Insurance, Terrorism, and 9/11: Reflections on Three Threshold Questions

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INSURANCE, TERRORISM, AND 9/11: REFLECTIONS ON THREE THRESHOLD QUESTIONS

Robert H. Jerry, II

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For most of us, the collapse of the World Trade Center towers exists at the outermost edge of human comprehension. Even after one visits Ground Zero, the events of 9/11 retain a surreal quality, invoking feelings beyond words as one tries to contemplate losses immeasurable with numbers. Indeed, the insurance losses are insignificant when compared to the human tragedies caused by the terrorist attacks—and in insurance terms, we witnessed the most costly, complex events to transpire in a single day in the history of the planet.¹ Many years will pass before all the insurance ramifications of 9/11 are sorted out.

¹ Floyd R. Gibson Missouri Endowed Professor, University of Missouri-Columbia School of Law. Professor Jerry expresses his appreciation to Bruce Nguyen and Michele Mekel for their extremely helpful research assistance and to the trust of the Gibson Missouri Endowed Professorship for its support of this project,

1. A year after 9/11, estimates of insured losses continue to vary widely. Standard & Poor’s figure is $30 billion, A.M. Best Co. projects losses of $30 to $40 billion, the Insurance Information Institute projects $40.2 billion, consulting firm A.T. Kearney projects losses of more than $50 billion, and Tillinghast-Towers Perrin predicts losses somewhere between $30 and $58 billion. Mark A. Hofmann & Meg Fletcher, Loss Picture Still Unclear, BUS. INS., Sept. 9, 2002, at 5–8, 18. The figure will probably not be known for years, and it may ultimately prove to be higher than all of these estimates. Economic loss in New York City is estimated at $83 billion and may eventually reach $95 billion, according
Unquestionably, the boundary between the unimaginable and the possible changed on 9/11. Thus, it is counterintuitive to suggest that the world on September 12th—and the insurance world in particular—was not hugely different than the world that existed on September 10th. Of course, it cannot be seriously asserted that little changed on September 11th; such a statement would be incredibly absurd and hugely insensitive to the thousands of people whose lives were altered or destroyed by the events in New York, Washington, and Pennsylvania. But close examination of the insurance ramifications of 9/11 suggests that not as much has changed as many observers claim. If this is so, we should expect minimal long-run dislocations in insurance markets, and we should therefore resist drastic governmental responses that are disproportionate to the specific capacity problems that 9/11 created. To explore this assertion more closely, this article examines three questions that illuminate at least a portion of 9/11's meaning for the business of insurance in America and around the globe:

1. Is the post-9/11 world different from the pre-9/11 world?
2. Is the post-9/11 world different from the pre-9/11 world?
3. To what extent did the insurance industry respond to the September 11th attacks?

To put the total insured loss figure in perspective, prior to 9/11 the largest single-day loss was Hurricane Andrew, which struck southern Florida in August 1992 and caused approximately $16 billion in losses. The 9/11 total loss figure may prove to more than the total insured loss in the five most recent catastrophic losses for the insurance industry prior to 9/11—Hurricanes Andrew and Hugo; the Northridge, California and Kobe, Japan earthquakes and the Lothar and Martin windstorm in Europe—which totaled $53 billion in losses. See Robert H. Jerry, II Understanding Insurance Law 1065. n.1 (Matthew Bender & Co., Inc., 3d ed. 2002). See also Robert P. Hartwig, The Long Shadow of September 11: Terrorism and Its Impacts on Insurance and Reinsurance Markets, July 25, 2002, PowerPoint presentation available at http://www.iii.org/media/hottopics/insurance/sept11 (last visited Nov. 9, 2002) [hereinafter Hartwig]. The presentation uses data supplied by Insurance Information Institute and Swiss Re. Id. The figure may also be more than the total insured loss in the ten next most costly catastrophes in the United States, which include seven hurricanes, the Northridge earthquake, the 1993 multi-state winter storm, and the 1991 fire in Oakland, California. In inflation adjusted dollars (as of 1999), these ten events totaled $53.1 billion. Insurance Information Institute, Fact Book 2001 93 (2001) [hereinafter Insurance Information Institute].

2. Portions of the following discussion are based upon Jerry, supra note 1, at 1065-74.
9/11 "insurance world" different from the pre-9/11 "insurance world?" (3) If government is to have a role in facilitating terrorism coverage, what should it be? The discussion begins by looking at two opposing, yet simultaneously correct, answers to the first question.

I. IS THE POST-9/11 WORLD DIFFERENT FROM THE PRE-9/11 WORLD?

One answer is, "of course it is, and it is silly to suggest otherwise." This answer makes so much sense that it is difficult to imagine another answer even being possible. Before 9/11, we had no idea something like this could happen; now we know it can. That the World Trade Center towers could vanish—let alone disappear in this manner—was unfathomable. The structural engineer for the World Trade Center has stated that engineering analysis at the time the towers were built contemplated the impact of one of them being hit by a Boeing 707, the largest civil aircraft of that era, presumably flying at low speed lost in a fog at the end of a journey. Even if that statement is correct, the engineers did not contemplate a tower being struck by a Boeing 767, a much larger and heavier aircraft, flying at very high speed (which greatly increases the forces) loaded with aviation fuel at the beginning of a journey. Before 9/11, we understood that America's enemies abroad would continue their

3. See Andrea Oppenheimer Dean, Panelists: Despite Terrorist Attack, the Skyscraper Is Here to Stay, 189 ARCHITECTURAL RECORD 21 (2001) (quoting Leslie Robertson, the structural engineer for the World Trade Center, "We designed the towers [to withstand the impact of] a Boeing 707 flying slowly," and not a much larger Boeing 767 flying at top speed and full of fuel).

4. There is disagreement as to whether the Towers were designed with this scenario in mind (as opposed to the designers realizing or calculating, after the design was prepared, that the Towers could withstand this impact). Theo Stein, Professor: Build New, Taller WTC, DENVER POST, Sept. 20, 2001, at A19 (citing Hyman Brown, professor of civil engineering, that "[r]eports that the building was designed to withstand a crash of a Boeing 707 . . . are false. . . [t]he calculations suggesting the skyscrapers could survive a plane crash weren't performed until after the design phase"); Gregory Richards, U. Pennsylvania: In Eyes of Experts, No Way to Anticipate Collapse of Towers, U-WIRE, Sept. 17, 2001 (quoting Ronald Klemencic, president of engineering firm that designed the Towers' skeleton, as stating that reports that the Towers were designed to withstand the force of the Boeing 707 are "folklore") (on file with the author).

5. Even if such a scenario had been contemplated, the consensus of experts is that no engineering design presently exists that would enable a building of this size (or, for that matter, of any size) to withstand such an impact under similar conditions. Deborah Snoonian & John E. Czarnecki, World Trade Center's Robust Towers Succumb to Terrorism, 189 ARCHITECTURAL RECORD 22, 26 (2001) (stating that, "Designers agree that few structures, no matter what their height, can endure such aggressive attacks.").
efforts to damage United States interests in other nations, but we apparently
did not understand that those enemies would seek to cause massive civilian
casualties on United States soil. Now that America has experienced
massive devastation at a civilian site on the mainland, we know that such
an event could happen again and we will take much more aggressive steps
to prevent it. We must also prepare ourselves emotionally and
economically for the next attack because we know that our prevention
efforts, no matter how stringent, cannot be one hundred percent effective.
This means that another domestic terrorist attack with civilian casualties
will occur at some time in the future, although whether this will happen
next week, next month, next year, or within the next fifty years cannot be
known. This is the new reality, and it is a massive change from the world
as we knew it on September 10th.

