
REGULATING THE BUSINESS OF INSURANCE:
FEDERALISM IN AN AGE OF DIFFICULT RISK

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Every generation has experienced catastrophic loss, either at the hands of nature, humankind, or both. In recent years, however, the economic impact of catastrophic loss has increased to historic levels. Of the ten most costly catastrophes in United States history adjusted to current dollars, seven have occurred in the last five years,¹ and six have occurred in the last two years.² Most of these catastrophes have been natural disasters, and almost all have been hurricanes.³ One leading catastrophe-modeling company recently predicted that catastrophe losses “will double about every 10 years due to increases in the numbers and values of properties at risk.”⁴ Largely due to Hurricane Katrina, catastrophe losses reached a total of \$58 billion in 2005, but according to this company’s calculations, there is a five percent chance that catastrophe losses in 2006 will be greater than the record losses caused by Hurricane Katrina.⁵

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1. Insurance Information Institute, *Catastrophes: Insurance Issues*, June 2006, <http://www.iii.org/media/hottopics/insurance/xxx> (last visited June 21, 2006). Most were hurricanes: Katrina in 2005, Wilma in 2005, Charley in 2004, Ivan in 2004, Rita in 2005, and Frances in 2004. The seventh is the terrorist attacks on September 11, 2001. The three others are Hurricane Andrew in 1992, the Northridge, California, earthquakes in 1994, and Hurricane Hugo in 1989. *Id.*

2. *See id.* All six are hurricanes.

3. *Id.* For the twenty-year period from 1985 to 2004, tornado losses (30.4%), winter storms (9.7%), earthquakes (8.4%), wind, hail, and flood (3.4%) and fire (2.9%) were also major categories of catastrophe losses (with catastrophe being defined as any event for which claims reach \$25 million), in addition to hurricanes (34.6%). *Id.*

4. Press Release, Insurance Information Institute, Catastrophe Losses Will Double About Every 10 Years, Says Leading Catastrophe Modeling Expert at PCS Conference, (Apr. 25, 2006), <http://www.iii.org/media/updates/press.753652> (quoting Karen Clark, President and CEO of AIR Worldwide Corp.).

5. *Id.* According to the Tropical Meteorology Project at Colorado State

Yet the wild card in predicting catastrophe losses in the future is not what nature has in store for us. Instead, the larger uncertainty is the prospect of a human-generated terrorism catastrophe. At some level, we all understand the risk of a catastrophic nuclear event; the prospect of “mutual assured destruction” that preoccupied us during the Cold War is fortunately a concern of the past, but the emerging threat is the possibility that proliferation of nuclear weapons could empower a rogue nation to inflict unprecedented destructive force on the United States. In the realm of lessons already learned is the reality of September 11, 2001, when we were taught that political organizations lacking the cohesiveness of a nation-state now have the capability to cause devastating loss of life and property damage on U.S. soil. Nor does the entirety of this threat come from abroad, as demonstrated by the loss of life and the destruction of a major government facility in Oklahoma City on April 19, 1995. There is reason to hope that the post-Oklahoma City and post-9/11 efforts to disrupt the activities of terrorists have reduced the risk of another major terrorism event, but the reality is that no array of preventive measures is perfect, and over the long term, the question is not whether another major terrorism incident will occur on U.S. soil, but when.

Natural disasters and terrorism events of the massive scale described above are “difficult risks.”⁶ They are difficult (or, if large enough, impossible) to insure, and they present enormous risk-management challenges. Indeed, we are now in an era when difficult risks are the dominant feature of the risk-management landscape. These kinds of risks are inevitably multi-jurisdictional in nature, and managing them effectively requires a cohesive, comprehensive national catastrophe policy involving *ex ante*

University, the prospects of a Category Three or higher hurricane making landfall in the United States in 2006 is 82% (against a 52% average for the last century), with a 64% probability of a U.S. east coast landfall and a 47% chance of a U.S. Gulf coast landfall (versus historic averages of 31% and 30% respectively). PHILIP J. KLOTZBACH & WILLIAM M. GRAY, COLORADO STATE UNIVERSITY TROPICAL METEOROLOGY PROJECT, EXTENDED RANGE FORECAST OF ATLANTIC SEASONAL HURRICANE ACTIVITY AND U.S. LANDFALL STRIKE PROBABILITY FOR 2006 (MAY 2006), <http://hurricane.atmos.colostate.edu/Forecasts/2006/april2006>.

6. The term “difficult risks” appears frequently in insurance literature and trade publications as a label for catastrophic or cataclysmic events that are difficult or impossible to insure. See, e.g., Lucien J. Dhooge, *A Previously Unimaginable Risk Potential: September 11 and the Insurance Industry*, 40 AM. BUS. L.J. 687, 774 (2003) (“[T]he [insurance] industry has discovered methods by which ‘to assess and insure extremely large and difficult risks that were initially considered uninsurable.’”).

prevention and mitigation measures, effective risk allocation through insurance mechanisms, and ex post victim-compensation strategies. Although our nation is not yet close to establishing a much-needed and increasingly discussed national catastrophe policy, most significant points in current risk management strategies involve significant federal coordination and control. In our judgment, it would be peculiar—and less effective—if ex ante risk-reduction and loss-mitigation strategies and ex post victim-compensation programs were the province of the federal government, but risk allocation and distribution decisions that are made in insurance markets were left primarily to the regulatory authority of the states. In other words, we suggest that a regulatory model that defers to the states with respect to the regulation of the insurance aspects of difficult risks is no longer viable, and an enhanced federal role in insurance regulation specifically—and in risk management more generally—is both necessary and appropriate with respect to difficult risks.

I. OVERVIEW: THE TRADITION OF STATE DOMINANCE IN REGULATING THE BUSINESS OF INSURANCE

The story of how states came to be the dominant force in regulating the insurance industry is told elsewhere and need not be repeated here.⁷ One of the important themes of the story is that state regulation is dominant because Congress, through enactment of the McCarran-Ferguson Act in 1944, put the weight of its Commerce Clause authority behind the system of state regulation that had evolved earlier in the twentieth century.⁸ Just as Congress affirmatively exercised its commerce power to declare what it would leave to the states to regulate, Congress could exercise this same power tomorrow to rearrange the relationship between federal and state authority. Indeed, it is obvious, and Congress has done this on some occasions (with ERISA being the most prominent example⁹),

7. *See generally* ROBERT H. JERRY, II, UNDERSTANDING INSURANCE LAW 73-97 (3d ed. 2002) (describing the evolution of the McCarran-Ferguson Act, which declared that continued regulation by the states of the business of insurance was in the public interest).

8. *Id.* at 78.

9. *Id.* at 98 (citing 29 U.S.C. § 1002(1) (2000)) (“ERISA is a comprehensive federal regulatory scheme for employee benefit (i.e., pension and welfare) plans, which are defined as a plan, fund, or program maintained or established by an employer ‘for the purpose of providing for its participants or their beneficiaries, through the purchase of insurance or otherwise,’ certain fringe benefits . . .”). To create a consistent regulatory scheme for pensions, many of which are multi-jurisdictional, ERISA preempts state laws relating to regulation of employee

that Congress can in any subsequent statute on any insurance regulatory matter provide that a newly promulgated act take precedence over the McCarran-Ferguson Act, thereby removing in a sentence the reverse preemptive effect the McCarran-Ferguson Act has on federal regulation.¹⁰

Another theme of the story is that the McCarran-Ferguson Act's reverse preemptive effect on federal regulation is not absolute. Because at the time of the Act's enactment some state regulation was correctly perceived as being ineffective, Congress used the Act to create incentives for states to undertake more robust regulation. The essence of the formula in the McCarran-Ferguson Act is that Congress asserted its commerce power to preempt itself from regulating the business of insurance to the extent the states filled the regulatory vacuum. To the extent the states decline or fail to do so, reverse preemption does not occur. This formula had the effect of causing the states, with the help and support of the National Association of Insurance Commissioners ("NAIC"), to draft model legislation that essentially filled the gaps where state regulation was nonexistent or so passive as to call into question state primacy under the McCarran-Ferguson Act's standards. In short, although states have occupied the regulatory field, the McCarran-Ferguson Act's message is that where state regulation is ineffective, passive, or nonexistent, federal regulation is appropriate.

The regulatory paradigm anchored by the McCarran-Ferguson Act is the framework that has prevailed for the last six decades. Periodically, efforts to modify the federal-state demarcation have been made; although none of these efforts have succeeded, they have

benefit plans. But ERISA's drafters also sought to reserve to the states the authority to regulate some areas where the states enjoyed primacy; thus, the so-called "savings clause" reserves to the states continued regulation of the business of insurance. Yet, an exception to this reservation is created by the "deemer clause," which has the effect of removing from the sphere of state regulation self-insured employee benefits plans. The distinction drawn by the deemer clause is that the business of insurance companies, which is regulated by state law, is not preempted by ERISA; but the business of employee benefits plans is subject to exclusive federal regulation, notwithstanding the fact that self-insurance plans have many characteristics of traditional insurance. In addition, to the extent courts have narrowly construed what constitutes the "business of insurance," the scope of the zone of state regulation that is saved from ERISA preemption is reduced, which has the effect of expanding the federal regulatory role. *Id.* at 98, 99, 101, 103, 104. *See also* Egelhoff v. Egelhoff, 532 U.S. 141, 143 (2001) (holding that ERISA supersedes state statutes that regulate beneficiary designations in life insurance provided as part of an ERISA plan).

10. *See* JERRY, *supra* note 7, at 76.

sometimes led to regulatory change. For example, in the 1990s, many brokers and insurers for large commercial risks urged a federal regulatory system to reduce the alleged inefficiencies inherent in dealing with the rules and regulations of fifty different states and the District of Columbia. This movement was taken seriously by the states, which responded by becoming more receptive to rate deregulation in commercial markets, which coincidentally mooted the need to establish a federal regulatory presence in these markets.¹¹ In addition, in March 2002, the NAIC approved a model law to reduce the oversight of commercial insurers' rate changes.¹² Many states have now gone further than the model and have deregulated commercial insurance policy forms and rates.¹³

Significant changes during the last decade in the financial services industry are also putting pressure on the existing federal-state accommodation.¹⁴ In July 2001, the American Insurance Association ("AIA"), which represents approximately 300 property and casualty insurance companies, proposed that insurers be granted the option of obtaining a charter from a federal licensing agency in lieu of being regulated in each state in which they do business.¹⁵ The proposal to supplement state regulation with an optional national charter system, which would make the insurance regulatory regime look more like the dual system that currently exists for banks, immediately prompted a flurry of responses, both pro and con, from various insurance organizations.¹⁶ The AIA's initiative seemed to be getting traction until other issues on the national agenda, including government investigations into broker compensation and industry accounting practices and the consequences of Hurricane Katrina, diverted attention from it. But the optional national charter initiative is not likely to disappear from the agenda, as it has support from the life insurance industry, several property/casualty industry groups, reinsurers, brokers, banks that are moving into the insurance business, and some

11. See Insurance Information Institute, *Rates and Regulation*, June 2006, <http://www.iii.org/media/hottopics/insurance/ratereg>.

12. *Id.*

13. *Id.*

14. See JERRY, *supra* note 7, at 131. The origins of most of these changes are the reforms inherent in the Gramm-Leach-Bliley Act of 1999, Pub. L. No. 106-102, 133 Stat. 1338 (1999) (codified at 15 U.S.C. §§ 6801-10, 6821-27 (2000)).

15. See Catherine Tapia, *AIA's Endorsement of Optional Federal Charter Plan Prompts Flurry of Responses from Associations*, *INS. J.*, July 30, 2001, <http://insurancejournal.com/magazines/west/2001/07/30/features/18151.htm>.

16. *Id.*

individual companies. A competing proposal in Congress would streamline state regulation by requiring states to comply with uniform standards, adopt flex rating (which allows insurers to raise rates within certain bands), adopt uniform licensing procedures, and create systems that would accelerate the process of getting new products onto the market. Unlike the dual-charter proposal, this approach would not create a new federal regulatory agency, but would establish a panel consisting of state insurance commissions and representatives from some federal agencies to enforce compliance.¹⁷ In short, although a consensus exists that regulation of the insurance business needs to be modernized, no consensus exists on whether the existing system of state regulation should be substantially preserved or whether a modified regulatory system with an increased federal role should replace the current system.

For the present, however, regulation of the business of insurance remains primarily the province of the states. Although there are many who argue that placing the primary regulatory authority in the states is sound public policy,¹⁸ the most compelling explanation for how this happened is that the federal-state demarcation devolved from the exercise of power in the political process. Industry groups and state regulators successfully pursued their self-interest at the key moments when choices about regulatory approaches needed to be made and other allocations of federal-statute regulatory authority could have been adopted. In the early twenty-first century, the nation's lack of a comprehensive approach to the management of difficult risks creates another opportunity for revisiting where the federal-state boundary in insurance regulation should be drawn.

II. INSURANCE REGULATION AND RISK MANAGEMENT

Insurance is only one method of managing risk. Indeed, the purchase of insurance is often the final step in the implementation of a risk-management strategy; it is the step taken when other forms of risk management are inadequate or too costly. For example, to the extent an individual or firm can *limit the probability of loss*, the need for insurance is reduced. To the extent it is cheaper to invest in loss prevention, the rational individual or firm will follow this course instead of purchasing insurance. Common examples of this strategy include adopting defensive driving habits

17. For more discussion, see Insurance Information Institute, *Modernizing Insurance Regulation*, Apr. 2006, <http://www.iii.org/media/hottopics/insurance/xxx>.

18. See JERRY, *supra* note 7, at 129.

to reduce the risk of an accident, placing a guard on a machine in the workplace, or constructing a building on a high ground instead of in a floodplain. All of these things reduce the risk that loss will occur, thereby reducing the need to insure for the consequences of loss.

Limiting the impact of loss is another risk-management strategy that reduces the need for insurance. For example, wearing a seat belt will not prevent an auto accident, but it will reduce the consequences of the accident when it happens. Installing a sprinkler system will not prevent fires from igniting, but the system will prevent the fire from spreading, thereby reducing the consequence of the loss should it occur.

Self-insurance is another form of risk management. Instead of purchasing insurance, which has the effect of transferring risk to a third party, self-insurance involves retaining the risk and setting up reserves to handle future losses. Deductibles, co-payments, and retentions are classic risk-management methods in this genre.

