TOWERS PERRIN

Workers' Compensation Terrorism Reinsurance Pool Feasibility Study

Summary of Study Findings and Conclusions

PREFACE

The terrorist attack of September 11, 2001 was first and foremost a human tragedy. With over 3,000 fatalities and countless more people displaced from their homes and businesses, the attack directly affected the lives of tens, if not hundreds, of thousands of people — and left an indelible imprint on the nation's psyche.

In addition to the devastating human toll, the September 11 attack shook the U.S. economy. While many sectors were adversely affected, nowhere was the effect felt more strongly than in the property/casualty insurance and reinsurance industries. Insurers and reinsurers absorbed the brunt of the direct economic losses, mitigating the economic impact on untold individuals and businesses. The latest consensus estimates suggest that, once the claims are finally settled, insured losses from the September 11 terrorist attack will total between $40 billion and $50 billion. This is by far the most devastating and costly catastrophic event in the history of the insurance industry.

Immediately after the September 11 attack, the insurance industry did exactly what the public expected it to do: insurers began paying the claims resulting from the insured losses of their policyholders — notwithstanding the staggering value of those losses and the fact that no specific charges for terrorism exposure were included in commercial premiums.[1]

At the same time, insurers and reinsurers began the process of reassessing their risk in light of this new and difficult peril. Data on geographic concentrations of exposure were compiled and scenario models of alternative terrorist attacks were developed. The inescapable conclusion for many insurers was that the prospect of future terrorist attacks on the scale of September 11 — and, conceivably, significantly greater in the case of a nuclear, biological, chemical or radiological attack — represented a level of risk that they could not prudently accept. Terrorism experts have developed plausible scenarios in which the estimated total insured losses from a single event could exceed $250 billion.

In the months after September 11, there was a large-scale withdrawal of commercial insurance capacity for terrorism as insurers sought to reduce their terrorism risk to manageable levels. This primarily took the form of (a) coverage exclusions that protected insurers against losses from future terrorism events, introduced as insurance contracts were renewed; and (b) non-renewal of policies deemed to have too much terrorism exposure. The withdrawal of primary insurer capacity was exacerbated when commercial reinsurers (which act as "insurers to the insurers") were unwilling and/or unable to provide the needed terrorism reinsurance protection to their primary insurer customers.

[1] Some have suggested that the insurance industry performed exceptionally, even paying claims that under "normal" circumstances it might have legitimately challenged.

As the turmoil in the insurance market began to threaten the broader economy (particularly in the financing and construction of commercial property), Congress responded by enacting The Terrorism Risk Insurance Act (TRIA). The intent of TRIA was to provide a temporary window of relief to enable insurers to develop private market solutions to manage the ongoing risk of terrorism. While many of the TRIA provisions relate to the operation of commercial insurance markets, TRIA also created a temporary federal backstop that will reimburse insurers for terrorism losses above certain thresholds. In effect TRIA provides commercial insurers with the vital protection against the risk of catastrophic terrorism losses, without which they might not be able to provide terrorism coverage to all who want it. Most critically, the window of relief and the federal backstop protection closes when TRIA sunsets on December 31, 2005.

Today (in early 2004) most observers would agree that TRIA has contributed to the stabilization of the commercial insurance market. Coverage for terrorism is available (although expensive in some cases) and, more generally, the markets for Commercial Property and workers' compensation insurance are operating in an orderly manner. However, the existence of orderly markets should not be taken to imply that the issues associated with insuring against terrorism are solved. Terrorism presents numerous issues that defy the traditional assumptions upon which private insurance is based: that claim experience in the past is predictive of experience in the future; that the risk of loss is sufficiently stationary that it can be reasonably priced a year or more in advance; that the risk of loss on each policy is independent of other policies, such that risk can be diversified away through the pooling together of many policies; and, perhaps most important, that insured losses from a foreseeable single event will not expose the insurer to ruinous financial loss.

These issues are particularly acute for workers' compensation insurers because of the uniqueness of the coverage provided on this insurance product. In managing terrorism risk, workers' compensation insurers face a unique set of challenges for two important reasons:

(1) With the exception of one state,[2] workers' compensation statutes do not permit the exclusion of terrorism or war losses. Unlike other lines, where coverage for terrorism may be excluded or limited contractually, an insurer's decision to write a workers' compensation policy brings with it the potential for losses from all perils — including terrorism.