There is, however, another perspective. This alternative view
concedes, as it must, that we did not foresee the destruction of the World
Trade Center. But this view points out that before 9/11 we did understand
that something of this nature and on this scale could happen—even if we
tried to put (and some would say succeeded too easily in putting) these
probabilities outside our consciousness. Several years earlier, many
Americans had read a Tom Clancy novel that bore an eerie similarity to the
events of 9/11. Beyond the realm of fiction, the potential for a massive
domestic terrorism incident was demonstrated by the Sarin nerve gas attack
in the Tokyo subway in March 1995, where twelve died and more than
5500 suffered injuries. Had the attack been carried out more skillfully,
5500 or more easily could have perished. The potential for domestic
terrorism was demonstrated by Timothy McVeigh’s assault on the Murrah
Office Building in Oklahoma City in April 1995. McVeigh was an
amateur using a crude device; as horrific as the Oklahoma City bombing
was, it could have been much worse. The benefits of hindsight always

6. TOM CLANCY, DEBT OF HONOR (1994) (fictional account of terrorists hijacking a
jetliner and crashing it into the U.S. Capitol with devastating consequences).
7. See Tokyo Police say Injured Includes Possible Suspect, BALT. SUN, Mar. 21, 1995,
at A4.
8. See Robert S. Greenberger & Jerry E. Bishop, Suspected Toxic Agent in Attack is
Made of Chemicals Easily Available in U.S., WALL ST. J., Mar. 21, 1995, at A12 (citing
retired member of U.S. Army chemical corps, who explains that the terrorists may have
diluted the chemical’s mix for their own safety, which greatly reduced the loss of life).
9. See Laura E. Keeton, Mark Pawlosky & Robert Tomsho, In Broad Daylight—
10. See Elizabeth Gleick, This Guy is a National Tragedy, TIME, May 15, 1995, at 43
(“Some bomb experts have concluded that McVeigh and his associates were eager amateurs.
sharpen one's vision, but other events provided good reason for imagining the potential for terrorism aimed at civilian targets. These include the Olympic Park bombing in Atlanta during the 1996 Olympic Games, the February 1993 bombing of the World Trade Center, the August 1998 bombings of the United States embassies in Kenya and Tanzania, and the IRA bombings in London and other locations dating back to the 1970s.

Ironically, one motive for future attacks results directly from America's overwhelming military might. Underscored by the rather limited projection of United States military force in Kosovo and more recently in Afghanistan, America's foreign enemies undoubtedly learned one important lesson from the 1991 Gulf War: the overwhelming technological superiority of United States military forces means that any

According to one investigator, 'If they were truly mad bombers, they could have brought the building down, and they didn't do it."

11. Terrorist attacks on military targets arguably belong to a different genre, but the methods of such attacks are extremely important for understanding potential attacks on domestic civilian targets. The most notorious examples of terrorism directed at U.S. military targets include the October 1983 bombing of the Beirut, Lebanon barracks occupied by U.S. Marines participating in the Mideast peacekeeping mission, which resulted in 242 deaths, William E. Smith, Carnage in Lebanon; Twin Terrorist Bombings Decimate the U.S. and French Peacekeeping Forces, TIME, Oct. 31, 1983, at 14; the attempted bombing of approximately one-hundred U.S. Marines staying at hotels in Yemen in December 1992, Bombs Explode Near Marines; One Person Killed, ASSOCIATED PRESS, Dec. 29, 1992; the June 1996 bombing of the Khobar Towers, the Saudi Arabia housing facility used by U.S. Air Force personnel involved the overflight operation in Iraq, which killed nineteen Americans, Robert S. Greenberger, Saudi Bomb at U.S. Base Leaves 19 Dead, WALL ST. J., June 26, 1996, at A3; and the October 2000 suicide boat attack on the destroyer U.S.S. Cole in Aden, Yemen, which killed seventeen members of the U.S. Navy, Greg Jaffe, Gunships Hover Over a Deeper Mideast Morass—U.S. Investigates Blast That Struck Its Ship; Terrorism Suspected, WALL ST. J., Oct. 13, 2000, at A15. For a chronology of terrorist activity since 1992 that includes casualty totals, see Amanda Bower, Terrorist Hits and Misses; A Chronology of Mayhem, TIME, Nov. 12, 2001, at 68.


14. See Carla Anne Robbins & Hugh Pope, Bombings Put Focus on Saudi Patron of Terror—Egyptian Islamic Militants Draw Initial Suspicions in African Explosions, WALL ST. J., Aug. 10, 1998, at A10. In this attack, 224 were killed and over 5,000 were injured. Id.

foreign nation, military force, or organization wishing to inflict injury on America can hope only for extremely limited success if it attempts to confront the United States military on the traditional battlefield in conventional terms. Thus, for the foreseeable future, anyone wishing to inflict harm on the United States—indeed, anyone wishing to "wage war" against America—will do so surreptitiously, covertly, and unconventionally, through use of the techniques of the terrorist. That this was not well understood before 9/11 now appears, with the benefit of hindsight, to have been naive.

Appreciation of the potentially massive destruction that terrorists could cause also appears in insurance trade literature before 9/11. In January 1999, Gene Rappe, an underwriter with St. Paul Fire and Marine, published an essay in which he expressed concern for the "one catastrophe loom[ing] over the horizon that most insurers don't expect: Terrorism." Rappe compared terrorism to catastrophes like "[e]arthquakes, tornadoes, floods, hail and hurricanes" which "[i]nsurers dread, but expect . . . ." After referring to the 1993 World Trade Center and 1995 Oklahoma City bombings, he observed that

[...]

Like almost everyone else, Rappe did not anticipate the manner of the loss on 9/11, but he, like many others who no doubt had reached the same

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16. This observation is, in a sense, unremarkable, because history is replete with examples of combatants faced with long odds or an overwhelming opposition finding success in the use of new techniques previously beyond the imagination of the opponents.
18. Rappe, NAT'L UNDERWRITER, supra note 17, at 7.
19. Id.
20. A notable exception to the foregoing is Rex Hudson, a Library of Congress analyst, who prepared a report in 1999 on behalf of the Library of Congress' Federal Research Division in which he predicted "suicide bomber(s) belonging to Al Qaeda's Martyrdom Battalion could crash-land an aircraft packed with high explosives (C-4 and Semtex) into the Pentagon, the headquarters of the Central Intelligence Agency (CIA), or the White
conclusion independently but had not published their thoughts in a national trade journal, understood the risks before 9/11. On September 10th, the possibility that terrorism could wreak extraordinary damage in an urban center was not beyond our imagination. On September 12th, the main difference was that what we had earlier known could happen, had in fact occurred.

Thus, it is correct to say that the world changed on 9/11. An event that was previously unthinkable occurred, with consequences so vast that it is inconceivable that we will ever return to the state of things that existed before. It is, however, also correct to say that this type and size of loss, while unexpected as a discrete event, was anticipated and imagined before it occurred. Any time losses happen in any context, things are changed; one need only talk to those victimized by a loss to grasp this simple point. But when anticipated losses become real losses, the fundamental order of relationships in the world is not necessarily altered. Thus, from this perspective, the world on September 12th was not much different than the world on September 10th, except with the important qualification that a major loss with wrenching consequences had occurred in the meantime.

II. IS THE POST-9/11 “INSURANCE WORLD” DIFFERENT FROM THE PRE-9/11 “INSURANCE WORLD?”

Embedded in the general question of whether the world changed on 9/11 is the more specific question of whether the insurance world changed on that day. Because the magnitude of the loss that occurred on 9/11 was unprecedented, it was tempting to describe the scale of the event as “off the charts” and to suggest that the losses suffered exceeded that which the insurance industry could have ever reasonably expected it would be asked to absorb. By this assessment, 9/11’s redefinition of the upper boundary


21. If one parses Rappe’s essay, it is clear that one of his points was that the insurance industry did not expect a major terrorism event and that this was a major oversight. Thus, on the one hand, Rappe supports the perspective that the world changed on 9/11 when the insurance industry was stunned by the event that it did not expect. On the other hand, Rappe, a member of the industry himself, is representative of some within the industry who before 9/11 understood that such an event was “not far-fetched,” suggesting that we should not have been surprised when the major attack finally occurred. Rappe, NAT’L UNDERWRITER, supra note 17, at 7.

