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# Benefits of the U.S. program for terrorism insurance from a comparative perspective



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**Abstract**

This article summarizes the U.S. program for terrorism insurance and outlines its advantages as compared to similar programs in other developed countries. The program, while similar to reinsurance, does not require participants to pay premiums but instead uses an ex post recoupment mechanism. Consequently, it is generally referred to as a Federal “backstop.” This approach requires less capital investment and makes “pricing” more accurate than a reinsurance approach. The program also requires insurers to maintain significant amounts of exposure through insurer deductibles and copayments, which creates market demand for the development of terrorism reinsurance in the private market. The current program extends until 2020, though it may be extended further in the future.

## I. Introduction

The September 11 terrorist attacks in the United States triggered a crisis in the market for terrorism insurance. Although reinsurers paid out billions of dollars to cover terrorism losses, they withdrew future coverage for terrorism from the market, which caused primary insurers to exclude terrorism losses from their coverage. Because of a perceived drag on the U.S. economy from the unavailability terrorism coverage, the U.S. adopted the Terrorism Risk Insurance Act (TRIA) in 2002. TRIA created a unique government-industry partnership to support the development of the terrorism insurance market. This program functions somewhat like reinsurance in that it will reimburse participating insurers for a portion of terrorism loss, but it does not charge ex ante premiums or maintain reserves like a reinsurer would. The program has been labeled a Federal “backstop” for terrorism insurance.

This article briefly describes the U.S. program for terrorism insurance, and explains the basis for U.S. government involvement in the market for terrorism insurance. It then contrasts the approach taken by the U.S. to that taken in other countries in the developed world. The U.S. approach makes greater use of market forces and uses an ex post mechanism to avoid challenges of ex ante underwriting. This approach has been successful in developing the market for terrorism insurance in the U.S. and has the advantage of low cost, greater accuracy in pricing, and avoiding unnecessarily creating reserves for terrorism risk.

## II. Summary Description of the Terrorism Risk Insurance Program

### A. Legislative History

TRIA was adopted in 2002 after insurers and reinsurers began excluding terrorism risk from insurance coverage in the wake of the September 11, 2001 terrorist attacks.<sup>2</sup> The exclusion of terrorism risk created a drag on the U.S. economy because banks were unwilling to lend on major construction projects without terrorism insurance.<sup>3</sup> In 2005, TRIA was extended.<sup>4</sup>

In 2007, the Act was modified to include domestic terrorism and extended until 2014.<sup>5</sup> In 2015, the Act was extended to 2020 and revised in several relatively minor ways.<sup>6</sup>

### B. Coverage Under the Terrorism Risk Insurance Program

Under current law, the terrorism insurance program requires that commercial property and casualty insurers<sup>7</sup> offer terrorism coverage in the policies they are selling. The program does not set the price of the insurance (though state regulation may apply), and does not require that insureds purchase terrorism coverage.

For a terrorism loss to be covered by the program, the event giving rise to the loss must be certified as an act of terrorism by the Secretary of the Treasury in consultation with the Secretary of Homeland Security, and property and casualty insurance losses from the event must exceed \$5 million.<sup>8</sup> For an insurer to receive any benefits under the program, insurance industry losses from the terrorism event must exceed \$100 million in 2015.<sup>9</sup> The required industry losses to trigger benefits under the program increase by \$20 million per year until the requirement is \$200 million in insurance industry losses in 2020.<sup>10</sup> For an individual insurer to receive benefits under the program, it must meet its own deductible equal to 20% of its annual direct earned premiums from the previous year.<sup>11</sup> Once the deductible has been met, insurers are reimbursed for 85% of insured terrorism losses that occur in 2015, with the reimbursement amount decreasing by 1% point per year until it reaches 80% in 2020.<sup>12</sup>

<sup>2</sup> See ABA TIPS Taskforce on Federal Involvement in Insurance Modernization, white paper on Renewal of TRIA at 1 (March 15, 2006) [hereinafter white paper].

<sup>3</sup> *Id.* at 1-2.

<sup>4</sup> The Terrorism Risk Insurance Extension Act of 2005, Pub. L. 109-144, 119 Stat. 2660.

<sup>5</sup> Terrorism Risk Insurance Program Reauthorization Act of 2007, Pub. L. 110-160, 121 Stat. 1839. For side-by-side comparisons of the different laws and their impact on the evolution of the terrorism insurance program, see Baird Webel, Terrorism Risk Insurance: Issue Analysis and Overview of Current Program, Table 1, at 12-14 (Congressional Research Service, March 4, 2014). For a somewhat more detailed description of the program with some basic criticisms, see Jeffrey E. Thomas, The Terrorism Risk Insurance Act: An Industry-Government Partnership, 38 SUM Brief 24 (2009); Lucien J. Dhooge, The Terrorism Insurance Market after September 11: The Case for Limited Federal Intervention, 34 MCGEORGE L. REV. 27 (2002).

<sup>6</sup> Terrorism Risk Insurance Program Reauthorization Act of 2015, Pub. L. 114-1 129 Stat. 12. The revisions reduce the share of Federal payments, increase the industry aggregate retentions for the trigger and recoupment, and add consultation with the Secretary of Homeland Security to certify an event as an act of terrorism. See *id.* §§ 102-105. The Act also requires several studies and some administrative changes. See *id.* §§ 107-112.

<sup>7</sup> Some lines of property and casualty insurance are excluded from the program: crop, financial guaranty, flood, life, medical malpractice, mortgage, title and reinsurance. See 15 U.S.C. § 6701, Terrorism Insurance Program § 102 (12)(B).

<sup>8</sup> See *id.* § 102(1).

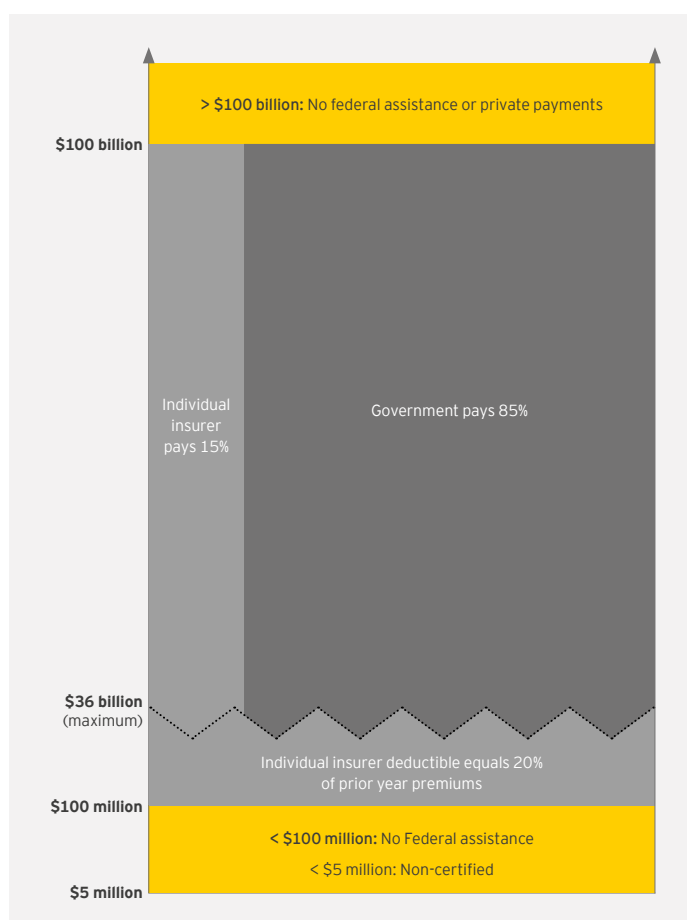
<sup>9</sup> See *id.* § 103(e)(1)(B)(i).

