Statement of

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Mr. Chairman, Ranking Member, and Members of the subcommittees, thank you for the opportunity to testify before you today. My name is Baird Webel. I am a Specialist in Financial Economics at the Congressional Research Service (CRS) focusing on nonhealth insurance issues including terrorism risk insurance. I have been in this role at CRS since 2003 and have covered the previous reauthorizations of the Terrorism Risk Insurance Act (TRIA). CRS's role is to provide objective, nonpartisan research and analysis to Congress. CRS takes no position on the desirability of any specific policy. Any arguments presented in my written and oral testimony are for the purposes of informing Congress, not to advocate for a particular policy outcome.

My testimony today will begin with a brief introduction and overview of TRIA and a discussion of significant policy concerns from past reauthorizations that may inform the current debate. I will then provide a general background on terrorism insurance and the terrorism insurance market pre- and post-TRIA, and conclude with a side-by-side comparison of previously enacted terrorism insurance laws, based on my previous work at CRS.[1]

Introduction

Prior to the September 11, 2001, terrorist attacks, insurance covering terrorism losses was normally included in commercial insurance policies without additional cost to the policyholders. The insured losses on all insurance lines from the September 11 attacks exceeded $45 billion in inflation-adjusted dollars, an amount well above other insurance industry experiences with terrorism losses. Following September 2001, insurers and reinsurers pulled back from offering terrorism coverage. Some observers feared that a lack of insurance against terrorism loss would have a wide economic impact, particularly because insurance coverage can be a significant factor in lending decisions.

Congress responded to the disruption in the insurance market by passing the Terrorism Risk Insurance Act of 2002 (P.L. 107-297). TRIA created a temporary three-year program to calm markets through a government reinsurance program sharing in terrorism losses. This program was intended to give the insurance industry time to gather the data and create the structures and capacity necessary for private insurance to cover terrorism risk.

TRIA did (and does) not cover terrorism losses directly but instead reimburses private insurers for a portion of their losses. The act does not require private insurers to pay premiums for the government coverage. However, it does require private insurers to offer commercial insurance for terrorism risk, which private insurers were not willingly offering prior to TRIA's enactment. In addition, TRIA provides that the government can recoup some or all federal payments under the act from insurers through a surcharge on insurance policies in the years following government coverage of insurer losses. TRIA is limited to commercial property and casualty insurance. It does not cover losses in health or life insurance, nor does it cover losses in personal property lines, such as homeowners insurance.

The original TRIA legislation's stated goals were to (1) create a temporary federal program of shared public and private compensation for insured terrorism losses to allow the private market to stabilize; (2) protect consumers by ensuring the availability and affordability of insurance for terrorism risks; and (3) preserve state regulation of insurance.

To meet the *first* goal, the TRIA program created a mechanism through which the federal government could share insured commercial property and casualty losses with the private insurance market.[2] The role

[1] These sections adapted from CRS Report R45707, *Terrorism Risk Insurance: Overview and Issue Analysis for the 116th Congress*, by Baird Webel.

[2] Commercial insurance is generally insurance purchased by businesses, in contrast to personal lines of insurance, which are purchased by individuals. This means damage to individual homes and autos, for example, would not be covered under the TRIA

of federal loss sharing depends on the size of the insured loss. For a relatively small loss, there is no federal sharing. For a medium-sized loss, the federal role is to spread the loss over time and over the entire insurance industry. The federal government provides assistance up front but then recoups the payments it made through a widespread surcharge on insurance policies afterward. For a large loss, the federal government is to pay most of the losses, although recoupment is possible (but not mandatory) in these circumstances as well. The precise dollar values where losses cross these small, medium, and large thresholds are uncertain and will depend on how the losses are distributed among insurers.[3]

TRIA addresses the *second* goal—to protect consumers—by requiring insurers that offer TRIA-covered lines of insurance to make terrorism insurance available prospectively to their commercial policyholders.[4] This coverage may not differ materially from coverage for other types of losses.

TRIA's *third* goal—to preserve state regulation of insurance—is expressly accomplished in Section 106(a), which provides that "Nothing in this title shall affect the jurisdiction or regulatory authority of the insurance commissioner [of a state]." The Section 106(a) provision has two exceptions, one permanent and one temporary (and expired): (1) the federal statute preempts any state definition of an "act of terrorism" in favor of the federal definition and (2) the statute briefly preempted state rate and form approval laws for terrorism insurance from enactment to the end of 2003. In addition to these exceptions, Section 105 of the law also preempts state laws with respect to insurance policy exclusions for acts of terrorism.

In the years following 2002, terrorism insurance became widely available and largely affordable, and the insurance industry greatly expanded its financial capacity. There has been, however, little apparent success in developing a longer-term private solution, and fears have persisted about the economic consequences if terrorism insurance were not available. Thus, although explicitly designed as a three-year program, TRIA has been extended three times—in 2005 (P.L. 109-144), in 2007 (P.L. 110-160), and in 2015 (P.L. 114-1). TRIA is currently set to expire at the end of 2020.

Congress has gradually adjusted the precise program details under TRIA, including the following:

- the program trigger, an aggregate minimum loss threshold below which no government loss-sharing occurs;
- the federal share of insured losses;
- the insurer deductible, an amount based on each insurer's premium volume; and

program. Property and casualty insurance generally includes most lines of insurance except for life insurance and health insurance. The TRIA statutory definition in §102(11) specifically excludes "(i) federal or private crop insurance; (ii) private mortgage insurance or title insurance; (iii) financial guaranty insurance issued by monoline insurers; (iv) medical malpractice insurance; (v) health or life insurance, including group life insurance; (vi) federal flood insurance; (vii) reinsurance or retrocessional reinsurance; (vii) commercial automobile insurance; (ix) burglary and theft insurance; (x) surety insurance; (xi) professional liability insurance; or (xii) farm owners multiple peril insurance."