22. For discussion of what kinds of insurance are potentially applicable to the events of 9/11 and the most common coverage questions presented under these policies, see Jeffrey
of possible loss amounted to an unalterable, permanent change in the insurance world. Moreover, concern has been widespread that terrorists might have the capability to carry out an attack that would produce devastation on a scale so massive as to be uninsurable. Although such destruction has rarely been witnessed, many cities in Japan, Germany, and England suffered these kinds of losses in World War II. The infliction of similar degrees of destruction would be difficult for a terrorist organization to accomplish, but 9/11 requires that this possibility be recalculated. The detonation of a portable nuclear device, a well-placed conventional weapon laced with radioactive material, or a chemical or biological weapon in an urban metropolis could cause massive economic loss and many deaths and personal injuries.


23. Insurance industry representatives routinely expressed this view in their first reactions to the events of 9/11. See, e.g., Trade Center Disaster Expected to Mark an Insurance Turning Point, at http://www3.ambest.com/frames/FrameServer.asp?Site=news&Tab=1&RefNum=44436&AltSrc=13 (last visited Nov. 9, 2002) (quoting Bernie Heinze, executive director of the American Association of Managing General Agents: “It [9/11] will forever change the way underwriters approach their business” and quoting Joe Annotti, spokesperson for the National Association of Independent Insurers: “Someone commented, as they watched the towers collapse and dust cloud billowing out from it, that that is what is going to happen to the insurance industry.”).

24. The possibility of losses on this scale is what gives rise to the “war risk exclusion,” which puts the consequences of war outside the coverage of property and many other kinds of policies.

25. It seems obvious that the detonation of a nuclear bomb in an urban center would dwarf what happened on 9/11. Depending on the location, hundreds of thousands could die and the destruction of property would be unprecedented. Dirty Bombs and Basement Nukes: The Terrorist Nuclear Threats: Hearing Before the Comm. on Foreign Relations, 107th Cong., 2nd Sess. (2002) (statement of Dr. Harry C. Vantine, Division Leader, Counterterrorism and Incident Response) (noting that terrorist’s detonation of an improvised nuclear device would have “catastrophic effects” and “could dwarf the devastation of the September 11 attack”). A so-called “dirty bomb”—a conventional bomb laced with radioactive material—would cause much less destruction and loss of life, but the clean-up costs and economic loss could be enormous. Dirty Bombs and Basement Nukes: The Terrorist Nuclear Threats: Hearing Before the Comm. on Foreign Relations, 107th Cong., 2nd Sess. (2002) (statement of Dr. Donald D. Cobb, Associate Laboratory Director for Threat Reduction) (discussing effect of radiological dispersal devices, or so-called “dirty bombs”). Huge Financial Fallout from Dirty Bomb (Reuters), available at http://www.news24.com/News24/USAttack/0,1113,2-1195_1197646,00.html (last visited Nov. 9, 2002) (explaining that while loss of life would not be in the hundreds of thousands
There is, however, another perspective. Catastrophic loss is not new to the insurance industry, and terrorism arguably stands as simply another kind of catastrophe, a peril neither quantitatively nor qualitatively different from the various kinds of natural disasters. If acts of terrorism are uniquely different, one might have expected insurance markets to seriously flounder in the face of 9/11, but this did not occur. The markets coped remarkably well, demonstrating the insurance industry's preparation and ability to handle such an event. Under this alternative view, the insurance world's order did not change on 9/11, even as the industry confronted an event unprecedented in magnitude. Just as the general question discussed above—whether the world changed on 9/11—has two opposing but plausible answers, both perspectives on what 9/11 means to the insurance world have some merit. Although it is fair to claim that the upper boundary of possible loss from terrorism changed on 9/11, it is also correct to assert that before 9/11 insurers contemplated and anticipated single-day or single-event losses on the scale of those suffered on 9/11. Hurricanes, earthquakes, volcanic eruptions, and other natural events all carry with as is likely with a crude nuclear device, the financial cost of cleanup would be in the billions, with it possible that affected land would have to be abandoned. Chemical and biological weapons would not destroy property, but decontamination costs of uncertain—perhaps massive—size would result. Depending on the circumstances, loss of life could be enormous. See Office of Technology Assessment, Proliferation of Weapons of Mass Destruction: Assessing the Risks, OTA-ISC-559 (Aug. 1993), at 52-59.

26. As discussed above, the projections that might have been made pre-9/11 based on past terrorism events makes even this proposition debatable. But the data comparing the insured loss on 9/11 to the next nine largest terrorism events in the world, even when all losses are adjusted to 2001 dollars, show that the losses in New York City dwarf all of the other events. The second largest event, after 9/11, is the 1993 IRA bombing in London, where losses were $907 million. Five of the nine terrorist incidents involve insured losses less than $400 million. In inflation-adjusted dollars, the insured loss on 9/11 will be in the vicinity of ten times (or more) that of the combined losses in the nine largest previous terrorist events. See JEC REPORT, supra note 1, at 3–4 (citing data from Swiss Re).

27. Windstorms (including tornados or straight-line winds) can produce catastrophic losses. A tsunami (a large wave caused by an earthquake on the ocean floor or an asteroid impact in the ocean) could cause devastating coastal losses. A meteorite or asteroid striking Earth is, unfortunately, not science-fiction fantasy. In 1908, a “near earth object” (NEO) exploded over Tunguska, Siberia with the explosive force of more than fifteen megatons of TNT. This was a relatively small event, given the size of other NEOs that could strike our planet. Incredibly, although the risk is slight, the risk of perishing in a catastrophic NEO impact is, by one scientist’s calculation, about the same as perishing in an airliner crash and is greater than the risk of dying in a flood or tornado. Dr. Clark R. Chapman, Statement on The Threat of Impact by Near-Earth Asteroids, Southwest Research Institute, May 21, 1998,
them the possibility of financial losses in the tens—and even hundreds—of billions of dollars. During the last twenty years, the extremely rapid pace of coastal development has greatly increased the loss exposure in prime hurricane territory, and similar magnitudes of exposure exist in areas of


Based on estimates of the number of objects out there, astronomers expect an asteroid 1 kilometer (1,100 yards) in diameter to collide with the Earth about once every 100,000 years, on average. Such an impact is thought to be at the threshold of global catastrophe[—]100 million people could die, mainly from starvation due to global crop failures . . . An asteroid 50 yards in diameter could easily devastate a city.

Michael Paine, _Chicken Little Was Right: The Sky is Falling_, at http://www.explorezone.com/columns/space/1999/july_neo_overview.htm (last visited Nov. 9, 2002). According to “the astronomers who operate the Near Earth Asteroid Tracking (NEAT) project” the number of one-kilometer asteroids is about 700—down from the previous estimate of 2,000. Michael Paine, _Asteroid Hunters Downgrade Overall Threat to Earth_, at http://www.explorezone.com/archives/00_01/12_asteroid_odds.htm (last visited Nov. 9, 2002). Contra Antonio Regalado, _Beware of Falling Rocks: Scientists Lay Plans to Keep NEOs (Near-Earth Objects) from Smashing the Planet_, WALL ST. J., Sept. 20, 2002, at B1 (putting the number of one-kilometer-wide NEOs at 1,200). “If [the estimate of 700 is] accurate, the new number would reduce the odds of a civilization-destroying impact in any one year from about 1 in 100,000 to about 1 in 300,000, something still more likely than being dealt a royal flush in five-card poker.” Michael Paine, _Asteroid Hunters Downgrade Overall Threat to Earth_, at http://explorezone.com/archives/00_01/12_asteroid_odds.htm (last visited Nov. 9, 2002). _Cf. Asteroidscience_, at http://www.explorezone.com/space/asteroids.htm (last visited Nov. 9, 2002) (noting that asteroids large enough to create a “‘nuclear winter’ . . . strike Earth only once every 1,000 centuries on average, NASA officials say,” whereas “[s]maller asteroids that are believed to strike Earth every 1,000 to 10,000 years could destroy a city or cause devastating tsunamis.”). For additional information on NEOs, see NeoDys Risk Page, at http://newton.dm.unipi.it/cgi-bin/neodys/neoidy?riskpage:0;main (last visited Nov. 9, 2002).

