Health Section News

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The Price of Terrorism

by Daniel L. Wolak

On February 7th the U.S. government moved the country to an Orange state of alert for a terrorist attack. There was concern in major cities that some type of event may occur.

On February 10th, underwriters and actuaries from group insurers across the country returned to work to address the risks of this warning. Their response, though, for group life, for disability and for medical benefits was likely no change in the business routine. Are we/they missing something? Are the insurers playing a game of Russian Roulette, with a gun with an unknown number of chambers? Will an event happen sometime in the next six years, 20 years or 50 years that will result in losses leading to insolvency for one or even several insurance entities? If yes, how should actuaries approach this risk?

Let's consider the ability of group writers to price for terrorism risk. For actuarial pricing, we need to have experience data. For terrorism in the U.S., we have one major data point, that being the events of 9/11. By my estimates and a survey prepared by my company, General & Cologne Life Re, Group Life insurance losses amounted to about two weeks of extra death claims, after catastrophe reinsurance recoveries, for group life direct writers. If we assume that terrorism claims will average 4 percent of total claims each year, 4 percent should be added to the pricing. If we assume every four years an event will occur where losses equal 4 percent of claims, 1 percent should be added to pricing, and so on. On the other hand, losses from disability claims and medical claims for group insurers were not significant. For group disability, the events of 9/11 did not provide us a data point for pricing of terrorism. For medical covers, the events of 9/11 and the anthrax scare of the following month provided us concerns but, again, not necessarily data for pricing. The challenge of this analysis is that it is based on one data point.

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Another pricing issue is that the cost of catastrophe reinsurance has substantially increased and can now be a charge equal to 1 percent to 2 percent of a company's annual group life premium. How should such a charge be added to pricing? In reality, the cost of the catastrophe premium is more related to large risks than to small risks. To price with a level of actuarial fairness, a greater share of the cost as a percent of premium should be built into the rating for large groups with a large number of employees at one location than for smaller groups. Due to market pressures, carriers have told me that they are unwilling or unable to allocate a larger share of the catastrophe premium to large groups. To the contrary, due to competitive pricing pressures, the loads representing the charge for catastrophic risk for large groups are at times less than the load for smaller groups.

Let's look at the underwriting issue. Underwriters have always wanted to have a "good spread of risk". Now, the events of 9/11 raise the question of whether the underwriters are underwriting a good "concentration of risk"? As we returned to work on February 10th, the country was in a state of alert for terrorism. But how many group writers were willing to decline quoting on an account due to concerns of having a concentration in a target urban area? The real question is how many even know they had such an issue?

In the group market, the data that a group carrier has on its risks is limited in most cases, since billing is provided through employer summary data. The group writer will have data on the location of a company's main office and likely will know the location of branch offices. But in many cases census data is not split by the location of the employees. Because of this, group writers lack good data to analyze concentrations. But is such data available? It may be, since the workers compensation carriers normally require this information.

Another issue for group carriers is that the cost of catastrophe coverage has significantly increased since 2001, while maximum limits have decreased. Based on the information I have, I estimate that catastrophe reinsurance covered 30 percent to 40 percent of the group life claims from 9/11. But even without cat reinsurance, I believe that no group life carrier would have become

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- Understand the sensitivity of the financial bottom-line to different assumptions and variables and

- Perform DM program projections that may then be compared with actual outcomes. Because it often takes a long time for results of DM programs to emerge, sponsors can determine interim results by measuring components and inputs (such as number of members managed), rather than outputs.

The Risk Management Economic Model—Key Components

- Risk Stratification: Identification of risk level through claims, surveys or other tools. "Risk" is defined as the probability of unfavorable economic outcome (high cost event) in the next 12 – 18 months. It is essential to have a good predictive model that risk-ranks all members,

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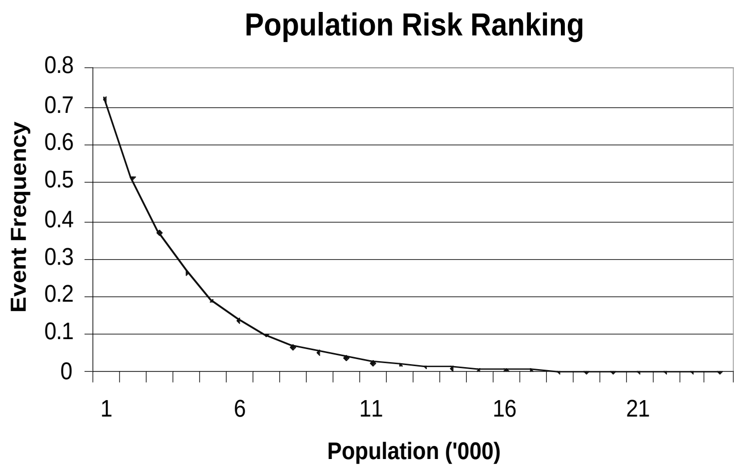
Figure 1.



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insolvent or financially impaired from its share of group life claims from 9/11.

A point to consider is that few, if any, group life carriers purchase enough catastrophe coverage to remain solvent in the face of a truly catastrophic event resulting in multi-billions of dollars of claims. The purpose served by the catastrophe cover is to reduce or eliminate the financial statement impact of a significant event. But in the case of a truly large-scale event impacting a city, claims would exceed the limit of coverage provided by catastrophe reinsurance. Claims in excess of these limits would then revert back to the carriers.

The ACLI, in its response to the US Treasury, stated that an analysis prepared by the ACLI calculated that an event that resulted in a 2.5 percent mortality rate in the county of Los Angles would likely cause the insolvency of at least one insurance company. A catastrophe with mortality rate of 30 percent of the population of Los Angeles County would destroy 100 percent of the life insurance industry surplus. So if we look at the terrorism issue as it relates to group writers, it all boils down to a solvency risk.

At the Vancouver Meeting I moderated a session to delve into some of the pricing and solvency issues that we are now faced with. I hope that this session provided the attendees with a good platform to return to their respective group companies and consider how better to address the new risks we face in the 21st century.

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