Study of Small Insurer Competitiveness in the Terrorism Risk Insurance Marketplace

FEDERAL INSURANCE OFFICE, U.S. DEPARTMENT OF THE TREASURY

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Glossary

2005 Extension Act	....	Terrorism Risk Insurance Extension Act of 2005, Pub. L. 109-144, 119 Stat. 2660
2007 Reauthorization Act	....	Program Reauthorization Act of 2007, Pub. L. 110-160, 121 Stat. 1839
2015 Reauthorization Act	....	Terrorism Risk Insurance Program Reauthorization Act of 2015, Pub. L. 114-1, 129 Stat. 3
2019 Reauthorization Act	....	Terrorism Risk Insurance Program Reauthorization Act of 2019, Pub. L. 116-94, 133 Stat. 2534
2017 Small Insurer Study	....	FIO, *Study of Small Insurer Competitiveness in the Terrorism Risk Insurance Marketplace* (June 2017)
2018 Effectiveness Report	....	FIO, *Report on the Overall Effectiveness of the Terrorism Risk Insurance Program* (June 2018)
2019 Small Insurer Study	....	FIO, *Study of Small Insurer Competitiveness in the Terrorism Risk Insurance Marketplace* (June 2019)
2020 Effectiveness Report	....	FIO, *Report on the Overall Effectiveness of the Terrorism Risk Insurance Program* (June 2020)
2021 Small Insurer Study		FIO, *Study of Small Insurer Competitiveness in the Terrorism Risk Insurance Marketplace* (June 2021)
2022 Effectiveness Report	....	FIO, *Report on the Overall Effectiveness of the Terrorism Risk Insurance Program* (June 2022)
Act of Terrorism	....	Under TRIA, an act certified as terrorism by the Secretary, in consultation with the Attorney General and the Secretary of Homeland Security
Alien Surplus Lines Insurer	....	Non-U.S. insurer that is an eligible surplus lines insurer as listed on the National Association of Insurance Commissioners' Quarterly Listing of Alien Surplus Lines Insurers
Captive Insurer	....	Insurer formed to insure the risk exposures of its policyholder owner(s), which is regulated by the captive insurance laws of a particular state jurisdiction
CMP	....	Commercial Multi-Peril
Co-Pay Share	....	The percentage of losses that an insurer is obligated to pay after meeting its deductible and the Program Trigger is satisfied. The federal government is responsible for the remaining percentage of losses above the insurer's deductible. The co-pay share for CY 2022 was 20 percent.
CY	....	Calendar year
DEP	....	Direct earned premium

Embedded Terrorism Insurance	....	Terrorism insurance provided within a P&C policy that also covers other risks
Federal Share of Compensation	....	The percentage of an insurer's losses that the federal government will pay after the insurer meets its deductible and the Program Trigger is satisfied. The insurer is responsible for the remaining percentage of losses above its deductible. The federal share of compensation for CY 2022 was 80 percent.
FIO	....	Federal Insurance Office
Insurer Deductible	....	The amount an individual insurer must pay before receiving the federal share of compensation, after an event is certified as an act of terrorism and the Program Trigger is exceeded. An insurer's deductible is 20 percent of its TRIP-eligible DEP in the prior year.
NBCR	....	Nuclear, biological, chemical, or radiological
P&C	....	Property and casualty
PML	....	Probable maximum loss
Program	....	Terrorism Risk Insurance Program (also, TRIP)
Program Cap	....	Maximum aggregate exposure limit for the federal government and insurers under TRIP in any CY
Program Trigger	....	Minimum amount of insurance industry aggregate insured losses resulting from certified act(s) of terrorism that must occur in a calendar year before any federal payments can be made under TRIP
Standalone Policy	....	Insurance policy which provides coverage only for terrorism risk
Study	....	FIO, *Study of Small Insurer Competitiveness in the Terrorism Risk Insurance Marketplace* (June 2023)
Secretary	....	Secretary of the Treasury
September 11 Attacks	....	Terrorist attacks occurring on September 11, 2001
Small Insurer	....	An insurer as defined under 31 C.F.R. § 50.4(z)
Take-Up Rate	....	Extent to which terrorism risk insurance is purchased by policyholders
Treasury	....	U.S. Department of the Treasury
TRIA	....	Terrorism Risk Insurance Act of 2002, as amended
TRIP	....	Terrorism Risk Insurance Program (also, Program)
TRIP-Eligible Lines of Insurance	....	Commercial P&C insurance subject to the TRIP pursuant to 31 C.F.R. § 50.4(w)
WC	....	Workers' Compensation

I. INTRODUCTION AND EXECUTIVE SUMMARY

Under the Terrorism Risk Insurance Program Reauthorization Act of 2015 (2015 Reauthorization Act),[1] the Secretary of the Treasury (Secretary) is required to conduct a study of small insurers participating in the Terrorism Risk Insurance Program (TRIP or Program) and identify any competitive challenges small insurers face in the terrorism risk insurance marketplace. The study must identify:

A. changes to the market share, premium volume, and policyholder surplus of small insurers relative to large insurers;
B. how the property and casualty insurance market for terrorism risk differs between small and large insurers, and whether such a difference exists within other perils;
C. the impact of the Program's mandatory availability requirement on small insurers;
D. the effect on small insurers of increasing the Program Trigger;
E. the availability and cost of private reinsurance for small insurers; and
F. the impact that state workers' compensation laws have on small insurers and workers' compensation carriers in the terrorism risk insurance marketplace.[2]

The findings and conclusions of the study must be submitted in a report to Congress no later than June 30, 2023 (Study).[3]

The 2015 Reauthorization Act also requires the Secretary to collect Program data on an annual basis.[4] The Federal Insurance Office (FIO) assists the Secretary in Program administration.[5]

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[1] Terrorism Risk Insurance Program Reauthorization Act, Pub. L. 114-1, 129 Stat. 3 (2015). The provisions of the Terrorism Risk Insurance Act of 2002 (TRIA), Pub. L. No. 107-297, 116 Stat. 2322 (2002), as amended (including the 2015 Reauthorization Act), appear in a note of the United States Code (15 U.S.C. § 6701 note), and, therefore, references to the provisions of TRIA or the 2015 Reauthorization Act are identified by the sections of the law, *e.g.,* "TRIA § 102(1) (definition of an 'act of terrorism')".

[2] TRIA § 108(h).

[3] The 2015 Reauthorization Act required the Secretary to submit a report on the findings and conclusions of the small insurer study to Congress no later than June 30, 2017, and every other June 30 thereafter. Treasury published a report on its first small insurer study on June 30, 2017. *See* Federal Insurance Office (FIO), U.S. Department of the Treasury (Treasury), *Study of Small Insurer Competitiveness in the Terrorism Risk Insurance Marketplace* (2017) (*2017 Small Insurer Study*), https://www.treasury.gov/initiatives/fio/reports-and-notices/Documents/Study_of_Small_Insurer_Competitiveness_in_the_Terrorism_Risk_Insurance_Marketplace_(June_2017).pdf. Treasury published a report on its second small insurer study on June 30, 2019. *See* FIO, *Study of Small Insurer Competitiveness in the Terrorism Risk Insurance Marketplace* (2019) (*2019 Small Insurer Study*), https://home.treasury.gov/system/files/311/2019_TRIP_SmallInsurer_Report.pdf. Treasury published a report on its third small insurer study on June 30, 2021. *See* FIO, *Study of Small Insurer Competitiveness in the Terrorism Risk Insurance Marketplace* (2021) (*2021 Small Insurer Study*), https://home.treasury.gov/system/files/311/2021TRIPSmallInsurerReportJune2021.pdf. This Study addresses Treasury's findings and conclusions from its fourth small insurer study, described further in Section V.

[4] TRIA § 104(h)(1).

[5] Federal Insurance Office Act of 2010, 31 U.S.C. §313(c)(1)(D) (2012).

Since the 2015 Reauthorization Act, the U.S. Department of the Treasury (Treasury) has conducted eight data calls—a voluntary call in 2016 seeking calendar year (CY) 2015 data, and seven mandatory calls in 2017, 2018, 2019, 2020, 2021, 2022, and 2023 requiring, respectively, the production of CY 2016, 2017, 2018, 2019, 2020, 2021, and 2022 data. This Study addresses the six statutory considerations identified above, and principally uses information from the 2021, 2022, and 2023 TRIP Data Calls.

Based on its analysis of the collected information, Treasury has reached the following conclusions, all of which are discussed in this Study:

A. The percentage of small insurer direct earned premium (DEP) in the TRIP-eligible lines of insurance has remained relatively constant since Treasury began collecting data on a mandatory basis in 2017. Refer to Section V.A.

B. As noted in prior Small Insurer Studies, numerous market differences exist between small insurers and larger (non-small) insurers. Refer to Section V.B. These include:
   1. When insurers charge for terrorism risk insurance coverage, small insurers, on average, allocate a lower percentage of DEP for terrorism risk insurance than do non-small insurers. Data reported by small insurers in prior data calls reflected that they were more likely than non-small insurers to charge no premium for terrorism risk insurance. However, the most recent reported information in this year's data call reflects that small and non-small insurers were equally likely to assess no additional charge for terrorism risk insurance. Based on the most recent reported data, terrorism risk insurance take-up rates by small insurer policyholders are slightly lower than the take-up rates for the policyholders of non-small insurers. Small insurers also tend to provide coverage in fewer states than do non-small insurers, and small insurers earn a higher percentage of DEP in the commercial multi-peril (CMP) and workers' compensation lines than do non-small insurers.
   2. Small insurers continue to issue few or no policies for standalone terrorism insurance.
   3. Small insurers are participating in the cyber insurance market covered under the TRIP-eligible lines of insurance at different premium levels and at different terrorism risk insurance take-up rates than other market participants. Small insurers have a smaller share of the cyber insurance market as compared to their share of the TRIP-eligible lines market generally. However, the most recent reported data shows that small insurers have a more significant share of the market for cyber insurance issued to small policyholders than they have in most other TRIP-eligible lines.
   4. The reported data shows that small insurers exclude coverage for nuclear, biological, chemical, and radiological (NBCR) risks from their terrorism risk insurance coverage at similar percentages as shown by other industry participants. Nonetheless, their reported limits continue to indicate that they may still have a significant aggregate exposure associated with such losses.

5. The market share of small insurers in the lines of insurance covered by TRIP is slightly higher than their market share in property and casualty (P&C) insurance lines not covered by TRIP.
6. Small insurers are the largest market provider of terrorism risk insurance for places of worship, in an amount significantly exceeding their overall share of the terrorism risk insurance market.

C. The mandatory availability requirement appears to affect small insurer participation in the terrorism risk insurance market by causing them to assume more terrorism risk exposure than they might otherwise provide absent the requirement. To the extent this presents risk to small insurers, the Program's backstop provisions address some of that potential risk. The continuing ability of small insurers to compete in this market indicates that the mandatory availability requirement may not be unduly limiting their market participation in the TRIP-eligible lines of insurance. Refer to Section V.C.

D. Under some scenarios, individual or multiple small insurers could sustain significant terrorism losses without federal backstop support from TRIP if their aggregate losses fail to satisfy the Program Trigger. This could have a negative effect on small insurers, particularly in the absence of private reinsurance addressing this exposure. The data also continues to show that some small insurers do not purchase private reinsurance sufficient to cover the potential gap between their individual Program deductibles and the Program Trigger, or their estimated Probable Maximum Loss. Modeling analysis undertaken by FIO reflects that this risk may be partially mitigated, but not eliminated, by the likelihood that the losses incurred by other market participants from certified acts of terrorism would satisfy the Program Trigger. Refer to Sections V.D, V.F.

E. Small insurers cede a larger percentage of their DEP to purchase reinsurance than do non-small insurers. However, the reported aggregate reinsurance purchases by small insurers for terrorism risk as measured by limits have decreased in recent years. In addition, small insurers purchase less reinsurance for NBCR-related terrorism risk than for conventional terrorism risk. Refer to Section V.E.

F. Workers' compensation insurance cannot exclude coverage for either conventional or NBCR-related terrorism losses. Therefore, workers' compensation remains a difficult exposure from a terrorism risk standpoint for the insurance market. Small insurers face an elevated risk for workers' compensation losses given that a higher percentage of their TRIP-eligible DEP is from workers' compensation policies (in comparison to non-small insurers). The limited availability of NBCR reinsurance further increases this risk to small insurers. Refer to Section V.G.

II. BACKGROUND

Prior to September 11, 2001, commercial P&C insurance policies generally did not exclude coverage for losses resulting from terrorism. The events of September 11, 2001 (September 11 Attacks) resulted in approximately $54 billion of P&C insurance losses, more than two-thirds of which were reimbursed by reinsurers to insurers.[6] Following the September 11 Attacks, insurers and reinsurers began to exclude coverage for terrorism risk from commercial P&C policies.

The Terrorism Risk Insurance Act of 2002 (TRIA) was enacted, in part, because the widespread unavailability of terrorism risk insurance "could seriously hamper ongoing and planned construction, property acquisition, and other business projects, generate a dramatic increase in rents, and otherwise suppress economic activity."[7] TRIA established the Program, which requires insurers to make terrorism risk coverage available within certain lines of commercial P&C insurance (TRIP-eligible lines of insurance).[8] To assist insurers with the potential financial exposure resulting from this required offer of terrorism risk insurance, certain insurance losses resulting from an "act of terrorism" (as defined by TRIA and certified as such by the Secretary) are eligible for reimbursement through the Program.[9] The Program is housed in Treasury and administered by the Secretary with the assistance of FIO.[10]

TRIA originally authorized the Program for a three-year period ending December 31, 2005. The Program has since been reauthorized four times,[11] most recently by the 2019 Reauthorization Act, which extended the Program through December 31, 2027.[12] Changes enacted in Program renewals have reduced potential federal exposure to insured losses and increased private market exposure, either through reduction in federal government sharing percentages or increases in insurer and market retention amounts on account of the increasing industry premium base.

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[6] Insured losses shown in 2019 dollars. *See* Willis Towers Watson, *The Terrorism Pool Index: Review of Terrorism Insurance Programs in Selected Countries 2022* (2022), 36, https://iftrip.org/wp-content/uploads/2022/06/terrorism-pool-index-2022.pdf.

[7] TRIA § 101(a)(5).

[8] *See* TRIA § 103(c). Treasury has implemented regulations defining the "TRIP-eligible lines of insurance" with reference to certain lines identified for state regulatory purposes as follows: Fire, Allied Lines, Commercial Multiple Peril (non-liability), Commercial Multiple Peril (liability), Ocean Marine, Inland Marine, Workers' Compensation, Other Liability (but not including Professional Liability, which is otherwise within this line for state reporting purposes), Products Liability, Aircraft, and Boiler and Machinery. 31 C.F.R. § 50.4(w)(1) (2022). Some of these lines also contain personal P&C premium exposures that are not subject to the Program. There are also certain other defined exclusions within these lines. *See* 31 C.F.R. § 50.4(w)(2).

[9] Further details on Program operation are provided in Section III of this Study.

[10] Federal Insurance Office Act of 2010, 31 U.S.C. § 313(c)(1)(D) (2012).

[11] *See* Terrorism Risk Insurance Extension Act of 2005 (2005 Extension Act), Pub. L. 109-144, 119 Stat. 2660 (2005); Terrorism Risk Insurance Program Reauthorization Act of 2007 (2007 Reauthorization Act), Pub. L. 110-160, 121 Stat. 1839 (2007); 2015 Reauthorization Act; Terrorism Risk Insurance Program Reauthorization Act of 2019 (2019 Reauthorization Act), Pub. L. 116-94, 133 Stat. 2534 (2019).

[12] Treasury issued rules in June 2021 to implement changes to TRIA under the 2019 Reauthorization Act. *See* Terrorism Risk Insurance Program; Updated Regulations in Light of the Terrorism Risk Insurance Program Reauthorization Act of 2019, and for Other Purposes, 86 Fed. Reg. 30537 (June 9, 2021).

III. TERRORISM RISK INSURANCE PROGRAM

The Program requires that each entity meeting the definition of an insurer make available coverage for insured losses resulting from acts of terrorism.[13] This offer must "not differ materially from the terms, amounts, and other coverage limitations applicable to losses arising from events other than acts of terrorism."[14] The "make available" requirement applies only to TRIP-eligible lines of insurance.[15] TRIA does not mandate that insurers offer terrorism risk insurance at a particular price,[16] nor does TRIA require any policyholder to purchase insurance for terrorism risk.[17] All commercial P&C insurers writing in TRIP-eligible lines and required to make terrorism risk insurance available under their policies are considered Program participants, regardless of whether their policyholders accept the offer to take up the coverage.

Insurers are eligible for federal payments under the Program only for losses resulting from "acts of terrorism." An act of terrorism is defined under TRIA as an act certified by the Secretary in consultation with the Attorney General of the United States and the Secretary of Homeland Security:

- to be an act of terrorism;
- to be a violent act or an act that is dangerous to human life, property, or infrastructure;
- to have resulted in damage within the United States;[18] and
- to have been committed by an individual or individuals, as part of an effort to coerce the civilian population of the United States or to influence the policy or affect the conduct of the U.S. government by coercion.[19]

[13] An insurer is defined under TRIA as any entity, including any affiliate thereof, which receives direct earned premiums for TRIP-eligible lines of insurance and is licensed or admitted to engage in the business of insurance in any state; an eligible surplus lines carrier; a federally-approved maritime, energy, or aircraft insurer; a state residual market insurance entity or workers' compensation fund; or, to the extent provided in rules issued by the Secretary, a captive insurer or a self-insurance arrangement. TRIA § 102(6).

[14] TRIA §103(c)(2).

[15] Reinsurance is excluded from the TRIP-eligible lines of insurance. TRIA § 102(11)(B)(vii). Issues concerning the availability of private reinsurance for terrorism risk are discussed further in Sections V.E and V.F.

[16] State insurance rating laws and regulations may affect the price that insurers can charge for terrorism risk insurance subject to TRIA.

[17] In some circumstances, state law may require the purchase of (or limit the ability to exclude) coverage for terrorism risk, such as in the case of workers' compensation insurance, discussed further in Section V.G.

[18] TRIA also provides that an act of terrorism may occur outside the United States in the case of certain air carriers or vessels, or on the premises of a U.S. mission. TRIA § 102(1)(A)(iii).

[19] TRIA § 102(1)(A). An "act of terrorism" satisfying the TRIA definition may be certified by the Secretary, whether it is committed by domestic or foreign persons. *See* 2007 Reauthorization Act, § 2 (deleting "acting on behalf of any foreign person or foreign interest" from "act of terrorism" definition).

Additionally, the Secretary may not certify an act that results in P&C insurance losses totaling $5 million or less,[20] or that was committed as part of the course of a war declared by Congress.[21]

If the Secretary certifies an act of terrorism, participating insurers may submit claims to Treasury, and Treasury will determine whether, and in what amounts, insurers are eligible for payments under the Program.[22] Treasury must then obtain reimbursement of certain payments of the federal share of compensation through a recoupment process, and may require reimbursement of additional payments depending on the amount of total losses.

A participating insurer's recovery under the Program is based on several factors, including its individual insurer deductible, the Program Trigger, the federal share of compensation of an insurer's losses, and the Program Cap. These factors are described in greater detail below.

Insurer Deductible

After the Secretary certifies one or more acts of terrorism, two prerequisites must be met before an insurer is eligible for Program payments from Treasury: (1) the insurer's losses must exceed its deductible (as defined under the Program); and (2) the Program Trigger must be satisfied. TRIA defines an individual insurer's deductible as 20 percent of the insurer's DEP in the TRIP-eligible lines for the prior calendar year.[23]

Program Trigger

The Program Trigger is the minimum amount of insurance industry aggregate insured losses resulting from a certified act (or acts) of terrorism that must occur in a particular calendar year before Treasury can make any federal payments. Beginning in 2016, the Program Trigger increased by $20 million per year, increasing from $100 million in 2015 to $200 million in CY 2020,[24] at which level it will remain for each calendar year until the current expiration of the Program in 2027.[25] Once the Program Trigger has been satisfied, Treasury will make payments to individual insurers for the federal share of compensation above their respective deductibles.

[20] TRIA § 102(1)(B)(ii).

[21] This limiting clause regarding an act of war does not apply to coverage under the Program for workers' compensation insurance. TRIA § 102(1)(B)(i).

[22] Treasury makes all determinations pursuant to the Program regulations. *See* 31 C.F.R. Part 50.

[23] TRIA § 102(7).

[24] TRIA § 103(e)(1)(B).

[25] TRIA § 103(e)(1)(B). TRIP did not originally have a Program Trigger. This requirement was introduced in the 2005 Extension Act. It was initially set at $50 million (for losses occurring in 2006) and increased to $100 million for losses occurring in 2007. When TRIP was reauthorized through 2014 in the 2007 Reauthorization Act, no change was made to the Program Trigger, which remained at $100 million. The 2015 Reauthorization Act, however, provided for an annual increase of $20 million in the Program Trigger beginning in 2016 and continuing until 2020, and resulting in a Program Trigger of $200 million in 2020. The 2019 Reauthorization Act did not modify the Program Trigger provisions of TRIA, such that the Program Trigger currently remains at $200 million through 2027.

Federal Share of Compensation

After an insurer meets its deductible and the Program Trigger is satisfied, the federal government will pay a certain percentage of that insurer's losses in excess of the insurer's deductible. For CY 2022, and through the current expiration of the Program, the federal share of compensation is 80 percent of an insurer's losses above its deductible, with the insurer responsible for the remaining 20 percent.[26]

Program Cap

TRIA limits the aggregate insured loss exposure of both insurers and the federal government arising from one or more acts of terrorism. Specifically, TRIA prohibits the Secretary from making payments for any portion of aggregate insured losses (including amounts paid by Program participants and the federal government) from acts of terrorism that exceeds the Program Cap of $100 billion during any calendar year.[27] If the Program Cap is reached, an insurer that has met its insurer deductible by making payments for insured losses subject to the Program is not liable for any portion of losses that exceeds the Program Cap.[28]

Recoupment

The Secretary will collect "terrorism loss risk-spreading premiums" from insurers if federal payments are made to insurers. Under this mechanism, known as recoupment, Program participants may be required to collect funds from policyholders by placing a surcharge on insurance policies written in TRIP-eligible lines. The surcharges will be set based upon the amount that must be recovered by Treasury[29] and the time within which they must be recovered, as required by TRIA. Insurers must then remit these surcharges to the Secretary.[30] The requirement to collect, or recoup, terrorism loss risk-spreading premiums applies not only to insurers that received federal payments under the Program, but also to all insurers writing

[26] TRIA § 103(e)(1)(A).