28. _Prediction: Coastal Development Will Lead to Hurricane Disaster_, DAYTONA BEACH NEWS, June 14, 2002, available at http://www.news-journalonline.com/2002/Jan/14/CANE2.htm [hereinafter Prediction] (citing Max Mayfield, director of the National Hurricane Center, who observes that the United States could be hit with a hurricane disaster causing more than $80 billion in damage because of increased coastal development). “In 1960, an average of 187 people were living on each square mile of U.S. coast, excluding Alaska. That population density increased to 273 per square mile by 1994 and is expected to reach 327 by 2015.” John McQuaid & Mark Schleifstein, _Developing Disasters, Huge Bills Will Surely Come Due for Population Growth in High-Risk Areas_, SEATTLE TIMES, July 8, 2002 at A3. “If a Category 5 hurricane with winds of 155 mph (258 km/h) hit the U.S. coast, the damage could be enormous as the value of U.S. coastal property in the hurricane belt is at least $6.4 trillion.” CNN, _Warmer Ocean Equals More Hurricanes_, available at http://www.cnn.com/CNN/Programs/presents (last visited Nov. 9, 2002).
the United States vulnerable to earthquake or volcanic eruption. In some respects, we have been fortunate that severe natural disasters have avoided dense population centers. For example, until 9/11, the largest disaster was Hurricane Andrew, which caused approximately $16 billion in losses—a number that would have increased three to four times if the hurricane had made a direct hit on the Miami metropolitan area. Where hurricanes make landfall is completely random; it seems obvious enough that eventually a large hurricane will strike Miami, New Orleans, or another large city and cause property damage greatly exceeding that which occurred in New York City on 9/11.

Catastrophic earthquakes constitute a risk that many are surprised to learn is not confined to the west coast of the United States. Memphis, Tennessee is near the New Madrid fault, which is the source of earthquakes that struck the Midsouth in 1811-1812 and are thought by some scientists to be the largest earthquakes ever to strike North America (at least in recorded history). A similar earthquake today could devastate Memphis and cities as far north as St. Louis, perhaps causing damages as high as $115 billion. According to the U.S. Geological Survey, the San Francisco Bay area has a seventy-percent chance of a 6.7 earthquake before 2030.

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29. See infra notes 37 and 43 and accompanying text.
30. INSURANCE INFORMATION INSTITUTE, supra note 1, at 93.
31. See Steve Tuckey, Analysis Takes Stock of Alternative Risk, 12 INS. ACCT (Apr. 2, 2001). According to the director of the National Hurricane Center, if a hurricane like the one that struck Miami in 1926, which killed 243 people and caused $112 million in damages, were to strike Miami today, the storm would cause about $87 billion in damage. Prediction, supra note 28.
32. For example, “there’s roughly a one in six chance that a killer hurricane will strike New Orleans over the next 50 years.” American Radio Works, Hurricane Risk for New Orleans, available at http://americanradioworks.org/features/wetlands/hurricane1.html (last visited Nov. 9, 2002). In addition to massive property destruction, somewhere between 20,000 and 100,000 fatalities would result. See American Radio Works, Hurricane Risk for New Orleans: Terrible Devastation, available at http://www.americanradioworks.org/features/wetlands/hurricane5.html (last visited Nov. 9, 2002).
34. McQuaid & Schleifstein, supra note 28.
35. See Tuckey, supra note 31.
A 1995 study estimated that if an earthquake similar to the 1906 San Francisco quake struck the same area today, fatalities could reach 8000 and total damages could reach $225 billion, a sum nearly three times all economic loss suffered in New York City on 9/11.

The risk of volcanic eruption did not worry us during most of the twentieth century, but we should probably have paid more attention to this risk. After all, the destruction of Pompeii and Herculaneum in the unexpected eruption of Mt. Vesuvius in August A.D. 79 is a well-known example of the complete destruction of cities by natural disaster, and there are others. Probably the reason Americans were so casual about this risk before the eruption of Mt. St. Helens in 1980 was that the last prior volcanic activity in the United States had been a series of small eruptions at Mt. Lassen in California, from 1914 to 1917. The case law even tells of one insurer revising its easy-read homeowners policy to delete any mention of volcanoes in the list of exclusions shortly before the eruption of Mt. St. Helens. When Mt. St. Helens lost approximately 1100 feet of its height and destroyed a few hundred homes in a rather remote area of Oregon in the process, we began to pay more attention to the active volcanic range that runs along most of the west coast of the United States. Scientists now know that past eruptions in the Cascade range were far more violent than the Mt. St. Helens eruption. For example, the eruption (and destruction) of Mt. Mazama about 7700 years ago was fifty times more powerful than Mt. St. Helens; what is left of this mountain is now the world’s seventh deepest lake, Crater Lake in Oregon, located in a crater six miles across.


38. The sudden eruption of Mt. Vesuvius on August 24, A.D. 79 buried these two cities so thoroughly in only a few hours that their ruins were not uncovered for nearly 1,700 years. See also *The Eruption of A.D. 79*, at http://www.geo.mtu.edu/~boris/VESUVIO_79.html (last visited Nov. 9, 2002). In 1902, on the Caribbean island of Martinique, Mt. Pelee erupted and sent a pyroclastic flow into the town of St. Pierre, killing 29,000 people. The 1991 eruption of Mt. Pinatubo in the Philippines released enough volcanic material to bury a space the size of Manhattan 1,000 feet deep. Jack McClintock, *Under the Volcano*, DISCOVER, Nov. 1999, at 82, 85.


41. The former Mt. Mazama was one of the larger mountains in the Cascade range, between 10,800 and 12,000 feet in height. The eruption was witnessed by native American
are sixty-five active volcanoes in the United States—more than any other country except Japan and Indonesia—and many of these mountains are overdue for an eruption. Washington's Mt. Rainier, the tallest mountain in the Cascade range, is a particularly dangerous peak. According to scientists with the U.S. Geologic Survey, "[d]uring the past 10,000 years, about 60 giant debris flows from Mount Rainier have filled river valleys to a depth of hundreds of feet near the volcano, and have buried the land surface under many feet of mud and rock sixty miles downstream. Seven debris flows large enough to reach Puget Sound have occurred in the past 6,000 years." Some entire communities are built on the remains of the mudflows of past eruptions. Scientists calculate that "residents of the [Puget Sound L]owlands have a one in seven chance of being affected by massive mudflows from Rainier within their lifetimes." Should Mt. Rainier awaken from its long slumber, the consequences to the northwestern United States will be extraordinarily devastating.

peoples who passed to later generations stories about the event. The force of the eruption was about fifty times that of Mt. St. Helens; the amount of ash and ejected material from Mt. Mazama could have evenly covered the entire state of Oregon nine inches deep. The crater where Mt. Mazama once stood averages more than five miles in diameter, and is 1,958 feet deep. United States Geographic Service, Description: Mount Mazama Volcano and Crater Lake Caldera, Oregon, available at http://Vulcan.wr.usgs.gov/Volcanoes/CraterLake?description_crater_lake.html (last visited Nov. 9, 2002).


44. "About 100,000 people now live in areas that have been buried by debris flows during the past few thousand years." McClintock, supra note 38, at 89.