Diversification is yet another risk-management strategy. For example, a large business might set up operations in different regions of the country in order to avoid the consequences of business disruptions that are specific to one region and which would shut down all operations in the event the enterprise's activities were aggregated in that particular location.

Although regulation of the business of insurance is left to the states, the federal government is deeply involved in *risk regulation*, as distinct from insurance regulation. This presents an interesting juxtaposition: the insurance industry operates in markets where risk is transferred and distributed, and regulation of those markets is the domain of the states (with some qualifications). But risk management is something in which the federal government is deeply involved and profoundly interested.¹⁹ Harvard historian David Moss has effectively documented the role both federal and state governments have played in risk-management policy.²⁰ Bankruptcy laws, fixed exchange rates, and banking laws were among the federal risk-management activities that were essential to promoting the nation's economic development in the nineteenth century.²¹ The Social Security Act of 1935 and its mandate of compulsory unemployment and old-age insurance for workers was a major piece of worker-security risk management in the twentieth

19. See DAVID MOSS, WHEN ALL ELSE FAILS 1 (2002).

20. *Id.* at 4-9.

21. *Id.* at 4-6, 85-151.

century.²² The second half of the twentieth century witnessed a dramatic increase in government regulation of risk, with the advent of federal disaster relief during this era being a vivid example of this transformation.²³

Similar to the strategies an individual or firm uses to deal with risk, government has two primary methods of managing risk: first, by attempting to reduce risk, which occurs when the government regulates or prohibits risky activities (the regulatory activities of OSHA present a classic example), and second, by seeking to reallocate risk itself.²⁴ Risk reallocation is a possible strategy when private markets do not facilitate an efficient transfer and distribution of risk through insurance mechanisms; if the consequences of market failure are sufficiently disruptive, the possibility exists that the government will mandate risk reallocation through regulation. Realizing that insurance is but one of several ways to manage risk, and given the federal government's active role as risk manager, it is hardly radical to claim that the federal government should have, both as a matter of an appropriate federalist structure and as a matter of sound regulatory policy, a greater role in the regulation of markets where risk is transferred and distributed. It is to this topic that we now turn.

III. THE REGULATORY CHALLENGES PRESENTED BY DIFFICULT RISKS

A. *The Nature of Difficult Risks*

Judge Robert Keeton articulated this time-honored definition of insurance: "Insurance is an arrangement for transferring and distributing risk."²⁵ "Arrangement" underscores that insurance is contractual in nature; one party (the insured) makes a payment (the premium) to another to induce that other party (the insurer) to assume the first party's risk. The insurer enters into substantially identical arrangements with large numbers of other similarly-

22. *Id.* at 6-8, 180-215.

23. *Id.* at 8-9, 254-64. Moss explains:

Whereas federal disaster relief covered just 6 percent of uninsured losses from a major catastrophe in 1955, the figure had surged to nearly 50 percent by 1972. In his memoirs Herbert Hoover looked back nostalgically to the 1920s, when the government's role in disaster relief had been small. "Those were the days," he wrote, "when citizens expected to take care of one another in time of disaster and it had not occurred to them that the Federal Government should do it." By the 1970s, those days were long gone.

Id. at 8 (citations omitted).

24. *Id.* at 1.

25. ROBERT E. KEETON, BASIC TEXT ON INSURANCE LAW 2 (1971).

situated individuals; by taking advantage of the law of large numbers and the reality of regression to the mean across large samples,²⁶ the insurer provides security to insureds at the same time that it finds predictability in the large pools of risks that it assembles. The predictability of loss in large pools enables the insurer to charge sufficient premiums so that plenty of funds are reserved for future losses, the insurer is reimbursed for the administrative costs of implementing the risk-distribution arrangement, and the insurer earns a reasonable return.²⁷ The insured, in exchange for the periodic payment of a small sum, escapes the risk of a large devastating loss. This is accomplished by the insured essentially trading small, predictable, certain losses for the risk of incurring an uncertain, but massive, loss.

As explained above, it is only when individuals or firms find other approaches to risk management to be inadequate or too costly to achieve the level of desired security that they turn to insurance markets. For most risks confronted on a day-to-day basis (e.g., the risk of death or injury, the risk of destruction of property, the risk of liability to third parties), insurance markets function reasonably well to transfer and distribute risk. With difficult risks, however, private markets are less likely to transfer and distribute risk effectively. When this occurs, government intervention in and regulation of private markets may be necessary to assure that the insurance necessary to the nation's economic well-being will be available.

26. To state the law of large numbers more precisely, the mean of a sample approaches the expected value of a sample size as the sample size tends toward infinity, i.e., the difference between the sample's mean and the expected value shrinks as the size of the sample gets larger.

27. Many risk transfers that are accompanied by consideration in our society are not insurance. For example, an automobile purchased by a consumer comes with a warranty, and the warranty is a risk-transference mechanism. The risk of product defect or failure is retained by the manufacturer for a period of time, and a portion of the product price pays for this warranty. In calculating the automobile's price, the manufacturer will suggest a price that is adequate, among other things, to cover what it expects to be the product defect or failure rate across the large number of cars being manufactured and sold. In a sense, a component of product price is the purchase of insurance against product failure. But neither automobile sales nor automobile warranties are regulated as insurance transactions essentially because the core of the transaction is not the transfer of risk, but the sale of a product. Stated otherwise, risk transfer is not the primary purpose of the exchange; accordingly, the transaction is not regulated as insurance, even though key components of the transaction have insurance characteristics. What distinguishes an insurance transaction is that what is being bought and sold—the commodity at the heart of the transaction—is risk itself.

What, then, are the characteristics of difficult risks that challenge the effective functioning of insurance markets? First and foremost is *resistance to diversification*. As noted above, the fundamental premise of an effective insurance market is the ability to diversify risk through the law of large numbers. Diversification works, however, only if the risks being pooled are independent of each other. For example, if the risk being insured is the threat of loss of crops due to flood, diversification is not achieved if all of the crops being insured are in the same floodplain; the problem is that all of the risks being shared are highly (or, in this example, perfectly) correlated because of a common element in the risk. This lack of independence in the risks being pooled renders the risk-pooling arrangement useless. Catastrophic risks, such as natural disasters and large-scale terrorist events, present the situation where diversification is difficult or impossible because every member of a large population is likely to be affected adversely at the same time.

Another characteristic of a difficult risk is *ambiguity*. Ambiguity can have multiple facets, with two of the principal ones being *uncertainty of frequency* and *uncertainty of consequence*. When the frequency of a loss is uncertain, insurers are unlikely to insure it or will undertake to do so only for a very high premium. For example, the frequency of auto accidents is predictable across large pools, so this is a risk that is relatively easy to insure.²⁸ There is enough of an historical record with regard to the frequency of tornadoes and windstorms in different regions of the United States that insurers can go into a market with some confidence about the range of likely losses over a finite period of time.²⁹ Although the weight of scientific authority suggests that hurricane frequency is undergoing a shift that will distinguish the next few from the past few decades, the accumulated historical record on hurricane and earthquake frequency gives some basis for predictions of future events.³⁰ Terrorism stands in contrast to these examples; because

28. Graciela Chichilnisky, *Catastrophic Risks: The Need for New Tools, Financial Instruments and Institutions*, Oct. 20, 2005, <http://privatizationofrisk.ssrc.org/Chichilnisky/>.

29. See, e.g., Statement of Michael G. McCarter, Chairperson of Terrorism Risk Insurance Subgroup of the American Academy of Actuaries, to Terrorism Insurance Implementation Working Group of National Association of Insurance Commissioners, Mar. 29, 2006, http://www.naic.org/documents/topics_tria_testimony0603_AAA.pdf (“[I]n evaluating tornado risk, we have an historical database consisting of thousands of observations of tornados . . .”).

30. See, e.g., KLOTZBACH & GRAY, *supra* note 5, at 6-7. See also *NewsHour with Jim Lehrer: Predicting Earthquakes* (PBS television broadcast June 2,

the timing of a terrorist incident is controlled by human forces, the frequency with which such events will occur is uncertain, and this makes the risk difficult to manage.

Uncertainty of consequence is a related kind of ambiguity. The massive losses suffered on 9/11 made insurers reluctant to cover the risk of terrorism, in stark contrast to pre-9/11 markets when insurers were not particularly concerned about terrorism losses, notwithstanding Oklahoma City and the attack on the World Trade Center in 1993.³¹ The losses of 9/11 have caused insurers to recalculate the upper bounds of potential terrorism losses, and the potential consequences of nuclear, biological, and chemical terrorist attacks have pushed the upper bound of theoretical losses very high. The wide range of potential consequence, which, like frequency, depends on human behavior and is therefore inherently difficult to predict, makes terrorism a very difficult risk to manage.

A third characteristic of a difficult risk is *lack of demand for coverage*. This has at least three facets. First, as noted economist Howard Kunreuther argues persuasively, very few people voluntarily protect themselves against a hazard unless they have past experience with it or know someone else who has endured it.³² Second, budget constraints limit demand for insurance, especially when consumers do not have a claim, or know anyone who has a claim, for a sustained period of time. For many persons, having no claim against the policy is understood as purchasing a product with little value, notwithstanding that the person received security against loss during the time the policy was in force.³³ Third, an expectation of ex post government disaster assistance may reduce the demand for coverage—or it may not. Economists disagree about whether a perception that government will come to the aid of disaster victims after the event causes individuals not to buy insurance before a disaster.³⁴ There is some empirical authority that it does not,³⁵ but this is a question that needs more study, especially

2004) (transcript on file with the Wake Forest Law Review).

31. See Insurance Information Institute, *Terrorism Risk and Insurance*, May 2006, <http://www.iii.org/media/hottopics/insurance/xxx> (noting that prior to 9/11, insurers provided terrorism coverage essentially for free because the chance of a terrorist event was deemed to be remote, but insurers reassessed the risk after 9/11 and coverage became scarce).

32. Howard Kunreuther, *Has the Time Come for Comprehensive Natural Disaster Insurance?*, in ON RISK AND DISASTER: LESSONS FROM HURRICANE KATRINA 178 (Ronald J. Daniels et al. eds., 2006).

33. *Id.* at 179-80.

34. *Id.* at 183.

35. *Id.*

in the aftermath of Hurricane Katrina.

Terrorism and natural disasters are both examples of difficult risks, and these two perils receive more attention in the next two subsections.

B. *Terrorism*

Notwithstanding the nonoccurrence of a major terrorism event on United States soil in nearly five years, terrorism remains a major domestic concern. The reality is that terrorists continue to be a potent force, committed to striking at a time and place of their choosing. Since 9/11, terrorist attacks around the world have continued, and even accelerated.³⁶ In the second half of 2005, terrorists delivered deadly strikes in London in July,³⁷ in Bali in October,³⁸ and in Amman in November.³⁹ Despite attempts to kill or capture them, Osama bin Laden and his top lieutenant, Ayman al-Zawahiri, remain at large, continuing to record messages threatening the West and inspiring their followers.⁴⁰

36. See U.S. DEP'T OF STATE, COUNTRY REPORTS ON TERRORISM 2004 3 (2005) ("Terrorism remains a global threat from which no nation is immune. Despite ongoing improvements in US homeland security, military campaigns against insurgents and terrorists in Iraq and Afghanistan, and deepening counterterrorism cooperation among the nations of the world, international terrorism continued to pose a significant threat to the United States and its partners in 2004.").

37. Alan Cowell, *Subway and Bus Blasts in London Kill at Least 37*, N.Y. TIMES, July 8, 2005, at A1.

38. Ellen Nakashima & Alan Sipress, *25 Killed in Three Blasts in Bali*, WASH. POST, Oct. 2, 2005, at A1.

39. Hassan M. Fattah & Michael Slackman, *3 Hotels Bombed in Jordan; At Least 57 Die*, N.Y. TIMES, Nov. 10, 2005, at A1.

40. On January 19, 2006, bin Laden released a taped audio message threatening future attacks. It was bin Laden's first communiqué in more than one year. See Hassan M. Fattah, *Bin Laden Warns of Attacks in U.S. But Offers Truce*, N.Y. TIMES, Jan. 20, 2006, at A1. On January 30, 2006, al Qaeda's second-in-command, Ayman al-Zawahiri, released a videotaped message taunting the United States for its failed Jan. 13, 2006, attempt to assassinate al-Zawahiri in the remote Pakistan village of Damadola. See Nadia Abou El-Magd, *Al Qaeda Deputy Taunts Bush, Calling Him 'Failure' in New Tape*, CHI. TRIB., Jan. 31, 2006, at C7. On April 23, 2006, another bin Laden audiotape aired. See Craig Whitlock, *On Tape, Bin Laden Warns of Long War; He Accuses the West of Acting as 'Crusader'*, WASH. POST, Apr. 24, 2006, at A1. Just days later, on April 26, a videotaped message from al Qaeda's leader in Iraq, Abu Musab al-Zarqawi, surfaced. Unlike bin Laden, who has used videotape in the past, the al-Zarqawi videotape was his first. See Dexter Filkins, *Qaeda Video Vows Iraq Defeat for 'Crusader' U.S.*, N.Y. TIMES, Apr. 26, 2006, at A1. A short time later, in June 2006, an American airstrike killed Abu Musab al-Zarqawi. See John F. Burns, *After Long Hunt, U.S. Bombs Kill Al Qaeda Leader in Iraq*,

Al Qaeda is no longer the command-and-control organization it was prior to the 9/11 attacks, but it has successfully evolved into both a network⁴¹ and an idea.⁴² Receiving inspiration from a common jihadist ideology, those who consider themselves part of al Qaeda span the globe.⁴³ The flurry of terrorism indictments and successful prosecutions suggest that the intent to strike has not abated.⁴⁴ The August 2006 revelation that British authorities

N. Y. TIMES, June 9, 2006, at A1. After al-Zarqawi's death, Bin Laden praised al-Zarqawi in yet another audiotape. See Karen DeYoung, *Bin Laden Tape Calls Zarqawi 'Brave Knight'*, WASH. POST, June 30, 2006, at A6.

41. *Current and Projected National Security Threats to the United States: Hearing Before the Select Comm. on Intelligence*, 109th Cong. 46 (2005) (statement of Lowell E. Jacoby, Director, Defense Intelligence Agency) ("Usama bin Ladin and his senior leadership no longer exercise centralized control and direction. We now face an 'al-Qaida associated movement' of like-minded groups who interact, share resources and work to achieve shared goals. Some of the groups comprising this movement include Jemaah Islamiyya . . . and Hezbe-Islami-Gulbuddin. Some of the groups in the movement provide safe haven and logistical support to al-Qaida members, others operate directly with al-Qaida and still others fight with al-Qaida in the Afghanistan/Pakistan region.").