[27] TRIA § 103(e)(2)(A).

[28] TRIA requires the Secretary to notify Congress if insured losses are projected to exceed the Program Cap, and to determine the pro rata share of insured losses to be paid by each affected insurer. TRIA §§ 103(e)(2)-(3).

[29] Treasury must recover amounts—mandatory recoupment—where total industry payments are below the insurance marketplace aggregate retention amount, or IMARA, which is calculated annually by Treasury based upon its annual TRIP Data Calls and is the annual aggregate average of insurer deductibles over the prior three-year period. *See* TRIA §§ 103(e)(6)-(7); 31 C.F.R. § 50.4(m)(2) (2022). For purposes of CY 2022, the IMARA is $42.7 billion. *See* IMARA Calculation for Calendar Year 2022 Under the Terrorism Risk Insurance Program, 86 Fed. Reg. 73100 (Dec. 23, 2021). In connection with amounts subject to mandatory recoupment, Treasury must collect 140 percent of total amounts expended. *See* TRIA §§ 103(e)(7)-(8).

[30] TRIA §§ 103(e)(7)-(8).

policies in TRIP-eligible lines of insurance. Surcharges are placed on all TRIP-eligible insurance policies regardless of whether the policyholder purchased terrorism risk insurance.[31]

Small Insurer Definition

The 2015 Reauthorization Act directed the Secretary to develop a regulatory definition of "small insurers" participating in TRIP for purposes of the biennial small insurer study.[32] Treasury regulations define small insurers in direct relation to the Program Trigger:

> *Small insurer* means an insurer (or an affiliated group of insurers . . .) whose policyholder surplus for the immediately preceding year . . . is less than five times the Program Trigger amount for the current year and whose direct earned premium for the preceding year is also less than five times the Program Trigger amount for the current year. An insurer that has not had a full year of operations during the immediately preceding calendar year is a small insurer if its policyholder surplus in the current year is less than five times the Program Trigger amount for the current year. A captive insurer is not a small insurer, regardless of the size of its policyholder surplus or direct earned premium.[33]

For the purposes of the 2023 TRIP Data Call, small insurers were insurers with both a 2021 policyholder surplus under $1 billion and a 2021 TRIP-eligible DEP under $1 billion, each of which are equal to five times the 2022 Program Trigger of $200 million.

Significance of the Program Trigger for Small Insurers

The Program Trigger has no practical impact for insurers above the small insurer size threshold. This is because any "non-small" insurer that satisfies its own individual insurer deductible will also have sufficient losses to individually meet the Program Trigger. Under the Program, a non-small insurer will always be entitled to submit claims for the federal share of compensation once it meets its insurer deductible.

However, the Program Trigger can pose a barrier to recovery of the federal share of compensation by small insurers. A small insurer may satisfy its individual insurer deductible, but still have total losses that are less than the Program Trigger. For example, if a small insurer had a 2022 insurer deductible of $50 million, and experienced $100 million in total insured losses due to a certified act of terrorism, the insurer would only be able to receive payment of the federal share of compensation if aggregate insured losses among all Program participants exceeded the Program Trigger ($200 million in 2022). If this insurer were the only insurer to

[31] Depending on how any federal payments under TRIP compare with the total insured losses paid by participating insurers, TRIA provides that recoupment under the Program may be mandatory or may be subject to the Secretary's discretion. In connection with amounts subject to mandatory recoupment, Treasury must collect 140 percent of total amounts expended. *See* TRIA §§ 103(e)(7)-(8).

[32] TRIA § 108(h)(1). Treasury's small insurer definition should not be viewed as having relevance to any other definition of "small insurer" that may be used in other statutory and regulatory determinations, either at the federal or state levels.

[33] 31 C.F.R. § 50.4(z).

sustain insured losses in the act of terrorism (or if aggregate industry losses were under $200 million), the Program Trigger would not be satisfied, and the insurer would not be able to submit a claim for the federal share of compensation, despite experiencing significant losses and satisfying its individual insurer deductible under the Program.

IV. DATA COLLECTION

A. Data Collection Process

The 2015 Reauthorization Act provides that, beginning in CY 2016, the Secretary shall require participating insurers to provide information and data to the Secretary for purposes of analyzing the overall effectiveness of the Program.[34] The information to be provided to the Secretary by participating insurers includes information regarding:

(1) lines of insurance with exposure to terrorism losses;
(2) premiums earned on coverage offered for terrorism losses;
(3) geographical location of exposures;
(4) pricing of terrorism risk coverage offered;
(5) the take-up rate for terrorism risk coverage;
(6) the amount of private reinsurance for acts of terrorism purchased; and
(7) such other matters as the Secretary considers appropriate.[35]

This Study is based primarily on the results of Treasury's 2021, 2022, and 2023 TRIP Data Calls (i.e., relating to CY 2020, 2021, and 2022, respectively). In addition, Treasury performed qualitative research and sought comments from stakeholders and the public through a Federal Register Notice.[36] When analyzing certain market changes over time for this Study, Treasury also considered information reported by insurers to state regulators.

The 2021, 2022, and 2023 TRIP Data Calls were mandatory for participating insurers,[37] subject to an exception for small insurers with less than $10 million in TRIP-eligible lines DEP in any individual reporting year.[38]

[34] TRIA § 104(h)(1).

[35] TRIA §§ 104(h)(1)(A)-(G).

[36] *See* Comments in Aid of Analyses of the Terrorism Risk Insurance Program, 88 Fed. Reg. 18374 (March 28, 2023). In response to its notice seeking comments in connection with this Study, Treasury received comments from the Centers for Better Insurance (May 9, 2023) (CBI Comments), the National Association of Mutual Insurance Companies (May 9, 2023) (NAMIC Comments), and the National Council on Compensation Insurance (May 12, 2023) (NCCI Comments). The comments are available at https://www.regulations.gov/document/TREAS-TRIP-2023-0004-0001/comment.

[37] Insurers that are not small insurers were subject to different reporting templates that requested more data elements.

[38] Based on state reporting data, Treasury estimates that the approximately 350 insurers eligible for this reporting exception in the 2023 TRIP Data Call constituted 0.3 percent of the TRIP-eligible lines premium market, and 2.8 percent of the small insurer market segment. These amounts are slightly less than Treasury's estimates for the prior TRIP Data Calls. State reporting data cited in this Study are as of December 31, 2022, as derived from S&P Global Market Intelligence (S&P Global) on April 26, 2023.

Treasury collected data on a group basis because TRIP is generally administered on a group basis.[39] Treasury collected data concerning DEP, policy exposures, policyholder take-up rates, and reinsurance.

Treasury collected data through a third-party insurance statistical aggregator, as required by the 2015 Reauthorization Act.[40] The statistical aggregator provided results to Treasury in an aggregated, anonymous format that did not identify any specific reporting groups or individual insurers. Treasury obtained most of the workers' compensation insurance data from the National Council on Compensation Insurance (which provided data from the states in which it operates as well as on behalf of other independent state workers' compensation rating bureaus), the California Workers' Compensation Insurance Rating Bureau, and the New York Compensation Insurance Rating Board, thereby reducing the burden of the reporting requirements on the insurance industry.

B. Responding Insurer Categories

Insurer groups were required to report in one of four insurer categories, based on the requirements of TRIA and its implementing regulations.[41] These insurer categories (listed below) collectively encompass non-small and small domestic insurers that were "admitted" or licensed to write business in at least one U.S. jurisdiction,[42] domestic and foreign insurers that were permitted as a matter of state law to write U.S. business on a surplus lines basis, and captive insurers admitted or licensed to write TRIP-eligible lines of insurance in at least one U.S. jurisdiction.[43]

For the 2023 data call, the four insurer categories required to report information were as follows:

(1) **Small Insurers:** Domestic insurers or groups (including affiliated alien surplus lines insurers) with *both* 2021 DEP in TRIP-eligible lines of insurance of less than $1 billion *and* a 2021 policyholder surplus of less than $1 billion. The small insurer threshold is calculated annually in relation to the Program Trigger amount.

(2) **Non-Small Insurers:** Domestic insurers or groups (including affiliated alien surplus lines insurers) with either DEP in TRIP-eligible lines of insurance above the small

[39] An "affiliate" under TRIP is "any entity that controls, is controlled by, or is under common control with the insurer." 31 C.F.R. § 50.4(c)(1). Calculation of the deductible and the submission of claims under TRIP is on a group basis, in light of the "affiliate" definition in the regulations. Recoupment surcharges, however, are assessed and collected on an individual company basis. *See* 31 C.F.R. § 50.96. Insurer groups may include both domestic insurers as well as foreign insurers writing business in the United States on a surplus lines basis.

[40] TRIA § 104(h)(3). Insurance Services Office, Inc. was the data aggregator for the 2021, 2022, and 2023 TRIP Data Calls.

[41] Each insurer category was provided with a different reporting template that was tailored to that category.

[42] An admitted company is "an insurance company licensed to do business in a state(s), domiciled in an alternative state or country." "Glossary of Insurance Terms," National Association of Insurance Commissioners (NAIC), http://www.naic.org/consumer_glossary.htm.

[43] Non-admitted insurers can write insurance on a surplus lines basis when the desired coverage cannot be obtained from admitted insurers in the jurisdiction in question. *See* 31 C.F.R. § 50.4(o)(1)(i)(B). *See also* "Glossary of Insurance Terms," NAIC.

insurer threshold or a policyholder surplus above the small insurer threshold.

(3) **Captive Insurers:** Insurers formed to insure the risk exposures of their policyholder owners and regulated by the captive insurance laws of a particular state jurisdiction.[44] Captive insurers are explicitly excluded from the regulatory definition of small insurers, and therefore were not subject to this Study's analysis of small insurers.

(4) **Alien Surplus Lines Insurers:** Alien surplus lines insurers not affiliated with either a non-small or small insurer.[45] Alien surplus lines insurers were not subject to this Study's analysis of small insurers (unless affiliated with an admitted small insurer group).[46]

C. Response Rate

Treasury estimates that the response rate for admitted insurers in the 2023 TRIP Data Call (measured by TRIP-eligible DEP) was at least 99.0 percent for non-small insurers, and at least 82.7 percent for small insurers.[47]

D. Data Quality Evaluation

This Study analyzes data for CY 2013 through 2022, with particular attention to implications and trends based on data from the 2021, 2022, and 2023 TRIP Data Calls.[48] In addition, Treasury reviewed state reporting data to draw conclusions for the period from CY 2013 through 2015.[49]

[44] *See* 31 C.F.R. § 50.4(g).

[45] Alien surplus lines insurers are non-U.S. insurers qualified by state regulators to participate in U.S. insurance markets on a surplus lines basis. They are allowed to write insurance for risks that cannot be placed with domestic licensed insurers in the admitted market. *See* 31 C.F.R. § 50.4(o)(1)(i)(B).

[46] Although most alien surplus lines insurers are below the "small insurer" size threshold, the coverages and policyholders in the surplus market may differ significantly from risks placed in the admitted market. In addition, although admitted small insurers may write insurance in the surplus market, only 11.6 percent of the individual insurers within the small insurer class or market segment that reported in the 2023 TRIP Data Call identified as surplus lines insurers.

[47] The small insurer response rate may be higher than this figure because the non-responder category likely includes some small insurers that were not subject to the data call. Determining the response rate for alien surplus lines and captive insurers under TRIP is more difficult to evaluate because those insurers typically do not submit publicly available information that Treasury can use to independently assess response rates. Based upon prior evaluations and coordination with relevant state insurance regulators, Treasury estimates that the significant majority of alien surplus lines and captive insurers participating in the Program responded to the 2023 TRIP Data Call.

[48] Some of the figures reported in this Study relating to the 2021 and 2022 TRIP Data Calls may not be identical to similar information previously reported by Treasury because of late-reported or corrected data that was submitted after prior report publication.

[49] Treasury performed its first data collection in 2016. However, because it was the first year of data collection under the 2015 Reauthorization Act, Treasury made participation in the collection voluntary to reduce the imposition of undue burdens on insurers; all subsequent data calls from 2017 have been mandatory. *See* Request for Data and Information, 81 Fed. Reg. 11649 (March 4, 2016). Insurers constituting approximately 41 percent of the entire terrorism risk insurance market (by DEP) responded to the 2016 voluntary data call. Because of the limited

Treasury also compared the results of its 2021, 2022, and 2023 TRIP Data Calls with state reporting data for the same period to further validate the accuracy of reported data.

The comparison between the TRIP Data Calls and state reporting data is relevant because TRIP-eligible lines are defined by regulation with general reference to state insurance reporting lines. State insurance regulators collect P&C insurance information from insurers licensed in their respective jurisdictions, and although the collection has not historically included information specific to the terrorism risk insurance component of P&C insurance policies, the information collected identifies DEP by lines of insurance.

The Program relies on state-defined insurance lines and reporting data standards to determine the insurance that is subject to the Program, which promotes efficient program administration. It also enables Treasury to determine whether the data reported by non-small insurers and small insurers under TRIP Data Calls is generally consistent with similar data reported for state regulatory purposes.

The use of the state reporting data in this Study permits analysis of the entire period from 2013 to 2022.[50] However, the nature of the state reporting data results in some variations between the state data and the TRIP data collected by Treasury. There are some differences between the TRIP-eligible lines of insurance and the same lines when used for state reporting purposes. These differences are caused by state reporting lines including certain premium that is not subject to the Program.[51] Treasury has adjusted the state data to account for the premium differential between the TRIP-eligible lines of insurance and the state reporting lines from 2013 to 2022 by assuming that similar amounts of premium in the state reporting lines were not subject to the Program but still reported for state purposes. In addition, the state reporting data used in this analysis relates to the TRIP-eligible lines and is not specific to terrorism risk. For purposes of this analysis, Treasury considers the data, as adjusted, to be instructive and generally consistent with the information generated by the TRIP Data Calls.

The relationship between the small insurer definition and the Program Trigger also affects the analysis of market changes from 2013 to 2022. The Program Trigger has increased each year between 2016 and 2020, affecting the number of insurers defined as small insurers in each of these years. Specifically, the number of insurers classified as small insurers increased because an increasing number of insurers were below the small insurer threshold. Such changes in the Program Trigger have the result of increasing the market share of small insurers, assuming all

response to the 2016 TRIP Data Call, the Study does not compare results from the 2016 voluntary data call to the mandatory data calls. For more information about the voluntary 2016 TRIP Data Call, *see* FIO, *Report on the Overall Effectiveness of the Terrorism Risk Insurance Program* (2016), 7, https://www.treasury.gov/initiatives/fio/reports-and-notices/Documents/2016_TRIP_Effectiveness_%20Report_FINAL.pdf.

[50] All reported state data includes data for the District of Columbia in addition to the 50 U.S. states.

[51] The principal differences between state reporting lines and TRIP-eligible lines are: (1) certain lines of insurance (principally Fire and Allied Lines, but also other lines) encompass policies written to cover personal, and not commercial, exposures, which are not subject to TRIP; and (2) Professional Liability insurance is not subject to TRIP, even though it is reported for state purposes under the Other Liability line of insurance, which is otherwise a TRIP-eligible line of insurance. *See* 31 C.F.R. § 50.4(w).

other considerations remain the same. Treasury discussed this factor in its 2017 and 2019 Small Insurer Studies.[52] Because the Program Trigger is now fixed at $200 million from 2020 until expiration of the Program in 2027, classification of insurers as "small insurers" after 2020 will no longer be affected by periodic changes in the amount of the Program Trigger.

[52] *See* FIO, *2017 Small Insurer Study*, 11-12; FIO, *2019 Small Insurer Study*, 15.

V. 2023 STUDY OF SMALL INSURER COMPETITIVENESS IN THE TERRORISM RISK INSURANCE MARKETPLACE

TRIA requires each small insurer study to include an analysis of the following six areas:

A. Changes to market share, premium volume, and policyholder surplus of small insurers relative to large insurers;

B. How the P&C insurance market for terrorism risk differs between small and large insurers and whether such a difference exists within other perils;

C. The impact of the Program's mandatory availability requirement on small insurers;

D. The effect on small insurers of increasing the Program Trigger;

E. The availability and cost of private reinsurance for small insurers; and

F. The impact that state workers' compensation laws have on small insurers and workers' compensation carriers in the terrorism risk insurance marketplace.

This Study analyzes these areas in subsections A through G below.

Because of the Program's structure, changes in the broader P&C insurance market, unrelated specifically to terrorism risk, may affect the terrorism risk insurance and reinsurance markets.[53]

A. Analysis of Changes to Market Share, Premium Volume, and Policyholder Surplus

Figure 1 sets forth summary information from the 2021, 2022, and 2023 TRIP Data Calls concerning the insurer categories participating in TRIP, as indicated by reported TRIP-eligible DEP.

[53] *See, e.g.*, Willis Towers Watson, *Insurance Marketplace Realities, 2021 Spring Update* (April 21, 2021), 61, https://www.willistowerswatson.com/en-US/Insights/2021/04/insurance-marketplace-realities-2021-spring-update ("Embedded terrorism (TRIA) coverage—coverage included in property and casualty programs—remains inevitably and, at the moment, disadvantageously linked to property and casualty market fluctuations.").

Figure 1: TRIP-Eligible DEP by Insurer Category ($ billions)[54]

	2021 TRIP Data Call		2022 TRIP Data Call		2023 TRIP Data Call	
	2020 DEP in TRIP-Eligible Lines	% of Total	2021 DEP in TRIP-Eligible Lines	% of Total	2022 DEP in TRIP-Eligible Lines	% of Total
Alien Surplus Lines Ins.	$ 11.0	5%	$ 12.1	5%	$ 17.0	6%
Captive Insurers	10.5	5%	14.4	6%	12.0	4%
Non-Small Insurers	175.3	80%	186.9	78%	209.2	78%
Small Insurers	22.2	10%	26.2	11%	31.2	12%
Total	**$ 219.0**	**100%**	**$ 239.6**	**100%**	**$ 269.3**	**100%**

Source: 2021-2023 TRIP Data Calls

Treasury concluded in its 2022 Effectiveness Report that the market for terrorism risk insurance in the United States was relatively stable; that such insurance was both available and affordable to U.S. policyholders; and that the Program has been effective in promoting the observed market stability.[55] Although not the focus of this Study, Treasury's analysis of the 2023 TRIP Data Call is consistent with Treasury's findings in the 2022 Effectiveness Report. Treasury will continue to evaluate the market in its next report on the effectiveness of the Program, to be issued in June 2024. Within the terrorism risk insurance market, small insurers constituted between 10 and 12 percent of the entire TRIP-eligible lines insurance market between 2020 and 2022.

This Section examines changes to the market share, premium volume, and policyholder surplus of small insurers as compared to large (or non-small) insurers between 2013 and 2022. This analysis does not include the market shares of alien surplus lines insurers and captive insurers, given the lack of comparable data. Therefore, the current overall market share of small insurers when measured only against non-small insurers in this Section is slightly higher than the 10 to 12 percent figure noted above for the comparison to the entire market.

Treasury performed multiple analyses to evaluate the changes discussed in this Section. First, Treasury examined the market share of small insurers, using the regulatory definition of small insurer that directly relates to the Program Trigger. Although the small insurer definition was not adopted until 2016, Treasury analyzed 2013-2022 data based on the number of insurers that would have been considered small insurers under the Program if the small insurer definition had been in effect since 2013.[56] Figure 2 uses the state reporting data for the entire 2013-2022 period, as well as the more specific results from Treasury's 2017-2023 TRIP Data Calls, arrayed next to the corresponding years of state data from those years.

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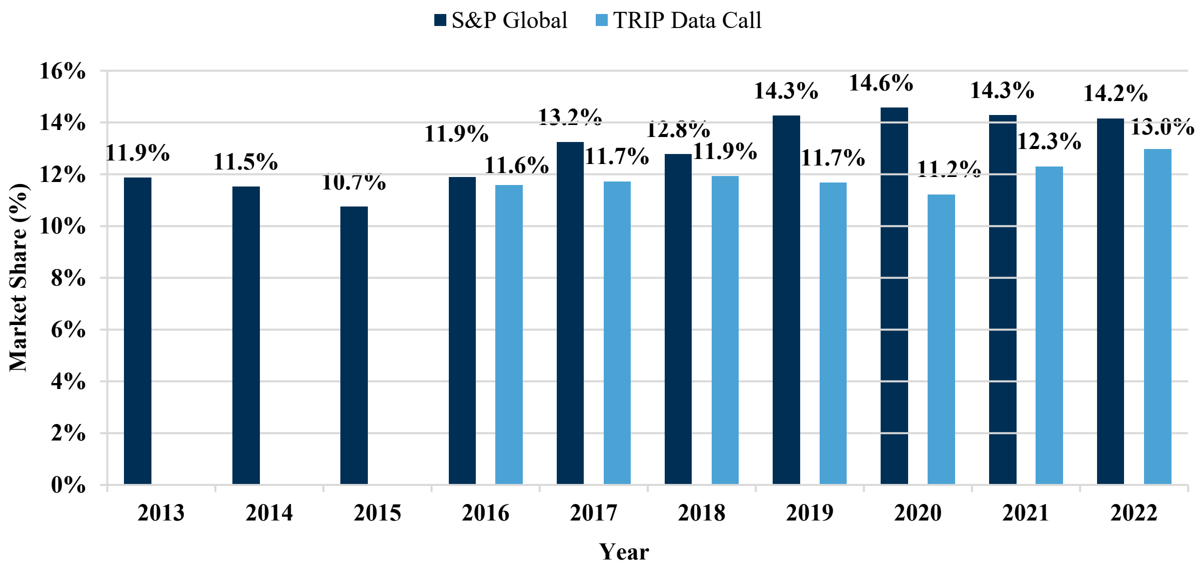
[54] Due to the rounding of numbers for presentational purposes, some totals in the Report do not exactly equal the aggregation of the elements.

[55] Federal Insurance Office, U.S. Department of Treasury, *Report on the Overall Effectiveness of the Terrorism Risk Insurance Program* (2022) (*2022 Effectiveness Report*), 15-17, https://home.treasury.gov/system/files/311/2022%20Program%20Effectiveness%20Report%20%28FINAL%29.pdf.

[56] Thus, Treasury's analysis assumes that small insurers in 2014 and before had less than $500 million in DEP and policyholder surplus, because the Program Trigger was $100 million in those years.