[3] For example, for loss sharing to occur, an attack must meet a certain aggregate dollar value and each insurer must pay out a certain amount in claims—known as its deductible. For some large insurers, this individual deductible might be higher than the aggregate threshold set in statute, meaning that loss sharing might not actually occur until a higher level than the figure set in statute.

[4] Each terrorism insurance offer must reveal both the premium charged for terrorism insurance and the possible federal share of compensation. Policyholders are not, however, required to purchase coverage under TRIA. If a policyholder declines to purchase terrorism coverage, the insurer may exclude terrorism losses. Federal law does not limit what insurers can charge for terrorism risk insurance, although state regulators typically have the authority under state law to modify excessive, inadequate, or unfairly discriminatory rates. Although the purchase of terrorism coverage is not required under federal law, the interaction of TRIA and state laws on workers' compensation insurance results in most businesses being required to purchase terrorism coverage in workers' compensation policies.

- the insurer aggregate retention amount, the total losses to be retained by the insurers if there is post-event recoupment.

In most cases, the congressional changes have been designed to reduce the federal share of potential losses and increase private-sector contributions, with the exception of a change in 2007 that removed a requirement that covered terrorist events must be foreign in origin. In addition to these thresholds that have changed, the act's requirement that a single attack must cause a minimum of $5 million in insured damages to be certified under TRIA has remained unchanged.

The United States has suffered terrorist attacks since the passage of TRIA, but no acts of terrorism have been certified and no federal payments to insurers have occurred under TRIA. For example, although the April 2013 bombing in Boston was termed an "act of terror" by President Obama,[5] the insured losses in TRIA-eligible insurance from that bombing did not cross the $5 million statutory threshold to be certified under TRIA.

The administration of the TRIA program was originally left generally to the Treasury Secretary. The Dodd-Frank Wall Street Reform and Consumer Protection Act[6] created a new Federal Insurance Office (FIO) to be located within the Department of the Treasury. Among the FIO duties specified in the legislation was to assist the Secretary in administering the Terrorism Insurance Program.[7]

The criteria under the TRIA program in 2019 are as follows:

1. An individual act of terrorism must be certified by the Secretary of the Treasury, in consultation with the Secretary of Homeland Security and Attorney General; losses must exceed $5 million in the United States or to U.S. air carriers or sea vessels for an act of terrorism to be certified.
2. The federal government shares in an insurer's losses due to a certified act of terrorism only if "the aggregate industry insured losses resulting from such certified act of terrorism" exceed $180 million (increasing to $200 million in 2020).[8]
3. The federal program covers only commercial property and casualty insurance, and it excludes by statute several specific lines of insurance.[9]
4. Each insurer is responsible for paying a deductible before receiving federal coverage. An insurer's deductible is proportionate to its size, equaling 20% of an insurer's annual direct earned premiums for the commercial property and casualty lines of insurance specified in TRIA.
5. Once the $180 million aggregate loss threshold and 20% deductible are met, the federal government would cover 81% of each insurer's losses above its deductible until the amount of losses totals $100 billion.
6. After $100 billion in aggregate losses, there is no federal government coverage and no requirement that insurers provide coverage.
7. In the years following the federal sharing of insurer losses, but prior to September 30, 2024, the Secretary of the Treasury is required to establish surcharges on TRIA-eligible property and casualty insurance policies to recoup 140% of some or all of the outlays to

[5] The White House, "Statement by the President," press release, April 16, 2013, at http://www.whitehouse.gov/the-press-office/2013/04/16/statement-president.

[6] P.L. 111-203, 124 Stat. 1376.

[7] §502 of P.L. 111-203, codified at 31 U.S.C. §313(c)(1)(D).

[8] 15 U.S.C. §6701 note, §103(e)(1)(B).

[9] 15 U.S.C. §6701 note, §102(11).

insurers under the program. If losses are high, the Secretary has the authority to assess surcharges, but is not required to do so.

Possible Issues for TRIA Reauthorization

Although nearly two decades have passed since Congress considered terrorism insurance in the aftermath of September 11, 2001, the fundamental policy issues grappled with by Congress have remained largely the same: (1) Is a federal terrorism insurance program needed or can the private market adequately address terrorism risk? (2) If a federal program is needed, how should insurers share in funding terrorism risk? and (3) What should the program cover? Are there specific risks that need particular treatment under the program?

Is a Federal Terrorism Insurance Program Needed?

In the original act, the 107th Congress was quite clear that TRIA not be considered a permanent program, specifically describing it as "temporary" twice and terming its three-year span as a "transitional period for the private markets to stabilize, resume pricing of such insurance, and build capacity to absorb any future losses…."[10] Even the codification of P.L. 107-297 could be seen as reflecting this temporary nature; TRIA was added as a note to a code section relating to state insurance regulation, not as a separate section of its own.[11]

The market experience in the years since TRIA's initial passage has been much calmer than the year following September 11, 2001. Terrorism insurance coverage has been available at pricing sufficiently reasonable that take-up rates approach 80% in the latest Treasury data collections. This relative calm has extended into markets beyond terrorism insurance. Property and casualty insurers as a whole have increased their combined surplus from $408.6 billion (inflation adjusted) at the start of 2002 to $686.9 billion at the end of 2017.[12] On the whole, insurance and reinsurance pricing has been surprisingly stable despite two extraordinary years for hurricane losses (2005 and 2017) and a global financial crisis in 2008.

The relative market calm has, however, been underpinned by the existence of TRIA. Insurers are required to offer terrorism coverage under the act and it seems possible, if not likely, that insurers would again seek to exclude terrorism losses if this requirement were to be removed. For example, when TRIA briefly lapsed at the end of 2014, conditional terrorism exclusions that had been included in insurance filings with state insurance regulators were activated.[13] Exactly how widespread these exclusions would be applied if TRIA were completely removed, however, is unclear. It is possible that competitive pressure might cause insurers to cover terrorism risk even without TRIA. The latest Treasury report found that 30% of terrorism coverage that is provided in conjunction with other property and casualty insurance is offered without specific premiums being charged, which suggests that the perceived terrorism risk is low for some of the insureds.[14]

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[10] P.L. 107-297, §101.