42. NAT'L INTELLIGENCE COUNCIL'S 2020 PROJECT, MAPPING THE GLOBAL FUTURE 17 (2004), <http://www.foia.cia.gov/2020/2020.pdf> ("Counterterrorism efforts in the years ahead—against a more diverse set of terrorists who are connected more by ideology than by geography—will be a more elusive challenge than focusing on a centralized organization such as al-Qa'ida.").

43. See generally Simon Elegant et al., *On Terror's Trail; The Bali Suicide Bombings Show that Asian Terror Networks Have Become More Loosely Organized—and Harder to Combat*, TIME INT'L, Oct. 17, 2005, at 16 (describing South Asian terrorist groups and their operations, particularly in Indonesia).

44. In October 2003, Iyman Faris was accused of—and later pleaded guilty to—federal terrorism charges for his role in a plot to attack a New York City bridge, among other targets. Press Release, U.S. Dep't of Justice, *Iyman Faris Sentenced for Providing Material Support to Al Qaeda* (Oct. 28, 2003), http://www.usdoj.gov/opa/pr/2003/October/03_crm_589.htm. More recently, in August 2005, the U.S. Attorney for the Central District of California announced indictments against four men "for their alleged roles in a terrorist plot to attack U.S. military facilities, Israeli government facilities, and Jewish synagogues in the Los Angeles area . . ." Press Release, U.S. Dep't of Justice, *Four Men Indicted on Terrorism Charges Related to Conspiracy to Attack Military Facilities, Other Targets* (Aug. 31, 2005), http://www.usdoj.gov/opa/pr/2005/August/05_crm_453.htm. On February 9, 2006, President Bush offered a rather detailed revelation that law enforcement and homeland security authorities had intercepted a plot to hijack an airplane and fly it into the US Bank tower in Los Angeles in 2002. See Peter Wallsten & Josh Meyer, *Bush Gives New Details About Old Report of L.A. Terror Plot*, L.A. TIMES, Feb. 10, 2006, at A1. But see Peter Baker & Dan Eggen, *Bush Details 2002 Plot to Attack L.A. Tower*, WASH. POST, Feb. 10, 2006, at A4 (suggesting that President Bush offered details of the plot, first made public in October 2005, to mitigate criticism regarding the Administration's domestic spying controversy).

disrupted an alleged plot to destroy commercial airliners over the Atlantic is a stark reminder that terrorists remain active, persistent, and committed.⁴⁵ Successfully foiled plots suggest that intelligence, law enforcement, and homeland security capabilities continue to improve. Despite successes, intercepting terrorists before they strike is a challenge of the highest order: the time, place, and manner of a plot often elude detection until after the fact.⁴⁶ Terrorism is, and will remain for the foreseeable future, largely unpredictable.⁴⁷

Yet the unpredictable nature of terrorism does not mean that terrorism is unforeseeable. Although the particulars are conjecture, future attacks are a matter of when, not if.⁴⁸ In negligence actions brought by terrorism victims or their families, courts have accepted the premise that a terrorist attack is a reasonably foreseeable event. Following the bombing of the World Trade Center in 1993,⁴⁹ victims and their families sued the Port Authority of New York and New Jersey for negligent security practices.⁵⁰ The Port Authority

45. See Alan Cowell and Dexter Filkins, *Terror Plot Foiled; Airports Quickly Clamp Down*, N.Y. TIMES, Aug. 11, 2006, at A1.

46. ANTHONY H. CORDESMAN, TERRORISM, ASYMMETRIC WARFARE, AND WEAPONS OF MASS DESTRUCTION 8 (2002) (“There are no clear boundaries that separate one form of [terrorist] attack from another or that allow the U.S. government to predict where and how it will have to defend itself against an attack or to strike first to prevent one from happening. While it is tempting for governments to plan for the kind of near simultaneous hijacking of four aircraft . . . there is no reason to assume than an attacker must follow such rules.”).

47. *Id.*

48. See NAT’L INTELLIGENCE COUNCIL’S 2020 PROJECT, *supra* note 42, at 18.

49. NAT’L COMM’N ON TERRORIST ATTACKS UPON THE UNITED STATES, THE 9/11 COMMISSION REPORT 71 (2004) (“At 18 minutes after noon on February 26, 1993, a huge bomb went off beneath the two towers of the World Trade Center. This was not a suicide attack. The terrorists parked a truck bomb with a timing device on Level B-2 of the underground garage, then departed. The ensuing explosion opened a hole seven stories up. Six people died. More than a thousand were injured.”).

50. *In re World Trade Ctr. Bombing Litig.*, 776 N.Y.S.2d 713 (N.Y. Sup. Ct. 2004) (granting in part and denying in part defendant’s motion for summary judgment), *aff’d*, 784 N.Y.S.2d 869 (N.Y. App. Div. 2004). The plaintiffs specifically alleged, among other things,

that the Port Authority was negligent with respect to security: in failing to adopt, implement, and follow the recommendations in the security reports; in failing to restrict public access to the parking levels; in failing to have an adequate security plan; in failing to provide an electronic security system; in failing to institute a manned checkpoint at the garage; in failing to subject vehicles to inspection and to have security signs; in failing to have adequate security personnel; in failing to employ recording devices concerning vehicles, operators, occupants, and pedestrians; and in failing to conduct

asserted that it was not liable “because the bombing was not foreseeable as a matter of law.”⁵¹ Citing pre-1993 terror studies conducted at the direction of the Port Authority that analyzed the threats to and the vulnerabilities of the World Trade Center,⁵² the court rejected the argument that the bombing was not foreseeable,⁵³ noting that “[t]he Port Authority’s claim that [the 1993 bombing] was unforeseeable as a matter of law strains credulity.”⁵⁴ Following the 9/11 terrorist attacks, some family members of victims who perished filed a similar lawsuit against the parties they believed were civilly liable for the attack.⁵⁵ In addition to claims against the Port Authority and the World Trade Center leaseholder,⁵⁶ the plaintiffs sought recovery from the airplane manufacturer, Boeing Corporation.⁵⁷ Plaintiffs claimed that Boeing knew, or should have known, that terrorists considered commercial airliners attractive

studies of the possible results of a bombing of the complex.

Id. at 723.

51. *Id.* at 724.

52. In response to the rise of terrorist activity in the 1980s, the Port Authority established a “Terrorist Planning and Intelligence Section” to identify “terrorist groups and Port Authority targets, and to assess the vulnerability of Port Authority facilities to terrorist attack.” *Id.* at 718.

53. *Id.* at 736.

54. *Id.* In October 2005, a jury found the Port Authority negligent for inadequate security practices in connection with the 1993 bombing. *Jury Rules Agency was Negligent in 1993 Attack*, WASH. POST, Oct. 27, 2005, at A10. The jury deemed the Port Authority to be “68 percent at fault for the bombing while the terrorists who carried it out were 32 percent at fault.” Anemona Hartocollis, *Port Authority Found Negligent in 1993 Bombing*, N.Y. TIMES, Oct. 27, 2005, at A1.

55. *In re Sept. 11 Litig.*, 280 F. Supp. 2d 279 (S.D.N.Y. 2003). Pursuant to Congressional mandate, all civil actions were consolidated and brought before the federal court for the Southern District of New York. *See also* discussion of the Victim Compensation Fund, *infra* notes 123-37 and accompanying text.

56. Plaintiffs asserted that the Port Authority and World Trade Center Properties, LLC,

1) failed to design and construct the World Trade Center buildings according to safe engineering practices and to provide for safe escape routes and adequate sprinkler systems and fireproofing; 2) failed to inspect, discover, and repair unsafe and dangerous conditions, and to maintain fireproofing materials; 3) failed to develop adequate and safe evacuation and emergency management plans; 4) failed to apply, interpret and/or enforce applicable building and fire safety codes, regulations and practices; and 5) instructed Tower Two occupants to return to their offices and remain in the building even while the upper floors of Tower One were being consumed by uncontrolled fires following the airplane crash into Tower One.

In re Sept. 11 Litig., 280 F. Supp. 2d at 298-99.

57. *Id.* at 305.

targets and that a failure to design a stronger cockpit door breached Boeing's duty of care to passengers.⁵⁸ The judge, in sustaining the plaintiff's argument, found that:

There have been many efforts by terrorists to hijack airplanes, and too many have been successful. The practice of terrorists to blow themselves up in order to kill as many people as possible has also been prevalent. Although there have been no incidents before the ones of September 11, 2001 where terrorists combined both an airplane hijacking and a suicidal explosion, I am not able to say that the risk of crashes was not reasonably foreseeable to an airplane manufacturer.⁵⁹

Thus, the existence of a legal duty devolving from the foreseeable nature of a terrorist attack is now beyond dispute.⁶⁰ The public availability of information related to terrorist activity places would-be defendants on notice: although the when and where of a future strike cannot be known, the foreseeability of harm is now squarely acknowledged.⁶¹

Notwithstanding the unprecedented damage caused by the terrorist strikes on 9/11, the destruction which occurred in those attacks would be greatly exceeded if any one of a number of foreseeable scenarios were to escape our nation's ongoing efforts to disrupt and prevent their occurrence. Currently, the greatest threat to U.S. domestic security is a terrorist armed with a chemical, biological, radiological, or nuclear weapon (commonly described as a "CBRN weapon").⁶² A CBRN attack could result in untold casualties

58. *Id.* at 306. After 9/11, federal law directed the Federal Aviation Administration to order the "strengthening" of all cockpit doors to prevent entry by unauthorized individuals. See Aviation and Transportation Security Act, Pub. L. No. 107-71 § 104(a), 115 Stat. 597 (2001).

59. *In re Sept. 11 Litig.*, 280 F. Supp. 2d at 307.

60. See generally Joe Wientge, Comment, *Foreseeable Change: The Need for Modification of the Foreseeability Standard in Cases Resulting From Terrorist Acts After September 11th*, 74 UMKC L. REV. 165 (2005). The author concludes, in part, that "[t]he establishment of terrorist attacks as henceforth foreseeable will provide an incentive for negligent actors to create adequate security measures." *Id.* at 196.

61. Litigation has even been attempted in the absence of harm. In 2004, a tenant of the Empire State Building sued the operators of the building alleging inadequate security practices. See Susan Saulny, *Suit Seeks Tighter Security at the Empire State Building*, N.Y. TIMES, Sept. 1, 2004, at B2 ("[T]he plaintiffs cite reports that terrorist groups like Al Qaeda have conducted surveillance in the city and desire to attack symbolic buildings. The Empire State Building, the suit states, would be a prime target.").

62. *Annual Threat Assessment of the Director of National Intelligence Before the S. Select Comm. on Intelligence*, 109th Cong. Sess. 2 (2006)

and billions of dollars in direct and indirect economic losses.⁶³ The worst-case scenario is the detonation of an improvised nuclear weapon, and the magnitude of the ensuing losses would cripple the global economy.⁶⁴

The prospect of the detonation of a chemical weapon is also a worrisome scenario. History is instructive: on December 3, 1984, near Bhopal, India, highly toxic methyl isocyanate escaped from a chemical plant operated by Union Carbide India Ltd.⁶⁵ The toxic cloud killed approximately 3800 people and maimed thousands more.⁶⁶ Largely in response to the Bhopal tragedy, Congress passed legislation to reduce the possibility that a similar disaster could occur in the United States,⁶⁷ but the prospect that terrorists might

(statement of John D. Negroponte, Director of National Intelligence) (“Although an attack using conventional explosives continues to be the most *probable* scenario, al-Qa’ida remains interested in acquiring chemical, biological, radiological, and nuclear materials or weapons to attack the United States, US troops, and US interests worldwide.”). See also COMM’N ON THE INTELLIGENCE CAPABILITIES OF THE UNITED STATES REGARDING WEAPONS OF MASS DESTRUCTION, REPORT TO THE PRESIDENT OF THE UNITED STATES 501-36 (2005) (describing the threats of biological, nuclear, and chemical weapons and governmental reforms necessary to address them).

63. See generally DAVID HOWE, HOMELAND SECURITY COUNCIL, PLANNING SCENARIOS: EXECUTIVE SUMMARIES CREATED FOR USE IN NATIONAL, FEDERAL, STATE, AND LOCAL HOMELAND SECURITY PREPAREDNESS ACTIVITIES (2004) (describing eleven CBRN scenarios and their human and economic costs). A study by the American Academy of Actuaries of damage from a range of terrorism acts in four cities indicated that losses would be in the hundreds of billions of dollars. A CBRN event in New York City, for example, could cost as much as \$778.1 billion. Insurance Information Institute, *supra* note 31.

64. See HOWE, *supra* note 63, at 1-1 to 1-5.

65. Union Carbide Corp., Chronology, <http://www.bhopal.com/pdfs/chrono05.pdf> (last visited June 21, 2006).

66. *Id.* Within days of the tragedy, victims began to file lawsuits in U.S. federal court. See *In re Union Carbide Corp. Gas Plant Disaster at Bhopal, India* in Dec. 1984, 809 F.2d 195, 197 (2d Cir. 1987).