(2) The benefits payable under a workers' compensation insurance policy are defined by state statute rather than by negotiation between the insurer and insured. Unlike Accident & Health policies that use co-payments and caps on the maximum amount payable to manage overall costs and risk, statutory benefit provisions expose workers' compensation insurers to unlimited benefit payments. Payments to individual

[2] The Pennsylvania workers' compensation law excludes loss due to acts of war; all other states and jurisdictions are silent on this issue.
[3] Individual medical claims, particularly those involving burns and extensive skin grafting, can result in workers' compensation medical payments in excess of $15 million.

claimants are limited only by statutory benefits, which include unlimited potential medical payments on individual claims.[3] Payments are also not limited by caps on the aggregate payments to multiple claimants.

In combination, these factors create a situation in which a workers' compensation insurer that provides coverage to hundreds or even thousands of employees working in close proximity is exposed to potentially ruinous catastrophe losses from acts of terrorism. Experts have developed attack scenarios in which the total insured losses for workers' compensation alone would be $50 billion or even higher. And the only two options available to the insurer to manage this catastrophe risk are either to: (1) not write the workers' compensation policy in the first place, or (2) obtain catastrophe protection from a third party.

Since the overall demand for workers' compensation insurance coverage must be met, the critical issue for private workers' compensation insurers is where the capacity to provide cost-effective catastrophe protection will come from; and whether new, capacity-creating private market mechanisms are feasible. Historically, this catastrophe protection has come primarily from commercial reinsurers; however, it is unlikely that reinsurers will be able or willing to fully meet the needs of primary insurers for terrorism protection in the new environment. The catastrophe protection provided by reinsurers today — and in the foreseeable future — continues to be very limited in size and scope, particularly in relationship to the magnitude of potential losses.

One possible alternative source of terrorism protection is an industry pool in which catastrophe losses arising from terrorism would be shared among the participating insurers. An industry effort was launched to explore the feasibility of this alternative — a voluntary workers' compensation terrorism reinsurance pool that would be an effective, equitable, voluntary risk-sharing mechanism; and that could attract significant industry participation, spread the risk as broadly as possible across the industry and complement any federal backstop relief.

The feasibility study was funded by fourteen insurers that account for roughly 40% of the workers' compensation market. The sponsor group engaged the Tillinghast and Reinsurance businesses of Towers Perrin to conduct the feasibility study. This paper summarizes the work and conclusions from the study, which took place between April and September of 2003.

Bruce Hockman
Stephen Lowe
Samir Shah
Charles Wolstein

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EXECUTIVE SUMMARY

CONTEXT

In the aftermath of the September 11 terrorist attack, it has become clear that the insurance industry faces a new and difficult source of risk — one that will almost certainly generate additional insured losses from future events. Experts have stated that another terrorist attack is almost certain to occur, and that even with an ongoing commitment to the war on terrorism, the risk of attacks will persist for many years.

The prospect of future terrorist attacks on the scale of September 11 — and, conceivably, significantly greater in the case of nuclear, biological, chemical or radiological attack — poses an enormous ongoing challenge for the insurance industry. Experts have developed plausible scenarios in which the estimated total insured losses could exceed $250 billion. Quite simply, the private insurance industry does not have enough capital to withstand the potential losses from a massive terrorist event or an onslaught of multiple terrorist attacks — nor the private market mechanisms to spread this level of risk broadly enough to make it manageable.

The issue is particularly acute for workers' compensation insurers because of the statutory nature of the coverage. Since insurers cannot exclude or limit coverage for terrorism losses on workers' compensation policies, the only two options available to manage the risk of catastrophic losses from this peril are either to: (1) discontinue writing the workers' compensation policy in the first place or (2) obtain catastrophe protection from a third party.

Congress responded to the turmoil created by the emergent risk of terrorist losses by enacting The Terrorism Risk Insurance Act (TRIA). The intent of TRIA is to provide a temporary window of relief so insurers could develop private market solutions to manage the ongoing risk of terrorism. Among its many provisions, TRIA creates a temporary federal backstop that will reimburse commercial insurers for terrorism losses above certain thresholds, providing them with a vital source of protection against the risk of catastrophic terrorism losses. Without that protection, insurers might not be able to provide terrorism coverage to all who want it. However, even under TRIA, individual insurers retain significant terrorism exposure due to high and escalating TRIA deductibles, and — for workers' compensation writers — the mandatory provision of terrorism coverage required under state workers' compensation laws.