[11] TRIA is codified at 15 U.S.C. §6701 note.

[12] AM Best, *Best's Aggregates & Averages, Property-Casualty*, 2002 Edition, p. 2; and AM Best, *Best's Aggregates & Averages, Property-Casualty*, 2018 Edition, p. 2. Inflation adjustment from the Bureau of Labor Statistics' CPI inflation calculator at https://data.bls.gov/cgi-bin/cpicalc.pl. Actual 2002 figure is $293.5 billion.

[13] See, for example, Verisk, "ISO Conditional Terrorism Endorsements to Come into Play with TRIA's Lapse," press release, December 18, 2014, at https://www.verisk.com/archived/2014/december/iso-conditional-terrorism-endorsements-to-come-into-play-with-tria-s-lapse/.

[14] Department of the Treasury, Federal Insurance Office (FIO), *Report on the Effectiveness of the Terrorism Risk Insurance Program*, June 2018, p. 19.

The insurance industry uses tools to model and mitigate catastrophe risks, such as hurricanes. Many analysts argue, however, that the tools to address terrorism risk have not been developed as successfully as was hoped when TRIA was initially enacted. Insurance works best with a large amount of data to develop estimates for the likelihood and size of future losses. However, terrorist attacks are relatively rare and much of the data about various terrorist threats may be closely held by the government due to national security concerns, thus further reducing data available for private firms. Furthermore, the fact that terrorism is carried out by purposeful actors who shift strategies and tactics adds another layer of complication to modeling techniques that are used with phenomena such as hurricanes. The purposeful nature of the actors also increases potential damage from terrorist attacks because it reduces the effectiveness of mitigation techniques.

How Should Insurers Share in Funding Terrorism Risk?

Insurance contracts in the private sector typically have three mechanisms by which insurers and insureds share the risk of loss. Premiums paid by insureds provide capital to prefund part of the loss, and after a loss, insureds will often pay deductibles (a set amount paid prior to insurance coverage) and copayments (a percentage of the losses). The TRIA program uses somewhat similar concepts, which have been adjusted in different ways over the program's life. The three mechanisms TRIA uses to share the risk are as follows:

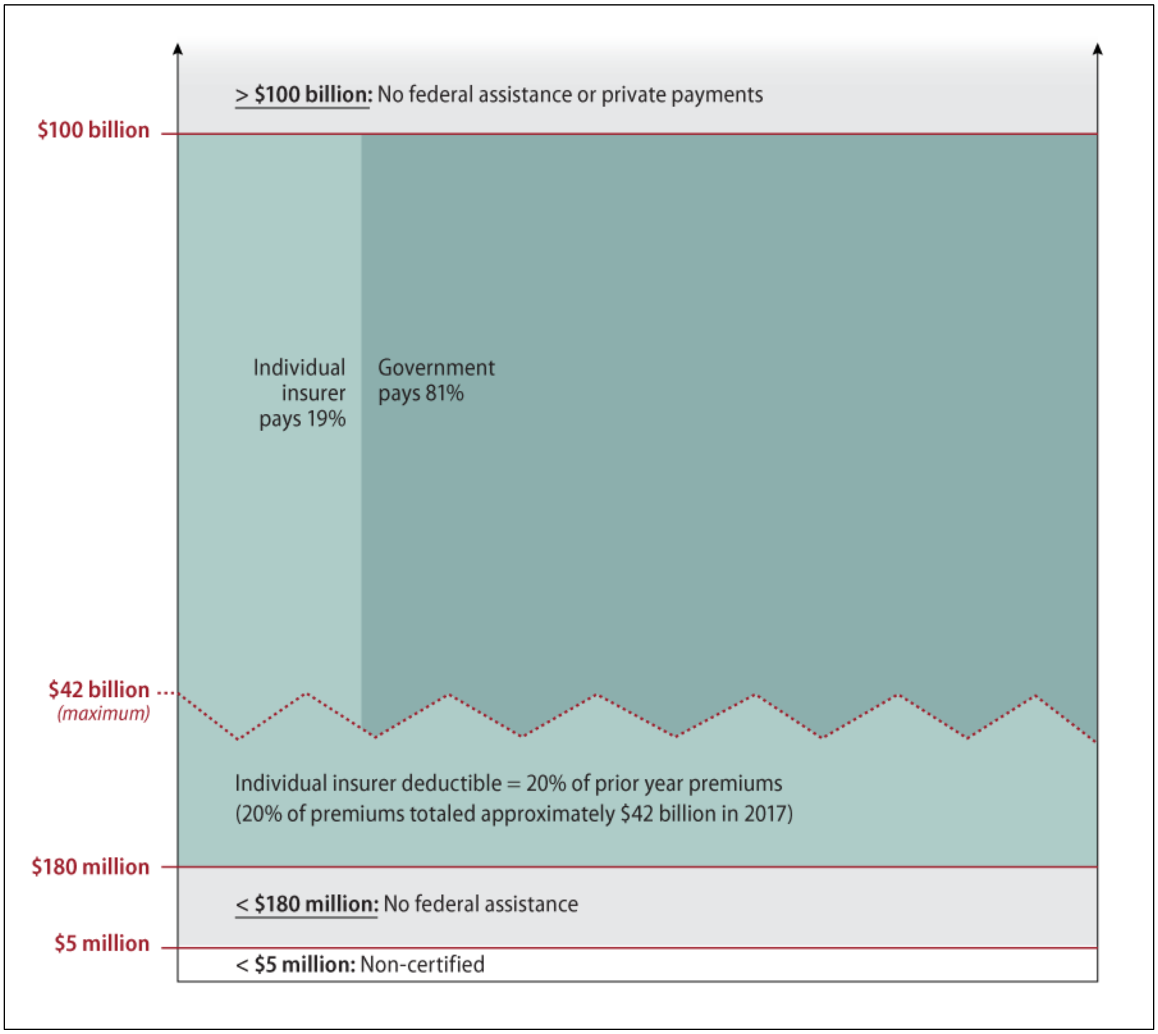
- *Deductible*. In an unusual structure, TRIA essentially has a two-stage deductible. TRIA provides directly for an "insurer deductible" that is equal to 20% of each company's direct earned premiums for TRIA-eligible lines of insurance. In addition, TRIA includes a "program trigger," the amount aggregate insured losses must clear before any funding flows out of the Treasury. The program trigger is $180 million in 2019 and increases to $200 million in 2020. If the program trigger is not cleared, an insurer would receive no federal funding even if its individual deductible is exceeded. For approximately the largest 40-50 insurers, the 20% deductible is larger than the program trigger, so for these companies the trigger is essentially irrelevant.[15] For the rest of the companies, depending on the distribution of the losses, it is possible that they might have to bear losses larger than their deductible prior to receiving funds under TRIA.
- *Insured Loss Share Compensation*. This is essentially equivalent to a copayment. Above the program trigger or deductible, private insurers cover 19% of the losses covered under TRIA, rising to 20% in 2020. (The statute is actually written in the inverse, defining the term as the amount paid by the federal government.)
- *Terrorism Loss Risk-Spreading Premiums*. These risk-spreading premiums, used to fund the losses, are similar in concept to premiums paid by normal insureds to private insurers, but in operation, they are quite different. Unlike premiums in most insurance, the TRIA premiums are only paid after the losses, not before. Thus, there are no funds built up to pay future losses, as there are in almost all other types of insurance. These post-event premiums are to be either mandatory or discretionary based on the size of the insured losses compared with the insurer aggregate retention amount set in the statute ($37.5 billion in 2019). If recoupment is mandatory, the amount to be recouped is to be 140% of the federal outlays actually made and the recoupment must occur prior to September 30,