<sup>10</sup> See *id.* § 103 (e)(1)(B)(ii)-(vi).

<sup>11</sup> See *id.* § 103(e)(2)(B)(i) and § 102(7).

<sup>12</sup> See *id.* § 103(e)(1)(A).

Figure 1: Initial loss sharing under current TRIA program



Source: Congressional Research Service, adapted from Congressional Budget Office, Federal Reinsurance for Terrorism Risks: Issues in Reauthorization, August 1, 2007, p. 12.

The program has an annual cap of \$100 billion<sup>13</sup> (more than twice the losses from the September 11 attacks). If total insured losses exceed \$100 billion in a calendar year, the program will not make additional payments,<sup>14</sup> and insurers that have met their deductible are relieved of any liability that exceeds the cap.<sup>15</sup>

13 See id. § 103(e)(2)(A).  
 14 See id. § 103(e)(2)(A)(i).  
 15 See id. § 103(e)(2)(A)(ii).

Figure 1, adapted by the Congressional Research Service from an illustration prepared by the Congressional Budget Office, provides a graphical representation of the basic structure of the program, although the aggregate loss trigger will increase from \$100 million to \$200 million and the individual insurer retention will increase from 15% to 20% from 2015 to 2020.

### C. Recoupment of Federal Payouts Under the Program

The terrorism insurance program also includes provisions to recoup Federal payments from the insurance industry after a loss. If aggregate losses retained by insurers (due to the deductibles and insurer copayments) do not exceed \$27.5 billion, the Secretary of the Treasury is required to impose surcharges on property and casualty insurance policies to recoup 140% of difference between the industry retention and \$27.5 billion.<sup>16</sup> The threshold used for mandatory recoupment will increase by \$2 billion per year until it is \$37.5 billion in 2020, with a formula and regulations to determine the amount thereafter.<sup>17</sup>

The program includes a timetable for recoupment surcharges. For acts of terrorism that occur prior to December 31, 2017, recoupment premiums are to be collected by September 30, 2019.<sup>18</sup>

For acts of terrorism that occur between January 1 and December 31, 2018, 35% of the recoupment is to be collected by September 30, 2019, with the remainder collected by September 30, 2024.<sup>19</sup> For acts of terrorism after January 1, 2019, the recoupment surcharges are to be collected by September 30, 2024.<sup>20</sup>

Although there is no mandatory recoupment if the losses retained by insurers exceed the mandatory recoupment threshold (\$27.5 billion in 2015, increasing to \$37.5 billion in 2020), the Secretary has discretion to impose surcharges for recoupment in light of the ultimate costs to the taxpayers, the economic conditions in the insurance marketplace, the affordability of commercial insurance

16 See id. § 103(e)(7). For calculations of estimated recoupment under different payout scenarios, see Weibel, *supra* note 5, Appendix Table A-1, at 16.  
 17 See 15 U.S.C. § 6701, Terrorism Insurance Program § 103(e)(6)(B).  
 18 Id. § 103(e)(7)(E)(i)(I).  
 19 Id. § 103(e)(7)(E)(i)(II).  
 20 Id. § 103(e)(7)(E)(i)(III).

for small and medium-sized businesses, and other facts the Secretary considers appropriate.<sup>21</sup>

#### D. Backstop, not Reinsurance

The term “backstop” is used to describe this program because the Federal government stands behind the program, and facilitates it, but much of the risk, especially in the first instance, is borne by the insurance industry. Because of the deductibles, insurers bear the risk of terrorism losses up to 20% of their direct earned premium. The precise amount of this deductible will vary depending on the conditions in the marketplace and the sales of individual insurance companies, but it could be as much as \$36 billion.<sup>22</sup>

Furthermore, the recoupment provisions provide that much or all of the government payments under the program would be recovered from insureds through premium surcharges. When insured losses are \$27.5 billion or less (and that threshold figure will increase to \$37.5 billion over time), the government will recoup 140% of its payout.<sup>23</sup> If, for example, a terrorism event caused insured losses of \$20 billion, assuming the insurance industry paid a deductible of \$6 billion, the Federal share of the losses would be \$11.9 billion (20 billion - 6 billion x .85), so the recoupment surcharges would be for \$16.66 billion (11.9 billion x 1.40).<sup>24</sup> Where the losses exceed \$27.5 billion, the mandatory recoupment is limited to the difference between \$27.5 billion and the total amount of the insurers' share of the losses (deductible plus copayments).<sup>25</sup>

<sup>21</sup> See id. § 103(e)(7)(C).

<sup>22</sup> This figure was obtained by using aggregate direct earned premium figures from the NAIC for 2012 for the commercial property-casualty insurance sector, see Webel, *supra* note 5, at 5, but to reach this figure, direct earned premiums would have to be evenly distributed among all insurers and all insurers would have to bear the same proportion of terrorism losses. These are very artificial assumptions, but they give some sense of maximum scope of the insurer deductibles.

<sup>23</sup> The statute says that the mandatory surcharge applies to the difference between the lesser of the aggregate amount of the insured losses or \$27.5 billion, see 15 U.S.C. § 6701, Terrorism Insurance Program § 103(e)(6), and the amount of the insured losses retained by the insurers under the deductible and copayment provisions, see id. § 103(e)(7)(A)(ii). Where the total losses are under \$27.5 billion, this amount will always be the amount paid out by the government. See Webel, *supra* note 5, at Appendix, Table A-1, at 16.

<sup>24</sup> For a similar example using the pre-2015 multiplier of 133%, see Webel, *supra* note 5, at Appendix, Table A-1, at 16.

<sup>25</sup> The insurance marketplace aggregate retention amount is the lesser of \$27.5 billion (in 2015, increasing by \$2 billion per year to 37.5 billion in 2020) and the aggregate amount of all insured losses for terrorism during a calendar year. See 15 U.S.C. § 6701, Terrorism Insurance Program § 103(e)(6). The mandatory recoupment amount is the difference between the insurance marketplace aggregate retention amount under subsection (6) and the aggregate amount of insured losses not compensated by the program because they are within the deductible or copay. See id. § 103(e)(7)(A).

Thus, if we assume a terrorism event with \$50 billion in insured losses, and that the industry deductible is \$15 billion, the remaining insured losses would be \$35 billion. Of that amount, the insurers would be responsible for a copayment of \$5.25 billion (50 billion - 15 billion x .15). The government's share would be \$29.75 billion. Mandatory recoupment under this scenario would be \$10.15 billion (27.5 - 15 - 5.25 = 7.25 x 1.40 = 10.15).<sup>26</sup> Although this recoupment would leave the government responsible for more than \$29 billion of the losses, the Secretary of Treasury also has authority to impose additional discretionary surcharges for all or part of this \$29 billion not covered by mandatory recoupment.

