TRIA AFTER 2014

EXAMINING RISK SHARING UNDER CURRENT AND ALTERNATIVE DESIGNS

EXECUTIVE SUMMARY

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Overview of Terrorism Insurance

Despite the potential threat of terrorist attacks on American soil and in foreign countries for decades, the risk of terrorism in the United States was considered sufficiently low that insurance companies generally offered coverage for terrorism losses within their standard commercial insurance policies (outside of ocean marine) at no incremental premium over the standard fire premium, and coverage was widely available. The devastating coordinated attack by Al Qaeda on September 11, 2001 (9/11 hereafter) that resulted in record insured losses of nearly $44 billion (2014 dollars) quickly changed this view.

Faced with the sudden realization that terrorist attacks could be catastrophic, insurers and reinsurers (who covered approximately two-thirds of the insured losses from 9/11) began to exclude coverage for terrorism in the United States. When exclusions were prevented by law, as in the case of workers' compensation, insurers initiated plans to non-renew a significant number of commercial policies in high-risk metropolitan areas. As a result, most businesses operating in the United States found it increasingly difficult to purchase commercial property insurance that included the risk of terrorism. Premiums for workers' compensation insurance increased significantly, and real estate and commercial ventures were stalled because of an inability to obtain the requisite insurance coverage.

Current Design of TRIA

Given the retrenchment of the insurance and reinsurance markets for terrorism coverage and the demand by commercial enterprises for terrorism coverage to meet lending requirements or protect against the potential for future losses, the Terrorism Risk Insurance Act (TRIA) was passed in 2002 to stabilize the U.S. economy by establishing a public-private risk-sharing arrangement between the federal government, the insurance industry and commercial policyholders.

First, TRIA instituted a *mandatory offer requirement* whereby all U.S. primary insurance companies had to offer coverage against terrorism risk for specified commercial lines of insurance on the same terms and conditions as other perils provided by their commercial insurance policies. (Firms are not required to purchase this coverage unless mandated by state law, as is normally the case for workers' compensation insurance.)

At the same time, TRIA established a risk-sharing mechanism between the insurance industry, the federal government and all commercial insurance policyholders in the U.S. for covering insured losses from future terrorist attacks. TRIA was designed as a temporary program, but the continued absence of a viable private terrorism insurance market led to the Terrorism Risk Insurance Extension Act (P.L. 109-144) in 2005 and the Terrorism Risk Insurance Program Reauthorization Act (P.L. 10-160) in 2007 when the program was renewed for seven years. These Acts increased the portion of the risk covered by the insurance industry and commercial policyholders under TRIA.

Exploring Different Loss-Sharing Mechanisms for a Modified Renewed TRIA

TRIA is set to expire at the end of 2014. As we issue this report, the Senate and the House of Representatives are considering different TRIA extension bills, which if passed, would have to be reconciled in conference. The full Senate passed S. 2244 in July 2014; the House Financial Services Committee passed H.R. 4871 in June 2014. Each bill would renew TRIA for another seven and five years, respectively. These bills would modify the current program in different ways, which we discuss in this report. To inform the current renewal discussions on the structure of TRIA, this report provides an analytical examination of the impact of terrorism loss-sharing for the different stakeholders under the current program and alternative risk-sharing designs.

An Analysis of Deductible/Surplus (D/S) Ratio across the Insurance Industry

One measure of particular interest to insurers, regulators and rating agencies alike is the ratio of the insurer's TRIA deductible amount in relation to its surplus. A higher deductible/surplus (*D/S*) ratio implies that the insurer is more exposed to losses from a terrorist attack. While there is no specific threshold that applies to all insurers given their different portfolios, a *D/S* ratio greater than 0.15 is generally regarded as a high measure of relative exposure to terrorism.

Accessing market data from the rating agency AM Best, we were able to determine the *D/S* ratios of 764 insurance groups (hereafter, insurers or insurance companies) operating in the United States, and then calculate changes in the *D/S* ratio as the TRIA deductible percent (*D**) is varied from 15% (2005 level) to 20% (current level), to 25% (hypothetical) for each of the top 30, top 50, top 100 and top 450 insurers. We find:

- Among the top 30 insurers (that represent 67% of the market based on TRIA-line direct earned premiums), only 3 have a *D/S* ratio of 0.15 or greater when *D**=15%; this increases to 7 insurers under the current *D**=20%, and to 11 insurers should *D**=25%.
- For our sample of 450 insurers (that represent 99.8% of the market based on TRIA-line direct earned premiums), when *D**=15%, 95 insurers would have a *D/S* ratio greater than 0.15. When *D**=20%, 140 insurers would have a *D/S* ratio greater than 0.15. When D*=25%, 175 insurers (39% of the top 450 insurers) would have a *D/S* ratio greater than 0.15, and 69 insurers would have a *D/S* ratio greater than 0.3.