[15] Based on 2018 data provided to CRS by the Treasury, the top 47 insurers would have had deductibles clearing the $160 million program trigger in place at the time, and 43 insurers would have had deductibles clearing the $200 million figure that will be in place in 2020. Of course, by 2020, inflation will likely have increased the total premiums amounts, and there may have been mergers by insurers that would alter the exact premiums amounts.

2024, which coincides with the 10-year window used by the Congressional Budget Office (CBO) for scoring the last reauthorization legislation.

The initial loss sharing under TRIA can be seen in **Figure 1**, adapted from the Congressional Budget Office. The exact amount of the 20% deductible at which TRIA coverage would begin depends on how the losses are distributed among insurance companies. In the aggregate, 20% of the direct-earned premiums for all of the property and casualty lines specified in TRIA totaled approximately $42 billion in 2017, according to the latest data collected by the Treasury Department. TRIA coverage is likely, however, to begin well under this amount, as the losses from an attack are unlikely to be equally distributed among insurance companies.

Figure 1. Initial Loss Sharing Under Current TRIA Program



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

Note: According to Department of the Treasury data and CRS calculations, the aggregate of all individual insurer deductibles totaled approximately $42 billion in 2017. Loss sharing is likely to begin well under this amount, as the distribution of terrorism losses is unlikely to be equally spread among insurers.

Since its enactment, amendments to TRIA have changed all three of these mechanisms so that increasing amounts of losses are to be borne by private insurers. The individual insurer deductibles have increased from 7% of premiums in 2003 to 20% in 2007 and thereafter. The program trigger did not exist until 2006, started at $50 million, and will be $200 million in 2020. The private insurer share of losses was originally 10% and will be 20% in 2020. The recoupment premiums were originally set at 100% of losses, with the aggregate retention amount set at $10 billion. The 100% recoupment was increased to 133% in 2007 and 140% in 2015,[16] whereas the aggregate retention amount was increased gradually through most of the program's life. In addition to other changes in the levels of the various mechanisms within the TRIA program to share terrorism risk among the government and private insurers, Congress also might consider employing different mechanisms to share such risk. For example, in past reauthorizations of TRIA, some have proposed that Congress create specific reserves to fund future terrorism claims.[17] These reserves might be within the insurance companies' capital structures or might be held in a sort of separate account funded by policyholder premiums paid to the insurance companies. It would also be possible to fund some sort of terrorism reserve fund in the Treasury through up-front premiums charged by the government to private insurers rather than relying on post-event recoupment premiums.[18]

What Should a Federal Terrorism Insurance Program Cover?

From the original statute's enactment, the TRIA program has been designed to work in the background through the private insurance system. Congress defined certain commercial insurance lines as within the TRIA program and excluded others. For these TRIA-eligible lines, insurers must offer coverage for terrorism damage claims that "does not differ materially" from the terms and conditions applied to claims made due to other causes of damage. This greatly simplified the program's creation and has allowed the Treasury Department to administer the program with only a handful of people for the past 17 years. Some property and casualty lines were removed from the program in the 2005 reauthorization, and some legislation in the past would have added some lines to TRIA, but the basic principle of working through private policies has remained constant.

The requirement that terrorism coverage be offered under the same terms and conditions as coverage for damage from other sources means that, for example, if an insurer offers a policy covering a commercial building for fire damage due to some accidental cause, it must also offer a policy covering that building for fire damage due to terrorism. However, if the insurer decided to exclude coverage from fire damage altogether, regardless of the source, the insurer could also do so with regard to fire damage from terrorism. This may seem on first glance to be a relatively minor legalistic point of insurance policy language, but it could have an important impact on the potentially most damaging form of terrorist attacks.