45. Discovery Channel, supra note 43.

46. Geologists estimate that a lahar [a volcanic mudflow, originating from Mount Rainier] could slip down the mountain and arrive at the town of Orting in less than an hour.... A large lahar, traveling at 30 miles an hour, would quickly sweep over Orting and continue down the Puyallup Valley towards more densely populated areas [including] [t]he towns of Sumner, Ashford, Elbe, Packwood, Randle, Greenwater, [as well as] [p]arts of Tacoma, Buckley, Enumclaw, South Prairie, Carbonado, and Wilkeson. Micah Fink, Savage Planet: Volcanic Killers: America's Most Dangerous Volcano, http://www.pbs.org/wnet/savageplanet/01volcano/03/indexmid.html (last visited Nov. 9, 2002). The lahar would then "continue onwards toward the lowlands of Puget Sound. In
Thus, one cannot claim that the terrorism risk merits special treatment under the logic that terrorism losses are large and uninsurable in contrast to the kinds of losses caused by natural disasters.\textsuperscript{47} Some terrorism events are accompanied by losses well within the capacity of the insurance industry (consider, for example, the small bomb that damages a business),\textsuperscript{48} and the same is true with respect to natural disasters. By the same token, one can imagine terrorist acts or natural disasters that would easily outstrip the industry's capacity. These events might usefully be labeled as "mega-catastrophes" or "cataclysms"\textsuperscript{49} to distinguish them from the "smaller catastrophes" that the industry can manage. Private risk-spreading mechanisms are irrelevant to losses in the mega-catastrophic category; when losses of this magnitude occur, government institutions must become the means of repairing loss and spreading the risk of future similar losses.

\textsuperscript{47} Indeed, in one respect it may be easier to insure terrorism than the risk of natural disaster. Conceptually, terrorism attacks the symbols of America, which is tantamount to an attack on all of America. Thus, it is both logical and politically palatable to spread the risk across the entire nation. Natural disasters are different, as becomes evident when one asks a worker in a Wisconsin cheese factory to subsidize insurance on a Florida beachfront home, a California condominium perched on a known fault line, a farm in the Missouri River flood plain, or a mountain resort at the foot of an active volcano. This phenomenon, however, may only work \textit{ex post} and not \textit{ex ante}. By way of illustration, consider the answer we should expect to receive from an Indiana farmer who is asked to help fund a terrorism insurance backstop that would facilitate the future establishment of a business in the shadow of the Sears Tower or the future construction of a 100-story skyscraper.

48. Sometimes the boundary between terrorism and vandalism is hazy, particularly when the magnitude of the incident is small. For example, in May, 2002, a series of pipe bombs accompanied by anti-government letters were placed in rural mailboxes in Nebraska, Iowa, and Illinois, injuring six people. Clemente Lisi, \textit{Pipe-Bomb Peril Spreads: Post Office Warns of More Mayhem}, N.Y. POST, May 5, 2002, at 7. These acts fit most definitions of terrorism. In the absence of personal injury, however, it may be more appropriate to view such incidents as vandalism.

49. The term "cataclysm" was used by Cutler and Zeckhauser to make a distinction between insurable and uninsurable catastrophes. See David M. Cutler & Richard J. Zeckhauser, \textit{Reinsurance for Catastrophes and Cataclysms}, in \textsc{The Financing of Catastrophic Risk} (1999), at 239 ("We term events that would exhaust the reserves of worldwide insurers in a particular risk market \textit{cataclysms}").
Although the 9/11 losses constitute the largest single-event loss in history, they do not reach that level.

That terrorism does not present a unique challenge to the insurance industry is, it might be argued, demonstrated by the success with which the industry absorbed the effects of 9/11. Although the final accounting is not complete and will not be so for some time, the 9/11 losses were within the industry’s capacity; the industry continues to demonstrate that it was well prepared before 9/11 to digest an event of this size without default or insolvency. In the wake of the disaster, much of the expended capital was replenished, and new capacity continues to flow into the industry in 2002.\(^5\) Terrorism coverage, although more expensive, has generally been available since 9/11; businesses were not always pleased with its price, but these increases were for many firms no greater than what had occurred in other insurance cycles. Although coverage disappeared for some businesses (this is similar to what happened during the pollution coverage “crisis” in the 1980s; in that situation, coverage was eventually found in appropriate amounts for most businesses that needed it), the market did not collapse.\(^5\) In this respect, the markets’ response to 9/11 is similar to what happened after what was previously the largest catastrophe in history. After Hurricane Andrew struck southern Florida in 1992, commercial reinsurers restricted coverage and raised prices. In turn, primary insurers, desiring to pass along the reinsurance premium increases and not wanting exposure on risks where reinsurance was lacking, raised prices, canceled some policies

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\(^5\) According to data supplied by Morgan Stanley, total capital flowing into the property-casualty industry since 9/11 is approximately $44.5 billion. Hartwig, supra note 1. See also Barbara Bowers, Reinsurance Rebound, BEST’S REV., Aug. 1, 2002, at 26 (stating that “[s]ince Sept. 11, fresh capital has been flowing into the insurance industry in response to tight capacity and rising premiums”); Martin J. Nilsen, Perspective: Market Gets Capital Infusion: Hardening Market, Sept. 11 Spur Growth, BUS. INS., July 15, 2002, at 12H (noting that “unprecedented losses arising from Sept. 11, coming on the heels of a resurgent hard market that was gaining momentum in the months before the terrorist attacks, have acted as a catalyst for an infusion of new capital.”). Not surprisingly, the capital situation receives different interpretations from different constituencies. See Brendan Noonan, Insurers Cast Wary Eye on Flow of New Capital, BEST’S INS. NEWS, Feb. 22, 2002 , at 1 (stating that “[t]he flow of new capital into the insurance industry after Sept. 11 impressed veteran observers, but views vary on how necessary or permanent the fresh reservoir of funding might prove to be.”).

\(^5\) See, e.g., Bowers, supra note 50, at 27 (quoting Mike Koziol, counsel for the National Association of Independent Insurers, “[t]he reinsurance marketplace is working—under some strained conditions—but it is working as a free market” and that “[w]hile many reinsurers now have excluded [terrorism], others have not and are covering terrorism to a limited degree based on the nature of the underlying risk.”).
on properties in coastal areas, and increased deductibles for insureds with significant hurricane exposure. Within a couple of years, the reinsurance market stabilized, which in turn was followed by a new period of stability in the primary market. In short, transitory capacity problems in insurance are not uncommon, and, in the absence of multiple "shocks" in a short period of time, these problems are generally self-correcting.\footnote{52}{See Anne Gron & Alan O. Sykes, \textit{Terrorism and Insurance Markets: A Role for the Government as Insurer?}, \textit{John M. Olin, Law \\& Economics Working Paper No. 155 (2d Series)}, July 2002, available at http://www.law.uchicago.edu/Lawecon/index.html (last visited Nov. 9, 2002).}

