting against terrorism attacks currently exist in the private sector, and interdependencies between firms and national security ramifications make it very difficult to determine the appropriate risk mitigation and security measures.²² Some progress might be made on identifying the appropriate types of security measures by developing national security standards through a public process that weighs the broad social and national security implications of different standards. At one extreme, firms could be required to adopt such standards as a condition of buying terrorism coverage.²³ Alternatively, the standards could be voluntary, and insurers could be allowed (or perhaps required) to provide premium discounts to firms that adopt such practices.

Developing national terrorism risk standards would combine the expertise and experience of the public and private sectors. A disadvantage of heading in such a direction is the potentially massive complexity of the resulting regulations. For example, variation in magnitude and type of risk across industries and geographic regions may necessitate a complex set of standards. In addition, given the difficulty insurers have in pricing terrorism risk, they would presumably find it very difficult to set premium reductions that would reflect differences in expected losses in any defensible way.

CONCLUSIONS

Terrorism creates challenges for many of the public and private approaches that have been used to address risks facing individuals and businesses in the United

States. A fundamental difference between terrorism and many of these other risks is that terrorists are purposeful actors. The capabilities and strategies of terrorists change in response to actions by their targets. The shifting nature of the threat makes it extremely difficult for insurers to price insurance with any degree of confidence. In addition, risk management and compensation policies may dampen terrorist activity by helping reduce the economic impacts of and social divisiveness caused by terrorist attacks. Indeed, even if compensation and insurance policies do not influence terrorist activity, they can reduce the impact of terrorism on the economy by reducing the effectiveness of terrorist acts.

Risk management and compensation policies for terrorism have national security implications, and these implications should be considered in designing such policies. Even absent failures in the market for terrorism insurance, however, decisions that are efficient from the firms' point of view will not necessarily produce outcomes that optimally limit vulnerability to terrorism from a societal point of view.

Our review of the changing capabilities and aims of terrorists suggests that terrorists will increasingly focus attacks on the private sector, and their goal will increasingly be economic disruption. These trends underline the importance of public-private sector coordination in addressing terrorist threats. The focus on economic disruption also suggests increased attention should be paid to policies that address the vulnerability and resilience of the economy to attack. Policies that reduce the vulnerability and resilience of infrastructure that is critical to economic activity, such as transportation and communication systems, merit particular attention.

We also emphasize that many tools are available to manage risks and provide compensation for terrorism. Insurance policies are often the focus of discussions on risk sharing, but the liability system, government assistance programs, and even charity all interact to determine the effectiveness of the risk management and compensation system. The advantages and disadvantages of each mechanism should be evaluated in crafting an integrated system tailored to the attributes of the terrorism threat.

NOTES

1. Dixon and Stern 2004, 5, 145–149.
2. For an extensive discussion of the challenges of insuring terrorism, see Kunreuther and Michel-Kerjan 2004, 2005a.
3. See Dixon and Reville 2005 for an additional discussion of the links between national security and terrorism insurance and compensation.

4. The Congressional Budget Office argued that by subsidizing insurance rates, the Terrorism Risk Insurance Act weakens the incentives of property owners to adopt measures that would reduce losses from terrorist attacks (Congressional Budget Office 2005, p. viii).
5. Lakdawalla and Zanjani 2005.
6. Hoffman 1998.
7. Spreading losses broadly could also encourage resentment in areas where the terrorist threat is low.
8. The Insurance Information Institute currently projects that insured losses due to the 9/11 attacks will total \$32.5 billion (Hartwig 2004). The \$20 billion in insured losses due to Hurricane Andrew in 1992 is the second largest amount in U.S. history through 2001 (Tillinghast-Towers Perrin 2001). Estimates of private insurer losses due to Hurricane Katrina in 2005 are on the order of \$40 billion to \$60 billion (Marsh 2005a), with an additional \$20 billion to \$25 billion in losses for the federal National Flood Insurance Program. Litigation continues over whether the 9/11 crashes of the two planes into the World Trade Center constitute one event or two from the point of view of insurance coverage. For the discussion here, however, the 9/11 attacks are considered to be one event.
9. Feinberg et al. 2004.
10. Renz et al. 2003. For a detailed evaluation of the performance of the compensation system after 9/11, see Dixon and Stern 2004.
11. For example, the World Trade Center Small Firm Attraction and Retention Grant program provided grants of up to \$5,000 per employee to firms with 200 employees or fewer that signed leases for five years or more in Lower Manhattan. Federal Liberty Zone tax benefits provided tax credits for firms that moved into the area south of Canal Street in Lower Manhattan, an additional 30-percent depreciation on property rehabilitated or replaced after the attacks, and a five-year recovery period for depreciation of leasehold improvements. Government benefits to business are expected to exceed \$6 billion (Dixon and Stern 2004, 109–125).
12. Feinberg 2005.
13. Dixon and Stern 2004, p. xviii, found that insurers, government, and charities paid 51, 42, and 7 percent (respectively) of the benefits provided to those killed in the attacks at the World Trade Center, the Pentagon, and the Pennsylvania crash site and to businesses and individuals in the New York City affected by the attacks on the World Trade Center.
14. Dixon and Stern 2004.
15. This section is based upon Chalk et al. 2005.
16. Chalk et al. 2005 also describes a fourth trend, the rise of anti-globalization among homegrown extremists. This trend has implications similar to the ones described here in terms of terrorist targeting strategies.
17. Chalk et al. 2005, 17–18.
18. The RAND database of global terrorism events (which includes Islamic terrorism as well as other types of terrorism) shows that attacks on government, diplomatic, military, and police facilities accounted for 41 percent of all attacks between 1980 and 1989, versus 32 percent of attacks between October 2001 and December 2004. Businesses, private citizens, and private property were the target of 23 percent of the attacks between 1980 and 1989, versus 38 percent of attacks between October 2001 and December 2004.
19. For a discussion of other issues and options that should be considered in discussion of government interventions in the market for terrorism insurance, see Dixon et al. 2004 and Kunreuther and Michel-Kerjan 2004.

20. U.S. Department of the Treasury 2005.
21. Under TRIA, a substantial portion of payouts would be post-funded in the event of a large loss.
22. See Kunreuther and Heal 2003 for a discussion of the interdependencies among firms inherent in efforts to improve security against terrorist attacks.
23. Such requirements would be analogous to the floodplain management requirements for communities participating in the National Flood Insurance Program.