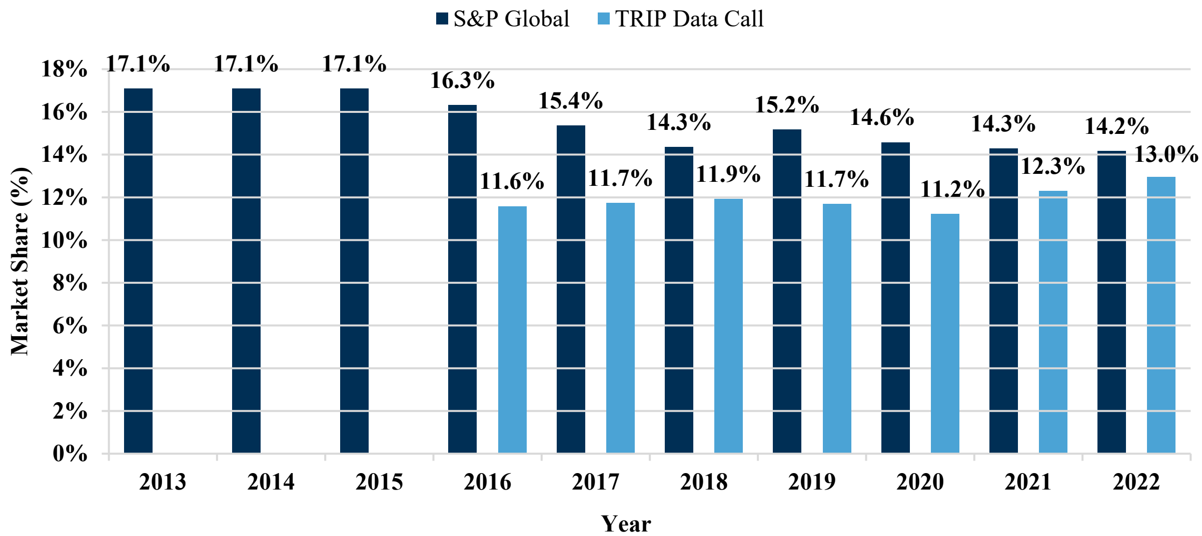
Figure 2: 2013-2022 Market Share by DEP of Small Insurers in TRIP-Eligible Lines based upon Application of Small Insurer Definition in Each Year



Source: S&P Global and 2017-2023 TRIP Data Calls

Figure 2 reflects some fluctuation in the market share of small insurers as compared to non-small insurers based, in part, upon the change in the number of small insurers in the market during each year on account of the application of Treasury's small insurer definition and changes in the Program Trigger. During the 2016-2020 period, the increase in the Program Trigger brought more insurers within the small insurer category. To account for how changes in the Program Trigger affect the number of small insurers, Treasury applied a fixed small insurer threshold between the years 2013 and 2022. This was done by identifying all insurers meeting the 2022 definition of small insurer—that is, all insurers with less than $1 billion in TRIP-eligible lines premium and policyholder surplus. Using this approach, Figure 3 shows the same market share analysis from 2013 to 2022, again using both the state reporting data as well as data from the TRIP Data Calls.

Figure 3: 2013-2022 Market Share by DEP of Small Insurers in TRIP-Eligible Lines based upon 2022 Application of Small Insurer Definition

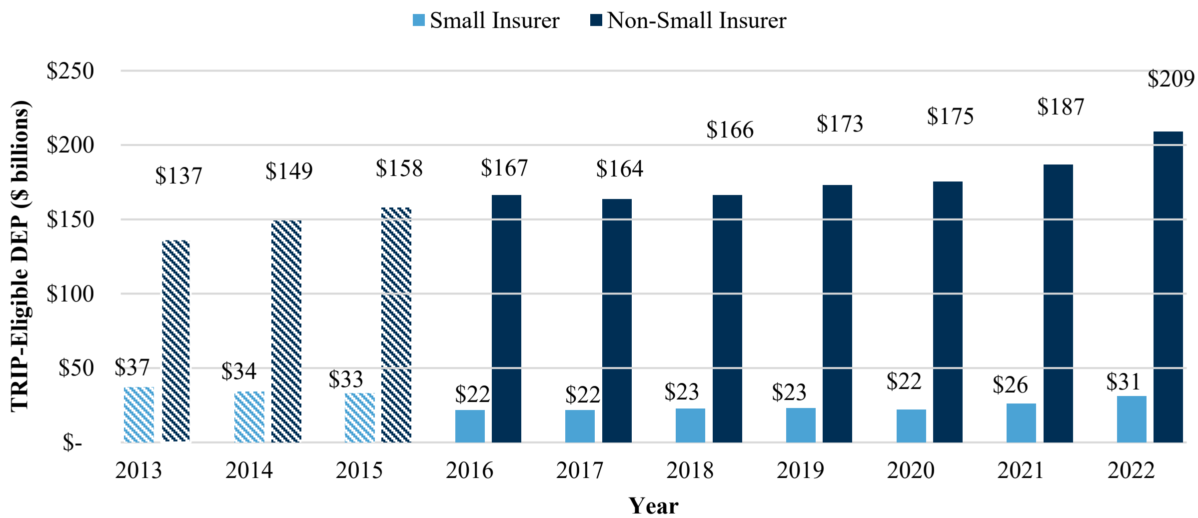


Source: S&P Global and 2017-2023 TRIP Data Calls

After accounting for the definitional change in the small insurer threshold, Figure 3 generally shows a decrease in small insurer market share earlier in the period, from 2013 through 2016 (particularly if only the TRIP Data Call information is considered). Since 2017, the share has remained relative constant and slightly increased in 2021 and 2022.

Figure 4 compares the premium volume for TRIP-eligible lines for small insurers and non-small insurers from 2013 to 2022. It uses the 2022 small insurer threshold to evaluate the experience of small and non-small insurers over time and uses state data for the 2013-2015 period, and the TRIP Data Call information for the 2016-2022 period.

Figure 4: 2013-2022 Premium Volume Comparison for TRIP-Eligible Lines
Small Insurers vs. Non-Small Insurers



Source: S&P Global (2013-2015) and 2017-2023 TRIP Data Calls (2016-2022)

As shown in Figure 4, small insurer DEP declined prior to 2016, remained relatively constant between 2016 and 2020, and grew by approximately 20 percent annually over the past two years.[57] In comparison, the premium of non-small insurers generally increased during this entire period. The result is a gradual market share decline for small insurers until 2016, followed by a leveling off until 2020. Small insurer market share has increased slightly in recent years.

Figure 5 compares policyholder surplus for small insurers and non-small insurers between 2013 and 2022, again applying the 2022 small insurer threshold for each year. Policyholder surplus is an indicator of an insurer's financial health, and its ability to pay claims and write new business.[58]

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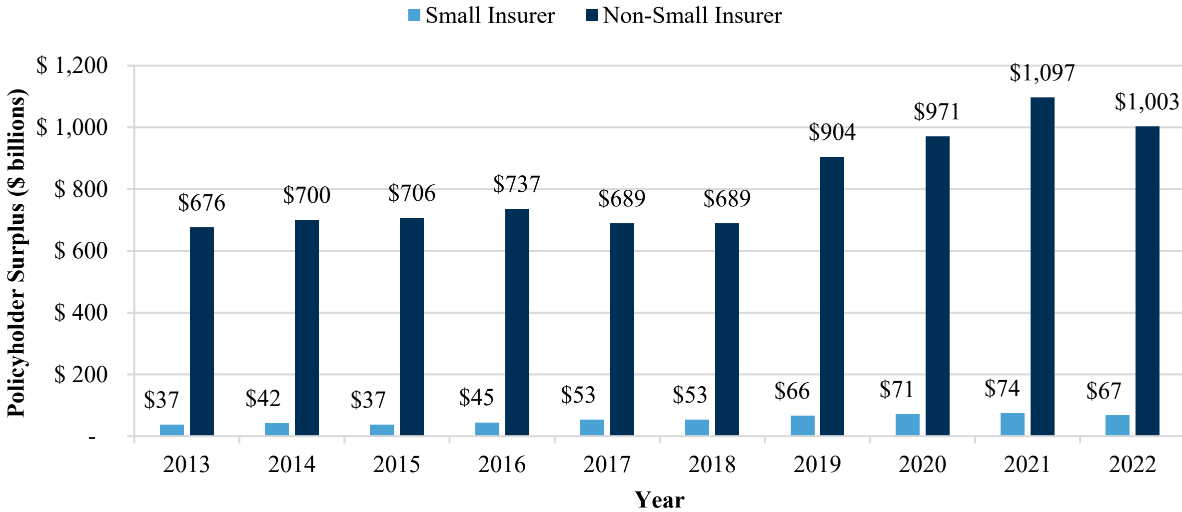
[57] After accounting for the change in the data used beginning in 2016, where TRIP Data Call information is used instead of adjusted state data.

[58] Policyholder surplus is the measurement of an insurer's "assets in excess of the liabilities of a company or net income above any monies indebted to legal obligation." "Glossary of Insurance Terms." The policyholder surplus of a P&C insurer is not limited to supporting an insurer's terrorism insurance exposure; rather, it "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." Congressional Research Service, *Terrorism Risk Insurance: Overview and Issue Analysis for the 116th Congress* (2019), 11, https://crsreports.congress.gov/product/pdf/R/R45707.

Figure 5: 2013-2022 Policyholder Surplus Comparison
Small Insurers vs. Non-Small Insurers



Source: S&P Global

Between 2013 and 2022, the aggregate policyholder surplus for all small insurers ranged from a low of $37 billion in 2013 as well as in 2015, to a high of $74 billion in 2021. The policyholder surplus of non-small insurers generally increased from 2013 through 2016 and, after a small decrease in the 2017-2018 period, continued to grow from 2019 to 2021. Policyholder surplus of both small insurers and non-small insurers declined in 2022, in response to, among other things, significant catastrophic loss experience sustained by P&C insurers that year.[59]

In summary, in the absence of data specific to terrorism risk insurance from 2013 to 2015, this Study's use of the state-reported TRIP-eligible lines data for the 2013-2015 period serves as a proxy for market share information during these years. Based upon this information, the market share of small insurers (measured by TRIP-eligible lines premium and adjusting for the small insurer size threshold over time) experienced a decline relative to the market share of non-small insurers between 2013 and 2016. This decline in market share for small insurers has leveled off since 2016. During this 2013-2016 period, the small insurer DEP remained relatively constant, while the DEP of non-small insurers increased, leading to the observed decline in small insurer market share. Policyholder surplus for small insurers has increased over the last decade for both small and non-small insurers (although fluctuating in different years for different groups). Nonetheless, from 2013 to 2022, the amount of small insurer policyholder surplus vis-à-vis non-small insurer policyholder surplus has not changed significantly (i.e., small insurer policyholder surplus was about 5.5 percent of the amount of non-small insurer policyholder surplus in 2013 and 6.6 percent in 2022).

[59] *See* "Near $27B Underwriting Loss in 2022 Largest for U.S. P/C Insurers Since 2011," *Business Insurance*, March 30, 2023, https://www.insurancejournal.com/news/national/2023/03/30/714476.htm.

B. Market Differences Between Small Insurers and Larger Insurers in the Terrorism Risk Insurance Marketplace and Comparison to Other Perils

Based upon information collected through Treasury's TRIP Data Calls, this section analyzes premiums, take-up rates, geographic scope of writings, and the lines of insurance in which small insurers are more heavily concentrated and comprised a larger share of the overall market.

Terrorism risk coverage provided under TRIP is generally "embedded" in policies that also cover other risks. Approximately 80 percent of the U.S. terrorism risk insurance market (as measured by terrorism risk insurance DEP), in any given year, is comprised of such embedded policies.

The remaining 20 percent of the U.S. terrorism risk insurance market is comprised of policies provided on a "standalone" basis, where the policy provides coverage only and specifically for terrorism risk. This section separately examines coverage provided on a standalone basis, as well as the additional specialized coverage areas of cyber terrorism and terrorism risk insurance for NBCR terrorism events.

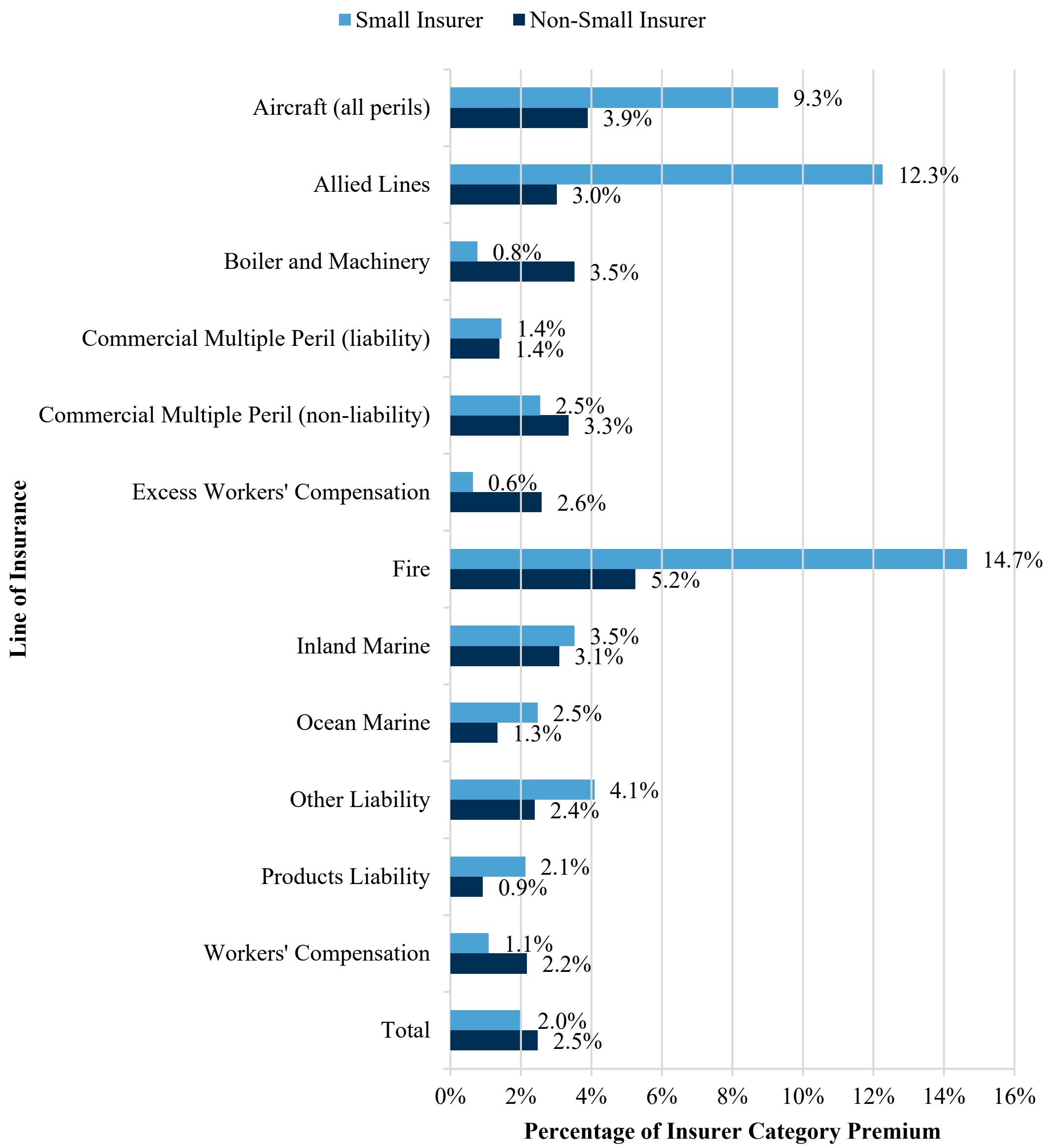
1. Embedded Policies

Embedded terrorism risk insurance is provided in P&C policies that also cover other risks. Under the Program, insurers must disclose to policyholders the amount of premium charged for embedded terrorism risk insurance.[60] The premium can be expressed to the policyholder as a percentage of the total premium charged for the policy. Similarly, analyses of terrorism risk insurance also typically express the cost of terrorism risk insurance as a percentage of total premiums charged. In many cases, terrorism risk insurance is provided at a disclosed premium of $0, meaning it is provided by insurers at no additional charge.

Figure 6 compares the percentage of total policy DEP allocated to terrorism risk by small insurers and non-small insurers on a line-by-line basis. This figure excludes P&C policies where the insurer did not charge for terrorism risk coverage. Figure 6 shows that when insurers charge a premium for terrorism risk insurance, the percentage of the total policy premium relating to terrorism risk for small insurers is, overall, slightly less than the percentage charged by large insurers. However, small insurers did report larger percentage charges than non-small insurers in some TRIP-eligible lines.

[60] *See* 31 C.F.R. §§ 50.10, 50.12.

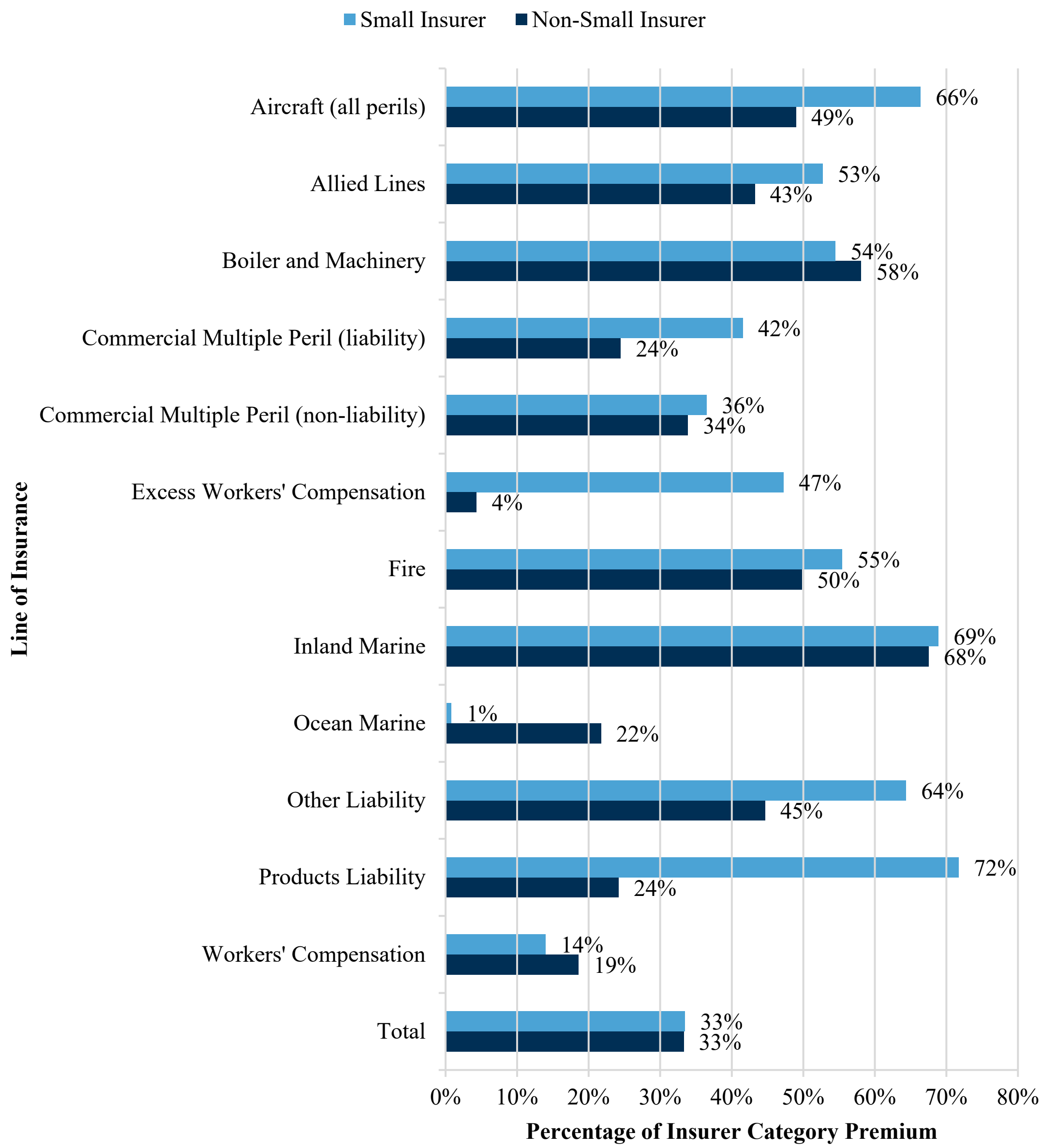
Figure 6: 2022 Percentage of Total Policy DEP Allocated to Terrorism Risk (by Line of Insurance and Insurer Category)



Source: 2023 TRIP Data Call

Figure 7 identifies, by percentage of total policy DEP for those policies that provide terrorism risk insurance, where the coverage was provided for no additional charge.

Figure 7: 2022 Percentage of DEP Where Policies Include Terrorism Coverage at No Additional Cost (by Line of Insurance and Insurer Category)



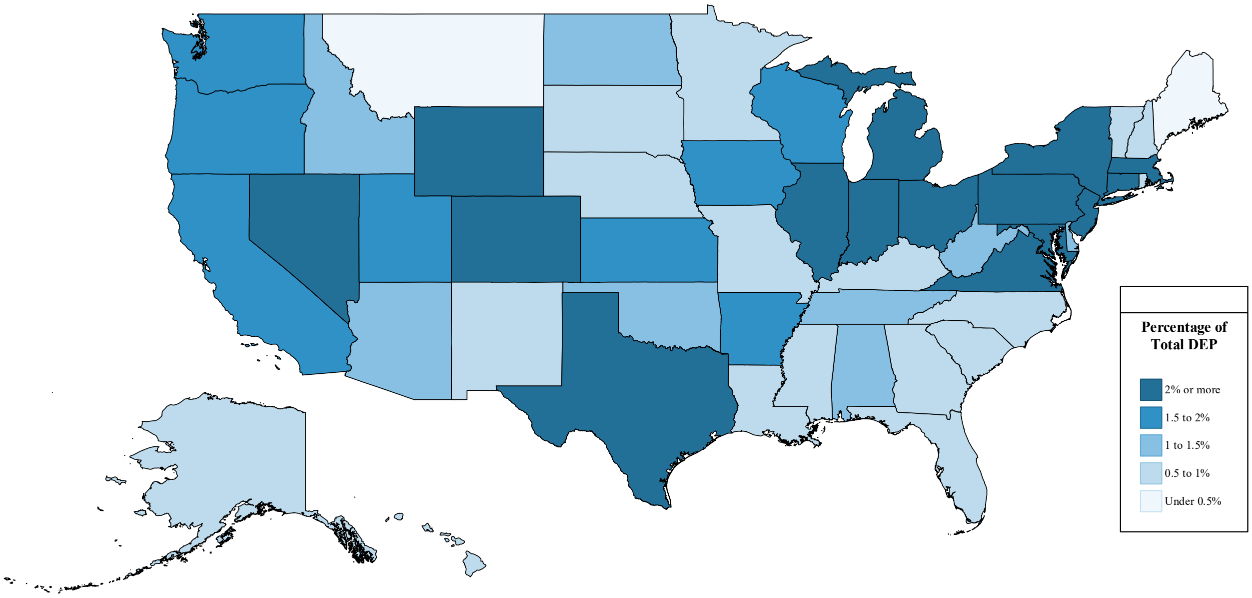
Source: 2023 TRIP Data Call.