67. See Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. §§ 11001-50 (2000) (requiring emergency planning, notification, and response as it relates to hazardous chemicals). See also Clean Air Act Amendments of 1990, Pub. L. No. 101-549, § 112, 104 Stat. 2399, 2570 (1990) (“In order to prevent accidental releases of regulated [hazardous] substances, the Administrator [of the Environmental Protection Agency] is authorized to promulgate release prevention, detection, and correction requirements which may include monitoring, record-keeping, reporting, training, vapor recovery, secondary containment, and other design, equipment, work practice, and operational requirements.”). See also Bradford C. Mank, *Preventing Bhopal: “Dead Zones” and Toxic Death Risk Index Taxes*, 53 OHIO ST. L.J. 761, 762 (1992) (asserting that additional steps are necessary to prevent such a disaster, including the use of economic incentives and restrictive zoning).

attempt to recreate Bhopal has not been lost on homeland security officials and lawmakers.⁶⁸ In fact, the vulnerability of chemical facilities to terrorist attack has been well documented. In April 2005, the Government Accountability Office (“GAO”) found that “[s]ome [chemical] facilities may be at higher risk of a terrorist attack than others because of the specific chemicals on site and their proximity to population centers.”⁶⁹ The GAO then cited data from the Environmental Protection Agency that found that “123 U.S. chemical facilities had ‘worst-case’ scenarios where more than one million people could be at risk of exposure to a cloud of toxic gas” as a result of a terrorist attack.⁷⁰ Congress continues to examine the utility of federal chemical facility security legislation and appears poised to pass a bipartisan measure sometime in the near future.⁷¹

Some lawmakers have been unwilling to wait for federal action to safeguard hazardous chemicals. Noting the magnitude of the foreseeable harm and the perceived inaction on the part of the federal government, the Council of the District of Columbia passed the Terrorism Prevention in Hazardous Materials Transportation Emergency Act of 2005.⁷² The Act bans the movement of certain classes of hazardous cargo among the roads and rail-lines that pass within 2.2 miles of the U.S. Capitol complex.⁷³ While the ban prompted a legal showdown between District officials and railroad operator CSX Transportation, Inc., which claimed the ban violated the Commerce Clause of the Constitution and was preempted by federal law,⁷⁴ the debate underscores an issue upon which both sides

68. The Homeland Security and Government Affairs Committee of the U.S. Senate held extensive hearings on the subject in 2005. See Press Release, Senate Homeland Sec. and Gov’t Affairs Comm., Senator Collins Chairs Hearing to Examine Security of Chemical Facilities, Vulnerability to Terrorist Attacks (Apr. 27, 2005).

69. *Homeland Security: Federal and Industry Efforts Are Addressing Security Issues at Chemical Facilities, but Additional Action is Needed: Before the U.S. S. Comm. on Homeland Security and Governmental Affairs*, 109th Cong. (2005) (statement of John B. Stephenson, Director, GAO Natural Resources and Environment).

70. *Id.*

71. See Chemical Facility Anti-Terrorism Act of 2005, S. 2145, 109th Cong.

72. Terrorism Prevention in Hazardous Materials Transportation Emergency Act of 2005, D.C. Act 16-43 (Feb. 15, 2005) (current version at D.C. Code Ann. § 8-1421 (LexisNexis 2006)) amended by Terrorism Prevention in Hazardous Materials Transportation Emergency Act of 2006 D.C. Act 16-266 (April 4, 2006).

73. D.C. Code Ann. § 8-1421(5) (LexisNexis 2006); see also Eric M. Weiss & Spencer S. Hsu, *90-Day Hazmat Ban Is Passed: Measure Will Bar Shipments in D.C.*, WASH. POST, Feb. 2, 2005 at B1.

74. *CSX Transportation, Inc. v. Williams*, 406 F.3d 667, 669-70 (D.C. Cir.

can agree. A railcar loaded with ultra-hazardous material is similar to a warhead loaded with a chemical agent;⁷⁵ a coordinated terrorist strike against such cargo is a foreseeable danger that could cause catastrophic human and economic losses.⁷⁶

C. *Natural Disasters*

The risk of catastrophic loss due to natural forces is hardly a new feature on the global landscape. The sudden eruption of Mt. Vesuvius on August 24, 79 C.E., buried two cities so thoroughly in only a few hours that the ruins were not uncovered for nearly 1,700 years.⁷⁷ The 1902 eruption of Mt. Pelee on the Caribbean island of Martinique destroyed the town of St. Pierre, killing more than 30,000 people in the process.⁷⁸ On September 1, 1923, approximately 140,000 people were killed in Tokyo and Yokohama in a devastating, destructive earthquake.⁷⁹ In recent memory is the December 2004 East Asian tsunami, which killed approximately 200,000 people on two continents and changed the map of some coastal nations.⁸⁰ As the world focused on the devastation wrought by the December 2004 tsunami, relatively few noticed that NASA's Near Earth Object Program had recalculated the path of Asteroid

2005).

75. The material transported by some railcars has the potential to kill and injure if inhaled, absorbed, or contacted. Recent rail accidents highlight the danger. In January 2005, a train carrying chlorine gas collided with a parked train in Graniteville, South Carolina. The resulting release of chlorine gas killed nine, injured scores more, and caused the evacuation of more than 5,000 people within a one-mile radius of the accident site. See NAT'L TRANSP. SAFETY BD., RAILROAD ACCIDENT REPORT, COLLISION OF NORFOLK SOUTHERN FREIGHT TRAIN 192 WITH STANDING NORFOLK SOUTHERN LOCAL TRAIN P22 WITH SUBSEQUENT HAZARDOUS MATERIALS RELEASE AT GRANITEVILLE, SOUTH CAROLINA JANUARY 6, 2005 1 (2005).

76. See D.C. Code Ann. § 8-1421(1) (LexisNexis 2006) ("A terrorist attack on a large-quantity hazardous material shipment near the United States Capitol . . . would be expected to cause tens of thousands of deaths and a catastrophic economic impact of \$5 billion or more."). It is important to note that the number of victims will depend on a host of factors, which include wind speed and direction, time of day, the specific characteristics of the agent, the speed and skill of emergency responders to triage and decontaminate victims, and the surge capacity at local hospitals.

77. ERNESTO DE CAROLIS & GIOVANNI PATRICELLI, VESUVIUS, A.D. 79: THE DESTRUCTION OF POMPEII AND HERCULANEUM 7 (2003).

78. DAVID RITCHIE, THE ENCYCLOPEDIA OF EARTHQUAKES AND VOLCANOES 125 (1994).

79. *Id.* at 85.

80. See Seth Mydans, *Where Tsunami Ravaged, Barely a Sign of Relief*, N.Y. TIMES, Apr. 6, 2005, at A2.

2004 MN4 and forecast a one in thirty-seven chance that the asteroid would strike the earth on April 13, 2029, with potentially serious consequences.⁸¹ Fortunately, another more refined set of calculations would later confirm that this asteroid will miss the earth by about 22,000 miles (less than one-tenth of the moon's orbit around the earth),⁸² but the prospect of an asteroid striking earth with devastating results is not science-fiction fantasy.

Although the risk of catastrophic loss in the United States received casual treatment for many years, the risk is better appreciated today. The four hurricanes that struck Florida in 2004 with devastating consequences were, in hindsight, a mild prelude for the destruction caused in New Orleans and along the Mississippi-Alabama coastline by Hurricane Katrina in August 2005. More than sixty years of volcanic inactivity in the United States ended in 1980 with the eruption of Mount St. Helens. Because this eruption occurred in a remote area of Oregon, loss of life and property damage were limited, but the eruption served to remind inhabitants of the northwest that seven times in the last 6,000 years debris flows from Mount Rainier have reached the Puget Sound, and about 100,000 people now live in areas that have been covered by these debris flows.⁸³ An earthquake of 9.0 or greater somewhere between northern California and Canada is inevitable,⁸⁴ as is a high-magnitude earthquake in the Midwest along the New Madrid fault,

81. See Robert Roy Britt, *Whew! Asteroid Won't Hit Earth in 2029, Scientists Now Say*, SPACE.COM Dec. 27, 2004, http://www.space.com/scienceastronomy/asteroid_update_B_041227.html. On December 23, 2004, calculations put the odds of impact of Asteroid 2004 MN4 with Earth at 1-in-300, but on Dec. 27, 2004, those odds went to 1-in-37, which gave this asteroid the highest warning level ever (four out of ten on the Torino Scale). However, scientists quickly recalculated the odds using new data and ruled out the possibility that the asteroid would strike Earth. *Id.*

82. See Press Release, NASA Near Earth Object Program, Radar Observations Refine the Future Motion of Asteroid 2004 MN4 (Feb. 3, 2005) <http://neo.jpl.nasa.gov/news/news149.html>. The latest calculations have the asteroid passing within 22,600 miles of earth—or less than one-tenth of the moon's distance from the Earth and below the orbit of some satellites now in orbit around Earth. The asteroid will be visible to the naked eye as it passes, and the encounter will be so close that the asteroid's future orbit around the sun will be altered. *Id.*

83. U.S. Geological Survey, *Living With A Volcano In Your Backyard: Volcanic Hazards at Mount Rainier*, http://vulcan.wr.usgs.gov/Outreach/Publications/GIP19/chapter_three_volcano_in_backyard.pdf (last visited Aug. 31, 2006).

84. See Robin Lloyd, *Tsunami-Generating Earthquake Near U.S. Possibly Imminent*, LIVE SCIENCE, Jan. 3, 2005, http://www.livescience.com/forcesofnature/050103_cascadia_tsunami.html.

which runs on the west side of the Mississippi River in the Missouri boot heel.⁸⁵ All U.S. coastal areas are vulnerable to devastating tsunamis,⁸⁶ and the potential for a hurricane stronger than Katrina to hit New York City or Miami is real.⁸⁷ The Yellowstone area in Wyoming is actually the site of an ancient super-volcano, which erupts on the average of once every 600,000 years, dumping about three feet of ash on a third of the continental United States.⁸⁸ There are no indications that another eruption is imminent, and one hopes that the next eruption is tens of thousands of years from now, but the last super-eruption occurred 620,000 years ago, which means that the next eruption, based on the averages, is overdue.⁸⁹

The frequency of earthquakes, volcanic activity, and tsunamis is static, but some scientists contend that changing climate conditions related to global warming are increasing both the frequency and strength of hurricane activity.⁹⁰ Yet, the most significant factor driving up the consequences of these events is the unprecedented growth in the exposure to them. Coastal development, increased aggregation of property in urban centers, and the increasing costs of constructing residential and commercial property have all greatly increased the amount of potential loss from these events.⁹¹ Without question, the prospect of increasingly damaging natural disasters is a dominant feature of the risk-management landscape.

85. See Robert Roy Britt, *Central U.S. Warned of Larger Earthquakes to Come*, LIVE SCIENCE, Feb. 10, 2005, http://www.livescience.com/forcesofnature/050210_earthquake_arkansas.html.

86. See Tariq Malik, *Catch the Wave: Asteroid-driven Tsunami in U.S. Eastern Seaboard's Future*, LIVE SCIENCE, June 2, 2003, http://www.space.com/scienceastronomy/tsunami_asteroid_030602.html. See also Live Science staff, *Potential Southern California Tsunami Could Cost up to \$42 Billion*, LIVE SCIENCE, Mar. 31, 2005, http://www.livescience.com/forcesofnature/050331_tsunami_california.html; Michael Schirber, *New Warning: U.S. Gulf Coast Faces High Tsunami Risk*, LIVE SCIENCE, March 16, 2005, http://www.livescience.com/forcesofnature/050316_tsunami_carib.html.

87. See Robert Roy Britt, *History Reveals Hurricane Threat to New York City*, LIVE SCIENCE, June 1, 2005, http://www.livescience.com/forcesofnature/050601_hurricane_1938.html.

88. See Robert Roy Britt, *Super Volcano Will Challenge Civilization, Geologists Warn*, LIVE SCIENCE, Mar. 8, 2005, http://www.livescience.com/forcesofnature/050308_super_volcano.html.

89. *Id.*

90. See Brian Ross, *More Scientists Say Global Warming Causes Stronger Hurricanes*, ABC NEWS, Sept. 23, 2005, <http://abcnews.go.com/2020/HurricaneRita/story?id=1154125>.

91. Roger A. Pielke, Jr. & Christopher W. Landsea, *Normalized Hurricane Damages in the United States: 1925-95*, 13 WEATHER AND FORECASTING 621, 623 (1998).

D. The Multi-Jurisdictional Character of Terrorism and Natural Disaster Events

It is self-evident that when large terrorism events and natural disasters occur, the consequences reach well beyond the borders of any single jurisdiction. For example, if a terrorist event involving CBRN weapons were to occur, under all foreseeable scenarios the response would be multi-jurisdictional. State and local authorities would be the first to respond and would take crucial initial steps to care for the injured, secure the scene of the attack, and begin remediation.⁹² Because terrorist acts violate federal law, the Federal Bureau of Investigation (“FBI”) would assume primary responsibility for the criminal investigation supported by other federal departments, including the Department of Homeland Security (“DHS”).⁹³ The seriousness of the emergency—and the limits of first responders to manage a large-scale chemical attack—would invariably cause the governor of the affected state to seek assistance from the federal government, most likely through the disaster declaration provisions of the Robert T. Stafford Disaster

92. A 2005 Report by the Government Accountability Office described the full breadth of first responder responsibilities during an emergency:

Traditionally, first responders have been trained and equipped, in the event of an emergency—natural or accidental disasters and terrorist attacks—to arrive on the scene and take action immediately. In the first hours of an event, first responders from various disciplines . . . must attempt to enter the scene, set up a command center, establish a safe and secure perimeter around the site in order to save lives and protect property, evacuate those within or near the site, tend to the injured and dead and transport them to care centers or morgues, restrict and redirect traffic and pedestrians, reroute and restore public utilities, remove debris, and begin the process of recovery.

U.S. GOV'T. ACCOUNTABILITY OFFICE, GAO-05-652, HOMELAND SECURITY: DHS' EFFORTS TO ENHANCE FIRST RESPONDERS' ALL-HAZARDS CAPABILITIES CONTINUE TO EVOLVE 7-8 (2005).

93. 28 C.F.R. § 0.85(l) (2005) (“The Director of the Federal Bureau of Investigation shall . . . [e]xercise Lead Agency responsibility in investigating all crimes for which it has primary or concurrent jurisdiction and which involve terrorist activities or acts in preparation of terrorist activities within the statutory jurisdiction of the United States. Within the United States, this would include the collection, coordination, analysis, management and dissemination of intelligence and criminal information as appropriate. If another Federal agency identifies an individual who is engaged in terrorist activities or in acts in preparation of terrorist activities, that agency is requested to promptly notify the FBI. Terrorism includes the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives.”).

