Implications of Extreme Events and Market Shocks: Capacity, Price Volatility and the Value of Transparency

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We can not separate risk management strategy from capital management strategy. Duality does exist – we either remove the risk (risk management) or eliminate its effect (capital management). Theories in finance and risk management provide a framework for understanding and perhaps anticipating the implications of market shocks in terms of capacity, price and demand for risk transfer. These theories also provide a motivation for better understanding the specific risk and capital management strategies employed by various property-casualty insurers. My interests in this conference and the resulting efforts are as follows:

(1) to understand the insurance market's response to extreme events in terms capacity for risk, price of risk, and the value of transparency; and

(2) to understand the underlying motivation and expected effect of firm specific risk and capital management strategies prior to and following extreme market shocks such as pre-loss risk hedging (i.e., reinsurance), share buybacks, floatation of debt versus issuance of equity and transparency with the markets.

I am interested in the above issues from both a research perspective and practitioners perspective.[1] Within the most recent four years, I have been directly involved in establishing risk and capital management strategies for multinational and national property-casualty insures and reinsurers. In addition, I have been working with Neil Doherty and Laura Starks on a research initiative whereby we evaluate cross sectional differences in firm specific risk/capital management strategies and stock price surrounding September 11th.

My work with risk and capital managers in the property-casualty insurance industry supports my observation that insurers and reinsurers are disadvantaged by not recognizing the duality of risk. That is, insures/reinsures fail to capitalize

[1] I currently lead a consulting unit capitalized by GeneralCologne Reinsurance. We provide property-liability insurers (national and multinational) with risk modeling expertise and technological support. We model the insurer's portfolio of risks as well as the interrelationships resulting from asset choices, business mix and financing choices. Prior to joining GeneralCologne Reinsurance I was a Professor of Finance with a research focus on asset/liability management, portfolio theory, agency costs/capital structure/optimal contracting, risk management, insurance economics and the role of regulation.

on the economic benefits of integrating risk with capital management strategy.[2] Although arguable, many explanations for this oversight have been offered by market participants, such as regulation and the "tradition of a silo mentality". Establishing the knowledge base among managers and developing the necessary analytical systems to support the integration of risk and capital management will allow the insurance/reinsurance industry to compete more effectively in the market for risk. By understanding the economic drivers of correlation among risk sources (asset, liability and leverage) and controlling for the accumulation of risk, insurers can build more efficient risk portfolios and establish appropriate effective hedge strategies. A broader, more efficiently priced set of risk transfer contracts will benefit all participants in the market for risk – both the institutions ceding risk and the institutions assuming risk. Furthermore, the insurance marketplace may function more effectively as opposed to oscillating between hard markets plagued with availability and pricing problems and soft market plagued with insolvency and inadequate capital.

From a research perspective, Doherty, Lamm-Tennant and Starks (2002) test the Capacity Constraint Model of Winter (1988) and Gron (1994) which argue that insurers will experience sharp price spikes and capacity swings following capital shocks due to the high cost of accessing external capital markets. Our motivation is to understand and perhaps predict the relative impact of September 11th on different firms as well as the market opportunities/constraints faced by these firms following an extreme event. Using 95 publicly traded insurers/reinsurers/brokers along with daily stock price data and dated announcements of losses/capital market activities, we attempt to explain cross sectional differences in stock price due to the differences in risk/capital management strategies employed by these firms. These strategies include pre-loss risk hedging (i.e., reinsurance), share buybacks, floatation of debt versus issuance of equity and transparency with the markets. Doherty, Lamm-Tennant and Starks (2002) motivate this analysis by deriving a series of hypothesis from financial theories - Principle Agent Model of Myers (1977); Pecking Order Theory of Myers and Majluf (1984); Risk Overhang Theory of Gron and Winton (2001) and Hedging Theory of Doherty (1985) and Froot, Schrfstein and Stein (1992).

While the analysis is preliminary, brokers, with little exposure and revenue based fees, perform extremely well; commercial writers most hard hit by claims but still with attractive post-loss market opportunities, perform less well; and personal lines underwriters are hardly affected. However, the main constraint facing many insurers is the shortage of capital and those least affected will benefit most. Thus, for example, we find that firms with smaller pre-loss leverage, smaller risk overhang, higher post-loss liquidity are the best performers. It appears that management "signals" to financial markets relevant information about their future ability to generate profits through their chosen risk/capital management strategy and degree of transparency.

[2] The same could be said for the initial risk taker such as Fortune 100 corporations.

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