Figure 7 shows that small insurers are as likely as non-small insurers to charge no premium at all for terrorism risk insurance under embedded policies. This information is a change from prior years in which small insurers were slightly more likely to charge no premium at all for terrorism risk.[61]

The amounts that insurers charge for terrorism risk coverage vary not only by line of insurance but also by geographic area. Figures 8 and 9 present maps illustrating the percentage of total premiums charged for terrorism risk by small insurers (Figure 8) and non-small insurers (Figure 9) in each of the 50 states and the District of Columbia. The percentages in Figures 8 and 9 only account for policies in which a charge was made, and do not include those policies in which no charge was made. When evaluating the premium that an insurer charges for terrorism risk insurance, the available data does not provide any information concerning the nature of the particular risks being insured by a given policy or insurer, which will affect the premium being charged.

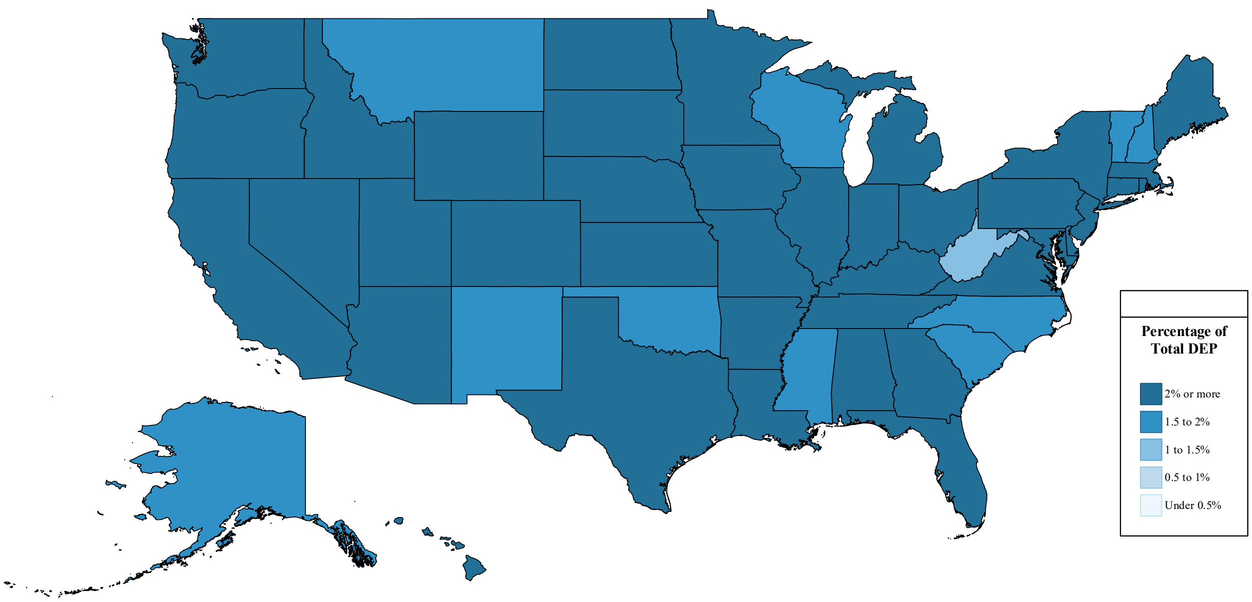
[61] *Compare* FIO, *2021 Small Insurer Study*, 22-25. One commenter has suggested that the Program is apparently having a positive impact upon the competitiveness of small insurers in the terrorism risk insurance marketplace because small insurers are more likely than other insurer groups to charge a $0 premium for terrorism risk. *See* CBI Comments, 1-3. As the most recent data reflects, however, small insurers are no longer more likely than non-small insurers to charge a $0 premium for terrorism risk.

Figure 8: 2022 Percentage of Total Policy DEP Allocated to Terrorism Risk by Small Insurers (by State)



Source: 2023 TRIP Data Call

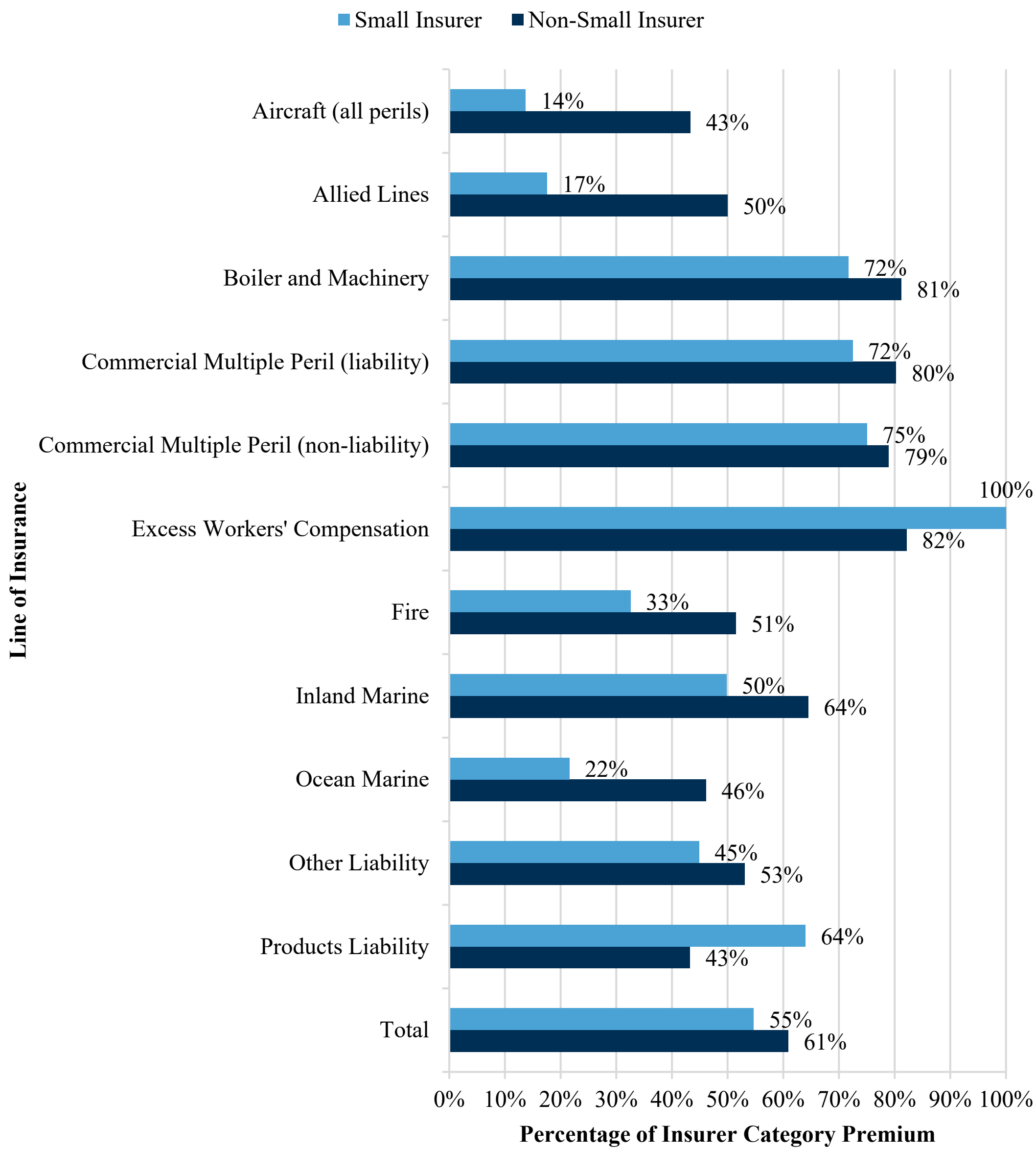
Figure 9: 2022 Percentage of Total Policy DEP Allocated to Terrorism Risk by Non-Small Insurers (by State)



Source: 2023 TRIP Data Call

Figure 10 compares the take-up rates for terrorism risk insurance issued by small insurers and non-small insurers on a line-by-line basis.

Figure 10: 2022 Terrorism Risk Insurance Take-Up Rates (by Line of Insurance and Insurer Category)[62]



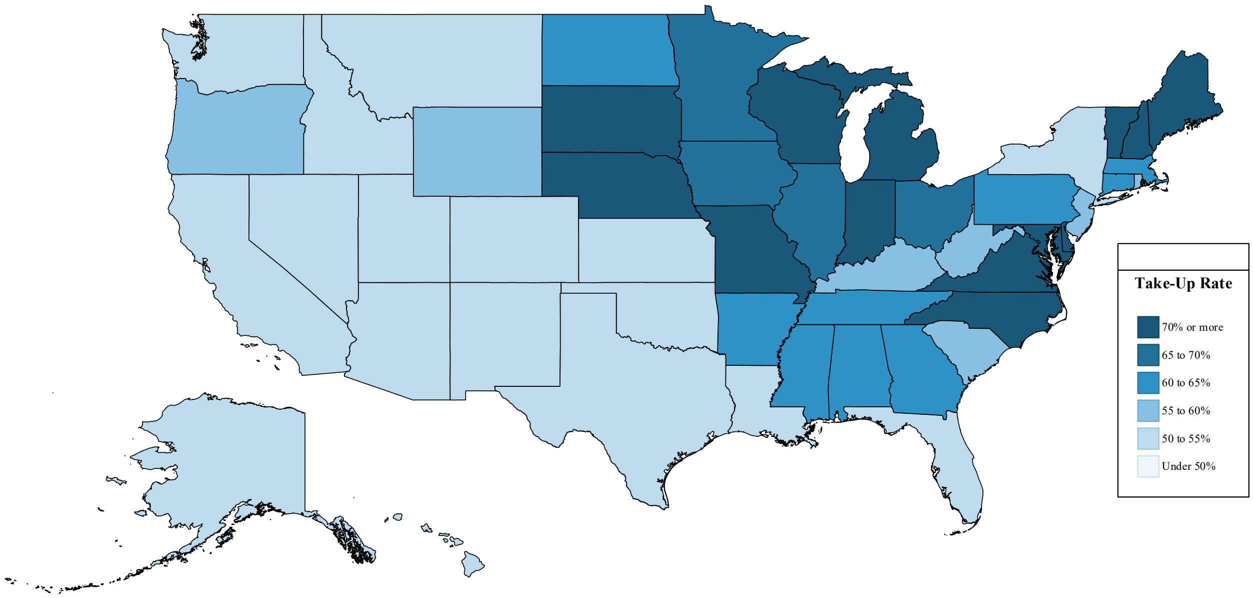
Source: 2023 TRIP Data Call

When measured by DEP, policyholder take-up rates for policies written by small insurers were slightly lower than those of non-small insurers, both within most individual lines and across the overall market.[63]

[62] As a matter of state law, primary workers' compensation policies must provide coverage for terrorism risk, and thus the effective take-up rate for this line is 100 percent. By contrast, excess workers' compensation insurance is

Figures 11 and 12 illustrate take-up rates on a state-by-state basis for small insurers and non-small insurers, respectively. These figures include policyholder take-up rates for all lines except workers' compensation.[64]

Figure 11: 2022 Terrorism Risk Insurance Take-Up Rates for Small Insurers (by State)



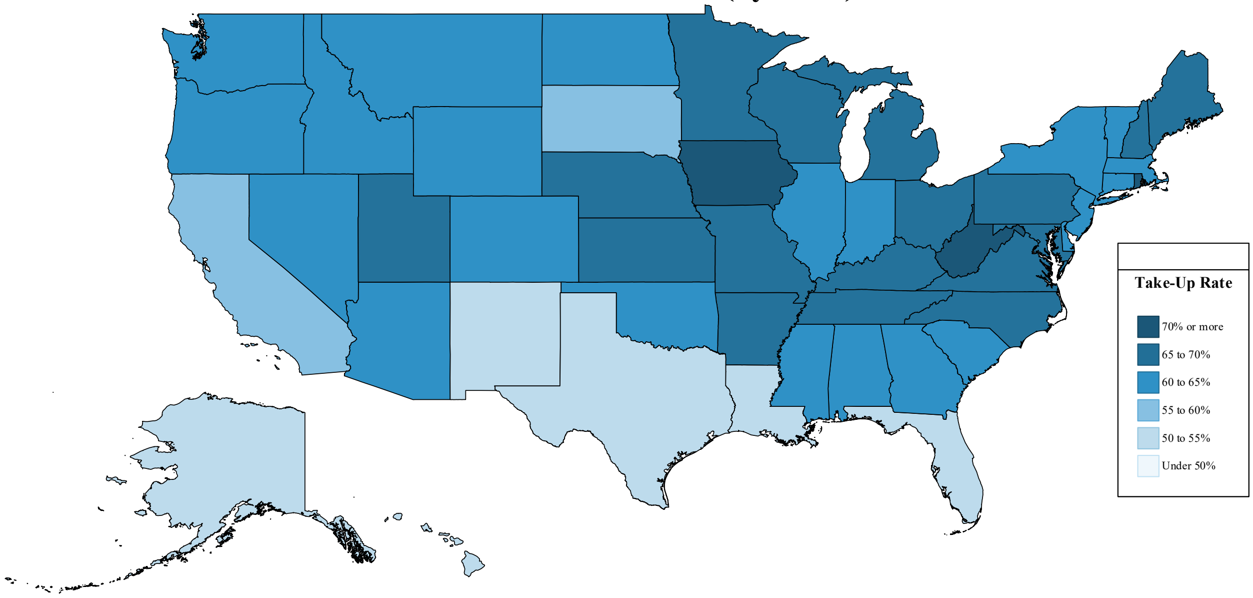
Source: 2023 TRIP Data Call

purchased by companies that otherwise self-insure for workers' compensation liability. The excess policy will provide coverage in excess of the obligations to the policyholder as defined in the policy. Because state law permits excess workers' compensation insurance to exclude or limit certain risks, the take up rate for terrorism risk insurance under excess workers' compensation insurance can be less than 100 percent (although the self-insured policyholder will remain liable for any excluded exposure). *See also* Section V.G (discussing workers' compensation insurance).

[63] This differs from the 2021 Small Insurer Study, which found that policyholder take-up rates for policies written by small insurers were generally higher than those of non-small insurers. However, this is consistent with the 2019 Study. *Compare* FIO, *2021 Small Insurer Study*, 26-28, with FIO, *2019 Small Insurer Study*, 26-27.

[64] Workers' compensation is not included because policyholders must obtain terrorism risk insurance under such policies and the take up rate is thus effectively 100 percent. Excess workers' compensation is included, however, because policyholders can decline terrorism risk insurance in connection with such insurance. *See* note 62, above.

Figure 12: 2022 Terrorism Risk Insurance Take-Up Rates for Non-Small Insurers (by State)

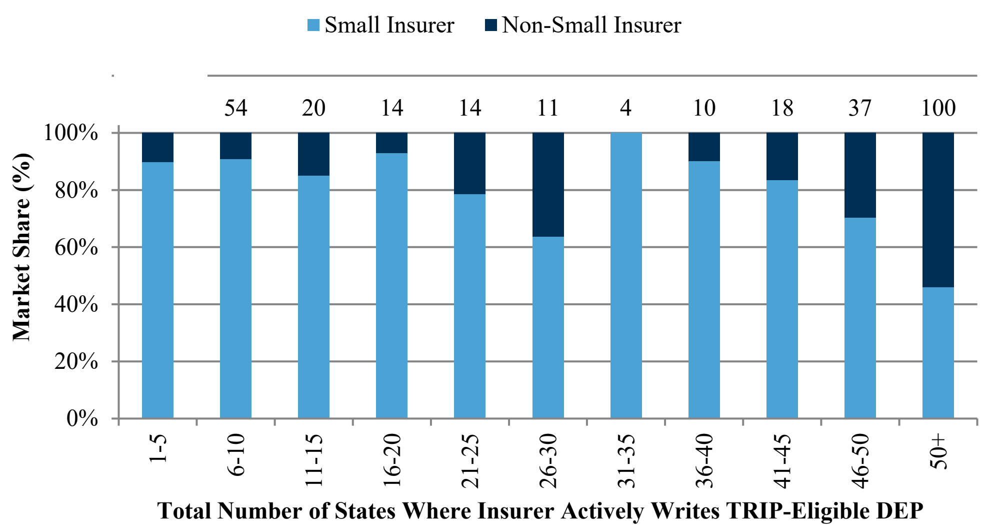


Source: 2023 TRIP Data Call

Appendix 1 to this Study contains a table setting forth the specific 2022 take-up rates presented in Figures 11 and 12 by state for both small and non-small insurers. Appendix 2 to this Study provides more detailed take-up information for small and non-small insurers, by state and by groups of TRIP-eligible lines of insurance. The Appendices provide further detail on how take-up may vary by state, type of insurance, and small versus non-small insurers.

Figure 13 compares the geographic footprints of small insurers and non-small insurers by examining the number of states in which each insurer writes coverage, as measured by DEP.

Figure 13: 2022 Geographic Scope of DEP (by Insurer Category)

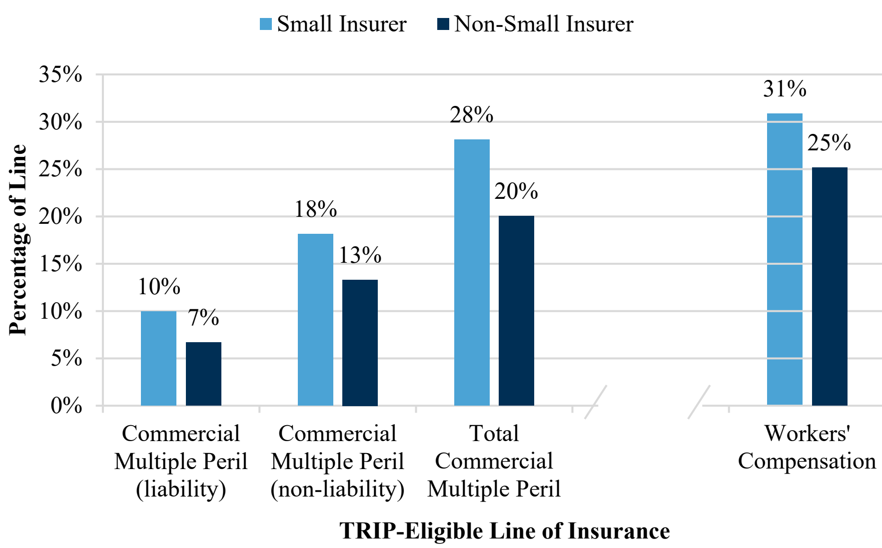


Source: S&P Global.

Figure 13 demonstrates that small insurers typically insure policyholder risks within a smaller geographic footprint than do larger insurers. Small insurers tend to operate on a regional basis in a smaller number of states than do non-small insurers, which may result in small insurers having a significant presence in individual local markets.[65]

Figure 14 compares the DEP written by small insurers and non-small insurers in selected lines of insurance. Specifically, this figure examines TRIP-eligible lines DEP written within the CMP and workers' compensation lines. CMP products provide coverage for multiple lines of insurance within a single policy and tend to be marketed towards small- to medium-sized businesses.[66] Workers' compensation insurance, which is discussed in greater detail in Section V.G., provides insurance for workplace injury benefits available under state workers' compensation systems.

Figure 14: 2022 Percentage of DEP in the CMP and WC Lines (by Insurer Category)



Source: 2023 TRIP Data Call

Figure 14 shows that the TRIP-eligible DEP of small insurers is more heavily concentrated in the CMP and workers' compensation lines of insurance than is the case for non-small insurers. As a result, such small insurers have a larger share of the CMP and workers' compensation lines of insurance than they have of other TRIP-eligible lines.

[65] *See, e.g.,* NAMIC Comments*,* 2 ("If the program were kept in place with the mandatory offer provision, but the various levels were increased to a point where small insurers would have to pull out of certain markets due to a fear of being unable to access the TRIA program, this would have a negative impact on the broader insurance market in those areas. This is because many of these smaller regional carriers play an important role in ensuring there is available coverage across lines of insurance.").

[66] *See generally* "Understanding Business Owners Policies (BOPs)," Insurance Information Institute, http://www.iii.org/article/understanding-business-owners-policies-bops.

2. Standalone Terrorism Policies

Data collected during the 2023 TRIP Data Call reflects other differences between small insurers and other insurers participating in TRIP regarding certain types of terrorism risk insurance. Standalone policies provide coverage only for terrorism risk, and they are generally used when properties or operations present heightened exposure to terrorism risk. Standalone terrorism coverage can be provided either through "certified" standalone terrorism risk policies, which are written subject to the terms and conditions of TRIP, or through "non-certified" standalone terrorism policies, which do not meet the terms and conditions of TRIP. Non-certified standalone terrorism policies therefore cover terrorism-related losses (as defined in the specific policy) regardless of whether the Secretary has certified an act of terrorism under TRIA.[67]

Small insurers continued to report no confirmed data reflecting the issuance of standalone terrorism risk insurance policies, consistent with the experience of prior TRIP Data Calls. Figure 15 illustrates that for 2022 such policies continue to be issued in large numbers by other categories of insurers.