There is, however, an alternative interpretation of conditions in insurance markets. In May 2002, the Joint Economic Committee summarized the situation with respect to cost and availability of terrorism insurance as follows: "[t]errorism insurance policies are available on a limited basis today. Policies are more available and affordable today than in the weeks after 9/11. However, terrorism insurance is still very expensive, terms are restrictive and coverage limits are frequently too low, when it is available at all."\footnote{53}{\textit{JEC Report}, supra note 1, at 5.} To take a few of many possible examples,\footnote{54}{A compendium of examples of the high cost or lack of availability of terrorism coverage can be viewed on the Website of the Coalition to Insure Against Terrorism, at http://www.insureagainstterrorism.org/facts_examples.html (last visited Nov. 9, 2002). For another collection of examples, see JEC \textit{Report}, supra note 1, at 5.} property insurance for the firm managing an office building one block from the White House has doubled, rising from $2 million to $4 million, according to one report.\footnote{55}{Spencer S. Hsu, \textit{Insurance Rates Rise in D.C., Soar Downtown}, \textit{WASH. POST}, June 13, 2002, at A1.} Insurers have cut the coverage limits for property and casualty insurance for George Washington University's downtown campus in half (from $1 billion to $500 million), have raised the premium 160 percent, and have advised that renewing terrorism coverage will be fifteen times more expensive.\footnote{56}{\textit{Id.}} Post 9/11, premiums at "trophy" properties in central Washington and New York City have increased fifty to one hundred percent, and in suburban areas premiums have increased about twenty-five percent; moreover, the coverage for terrorism is now excluded or greatly reduced in these areas.\footnote{57}{\textit{Id.}} The Metropolitan Transportation Authority, which oversees New York City's subway, bus system, railways,
tunnels, and bridges, saw its terrorism coverage limits shrink from $1.5 billion pre-9/11 to $100 million currently. Professional sports venues and teams throughout the nation have seen insurance costs rise. For example, coverage for Milwaukee's Miller Park, the site of baseball's All-Star game in July 2002, saw its annual insurance premium rise from $225,000 to $2.25 million. Results of a June 2002 survey of its commercial members by the Mortgage Bankers Association of America found that the lack of affordable terrorism coverage for commercial properties had stopped $3.7 billion in deals in 2002 and delayed or changed the pricing on another $4.5 billion.

What should be made of these different descriptions of 9/11’s impact on insurance markets? If one agrees that 9/11 defines the upper boundary of potential terrorism losses in the United States, it might be possible to embrace with confidence the conclusion that the insurance world did not change appreciably on 9/11. The problem, however, is that we are not, and cannot be, certain that the upper boundary has been reached, and we are uncertain about where the mean now rests in the distribution of terrorism losses. When risk is measured, one assumes a normal distribution of expected losses, and one expects both the frequency of losses in discrete time periods and the severity of losses to regress to the mean. History teaches, however, that we cannot be certain where the mean is located at any particular point in time. Also, our uncertainty increases with respect to risks that produce loss on a less frequent basis, such as, for example, earthquakes as compared to auto accidents. One of the lessons of 9/11 is that the mean with respect to terrorism losses is not where we previously thought it rested. Further, because this lesson was taught in such an unforgettable way, we are not confident about our current understanding of

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61. When our leaders tell us we have a "new normalcy" in America or when pundits observe that "things will never be the same again," the same point is being made about an altered understanding of the location of the mean. See Vice President Cheney Delivers Remarks to the Republican Governors Association, Oct. 25, 2001, at http://www.whitehouse.gov/vicepresident/news-speeches/speeches/vp20011025.html) (last visited Nov. 9, 2002).
where the events of 9/11 will fit in the normal distribution of catastrophic losses.

Whatever is said about the current status of insurance markets, whether markets need help in the future in dealing with the risk of terrorism presents a different question. Again, the comparison to natural disasters is helpful. Based on past experience as reflected in accumulated statistical information and sophisticated predictive models, scientists can estimate the frequency of earthquakes and hurricanes. In contrast, terrorism involves losses produced by humans, the timing and severity of which are not subject to reliable prediction. In particular, the frequency of terrorism losses is an extremely difficult variable to measure. Massive terrorism losses could occur, for example, in close succession temporally; indeed, many Americans feared precisely this scenario in the immediate aftermath of 9/11.62 A series of catastrophes, no one of which in isolation outstrips the insurance industry’s capacity, could cumulatively constitute a “mega-catastrophe.” Past experience strongly suggests that this is highly unlikely to occur with respect to natural disasters, but intuitively such a conclusion seems less reliable with respect to the peril of terrorism. In addition, historical data show that hurricanes and earthquakes have random paths, and one can reliably expect a measurable proportion of hurricanes and earthquakes to strike relatively unpopulated and less developed areas. In contrast, terrorists typically select targets in order to maximize the impact of their efforts, which usually means maximizing loss of life, damage to property, or both.63 In the case of volcanoes and hurricanes, the science of seismology and atmospherics makes it possible to warn those who are in harm’s way, which in turn makes it possible to mitigate loss to some extent. In contrast, terrorist acts usually come with little or no warning, occurring whenever a human actor is sufficiently motivated to act. In short, natural

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62. The nonoccurrence of a second 9/11-type attack in the months after 9/11 suggests that orchestrating a large number of 9/11-type events in close succession is difficult, both in terms of planning and execution. After one event, heightened awareness leads to preventive measures that are likely to avert or mitigate future losses. This was most dramatically illustrated on 9/11 by the manner in which the fourth hijacked airliner was prevented from reaching its target. This implies that terrorism events may adhere to the same distributional patterns as natural disasters. The problem, however, is that we do not know this; even if we did, we may be unable to assimilate or accept it. In other words, we are in a relative sense more uncertain about the frequency of terrorism losses than we are about the frequency of natural disasters.

63. This does not dispute that many terrorist attacks cause small losses, such as the car bomb that damages a business, etc. The point here is that terrorists seek to maximize the damage (output) from their efforts (input).
catastrophes do not self-select their targets or self-calibrate their destructive force.\textsuperscript{64}

Even granting these obvious differences, it might be argued that there is no obvious reason why pricing models for terrorism coverage cannot be developed. For example, the FBI keeps statistical records on terrorist events, both at home and abroad,\textsuperscript{65} and this data set might be an appropriate starting point for the development of a pricing model. Further study of terrorism losses may reveal that just as there is a "normal distribution" of loss from natural catastrophes, there is a distribution of terrorism losses with an identifiable mean that can be used to price future coverage.\textsuperscript{66} Indeed, as Professor David Cummins has observed, the industry offers political risk insurance and insurance for satellite launches, even though the

\begin{itemize}
\item \textsuperscript{64} The differences between natural catastrophes and terrorist acts also explain why terrorism catastrophes have more severe psychological impacts on those victimized. One psychologist explains it this way:

In contrast to a natural disaster, which is random and unpreventable, terrorist acts are purposeful and can be directed at everyone, including the innocent children. In contrast to a natural disaster in which few, if any, died, the terrorist acts on September 11 may have killed as many as 6,000, including children and other innocent people. However, one of the most important differences between a natural disaster and a terrorist act is the connectedness factor. It can greatly affect the degree to which one feels traumatized. It can be determined by estimating how much the respondent identifies with the helpless and victimized. High identity, including those with relatives and friends who died would be the most difficult to overcome. Fundamentally, man-made trauma causes more harm than natural disasters and accidents.


\item \textsuperscript{65} FBI, \textit{Counterterrorism Threat Assessment and Warning Unit, Terrorism in the United States} (1999) available at http://www.fbi.gov/publication/terror/terror99.pdf (last visited Nov. 9, 2002). According to this report, over "14,000 international terrorist attacks have taken place worldwide since 1968." \textit{Id.} at 15. Acts of domestic terrorism have accounted for the majority of terrorist attacks in the United States over the past twenty years, and no serious act of international terrorism in the U.S. had occurred before the 1993 bombing of the World Trade Center. \textit{Id.} at 16.

\item \textsuperscript{66} Within a year after 9/11, some risk modelers had developed and were soon to offer insurers predictive models for terrorism insurance pricing. Erika Morphy, \textit{Three Firms Offer Insurers Models for Terrorism}, \textit{INS. FINANCE & INVESTMENT}, Sept. 15, 2002, at 9. See also Chad Bray, \textit{Terrorism Insurance Hard to Come By For Many Companies}, AP NEWSWIRE, Sept. 27, 2002 (discussing terrorism catastrophe modeling). Whether and to what extent insurers would accept these models was not yet known in late 2002.
\end{itemize}
data set for pricing these risks would appear to be much smaller than existing data sets for terrorism.\textsuperscript{67} But there is another perspective. The foreseeable losses from these perils are not potentially catastrophic (i.e., a satellite loss might measure in the millions, but not in the billions), and this surely makes margins of error in the data set tolerable, which is not the situation when potential losses are $50$ billion, $100$ billion, or more. In addition, even if one concurs that terrorism is not so unusual as to be uninsurable, pricing models do not now exist that will support a robust market in terrorism insurance. The future may see the emergence of such models, but the industry will need time to develop them.