Relief and Emergency Assistance Act.⁹⁴ In most circumstances, the Stafford Act applies only after a Governor's declaration to the President of a "major disaster"⁹⁵ or "emergency."⁹⁶ In either instance, the governor must first find that the event is of "such severity and magnitude that effective response is beyond the capabilities of the State and the affected local governments and that Federal assistance is necessary."⁹⁷ Following such a request, the Act empowers the President to declare that a major disaster or emergency indeed exists and liberally provide federal resources.⁹⁸

A unique provision of the Stafford Act permits the President to bypass a gubernatorial request for federal assistance when "an emergency exists for which the primary responsibility for response rests with the United States because the emergency involves a subject area for which, under the Constitution or laws of the United States, the United States exercises exclusive or preeminent responsibility and authority."⁹⁹ This is precisely what occurred following the terrorist bombing of the Alfred P. Murrah Federal

94. Robert T. Stafford Disaster Relief and Emergency Assistance Act, Pub. L. No. 93-288, 88 Stat. 143 (1974) (codified as amended at 42 U.S.C. §§ 5191-5206 (2000)). For an excellent overview of the Stafford Act, see KEITH BEA, CONG. RES. SERV., FEDERAL STAFFORD ACT DISASTER ASSISTANCE: PRESIDENTIAL DECLARATIONS, ELIGIBLE ACTIVITIES, AND FUNDING (2005). See also Jim Winthrop, *The Oklahoma City Bombing: Immediate Response Authority and Other Military Assistance to Civil Authority (MACA)*, ARMY LAW., July 1997, at 3 (discussing the DOD response to the Oklahoma City Bombing under the Stafford Act).

95. 42 U.S.C. § 5170 (2000) ("All requests for a declaration by the President that a major disaster exists shall be made by the Governor of the affected State."). The Act defines a major disaster as "any natural catastrophe (including any hurricane, tornado, storm, high water, winddriven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under this chapter to supplement the efforts and available resources of States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby." *Id.* § 5122(2).

96. *Id.* § 5191(a) ("All requests for a declaration by the President that an emergency exists shall be made by the Governor of the affected State."). The Act defines an emergency as "any occasion or instance for which, in the determination of the President, Federal assistance is needed to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States." *Id.* § 5122(1).

97. *Id.* §§ 5170, 5191(a).

98. *Id.* §§ 5170, 5170(a), 5191-92.

99. *Id.* § 5191(b).

Building in Oklahoma City, Oklahoma, on April 19, 1995. Less than one hour after the blast, Oklahoma Governor Frank Keating declared a state of emergency directing state resources to Oklahoma City.¹⁰⁰ Because the Murrah Building was a federal facility, however, the President had the authority to issue a federal emergency declaration independently.¹⁰¹ Using this authority, President Clinton issued a federal emergency declaration directing federal resources and money to Oklahoma City that same day.¹⁰²

The Stafford Act and its application underscore two important tenets of emergency management. First, major disasters—whether natural or man-made, intentional, or accidental—require significant federal involvement for response and recovery. The Stafford Act’s Congressional findings and declarations recognize this reality:

[B]ecause disasters often disrupt the normal functioning of governments and communities, and adversely affect individuals and families with great severity[,] special measures, designed to assist the efforts of the affected States in expediting the rendering of aid, assistance, and emergency services, and the reconstruction and rehabilitation of devastated areas, are necessary.¹⁰³

Second, embedded in the Stafford Act are principles of federalism and dual sovereignty. With rare exception, the management of a disaster is reserved to the affected state, unless and until the state actively seeks federal assistance.¹⁰⁴ Nonetheless, states frequently seek federal assistance, and the Stafford Act continues to be used widely.¹⁰⁵ In other words, the Stafford Act is state-centric in form, but its practical effect is to strengthen federal involvement following emergencies.

From all appearances, the involvement of the federal government in disaster response has increased further since 9/11. Homeland Security Presidential Directive 5 (“HSPD-5”) establishes a national strategy for emergency management.¹⁰⁶ HSPD-5

100. THE OKLAHOMA DEP’T OF CIVIL EMERGENCY MGMT., AFTER ACTION REPORT ALFRED P. MURRAH FEDERAL BUILDING BOMBING 19 APRIL 1995 IN OKLAHOMA CITY, OKLAHOMA, Exhibit C.

101. See Winthrop, *supra* note 94, at 10.

102. Oklahoma; Emergency and Related Determinations, 60 Fed. Reg. 22,579 (Apr. 19, 1995).

103. 42 U.S.C. § 5121(a) (2000).

104. *Id.* §§ 5170, 5191(b).

105. See BEA, *supra* note 94, at 1 (“In calendar year 2004, President Bush issued 68 major disaster declarations . . .”).

106. Homeland Security Presidential Directive 5, The White House § 3 (Feb. 28, 2003) (“To prevent, prepare for, respond to, and recover from terrorist

recognizes the sovereignty of state and local governments to manage disasters, and the presumptively limited federal role¹⁰⁷ the directive provides.

The Federal Government recognizes the roles and responsibilities of State and local authorities in domestic incident management. Initial responsibility for managing domestic incidents generally falls on State and local authorities. The Federal Government will assist State and local authorities when their resources are overwhelmed, or when Federal interests are involved.¹⁰⁸

The directive then authorizes a greater federal role by establishing that “[t]he Secretary [of DHS] will coordinate with State and local governments to ensure adequate planning, equipment, training, and exercise activities.”¹⁰⁹

The National Response Plan (“NRP”) effectuates this directive and other policies required by HSPD-5.¹¹⁰ Released by the DHS in December 2004, the NRP seeks “to align Federal coordination structures, capabilities, and resources into a unified, all-discipline, and all-hazards approach to domestic incident management” which will result in “vastly improved coordination among Federal, State, local, and tribal organizations to help save lives and protect America’s communities by increasing the speed, effectiveness, and efficiency of incident management.”¹¹¹

Whatever might be said about the structure for disaster response under the NRP, Hurricane Katrina exposed substantial deficiencies in the implementation of the federal response. What was obvious to the general public through real-time media coverage of the disaster response was underscored by the Final Report of the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina: “Hurricane Katrina exposed numerous deficiencies in the existing national framework for

attacks, major disasters, and other emergencies, the United States Government shall establish a single, comprehensive approach to domestic incident management. The objective of the United States Government is to ensure that all levels of government across the Nation have the capability to work efficiently and effectively together, using a national approach to domestic incident management.”)

107. DEP’T OF HOMELAND SECURITY, NATIONAL RESPONSE PLAN 15 (2004) (“A basic premise of the NRP is that incidents are generally handled at the lowest jurisdictional level possible.”).

108. Homeland Security Presidential Directive 5, *supra* note 106, § 6.

109. *Id.*

110. *See id.* § 16.

111. NATIONAL RESPONSE PLAN, *supra* note 107, at i.

emergency management, including specific mistakes that delayed an appropriate federal response. Confusion accompanied the implementation of the NRP, resulting in key elements of the plan executed late, ineffectively, or not at all.”¹¹²

Hurricane Katrina also exposed confusion regarding the NRP’s relationship to the Stafford Act, and vice versa.¹¹³ While the Stafford Act vests authority with the President to make a disaster declaration, typically after a request from a state governor,¹¹⁴ the NRP vests authority to declare an “Incident of National Significance”¹¹⁵ with the Secretary of Homeland Security.¹¹⁶ On August 29, the day the levees in New Orleans failed, President Bush issued a major disaster declaration under the Stafford Act for affected areas of Louisiana.¹¹⁷ On August 30, DHS Secretary Michael Chertoff declared Hurricane Katrina an Incident of National Significance, thereby triggering the NRP.¹¹⁸ Because every emergency declaration under the Stafford Act is, by definition, an Incident of National Significance, “the declaration [of an Incident of National Significance] was meaningless, because, by the plain terms of the National Response Plan, Hurricane Katrina had become an

112. A FAILURE OF INITIATIVE: FINAL REPORT OF THE SELECT BIPARTISAN COMMITTEE TO INVESTIGATE THE PREPARATION FOR AND RESPONSE TO HURRICANE KATRINA, H.R. REP. 109-377, at 146 (2006) [hereinafter KATRINA REPORT].

113. *Id.* at 203 (“Some point out that in cases of a major catastrophe, the President through the Stafford Act can designate and deploy federal resources without following NRP procedures.”).

114. 42 U.S.C. § 5170 (2000).

115. DEP’T OF HOMELAND SECURITY, *supra* note 107, at 67 (defining an Incident of National Significance as “an actual or potential high-impact event that requires a coordinated and effective response by an appropriate combination of Federal, State, local, tribal, or nongovernmental, and/or private-sector entities in order to save lives and minimize damage, and provide the basis for long-term community recovery and mitigation activities”).

116. *Id.* at 49 (“For actual or potential Incidents of National Significance, the [Homeland Security Operations Center] reports the situation to the Secretary of Homeland Security and/or senior staff as delegated by the Secretary, who then determines the need to activate components of the NRP to conduct further assessment of the situation, initiate interagency coordination, share information with affected jurisdictions and the private sector, and/or initiate deployment of resources. *Concurrently, the Secretary of Homeland Security also makes a determination of whether an event meets the criteria established for a potential or actual Incident of National significance as defined in this plan.*”) (emphasis added).

117. Louisiana; Major Disaster and Related Determinations, 70 Fed. Reg. 53,803 (Aug. 29, 2005).

118. Peter Grier, *What We Know So Far—and What We Don’t*, CHRISTIAN SCIENCE MONITOR, Sept. 21, 2005, at 3.

'Incident of National Significance' three days earlier [sic]¹¹⁹ when the President declared an emergency [under the Stafford Act] in Louisiana."¹²⁰ There can be little doubt that "[t]he lack of awareness of this fundamental tenet of the National Response Plan . . . helps explain the [Homeland Security] Department's slow, sometimes hesitant response to the storm."¹²¹

The mismanagement in the wake of Hurricane Katrina has already compelled a hard review of the nation's management of emergencies.¹²² This review will probably result in the expansion of federal responsibility to prepare for and respond to the most significant emergencies, with an emphasis placed on proactive response to state and local governments. Such a response will require the federal government "to anticipate state and local requirements [during an emergency], move commodities and assets into the area *on its own initiative*, and shore up or even help reconstitute critical state and local emergency management and response structures."¹²³

E. Ex ante and Ex post Federal Involvement in Disaster Risk Management

In many respects, government responds to risk in ways that are analogous to how individuals and firms manage risk. Just as individuals and firms seek *ex ante* to reduce the probability of loss occurring and make efforts *ex ante* to mitigate the consequences of loss should it occur, the government has programs that seek *ex ante* to reduce the probability of loss and to mitigate the consequences of loss when it occurs. For example, virtually every aspect of the "war on terrorism," which is being organized and waged primarily by agencies at the federal level, is designed to reduce the probability of a terrorist event occurring. Early-warning systems for chemical and biological attacks and pre-disaster planning are activities coordinated predominantly at the federal level and which are

119. The reference should have been "one day earlier," not "three days earlier."

120. *Hurricane Katrina: The Roles of DHS and FEMA Leadership: Hearing before the S. Comm. on Homeland Security and Governmental Affairs*, 109th Cong. (2006) (statement of Sen. Susan M. Collins, Chairman, S. Comm. on Homeland Security and Governmental Affairs).

121. *Id.*

122. See generally KATRINA REPORT, *supra* note 112. See also U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-06-365R, STATEMENT BY COMPTROLLER GENERAL DAVID M. WALKER ON GAO'S PRELIMINARY OBSERVATIONS REGARDING PREPAREDNESS AND RESPONSE TO HURRICANES KATRINA AND RITA 2-3 (2006).

123. KATRINA REPORT, *supra* note 112, at 132 (emphasis added).

designed to mitigate losses should a terrorist event occur. Early warning systems for hurricanes and other weather events through the National Weather Service are *ex ante* efforts to reduce the human and economic losses of such events. Land use regulations and building codes are also *ex ante* efforts to mitigate natural disaster loss; most of these programs are functions of state and local government, although a case can be made that these programs should be integrated into national policies that are coordinated and implemented at the federal level as part of a comprehensive national catastrophe policy.

Ex post disaster relief is also predominantly a federal activity. The federal role with respect to natural disasters is well-established and well-known. With respect to terrorism, the most prominent example, and to date the only significant example, of *ex post* disaster relief is the post-9/11 enactment of the Air Transportation Safety and System Stabilization Act ("ATSSA").¹²⁴ Congress passed the ATSSA less than two weeks after 9/11 to protect the airline industry from the cascading economic consequences of the attacks and to compensate victims and victims' families for losses suffered.¹²⁵ The Victim Compensation Fund established by ATSSA was an alternative to tort recovery and entitled eligible parties¹²⁶ to receive a one time, tax-free payment funded by the federal government.¹²⁷ The Attorney General appointed a special master to administer the fund and make determinations regarding the eligibility of each claimant and the amount of compensation each claimant would receive.¹²⁸ In authorizing the special master to consider economic and non-economic losses to determine the award amount,¹²⁹ Congress gave this official significant discretion that could not be disturbed through any form of judicial review.¹³⁰ Although participation in the Victim Compensation Fund was voluntary, a condition of participation required victims to waive "the right to file a civil action (or to be a party to a civil action) in any Federal or

124. Air Transportation Safety and System Stabilization Act, Pub. L. No. 107-42, 115 Stat. 230 (2001).

125. *See id.* §§ 101, 401.

126. *See id.* §405(c) (defining criteria for eligibility).

127. Kenneth R. Feinberg, *Lecture*, 56 ALA. L. REV. 543, 543 (2004) ("The law simply says that anybody who lost a loved one on 9/11 or anybody that was physically injured on 9/11 as a result of the 9/11 terrorists attacks is eligible for federal, tax-free compensation, funded by you, the taxpayer.").

128. Air Transportation Safety and System Stabilization Act §§ 404(a), 405.

129. *Id.* § 405(b). *See also* Feinberg, *supra* note 127, at 545-46 (discussing the difficulty of implementing the statute and determining economic loss).

130. Air Transportation Safety and System Stabilization Act § 405(b)(3).

State court for damages sustained as a result of the terrorist-related aircraft crashes of September 11, 2001.”¹³¹ Only a small percentage of victims elected not to seek relief through the Fund and instead to bring a civil action under traditional theories of tort law.¹³²

Although the United States had suffered tragedy at the hands of terrorists throughout the previous decade, Congress had never offered a specific compensation mechanism for those injured or killed prior to 9/11.¹³³ Whether the Victim Compensation Fund represents a one-time legislative response in the wake of an unprecedented foreign attack or a precedent for future compensation mechanisms for victims of terrorism is impossible to know.¹³⁴ If it is

131. *Id.* § 405(c)(3)(B)(i).

132. *See* Feinberg, *supra* note 127, at 544 (“Some 97% of all eligible families signed up to enter the fund.”).