Our analysis reveals that a D/S ratio of 0.15 – considered an important exposure threshold by rating agencies – has already been reached or exceeded by a number of insurers under the current design of the TRIA program. Should the deductible level be increased again, some companies could face a significant risk of insolvency or financial distress after a severe terrorist attack because they will not have sufficient capital to pay their claims. Other insurers might stop selling insurance to some of their commercial clients to avoid having too high a concentration of terrorism exposure in one location (e.g., a large city).

Recouping Federal Expenditures Through a Mandatory Recoupment Mechanism

The federal government can recoup federal outlays made under TRIA by levying surcharges on all commercial insurance policyholders via a mandatory recoupment component and a discretionary one. More specifically, under the program's *mandatory recoupment mechanism*, the federal government is required to recoup **133% of its payments** below the *insurance industry marketplace aggregate retention* ("retention") and above the industry-wide insurer losses based on their individual deductible and coinsurance during the calendar year. Additional recoupment is at the discretion of the federal government.

Senate bill S. 2244 proposes an increased retention of $37.5 billion after five years; House bill H.R. 4871 introduces a variable retention based on the sum of insurers' deductibles under TRIA. The House bill would also increase the mandatory recoupment rate against all commercial insurance policyholders (whether they have purchased terrorism insurance or not) from the current 133% to 150%. As we show in our analysis this recoupment has not received the attention it deserves given the significant financial burden it could impose on businesses in America.

Analysis of the Impact of a Modification of the Program Trigger

If a certified act of terrorism occurs, no compensation is paid under TRIA unless aggregate insurance industry losses exceed a *program trigger* of $100 million. The program trigger was raised from $50 million to $100 million in 2007. Under the House bill, the program trigger would be incrementally raised to $500 million for conventional terrorist attacks [i.e., non- chemical, biological, radiological or nuclear (CBRN)] while it would remain at $100 million in the Senate bill. Of the 764 insurance groups in the AM Best database, 58 groups currently have a TRIA deductible that is already in excess of the $100 million trigger, effectively invalidating the impact of the TRIA trigger in determining loss-sharing by the federal government for these larger firms. Our analysis shows that the program trigger is more of a potential concern for small insurance firms who may not have been able to achieve an acceptable spread of risk, possibly due to geographic restrictions, lack of reinsurance or limited risk management actions.

Economic Impact (including Property, Business Interruption and Workers' Compensation Loss) of Plausible Attacks

For this report, the modeling firm Risk Management Solutions (RMS) constructed three specific attack mode scenarios: (a) a 10-ton truck bomb; (b) 1-ton Sarin gas release; and (c) 1-kiloton nuclear detonation bomb. Key high-profile targets were identified in the central business districts of four major cities: Chicago, Houston, Los Angeles and New York. We quantify the economic impact of these three attack scenarios by distinguishing losses by two lines of insurance: property (including business interruption) and workers' compensation.

Who Will Pay after a Terrorist Attack? Analysis of Loss Sharing under Different TRIA Designs

We undertake a series of analyses to assess the impact of varying four TRIA design parameters: (a) insurers' deductibles; (b) level of the sharing arrangement (i.e., coinsurance) between insurers and the federal government; (c) insurance industry marketplace aggregate retention that determines what portion of the insured losses paid by the federal government will be mandatorily recouped against all commercial policyholders in the U.S.; and (d) percentage rate of the mandatory recoupment against all commercial policyholders.

Note: These analyses assume that firms that suffer losses from a terrorist attack will not receive compensation from the federal government for the uninsured portion of their loss. However, past experience from 9/11, the financial crisis and recent natural disasters suggests that the government might assist firms suffering uninsured losses.

Findings

As an illustration, should an attack occur in New York City:

- Under the **current design** of TRIA, **American taxpayers** will not be responsible for any payments after mandatory recoupment **until the total commercial losses** (insured and uninsured) from a terrorist attack **exceed $40 billion**.
- **Commercial policyholders** will always have to pay a portion of the cost of a terrorist attack under the current TRIA program if the total insured loss to all firms is **less than $80 billion**. We feel the significant exposure of commercial policyholders has not been widely discussed.