Some observers consider a terrorist attack with some form of a nuclear, chemical, biological, or radiological (NCBR) weapon to be the most likely type of attack causing large-scale losses. [19] The current TRIA statute does not specifically include or exclude NBCR events; thus, the TRIA program in general

[16] According to a Congressional Budget Office (CBO) working paper, the amount was set to 133% to offset the corporate tax reduction occurring as policyholders deducted the recoupment charges. The 140% amount "provides some additional compensation to the government for bearing risk." David Torregrosa et al, *Federal Reinsurance for Terrorism Risk in 2015 and Beyond*, CBO, Working Paper no. 2015-04, June 2015, at http://www.cbo.gov/sites/default/files/114th-congress-2015-2016/workingpaper/50171-TRIA_Working_Paper_1.pdf.

[17] See, for example, H.R. 4314 in the 109th Congress or H.R. 2167 in the 110th Congress.

[18] This structure was used in, for example, the Federal Aviation Administration's Aviation War Risk Program, which was expanded following September 11, 2001. This program was eventually allowed to expire with a substantial positive balance for the Treasury.

[19] There is some variance in the acronym used for such attacks. The U.S. Department of Defense, for example, uses "CBRN," rather than NCBR, in its *Dictionary of Military and Associated Terms*; see p. 34 at https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/dictionary.pdf.

would cover insured losses from terrorist actions due to NCBR as it would for an attack by conventional means. However, most of the commercial policies that TRIA covers would *exclude* damage from an NBCR cause regardless of whether it is accidental or due to terrorism.[20] Thus, despite the TRIA requirement to offer terrorism coverage (and the 70%-80% reported take-up rate of this coverage), most purchasers of terrorism insurance may not be covered for damage from a terrorist attack using chemical gas, a radiological "dirty" bomb, or any of dozens of other similar scenarios that could result in extremely large losses.

Congress addressed the issue of NCBR coverage in the 2005 reauthorization, which called on the President's Working Group on Financial Markets to study the question, and the 2007 reauthorization, which called for a Government Accountability Office (GAO) study. The GAO report was issued in 2008, finding that "insurers generally remain unwilling to offer NBCR coverage because of uncertainties about the risk and the potential for catastrophic losses."[21] In the past, legislation would have provided for differential treatment of NBCR attacks under TRIA, but such legislation has not been enacted (see, e.g., H.R. 4134 in the 109th Congress, H.R. 2761 in the 110th Congress, and H.R. 4871 in the 110th Congress).

In 2016, state insurance regulators introduced a new *Cyber Liability* line of insurance, raising questions as to whether coverage under this line would be covered under TRIA, or whether it would not be covered under the law's exclusion of "professional liability" insurance. The Treasury Department released guidance in December 2016 clarifying that "stand-alone cyber insurance policies reported under the 'Cyber Liability' line are included in the definition of 'property and casualty insurance' under TRIA."[22]

Despite Treasury's guidance, cyberterrorism coverage remains a particular concern among certain stakeholders. The Treasury Department devoted a specific section of the latest report on TRIA to cyber coverage, reporting that 50% of standalone cyberinsurance policies (based on premium value) included terrorism coverage. The take-up rate for those choosing cyber coverage that is embedded in policies covering additional perils was 54%. These rates are similar to, but slightly lower than, the 62% take-up rate for general terrorism coverage found across all TRIA-eligible lines.[23]

Background on Terrorism Insurance

Insurability of Terrorism Risk

Stripped to its most basic elements, insurance is a fairly straightforward operation. An insurer agrees to assume an indefinite future risk in exchange for a definite current premium. The insurer pools a large number of risks such that, at any given point in time, the ongoing losses will not be larger than the current premiums being paid, plus the residual amount of past premiums that the insurer retains and invests, plus, in a last resort, any borrowing against future profits if this is possible. For the insurer to operate successfully and avoid failure, it is critical to accurately estimate the probability of a loss and the severity of that loss so that a sufficient premium can be charged. Insurers generally depend upon huge databases of past loss information in setting these rates. Everyday occurrences, such as automobile accidents or natural

[20] The primary exception to this is workers' compensation insurance, which is required by most state laws to cover all sources of injury to workers.

[21] U.S. Government Accountability Office (GAO), *TERRORISM INSURANCE: Status of Coverage Availability for Attacks Involving Nuclear, Biological, Chemical, or Radiological Weapons*, GAO-09-39, December 12, 2008, at http://gao.gov/products/GAO-09-39.

[22] Department of the Treasury, "Guidance Concerning Stand-Alone Cyber Liability Insurance Policies Under the Terrorism Risk Insurance Program," 81 *Federal Register* 95313, December 27, 2016.

[23] Department of the Treasury, Federal Insurance Office (FIO), *Report on the Effectiveness of the Terrorism Risk Insurance Program*, June 2018, p. 55.

deaths, can be estimated with great accuracy. Extraordinary events, such as large hurricanes, are more difficult, but insurers have many years of weather data, coupled with sophisticated computer models, with which to make predictions.

Many see terrorism risk as fundamentally different from other risks, and thus it is often perceived as uninsurable by the private insurance market without government support for the most catastrophic risk. The argument that catastrophic terrorism risk is uninsurable typically focuses on lack of public data about both the probability and severity of terrorist acts. The reason for the lack of historical data is generally seen as a good thing—few terrorist attacks are attempted and fewer have succeeded. Nevertheless, the insurer needs some type of measurable data to determine which terrorism risks it can take on without putting the company at risk of failure. As a replacement for large amounts of historical data, insurers turn to various forms of terrorism models similar to those used to assess future hurricane losses. Even the best model, however, can only partly replace good data, and terrorism models are still relatively new compared with hurricane models.

One prominent insurance textbook identifies four ideal elements of an insurable risk: (1) a sufficiently large number of insureds to make losses reasonably predictable; (2) losses must be definite and measurable; (3) losses must be fortuitous or accidental; and (4) losses must not be catastrophic (i.e., it must be unlikely to produce losses to a large percentage of the risks at the same time).[24] Terrorism risk in the United States would appear to not meet the first criterion, as terrorism losses have not proved predictable over time.[25] Losses to terrorism, when they occur, are generally definite and measurable, so terrorism risk could pass under criterion two. Such risk, however, likely does not meet the third criterion due to the malevolent human actors behind terrorist attacks, whose motives, means, and targets of attack are constantly in flux. Whether it meets the fourth criterion is largely decided by the underwriting actions of insurers themselves (i.e., whether the insurers insure a large number of risks in a single geographic area that would be affected by a terrorist strike). Insurers generally have sought to limit their exposures in particular geographic locations with a perceived higher risk for terrorist attacks, making terrorism insurance more difficult to find in those areas.