133. *See* Larry S. Stewart et al., *The September 11th Victim Compensation Fund: Past or Prologue?*, 9 CONN. INS. L.J. 153, 155 (2002) (“September 11th was not the first terrorist attack on Americans. There had been others including the 1993 bombing of the World Trade Center, the 1995 Oklahoma City bombing, the 1996 attack on the Khobar Towers complex in Saudi Arabia, the 1998 bombings of the United States’ embassies in Kenya and Tanzania and the attack on the USS Cole in 2000. As grievous and as shocking as each was, none prompted any attempt to enact victim compensation programs. Yet, in just eleven days after September 11th, Congress passed and the President signed into law a compensation plan that will deliver as much as \$6 billion to the victims and victims’ families”). *See also* Feinberg, *supra* note 127, at 548-49 (“Only in America could you see this program. No other nation on earth will ever do anything like this. We have never done anything like it before. But be careful in agreeing with me. Read some of the letters I get: ‘Dear Mr. Feinberg, my daughter died in Oklahoma City. Where’s my check?’ ‘Dear Mr. Feinberg, my husband died in the African Embassy bombing in Kenya in ‘98. Where’s my check?’ ‘Dear Mr. Feinberg, my son died on the U.S.S. Cole in Yemen by a terrorist attack. How do I apply for the fund?’ ‘Dear Mr. Feinberg, I don’t get it. My daughter died in the first World Trade Center in ‘93, committed by the very same people. How come I’m not eligible?’ And it doesn’t stop there: ‘Dear Mr. Feinberg, last year my husband saved three little girls from drowning in the Mississippi River. And then he went under, a hero. How do I apply to this fund?’ ‘Dear Mr. Feinberg, my fourteen year old daughter was walking down the street on the sidewalk when she was killed by a hit-and-run drunk driver. How do I apply to the fund?’ Can we justify, in a free society like ours, carving out for special treatment a very small, defined group of people? Can we do that fairly? Or when you step back from the emotion of it, do you say this is well-intended, but it’s a bad idea because we are making arbitrary distinctions among American citizens? That is wrong. Bad public policy. Or do you say 9/11 is ‘different,’ and it justifies this type of special treatment? A unique response to a very unique historical event.”).

134. *See* Stewart, *supra* note 133, at 178 (“Given the highly unique circumstances of the enactment of the September 11th Victim Compensation Fund, there is no reason to believe that it will serve as a model for the

a precedent for future compensation responses, then the federal government serves as a camouflaged “insurer,” albeit one that collects premiums through taxation and spreads the risk of terrorism losses over the general population through the general tax revenue collection mechanism.

The ATSSA also capped the liability of the air carriers:

Notwithstanding any other provision of law, liability for all claims, whether for compensatory or punitive damages, arising out of the terrorist-related aircraft crashes of September 11, 2001 against any air carrier shall not be in an amount greater than the limits of the liability coverage maintained by the air carrier.¹³⁵

Through this provision, Congress created an *ex post* limitation of liability that had the effect of shifting the risk of loss exceeding the airlines’ liability limits to any victims of industry negligence, who in turn were offered compensation through the Victim Compensation Fund. Stated otherwise, the airlines’ liability risk was assumed by the federal government.

Creating immunities from liability is a long-standing method of government risk management. As David Moss documents, the limited liability laws created by states in the nineteenth century for passive investors in corporations had the effect of shifting the risk of business failure from passive investors to creditors, and this risk management policy was an indispensable ingredient of economic progress when the United States was still a developing nation.¹³⁶ In the same vein, ATSSA’s liability limitations should be understood as reflecting Congress’s judgment that limiting airlines’ risk of liability for claims arising out of 9/11 was an indispensable ingredient of maintaining a solvent commercial airline industry, which is deemed to be vital to the economic well-being of the nation.¹³⁷ This risk-

consideration of any future compensation programs.”). Various members of Congress introduced legislation in 2003, 2004, and 2005 to extend the Victim Compensation Fund’s original filing deadline of Dec. 22, 2003. *See* Air Transportation Safety and System Stabilization Act § 405(a)(3). Legislation to extend the deadline would have effectively expanded the number of claimants entitled to seek recovery due to late-onset illnesses allegedly caused by exposure to toxic substances released into the atmosphere on 9/11, but the legislation did not pass. *See* Victim Compensation Fund Extension Act, H.R. 565, 109th Cong. (2005); Victim Compensation Fund Extension Act, H.R. 5076, 108th Cong. (2004); September 11th Victim Compensation Fund Extension Act of 2003, H.R. 3084, 108th Cong. (2003).

135. Air Transportation Safety and System Stabilization Act § 408(a).

136. *See* MOSS, *supra* note 19, at 53-84.

137. 147 Cong. Rec. S9589, S9594 (daily ed. Sept. 21, 2001) (statement of

management solution was, obviously, a federal policy; limiting damages to the amount of liability insurance in force not only offered a predictable outcome for damage awards but also served to preempt any state law or rule to the contrary.

IV. DIFFICULT RISKS AND THE IMPLICATIONS FOR REGULATION OF THE BUSINESS OF INSURANCE

Risk management occurs along a continuum that runs from pre-loss prevention to post-loss remediation. In the pre-loss phase, risk managers engage in ex ante prevention as well as planning to reduce the consequences of loss should a future loss-causing event occur. When prevention and mitigation efforts are no longer cost-effective or adequate, risk managers consider mechanisms to transfer risk in private insurance markets. In some circumstances where private markets are unable to distribute risk adequately, government intervention in those markets assists the process of risk allocation. In fact, federal involvement to guarantee market availability of specialized insurance products has several precedents.¹³⁸ For example, as part of New Deal legislation, Congress passed the Federal Crop Insurance Act in 1938.¹³⁹ Thirty years later, Congress enacted the National Flood Insurance Act of 1968 to make flood insurance available to property owners in flood-prone areas.¹⁴⁰ The federal government also has limited the liability associated with nuclear power plant operations and overseas investment.¹⁴¹ The Overseas Private Investment Corporation, which is an independent federal agency established to facilitate private investment in developing countries by U.S. investors, offers insurance against political risks.¹⁴² It is also significant that federal

Sen. McCain) (“We faced two unsatisfactory outcomes [without Congressional action to limit airline liability after September 11]: 1. that the airlines, whose liability insurance coverage is insufficient to cover all damage, would be dissolved as their assets were sold to pay off their liability and/or; 2. some or all of the victims who were injured or killed in this tragedy would receive no compensation.”).

138. See generally *Terrorism Insurance: Alternative Programs for Protecting Insurance Consumers*, Before the U.S. S. Comm. on Banking, Housing, and Urban Affairs, 107th Cong. (2002) (statement of Thomas J. McCool, Managing Director, Financial Markets and Community Investment, Government Accountability Office) (“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.”). See also JERRY, *supra* note 7, at 59.

139. See JERRY, *supra* note 7, at 59.

140. *Id.*

141. *Id.* at 59-60.

142. *Id.* at 60.

intervention to backstop terror risk is the approach followed by other industrialized nations, including Spain, France, Germany, Austria, the Netherlands, Australia, and the United Kingdom,¹⁴³ and that New Zealand, Japan, France, Norway, and the Netherlands have federal programs to help provide coverage for natural disasters.¹⁴⁴

Not all potential losses can be redistributed in private markets or in markets where government has intervened. This sometimes results in post-loss remediation and compensation, responses that exist at the other end of the risk-management continuum. To achieve a cohesive, comprehensive public policy to deal with the consequences of catastrophic disasters, coordination at the federal level at all points along the continuum is essential. Presently, with respect to natural disaster and terrorism catastrophes, *ex ante* prevention and loss mitigation and *ex post* compensation and remediation are predominantly, even if not exclusively, federal activities. Achieving a comprehensive national catastrophe policy will not be possible unless regulation of the risk allocation piece of the risk management continuum is handled federally, instead of on a state-by-state basis.

A. *Terrorism*

Consider first the risk of terrorism. The inherent unpredictability of terrorism makes estimating terror risk difficult.¹⁴⁵ Although some observers in the wake of 9/11 hoped that available data on terrorism events¹⁴⁶ could be used to develop risk models that could be used to price future coverage,¹⁴⁷ the experience

143. See Insurance Information Institute, *supra* note 31. See also Anne Soeffker, *The Insurability of Terrorism Risk After September 11, 2001*, 2005 ILJ LEXIS 4 (2005) (comparing the federal responses to terrorism insurance in the United States, Germany, and France).

144. See Insurance Information Institute, *supra* note 1.

145. See Insurance Information Institute, *supra* note 31. See also WHARTON RISK MANAGEMENT AND DECISION PROCESSES CENTER, *TRIA AND BEYOND: TERRORISM RISK FINANCING IN THE U.S.* 1 (2005) (“Insurers, indeed all stakeholders, have difficulty dealing with the tremendous uncertainty of terrorism risk. The likelihood of an attack is highly ambiguous and the attack modality is subject only to the limitations of the terrorist’s ingenuity.”).

146. See Insurance Information Institute, *supra* note 1. See also National Counterterrorism Center, *Worldwide Incidents Tracking System*, <http://wits.nctc.gov> (compiling statistical data on the locations, times, dates, targets, and victims of terrorist attacks around the globe) (last visited Aug. 31, 2006).

147. One of us cautiously expressed hope in early 2002 that such models could be created. See Robert H. Jerry, II, *Insurance, Terrorism, and 9/11*:

with such efforts during the last five years is not promising. Fundamentally, modeling is imperfect because of ambiguity of both frequency and consequence, which, as discussed above, are among the characteristics of a difficult risk. In seeking to explain why the uses to which the finite resources of DHS must be prioritized in the nation's effort to disrupt terrorism, Secretary Michael Chertoff described the terrorism risk as a combination of three complex elements: threat, vulnerability, and consequence.¹⁴⁸ Threat is the ambiguity of frequency, which can be described more specifically as "[t]he probability that a specific target is attacked in a specific way during a specific time period."¹⁴⁹ The ambiguity of consequence is a function of both vulnerability, which is "[t]he probability that damages (where damages may involve fatalities, injuries, property damage, or other consequences) occur, given a specific attack type, at a specific time, on a given target,"¹⁵⁰ and anticipated damage, which is best explained as "[t]he expected magnitude of damage (e.g., deaths, injuries, or property damage), given a specific attack type, at a specific time, that results in damage to a specific target."¹⁵¹

The fact that terror risk can be "reverse engineered" into discrete elements offers little in the way of simplification. Although what constitutes a threat can be described succinctly, "[a] complete description of the threats to which a target is exposed would require consideration of *every mode of attack separately*."¹⁵² To take one example, the terror threat to the New York Stock Exchange must be described in terms of the infinite array of possible attack scenarios, such as (a) threat of attack with a chemical agent; (b) threat of

Reflections on Three Threshold Questions, 9 CONN. INS. L.J. 95, 113 (2002). Even government attempts to predict terrorism using a futures market arrangement were proposed. *Amid Furor, Pentagon Kills Terrorism Futures Market*, CNN.COM, July 30, 2003, available at <http://www.cnn.com/2003/ALLPOLITICS/07/29/terror.market>. The proposal failed as a result of harsh criticism on Capitol Hill. *Id.*

148. Michael Chertoff, Homeland Security Secretary, Address at the 2005 Excellence in Government Conference (July 25, 2005), available at <http://www.dhs.gov/dhspublic/display?content=4683> ("[W]ith our finite resources and our finite number of employees, we have to be able to focus ourselves on those priorities which most demand our attention. And that means we have to focus on risk. And what does that mean? It means we look to consequence, it means we look to vulnerability, and it means we look to threat.").

149. HENRY H. WILLIS ET AL., RAND CTR. FOR TERRORISM RISK MGMT. POLICY, ESTIMATING TERROR RISK 6 (2005).

150. *Id.* at 8.

151. *Id.* at 9.

152. *Id.* at 6 (emphasis added).

attack with automatic weapons; (c) threat of attack with a chemical agent and a concurrent assault with automatic weapons; (d) threat of attack with a chemical agent and a concurrent assault with automatic weapons, followed by a secondary cyber-blitz to incapacitate communication networks; (e) etc., with the list continuing ad infinitum. The complexity—and perhaps the impossibility—of the task has led one scholar to suggest that “rather than seek an optimal method for estimating [terror] risk, we seek a method that leads us to make the least egregious errors in decisionmaking across the range of possible scenarios that might develop in the future.”¹⁵³ Stated more bluntly, in an effort to properly assess the future frequency and consequence of terrorism, it may not be possible to “get it right,” but only possible to get it the “least wrong.”

Given the uncertainties inherent in the risk of terrorism, only the federal government has the capacity to reinsure or backstop a catastrophic terrorist attack.¹⁵⁴ The limitations of the state regulatory system were apparent in the aftermath of 9/11 and before the Terrorism Risk Insurance Act (“TRIA”)¹⁵⁵ became law, a reality that was readily acknowledged by state insurance commissioners and its representative organization, the NAIC.¹⁵⁶ Before TRIA was enacted, the NAIC made it very clear that, absent intervention by the federal government, most states would approve terrorism exclusions for insurance policies.¹⁵⁷ Excluding terrorism coverage

153. *Id.* at xvii.

154. Mark A. Hofmann, *Calls for TRIA Extension Growing Louder in Senate; But Bill, Introduced in July, Still Awaits Markup*, BUS. INS., Sept. 27, 2004, at 1 (quoting Albert R. Counselman, a past chairman of the Council of Insurance Agents & Brokers, who stated that “[t]he need for federal action in the area of terrorism coverage is a clear example of the limits of state regulation”).

155. See Terrorism Risk Insurance Act of 2002, Pub. L. No. 107-297, 116 Stat. 2322.

156. Meg Fletcher, *NAIC Discusses Need for Terrorism Insurance Relief; Insurance Regulators Facing Pressure to Find Solution to Coverage Problems*, BUS. INS., Dec. 17, 2001, at 4 (“[M]any insurers are asking individual state commissioners to approve new policy endorsements that would exclude losses from terrorist activities. Responding to widespread uncertainty in the market, the Kansas City, Missouri-based NAIC canceled its fall quarterly meeting in late September [2001] and instead held a special meeting in Washington to discuss how best to cope with the industry’s situation. The NAIC in October issued a statement of principles for federal terrorism insurance relief and continues to encourage federal lawmakers to include those points in proposed legislation, though the NAIC has not endorsed any proposal now before Congress.”).