These recoupment provisions make the program much different to traditional reinsurance, which is the transfer of risk from primary insurers to reinsurers in exchange for a premium payment. Here, while there is a transfer of sorts in the sense that the government pledges to reimburse some of the losses, the Federal government doesn't bear the risk in the same way as a reinsurer. The Federal government explicitly has the right to recover the payments through both mandatory and discretionary premium surcharges. In addition, the program does not charge any premiums. Instead of trying to predict the risks and potential costs in advance, this program pools the risk and then distributes the costs of a loss after the terrorism incident.

#### E. Use of Market Mechanisms

While the Federal backstop reduces terrorism risk exposure for insurers to a level that encourages insurers to underwrite terrorism risk, insurers maintain enough exposure under the program to create incentives for the operation of a terrorism insurance market. Insurers must bear 20% of their directed earned premiums as a deductible and another 15% of any losses as a copayment (which will increase to 20% by 2020). Using 2012 data, the National Association of Insurance Commissioners determined that the insurers could face as much as \$36 billion in exposure from the deductible provision.<sup>27</sup> In addition, insurers face additional billions in exposure from the copayment provision.<sup>28</sup> Thus, insurers easily face tens of billions in exposure,

<sup>26</sup> See Webel, *supra* note 5, at Appendix, Table A-1, at 16.

<sup>27</sup> See Webel, *supra* note 5, at 5.

<sup>28</sup> The program has a hard cap of \$100 billion. See 15 U.S.C. § 6701, Terrorism Insurance Program § 103(e)(2)(A). Insurers are reimbursed for 85% of losses (so retain 15% of the losses as a copayment). See id. § 103(e)(1)(A). Thus, maximum copayments are \$15 billion (\$100 billion x .15). To reach this figure, insurers would have to have no deductible at all, which would not happen.

which is similar to the \$23.9 billion in losses from the September 11 attack.<sup>29</sup> This exposure, which exists underneath the Federal backstop, is the space where the terrorism reinsurance market operates.

### III. Government Involvement in the Market for Terrorism Insurance is Warranted

When the terrorism program in the U.S. was first adopted in 2002, and each time it has been up for renewal, it generated significant debate about whether government involvement in the market for terrorism insurance was warranted. Critics of the program, and of government involvement generally, argued that with time the private market for terrorism insurance would develop.<sup>30</sup> The need for terrorism insurance generates market demand, and with additional research, models for terrorism risk can be developed to facilitate underwriting terrorism risk. While this is true, the unpredictable nature of terrorism risk makes it impossible to price at a level that will promote widespread purchasing of terrorism insurance.

#### A. Terrorism is Unpredictable

Although there is a functioning market for terrorism insurance and reinsurance in the U.S., the Federal backstop is necessary to keep the market functioning. Fundamentally, even though there has been a great deal of research since 2001, terrorism risk is still highly unpredictable.<sup>31</sup> Acts of terrorism are deliberate, not accidental, undertaken with the intention of generating fear.<sup>32</sup> Terrorists may act in ways that are unexpected in order to generate greater fear,<sup>33</sup> and have shown an increased willingness to attack “soft” targets.<sup>34</sup> Terrorists’ willingness to

carry out suicide attacks makes it more difficult to predict their behavior.<sup>35</sup> There is a relatively small amount of historical data on terrorism,<sup>36</sup> and those data are limited by the broad range of cultural, operational, and ideological differences in terrorist groups.<sup>37</sup> Furthermore, what data there are may be unavailable to insurance underwriters because of national security and law enforcement concerns.<sup>38</sup> While progress has been made in modeling terrorism risk<sup>39</sup> (in particular, the scope of damages from various terrorism scenarios), a 2014 review of current modeling efforts by the RAND Corporation, an independent research institute, concluded that “fundamental assumptions limit the validity of these [terrorism] models for predicting the future expected losses from the full range of terrorist events accurately enough to support an actuarial assessment of terrorism risk.”<sup>40</sup>

#### B. Unpredictability Affects Prices and Availability

Because terrorism is so unpredictable and could lead to catastrophic losses, insurers have difficulty in determining an appropriate price for the coverage and the amount of capital reserves that should be maintained for the risk.<sup>41</sup> The Federal backstop limits insurers’ risk to the individual insurers’ deductibles (collectively about \$36 billion) and the copayment (currently 15% which will move in time to 20%), which makes insurers more willing to underwrite terrorism insurance and to charge lower prices.<sup>42</sup>

Insurance Act at 15-16 (2005) [hereinafter RAND I].

35 See Whitepaper at 3; see also WHARTON, supra note 32, at 55-56.

36 See Robert P. Hartwig, Reauthorizing TRIA: The State of the Terrorism Risk Insurance Market at 19 (September 25, 2013) (testimony before the US Senate Committee on Banking, Housing and Urban Affairs) ([http://www.banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore\\_id=8213e203-2743-4c66-a58d-6664c82c6857](http://www.banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=8213e203-2743-4c66-a58d-6664c82c6857)) (last visited on March 13, 2014).

37 See Whitepaper, supra note 2, at 3; WHARTON, supra note 32, at 58.

38 See Whitepaper, supra note 2, at 3; WHARTON, supra note 32, at 53-54.

39 RAND II, supra note 29, at 11.

40 RAND II, supra note 29, at 12. The fundamental assumptions that limit validity of the models are that there are a finite set of attack scenarios and that the intentions and capabilities of terrorism groups can be predicted. In fact, the possible range of scenarios is limitless and it is impossible to predict the intentions and capabilities of all individuals and groups that might undertake a terrorist act. Id. Another important limitation of the modeling pointed out by RAND is that validity and reliability of the models are completely untested. Id. This problem led the U.S. National Academic of Sciences to conclude, “after reviewing a wide range of terrorism risk models at the Department of Homeland Security . . . that it ‘did not find any Department of Homeland Security [terrorism] risk analysis capability and methods that are yet adequate for supporting decisionmaking.’” Id. at 11-12 (citing National Research Council, Department of Homeland Security Bioterrorism Risk Assessment (National Academy Press, 2008)).

41 See Whitepaper, supra note 2, at 4; see also WHARTON, supra note 32, Chapter 3.2. For additional analysis of the impact of the unpredictable nature of terrorism on availability of terrorism insurance in the U.S. market, see Thomas Russell & Jeffrey E. Thomas, Government Support for Terrorism Insurance, 15 CONN. INS. L.J. 183 (2008).

42 See Whitepaper, supra note 2, at 4; see also Hartwig, supra note 36, at 11. The historical experience when TRIA was adopted supports this analysis. Insurers re-entered the market, prices dropped, and take-up rates went up. See RAND I, supra note 34, at 7.

29 See Henry H. Willis, Omar Al-Shahery, National Security Perspectives on Terrorism Risk Insurance in the United States at iv (RAND Corporation March 2014) [hereinafter RAND III].