From the insurance industry's perspective, TRIA represents a valuable first step in recognizing that the complexities and magnitude of terrorism risk are extraordinary and cannot be resolved by the insurance industry alone. However, the window of relief afforded by the federal backstop protection closes when TRIA sunsets on December 31, 2005.

Following TRIA's passage, a group of 14 workers' compensation insurers came together to assess the feasibility of a workers' compensation terrorism reinsurance pool. Their purpose was to explore whether such a pool could serve as an effective, equitable, industry risk-sharing mechanism that could help address the unique challenges that terrorism risk poses for workers' compensation insurers.

Three key issues were identified at the outset of the study as the likely major obstacles to the success of a voluntary pool: (a) creating a meaningful addition to industry risk-taking capacity, (b) measuring the terrorism exposure of each participating insurer in a meaningful manner, and (c) achieving equity among the diverse set of insurers that write workers' compensation. These issues were a focus of analysis in the study and are treated at some length in the body of this report. Before summarizing the conclusions related to these and other important issues, it is useful to first briefly describe the essential features of the prototype pool design.

PROTOTYPE POOL DESIGN

The final prototype design was intended to describe a specific, tangible pool structure consistent with the discussion and decisions made with sponsors throughout the feasibility assessment process. It was expected that the prototype would be subject to further refinement and specification if the effort were to advance to a detailed pool design phase.

Strategic and tactical objectives for the pool, together with a set of guiding principles, informed the design and served as touchstones to help evaluate alternative designs. These were captured in a concise mission statement:

The goal of the Workers' Compensation Reinsurance Pool is to maximize the effective use of industry-wide capacity and minimize the potential for insurer insolvency/ruin resulting from large and unpredictable terrorism events,

- *By mutualizing primary workers' compensation insurers' extreme event terrorism risk across geography and over time,*
- *In order to help ensure stable, affordable coverage for employers and provide uninterrupted benefits to injured workers,*
- *To the capacity limit of the voluntary, private-market mechanism,*
- *In a manner that integrates with other industry reinsurance, including a federal backstop.*

The pool would provide aggregate coverage for domestic and foreign terrorism losses. It would reimburse members for 90% of losses in any year that are in excess of the member's retention for that year, subject to an overall limit. Losses would be defined broadly to include claims arising out of foreign and domestic terrorism acts occurring in the U.S., including nuclear, biological, chemical and radiological attacks.

The pool would be an aggregate excess reinsurer funded primarily through accumulated premiums paid by members. There would also be a small post-loss funding element to enhance capacity in the first two years — or thereafter, if the pool's capacity were depleted by losses. Companies would share an aggregate limit, rather than an individual company limit on pool recoveries — that is, total pool resources would be available to all members. The limit would build over time, as funds in the pool accumulated.

An estimate of pool participants' relative exposure to terrorism losses would serve as the basis for determining each participant's "burden" (i.e., pre-funded premium, paid-in capital contribution, post-loss assessment).

The attachment points offered by the pool — the point at which the losses of an individual member are sufficiently large to trigger reimbursement of losses above it — would vary by size of company; each member would be offered several attachment point options. Commercial reinsurance could be purchased "underneath" the pool's attachment point, to the extent that companies had lower risk tolerances and coverage were available.

While TRIA remains in effect, an insurer's losses for pool attachment point purposes would be its losses after any applicable TRIA recoveries.

More details on the prototype pool design can be found in Section IV, Prototype Pool Design.

ISSUES AND CONCLUSIONS

The pool feasibility study represented a major investment of time and effort on the part of the industry participants over a period of nearly six months. What, then, are the key insights that emerge?

Capacity

The most critical issue for the pool is the capacity that it creates. Simply stated, there is no compelling reason to create the pool unless it contributes materially to the insurance industry's capacity to insure terrorism exposure. (The term "capacity" refers to an insurer's ability to write business — that is, to maintain sufficient capital resources to absorb losses from fluctuations in its financial performance, mostly due to adverse fluctuations in insurance claims.)

A voluntary reinsurance pool does not in and of itself create net additional ("new") industry capital. Rather, by participating in a pool, participants agree to share their risk and capacity with one another in a way that reduces the likelihood that any individual participant will suffer severe financial loss (or become insolvent) from a terrorist event. However, in so doing, the pool increases the diversification of risk and thereby creates some additional capacity for its members by increasing the efficiency with which existing capital is deployed.

In this context, the central capacity question is: Can the pool accumulate enough capacity to afford meaningful protection to its members against catastrophic terrorism losses? The answer: While the pool could create some capacity, it would not be enough to matter in the case of a major terrorism event. In fact, the entire industry's capacity is not enough to respond to a mega event. Herein lies the fundamental, intractable problem with respect to insuring terrorism risk.