157. Michele Heller & Nicole Duran, *NAIC Set to Approve Terrorism Exclusions*, AM. BANKER, Dec. 18, 2001, at 20. NAIC leadership testified on

from commercial insurance lines would have led to a cascade of market problems, the effects of which would have been felt nationally.¹⁵⁸ In the months immediately following the 9/11 attacks

Capitol Hill in October 2001 urging Congress to ensure the availability of terrorism insurance through federal intervention:

NAIC and its members believe there is presently a need for the federal government, working with the state regulatory system, to provide appropriate financial back-up to the private insurance market in order to assure that our nation's economy does not falter due to a lack of insurance coverage for terrorism.

The Role of the Federal Government in Assuring that Insurance for Terrorist Acts Remains Available to American Consumers: Hearing Before the S. Comm. On Commerce, Science, and Transportation, 107th Cong. 2 (2001) (statement of Diane Koken, Comm'r of Insurance, Nat'l Ass'n of Insurance Comm'rs.).

158. Testifying before Congress in October 2001, the president of the U.S. Chamber of Commerce described the range of possible macro-economic consequences if terrorism insurance were unavailable:

This market disruption caused by a lack of terrorism insurance coverage, if it is not provided, could have deep and potentially devastating effects. Let me list them quickly. First, businesses that cannot get the coverage may have to cut back their operations or stop what they are doing in a particular business area; trucking firms, railroads, airlines, ships, may all be compelled to say, I am not going to carry this, I am not going to go there, I am going to limit my business activities to protect my interests or to meet the requirements of my bank or my other financial partners.

Second, the lack of such coverage could prevent many businesses from obtaining financing

It is very clear that if we are sitting here a year from now and some terrible, horrific thing happens . . . every single one of the major casualty insurance companies in this country are going to go bankrupt.

Terrorist Risk Insurance: Hearing Before the S. Comm. on Banking, Housing, and Urban Affairs, 107th Cong. 162 (2001) (statement of Thomas J. Donohue, President, U.S. Chamber of Commerce). The lack of terrorism insurance did affect the credit ratings for some prominent commercial real estate. *See generally* Joseph B. Treaster, *Ratings of Building Loans Fall on Insurance Worries*, N.Y. TIMES, Sept. 28, 2002, at C14 ("A leading credit rating agency said . . . that it had downgraded the ratings on \$4.5 billion in loans on some of the most prominent office buildings in New York City because the buildings were not adequately insured against terrorism. . . . Among those downgraded in New York were loans on Rockefeller Center, the Condé Nast Building . . . the headquarters of Citigroup . . . and the Marriott Marquis Hotel in Times Square."). In August 2004, the Citigroup building was cited by the Secretary of Homeland Security as a potential terror target. *See* Tom Ridge, Secretary of Homeland Security, Remarks Regarding Recent Threat Reports (Aug. 1, 2004) available at <http://www.dhs.gov/dhspublic/display?theme=43&content=3870>. The Department of Justice would later indict three individuals in connection with an alleged terror plot that formed the basis of the August 2004 warnings. *See* David Johnson & Eric Lichtblau, *3 Indicted in Suspected Plot on East Coast Finance Sites*, N.Y. TIMES, Apr. 13, 2005, at A12.

prior to the enactment of TRIA, many insurance markets did experience serious contraction in available coverage; in geographic locations where the risk of terrorism was high, such as New York, only a fraction of providers offered terrorism coverage, or coverage was available at exceedingly high prices.¹⁵⁹ In addition, inconsistent state policies in the wake of 9/11 exacerbated variations in the states with respect to product availability and price.¹⁶⁰ In 2002, the NAIC recommended the approval in all jurisdictions of terrorism exclusions, and by August 2002, forty-five states, the District of Columbia, and Puerto Rico had approved them.¹⁶¹ Although only California, New York, Georgia, Texas, and Florida withheld approval of the exclusions,¹⁶² because most insurers operate across jurisdictions, the lack of national uniformity was extremely problematic for insurers.¹⁶³ One of the successes of TRIA was that it prevented the continuation of a patchwork of inconsistent state policies and their negative impacts on product availability and price.¹⁶⁴ By preempting state regulation and supporting uniform availability of coverage, TRIA created cohesion between insurance regulation and a fundamental premise of homeland security policy: every state is home to potential targets,¹⁶⁵ making terrorism a

159. See E.E. Mazier, *Terrorism Cover Up in Air While Congress Battles Over Backstop*, NAT'L. UNDERWRITER, Nov. 4, 2002, at 10 ("With no federal terrorism backstop officially in place, terrorism coverage continues to be offered by very few companies at very high prices."). See also Gavin Souter & Paul Winston, *Terrorism Reinsurance Available—For the Right Price*, BUS. INS., Sept. 23, 2002, at 21 ("Reinsurers are still unwilling to offer comprehensive coverage for terrorism exposures, but, for a price, several are offering limited capacity for such risks."); Joseph B. Treaster, *Insurers Are Taking Advantage of New York, City Officials Say*, N.Y. TIMES, Nov. 14, 2002, at B10 ("[O]ne reason for the high cost of commercial insurance in New York was that special coverage for terrorism—which had been free before the World Trade Center attack and is now sold separately—has become expensive and hard to find.").

160. See Insurance Information Institute, *supra* note 31.

161. ROBERT P. HARTWIG, INSURANCE INFORMATION INSTITUTE, SEPTEMBER 11, 2001: THE FIRST YEAR 10. See also Meg Fletcher, *Differing State Stances Muddy Coverage Issues; California Nixes Exclusion for Terrorism Risks*, BUS. INS., Jan. 14, 2002, at 1.

162. HARTWIG, *supra* note 161, at 10-11.

163. Fletcher, *supra* note 161, at 1 (quoting Robert W. Esenberg, a former President of the Risk & Insurance Society, as describing the situation as "a nightmare for entities that operate in multiple states and countries").

164. See *Oversight of the Terrorism Risk Insurance Program: Hearing Before the S. Comm. on Banking, Housing, and Urban Affairs*, 109th Cong. (2005) (statement of Robert J. Lowe, Chairman of the Real Estate Roundtable).

165. Many of these targets represent a special class of targets known as critical infrastructures. See generally THE WHITE HOUSE, THE NATIONAL

national challenge that demands national solutions.¹⁶⁶

It was for these reasons, among others, that the federal government intervened and enacted the TRIA in November 2002.¹⁶⁷ Congress could have established a permanent federal fixture for regulating the business of insurance, but TRIA does not do this. Instead, Congress expressed a preference for market forces over permanent government involvement when articulating TRIA's purpose as establishing "a temporary Federal program that provides for a transparent system of shared public and private compensation for insured losses resulting from acts of terrorism."¹⁶⁸

The initial enactment of TRIA was scheduled to sunset on December 31, 2005, a date by which Congress hoped the market would no longer need federal intervention.¹⁶⁹ Because a robust terrorism insurance market did not develop by the end of 2005,¹⁷⁰ and acknowledging concerns that terrorism coverage would disappear if TRIA were not renewed,¹⁷¹ on December 22, 2005,

STRATEGY FOR THE PHYSICAL PROTECTION OF CRITICAL INFRASTRUCTURES AND KEY ASSETS (2003).

166. Steven R. Pozzi, *What Should TRIA Look Like*, NAT'L. UNDERWRITER, Sept. 6, 2004, at 28 ("Terrorism is a national problem; the insurance solution should be national as well.").

167. Terrorism Risk Insurance Act of 2002, Pub. L. No. 107-297, 116 Stat. 2322 (2002), *amended by* Terrorism Risk Insurance Extension Act of 2005, Pub. L. No. 109-144, 119 Stat. 2660 (2005).

168. Terrorism Risk Insurance Act of 2002 § 101(b). *See also id.* § 101(a)(6) ("[T]he United States Government should provide temporary financial compensation to insured parties, contributing to the stabilization of the United States economy in a time of national crisis, while the financial services industry develops the systems, mechanisms, products, and programs necessary to create a viable financial services market for private terrorism risk insurance.").

169. *Id.* § 108(a). *See also* U.S. GEN. ACCOUNTING OFFICE, GAO-04-307, TERRORISM INSURANCE: IMPLEMENTATION OF THE TERRORISM RISK INSURANCE ACT OF 2002 29 (2004) ("Congress's second objective [in passing TRIA] was to give the insurance industry a transitional period during which it could begin pricing terrorism risks and developing ways to provide such insurance after TRIA expires.").

170. *Structured Finance Special Report*, MOODY'S INVESTORS SERVICE, Apr. 28, 2005, at 2 ("Moody's is unaware of any viable private market initiative that would take the place of TRIA. . . . A limited number of stand alone insurers will probably always be in the market willing to write policies at high prices, but probably not enough to fill the demand for capacity."); *see also* U.S. GEN. ACCOUNTING OFFICE, *supra* note 169, at 30 ("Unfortunately, insurers and reinsurers still have not found a reliable method for pricing terrorism insurance, and although TRIA has provided reinsurers the opportunity to reenter the market to a limited extent, industry participants have not developed a mechanism to replace TRIA.").

171. A broad range of groups lobbied Congress and the White House to

Congress renewed TRIA—again only temporarily—until December 31, 2007.¹⁷²

Although TRIA has its detractors,¹⁷³ there is little doubt that the law has made terrorism insurance obtainable and generally affordable.¹⁷⁴ The general framework of TRIA requires that the federal government act as an insurer of last resort for acts of terrorism¹⁷⁵ certified by the Secretary of the Treasury, after consultation with the Secretary of State and the Attorney General.¹⁷⁶ Compensation under TRIA is restricted geographically: the insured loss must occur inside the United States, with an exception for terrorism that occurs on air carriers and United States flag vessels.¹⁷⁷

The practical application of TRIA is complex. Several events must occur before federal funds become eligible. First, the terrorist

extend TRIA. See Letter from the Coalition to Insure Against Terrorism to President George W. Bush (June 8, 2005), available at <http://www.insureagainstterrorism.org/june8letter.pdf>. See also Press Release, American Acad. of Actuaries, Actuarial Analysis Concludes “Permanent” Solution Needed for Economic Consequences of Terrorist Acts (Dec. 2, 2005), available at http://www.actuary.org/newsroom/pdf/tria_120205.pdf; Letter from Nat’l Governors Ass’n to Senator Frist, Senator Reid, Representative Hastert, and Representative Pelosi (Dec. 13, 2005) (on file with author).

172. Terrorism Risk Insurance Extension Act of 2005 § 108(a).

173. PETER CHALK ET AL., RAND CTR. FOR TERRORISM RISK MGMT. POLICY, TRENDS IN TERRORISM: THREATS TO THE UNITED STATES AND THE FUTURE OF THE TERRORISM RISK INSURANCE ACT xvi (2005) (“TRIA does not provide adequate financial protection, particularly in the face of economically motivated attacks.”).

174. See U.S. GEN. ACCOUNTING OFFICE, *supra* note 169, at 29 (“Since TRIA was enacted in November 2002, terrorism insurance generally has been available to businesses.”). See also U.S. DEP’T OF THE TREASURY, ASSESSMENT: THE TERRORISM RISK INSURANCE ACT OF 2002 5 (2005) [*hereinafter* TREASURY REPORT] (“TRIA was effective in terms of the purposes it was designed to achieve. TRIA provided a transitional period during which insurers had enhanced financial capacity to write terrorism risk insurance coverage.”).

175. TRIA pertains only to acts of terrorism “committed by an individual or individuals acting on behalf of any foreign person or foreign interest.” Terrorism Risk Insurance Act of 2002, Pub. L. No 107-297, § 102(1)(A)(iv), 116 Stat 2324 (2002). Arguably, this is a shortsighted aspect of the law, as domestic terrorists—such as hate groups, right-wing militia organizations, and animal rights and environmental extremists—continue to pose a threat to the United States. See Steven Roberts, *Threats Persist Here*, NAT’L. L.J., Feb. 27, 2006, at 23.

176. Terrorism Risk Insurance Act of 2002 § 102(1)(A). The Secretary of the Treasury serves as the overall administrator of TRIA. *Id.* § 103(a)(2).

177. *Id.* § 102(5).

act must exceed a loss threshold, known as a “program trigger.”¹⁷⁸ For losses certified by the Secretary of the Treasury that occur after March 31, 2006, but before December 31, 2006, the insurance industry’s aggregate loss amount must exceed \$50,000,000.¹⁷⁹ For any losses certified by the Secretary of the Treasury that occur on or after January 1, 2007, until the expiration of TRIA on December 31, 2007, the insurance industry’s aggregate loss amount must exceed \$100,000,000.¹⁸⁰ Second, insurance providers must meet *individual* insurer deductibles derived from a prescribed formula.¹⁸¹ From January 1, 2006, through December 31, 2006, the insurer deductible is “the value of an insurer’s direct earned premiums over the calendar year immediately preceding [year 2006], multiplied by 17.5 percent.”¹⁸² From January 1, 2007, until the expiration of TRIA on December 31, 2007, the insurer deductible is “the value of an insurer’s direct earned premiums over the calendar year immediately preceding [year 2007], multiplied by 20 percent.”¹⁸³ A certified loss that does not exceed the deductible amount will not trigger a government payout.¹⁸⁴

Assuming the program trigger is met and the loss exceeds the individual insurer’s prescribed deductible, federal payments will be made; however, payments are limited to only a percentage of the losses that exceed the deductible.¹⁸⁵ For claims that arise during 2006, the government will pay 90%,¹⁸⁶ and for claims that arise during 2007, the government will pay 85%.¹⁸⁷ For example, if the total losses in 2006 for insurer X are \$1 billion, and if insurer X’s requisite deductible—using the prescribed formula—is \$500 million, the federal government will pay 90% of the losses exceeding the \$500 million deductible, or \$450 million. The remaining 10% of the loss, or \$50 million, must be paid by the insurer as a co-payment. The sharing of the financial burden effectuates the intent of Congress to make TRIA “a transparent system of shared *public and*

178. Terrorism Risk Insurance Extension Act of 2005, Pub. L. No. 109-144, § 103(e)(1)(B), 119 Stat 2662 (2005).

179. *Id.* § 103(e)(1)(B)(i).

180. *Id.* § 103(e)(1)(B)(ii).

181. *Id.* § 102(7)(E).

182. *Id.*

183. *Id.* § 102(7)(F).