Terrorism risk post-2001 is not the first time the United States has faced a risk perceived as uninsurable in private markets that Congress chooses to address through government action. During World War II, for example, Congress created a "war damage" insurance program, and it expanded a program insuring against aviation war risk following September 11, 2001. Since 1968, the National Flood Insurance Program has covered most of the insured flooding losses in the United States.[26]

The closest previous analog to the situation with terrorism risk may be the federal riot reinsurance program created as part of the Housing and Urban Development Act of 1968.[27] Following large-scale riots in American cities in the late 1960s, insurers generally pulled back from insuring in those markets, either

[24] Emmett J. Vaughan and Therese Vaughan, *Fundamentals of Risk and Insurance* (Hoboken, NJ: John Wiley & Sons, 2003), p. 41.

[25] Although the U.S. experience with terrorism is relatively limited, other countries have dealt with the issue more extensively and have developed their own responses to the challenges presented by terrorism risk. Spain, which has seen significant terrorist activity by Basque separatist movements, insures against acts of terrorism via a broader government-owned reinsurer that has provided coverage for catastrophes since 1954. The United Kingdom, responding to the Irish Republican Army attacks in the 1980s, created Pool Re, a privately owned mutual insurance company with government backing, specifically to insure terrorism risk. In the aftermath of the September 11, 2001, attacks, the UK greatly expanded Pool Re, and Germany created a private insurer with government backing to offer terrorism insurance policies. Canada specifically considered, and rejected, creating a government program following September 11, 2001. For more information on other countries' programs addressing terrorism risk, see GAO, *Terrorism Risk Insurance: Comparison of Selected Programs in the United States and Foreign Countries*, GAO-16-316, April 12, 2016, at https://www.gao.gov/products/GAO-16-316.

[26] For more information, see CRS Report R44593, *Introduction to the National Flood Insurance Program (NFIP)*, by Diane P. Horn and Baird Webel.

[27] P.L. 90-448; 82 Stat. 476.

adding policy exclusions to limit their exposure to damage from riots or ceasing to sell property damage insurance altogether. The federal riot reinsurance program offered reinsurance contracts similar to commercial excess reinsurance. The government agreed to cover some percentage of an insurance company's losses above a certain deductible in exchange for a premium paid by that insurance company. Private reinsurers eventually returned to the market, and the federal riot reinsurance program was terminated in 1985.

The Terrorism Insurance Market Post-9/11 and Pre-TRIA

The September 2001 terrorist attacks, and the resulting billions of dollars in insured losses, caused significant upheaval in the insurance market. Even before the attacks, the insurance market was showing signs of a cyclical "hardening" of the market in which prices typically rise and availability is somewhat limited. The unexpectedly large losses caused by terrorist acts exacerbated this trend, especially with respect to the commercial lines of insurance most at risk for terrorism losses. Post-September 11, insurers and reinsurers started including substantial surcharges for terrorism risk, or, more commonly, they excluded coverage for terrorist attacks altogether. Reinsurers could make such rapid adjustments because reinsurance contracts and rates are generally unregulated. Primary insurance contracts and rates are more closely regulated by the individual states, and the exclusion of terrorism coverage for the individual insurance purchaser required regulatory approval at the state level in most cases. States acted fairly quickly, and, by early 2002, 45 states had approved insurance policy language prepared by the Insurance Services Office, Inc. (ISO, an insurance consulting firm), excluding terrorism damage in standard commercial policies.[28]

The lack of readily available terrorism insurance caused fears of a larger economic impact, particularly on the real estate market. In most cases, lenders prefer or require that a borrower maintain insurance coverage on a property. Lack of terrorism insurance coverage could lead to defaults on existing loans and a downturn in future lending, causing economic ripple effects as buildings are not built and construction workers remain idle.

The 14-month period after the September 2001 terrorist attacks and before the November 2002 passage of TRIA provides some insight into the effects of a lack of terrorism insurance. Some examples in September 2002 include the Real Estate Roundtable releasing a survey finding that "$15.5 billion of real estate projects in 17 states were stalled or cancelled because of a continuing scarcity of terrorism insurance"[29] and Moody's Investors Service downgrading $4.5 billion in commercial mortgage-backed securities.[30] This picture, however, was not uniform. For example, in July 2002, *The Wall Street Journal* reported that "despite concerns over landlords' ability to get terrorism insurance, trophy properties were in demand."[31] CBO concluded in 2005 that "[TRIA] appears to have had little measurable effect on office construction, employment in the construction industry, or the volume of commercial construction loans made by large commercial banks," but CBO also noted that a variety of economic factors at the time "could be masking positive macroeconomic effects of TRIA."[32]

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[28] Jeff Woodward, "The ISO Terrorism Exclusions: Background and Analysis," *IRMI Insights*, February 2002, at http://www.irmi.com/expert/articles/2002/woodward02.aspx.

[29] The Real Estate Roundtable, "Terror Insurance Drag on Real Estate Still Climbing," *Roundtable Weekly*, September 19, 2003.

[30] "Moody's Downgrades Securities on Lack of Terrorism Insurance," *Wall Street Journal*, September 30, 2002, p. C14.

[31] Ray A. Smith, "Office-Building Demand Rises Despite Vacancies," *Wall Street Journal*, July 24, 2002, p. B6.

[32] Congressional Budget Office, *Federal Terrorism Reinsurance: An Update*, January 2005, pp. 10-11, at http://www.cbo.gov/publication/16210.