Thus, the question of whether 9/11 has changed the insurance world cannot be answered simply. In some respects, nothing is different; terrorism is simply another form of catastrophe with which insurance markets will deal in the usual ways. But it is difficult to be sanguine about this assessment. Terrorism, at least intuitively, seems less predictable in terms of magnitude and frequency of loss, and this raises doubts about the capacity of the industry with respect to future events. Capacity is a problem for natural disasters, too, but there is less uncertainty, in a relative sense, about the normal distribution of catastrophic natural disaster losses. Until the uncertainty with respect to the terrorism risk abates and markets stabilize, problems of cost and availability of insurance coverage for terrorism will persist. This, of course, has been true in other insurance sectors in the past, and temporary dislocations do not necessarily justify government intervention. The question, then, is what use, if any, should be made of government risk spreading mechanisms with respect to terrorism.

\textsuperscript{67} See Protecting Policyholders from Terrorism: Private Sector Solutions, Hearing Before the House Subcomm. on Capital Mkt., Ins. and Gov’t Sponsored Enter., 107th Cong. 2 (2001) (statement of J. David Cummins, Harry J. Loman Professor of Ins. and Risk Mgmt., The Wharton School, Univ. of Penn.), available at http://financialservices.house.gov/media/pdf/102401dc.pdf (last visited Nov. 9, 2002) [hereinafter statement of Cummins & Loman]. It may be, however, that satellite insurance is a poor illustration to support this point. According to one report, the “global satellite industry faces a worsening insurance crunch” as “$1.5$ billion in anticipated new claims . . . threaten the availability of future liability coverage.” Andy Pasztor, Insurance Issues Threaten Satellite Industry, WALL ST. J., Sept. 10, 2002, at B3.
III. IF GOVERNMENT IS TO HAVE A ROLE IN FACILITATING TERRORISM COVERAGE, WHAT SHOULD IT BE?

As with the preceding two questions, the question of the appropriate role of government in facilitating terrorism coverage receives different answers from different constituencies. Whatever one's perspective, it cannot be claimed that the tasks of reallocating risk and serving as the insurer of last resort are foreign to the federal government. 68 Where private insurance markets are inadequate to distribute risk or to provide the resources necessary to regenerate property that is vital to the well being of our nation, the vast risk-spreading potential of government has often been tapped. Thus, in the immediate aftermath of 9/11, those who questioned the ability of insurance markets to absorb the losses suggested the need for some kind of government-funded insurance mechanism to "backstop" the private sector. 69 Supporters of government intervention can cite not only the federal government's experience as an insurer, but also programs in other nations where the central government plays a major role in underwriting terrorism coverage. 70 To the surprise of many, the success of the insurance industry in absorbing the losses that occurred on 9/11 and the fact that market failures did not occur after 9/11 to the extent many predicted took much of the steam out of the pro-government backstop position in late 2001 and early 2002. The House of Representatives passed a bill in December 2001 that would create a federal backstop for property and casualty insurance, 71 but similar legislation stalled in the Senate. A GAO study released in late February 2002 listed many examples of firms

68. See DAVID A. MOSS, WHEN ALL ELSE FAILS: GOVERNMENT AS THE ULTIMATE RISK MANAGER (2002) (discussing risk management as a public policy of government). See also JERRY, supra note 1, at 57-60 (overview of various government programs where government serves as provider of insurance).


70. See JEC REPORT, supra note 1, at 17.

71. See Terrorism Insurance Proposals[;] Comparison of Key Features: 6/25/02, at http://www.insureagainstterrorism.org/pdf/bill.comparison.pdf (last visited Nov. 9, 2002). Under H.R. 3210, the federal government would provide coverage for 90% of losses exceeding $1 billion, subject to a requirement that the industry repay the government over time. Id. The first $20 billion would be repaid via industry-wide assessments, and aid exceeding $20 billion would be repaid via policy surcharges. Id. In return, all commercial insurers must provide terrorism coverage in accordance with to-be-created "consistent state guidelines." The program would expire on January 1, 2003, but could be authorized for an additional two years by the Secretary of the Treasury. Id.
and businesses having trouble getting needed terrorism coverage, but the study disappointed those who were expecting quantification of significant costs to the economy from insurance unavailability in the aftermath of 9/11. During the spring of 2002, however, Congress continued to hear stories of economic dislocation caused by the unavailability of reasonably affordable terrorism coverage. A report of the Joint Economic Committee in May 2002 also sharpened the analysis of the economic dislocations that would occur if another 9/11 event occurred while terrorism coverage continues to erode. The report found "a growing amount of evidence that the difficulty and cost of obtaining terrorism insurance pose a very real threat to sustained economic growth." In the face of this analysis, the persistent recession, and the realities of election year politics, senators found it difficult not to support legislation designed to make insurance available to businesses and firms needing it. In June 2002, the Senate passed its own version of a government backstop, and as of September 2002, differences in the Senate and House legislation were scheduled to be resolved in conference committee. Although in early 2002 it seemed unlikely that insurance backstop legislation would pass the

73. See JEC REPORT, supra note 1, at 6, 7.
74. Id. at 8. The Report concluded that the lack of insurance is stopping some business deals, the high cost of insurance when it is available is diverting resources from other more productive uses, thereby negatively affecting investment and jobs, and low coverage limits are shifting risk to businesses, which means insurance payments needed to rebuild will not be available in the event of another attack similar to 9/11. See id. at 8–15.
75. Under Senate Bill 2600, the federal government would provide coverage for ninety-percent of losses (over a per company retention) exceeding $10 billion and eighty-percent of losses (over a per company retention) between $1 billion and $10 billion. In return, all property and casualty policies issued by "participating insurance companies" (as defined in the bill) must provide terrorism coverage. The per company retention is defined as a participating company’s market share, multiplied by $10 billion, with respect to insured losses resulting from a terrorist act. The calculation changes in the event the program is authorized for a second year; under the Senate bill, the program would last for one year from the date of enactment. There is no requirement that the industry repay the federal government under Senate Bill 2600. For a brief summary of the House bill (and a citation to a chart comparing the two bills), see Statement of Cummins & Loman, supra note 67.
Congress, by October 2002 the situation had changed and the enactment of some kind of federal backstop seemed likely. There are various ways the federal government could become involved in providing terrorism coverage. One is by directly providing insurance and totally displacing private markets. This would be similar to the government program that protected property owners from loss from enemy attack during World War II and to what Israel currently provides to property owners with respect to terrorism. This approach has not received serious consideration in the United States for the current terrorism situation, and this is not likely to change. Once the government takes over a particular market, private insurance mechanisms cease to exist, and it is extremely difficult, and perhaps impossible, to restore such mechanisms once they are dismantled. There is also the problem of the government identifying the appropriate price for the coverage: setting the price too low, the likely tendency in the face of political pressure, will encourage risky behavior and increase losses to the ultimate cost of the American taxpayer. In other words, the unavailability of coverage is not necessarily a problem if the absence of insurance in the market correctly signals that a building should not be constructed adjacent to a nuclear or hydroelectric power facility or as tall as an engineering design allows. Yet this approach may make sense where insurance markets have already ceased to function in their entirety; where private markets are still operational, however, federal preemption is too drastic. The resilience of private markets in responding in recent months to terrorism cautions against displacement of private

76. See JERRY supra note 1, at 1074 (predicting that legislation would likely not be enacted by Congress).

77. As of mid-2002, the issue was receiving the attention of editorial writers. See, e.g., Insuring Against Terrorism, N.Y. TIMES, June 8, 2002, at A14:

   Last fall, Congress responded energetically to the Sept. 11 terrorist attacks. But the response was incomplete. When the fog of normalcy, with its paralyzing partisanship, again descended on Capitol Hill late last year, Congress had not yet enacted urgently needed legislation to provide federal help in insuring against similarly catastrophic terrorist attacks in the future. It must do so now . . . .