Figure 15: 2022 Certified Standalone Policies and Non-Certified Standalone Policies (by Policy Count and DEP)

	Certified Standalone Policies			Non-Certified Standalone Policies		
	# of Policies	Total DEP	Average Policy Cost	# of Policies	Total DEP	Average Policy Cost
Alien Surplus Lines Insurers	5,299	$ 112,481,789	$ 21,227	3,886	$ 85,339,264	$ 21,961
Captive Insurers	245	416,322,671	1,699,276	2	52,922,635	26,461,318
Non-Small Insurers	2,767	92,850,664	33,556	1,534	83,656,399	54,535
Total	**8,311**	**$ 621,655,124**	**$ 74,799**	**5,422**	**$ 221,918,298**	**$ 40,929**

Source: 2023 TRIP Data Call

3. Cyber Risk

As Treasury has previously observed, "[c]yber insurance has been generally characterized as providing coverage for risks arising 'from the use of electronic data and its transmission, including technology tools such as the internet and telecommunications networks,' as well as providing coverage for 'physical damage that can be caused by cyber attacks, fraud committed by misuse of data, any liability arising from data storage,' and other risks associated with 'the availability, integrity and confidentiality of electronic information.'"[68]

[67] While "non-certified standalone terrorism" policies can provide broader (beyond the scope of TRIP) coverage in certain circumstances, industry participants have noted that "its pricing, along with the constraint of limited available aggregate for certain risks, prevent it from serving as a replacement for TRIPRA [the 2015 TRIP Reauthorization Act] for many organizations." Testimony of Tarique Nageer, Terrorism Placement and Advisory Leader, Marsh, Before the United States Senate Committee on Banking, Housing, and Urban Affairs The Reauthorization of the Terrorism Risk Insurance Program (June 18, 2019), 12, https://www.banking.senate.gov/imo/media/doc/Nageer%20Testimony%206-18-19.pdf.

[68] FIO, *2022 Effectiveness Report*, 59 (citation omitted).

Depending on the circumstances, malicious cyber activity could constitute an act of terrorism under TRIA. As a result, to the extent cyber insurance is written under a policy that is within the TRIP-eligible lines of insurance, the provisions of TRIA apply to such policies just as they do regarding losses from other acts of terrorism.[69]

The cyber insurance market remains one of the fastest growing segments of the P&C market, but also is still a very small proportion of the overall P&C market.[70] The market continues to develop and grow, although a significant portion of that growth in recent years has been because of premium increases in the coverage that are driven by multiple factors, including adverse claims experience and increased demand for the coverage. Prices continue to increase, although such increases may have moderated based on the imposition of stricter underwriting controls and cybersecurity requirements on policyholders that have reduced claims and improved insurers' profitability.[71]

Figure 16 shows the market participation for cyber policies within TRIP-eligible lines.[72]

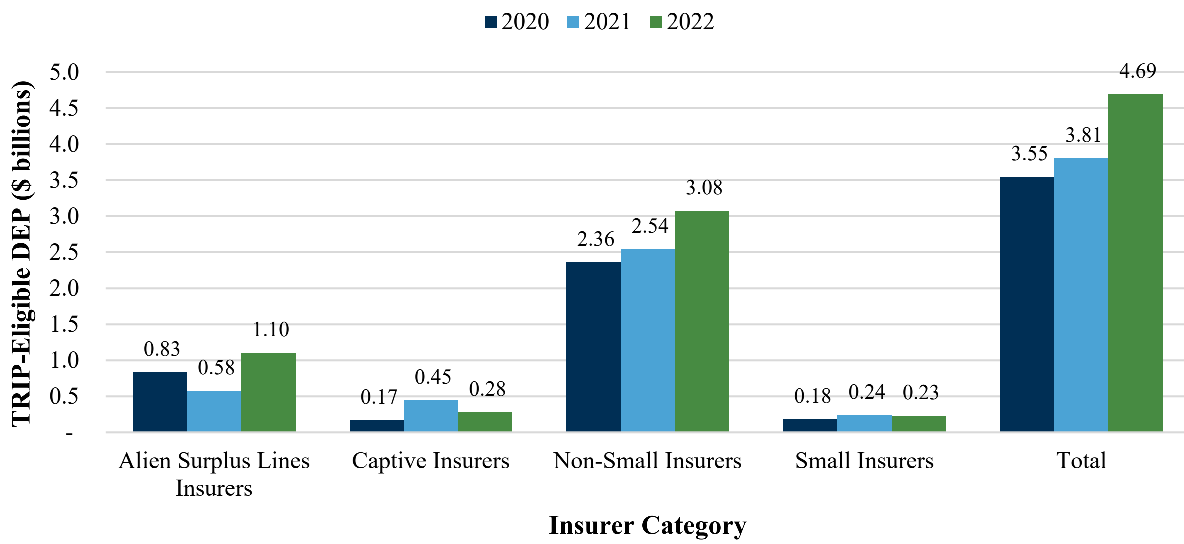
[69] *See* 31 C.F.R. § 50.4(w)(1); Terrorism Risk Insurance Program; Updated Regulations in Light of the Terrorism Risk Insurance Program Reauthorization Act of 2019, and for Other Purposes, 86 Fed. Reg. 30537 (June 9, 2021) (adopting regulation to codify within the Program Rules Treasury's prior guidance concerning cyber insurance under TRIP).

[70] FIO addressed the state of the cyber insurance market, including the impact of ransomware claims upon the market, in its 2022 Effectiveness Report. *See* FIO, *2022 Effectiveness Report*, 62-65.

[71] *See, e.g.*, "Top Cyber Insurers: 2022 Ranking Reveals Sprinters, Market Share Shifts," *Insurance Journal*, May 17, 2023, https://www.insurancejournal.com/news/national/2023/05/17/721092.htm; Fitch, *U.S. Cyber Insurance Market Update; Sharp Pricing Increases Yield Strong Profit Improvement* (May 12, 2023), available through https://www.fitchratings.com/research/insurance/us-cyber-insurance-market-update-sharp-pricing-increases-yield-strong-profit-improvement-12-05-2023.

[72] Most cyber insurance in the United States is written in lines of insurance subject to TRIP. However, cyber insurance can be written in a variety of forms and packages that are classed as professional liability insurance, which is excluded from the Program by TRIA. Based on the information reported, FIO estimated in 2022 that approximately five percent of reported cyber premium is written in lines of insurance not subject to TRIP. *See* FIO, *2022 Effectiveness Report*, 67-68. However, the 2023 data call, which includes a higher response rate on the cyber data, now reflects that this figure is approximately 15 percent. The amount of cyber insurance not subject to TRIP could be slightly larger than this percentage because Treasury's data would not capture cyber insurance premium written by insurers not otherwise subject to reporting in the TRIP Data Calls.

Figure 16: 2020-2022 TRIP-Eligible DEP for Cyber Policies

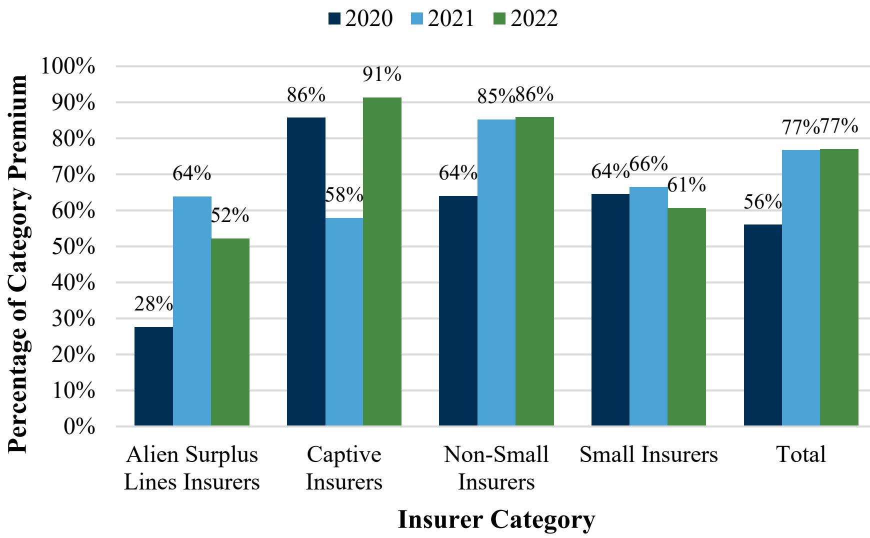


Source: 2021-2023 TRIP Data Calls

Figure 16 indicates that small insurers participate in the market for cyber insurance in the TRIP-eligible lines of insurance. However, their market share is less than their market share in the overall TRIP-eligible lines of insurance, ranging between 5 and 6 percent depending upon the year.

Figure 17 shows the 2020 through 2022 industry percentages for policyholders that obtained terrorism risk insurance in connection with purchasing cyber coverage.

Figure 17: 2020-2022 Take-Up Rates for Terrorism Risk Insurance under Cyber Policies (by TRIP-Eligible DEP)



Source: 2021-2023 TRIP Data Calls

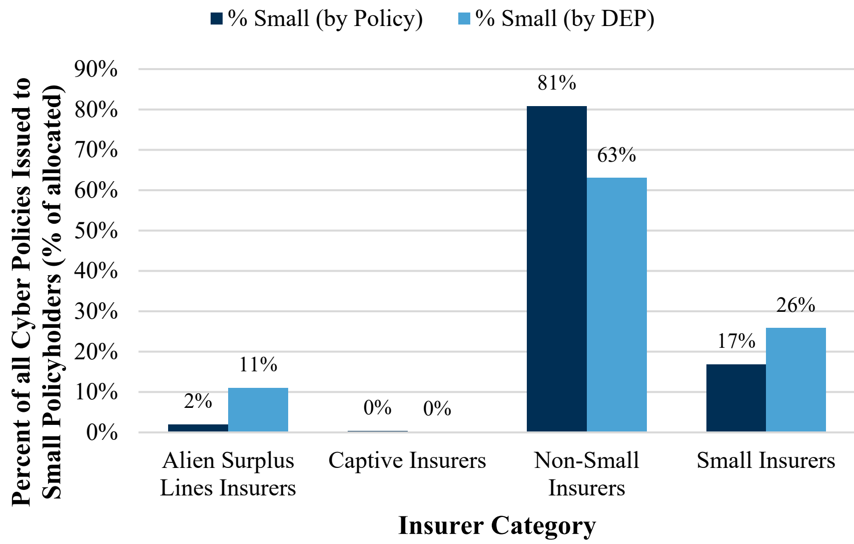
The terrorism take-up rate in 2021 and 2022 for terrorism risk insurance under cyber policies is significantly higher than reported in prior data calls, largely based upon the experience of non-small insurers that constitute the largest share of the cyber insurance market. The take-up rate for small insurers during the 2020-2022 period has remained relatively constant.

In 2022, Treasury began seeking more detailed information in the TRIP Data Calls on cyber insurance. Among other things, the TRIP Data Call sought information on cyber insurance take up by size of policyholder.[73] Most insurers participating in the 2023 Data Call reported information by size of policyholder, both in terms of number of policies issued and DEP.[74] While the data reflects that small insurers have a smaller share of the cyber insurance market than they generally have in the TRIP-eligible lines of insurance (see Figure 16), Figure 18 shows that their share of the market for cyber insurance issued to small policyholders is significantly higher, no matter how measured.

[73] *See* FIO, *2022 Effectiveness Report*, 66-69 (discussing expanded cyber insurance data call elements and initial findings from same).

[74] The policyholder size categories for the TRIP Data Call were the following: small (100 employees or less, or less than $10 million in revenue), medium (101-500 employees or $10-$100 million in revenue), and large policyholders (more than 500 employees or more than $100 million in revenue). *See* 2023 Terrorism Risk Insurance Program Data Call, 88 Fed. Reg. 18632, 18632 & n.6 (March 29, 2023). Based upon a comparison of total cyber insurance premiums reported generally in the 2023 TRIP Data Call versus total cyber insurance premium reported by size of policyholders, more than 80 percent of insurers reported the information allocated by policyholder size in the 2023 TRIP Data Call.

Figure 18: 2022 Market Share (by Number of Policies and DEP) for Cyber Insurance Issued to Small Policyholders (by Category of Insurer)



Source: 2023 TRIP Data Calls

The availability and scope of cyber insurance coverage is of critical importance to the U.S. economy, and Treasury will continue to evaluate issues related to cyber insurance, both in the context of the terrorism risk insurance market and otherwise, in future reports by FIO.[75] In particular, FIO is undertaking further analysis and engagement on insurance for catastrophic cyber incidents, including the ways in which aspects of this issue may converge with or diverge from the Program and terrorism risk insurance more broadly.

4. Nuclear, Biological, Chemical, and Radiological Risk

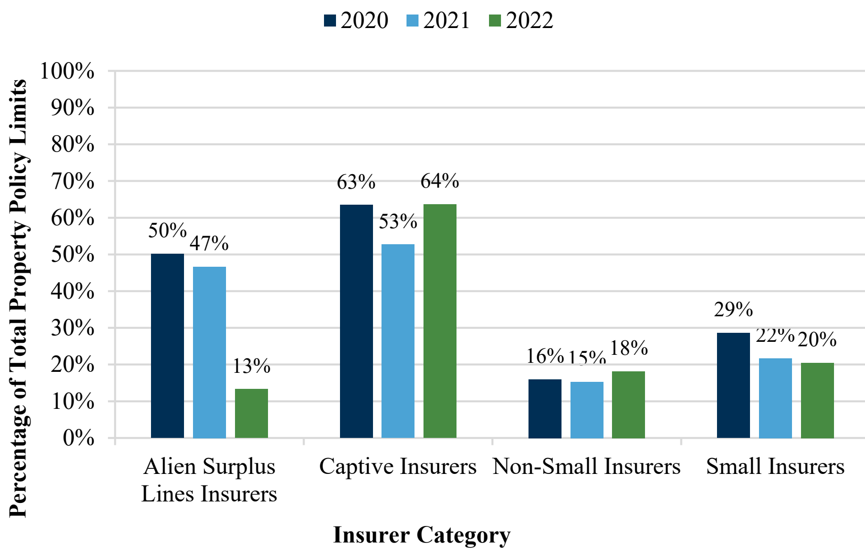
TRIA requires participating insurers to offer insurance for terrorism risk on the same basis as insurance offered for other perils. Insurers are not required to offer terrorism risk insurance in the case of perils for which non-terrorism coverage is generally not provided or is specifically excluded.[76] Starting with the 2019 TRIP Data Call, Treasury requested information on NBCR

[75] FIO is also engaging with the Department of Homeland Security's Cybersecurity and Infrastructure Security Agency and the White House's Office of the National Cyber Director in an evaluation of whether a federal insurance response for catastrophic cyber risk to U.S. critical infrastructure is warranted and, if so, what form that response should be. *See generally* Potential Federal Insurance Response to Catastrophic Cyber Incidents, 87 Fed. Reg. 59161 (Sept. 29, 2022).

[76] *See* 31 C.F.R. § 50.22(b).

coverage provided by insurers in order to determine the extent to which NBCR coverage may be available under TRIP-eligible lines policies.[77]

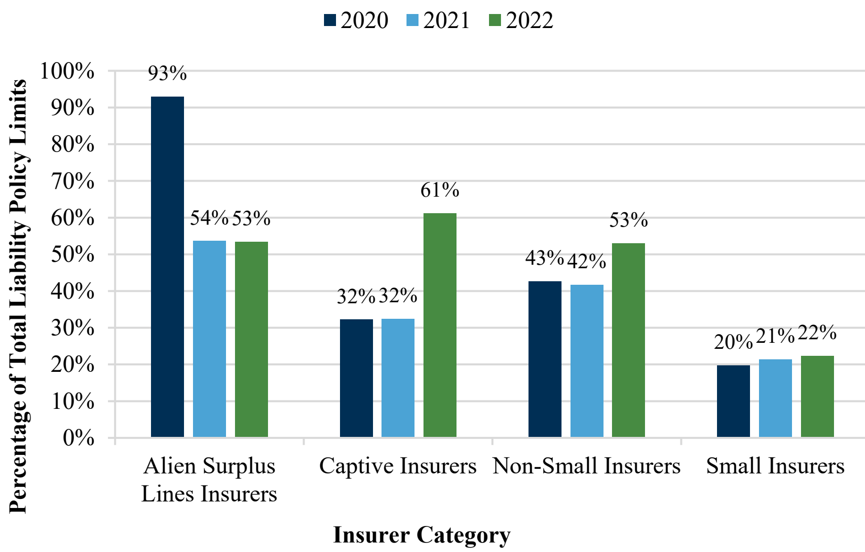
Figure 19: 2020-2022 Percentage of Terrorism Risk Insurance Property Limits Where NBCR Exposures are not Entirely Excluded



Source: 2021-2023 TRIP Data Calls

[77] Treasury collected information on both property and liability policy limits where terrorism risk insurance was provided ***and*** coverage for all NBCR events was ***not*** entirely excluded. This approach results in an analysis of the policy limit levels where at least some terrorism coverage for NBCR-related events is provided. The data is not a measurement of the limits insured for any particular type of NBCR event (e.g., nuclear). The figures will therefore tend to overstate the total amount of NBCR coverage available, particularly on a per peril basis. Treasury did not seek further information concerning workers' compensation policies because such policies must cover all perils, including NBCR risks.

Figure 20: 2020-2022 Percentage of Terrorism Risk Insurance Liability Limits Where NBCR Exposures are not Entirely Excluded



Source: 2023 TRIP Data Call

The extent of coverage for NBCR terrorism events is an important consideration because such losses may pose a very substantial risk of aggregation of catastrophic terrorism losses, given the potential magnitude of attacks using nuclear, biological, chemical, and radiological agents.[78] Recently reported information indicates that small insurers, like other industry segments, generally exclude a significant portion of all NBCR-related exposures when they are providing coverage for terrorism risk. However, the reported information also continues to show that small insurers do not completely exclude NBCR exposures for property risks in proportions significantly different than the other industry segments (excepting captive insurers) and there also remain variations in connection with liability insurance across all industry segments. While the data reflects that each industry segment retains a significant amount of terrorism risk exposure that is not subject to a complete exclusion of NBCR-related exposures, the existence of such exclusions does indicate that a large NBCR event could result in significant uninsured losses and relatively little resulting support from the Program.

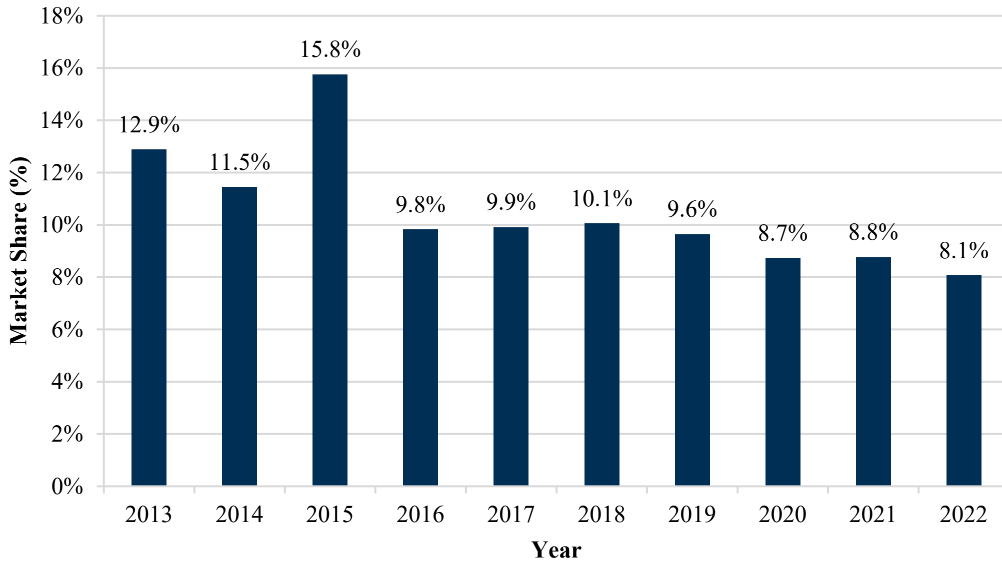
5. Comparison to Other Perils

The information collected in connection with the 2021, 2022, and 2023 TRIP Data Calls shows differences between the participation of small insurers and non-small insurers in the terrorism risk insurance marketplace. The TRIP Data Calls did not indicate any differences between coverage for terrorism risk as compared to other perils covered by small P&C insurers under lines of insurance not subject to TRIP. To obtain further information for purposes of this analysis, Treasury also examined market share information for small insurers in the P&C lines of insurance that are not subject to the Program.

[78] *See, e.g.*, Section V.F.

Figure 21 provides the market share by DEP of small insurers and non-small insurers in P&C lines not subject to TRIP. DEP is calculated using the 2022 small insurer threshold, as described in Section V.A.

Figure 21: 2013-2022 Small Insurer DEP Market Share in P&C Lines of Insurance Not Subject to TRIP



Source: S&P Global

Based on state regulatory reporting data, Figure 21 illustrates that the market share of small insurers (compared to non-small insurers) measured by DEP in the P&C lines of insurance not subject to the Program has slightly declined since 2013. In the last 5 years, the market shares generally ranged between 8 percent and 10 percent, which is slightly less than the 12-13 percent share indicated for the TRIP-eligible lines of insurance (see Figure 2) by the information reported in the TRIP Data Calls.

6. Terrorism Risk Insurance for Places of Worship

The 2019 Reauthorization Act modified TRIA to require that, in reports concerning the effectiveness of the Program, the Secretary shall provide "an evaluation of the availability and affordability of terrorism risk insurance, which shall include an analysis of such availability and affordability of terrorism risk insurance specifically for places of worship."[79] Accordingly, in the 2020 Effectiveness Report, Treasury addressed the availability and affordability of terrorism risk insurance for places of worship for the first time, utilizing a new data collection worksheet to obtain information on the subject.[80] Based upon the first year of data, Treasury determined (among other things) that small insurers have a much larger share of the market for terrorism risk

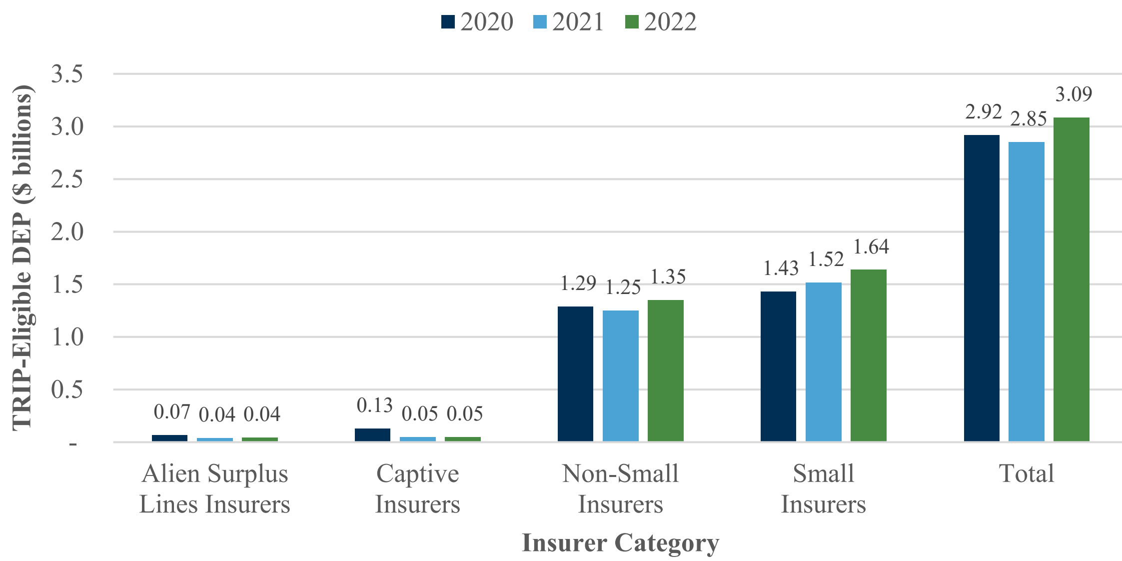
[79] 2019 Reauthorization Act, § 502(c); TRIA, § 104(h)(2)(B).