After TRIA

TRIA's "make available" provisions addressed the availability problem in the terrorism insurance market, as insurers were required by law to offer commercial terrorism coverage. However, significant uncertainty existed as to how businesses would react, because there was no general requirement to purchase terrorism coverage and the pricing of terrorism coverage was initially high. [33] Analyzing the terrorism insurance market in the aftermath of TRIA is challenging as well because there was no consistent regulatory reporting by insurers until P.L. 114-1 required detailed reporting, which Treasury began in 2016. Before this time, data on terrorism insurance typically stemmed from insurance industry surveys or rating bureaus. In examining the terrorism insurance market since TRIA, it is also important to note that no terrorist attacks have occurred that reached TRIA thresholds, thus property and casualty insurance has not made any large-scale payouts for terrorism damages.

The initial consumer reaction to the terrorism coverage offers was relatively subdued. Marsh, Inc., a large insurance broker, reported that 27% of its clients bought terrorism insurance in 2003. This take-up rate, however, climbed relatively quickly to 49% in 2004 and 58% in 2005. Marsh reported that, since 2005, the overall take-up rate has remained near 60%, with Marsh reporting a rate of 62% in 2017.[34] The Treasury reports based on industry data calls have found similar or higher take-up rates. For 2017, Treasury found that the take-up rate based on premium volumes was 62%, whereas based on policy counts, the rate was 78%.[35]

The price for terrorism insurance has appeared to decline over time, although the price level reported may not always be comparable between sources. The 2013 report by the President's Working Group on Financial Markets, based on survey data by insurance broker Aon, showed a high of more than 7% for the median terrorism premium as a percentage of the total property premium in 2003, with a generally downward trend, and more recent values around 3%.[36] The trend may be downward, but there has been variability, particularly across industries. For example, Marsh reported rates in 2009 as high as 24% of the property premium for financial institutions and as low as 2% in the food and beverage industry.[37] In the 2013 Marsh report, this variability was lower, as 2012 rates varied from 7% in the transportation industry and the hospitality and gaming industry to 1% in the energy and mining industry.[38] In 2017, Marsh found rates varying from 10% in hospitality and gaming to 2% in the energy and mining and construction industries. The 2018 Treasury report, based on lines of insurance, not on industry category, found premiums varying from 6.1% in excess workers' compensation to 1.4% in ocean marine in 2017.[39]

Treasury found that the total premium amount paid for terrorism coverage in 2017 was approximately \$3.65 billion, or 1.75%, of the \$209.15 billion in total premiums for TRIA-eligible lines of insurance.[40] Since the passage of TRIA, Treasury estimates that a total of approximately \$38 billion was earned for

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[33] Although there is no requirement in federal law to purchase terrorism coverage, businesses may be required by state law to purchase the coverage. This is particularly the case in workers' compensation insurance. Market forces, such as requirements for commercial loans, may also compel businesses to purchase terrorism coverage.

[34] Marsh, Inc., *2018 Terrorism Risk Insurance Report*, April 2018, p. 1.

[35] FIO, *Report on the Effectiveness of the Terrorism Risk Insurance Program*, June 2018, p. 30.

[36] President's Working Group on Financial Markets, *The Long-Term Availability and Affordability of Insurance for Terrorism Risk*, April 2014, p. 26.

[37] Marsh, Inc., *The Marsh Report: Terrorism Risk Insurance 2010*, p. 14.

[38] Marsh, Inc., *2013 Terrorism Risk Insurance Report*, May 2013, p. 12.

[39] FIO, *Report on the Effectiveness of the Terrorism Risk Insurance Program*, June 2018, p. 20.

[40] FIO, *Report on the Effectiveness of the Terrorism Risk Insurance Program*, June 2018, pp. 72-74. Calculations by CRS.

terrorism coverage by nonrelated insurers, with another $7.4 billion earned by captive insurers (which are insurers who are owned by the insureds).

In general, insurers' capacity to bear terrorism risk has increased over the life of the TRIA program. The combined policyholder surplus among all U.S. property and casualty insurers was $686.9 billion at the end of 2017 compared with $408.6 billion (inflation adjusted) at the start of 2002.[41] This $686.9 billion has been bolstered by the estimated $38 billion in premiums paid for terrorism coverage over the years without significant claims payments. The policyholder surplus, however, backs all property and casualty insurance policies in the United States and is subject to depletion in a wide variety of events. For example, extreme weather losses could particularly draw capital away from the terrorism insurance market, because events such as hurricanes share some characteristics—low frequency and the possibility of catastrophic levels of loss—with terrorism risk.

Evolution of Terrorism Risk Insurance Laws

Table 1 presents a side-by-side comparison of selected provisions from the original TRIA law, along with the reauthorizing laws of 2005, 2007, and 2015.

[41] AM Best, *Best's Aggregates & Averages, Property-Casualty*, 2002 Edition, p. 2; and AM Best, *Best's Aggregates & Averages, Property-Casualty*, 2018 Edition, p. 2. Inflation adjustment from the Bureau of Labor Statistics' CPI inflation calculator at https://data.bls.gov/cgi-bin/cpicalc.pl. Actual 2002 figure is $293.5 billion.

Table 1. Side-by-Side of Enacted Terrorism Risk Insurance Laws

(selected provisions)