30 See, e.g., David C. John, TRIA: Time to End the Program, Testimony before the Subcommittee on Insurance, Housing and Community Opportunity, Committee on Financial Services, U.S. House of Representatives (September 11, 2012) (available at <http://www.heritage.org/research/testimony/2012/09/terrorism-risk-insurance-act-time-to-end-the-program>) (last visited March 22, 2014). For a more nuanced criticism of the U.S. terrorism insurance program on the grounds of economic inefficiency, see Anne Gron & Alan O. Sykes, Terrorism and Insurance Markets: A Role for the Government as Insurer?, 36 IND. L. REV. 447 (2003); Saul Levmore & Kyle Logue, Insuring Against Terrorism - and Crime, 102 Mich. L. Rev. 268, 296-306 (2003). Robert J. Rhee, Terrorism Risk in a Post-9/11 Economy: The Convergence of Capital Markets, Insurance and Government Action, 37 ARIZ. ST. L.J. 435 (2005).

31 See RAND II, supra note 29, at 8; see also Michelle E. Boardman, Known Unknowns: The Illusion of Terrorism Insurance, 93 Geo. L. J. 783, 812-824 (2005).

32 See Whitepaper at 3; see also WHARTON RISK MANAGEMENT AND DECISION PROCESS CENTER, TRIA AND BEYOND, at 13 (2005) [hereinafter WHARTON].

33 See Whitepaper at 3. This has been called the dynamic uncertainty problem. See WHARTON, supra note 32, at 52-53.

34 See Whitepaper at 3; see also Peter Chalk, Bruce Hoffman, Robert Reville, Anna-Britt Kasupski, Trends in Terrorism: Threats to the United States and the Future of the Terrorism Risk

This benefit of TRIA is particularly acute for risks with the highest level of damages because those are the most unpredictable.<sup>43</sup> An insured loss of \$100 billion would be one of historic proportions. It would be more than double the most significant insured loss in U.S. history, Hurricane Katrina, which caused \$47.4 billion in insured property damage (2012 dollars).<sup>44</sup> Insurers faced with such risks may seek to exclude terrorism from coverage as uninsurable, or, if they continue to insure for terrorism risk, they will likely charge much higher prices.<sup>45</sup> This is precisely what happened after the September 11 attacks. Because the scope of the risk turned out to be much greater than had previously been expected, reinsurers withdrew from the market and primary insurers sought, and obtained, approval from state regulators to exclude terrorism from coverage.<sup>46</sup> With the Federal backstop, however, prices have dropped to a level that most insureds are willing to pay. The “take-up” rate for terrorism insurance is relatively stable at about 60%.<sup>47</sup>

### C. Without the Federal Backstop, Prices for Terrorism Insurance Would Increase and Availability Would Decline

Both the current unpredictability and the historical experience with terrorism insurance coverage suggest that without the government backstop, the cost for terrorism insurance will go up and the availability (or “take-up” rates) will go down.<sup>48</sup> When the

43 See Rand II, supra note 12, at 14 (“the expected maximum losses from unconventional attacks—the types of attacks for which modeling capabilities are not valid and reliable—are likely to exceed this [\$27.5 billion Industry Aggregate Retention] threshold.”)

44 See Rand II, supra note 29, at 1, Table 1 (citing Property Claim Services, [http://www.iii.org/facts\\_statistics/catastrophes-us.html](http://www.iii.org/facts_statistics/catastrophes-us.html)).

45 See Erwann O. Michel-Kerjan, TRIA at Ten Years: The Future of Terrorism Risk Insurance Program at 7 (Sept. 11, 2012) (written testimony presented to the U.S. House Committee on Financial Services, Subcommittee on Insurance, Housing and Community Opportunity) (available at [http://opim.wharton.upenn.edu/risk/library/2012-09-11\\_TRIA-testimony\\_MichelKerjan.pdf](http://opim.wharton.upenn.edu/risk/library/2012-09-11_TRIA-testimony_MichelKerjan.pdf)) (last visited March 13, 2014).

46 See Whitepaper at 1 & nn. 4-5; see also Rand II, supra note 29, at 18 (“In the aftermath of the attacks, private reinsurers who had underwritten the largest portion of insured losses at the World Trade Center ceased to reinsure terrorism risk in the United States, and by February 2002 commercial exclusions for terrorism were approved for use in 45 states.”); Michel-Kerjan, supra note 45, at 4.

47 See RAND II, supra note 29, at 18. Weibel, supra note 5, at 11 (citing Marsh, Inc., 2013) Terrorism Risk Insurance Report at 12 (May 2013); Michel-Kerjan, supra note 45, at 5. It is worth noting, however, that a take-up rate of 60% means that 40% of insureds are not purchasing terrorism insurance so that in the event of a terrorism loss, those insureds will not have coverage. See id. Virtually 100% of the losses from the September 11 attacks were covered by insurance because terrorism was not excluded. Id.

48 See RAND II, supra note 29, at 18-19 (noting that “industry experts project significant contraction of the amount of terrorism insurance offered if TRIA were not to be renewed”); Hartwig, supra note 36, at 11 (noting that “Aon estimates that 70% to 80% of the market would encounter terrorism exclusions if the program were discontinued”); Rodd Zolkos, Risk Managers Fear Insurance Gaps if TRIA is Allowed to Lapse: Survey, Business Insurance (Oct. 29, 2013) (44.9% of risk professionals reported that allowing the Federal backstop to expire would decrease their terrorism coverage limits and 23.8% report that they think terrorism coverage would not be available without the Federal backstop); Marsh Risk Management

program was up for renewal at the end of 2014, some insurers started excluding terrorism losses on renewal policies with terms that extended into 2015.<sup>49</sup>

## IV. Comparison of the U.S. Approach With Other Countries Facing Terrorism Risk

### A. Many Countries Have Adopted Government Programs for Terrorism Insurance

In addition to the United States, at least ten other countries have significant government programs for terrorism insurance.<sup>50</sup> Many of these programs were set up following the September 11 attacks,<sup>51</sup> although some programs pre-date September 11, 2001, such as the program in the U.K., which was started in 1992 in response to I.R.A. bombings in London,<sup>52</sup> the program in Israel that was started in 1961 to provide compensation for

Research, Market Update, 2013 Terrorism Risk Insurance Report at 19 (May 2013) (projecting that because of finite capacity of the stand-alone terrorism market, the cost of terrorism insurance could be five to ten times higher than under the Federally-backed terrorism program, and that capacity in some areas could be so limited that only 10% of the current Federally-backed terrorism insurance would be available in the stand-alone market) (available at <http://www.insureagainstterrorism.org/MMC%20TRIA%20Report%2004-2013.pdf>) (last visited March 24, 2014). ([http://www.businessinsurance.com/article/20131029/NEWS06/131029801?tags=\[59|306|338|76|339|313|340|302|83|88\]](http://www.businessinsurance.com/article/20131029/NEWS06/131029801?tags=[59|306|338|76|339|313|340|302|83|88])) (last visited March 13, 2014). For a more general argument that continued Federal involvement is essential, see Laura M. Reiter, The Need for a Long-Term Federal Backstop in the Terrorism Insurance Market, 2 BROOK. J. CORP. FIN. & COM. L. 243 (2007).