[80] *See* FIO, *2020 Effectiveness Report*, 40-42.

insurance for places of worship than they have in the overall market.[81] Information from subsequent TRIP Data Calls confirms this initial observation.

Figure 22 shows the market share (in 2020, 2021, and 2022) by insurer category based upon reported earned premium for places of worship.

Figure 22: 2020-2022 Market Share of TRIP-Eligible Lines Premium for Places of Worship by Insurer Category



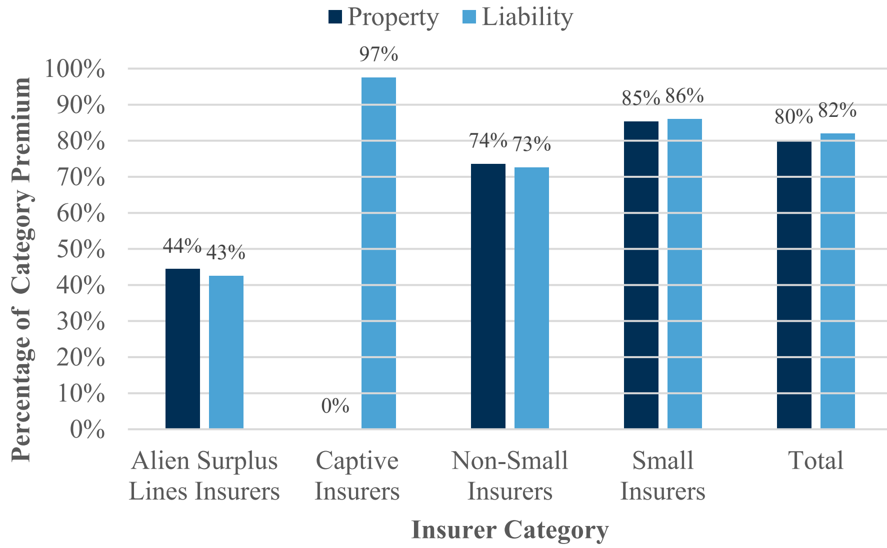
Source: 2021-2023 TRIP Data Calls

As shown by Figure 22, small insurers represent, by premium, more than 50 percent of the entire TRIP-eligible lines insurance market for places of worship when all lines are considered.

In terms of take-up rates and premium charged for terrorism risk insurance for houses of worship, small insurer results differ slightly when compared against other insurer categories. Figure 23 illustrates the 2022 take-up of terrorism risk insurance by places of worship, by premium, by insurer category, and by type of coverage.

[81] FIO, *2020 Effectiveness Report*, 42 ("Also of note is the significant role played by small insurers, which represent (by premium) 45 percent of this market segment, even though they only represent approximately 11 percent of the entire market in the TRIP-eligible lines of insurance.").

Figure 23: 2022 Terrorism Risk Insurance Take-Up Rates by Places of Worship (by Premium) (by Insurer Category and Type of Coverage)

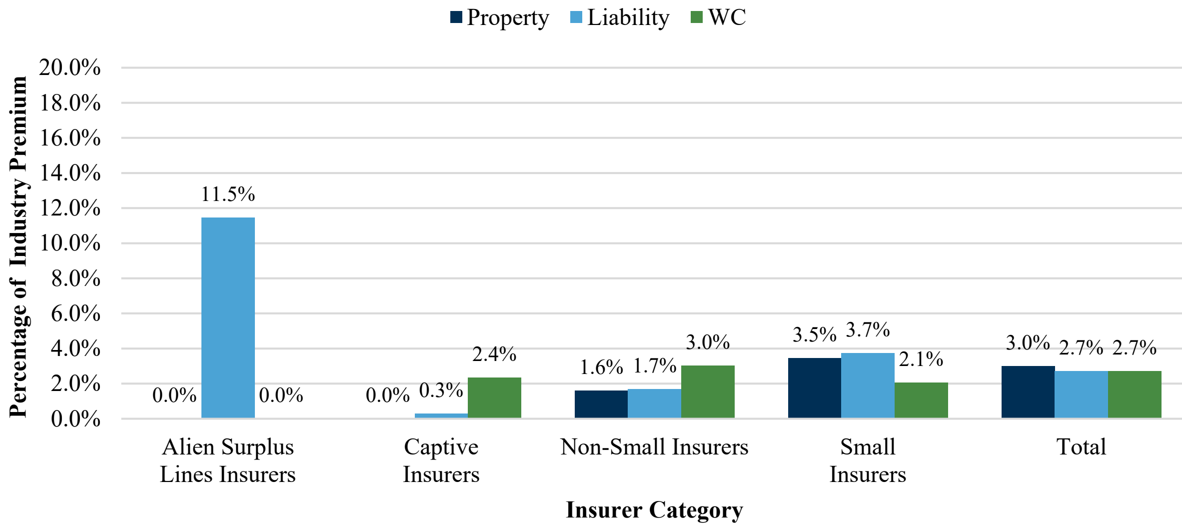


Source: 2023 TRIP Data Call

Figure 24 shows for 2022 the percentage charge, by premium, for places of worship, by insurer category, and by type of coverage.[82]

[82] Treasury did not collect information concerning when a $0 premium for terrorism risk insurance was identified for places of worship. Therefore, this cost analysis is based upon the total amount of terrorism risk premium charged against TRIP-eligible lines premium where terrorism risk insurance was provided.

Figure 24: 2022 Percentage of Total Policy DEP Allocated to Terrorism Risk for Places of Worship (by Insurer Category and Type of Coverage)



Source: 2023 TRIP Data Call

Small insurers support a much larger amount of this market than they do for terrorism risk insurance overall. The reported data is consistent with prior comments reported by Treasury that small insurers may have a much more significant terrorism risk insurance market share in particular segments of the market than overall.[83]

C. Mandatory Availability Requirement

TRIA requires insurers to make terrorism risk coverage available within the TRIP-eligible lines of insurance on terms that do not materially differ from the terms, amounts, and coverage limitations applicable to losses arising from events other than acts of terrorism.[84] This mandatory availability requirement does not include any pricing restrictions,[85] although state law rating requirements may define or limit the amounts that an insurer may charge for terrorism insurance. As described in Section III, the mandatory availability requirement does not require an insurer to offer terrorism coverage for particular risks that an insurer regularly excludes or for which it does not offer coverage (such as losses arising from NBCR events).[86] As a condition for receiving federal payments under the Program, participants must meet certain documentation requirements to demonstrate compliance with the mandatory availability requirement.[87]

[83] *See* FIO, *2019 Small Insurer Study*, 29 & n. 63.

[84] TRIA § 103(c); 31 C.F.R. §§ 50.20(a), 50.22(a). If the prospective policyholder does not accept the mandatory offer, the parties may negotiate a different arrangement for terrorism risk coverage which is not on the same terms as provided for other risks. 31 C.F.R. § 50.21(c).

[85] *See* 31 C.F.R. § 50.22(a).

[86] TRIA § 103(c)(2); 31 C.F.R. § 50.22(b).

[87] TRIA § 103(b); 31 C.F.R. Part 50, Subpart B.

Because insurers must offer terrorism risk insurance in TRIP-eligible lines for the risks that they are otherwise offering or providing coverage, the mandatory availability requirement affects the manner in which insurers underwrite P&C insurance, primarily because of the aggregation risk presented by acts of terrorism. A large-scale terrorist attack can result in significant losses affecting multiple lines of insurance and multiple policyholders and may be highly concentrated within a geographic area.

Market participants do not have the option to offer a TRIP-eligible lines policy without the terrorism risk insurance component. Insurers therefore underwrite to manage potential aggregation risks within a particular geographic area or proximity to locations considered potential targets for terrorist activity. Insurers of all sizes may employ such analysis when deciding whether to write policies that are subject to terrorism risk.[88]

The mandatory availability requirement is not the only factor that may be causing companies to provide terrorism risk insurance that they might otherwise prefer not to write.

First, in a number of lines of insurance and jurisdictions, terrorism risk insurance must be provided under state law.[89] In these situations, an insurer must offer terrorism risk insurance irrespective of the mandatory availability requirement. As stated in Section V.B., small insurers receive a higher percentage of their DEP than non-small insurers from the workers' compensation line of insurance. However, the effects in the market after the September 11 Attacks and prior to the passage of TRIA suggests that continued small insurer participation in this market may be highly dependent upon the existence of the backstop.[90] The unique issues presented by workers' compensation insurance are discussed further in Section V.G.

Second, the ability to offer terrorism risk insurance may be necessary for insurers to compete in certain U.S. markets, particularly large metropolitan areas. Take-up rates for terrorism risk insurance vary by jurisdiction and locality, and the take-up rate of terrorism risk insurance tends to be higher in major metropolitan areas.[91] The TRIP data indicates that the Program promotes policyholder access to a variety of carriers, which might be more limited in the absence of a

[88] *See* U.S. Government Accountability Office, *Terrorism Risk Insurance: Market Challenges May Exist for Current Structure and Alternative Approaches* (January 2017), 18-19, http://www.gao.gov/assets/690/682064.pdf.

[89] The principal example here is the workers' compensation line of insurance. *See* Section V.F. for further discussion regarding workers' compensation. "Fire following" states also require terrorism coverage in some circumstances. *See* FIO, *2018 Effectiveness Report*, 32 n.84.

[90] Commenters note that similar issues could be presented by changes in the sharing mechanisms under the Program that would make it more difficult for small insurers to access the Program. *See* NAMIC Comments, 2 ("If the program were kept in place with the mandatory offer provision, but the various levels were increased to a point where small insurers would have to pull out of certain markets due to a fear of being unable to access the TRIA program, this would have a negative impact on the broader insurance market in those areas."). *See also* Section V.F. for a discussion of how the September 11 Attacks affected the workers' compensation residual market.

[91] For example, Marsh & McLennan has stated that "[t]he federal backstop created by TRIA and reauthorized as TRIPRA . . . remains crucial to the continued stability of the property terrorism insurance market." Marsh & McLennan also noted that take-up rates are highest in major metropolitan areas and provided location-specific analysis. Marsh & McLennan Companies, *2019 Terrorism Risk Insurance Report* (2019), 5, 11, https://www.marsh.com/us/services/terrorism-risk/insights/2019-terrorism-risk-insurance-report.html.

backstop.[92] Furthermore, the reported data from the last few years indicates that small insurers have maintained a generally consistent market share as compared to non-small insurers. This information suggests that the mandatory availability aspects of TRIP as currently structured are not discouraging the participation of those insurers in the TRIP-eligible lines market.

D. Effect of the Program Trigger on Small Insurers

As described in Section III, even if an insurer satisfies its individual insurer deductible, total aggregate insured industry losses must exceed the Program Trigger before the federal share of compensation can be paid. Therefore, an insurer with a deductible lower than the Program Trigger could satisfy its insurer deductible, but still find that its terrorism losses—even combined with those of other insurers (if any)—fall short of satisfying the Program Trigger. The Program Trigger requirement therefore could preclude recovery by a small insurer under TRIP and require it to take additional steps to manage this exposure. This risk is not faced by larger insurers, because they have individual insurer deductibles under the Program that are greater than the Program Trigger.

In 2022, more than 200 domestic U.S. insurance groups reporting in the 2023 TRIP Data Call had TRIP deductibles that were less than the Program Trigger. Depending upon the magnitude of the terrorism losses experienced by other insurers, they could face a gap between their insurer deductible and the Program Trigger.[93] Because the Program Trigger will remain constant from 2020 until 2027, however, this potential gap should not increase further,[94] assuming the premium writings of small insurers continue to increase over time as Treasury has observed to date.

There has never been a certified act of terrorism to trigger the Program, and thus there have been no situations to date in which a small insurer has been unable to access Program support solely on account of the Program Trigger. Commercial reinsurance, assuming it is available and affordable, is one way for small insurers to mitigate the impact that a significant terrorism loss may have upon the balance sheet of a small insurer that may be unable to access Program support solely on account of the Program Trigger. The use of reinsurance for this purpose is

[92] Commenters also noted the potential disruptive effects on the broader insurance market in the absence of a backstop, or a backstop that failed to promote the participation of small insurers. *See* NAMIC Comments, 2 ("[S]maller regional carriers play an important role in ensuring there is available coverage across lines of insurance. If they were forced to exit a market because of their terrorism exposure this means they would also no longer be offering the other coverages in other lines as well. Because it is not at all clear that remaining companies could or would provide this missing coverage, the probable effect of a higher trigger, etc., would be to reduce the amount of total private capital allocated to all risks in certain areas.").

[93] This analysis does not include small insurers that wrote TRIP-eligible lines DEP of less than $10 million and were excused from reporting. This subset of insurers could also be affected.

[94] Commenters have identified the Program Trigger as one of those Program metrics that could depress small insurer participation in the Program if increased further. *See* NAMIC Comments, 3 ("Potential exposure from an increased trigger level (or increased individual retention levels and co-pays) could cause smaller insurance companies to pull out of terrorism insurance markets thereby decreasing overall competition in that marketplace. Due to the need to avoid risk concentrations, larger companies are unlikely to be able to fill all of the coverage needs if this were to happen. Increased company retentions, co-shares, and an increased trigger level may cause market participants – particularly small- and medium-sized companies – to exit, thereby reducing total private capital.").

described further in Section V.E; how risk modeling can be used to further analyze the issue is described in Section V.F.1.

E. Availability and Cost of Commercial Reinsurance for Small Insurers

This Section considers the availability and cost of private commercial reinsurance for small insurers. It is challenging to assess the availability and cost of private terrorism risk reinsurance for small insurers. First, reinsurers are not Program participants, and thus are not subject to Treasury's TRIP Data Calls. Second, reinsurance is neither subject to standard terms and rates, nor to the range of state-level reporting requirements applicable to direct insurers in the admitted market. Finally, reinsurance arrangements are generally highly complex and customized, with many factors affecting price and availability – such as limits, the price of the underlying risk, the amount of available information concerning that underlying risk, the claims experience between an insurer and its reinsurers, and general market conditions when the reinsurance is sought and purchased. Furthermore, reinsurance agreements often cover multiple classes of risks, so it can be difficult to isolate and assess how reinsurance specifically responds to terrorism risks.

A small insurer concerned about its ability to manage terrorism losses within its TRIA deductible (or seeking to transfer risk within its co-pay share) may seek to limit its exposure by purchasing reinsurance. For example, a small insurer could purchase reinsurance that provides reimbursement for any losses experienced if an act of terrorism is certified but the Program Trigger is not met by aggregate industry insured losses, such that no payments under the Program are made. Whether the purchase of such reinsurance is practical (assuming that it is available) will depend, in part, upon the cost of the reinsurance and the insurer's assessment of its ability to bear exposure to such loss without reinsurance. Probable maximum loss (PML) information reflects the largest single loss an insurer projects it might sustain based on the portfolio of policies it has issued. A small insurer with a modest PML, based upon its book of business, will need less reinsurance to protect itself against catastrophic loss, assuming that it has evaluated exposures under its portfolio correctly.[95]

In its 2021 Small Insurer Study, Treasury noted that reinsurance pricing had begun to increase significantly after a lengthy "soft" market period characterized by relatively low reinsurance premium rates and relatively high capacity.[96] While market capacity has remained available for most P&C risks, loss-impacted accounts have faced challenges (including substantial price increases).[97] Market information addressing 2022 reinsurance purchases reflects the continued hardening of the P&C reinsurance market (largely driven by significant catastrophe losses), with

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[95] PML, as defined for purposes of Treasury's collection of data from participating insurers, seeks the largest loss figure for a single insurer emanating from a single location, assuming the detonation of a 5-6 ton truck bomb at that location. *See* FIO, *Instructions for Terrorism Risk Insurance Program (TRIP) 2023 Data Call: Small Insurers*, 28, https://home.treasury.gov/system/files/311/2023%20Data%20Call%20Instructions%20Small%20Insurers%20%28FINAL%29.pdf.

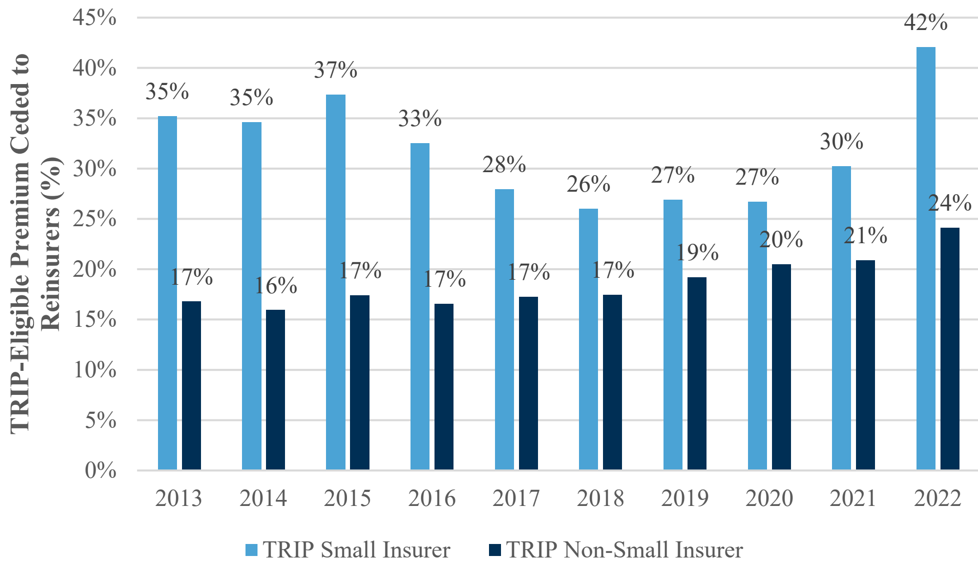
[96] FIO, *2021 Small Insurer Study*, 42-43.

[97] *See* Guy Carpenter, *January 2022 Reinsurance Renewal, An Evolving Market Leads to Divergent Outcomes*, 2-3, https://www.guycarp.com/content/dam/guycarp-rebrand/pdf/Insights/2022/January-1-2022-Renewal-Briefing.pdf; Gallagher Re, *Reinsurance Market Report: Results for Full-year 2021* (2022), 3, https://www.ajg.com/gallagherre/news-and-insights/2022/april/reinsurance-market-report-full-year-2021/.

estimates of pricing increases during the year of approximately 15 percent.[98] Reinsurance capital also declined in 2022, in part because of reductions in the value of reinsurers' investments.[99]

Figure 25 illustrates the percentage of TRIP-eligible lines premiums ceded by direct insurers to reinsurers between 2013 and 2022.

Figure 25: 2013-2022 Percentage of DEP Ceded by Insurers to Reinsurers (by Insurer Category)[100]



Source: S&P Global

Figure 25 reflects, as Treasury has observed in most of its prior analyses, that small insurers typically cede a greater percentage of their direct premiums to reinsurers than do larger insurers.

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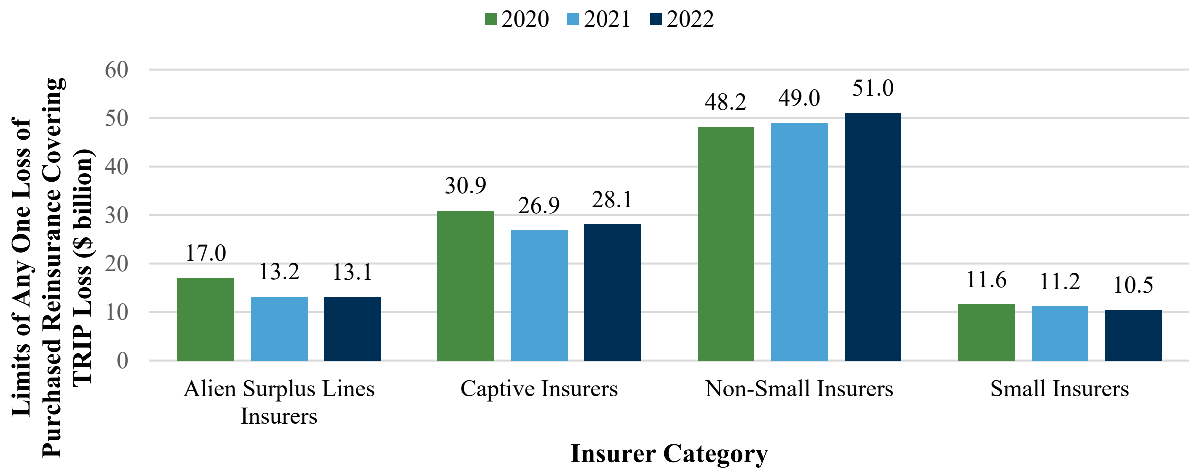
98 Luke Gallin, "US Property Cat Reinsurance Rates-On-line Up 30.1% at January Renewals: Guy Carpenter," *Reinsurance News*, Feb. 2, 2023 (reflecting a 14.8 percent increase of the Guy Carpenter U.S. Property Catastrophe Rate on Line Index during 2022), https://www.reinsurancene.ws/us-property-cat-reinsurance-rates-on-line-up-30-1-at-january-renewals-guy-carpenter/.

99 Gallagher Re, *Reinsurance Market Report: Results for Full-Year 2022* (2023), 8, https://www.ajg.com/gallagherre/-/media/files/gallagher/gallagherre/reinsurance-market-report-for-full-year-2022.pdf. Initial indications respecting 2023 renewals (outside the scope of this Study, as the most recently collected reinsurance information for small insurers is for CY 2022) reflect even greater price increases and market hardening. *See* Gallin, "US Property Cat Reinsurance Rates On-line Up 30.1% at January Renewals."

100 In prior small insurer studies, Treasury arrayed this information by reference to the small insurer definition then applicable, further adjusted by the Consumer Price Index (CPI). This presentation was done because of the Program's fluctuating size definition of small insurers over time and so that the size of small versus non-small insurers in each year was comparable for analytical purposes. This presentation has also resulted in the reporting of different percentages for the same calendar years in different small insurer studies. The size definition of small insurers for Program purposes is now stable through 2027. Therefore, Treasury is arraying the information in this Study based upon the 2020 size definition of small insurers, adjusted by the CPI, only for years before 2020, and will continue to do so in future studies. The information arrayed on this basis will more consistently reflect any trends in purchasing reinsurance.