Provision	Original 2002 Law 15 U.S.C. 6701 Note (P.L. 107-297)	2005 Reauthorization P.L. 109-144	2007 Reauthorization P.L. 110-160	2015 Reauthorization P.L. 114-1
Title	Terrorism Risk Insurance Act of 2002	Terrorism Risk Insurance Extension Act of 2005	Terrorism Risk Insurance Program Reauthorization Act of 2007	Terrorism Risk Insurance Program Reauthorization Act of 2015
Expiration Date	December 31, 2005 (§108(a))	December 31, 2007 (§2)	December 31, 2014 (§3(a))	December 31, 2020 (§101)
"Act of Terrorism" Definition	For an act of terrorism to be covered under TRIA, it must be a violent act committed on behalf of a foreign person or interest as part of an effort to coerce the U.S. civilian population or influence U.S. government policy. It must have resulted in damage within the United States or to a U.S. airliner or mission abroad. Terrorist act is to be certified by the Secretary of the Treasury in concurrence with the Attorney General and Secretary of State. (§102(1)(A))	No Change	Removed requirement that a covered act of terrorism be committed on behalf of a foreign person or interest (thus expanding coverage to domestic terrorism). (§2)	Removed Secretary of State from certification process and inserted Secretary of Homeland Security. (§105)
Limitation on Act of Terrorism Certification in Case of War	Terrorist act would not be covered in the event of a war, except for workers' compensation insurance. (§102(1)(B)(I))	No Change	No Change	No Change
Minimum Damage To Be Certified	Terrorist act must cause more than $5 million in property and casualty insurance losses to be certified. (§102(1)(B)(ii))	No Change	No Change	No Change

Provision	Original 2002 Law 15 U.S.C. 6701 Note (P.L. 107-297)	2005 Reauthorization P.L. 109-144	2007 Reauthorization P.L. 110-160	2015 Reauthorization P.L. 114-1
Aggregate Industry Loss Requirement/Program Trigger	No Provision	Created a "program trigger" that would prevent coverage under the program unless "aggregate industry losses resulting from such certified act of terrorism" exceed $50 million in 2006 and $100 million for 2007. (§6)	No Change. Program trigger remained at $100 million until 2014. (§3(c))	Program trigger increased $20 million per year until it reaches $200 million in 2020. (§102)
Insurer Deductible	7% of earned premium for 2003, 10% of earned premium for 2004, 15% of earned premium for 2005. (§102(7))	Raised deductible to 17.5% for 2006 and 20% for 2007. (§3)	No Change. Deductible remained at 20% until 2014. (§3(c))	No Change. Deductible remained at 20% for each calendar year of the program. (§106)
Covered Lines of Insurance	Commercial property and casualty insurance, including excess insurance, workers' compensation, and surety but excluding crop insurance, private mortgage insurance, title insurance, financial guaranty insurance, medical malpractice insurance, health or life insurance, flood insurance, or reinsurance. (§102(12))	Excluded commercial auto, burglary and theft, professional liability (except for directors and officers liability), and farm owners multiple peril from coverage. (§3)	No Change	No Change
Mandatory Availability	Every insurer must make available terrorism coverage that does not differ materially from coverage applicable to losses other than terrorism. (§103(c))	No Change. Mandatory availability extended through 2007. (§2(b))	No Change. Mandatory availability extended through 2014. (§3(c))	No Change. Mandatory availability in effect for each calendar year of the program. (§106)
Insured Loss Shared Compensation	Federal share of losses will be 90% for insured losses that exceed the applicable insurer deductible. (§103(e))	Reduced federal share of losses to 85% for 2007. (§4)	No Change. Federal share remained at 85% through 2014.	Reduced federal share one percentage point per year until it reaches 80%. (§102)

Provision	Original 2002 Law 15 U.S.C. 6701 Note (P.L. 107-297)	2005 Reauthorization P.L. 109-144	2007 Reauthorization P.L. 110-160	2015 Reauthorization P.L. 114-1
Cap on Annual Liability	Federal share of compensation paid under the program will not exceed $100 billion and insurers are not liable for any portion of losses that exceed $100 billion unless Congress acts otherwise to cover these losses. (§103(e))	No Change	Removed the possibility that a future Congress could require insurers to cover some share of losses above $100 billion if the insurer has met its individual deductible. Requires insurers to clearly disclose this to policyholders. (§4(a) and §4(d))	No Change
Payment Procedures if Losses Exceed $100 billion	After notice by the Secretary of the Treasury, Congress determines the procedures for payments if losses exceed $100 billion. (§103(e)(3))	No Change	Required Secretary of the Treasury to publish regulations within 240 days of passage regarding payments if losses exceed $100 billion. (§4(c))	No Change
Aggregate Retention Amount Maximum	$10 billion for 2002-2003, $12.5 billion for 2004, $15 billion for 2005 (§103(6))	Raised amount to $25 billion for 2006 and $27.5 billion for 2007. (§5)	No Change. Aggregate retention remained at $27.5 billion through 2014.	Raises amount $2 billion per year until it reaches $37.5 billion. Beginning in 2020, sets the amount equal to annual average of the sum of insurer deductibles for previous three years. (§104)
Mandatory Recoupment of Federal Share	If insurer losses are less than the aggregate retention amount, a mandatory recoupment of the federal share of the loss will be imposed. If insurer losses are over the aggregate retention amount, such recoupment is at the discretion of the Secretary of the Treasury. (§103(e)(7))	No Change	Increases total recoupment amount to be collected by the premium surcharges to 133% of the previously defined mandatory recoupment amount. Full mandatory recoupment must occur by September 30, 2017. (§4(e)(1))	Increases total recoupment amount to be collected by the premium surcharges to 140% of the previously defined mandatory recoupment amount. Full mandatory recoupment must occur by September 30, 2024. (§104)

Provision	Original 2002 Law 15 U.S.C. 6701 Note (P.L. 107-297)	2005 Reauthorization P.L. 109-144	2007 Reauthorization P.L. 110-160	2015 Reauthorization P.L. 114-1
Recoupment Surcharge	Surcharge is limited to 3% of property-casualty insurance premium and may be adjusted by the Secretary to take into account the economic impact of the surcharge on urban commercial centers, the differential risk factors related to rural areas and smaller commercial centers, and the various exposures to terrorism risk across lines of insurance. (§103(e)(8))	No Change	Removed 3% limit for mandatory surcharge. (§4(e)(2)(A))	No Change

Source: The Congressional Research Service using public laws obtained through http://www.congress.gov.

Notes: Section numbers for the initial TRIA law are as codified in 15 U.S.C. §6701 note. Section numbers for P.L. 109-144, P.L. 110-160, and P.L. 114-1 are from the legislation as enacted.