49 See, e.g., Arthur D. Postal, Market is Already Reacting to Possible Inaction on TRIA, Industry Rep Says, PropertyCasualty 360 (February 25, 2014) (<http://www.propertycasualty360.com/2014/02/25/market-is-already-reacting-to-possible-inaction-on-tria>) (last visited March 13, 2014); Brian J. Green, The Future of TRIA, Risk Management Magazine (February 20, 2014) (“Insurers have issued, and are continuing to issue, policies that extend beyond the program’s expiration at the end of the year. They are also including conditional language for the post-Dec. 31 period in which TRIA may not exist, or may not exist on its current terms. But some insurers are not offering post-Dec. 31 terrorism coverage at all.”) (available at <http://www.rmmagazine.com/2014/02/20/the-future-of-tria/>) (last visited March 25, 2014); Unease Over Terror Insurance Rattles Market, Commercial Mortgage Alert (November 1, 2013) (“Zurich North America told insurance brokers and consultants this week that starting in January, policyholders will be notified that their terrorism coverage could be altered, or premiums increased, if the government program lapses. A recent memo from Liberty Mutual was more direct, saying if the program isn’t renewed, it will end coverage for certain terrorist acts.”) (available at <http://www.cmalert.com/headlines.php?hid=182897>) (last visited March 25, 2014); Prepared Remarks of Ethan Sonnichsen, National Association of Insurance Commissioners, Financial Services Panel Series: “The Reauthorization of the Terrorism Risk Insurance Act: A Panel Discussion”, National Association of Insurance Commissioners & The Center for Insurance Policy and Research (“Indeed, insurance regulators around the country are already being asked to review policy exclusions for 2014 contracts that dramatically reduce coverage if TRIA is not reauthorized.”) ([http://www.naic.org/documents/government\\_relations\\_tria\\_reauth\\_panel\\_discussion.pdf](http://www.naic.org/documents/government_relations_tria_reauth_panel_discussion.pdf)).

50 See Airmic Technical, Terrorism Insurance Review at 5 (2013) (Australia, Belgium, France, Germany, Israel, Netherlands, Northern Ireland, South Africa, Spain, United Kingdom, United States). For additional historical and legal analysis of programs in Spain, the United Kingdom, and France, see Tara Zager, Note, Terrorism Coverage and the United States Insurance Industry: An International Inquiry in Search of a Long-Term Solution, 53 DRAKE L. REV. 545, 563-572 (2005).

51 Id. at 6.

52 See Michel-Kerjan, supra note 45, at 9; see also Weibel, supra note 5, at 8.



war and terrorism-related losses,<sup>53</sup> and the program in Spain started in 1954 to cover a variety of extraordinary risks, including terrorism.<sup>54</sup> Although terms and conditions vary considerably,<sup>55</sup> nearly all of these programs operate as reinsurance<sup>56</sup> with some form of government involvement,<sup>57</sup> often with the government acting as a guarantor of the fund.<sup>58</sup>

#### **B. The U.S. Approach is the Most Market-oriented of the Major Government Programs**

The U.S. approach to terrorism insurance makes greater use of market mechanisms than the approaches taken by other developed countries facing substantial terrorism risk. As explained above, the relatively high insurer retentions (20% of directed earned premiums as a deductible and a copayment of 15% that will increase over time to 20%) create an incentive for the development of private terrorism reinsurance. Because the programs in other countries are meant to provide reinsurance rather than to create a backstop with a space underneath for a private reinsurance market, the insurer retentions are much lower. In the U.K., for example, the industry retention is UK£ 100 million (approximately US\$ 166 million) per event, UK£ 200 million (US\$ 332 million) per year, with an individual insurer bearing a portion of that industry retention according to its level of participation in the pool.<sup>59</sup> In France, the industry retention is € 400 million (US\$ 363 million) shared between 105 members of the pool in proportion to the amount of ceded business.<sup>60</sup> While this is a little higher than the retention in the U.K., on an average the retention is only about € 4 million (US\$ 4.4 million) per insurer. In Australia, the industry retention is only AD\$ 10 million

(US\$ 7.31 million), with each insurer retaining the lesser of AD\$1 million (US\$ 731,000) or 4% of their gross property revenue.<sup>61</sup> With such low industry retentions (and in the case of France, with mandatory terrorism coverage), there is no space in the market for private reinsurers to operate.

In some countries, the terrorism program is even more intrusive on the private market. In Israel, which has had a program since 1961, the program is a government compensation system that operates like primary insurance.<sup>62</sup> Although not a government program per se, in Germany the government founded a private insurance company, Extremus AG, which provided € 450 billion of terrorism coverage to more than 1000 firms.<sup>63</sup> This company is completely reinsured, with the first € 2 billion layer provided by private companies and the next € 8 billion reinsured by the German government.<sup>64</sup> Spain also offers what amounts to primary insurance that covers terrorism risk, but does so through a government-managed fund,<sup>65</sup> which is sold by insurance producers as an add-on to property insurance.<sup>66</sup> The Spanish program was developed initially to provide compensation to victims of the Spanish Civil War (1936-1939).<sup>67</sup> It provides coverage for a number of extraordinary risks that the private market will not cover.<sup>68</sup> Because these programs operate at the primary insurance level and have government backing, they displace private insurance at both the primary and reinsurance level.

#### **C. Other Countries' Experience with Terrorism Risk Shows Government Involvement is Necessary**

Amongst developed countries, Austria is the only country in which a terrorism pool has developed without government sponsorship and backing,<sup>69</sup> but this pool provides such limited coverage that it shows that the private market is not a meaningful alternative to a government-sponsored program. The amount of coverage available through the Austrian pool is only € 5 million (US\$ 5.51 million) per policy per location with a maximum of

53 See Michel-Kerjan, *supra* note 45, at 8.

54 See *id.*; see also Webel, *supra* note 5, at 8.

55 For a comparison of the terms and conditions of various governmental programs, see generally airmic Technical, *supra* note 50. See also Willis, *International Alert, Terrorism Coverage in Key Countries* (Sept. 2012) (available at [http://www.willis.com/documents/publications/Services/International/2012/Intl\\_Terrorism\\_Alert\\_0912\\_v2.pdf](http://www.willis.com/documents/publications/Services/International/2012/Intl_Terrorism_Alert_0912_v2.pdf)); *Terrorism coverage schemes - A comparative table* (available at [http://www.ccrif.org/partnerships/WFCP/Sessions/Day2/Alfonso\\_Najera\\_Terrorism\\_Handout\\_WFCP\\_Meeting\\_Oct\\_2011.pdf](http://www.ccrif.org/partnerships/WFCP/Sessions/Day2/Alfonso_Najera_Terrorism_Handout_WFCP_Meeting_Oct_2011.pdf)).

56 See airmic Technical, *supra* note 50, at 9.

57 The government is involved in nine out of ten of the most significant programs. See *id.* at Appendix A, 17-36. The one exception is Austria, but it should be noted that the limits of the Austrian pool are € 100 million, which is nearly 1/1000th of the coverage afforded by TRIA and represents an amount that in the U.S. is borne by the insurance industry, not the government, because for TRIA to apply, losses must exceed \$100 million, see 15 U.S.C. § 6701, *Terrorism Insurance Program* § 103(e)(1)(B)(ii).

58 See Webel, *supra* note 5, at 8-9 (Spain's program is a government-owned reinsurer, U.K. and Germany have a private reinsurers established by the government with government backing); see generally airmic Technical, *supra* note 50, Appendix A, at 17-36 (providing details on ten countries' approach to terrorism risk).

59 See Michel-Kerjan, *supra* note 45, at 10.

60 *Id.* at 9.