Figure 26 identifies the total amounts of per loss terrorism risk reinsurance purchased by responding insurers that will cover losses subject to the Program, during the period 2020 to 2022.

Figure 26: 2020-2022 Total Per Loss Reinsurance Limits Purchased for Losses Subject to TRIP (by Insurer Category)

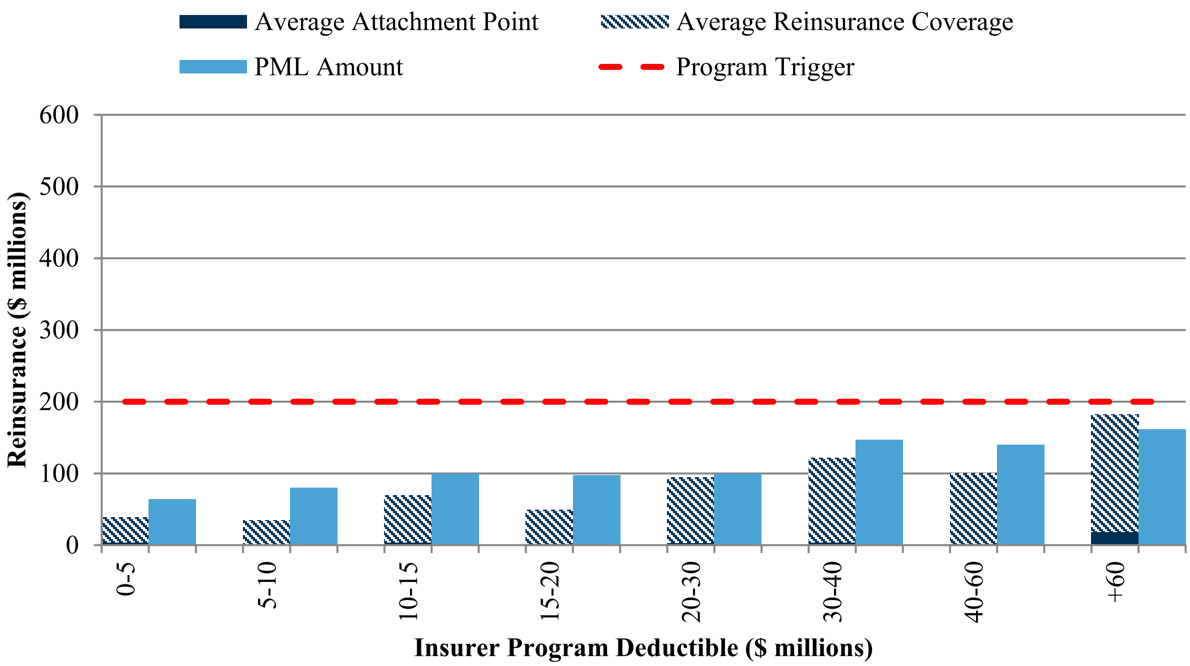


Source: 2021-2023 TRIP Data Calls

As illustrated by Figure 26, reported terrorism risk reinsurance purchases by small insurers, as measured by limits, declined in 2022, while all other industry segments reported increased or basically flat purchases by limits.

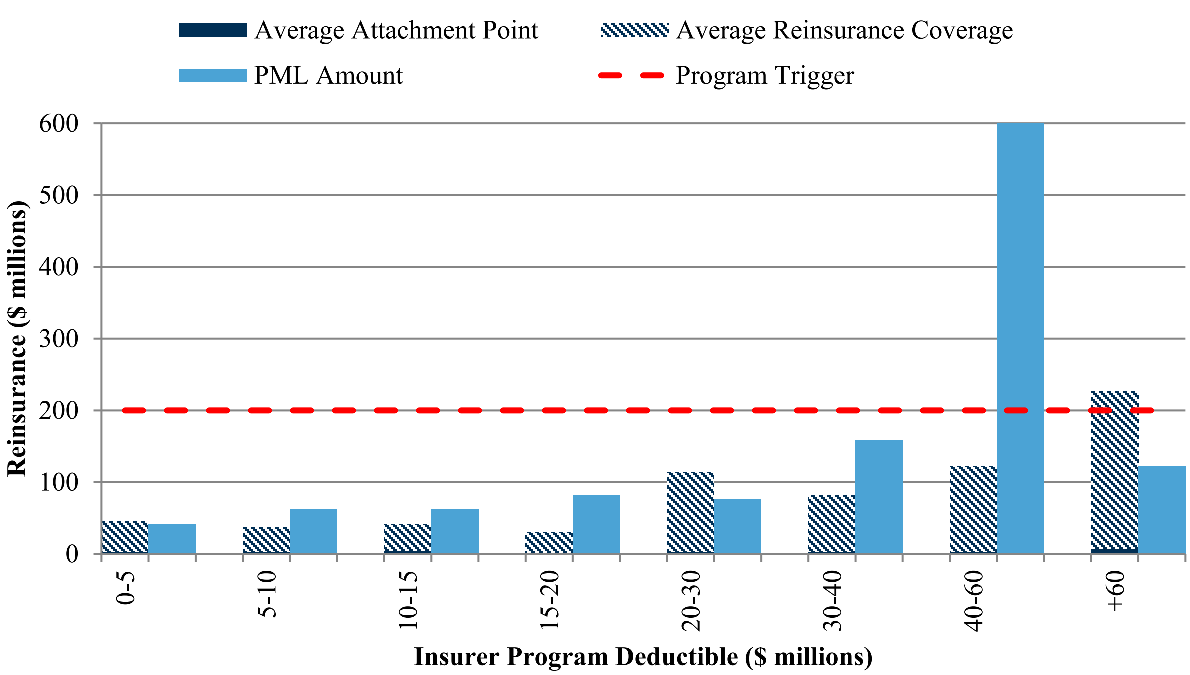
The 2022 and 2023 TRIP Data Calls also collected information from insurers concerning their associated PML amounts, which factors in the relative size of the exposures underwritten by small insurers, in order to determine the extent to which PML levels may be guiding reinsurance purchases. Figures 27 and 28 illustrate the 2021 and 2022 average reinsurance purchases for small insurers with reference to small insurer deductibles under the Program, the Program Trigger, and average PML amounts reported by those insurers.

Figure 27: 2021 Comparison Between Small Insurer Deductibles, Reported PML Amounts, and Reinsurance Purchases



Source: 2022 TRIP Data Call

Figure 28: 2022 Comparison Between Small Insurer Deductibles, Reported PML Amounts, and Reinsurance Purchases



Source: 2023 TRIP Data Call

Where reinsurance purchases approximate a small insurer's PML, the lack of reinsurance up to the Program Trigger may not be as significant, if this reflects that the small insurer is less likely to be exposed to a catastrophic loss up to the Program Trigger amount. As shown in Figures 27 and 28, PML estimates below the Program Trigger may explain the lack of reinsurance purchases up to the amount of the Program Trigger in some cases. The reported information, however, continues to reflect a significant portion of small insurers that remain exposed for a PML above the insurer deductible and below the Program Trigger threshold, without the support of private reinsurance for all of that exposure. In both 2021 and 2022, the data continues to reflect that most sizes of small insurers, on average, have some PML exposure above average reinsurance purchases, and at levels below the Program Trigger.

F. Terrorism Risk Insurance Catastrophe Modeling

Catastrophic risk modeling may assist Treasury and program participants in evaluating how small (and other) insurers are impacted by the Program and the type of terrorist events to which the Program may be required to respond. Treasury has recently deployed certain modeling resources to assist in its administration of the Program. Treasury addresses the background of this work and certain initial outcomes below.

In its May 2020 Report, the Advisory Committee on Risk-Sharing Mechanisms (ACRSM) recommended that Treasury invest in a "small, dedicated analyst team focused on terrorism risk modeling, with budget and scope allowing for the pursuit of modeling partnerships."[101] The ACRSM Report suggested that FIO obtaining such modeling capability could improve FIO's administration of TRIP. The ACRSM report further noted that such modeling could facilitate the ability of private insurers to assess terrorism risk, provide for more accurate private insurance pricing, and consequently encourage private insurers to assume more terrorism risk exposure. The ACRSM recommended that the insights derived from this work could help expand private risk appetite and thus potentially aid in a decrease in the U.S. government's exposure under TRIP.

Subsequently, Treasury contracted to acquire commercial software and services to conduct terrorism risk insurance modeling with a cyber risk modeling component. This procurement is intended to aid the efficient and effective administration of TRIP by giving FIO the capability to evaluate potential terrorism losses arising from a variety of events, including cyber attacks, and how they would likely implicate the loss sharing arrangements under TRIP. The ability to evaluate potential terrorism losses also will aid Treasury's assessment of how the Program may respond to particular events. The modeling also provides insights into how the private market evaluates the risk of terrorist events.

Terrorism risk insurance modeling originally evolved from computer-based catastrophe modeling and simulations that were developed in response to the devastating losses caused by

[101] ACRSM, *Initial Report of the Committee* (May 11, 2020), https://home.treasury.gov/system/files/311/5-20-ACRSM-Report-Final.pdf.

natural disasters such as Hurricane Andrew (1992) and the Northridge Earthquake (1994).[102] Following these events, it became apparent that commonly used actuarial methods relying on 5- to 25 years of historical catastrophe losses were not adequate for pricing and risk management of certain future catastrophic events.[103] Catastrophe models were developed to address these actuarial limitations by providing better loss estimates associated with extreme weather events, and their use has since expanded to non-weather risks, including but not limited to terrorism and cyber.[104]

Insurers, reinsurers, and brokers involved with the placement of P&C insurance and reinsurance products are key users of catastrophe models.[105] They use these tools to both estimate the effect that catastrophe losses could have on their books of business and assist them in making decisions about where to write business, ratemaking, loss mitigation, risk selection, and the efficient use of reinsurance. In addition, both state and federal government agencies use catastrophe models to address public policy issues, including analyses of the size and cost of potential public losses, the assessment of potential insurance needs from the private market, and planning mitigation efforts.[106]

Catastrophe models typically feature three major components or "modules": (1) scientific, (2) engineering, and (3) insurance.[107] The scientific module produces output about one or more physical characteristics of the catastrophic event, such as wind speed for hurricane events or the destructive force of a 5-ton truck bomb in the case of a modeled terrorism event. The engineering module uses the characteristics of the affected built environment to estimate the degree of damage from an event. The damage estimates from the engineering module are used by the insurance module to estimate dollars of insured damage. The insurance module can then incorporate characteristics about a particular structure's insurance coverages such as type and amounts of coverage, replacement cost, deductibles, and coinsurance, as well as applicable reinsurance arrangements.[108]

There are several benefits to the use of catastrophe modeling. One of the primary benefits is that these tools allow users to analyze "what if" scenarios to assess the impact of modeled catastrophe risks and, consequently, enable users to preemptively develop responsive and proactive risk management strategies.[109] Further, catastrophe models can simulate a wider range

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[102] N. Shome, *et al*., "Quantifying Model Uncertainty and Risk," in G. Michel (ed.), RISK MODELING FOR HAZARDS AND DISASTERS, xi (Amsterdam 2018).

[103] American Academy of Actuaries, *Uses of Catastrophe Model Output*, 5 (July 2018), https://www.actuary.org/sites/default/files/files/publications/Catastrophe_Modeling_Monograph_07.25.2018.pdf.

[104] "Catastrophe Models," NAIC, last updated April 3, 2023, https://content.naic.org/cipr-topics/catastrophe-models-property.

[105] "Catastrophe Modelling," *The Journal*, March 6, 2017, https://thejournal.cii.co.uk/study-room/z/2017/03/06/catastrophe-modelling.

[106] American Academy of Actuaries, *Uses of Catastrophe Model Output,* 2.

[107] NAIC, *Catastrophe Computer Modeling Handbook* (2011), 11-12, https://content.naic.org/sites/default/files/inline-files/prod_serv_special_ccm_op.pdf.

[108] NAIC, *Catastrophe Computer Modeling Handbook*, 11-12.

[109] American Academy of Actuaries, *Uses of Catastrophe Model Output,* 33.

of plausible events than are encompassed by historical experience,[110] thus giving private insurers and reinsurers an improved ability to estimate a range of direct, indirect, and residual losses for ratemaking and other coverage decisions.

Conversely, one of the main shortcomings of catastrophe modeling is that natural and man-made events likely will transpire in a different way in the real world as compared to those modeled in virtual simulations.[111] Further, given the rarity of some catastrophic events like terrorism, there is limited availability of data needed to validate model assumptions and results. Consequently, these data deficiencies make models highly assumption-dependent and produce significant uncertainties in the estimation of losses from catastrophic events.[112]

The terrorism risk insurance modeling tools that Treasury acquired for TRIP allow Treasury to use commercially available geocoded U.S. property and employment data to generate property and casualty damage estimates for specific locations (e.g., by GPS coordinates, address, ZIP Code) resulting from a variety of different modeled conventional (e.g., a 5-ton truck bomb) and unconventional (i.e., NBCR) attack modes at various times of day. Combining these outputs with likely insurance coverage information (such as that collected in Treasury's annual data calls) allows Treasury to estimate property and workers' compensation losses by line of insurance for each scenario. Treasury can also estimate the percentage of total P&C insurance losses retained by policyholders, and the estimated financial impact on TRIP.

The following two subsections discuss some of Treasury's modeling analyses. Specifically, Section V.F.1 discusses the likelihood that losses of other insurers may satisfy the Program Trigger when losses of a particular small insurer do not satisfy the Program Trigger. Section V.F.2 discusses the likelihood that certain types of terrorist attacks could implicate TRIP's Program Cap of $100 billion.

1. Use of Terrorism Risk Modeling to Evaluate Likelihood of Other Losses Satisfying the Program Trigger when Considered in Association with Reported Probable Maximum Losses

The Program Trigger ($200 million annually) is the amount of insured losses (e.g., payments for a certified act of terrorism by insurers under their policies) that must be sustained before Treasury may reimburse an insurer for the federal share of compensation—even if that insurer has otherwise satisfied its Program deductible of 20 percent of its prior year DEP in the TRIP-eligible lines of insurance. The Program Trigger has the effect of excluding lower-loss terrorism events from the Program. However, the Program Trigger could preclude a small insurer from recovering under the Program in connection with an event that, while relatively small when considered across the entire insurance industry, could have a significant impact upon a particular

[110] American Academy of Actuaries, *Uses of Catastrophe Model Output,* 33.

[111] "Modelling and simulation," BBC Bitesize, 3, https://www.bbc.co.uk/bitesize/guides/zyqfr82/revision/1. Additionally, catastrophe models are highly complex, and as with any complex model, mistakes can be made in the programming or rules of the simulation that produce erroneous results.

[112] N. Shome, *et al.*, "Quantifying Model Uncertainty and Risk," 3.

small insurer if it is disproportionately affected by the loss. (*See also* Section V.D.)

Treasury defined "small insurer" with reference to the potential impact of the Program Trigger.[113] A non-small insurer (i.e., an insurer with $1 billion or more in prior-year TRIP-eligible lines DEP) is one that could possibly trigger the Program based upon its own losses, as it would necessarily have a deductible of $200 million or more. This results in the Program being triggered if the deductible of a single non-small insurer was met. A small insurer (i.e., an insurer with prior-year TRIP-eligible DEP less than $1 billion) could potentially satisfy its own deductible (which would be under $200 million) but be unable to make a claim for the federal share of compensation from TRIP if losses from other insurers did not aggregate to an amount equal to or greater than the Program Trigger. Therefore, a small insurer would only be able to make a claim under the Program in this situation if its own losses when combined with the losses of other insurers collectively satisfied the Program Trigger.

Treasury has noted the potential impact of the Program Trigger on small insurers in previous small insurer studies. In the 2017 Small Insurer Study, Treasury found a significant number of small insurers reported a gap between their Program Deductible (and/or reinsurance protection) and the Program Trigger, which small insurers could be responsible for absorbing if the Program Trigger was not otherwise met.[114] In the 2018 TRIP Data Call, Treasury started collecting from each reporting insurer, including small insurers, the amount and ZIP Code location of the largest PML for that insurer because of a 5-6 ton truck bomb. Treasury then examined the interplay between PML, the Program Deductible, reinsurance, and the Program Trigger. Treasury continued to find "a significant portion of small insurers that remain exposed for a PML above the insurer deductible and below the Program Trigger threshold, without the support of private reinsurance for that exposure."[115]

However, Treasury's prior analyses did not contain an assessment of the likelihood that the aggregated losses of all insurers could allow the Program Trigger to be met. In a terrorist attack, this assessment would depend upon the number of insurers impacted by a particular act of terrorism and the insured losses they sustain.

Treasury's new modeling tools—which model likely loss amounts arising from specified events at particular ZIP Codes—allow Treasury to estimate how small insurers' PMLs for a 5-ton truck bomb at a particular location and time could be combined with other insurers' losses to potentially meet the Program Trigger. Specifically, using information reported in the 2022 TRIP Data Call,[116] Treasury has:

(1) mapped, where possible, those ZIP Codes with modelled 5-ton truck bomb attacks to the reported PML amounts provided by small insurers;

[113] See Section III (Small Insurer Definition).

[114] FIO, *2017 Small Insurer Study*, 25-27.

[115] FIO, *2021 Small Insurer Study*, 46. *See also* FIO, *2019 Small Insurer Study*, 41-43; Section V.E.

[116] Given the timing of the data call, Treasury used information from last year's data call in order to have more time to perform these analyses.

(2) estimated all loss (from both property and workers' compensation) arising from modeled truck bomb events and adjusted the loss amounts to account for policyholder losses and take-up rates (in order to reach an insured loss estimate); and

(3) identified those small insurers reporting their PML in a ZIP Code where the adjusted model results reflect that the Program Trigger is unlikely to be met (i.e., total insured losses arising from the event will be less than $200 million). Treasury then examined the reported PMLs and reinsurance of these small insurers in more detail to assess their potential risk of not being able to access Program benefits because of the Program Trigger limitations described above.

Treasury's analysis yielded the following results:

- 141 small insurers (out of 171 small insurers reporting on the relevant form) reported PML amounts by ZIP Code.
- Of these small insurers, the model identified 5-ton truck bomb scenarios in 120 ZIP Codes, or 85 percent of the total ZIP Codes in which small insurers reported information.
- Within the set of 120 identified ZIP Codes, the PMLs of 17 small insurers were located within ZIP Codes where a modeled 5-ton truck bomb loss, once adjusted, would likely be below the $200 million Program Trigger, but above that small insurer's Program deductible.
- Of this cohort of 17 small insurers, only 4 small insurers reported purchases of reinsurance at limits that are either at or above their reported PML amounts.

This analysis indicates that when the losses of a single insurer may not satisfy the Program Trigger, the Program Trigger may be satisfied in certain cases by the aggregate losses sustained by other insurers in connection with a particular act of terrorism. However, the analysis also shows that the Program Trigger may not be satisfied in all situations. For example, based upon the modeling and analysis, this appears to not occur for as many as 14 percent of the small insurers assessed. Treasury will continue to study how small insurers are assessing their exposure to terrorism risk and their ability to obtain private reinsurance coverage for when their terrorism risk exposure may be insufficient to trigger the Program. For example, in the analysis described above, a majority of the affected small insurers did not have such reinsurance protection in place.

2. Use of Terrorism Risk Modeling to Evaluate Impact of Program Cap in Connection with Different Types of Terrorist Attacks

The TRIP Program Cap of $100 billion limits payments by Program participants and the federal government in any one calendar year. If that amount is reached, no further payments by either Program participants or the government would be made to policyholders. Rather, payments to policyholders would be prorated such that the $100 billion cap would not be exceeded, and policyholder losses in excess of the capped amount would not be covered, even if the coverage limits of their TRIP-eligible terrorism risk insurance were not exhausted.

Modeling tools and analytics can also provide information regarding the type of events that, if certified as acts of terrorism, would be likely to exceed the Program Cap. This analysis provides information regarding the magnitude and distribution of losses that might not be reimbursed under the Program.

Modeling and Treasury's analysis indicates that truck bomb blasts, regardless of size, would be unlikely to result in losses that would exceed the Program Cap. This conclusion is consistent with the results of Treasury's modeled loss questions posed in the TRIP Data Calls.[117] Figure 29 illustrates the likely range of losses to insurers and the Program based upon truck bomb blasts of various sizes and in various locations.

Figure 29: Projected Program Impact (Insurers and TRIP Reimbursement) from Top Ten Modeled Truck Bomb Attacks

Conventional Bomb Terrorism Events	Range of Top Ten Insured Losses		
10 Ton Bomb	$24.6	to	32.3 Billion
5 Ton Bomb	$16.8	to	24.3 Billion
2 Ton Bomb	$9.2	to	13.5 Billion

Source: FIO Analysis of Terrorism Risk Models

This analysis shows that the Program would likely respond to a truck bomb attack, given the size of projected losses. The modeling and FIO's analysis also indicate that total losses paid from a truck bomb attack would be unlikely to exceed the Program Cap unless there were multiple events in a single year that, in the aggregate, reached the cap. Finally, the truck bomb modeling indicates that payments made by the federal government would more than likely be subject to recoupment because total payments will be under the IMARA, such that the government would recover any amounts it expended at the enhanced 140 percent recoupment percentage.

Modeling and Treasury's analysis further indicates that the sort of events that could potentially result in loss amounts exceeding the Program Cap are acts of terrorism involving NBCR agents. Figure 30 illustrates the likely distribution of property and workers' compensation losses to insurers and the Program (i.e., assuming the Program Cap did not apply) based upon different types of modeled NBCR events of various sizes and in various locations. Importantly, this analysis accounts for take up of terrorism risk insurance and assumes policies typically cover NBCR risk exposures.

[117] *See* FIO, *2018 Effectiveness Report*, 47-53; FIO, *2020 Program Effectiveness Report*, 49-55; FIO, *2022 Program Effectiveness Report*, 50-54.