Using very round numbers, private workers' compensation insurance is roughly a $30 billion industry — that is, annual premiums collected for workers' compensation are about $30 billion. Again using round numbers, insurers write workers' compensation business with roughly a one-to-one relationship between premium and capital, meaning that every dollar of premium is backed by an equivalent dollar of capital that is available to cover adverse fluctuations in workers' compensation claims/losses. Without a federal backstop that caps industry losses, a mega event — including a nuclear, biological, chemical or radiological attack that terrorism experts consider plausible — could exceed the entire workers' compensation industry's capital.[4] Terrorism and insurance experts conceive of plausible catastrophic terrorism events that generate workers' compensation losses of $90 billion or more; in rough numbers, this is over three times the capital backing the private insurance industry's workers' compensation line of business! It is impossible to ignore the consequences of inadequate overall industry capacity for the pool.

If the industry as a whole does not have enough capital to manage the risk of terrorism, then neither can an industry pool that simply mutualizes the existing industry capital. Longer term, even if the pool were to be funded at an aggressive rate, it would take many years before it could build enough capital of its own to protect against even "moderate" terrorism events. In the face of catastrophic events (the type that threaten the viability of the industry), the pool could not provide the industry any meaningful protection for the foreseeable future. This is true even under the most optimistic assumptions including, notably, that the pool could achieve favorable tax treatment that enables it to accumulate capacity more quickly.

Federal Backstop Protection

The issue of capacity leads to another important conclusion about the need for a more permanent federal backstop.

For catastrophic losses — ones in which the size of the loss approaches or exceeds the industry's capital — a logical solution is a public/private partnership involving some form of federal backstop. Other solutions that would limit workers' compensation insurer losses, such as allowing terrorism exclusions in workers' compensation policies, are clearly less desirable.

[4] Although an insurer's entire capital base (i.e., capital supporting all lines of business) is theoretically available to pay for workers' compensation losses, it is reasonable to assume that terrorism events that cause catastrophic workers' compensation losses would also result in devastating losses in other lines of business. It is therefore double-counting to compare workers' compensation terrorism losses to total industry capital.

In addition to these mega events, terrorism experts contemplate small and "medium"-sized events. Insurers would likely be able to absorb the associated losses from small events themselves. For medium-sized events, depending on the size and concentration of losses, some insurers could absorb these losses themselves, but smaller, less well-capitalized and mono-line workers' compensation writers could be significantly impaired by them.[5] Some of these insurers could find a reinsurance pool valuable to help manage intermediate size losses that are within the capacity of the industry but beyond their individual capacity to absorb, both for medium-size losses and for the portion of losses from a mega event that falls below a federal backstop.

So, an ongoing federal backstop is critical to the management of terrorism risk in workers' compensation. Without it, the industry could be decimated by catastrophic terrorism losses and insurers and regulators will face a significant dilemma — how to provide statutorily required coverage without being certain that insurers could fulfill their promise if there were a major terrorism event. This prospect looms as TRIA's expiration date approaches.

Measuring Terrorism Exposure

For a voluntary pool to work, participants must perceive that their burden is fair in relation to the benefit they receive. Unless participants believe that they would be treated equitably in terms of measuring their contribution to pool exposure and their draw on pool resources in case of a loss, they would likely not be willing to join the pool.

For purposes of the pool feasibility study, the challenge was to define a consensus measure for terrorism exposure and determine if the necessary data are, or could become, available as the basis for measuring each company's contribution to the pool's overall terrorism exposure.

The sponsor group unanimously agreed that employee headcount data by geographic location represents the best measure of workers' compensation terrorism exposure from among the three possible contenders (workers' compensation premium, payroll, headcount). Moreover, the analysis suggested that "reasonably credible" location-specific headcount data is available because of insurers' extensive efforts to gather these data for internal risk management purposes since 9/11. Although the data are far from perfect, they appear adequate to support the exposure measurement process required for the pool; the data are also improving over time as insurers enhance their collection and validation processes.

Agreeing on a terrorism exposure measure is itself a significant accomplishment; a uniform industry measure of terrorism exposure could yield benefits in both efficiency (e.g., standardize data protocols for reinsurance proposals/purchase, facilitate responses to state insurance department questions) and effectiveness (e.g., provide a more reliable basis for developing terrorism loads within the primary rate structure).