61 See airmic Technical, *supra* note 50, at 18.

62 See Michel-Kerjan, *supra* note 45, at 8.

63 See *id.* at 10.

64 *Id.*

65 See airmic Technical, *supra* note 50, at 31.

66 See Michel-Kerjan, *supra* note 45, at 8.

67 See airmic Technical, *supra* note 50, at 31.

68 See Michel-Kerjan, *supra* note 45, at 8; airmic Technical, *supra* note 41, at 31.

69 See airmic Technical, *supra* note 50, at 19-20.



€200 million (US\$ 220 million).<sup>70</sup> This shows the unwillingness of insurers, even in a large pool, to take on terrorism risk at catastrophic levels. The amount of coverage available in Austria is less than 1% of the estimated amount of the insurance industry retention under the U.S. terrorism program,<sup>71</sup> and is barely more than 1% of insured property losses from the September 11 attacks.<sup>72</sup> This coverage is much more limited than that provided by other government programs for terrorism insurance, and shows that government involvement in the terrorism insurance market is necessary for broad coverage.<sup>73</sup>

## V. Advantages to the U.S. Approach to Terrorism Insurance

### A. The Program has Promoted Terrorism Insurance

In the U.S. a market for terrorism has developed underneath the Federal backstop.<sup>74</sup> The industry retention and insurer deductibles created an incentive for the market to develop, but without the backstop insurers would not have been willing to take on high levels of terrorism risk. Thus, the backstop, as a government-supported pool to cover the most catastrophic losses, facilitated the development of the market for terrorism insurance. If the program is not extended, the insurance industry will be unwilling to continue to cover terrorism risk at current levels.<sup>75</sup> Insurers left the market in 2001 after the September 11 attacks,<sup>76</sup> in 2006 when there was a possibility of non-renewal,<sup>77</sup> and were in the process of leaving the market just before the program was renewed in 2015.<sup>78</sup>

The necessity of government involvement is also demonstrated by the experience of other countries facing terrorism risk. Only

those countries with significant government involvement have robust terrorism coverage.<sup>79</sup> In Austria, the only country with an industry-sponsored program without government involvement, coverage is limited to € 200 million, only about 1% of the covered property losses from the September 11 attacks.<sup>80</sup>

### B. The Cost of the Program is Modest and Reasonable

Some critics have suggested that the U.S. terrorism insurance program is too costly. Although the Congressional Budget Office estimated that extending the terrorism insurance program would “increase direct spending by \$3.1 billion over the 2008-2012 period and by \$6.6 billion over the 2008-2017 period [with an] . . . additional \$1.1 billion” to be spent after 2017,<sup>81</sup> these figures assumed that the program would pay out on average about \$2.3 billion annually.<sup>82</sup> In fact, there have been no payments made under the Federal terrorism insurance program since its inception in 2002.<sup>83</sup> Thus, the actual costs under the program have been negligible.

At the other end of the spectrum, some have criticized the program on the ground that the Federal backstop is provided “for free.” Those covered by the program receive the benefit of the backstop without paying for it, and therefore some characterize this as a kind of government subsidy. The CBO estimated that the value of this benefit, using insurance principles, would be approximately \$1.1 billion per year.<sup>84</sup> Although one might suggest that there should be some kind of “premium” for participation in the U.S. program, which would be consistent with the approach taken in other countries, this would divert capital from the market for a risk that is highly unpredictable. By comparison, in the U.K. insurers pay the pool 0.03% or 0.006% of their property premiums depending on the location of the property,<sup>85</sup> resulting in current reserves of approximately £4.7 billion (US\$7.34 billion).<sup>86</sup>

70 See *id.*

71 Using NAIC data on insurance industry direct earned premiums, the Congressional Research Service estimated that, in the aggregate, the 20% directed earned premium insurer retention under the terrorism insurance program was equivalent to about \$36 billion. See Webel, *supra* note 5, at 5. If 278 million (Austrian pool's maximum) is divided by 36 billion, it comes to 0.00772, or 0.772%.

72 The RAND II study notes that the insured property losses from the September 11 attacks were \$23.9 billion, see RAND II, *supra* note 29, at 1 (this does not include non-property losses, which pushed the total to more than \$32 billion). If 278 million (Austrian pool's maximum) is divided by 23.9 billion, it comes to 0.01163, or 1.163%.

73 See Tara Zager, Note, *Terrorism Coverage and the United States Insurance Industry: An International Inquiry in Search of a Long-Term Solution*, 53 *DRAKE L. REV.* 545 (2005).

74 See *supra* § I.E.

75 An economic analysis conducted by Paul Raschky and Erwann O. Michel-Kerjan from the Wharton School Center for Risk Management and Decision Processes showed that under the current program insurers are much less diversified for terrorism risk than other kinds of coverage, which shows that insurers have provided much more capacity to the terrorism market than they would have without the Federal backstop. See Michel-Kerjan, *supra* note 45, at 6.

76 See Whitepaper, *supra* note 2, at 1; Wedel, *supra* note 5, at 9-10.

77 See Whitepaper, *supra* note 2, at 2-3 nn. 13-14 (citing survey data).

78 See *supra* note 40.

79 See *supra* § III.A.

80 See *supra* nn. 61-63 and accompanying text.

81 Congressional Budget Office Cost Estimate, *Terrorism Risk Insurance Program Reauthorization Act of 2007 at 1* (October 29, 2007) (available at <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/87xx/doc8761/triasenate.pdf>) (last visited March 24, 2014).

82 *Id.* at 6.

83 American Academy of Actuaries, Statement to President's Working Group on Financial Markets: *Terrorism Risk Insurance Analysis at 4* (available at [http://actuary.org/files/Terrorism\\_Risk\\_Insurance\\_Subcommittee\\_Comments\\_to\\_Treasury\\_on\\_TRIA\\_9.16.13\\_0.pdf](http://actuary.org/files/Terrorism_Risk_Insurance_Subcommittee_Comments_to_Treasury_on_TRIA_9.16.13_0.pdf)) (last visited March 24, 2014).

84 Congressional Budget Office Cost Estimate, *supra* note 71, at 7.

85 See *airmic Technical*, *supra* note 50, at 34.

86 See Michel-Kerjan, *supra* note 45, at 10.

On the one hand, while it might be considered prudent to create reserves for a terrorist incident, those reserves would take capital away from other potentially more productive uses. Moreover, the basis for setting a reserve of any particular amount is, at best, speculative. If the U.S. were to collect premiums and maintain reserves for its program, this would be an even greater market intrusion than the Federal backstop. It would require underwriting decisions about the price of the benefits provided by the program, which would be extremely difficult to do accurately because of the unpredictability of terrorism risk.