184. Terrorism Risk Insurance Act of 2002, Pub. L. No. 107-297, 116 Stat 2322 (2002)

185. *Id.*

186. *Id.*

187. Terrorism Risk Insurance Extension Act of 2005 § 103(e)(1)(B).

private compensation for insured losses.”¹⁸⁸

If and only if federal payments are made, TRIA obligates the government to recover some of the payments using a surcharge that is applied industry-wide; this recovery is known as the “mandatory recoupment amount.”¹⁸⁹ To do this, TRIA establishes an “insurance marketplace aggregate retention amount” for each year.¹⁹⁰ For 2006, the aggregate retention amount is \$25 billion,¹⁹¹ and this amount increases to \$27.5 billion in 2007.¹⁹² If the sum of all insurers’ deductibles and co-pays—known as the “aggregate industry retention”—is below the aggregate retention amount established by statute, then the federal government must recoup the difference.¹⁹³ To do so, the Secretary of the Treasury must impose a surcharge on policyholders not to exceed three percent.¹⁹⁴ If the sum of deductibles and co-pays exceed the insurance marketplace aggregate retention amount, then the federal government is not required to recoup payments made pursuant to TRIA,¹⁹⁵ but may do so at the discretion of the Secretary of the Treasury.¹⁹⁶

188. Terrorism Risk Insurance Act of 2002 § 101(b) (emphasis added).

189. *Id.* § 103(e)(7).

190. *Id.* § 103(e)(6).

191. Terrorism Risk Insurance Extension Act of 2005 § 103(e)(6)(D).

192. *Id.* § 103(e)(6)(E).

193. Terrorism Risk Insurance Act of 2002 § 103(e)(7).

194. *Id.* § 103(e)(8)(C).

195. *Id.* § 103(e)(7)(B).

196. *Id.* § 103(e)(7)(D). Understanding the practical operation of TRIA—and especially the law’s complicated recoupment provisions—can be illustrated by way of examples:

Example 1: Terrorists attack Washington, D.C. The Secretary of the Treasury certifies that the loss exceeds \$50,000,000. Policies held by insurance company X total \$1,000,000,000. To be eligible for federal assistance, X must meet its statutorily prescribed deductible of \$500,000,000, which it does. As a result, the federal government will cover 90 percent of the remaining \$500,000,000, the difference between X’s total loss and its deductible. As noted, the remaining 10 percent, or \$50,000,000, is tantamount to a co-pay and is the financial responsibility of the insurer. Further assume that the total amount of money the insurance *industry* must pay—the collective sum of individual company deductibles and co-pays—is \$20,000,000,000, \$5,000,000,000 short of the statutorily prescribed industry retention amount of \$25,000,000,000. The government must recoup the \$5,000,000,000 by imposing a surcharge of up to three percent on policyholder premiums.

Example 2: Terrorists attack Washington, D.C. The Secretary of the Treasury certifies that the loss exceeds \$50,000,000. Policies held by insurance company X total \$1,000,000,000. To be eligible for federal assistance, X must meet its statutorily prescribed deductible of \$500,000,000, which it does. As a result, the federal government will cover 90 percent of the remaining \$500,000,000, the difference between X’s total loss and its deductible. As noted,

TRIA also caps the federal government's total claim liability at \$100 billion.¹⁹⁷ If total losses exceed that amount, the Secretary must inform Congress and "the Congress shall determine the procedures for and the source of any payments for such excess insured losses."¹⁹⁸ In return for backstopping industry's insured losses, TRIA requires insurers to offer terrorism coverage to property and casualty policyholders.¹⁹⁹ This "make available" provision of TRIA²⁰⁰ is a significant aspect of the law, which has been administratively clarified by the Department of the Treasury in a final rule.²⁰¹

Notwithstanding TRIA's deference, with some limitations, to the states' authority to regulate the business of insurance,²⁰² TRIA expressly preempts some significant aspects of state law. TRIA preempts and voids state action that would authorize insurance providers to exclude terrorism coverage from property and casualty insurance products.²⁰³ This provision is a direct response to the action of state insurance commissioners who authorized such exclusions prior to the enactment of TRIA in November 2002.²⁰⁴ In addition, TRIA preempts any state regulatory action that individually defines or alters the term "act of terrorism" in any manner inconsistent with the definition in § 102.²⁰⁵

One of the most important features of TRIA is its requirement

the remaining 10 percent, or \$50,000,000, is tantamount to a co-pay and is the financial responsibility of the insurer. Further assume that the total amount of money the insurance industry must pay—the collective sum of individual company deductibles and co-pays—is \$26,000,000,000, \$1,000,000,000 greater than the statutorily prescribed industry retention amount of \$25,000,000,000. As a result, recoupment is discretionary.

197. *Id.* § 103(e)(2)(A)(i). Additionally, "no insurer that has met its insurer deductible shall be liable for the payment of any portion of that amount that exceeds \$100,000,000,000." *Id.* § 103(e)(2)(A)(ii).

198. *Id.* § 103(e)(3).

199. *Id.* § 103(c).

200. *Id.*

201. Terrorism Risk Insurance Program: Disclosures and Mandatory Availability Requirements, 68 Fed. Reg. 59,720 (2003). The fact that terrorism coverage is available, however, does not imply that consumers have actually purchased coverage. See also U.S. GEN. ACCOUNTING OFFICE, *supra* note 169, at 23 ("Although TRIA improved the availability of terrorism insurance, relatively few policyholders have purchased terrorism coverage.").

202. Terrorism Risk Insurance Act of 2002 §106(a) ("Nothing in this title shall affect the jurisdiction or regulatory authority of the insurance commissioner . . . of any State over any insurer or other person . . .").

203. *Id.* § 105(b).

204. See Fletcher, *supra* note 156, at 1.

205. Terrorism Risk Insurance Act of 2002 § 106(a)(2)(A).

that the President's Working Group on Financial Markets is required to study and report on long-term terrorism insurance affordability and availability issues.²⁰⁶ This report, which is due in September 2006, will undoubtedly address the extent to which federal involvement is needed to secure a long-term solution to the problem of terrorism insurance availability.

B. Natural Disasters

To date, except for the creation of the national flood insurance program in 1968, the federal government has not intervened in insurance markets to enhance coverage availability for victims of natural disasters. Although the flood insurance program has serious deficiencies,²⁰⁷ no one seriously suggests that management of this market should revert to the states. The consequences of the 2004 and 2005 hurricane systems, the recognition that the record economic losses would have been much worse had the major storms of those seasons not weakened before making their landfalls, and the prospect of increased hurricane activity in 2006 and subsequent hurricane seasons are all causing the absence of a comprehensive strategy for insuring natural disaster risk to be reconsidered. After Hurricane Katrina, the Florida Insurance Commissioner publicly urged the creation of a national catastrophe fund,²⁰⁸ and this call was followed by a summit on national catastrophe insurance, convened by the state insurance commissioners of California, Florida, Illinois, and New York, and attended by industry representatives, lawmakers, insurance consumers, and public policy experts in San Francisco in November 2005.²⁰⁹ As of the spring of 2006, several bills had been proposed in Congress to address the lack of coverage, including measures that would create a federal backstop for the insurance industry's national catastrophe losses, or create a federal catastrophe reinsurance program, or authorize insurers to set aside reserves for future catastrophes on a tax-deferred basis.²¹⁰

While discussions over the contours of catastrophe insurance continue, the prospects for affordability and availability of coverage are, at best, difficult. In the wake of the 2004 and 2005 hurricane

206. Terrorism Risk Insurance Extension Act of 2005 § 108(e)(1).

207. For a recent summary of difficulties facing the federal flood insurance program, see Christopher Drew & Joseph B. Treaster, *Politics Stalls Plan to Bolster Flood Insurance*, N.Y. TIMES, May 15, 2006, A1.

208. See Insurance Information Institute, *supra* note 1.

209. See Patricia-Anne Tom, *Insurance Commissioners Announce Framework for National Cat Program*, INS. J., Dec. 5, 2005.

210. See Insurance Information Institute, *supra* note 1.

seasons, property insurance availability for hurricanes is a serious problem in coastal counties along the eastern seaboard, the Gulf coast, and throughout the state of Florida. As of spring 2006, most Florida insurers had stopped writing homeowners coverage, leaving property owners without preexisting coverage with the prospect of purchasing much more expensive coverage through Citizens Property Insurance Corporation, the state-created insurer of last resort, which is now the state's second largest insurer. At the end of the 2005 hurricane season, however, Citizens had accumulated a \$1.7 billion deficit, causing Florida lawmakers to struggle over a relief package for the troubled insurer. On the last day of the 2006 legislative session, the Florida legislature passed a bill to help bolster the property insurance market in the state, which included setting aside \$715 million of general state revenues to wipe out a portion of the company's deficit and steep rate hikes for policyholders.²¹¹ In addition, reinsurance rates are increasing between 30% and 150% for property insurance in states vulnerable to hurricanes.²¹² The Mississippi Windstorm Association, which insures property in Mississippi's coastal areas, is facing a reinsurance rate increase for 2006 of 488%.²¹³ Early in 2006, the prospects for the emergence of permanent state-based solutions to the developing crisis in availability and affordability of coverage were dim.

V. INSURANCE REGULATION IN THE CONTEXT OF A NATIONAL CATASTROPHE POLICY

From prevention to compensation, the challenges posed by difficult risks are huge. The ex post costs of difficult risks are massive. For example, within ten days after Hurricane Katrina came ashore with devastating consequences for New Orleans and the adjacent coastal areas in Mississippi and Alabama, Congress appropriated over \$62 billion in disaster aid—which is considerably more than the total annual budget of the entire Department of Homeland Security.²¹⁴ Additional funding is included in budget

211. S. 1980, 108th Gen. Assem., Reg. Sess. § 44 (Fla. 2006). *See also* Florida Senate, Senate Calendar: Friday, May 5, 2006, *available at* <http://www.flsenate.gov/data/session/2006/Senate/Calendars/Daily/sc050506.pdf> at 6 (indicating that Florida Senate Bill 1980 was passed on May 5, 2006, the last day of Florida's 2006 legislative session).

212. *See* Insurance Information Institute, *supra* note 1.

213. *Id.*

214. Jackie Calmes, Much of Katrina Aid Remains Unspent, *Wall St. J.*, Oct. 25, 2005, at A4. The President's budget request for the Department of Homeland Security for FY2007 was \$42.7 billion. *See* <http://www.dhs.gov/>

legislation being considered in the Congress in early May 2006,²¹⁵ and total government expenditures could eventually exceed \$200 billion. The ex ante gaps in prevention and mitigation of loss are significant. For example, a study by the LSU Hurricane Center estimated that if four mitigation measures had been in place before Hurricane Katrina—additional protection on openings (impact resistant shutters or laminated glass systems), improved connection of the roof deck, installation of hurricane straps, and secondary moisture protection of the roof deck—75% of the estimated losses due to the hurricane could have been avoided.²¹⁶ In the markets where risk is transferred and distributed, the deficiencies are large. For example, despite the availability of federally backed flood insurance, the percentage of homes with flood insurance policies in the coastal parishes of Louisiana affected by Hurricane Katrina ranged from 7% in St. James Parish to 57.7% in St. Bernard Parish, with only 40% of homes in Orleans Parish having this coverage.²¹⁷ In short, as Hurricane Katrina demonstrates so clearly, our nation lacks a comprehensive, cohesive, forward-looking national catastrophe policy.

The discussion in this paper has focused on insurance, which is a fundamental and indispensable ingredient in the overall program of compensating loss and rebuilding after a disaster strikes. In the final analysis, however, the enormous challenges presented by difficult risks can only be addressed through a coordinated, comprehensive system that melds ex ante preventive and mitigation measures, insurance mechanisms, and ex post compensation mechanisms into a coordinated national policy.²¹⁸ The details of how

interweb/assetlibrary/Budget_BIB-FY2007.pdf (last visited Aug. 21, 2006).

215. *Id.*

216. LSU HURRICANE CTR., RESIDENTIAL WIND DAMAGE IN HURRICANE KATRINA: PRELIMINARY ESTIMATES AND POTENTIAL LOSS REDUCTION THROUGH IMPROVED BUILDING CODES AND CONSTRUCTION PRACTICES ii (2005), available at <http://hurricane.lsu.edu/files/katrinafinal.pdf> (last visited May 6, 2006).

217. *The Future of the National Flood Insurance Program: Testimony Before the S. Comm. on Banking, Housing and Urban Affairs* 9 (Oct. 18, 2005) (testimony of Robert P. Hartwig, Insurance Information Institute), available at http://server.iii.org/yy_obj_data/binary/745025_1_0/NFIP_Testimony.pdf.

218. See generally Howard Kunreuther, *Has the Time Come for Comprehensive Natural Disaster Insurance?*, in ON RISK AND DISASTER: LESSONS FROM HURRICANE KATRINA (Ronald J. Daniels et al. eds., 2006); HOWARD KUNREUTHER & RICHARD ROTH, SR., PAYING THE PRICE: THE STATUS AND ROLE OF INSURANCE AGAINST NATURAL DISASTERS IN THE UNITED STATES 4 (1998) (“Our position is that the economic costs of natural disasters to the nation are too high and are likely to soar in the future unless some steps are taken to change recent trends. Insurers can address these problems in a constructive manner *only*

such a program might work are beyond the scope of this discussion, but its contours should include national building codes (presumably in the form of minimum standards to which state and local government authorities would be asked to conform, perhaps as a condition of eligibility for federal disaster assistance), incentives (perhaps in the form of tax credits and low-interest loans) to retrofit existing construction, land-use and zoning regulation (predominantly the province of the states, but, given the magnitude of the problems posed by difficult risks, perhaps an area where uniform federal standards may be required), insurance pricing that rewards risk reduction in construction and retrofitting, the creation of larger risk pools that diffuse risk over different hazards in different regions (which requires federal coordination), and a federal backstop that stabilizes private insurance markets and provides a promise of compensation when the consequences of a disaster exceeds the risk distribution capabilities of private markets. If the insurance piece of the comprehensive regulatory policy is to fit, its shape must be determined through an enhanced federal role in the regulation of the business of insurance.

through joint efforts with other stakeholders, and through the use of strategies that combine insurance with monetary incentives, fines, tax credits, well-enforced building codes, and land-use regulations. For example, one way to reduce future losses is to utilize insurance with well-enforced building codes and land-use regulations to successfully reduce losses.”).