Achieving Equity

Having established that reasonably reliable exposure data appear available, the next question is whether it is possible to translate the differences in pool participants' terrorism exposure into a fair and appropriate pool "burden" — i.e., a pool reinsurance pricing formula.

The feasibility study suggests that developing an equitable pricing formula is theoretically possible. (It is also fair to say that the feasibility study sponsors did not reach consensus on the proposed pricing basis for the pool.) The existence of several credible commercial terrorism loss models that could be selected from and/or combined into a consensus model creates a range of possible pricing formulae.

But ultimately, implementing a voluntary pool is not a theoretical exercise. Negotiating a mutually agreeable pricing approach among charter pool members would undoubtedly be very difficult. Considerably more work would be needed to determine whether an agreeable pricing formula could be developed. This is clearly an obstacle that must be overcome to be able to implement a pool.

[5] While these impairments/insolvencies may not jeopardize the industry's overall stability, insurer failures often result in market disruptions that affect the continuity of medical care and payments to injured workers, delay reimbursements to medical providers, increase costs to employers, etc.

Basis Differences Between Pool Reinsurance Cost and Terrorism Loads in Primary Workers' Compensation Rates

The recommended exposure base for the pool is employee headcount; moreover, the pool's rates per headcount will vary by geographic location within a state and factor in each insurer's exposure concentration. This rating structure, which the participants agreed was necessary to achieve equity, is quite different from the current terrorism loads typically built into the primary workers' compensation rates. (Generally the latter do not vary geographically within a state, and use non-terrorism premiums or payroll as their exposure base.) Unless the primary rating structure is modified, the basis for terrorism pricing between the primary workers' compensation rates and the reinsurance pool will be inconsistent, such that the terrorism premium collected on an individual insurance policy could be greater or less than the incremental cost of buying pool reinsurance. This will inevitably create pressures to adjust the primary rates, so that they are consistent with pool reinsurance costs.

CURRENT STATUS

So where do things now stand?

The sponsor group decided not to pursue the detailed design and implementation of a voluntary workers' compensation terrorism reinsurance pool at this time. Ultimately, the pool would not offer enough capacity to meaningfully help the industry absorb losses from catastrophic terrorism events — the primary reason for its formation. This is particularly true given the considerable uncertainty about the future of federal backstop relief. Quite simply, without some form of a more permanent federal backstop, the pool would not materially help. In addition, the specific design of the pool could not be finalized without knowing how any ongoing federal backstop will work. Logic suggests that further work on the pool design should occur after the form of any federal backstop is known; the pool can then be designed to integrate with that program.

The sponsors agreed that the effort had created important insights into the key philosophical, conceptual and practical issues associated with creating a workers' compensation reinsurance pool and has laid the foundation for future work on an industry pool, if and when further work is appropriate.

LOOKING AHEAD

Although we can know little about the future, it seems certain that the threat of terrorism will continue for the foreseeable future. Al Qaeda, and those sympathetic to its cause and committed to its methods, views its enterprise as an epic struggle — one with no room for compromise and no end date.

For the insurance industry, a critical milestone is fast approaching: With TRIA set to expire on December 31, 2005, insurance policies written and renewed beginning in January 2005 will extend beyond the current TRIA federal backstop protection. The expiration of TRIA could dramatically alter the current market equilibrium and could cause significant market disruption. Inevitably, insurers will need to reconsider how they compete in a workers' compensation market that mandates terrorism coverage for insureds but leaves them fully exposed to potentially ruinous losses.

While it seems clear that current conditions are not right for a voluntary industry workers' compensation reinsurance pool, if and when the outlines of a federal solution are developed, it may be useful to revisit the pool concept — to consider whether a pool, effectively integrated with the federal backstop, could help some portion of the insurance industry manage its terrorism exposure.

Undoubtedly, between now and the TRIA expiration date there will be much discussion about the roles and capacity of individual insurers, the insurance industry and the federal government in managing terrorism exposure. We believe that the results of this feasibility study will contribute to the dialogue aimed at finding a sensible, long-term solution that serves — and balances — the interests of insureds, insurers and taxpayers.

About Towers Perrin

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The Tillinghast business of Towers Perrin provides global actuarial and management consulting to insurance and financial services companies and advises other organizations on risk financing and self-insurance. We help our clients with issues related to mergers, acquisitions and restructuring; financial and regulatory reporting; risk, capital and value management; and products, markets and distribution. More information about Tillinghast is available at www.towersperrin.com/tillinghast.

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