Instead of setting the price for participation in the program *ex ante*, the Federal backstop uses the recoupment mechanism to set the “price” for benefits of the pooling mechanism after a terrorist event. This makes the ultimate cost of the program much more accurate than an *ex ante* approach. Depending on the circumstances, the Secretary of Treasury may be required to impose up to a 3% premium surcharge on property and casualty insurance, or may have discretionary authority to determine the particulars of the surcharge.<sup>87</sup> For those years where there are no certified terrorist incidents (that is, for nearly 15 years of the program, from 2001 until the present), the cost of the program has been minimal. For those years in which there is a terrorism incident, the government may recover some or all of its costs, or in some scenarios, recover even more than it spends. For example, the Congressional Research Service estimated that a terrorism incident with covered losses of \$27.5 billion would require the Federal government to pay \$16.4 billion, but would generate \$21.8 billion in recoupment, for an excess of \$5.4 billion.<sup>88</sup>

Of course, not all scenarios would generate a surplus for the government. In the event of a terrorism incident that causes \$100 billion in insured losses, the Congressional Research Service estimates that the Federal government’s share of the losses would be \$59.5 billion, none of which would be subject to mandatory recoupment.<sup>89</sup> The amount would be subject to discretionary recoupment, which would be determined by the Secretary of the Treasury (discussed in Section II).<sup>90</sup> This could leave a substantial

burden on taxpayers, but a terrorism event of this size would be unprecedented. Consequently, even if the terrorism insurance program was not in operation, it is likely that the Federal government would step in and provide disaster assistance.<sup>91</sup> If one assumes that the government would step in, the terrorism program has the benefit of encouraging insurers to participate at some level thereby reducing the Federal government’s costs by some \$40 billion in a worst-case scenario. In addition, the industry retention in the terrorism insurance program promotes market mechanisms to encourage pre-event planning,<sup>92</sup> and provides some administrative capacity for claims processing.

### **C. The Program is not “Corporate Welfare” for Insurance Companies**

Because of the low cost of the program to insurers, some have suggested that the U.S. terrorism insurance program is a kind of “corporate welfare.”<sup>93</sup> That phrase is used as a kind of *ad hominem* attack on programs that are seen as providing a government benefit for large companies. The pejorative notion of “welfare” is the use of government power for a kind of wealth-transfer from taxpayers to corporations. In this case, there is not a wealth transfer from taxpayers to insurers because insurers, in a free market, would be free to exclude terrorism coverage from their policies. While it is true that the Federal backstop provides a pooling mechanism for high levels of terrorism risk, which provides sufficient protection for insurers to undertake some insurance of terrorism risk, and which enables the insurers to receive the benefit of premiums for insurance they sell, the recoupment mechanism in the program puts the cost of the program back on insurers. Those covered by insurance receive a more direct benefit from the U.S. terrorism insurance program than do insurers (who otherwise would just exclude terrorism risk), but insureds also would pay the premium taxes used to recoup the cost of Federal payments after a terrorist attack.<sup>94</sup>

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91 Cf. Michel-Kerjan, *supra* note 45, at 7 (predicting that the President would likely declare a disaster and provide Federal assistance in the event of substantial terrorism losses that are uninsured); see also Levmore & Logue, *supra* note 30, at 278-295.

92 See Whitepaper, *supra* note 2, at 5-6.

93 See, e.g., Robert J. Rhee, *The Terrorism Risk Insurance Act: Time to End the Corporate Welfare*, Policy Analysis (Cato Institute, September 10, 2013) (available at <http://www.cato.org/publications/policy-analysis/terrorism-risk-insurance-act-time-end-corporate-welfare>) (last visited March 26, 2014).

94 For an argument that the government-industry partnership is the optimum approach and should continue, see Alexia Brunet Marks, *Under Attack: Terrorism Risk Insurance Regulation*, 89 N.C. L. REV. 387 (2011).

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87 See *supra* §I.D.

88 See Weibel, *supra* note 5, at Appendix, Table A-1, at 16.

89 See *id.*

90 See *supra* note 21.

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The U.S. program, while using the market mechanism to some extent, retains some risk for the U.S. government. This is appropriate from an actuarial standpoint because the government is in the best position to combat terrorism through the use its intelligence services, law enforcement, and military power. All taxpayers provide financial support for these efforts and benefit from them. The Federal backstop for terrorism insurance is a reasonable extension of these efforts, especially when the private sector cannot get access to intelligence and law enforcement information about terrorism that might be used for modeling purposes.<sup>95</sup> Because the government has better access to the information about terrorism risk, and is in a better position than those in the private sector to reduce that risk, it is reasonable that the government should bear some of the consequences of terrorism risk.

## VI. Conclusion

The U.S. terrorism insurance program has been successful. The Federal backstop has provided a risk pooling mechanism to address the catastrophic risks associated with some terrorist activities, while at the same time leaving insurers with enough "skin in the game" to create an incentive for a private market to develop underneath the backstop. Although the U.S. has been fortunate that it has not been subject to any major terrorist events since the September 11th attacks, the nature of terrorism risk is still highly unpredictable and potentially catastrophic. While insurers have become more willing to put up some of their capital to cover terrorism risk, the market would likely collapse or at least severely constrict without the U.S. program. The catastrophic levels of risk for terrorism, combined with its unpredictability, would cause insurers to limit the amount of terrorism risk that they are willing to underwrite, which will reduce coverage and increase prices. While some assert that without the Federal backstop the market will provide sufficient terrorism insurance, these assertions appear to be based on ideological "faith" in market principles rather than any empirical evidence. The historical evidence, current actions of insurers, and the evidence from other countries shows that the market operating without any government support will provide low levels of terrorism insurance coverage, if any, at much higher cost. By extending the program, the U.S. will maintain significant levels of insurance protection for terrorism.

Not surprisingly, the cultural commitment in the U.S. to free markets has resulted in a program that makes greater use of market forces than most of the government programs for terrorism insurance in the world. While this is in part a cultural phenomenon, it also captures some of the benefits of the market while still using the power of the government to reduce prices and promote terrorism insurance. Because of significant insurer retentions and copayments, they have an incentive to improve modeling, to develop underwriting practices, and to purchase reinsurance. In addition, involvement of private insurers takes advantage of their claims adjusting resources and infrastructure in the event of a terrorism loss. The other distinctive feature of the U.S. program is its use of an ex post structure with recoupment rather than ex ante payment of premiums. This avoids underwriting difficulties caused by the unpredictable nature of terrorism risk, and prevents the diversion of capital to a highly uncertain and unpredictable risk, which is likely to be less efficient than allowing that capital to be used in other ways.

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<sup>95</sup> See Whitepaper, supra note 2, at 3-4.