Based on **Senate bill S. 2244** [insurers' deductible remains at the current level of 20%; insurers' share of losses above their deductible (i.e., coinsurance) increases to 20%; insurance industry retention incrementally increases to $37.5 billion over five years and the recoupment rate against commercial policyholders remains at the current level of 133%], we find:

- **American taxpayers** will not be responsible for any payments after mandatory recoupment by the federal government **until the total commercial losses from a terrorist attack** (insured and uninsured) **exceed $59 billion**.
- **Insurers will always pay more than the federal government** after the mandatory recoupment has been levied **even when total commercial insured and uninsured losses are as high as $100 billion**. When damage reaches this level, insurers will be responsible for $33 billion in payments, the federal government almost $31 billion, commercial policyholders over $5.7 billion and the remaining $30 billion would be paid by the uninsured firms that suffer the loss. The federal government has the option to recover its almost $31 billion in outlays by a discretionary recoupment levied against commercial policyholders.
- Under the mandatory recoupment of 133%, **commercial policyholders would always pay more than $10 billion** when total losses from terrorist attacks are in the $38 billion to $82 billion range. The maximum they would pay – $17.9 billion – is reached when total losses are $54 billion.

Based on the **proposed House bill H.R. 4871** [insurers' deductible remains at the current level of 20%; insurers' share of losses above their deductible (i.e., coinsurance) increases to 20% for non-CBRN attacks on which our analysis focuses; insurance industry retention is determined by the sum of insurers' deductibles that can vary over time; recoupment rate against commercial policyholders increases to 150%], we find:

<u>With a retention of $32 billion</u>:

- **American taxpayers** will not be responsible for any payments after mandatory recoupment by the federal government **until the total commercial losses from a terrorist attack** (insured and uninsured) **exceed $52 billion.** (The difference from the $59 billion in the Senate bill is due to the House bill's lower insurance industry retention used to determine the mandatory recoupment mechanism, based on 2012 data.)
- **Insurers will pay more than the federal government** after the mandatory recoupment has been levied, **until total insured and uninsured losses reach $91 billion.**
- **At $100 billion loss**, **insurers will be responsible for the same $33 billion** as they would under the Senate bill, but **commercial policyholders will not pay anything** under the mandatory recoupment mechanism because the insurance industry retention of $32 billion is below the insurers' aggregate payments. Hence, the government recoups nothing from the policyholders and pays the entire $36.84 billion unless it elects to exercise its authority to levy a discretionary recoupment against commercial policyholders.
- Despite the higher 150% recoupment rate, at a retention rate of $32 billion, **commercial policyholders would be less exposed to the mandatory recoupment under the proposed House bill** compared to the Senate bill. They would always pay more than $10 billion when losses from terrorist attacks are in the $36 billion to $59 billion range. The maximum they would pay – $15.3 billion – is reached when losses are $46 billion.

<u>With a retention of $44 billion</u>:

- **American taxpayers** will not be responsible for any payments after mandatory recoupment by the federal government **until the total commercial losses from a terrorist attack** (insured and uninsured) **exceed $74 billion.**
- **Insurers will always pay more than the federal government** after the mandatory recoupment has been levied, **even when total commercial insured and uninsured losses are as high as $100 billion**.
- **At $100 billion loss**, **insurers will be responsible for the same $33 billion** as they would under the Senate bill, but **commercial policyholders will now pay $16.26 billion** (i.e., $44 billion minus $33 billion multiplied by 150%). **Taxpayers would pay over $20.58 billion.**
- **With the higher 150% recoupment rate and a retention of $44 billion, commercial policyholders would typically be much more exposed to the mandatory recoupment under the proposed House legislation**; they would always pay more than $10 billion when losses from terrorist attacks are in the $36 billion to over $100 billion range. The maximum they would pay – $26.8 billion – is reached when losses are $63 billion.

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About the Wharton Risk Center

Established in 1984, the Wharton Risk Management and Decision Processes Center develops and promotes effective corporate and public policies for dealing with catastrophic events including terrorism, natural disasters, technological hazards, terrorism, pandemics and other crises. The Risk Center research team – over 70 faculty, fellows and doctoral students – investigate how individuals and organizations make choices under conditions of risk and uncertainty under various regulatory and market conditions, and the effectiveness of strategies such as alternative risk financing, incentive systems, insurance, regulation, and public-private collaborations at a national and international scale. The Center actively engages multiple viewpoints, including top representatives from industry, government, international organizations, interest groups and academia. For more information, see http://www.wharton.upenn.edu/riskcenter.

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