Id.

78. See John D. McKinnon, House Leader Says Congress Will Pass Terror Insurance, WALL ST. J., Sept. 11, 2002, at A4 (quoting Representative Michael Oxley (R-Ohio), chairman of the House Financial Services Committee, and a White House spokeswoman, regarding their confidence in the passage of terrorism insurance bill). Shortly before the Congress adjourned for its 2002 election recess, an agreement was reached among Senate Democrat conferees, some House Republican conferees, and White House and Treasury staff on a compromise terrorism insurance.
mechanisms, particularly when there is no reason to think that the markets will not continue to evolve in ways that respond positively to the need for coverage.

An approach to be taken more seriously would have the federal government create a reinsurance company that would provide coverage for terrorism risk. Private insurers would be compelled to participate in the funding of this company, which would have the effect of pooling the industry’s risk while capping industry losses through a government backstop. This approach would be similar to that now followed in the United Kingdom, where in 1993 Parliament established in response to a series of destructive IRA bombings the Pool Reinsurance Program (commonly called “Pool Re”) to provide insurance against damage caused by terrorist attacks on industrial, commercial, and residential properties within the British mainland.\(^79\) Insurers are responsible for the first £100,000 of terrorism coverage, and claims exceeding £100,000 are paid from premiums accumulated within a pool made up of insurance companies and Lloyd’s syndicates.\(^80\) If the pool is exhausted, all participating insurers may be required to contribute an additional ten percent of the premiums they collected during the year; beyond this amount, pool investment income is spent, and beyond this sum, the British government—meaning the British taxpayer—is responsible for paying claims, although the government has not yet been called upon to make payments as the insurer of last resort.\(^81\)

The reinsurance approach enjoys some support, but it also faces substantial opposition in the United States. This approach requires the creation of a new government regulatory entity which, once established, will be difficult to dismantle. This entity would, among other things, set the premium for the government reinsurance by assessing private insurers, but critics argue that government regulators cannot do a better job of setting these rates than private markets. To the extent the private market has the potential to manage terrorism risk in the future, the creation of a permanent, government-run reinsurance institution seems premature.

Another option would have the federal government share the risk along with private entities. For example, a large deductible could be set for insurer contributions to terrorism losses beyond which the federal

\(^79\) This description of Pool Re is based on JERRY, supra note 1, at 1072.
\(^80\) Id.
\(^81\) Id.
government assumes all risk.\textsuperscript{82} A potential problem with this approach is that because the government is responsible for one hundred percent of all losses above a certain level, insurers and risk managers have little incentive to constrain losses once they rise above the deductible. Thus, the challenge of crafting this approach involves designing a system that requires insurer participation in compensating loss—i.e., that makes insurers bear an appropriate share of the risk—without placing disincentives on the creation of terrorism coverage.\textsuperscript{83} The advantage of this approach is that it can be adjusted or dismantled as private markets improve their ability to underwrite terrorism coverage and manage terrorism risk. This, in general terms, is the approach that is likely to emerge from the ongoing efforts in Congress to create a federal backstop.

In a sense, the emerging consensus on the approach to a government backstop acknowledges the opposing, yet simultaneously correct answers to the questions posed above about how the world generally and the insurance world specifically have changed as a result of 9/11. On the one hand, private markets have demonstrated considerable resiliency in the aftermath of 9/11. All signs suggest that capacity continues to improve, which means that the industry could be positioned to deal adequately with the next event when it occurs (assuming it does not set a new upper boundary for the size of terrorism losses—which is possible). Yet it is also true that if the industry had been required to digest a second 9/11-type event in the immediate aftermath of 9/11 (or a major natural disaster of some kind), the industry’s weakened condition would have produced a much different scenario. On top of all of this looms the possibility of a mega-catastrophe—or a series of smaller events in close succession that

\textsuperscript{82} One question that must be answered in developing any such scheme is whether the industry should be assessed for the purpose of reimbursing the government for payments it makes. Of course, if the industry is subject to assessment, the industry still bears the risk, but payments are made relative to a terrorism incident \textit{ex post}, much like what happens in the mutual form of insurance where premiums are kept low relative to risk and members are assessed for losses exceeding reserves. This contrasts with the reinsurance approach, where the government charges a premium for the reinsurance it provides, which means the industry pays for losses \textit{ex ante} by creating a pool of capital that may never be needed for terrorism compensation. If the government provides compensation for disasters after the fact anyway, the reinsurance approach might be advocated on the ground that the government should collect revenue for providing this service. Assessing the industry for payments made under the “deductible approach” also serves a revenue collection function, but this occurs \textit{ex poste}.

\textsuperscript{83} Gron and Sykes argue that S.B. 2600 misses in the mark in this regard because the government would assume all losses incurred above low aggregates without charge, thereby subsidizing insurers that have already sold policies. Gron \& Sykes, \textit{supra} note 52, at 5.
have the cumulative impact of a mega-catastrophe—which would overwhelm the insurance industry.

All of this suggests the desirability of a limited role for the federal government: helping underwrite the portion of the terrorism risk that is beyond the industry’s capacity while leaving plenty of room for private markets to function and to develop capacity for smaller losses. This kind of limited backstop would cap the industry’s losses, thereby making explicit what is already the commonly assumed, unstated premise: if a mega-catastrophe were to occur, the government would provide disaster assistance \textit{ex postfe}. But by making the informal understanding explicit \textit{ex ante}, the federal government would play a useful role in facilitating a market for affordable coverage.

\textit{AUTHOR’S NOTE: As this article was going to press, Congress enacted and President Bush signed into law The Terrorism Insurance Risk Act of 2002.} The general framework of the Act sets a large deductible for insurer contributions to terrorism losses beyond which the federal government assumes most of the risk. In 2003, the federal government would pay for ninety percent of losses exceeding \$10 billion (rising to \$15 billion in 2005). In addition, no insurer would receive assistance until it has paid what is essentially a deductible based on a percentage of its total premiums (seven percent in 2003, rising to fifteen percent in 2005). The federal government’s liability is capped at \$100 billion a year.

\begin{itemize}
  \item 84. See id. at 4-5 (noting the federal aid to New York City following 9/11 is currently authorized at \$25 billion; that a compensation fund has been established for victims; and that federal emergency assistance is routinely provided for all major natural disasters). As Gron and Sykes point out, the question can be framed as whether the government should shift from \textit{ex postfe} disaster relief efforts to \textit{ex ante} insurance coverage. See id. at 22-23.
  \item 85. This view is consistent with the one urged by Professor Jeffrey Stempel, who counsels restraint with respect to establishing permanent programs until the situation is better understood but does not oppose a short-term program to preserve coverage. See Stempel, \textit{supra} note 22, at 880-82. This view is inconsistent with that urged by Professors Gron and Sykes, who argue that “practical considerations may undermine any gains from temporary government participation as an insurer or reinsurer,” capacity problems typically self-correct with time, governmental programs often live past their usefulness, government is incapable of improving on the markets’ pricing, political pressures to retain government-subsidized insurance make such programs impossible to terminate, and the development of private insurance is deterred. See Gron & Sykes, \textit{supra} note 52, at 19-20. Ultimately, how one assesses the opposing view turns on whether one believes that government is capable of creating short-run gains without establishing permanent institutions that disrupt markets and cause harms in the long-run; Gron and Sykes do not think this is possible.
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