

## **Second Annual Scientific Track Continues to Push the Envelope at the ERM Symposium**

**By Steven C. Siegel, SOA Research Actuary**

The 2006 ERM Symposium established its first-ever annual call for ERM-related research papers to present the very latest in ERM thinking and move forward principles-based research. The overwhelming response and success of this first effort, originally the brainchild of Max Rudolph, set into motion high expectations for succeeding years in the quest for expanding the repository of ERM knowledge. In light of these lofty expectations, I am pleased to report that the 2007 ERM Symposium Scientific Paper did not disappoint.

With over 40 abstracts submitted for review, the level of response significantly exceeded the previous years and again proves that ERM is something that companies ignore at their own peril. The papers review committee, chaired by Rudolph, included returning members Mark Abbott, Sam Cox, Emily Gilde, Krzysztof Jajuga, Nawal Roy, Fred Tavan, and Al Weller as well as newcomers Maria Coronado, Steve Craighead, Dan Oprescu, Matthieu Royer, and Richard Targett. Choosing from among the 40 abstracts for nine presentation slots was no small task and given the quality and number of abstracts, the committee regretted that there were only nine slots available.

The final task of the committee was to select the prize winning papers. This year, in addition to the Actuarial Foundation ERM Research Excellence Award for Best Overall Paper, two more prizes were awarded: the PRMIA Institute New Frontiers in Risk Management Award and the Risk Management Section Best Paper Award for Practical Risk Management Applications.

The award winners along with the paper abstracts are shown below. Awards were presented at the ERM Symposium General Luncheon session held on March 30<sup>th</sup>.

2007 Actuarial Foundation ERM Research Excellence Award for Best Overall Paper:  
Mark Beasley, Don Pagach, and Richard Warr of North Carolina State University for  
“Information Conveyed in Hiring Announcements of Senior Executives Overseeing  
Enterprise-Wide Risk Management Processes”



*Mark Beasley and Don Pagach accept second annual Actuarial Foundation award from David Cummings*

#### **ABSTRACT**

*Enterprise risk management (ERM) is the process of analyzing the portfolio of risks facing the enterprise to ensure that the combined effect of such risks is within an acceptable tolerance. While ERM adoption is on the rise, little academic research exists about the costs and benefits of ERM. Proponents of ERM claim that ERM is designed to enhance shareholder value; however, portfolio theory suggests that costly ERM implementation would be unwelcome by shareholders who can use less costly diversification to eliminate idiosyncratic risk. This study examines equity market reactions to announcements of appointments of senior executive officers overseeing the enterprise’s risk management processes. Based on a sample of 120 announcements from 1992-2003, we find that the univariate average two-day market response is not significant, suggesting that a broad definitive statement about the benefit or cost of implementing ERM is not possible. However, our multivariate analysis reveals that market responses to such appointments are significantly positively associated with a firm’s size and prior earnings volatility, and negatively associated with the amount of cash on hand relative to liabilities and leverage on the balance sheet. These results are confined to non-financial firms, possibly be due to the regulatory requirements for enterprise risk management that already exist for financial firms. We conclude that the costs and benefits of ERM are firm-specific.*

2007 PRMIA Institute Award for New Frontiers in Risk Management: Klaus Bocker and Claudia Kluppelberg of the Munich University of Technology for “Multivariate Models for Operational Risk”



*Klaus Bocker accepts PRMIA Institute award from David Koenig*

**ABSTRACT**

*In Bocker and Klauppelberg (2005) we presented a simple approximation of Op-Var of a single operational risk cell. The present paper derives approximations of similar quality and simplicity for the multivariate problem. Our approach is based on modelling of the dependence structure of different cells via the new concept of a Levy copula.*

2007 Risk Management Section Award for Best Paper Award for Practical Risk Management Applications: Neil Bodoff of Willis for “Capital Allocation by Percentile Layer”



*Neil Bodoff accepts Risk Management Section award from Kevin Dickson*

**ABSTRACT**

**Motivation.** Capital allocation can have substantial ramifications upon measuring risk adjusted profitability as well as setting risk loads for pricing. Current allocation methods that emphasize the tail allocate too much capital to extreme events; “capital consumption” methods, which incorporate relative likelihood, tend to allocate insufficient capital to highly unlikely yet extremely severe losses.

**Method.** In this paper I develop a new formulation of the meaning of holding capital equal to the Value at Risk. The new formulation views the total capital of the firm as the sum of many percentile layers of capital. Thus capital allocation varies continuously by layer and the capital allocated to any particular loss scenario is the sum of allocated capital across many percentile layers.

**Results.** Capital Allocation by Percentile Layer produces capital allocations that differ significantly from other common methods such as VaR, TVaR, and coTVaR.

**Conclusions.** Capital Allocation by Percentile Layer has important advantages over existing methods. It highlights a new formulation of Value at Risk and other capital

*standards, recognizes the capital usage of losses that do not extend into the tail, and captures the disproportionate capital usage of severe losses.*

As of this writing, an online monograph is being created to house the papers. A link to the monograph, when completed, will be found on the ERM Symposium web site at [www.ermSYMposium.org](http://www.ermSYMposium.org) . Papers that were not presented at the symposium will be also be included in the monograph.

We encourage you to review the monograph and read papers of particular interest to you. You may not agree with everything you read in the monograph; it was our intent to procure papers that would not only inform, but also provoke discussion and spark debate.

We wish to thank all the organizations and committee members for their support and for making this a success. Planning for the 2008 ERM Symposium call for papers has already begun. I invite you to contact me if you have ideas or feedback for next year. Until then, watch the ERM Symposium site for the latest developments!