## References

- ABA Taskforce on Federal Involvement in Insurance Modernization, 2006.** "Whitepaper on Renewal of TRIA," report of the Taskforce.
- Airmic Technical, 2013.** "Terrorism Insurance Review," Report on international terrorism insurance approaches.
- Boardman, M.E., 2005.** "Known Unknowns: The Illusion of Terrorism Insurance," Georgetown Law Journal 93, 783-844.
- Boran, M., 2003.** "To Insure or Not to Insure, That is the Question: Congress' Attempt to Bolster the Insurance Industry After the Attacks on September 11," Saint John's Journal of Legal Commentary 17, 523-584.
- Chalk, P., Hoffman, B., Reville, R., and Kasupski, A., 2005.** "Trends in Terrorism: Threats to the United States and the Future of the Terrorism Risk Insurance Act," RAND Corporation report.
- Congressional Budget Office, 2007.** "Federal Reinsurance for Terrorism Risks: Issues in Reauthorization," Report of the CBO.
- Congressional Budget Office, 2005.** "Federal Terrorism Reinsurance: An Update," Report of the CBO.
- Dhooge, L.J., 2002.** "The Terrorism Insurance Market After September 11: The Case for Limited Federal Intervention," McGeorge Law Review 34, 27-62.
- Gron, A. and Sykes, A.O., 2003.** "Terrorism and Insurance Markets: A Role for the Government as Insurer?," Indiana Law Review 36, 447-463.
- Hartwig, R., 2013.** "Reauthorizing TRIA: The State of the Terrorism Risk Insurance Market," testimony before the U.S. Senate Committee on Banking, Housing and Urban Affairs.
- Hartwig, R. and Wilkinson, C., 2013.** "Terrorism Risk: A Constant Threat, Impacts for Property/Casualty Insurers," Insurance Information Institute report.
- John, D.C., 2012.** "TRIA: Time to End the Program," Testimony before the Subcommittee on Insurance, Housing and Community Opportunity, Committee on Financial Services, U.S. House of Representatives, available at <http://www.heritage.org/research/testimony/2012/09/terrorism-risk-insurance-act-time-to-end-the-program>.
- Kaptzis, I.S., 2004.** "Looking Beyond the Sunset: International Perspectives on the Terrorism Risk Insurance Act of 2002 and the Issue of its Renewal," Brooklyn Journal of International Law 29, 827-896.
- Kendall, J., 2002.** "Comment: The Incalculable Risk: How the World Trade Center Disaster Accelerated the Evolution of Insurance Terrorism Exclusions," University of Richmond Law Review 36, 569-596.
- Kunreuther, H., 2015.** "The Role of Insurance in Reducing Losses from Extreme Events: The Need for Public-Private Partnerships," Geneva Papers on Insurance, Presentation at the International Insurance Society Global Insurance Forum.
- Levmore, S. and Logue, K., 2003.** "Insuring Against Terrorism - and Crime," Michigan Law Review 102, 268-327.
- Manns, J., 2003.** "Insuring Against Terror?," Yale Law Journal 112, 2509-2551.
- Marks, A.B., 2011.** "Under Attack: Terrorism Risk Insurance Regulation," North Carolina Law Review 89, 387-446.
- Marsh Risk Management Research, 2013.** "Market Update, 2013 Terrorism Risk Insurance Report," available at <http://www.insureagainstterrorism.org/MMC%20TRIA%20Report%2004-2013.pdf>.
- Michel-Kerjan, E.O., 2012.** "TRIA at Ten Years: The Future of Terrorism Risk Insurance Program," Testimony before the U.S. House Committee on Financial Services, Subcommittee on Insurance, Housing, and Community Opportunity, available at [http://opim.wharton.upenn.edu/risk/library/2012-09-11\\_TRIA-testimony\\_MichelKerjan.pdf](http://opim.wharton.upenn.edu/risk/library/2012-09-11_TRIA-testimony_MichelKerjan.pdf).
- Mills, H., 2005.** "Federal Assistance in Assuring that Insurance for Terrorist Acts Remains Available to American Consumers," Testimony before the U.S. Senate Committee on Banking, Housing and Urban Affairs.
- Neuwelt, A.S., 2003.** "The Impact of September 11 on Terrorism Insurance: Comparing Senate Bill 2600, House of Representatives Bill 3210, and the United Kingdom's Pool Re.," ILSA Journal of International and Comparative Law 9, 473-499.
- Orlans, A.R., 2003.** "Terrorism and Commercial Real-Estate: The New Frontier," North Carolina Banking Institute 7, 93-124.
- Pietanza, E., 2003.** "Winning the Risky Global Business Game; Parrying the Thrusts of Terrorism with an International Insurance Coalition," California Western International Law Journal 34, 85-113.
- President's Working Group Report on Financial Markets, 2006.** "Terrorism Risk Insurance," PWG report.
- Reiter, L.M., 2007.** "The Need for a Long-Term Federal Backstop in the Terrorism Insurance Market," Brooklyn Journal of Corporate, Financial and Commercial Law 2, 243-265.
- Rhee, R.J., 2014.** "The Terrorism Risk Insurance Act: Time to End the Corporate Welfare," Cato Institute Policy Analysis.
- Rhee, R.J., 2005.** "Terrorism Risk in a Post-9/11 Economy: The Convergence of Capital Markets, Insurance and Government Action," Arizona State Law Journal 37, 435-533.
- Risk Management Solutions, Inc., 2005.** "A Risk-Based Rationale for Extending the Terrorism Risk Insurance Act," Report by the group.
- Russell, T., and Thomas, J.E., 2008.** "Government Support for Terrorism Insurance," Connecticut Insurance Law Journal 15, 183-209.
- Smetters, K., 2004.** "Insuring Against Terrorism: The Policy Challenge," The Wharton School and NBER.
- Thomas, J.E., 2009.** "The Terrorism Risk Insurance Act: An Industry-Government Partnership," SUM Brief 38, 24-35.
- Thomas, J.E., 2003.** "Exclusion of Terrorist-Related Harms from Insurance Coverage: Do the Costs Justify the Benefits?," Indiana Law Review 36, 397-423.
- Thomas, J.E., 2002.** "Insurance Implications of September 11 and Possible Responses," Urban Lawyer 34, 727-755.
- Thomas, R.L., 2004.** "Underwriting Terrorism Risk," Saint John's Journal of Legal Commentary 18, 497-509.
- United States General Accounting Office, 2004.** "Terrorism Insurance: Implementation of the Terrorism Risk Insurance Act of 2002," Report of the office. Report to Congress.
- United States General Accounting Office, 2002.** "Terrorism Insurance: Rising Uninsured Exposure to Attacks Heightens Potential Economic Vulnerabilities," Statement of Richard J. Hillman, Director of Financial Markets and Community Investment.
- United States General Accounting Office, 2001.** "Terrorism Insurance: Alternative Programs for Protecting Insurance Consumers," Statement of Thomas J. McCool, Director of Financial Markets and Community Investment.
- United States Government Accountability Office, 2014.** "Terrorism Insurance: Treasury Needs to Collect and Analyze Data to Better Understand Fiscal Exposure and Clarify Guidance," Report to Congress.
- United States Government Accountability Office, 2008.** "Terrorism Insurance: Status of Coverage Availability for Attacks Involving Nuclear, Biological, Chemical, or Radiological Weapons," Report to Congress.
- United States Government Accountability Office, 2006.** "Terrorism Insurance: Measuring and Predicting Losses from Unconventional Weapons is Difficult, but Some Industry Exposure Exists," Report to Congress.
- United States Government Accountability Office, 2005.** "Catastrophe Risk: U.S. and European Approaches to Insure National Catastrophe and Terrorism Risks," Report to Congress.

---

**Warshawsky, M.J., 2002.** "Need for Federal Terrorism Insurance Assistance," testimony before the Financial Services Subcommittee on Oversight and Investigation, United States House of Representatives.

**Wharton Risk Management and Decision Process Center, 2005.** "TRIA and Beyond," Report of the center.

**Webel, B., 2014.** "Terrorism Risk Insurance: Issue Analysis and Overview of Current Program," Congressional Research Service.

**Willis, H.H. and Al-Shahery, O., 2014.** "National Security Perspectives on Terrorism Risk Insurance in the United States," RAND Corporation report.

**Zager, T., 2005.** "Note, Terrorism Coverage and the United States Insurance Industry: An International inquiry in Search of a Long-Term Solution," Drake Law Review 53, 545-573.