Figure 30: Projected Uncapped Program Impact (Insurers and TRIP Reimbursement) from Selected Top Ten NBCR Attacks by Type

NBCR Terrorism Events	Range of Top Ten Insured Losses		
Large Nuclear Bomb	$200.4	to	537.7 Billion
Biological - Anthrax - Large, Outdoors	$492.1	to	508.4 Billion
Small Nuclear Bomb	$203.1	to	322.8 Billion
Large Dirty Bomb	$49.5	to	67.7 Billion
Chemical - Sarin Gas - Large, Outdoors	$18.2	to	21.7 Billion
Chemical - Sarin Gas - Small, Indoors	$3.7	to	27.4 Billion

Source: FIO Analysis of Terrorism Risk Models

However, the losses shown in Figure 30 do not fully account for the actual amount of coverage for NBCR events provided by policies subject to the Program, even under policies in which terrorism risk insurance coverage has been obtained. This is because insurers may exclude such losses from their policies in all cases, to the extent permitted under state law. In this situation the Program also permits the exclusion of such amounts even if associated with an act of terrorism. As noted in Section V.G, workers' compensation policies cannot exclude NBCR risk exposure, and the analysis in Figure 30 already accounts for self-insurance in workers' compensation that would not be subject to the Program.

Unlike workers' compensation insurance, property insurance is not subject as a matter of state law to mandatory coverage for NBCR risk exposures. Information from TRIP Data Calls indicates that usually some amount of NBCR coverage is provided if the policy includes terrorism risk coverage. The NBCR coverage varies by type of insurer, but Treasury has found that on average about 80 percent of all NBCR property risk exposures, by limits, are excluded from TRIP-eligible lines policies even when coverage for terrorism risk is otherwise provided (see Figure 20).

If the property exposures analyzed in Figure 30 for modeled NBCR events are reduced by an 80 percent reduction factor, the total projected distribution of losses to insurers and the Program is adjusted as shown in Figure 31.

Figure 31: Projected Uncapped Program Impact from Selected Top Ten NBCR Attacks by Type of Terrorism Event
(Reduced Property Exposure on Account of Exclusions)

NBCR Terrorism Events	Range of Top Ten Insured Loses		
Large Nuclear Bomb	$123.7	to	385.5 Billion
Biological - Anthrax - Large, Outdoors	$319.3	to	407.3 Billion
Small Nuclear Bomb	$117.7	to	217.7 Billion
Large Dirty Bomb	$16.8	to	21.8 Billion
Chemical - Sarin Gas - Large, Outdoors	$15.5	to	18.0 Billion
Chemical - Sarin Gas - Small, Indoors	$3.5	to	27.3 Billion

Source: FIO Analysis of Terrorism Risk Models

Therefore, even after accounting for the likely significant reduction of Program exposure from an NBCR event based on NBCR exclusions, this analysis indicates the likelihood of some terrorism events resulting in losses in excess of the Program Cap and triggering the pro rata payments required by the Program.[118]

*   *   *   *   *

Risk modeling provides Treasury with additional tools to evaluate how the Program will operate in various circumstances and will assist Treasury in its administration of the Program. Risk modeling can also help assess the extent to which specific market participants may be able to increase their private risk capacity for terrorist events. Data from the TRIP Data Calls also can be analyzed in association with the information available commercially potentially inform what information may be sought in future TRIP Data Calls. Risk modeling can also assist Treasury in assessing whether any changes to the Program may be needed in future years. Treasury will continue working with these tools and plans to include additional analyses in future reports.

G. Impact of State Workers' Compensation Laws

The workers' compensation system provides an important mechanism for the protection of U.S. workers from the consequences of employment-related injuries and illnesses.[119] Certain aspects of this important workplace protection system increase the aggregate terrorism exposures of insurers participating in the workers' compensation market.

The costs of medical care and treatment, rehabilitation, loss of wages, and other financial hardships faced by employees who experience job-related injuries are covered under workers' compensation policies. Because payments under these policies are defined by the scope of benefits mandated under state law and are not subject to express limits of liability, losses under a

[118] In addition, state "fire following" laws in some jurisdictions could further increase the exposure of insurers to NBCR losses in certain situations. *See* FIO, 2018 *Effectiveness Report*, n.84.

[119] The 2022 Effectiveness Report provides an overview of the workers' compensation system in the United States. FIO, *2022 Effectiveness Report*, 86-87.

workers' compensation policy are potentially unlimited.[120] Workers' compensation policies are subject to specific pricing rules under state law, which will limit what insurers can charge (generally as well as specifically for terrorism risk) and potentially affect whether the purchase of reinsurance is economically viable.[121] Thus, although the workers' compensation line remains a profitable one for insurers,[122] a large-scale act of terrorism could create significant aggregation risks for both small insurers and non-small insurers writing workers' compensation insurance, particularly in the event of extensive losses arising from an NBCR event.[123]

Because insurers are required by state law to cover terrorism risk (including NBCR-related terrorism risk) in connection with workers' compensation insurance, workers' compensation carriers must find ways to manage their aggregation risk. One potential option for workers' compensation carriers includes declining to write certain risks altogether. For example, insurers may avoid writing policies that could create a substantial accumulation of exposures in the same location. However, this could present challenges for insurers that seek to write business in large metropolitan areas with dense populations, as well as for employers seeking to purchase coverage in those areas.

To the extent coverage is unavailable in the "voluntary" market, policyholders may need to obtain workers' compensation insurance in a state's residual market, which is required to provide coverage to all applicants.[124] Coverage provided in residual markets tends to require a higher premium, and the responsibility for paying claims is distributed among all insurers writing in the state. After the September 11 Attacks, the market share of the residual market for workers'

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[120] National Academy of Social Insurance, Workers' Compensation: Benefits, Costs, and Coverage (November 2022), 7 (noting that private workers' compensation policies either provide coverage for all workers' compensation benefits, or all benefits subject to a deductible for which the policyholder is responsible), https://www.nasi.org/wp-content/uploads/2022/11/2022-Workers-Compensation-Report-2020-Data.pdf. *See also, e.g.*, New York Compensation Insurance Rating Board Digital Library, *Workers' Compensation and Employers Liability Policy - Rule VII (Limits of Liability)*, https://www.nycirb.org/digital-library/public/page/wcel-latest/A4E00D96-5539-4FD3-9489-41864BBB4012?section_id=A4E00D96-5539-4FD3-9489-41864BBB4206 ("There is no limit of liability in the Standard Policy for Part One – Workers' Compensation. The policy provides all benefits required by any workers' compensation law of a state listed in Item 3.A. of the Information Page.").

[121] *See* Atlantic Charter's remarks to TRIA Federal Advisory Committee (March 31, 2017), 11, https://home.treasury.gov/system/files/311/Presentation_Atlantic_Charter.pdf (noting potential disconnect between permitted premium charges for direct insurance and potential reinsurance costs). One commenter addressed the development of terrorism loss costs controlling the premium charge for workers' compensation insurance under state law. *See* NCCI Comments, 3-4. The commenter also explained how modeling is used to determine, in part, the portion of premium charged for terrorism risk. *Id.*, *see also* Section V.F (discussing use of modeling in the insurance industry). Because the manner in which the risk is modeled takes into account the existence of the TRIP backstop, the absence of TRIP would necessarily result in increased cost factors. *See* NCCI Comments, 3-4.

[122] *See* "2023 State of the Line Guide," NCCI, last updated May 9, 2023, https://www.ncci.com/SecureDocuments/SOLGuide_2023.html (reporting for 2022 a calendar year combined ratio of 84 percent, "a sign of underwriting profitability for the system").

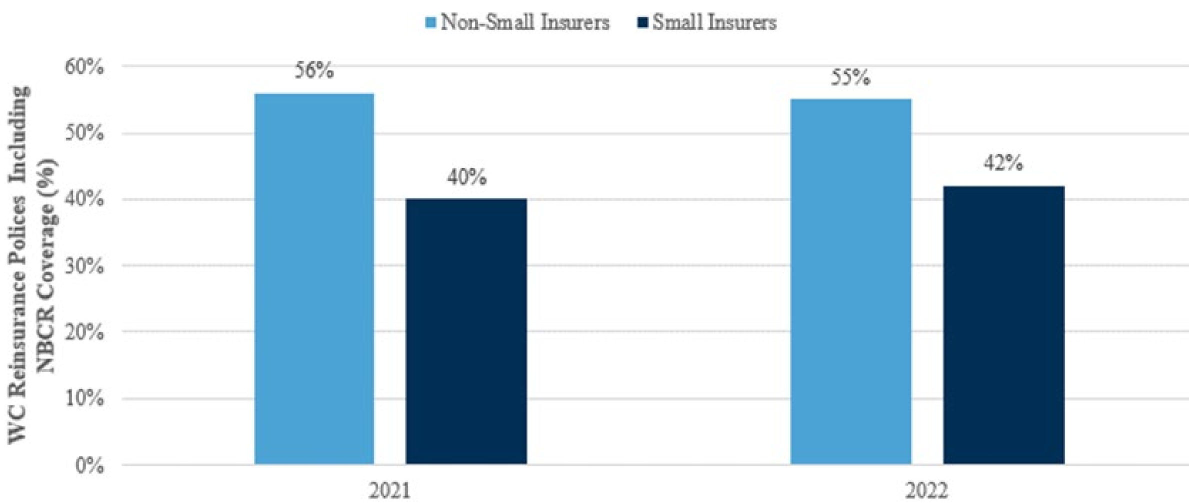
[123] *See* Section V.F.2.

[124] A residual market provides insurance coverage for policyholders that cannot obtain coverage in the regular, or voluntary, market. Insurers operating in a particular jurisdiction are generally required to participate in residual markets as a condition of doing business in the voluntary market. The extent of an insurer's participation in the residual market is generally based upon its share of the voluntary market. *See, e.g.*, NCCI Comments, 2.

compensation significantly increased, and included individual risks viewed as "high profile" targets for purposes of terrorism risk.[125] Since the enactment of TRIA, the share of the workers' compensation residual market stabilized between 4 to 6 percent of the market, and currently remains at about 6 percent, viewed as a "manageable market share," which is a level consistent with the size of the residual market before the September 11 Attacks.[126]

Private reinsurance can help insurers in the workers' compensation market manage their aggregation risks, including those from NBCR events. Figure 32 analyzes the extent to which private reinsurance purchased by insurers writing workers' compensation insurance since the last Small Insurer Study included coverage for NBCR risks associated with workers' compensation policies.

Figure 32: 2021-2022 Reinsurance Purchases Including Coverage for Workers' Compensation Losses Arising from NBCR Risks (by Insurer Category)



Source: 2022-2023 TRIP Data Calls

The TRIP Data Calls continue to indicate that a significant percentage of small insurers with workers' compensation risks did not purchase any reinsurance coverage for workers' compensation losses caused by NBCR risks.[127] The minority of small insurers that did obtain reinsurance coverage for this type of risk did so at limits lower than the limits obtained under their conventional terrorism reinsurance policies.[128]

In contrast, Figure 32 demonstrates that a higher percentage of non-small insurers obtained reinsurance coverage for workers' compensation losses arising from NBCR risks, as compared to small insurers. However, although the limits such insurers obtained were higher than the limits

[125] NCCI Comments, 2-3.

[126] NCCI Comments, 3.

[127] Treasury analyzed this issue in its 2021 Small Insurer Study. *See* FIO, *2021 Small Insurer Study*, 48-49.

[128] For example, small insurers that obtained NBCR reinsurance limits for workers' compensation in 2021 obtained an average per loss limit of $43 million, compared to a general average terrorism reinsurance limit of $95 million. In 2022, these figures were $41 million and $96 million, respectively.

purchased by small insurers for workers' compensation NBCR exposures, the amounts of coverage that non-small insurers obtained for NBCR risks were much lower than their limits for conventional terrorism risk—only about 25 percent of total terrorism risk reinsurance limits of such insurers in any one year.[129]

Treasury's data indicates that the unique terrorism-related risks posed by the workers' compensation system have not prevented small insurers from participating in this market. However, it remains unclear as to whether this continued participation is due to the existence of the Program, or another cause. If large workers' compensation losses fall disproportionately upon a small number of participating insurers, and otherwise exceed the Program Trigger, TRIP provides a backstop that will operate as a risk-spreading mechanism across the industry. In this situation, the Program could be a factor that allows an insurer to continue participating in the workers' compensation market.[130] Although this risk-spreading mechanism applies irrespective of the size of the insurer participating in the workers' compensation market, it may be more critical for small insurers.

[129] For example, in 2022, the reported average purchase of NBCR workers' compensation reinsurance on a per loss basis by non-small insurers was $190 million—as compared with an average limit of $719 million obtained by those same non-small insurers for conventional terrorism risk.

[130] One commenter noted that "[g]iven the challenges presented by the terrorism peril, Congress determined a workable solution was needed that provides primary insurance carriers with a mechanism to manage the impact of the terrorism peril. That solution was the creation of TRIP and it appears it may have contributed to a relatively stable workers compensation insurance market." NCCI Comments, 4.

VI. CONCLUSION

Small insurers are important components of the large and diverse U.S. insurance market, and they are significant participants in the market for terrorism risk insurance in the United States. The market share of small insurers in the TRIP-eligible lines of insurance has been relatively constant since 2017. In some areas, such as coverage provided to places of worship or cyber coverage provided to small policyholders, small insurers may have a larger than average percentage, or even the largest market share. While coverage in the lines of insurance subject to the Program generally remains concentrated in larger, non-small insurers, small insurers play a significant role for some policyholder segments and in many areas of the country.

Treasury's study found that, as reflected in prior data calls, small insurers tend to charge less overall than non-small insurers for terrorism risk insurance, when a charge is assessed. However, small insurers no longer remain more likely to charge no premium for such coverage. Additionally, terrorism risk insurance take-up rates by the policyholders of small insurers are now slightly lower than the take-up rate for non-small insurers' policyholders. Small insurers also tend to operate on a regional basis by writing in fewer states than non-small insurers. Small insurers also have heavier concentrations of writings in the CMP and workers' compensation lines of insurance (and therefore a larger overall market share in those lines) than non-small insurers. Small insurers do not participate in a significant way in the market for standalone terrorism insurance policies, and typically report few if any policies issued. However, they do participate in the market for cyber insurance, including cyber terrorism insurance under TRIA, and are more heavily concentrated in cyber risk insurance issued to small policyholders. Furthermore, small insurers' greater market share of workers' compensation insurance, where NBCR insurance must be provided, increases their total risk of aggregated exposure arising from such losses.

The mandatory availability requirement mandates small insurers offer and write terrorism risk insurance in some circumstances where they otherwise might not. The financial backstop provided by the Program provides some support to mitigate the economic impact of this requirement for small insurers. If the federal backstop becomes insufficient because of changes in market conditions or Program mechanics, the mandatory availability requirement could cause small insurers to not provide insurance in certain markets. This could reduce the availability of insurance—not only of terrorism risk insurance, but also in other TRIP-eligible lines of insurance.

Additionally, in some circumstances, the Program Trigger requirement could prevent small insurers who have met their individual insurer deductibles from receiving the federal share of compensation. Small insurers will be protected from such outcomes where the aggregate of all insurer losses will exceed the Program Trigger. Modeling analysis also indicates that, in many cases, the existence of other insurer losses will satisfy the Program Trigger where it would not be satisfied based upon the losses of a single small insurer. However, a highly concentrated act of terrorism that affects a limited number of insurers could result in insured losses that fail to reach the Program Trigger. Although small insurers may purchase private reinsurance to avoid this potential risk, many small insurers do not purchase sufficient private reinsurance to address this possibility—however infrequent the potential loss may be. Furthermore, the reported data indicates that while small insurers continue to cede significant, and increasing, amounts of their DEP for reinsurance purchases, aggregate reinsurance purchases by limits reported by small insurers covering losses subject to the Program have declined in recent years. Increases in private reinsurance rates in the P&C market generally, as reported by other industry sources, may be resulting in this reduction in available limits.

Small insurers could have the highest potential for unreimbursed losses in connection with the workers' compensation line of insurance. Small insurers have a larger share of this market, which is subject to very high loss amounts with no defined limits of liability and significant potential aggregation risks. Because this line is highly regulated by the U.S. states from a pricing standpoint, insurers that write workers' compensation insurance may find it difficult to buy reinsurance that will cover the risks that they write. Treasury's data, now available over several years, also indicates that many small insurers do not obtain reinsurance coverage for NBCR-related losses in workers' compensation lines. Additionally, the reinsurance that small insurers do obtain is in amounts significantly lower than they are generally able to obtain for terrorism risk.

Appendix 1: 2022 Take-Up Rates by State

Appendix 1 to this Study contains a table setting forth numerically the 2022 take-up rates, based upon premium, presented graphically in Figures 12 and 13, by state for both small and non-small insurers. Workers' compensation is not included within these figures, although excess workers' compensation is included.

	Non-Small Insurers	Small Insurers	Combined
Alabama	61%	64%	61%
Alaska	48%	54%	49%
American Samoa	64%	53%	63%
Arizona	68%	64%	67%
Arkansas	56%	38%	54%
California	61%	46%	60%
Colorado	65%	64%	65%
Connecticut	63%	75%	65%
Delaware	62%	70%	63%
District of Columbia	50%	24%	45%
Florida	64%	62%	63%
Georgia	47%	49%	48%
Guam	63%	33%	59%
Hawaii	63%	66%	63%
Idaho	62%	77%	64%
Illinois	70%	69%	70%
Indiana	65%	52%	64%
Iowa	66%	60%	66%
Kansas	49%	37%	47%
Kentucky	68%	83%	71%
Louisiana	68%	76%	69%
Maine	62%	65%	63%
Maryland	67%	70%	68%
Massachusetts	65%	69%	66%
Michigan	62%	63%	62%
Minnesota	66%	72%	67%
Mississippi	62%	54%	61%
Missouri	67%	71%	67%
Montana	62%	50%	61%
Nebraska	67%	82%	69%
Nevada	64%	59%	63%
New Hampshire	53%	50%	53%
New Jersey	63%	55%	62%
New Mexico	69%	72%	69%
New York	61%	64%	61%
North Carolina	69%	67%	69%

	Non-Small Insurers	Small Insurers	Combined
North Dakota	63%	52%	62%
Northern Mariana Islands	62%	56%	61%
Ohio	68%	65%	68%
Oklahoma	70%	60%	69%
Oregon	64%	59%	64%
Pennsylvania	59%	73%	60%
Puerto Rico	68%	63%	67%
Rhode Island	53%	45%	52%
South Carolina	65%	48%	64%
South Dakota	64%	88%	69%
Tennessee	66%	73%	67%
Texas	60%	54%	60%
U.S. Virgin Islands	73%	57%	72%
Utah	67%	73%	68%
Vermont	63%	56%	63%
Virginia	61%	64%	61%
Washington	48%	54%	49%
West Virginia	64%	53%	63%
Wisconsin	68%	64%	67%
Wyoming	56%	38%	54%

Source: 2023 TRIP Data Call

Appendix 2: 2022 Take-Up Rates by State and Line Groups

Appendix 2 to this Study contains more detailed take-up information for small and non-small insurers, by state and by groups of TRIP-eligible lines of insurance. In order to streamline the data display and provide information by more general categories of information, Treasury displays the information by the following categories: (1) property insurance;[131] and (2) liability insurance.[132] Evaluation of Appendix 2 permits identification of differences in take-up rates, on a state-by-state basis, as between small insurers and non-small insurers, by the more general coverage categories identified.

	Non-Small		Small		Combined	
	Property	Liability	Property	Liability	Property	Liability
Alabama	63%	58%	61%	71%	63%	60%
Alaska	62%	47%	60%	52%	61%	48%
American Samoa	73%	58%	57%	54%	71%	57%
Arizona	75%	61%	70%	60%	74%	61%
Arkansas	65%	51%	42%	39%	64%	50%
California	67%	56%	48%	46%	66%	55%
Colorado	75%	62%	77%	54%	75%	61%
Connecticut	70%	62%	71%	79%	70%	64%
Delaware	77%	52%	73%	68%	76%	53%
District of Columbia	42%	55%	13%	41%	35%	53%
Florida	71%	59%	74%	56%	71%	58%
Georgia	48%	46%	43%	58%	47%	48%
Guam	71%	58%	27%	37%	64%	55%
Hawaii	69%	59%	73%	65%	69%	59%
Idaho	65%	59%	78%	77%	67%	61%
Illinois	78%	62%	77%	74%	78%	63%
Indiana	69%	60%	55%	49%	68%	59%
Iowa	71%	62%	61%	66%	70%	63%
Kansas	47%	50%	37%	41%	46%	49%
Kentucky	75%	64%	88%	87%	77%	68%
Louisiana	77%	64%	82%	74%	78%	65%
Maine	70%	59%	78%	54%	72%	59%
Maryland	71%	63%	72%	68%	71%	63%
Massachusetts	70%	61%	75%	64%	71%	61%
Michigan	66%	61%	62%	66%	66%	62%
Minnesota	74%	59%	71%	76%	73%	61%
Mississippi	67%	57%	61%	50%	66%	56%
Missouri	72%	60%	77%	64%	73%	61%
Montana	68%	58%	51%	52%	67%	57%

131 Fire, Allied Lines, Boiler & Machinery, and Commercial Multi-Peril (Property) combined.

132 Commercial Multi-Peril (Liability), Products Liability, and Other Liability combined.

	Non-Small		**Small**		**Combined**	
	Property	Liability	Property	Liability	Property	Liability
Nebraska	74%	62%	85%	82%	77%	65%
Nevada	70%	62%	71%	52%	70%	61%
New Hampshire	74%	40%	66%	42%	74%	40%
New Jersey	75%	60%	74%	46%	74%	58%
New Mexico	75%	62%	76%	72%	75%	63%
New York	67%	50%	68%	62%	67%	52%
North Carolina	76%	62%	69%	66%	75%	63%
North Dakota	67%	57%	61%	41%	67%	55%
Northern Mariana Islands	69%	57%	66%	54%	69%	57%
Ohio	76%	63%	69%	62%	75%	63%
Oklahoma	79%	66%	68%	56%	77%	65%
Oregon	65%	62%	59%	62%	64%	62%
Pennsylvania	61%	52%	78%	70%	63%	55%
Puerto Rico	74%	64%	64%	66%	73%	64%
Rhode Island	56%	51%	37%	42%	54%	50%
South Carolina	72%	62%	57%	47%	71%	60%
South Dakota	70%	57%	92%	84%	77%	62%
Tennessee	76%	61%	81%	72%	76%	62%
Texas	67%	58%	71%	52%	67%	57%
U.S. Virgin Islands	79%	68%	62%	52%	78%	67%
Utah	74%	60%	76%	70%	75%	62%
Vermont	70%	55%	69%	49%	70%	54%
Virginia	63%	58%	61%	71%	63%	60%
Washington	62%	47%	60%	52%	61%	48%
West Virginia	73%	58%	57%	54%	71%	57%
Wisconsin	75%	61%	70%	60%	74%	61%
Wyoming	65%	51%	42%	39%	64%	50%

Source: 2023 TRIP Data Call