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Enterprise Risk Management and Diversification Effects for Property and Casualty Insurance Companies

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Executive Summary

In a well-designed enterprise risk management (ERM) program, the firm integrates risk management into the strategic planning process, addressing strategic risk, financial risk, operational risk and hazard risk under a single overarching process. This is particularly important to large financial firms, such as property and casualty (P&C) insurers, which face a diverse set of risks. In contrast to previous studies that document a significant product line and geographic diversification discount relative to more focused competitors, our analysis suggests that firms with effective ERM programs exhibit a performance premium. Using the Standard and Poor's (S&P) ERM ratings from 2006 to 2012, we find that product line diversification has a significant positive effect on value for more diversified firms with well-implemented ERM programs, as compared to those with weak ERM.

1. Introduction

Following the industrial trend of conglomeration, modern companies have grown larger and more diverse in practice. The trend toward greater diversification generates new challenges and opportunities for risk management at the enterprise level. Theoretically, positive effects of diversification include scope economies, access to larger and less expensive internal capital markets, and risk reduction. However, the finance and insurance literature documents the existence of a diversification discount whereby firms with significant product line and/or geographic diversification tend to generate lower returns on equity and assets than their more focused peers, all else equal (Berger et al., 2000; Liebenberg and Sommer, 2008). Possible explanations for the diversification discount include agency costs and inefficiencies, such as the additional cost of duplicative efforts in various aspects of firm management, including risk management.

Changes in the internal and external environment of business have heightened interest in centralized risk management. A holistic approach to risk management is believed to be more effective than traditional silo approaches, particularly for firms faced with increasingly complex and interrelated risks. In the last decade, large firms have increasingly adopted enterprise-wide approaches for dealing with the wide variety of risks they face (Beasley et al., 2012). In a well-designed enterprise risk management (ERM) program, the firm integrates risk management into the strategic planning process, addressing strategic, financial, operational, and hazard risks under a single overarching process (for example, see Hoyt and Liebenberg, 2011; Ai et al., 2012; Grace et al., 2014). This is in contrast to more traditional silo approaches to risk management in which each type of risk is managed separately. Industry and rating agencies report anecdotal evidence that ERM softened the effect of the economic recession, increasing adopting firms' identification of and preparation for complex and interrelated risks (S&P, 2012).

2. Hypothesis

It is our hypothesis that implementation of ERM should reduce or eliminate the negative factors that result in a diversification value discount. The purpose of this paper is therefore to investigate the interrelated effects of ERM and diversification on property and casualty (P&C) insurer performance and value. If implemented effectively, ERM should alleviate many of the inefficiencies inherent in large diversified organizations and thus mitigate the negative effects of diversification. However, ERM adoption and implementation activities are both costly and timeconsuming, and the quality of implementation will differ by firm. Therefore, the net effect on firm performance is theoretically uncertain.

Although the P&C industry fared better than most during and after the financial crisis (FIO, 2013), it is still subject to increased oversight and regulation of risk management activities. Better understanding of the impact of ERM will inform the development of rating criteria, reporting requirements and managerial decision-making.

3. Contribution

This study is a contribution to the diversification and ERM literature in multiple ways.

We investigate the diversification-performance relationship for P&C insurers using a more recent time period than previous studies. The financial crisis generated considerable structural and regulatory change in the insurance marketplace, and the P&C insurers have in general gone through a process of refocusing their businesses in recent years. This warrants a fresh look at an issue that has important strategic implications for the industry. Our findings confirm that business line diversification has a significant negative effect on P&C insurance company performance over our sample period from 2001 to 2012. We also find that geographic diversification has no significant effect on performance.

Earlier studies primarily focus on the determinants of ERM adoption (see, e.g., Liebenberg and Hoyt, 2003; Kleffner et al., 2003; Beasley et al., 2005; Grace et al., 2010). A problem with this literature has been that ERM adoption is not equivalent to ERM quality, making it difficult to assess value effects. We employ a specific rating score given by Standard and Poor's (S&P), in a multiple-year study. The relatively new S&P ERM rating provides a richer measure of ERM quality than any proxies that have been used to date. Using the S&P ERM ratings from 2006 to 2012, we find that product line diversification has a significant positive effect on value for more diversified firms with well-implemented ERM programs, as compared to those with weak ERM.

Coincident with the trend toward ERM implementation, we showed that the P&C insurance industry has been in a phase of industry consolidation and reduced product line diversification. Given decreasing returns to scale for large insurers (Cummins and Xie, 2008) and the negative value effect for acquirers (Shim, 2013), observed consolidation and focus trends are more likely motivated by risk management objectives such as increased liquidity and improved efficiency. Increasingly centralized management of risk provides an alternative explanation for the trends in consolidation and diversification in the P&C industry.

In addition to providing important background on the cross-sectional characteristics of the S&P ERM rating and documenting a significant decline in P&C insurer product line diversification, we show that well-implemented ERM programs have a significant positive effect on P&C insurers. We also find that the previously documented diversification discount is actually a diversification premium after controlling for ERM quality. The synergistic benefits of ERM are particularly important for more diversified firms. This is important because the financial crisis generated considerable structural and regulatory change in the insurance marketplace, warranting a fresh look at an issue that has important strategic implications for the industry. Our results add to the growing literature on the value of ERM.

We also investigate whether the ERM-diversification-performance relationship was affected by the financial crisis. We find that our main results are not substantially different and firm performance is significantly worse during the financial crisis period.

4. Conclusions

This study considers the value effects of ERM and diversification for P&C insurers. With increasing regulatory pressure to adopt and implement enterprise-wide risk management programs, this research is both timely and important for large financial institutions. We find that ERM quality, as measured by the S&P ERM quality ratings, has a strong positive effect on performance. In contrast to previous studies that have found significant product line and geographic diversification discounts relative to more focused competitors, our analysis suggests that, after controlling for ERM quality, business line diversification has a significant positive value effect on return on assets (ROA), and geographic diversification is not a significant factor.

Our study adds to the growing body of research on the value of ERM by providing a unique perspective to assess its respective impacts on firms with different diversification strategies. Better understanding of the impact of ERM will inform the development of rating criteria, reporting requirements and managerial decision-making.

References

Ai, J., P.L. Brockett, W.W. Cooper and L. Golden. 2012. Enterprise Risk Management Through Strategic Allocation of Capital, *The Journal of Risk and Insurance*, 79(1): 29-56.

Beasley, M.S., R. Clune and D.R. Hermanson. 2005. Enterprise Risk Management: An Empirical Analysis of Factors Associated with the Extent of Implementation, *Journal of Accounting and Public Policy*, 24: 521-531.

Beasley M, B. Branson and B. Hancock. 2012. Current State of Enterprise Risk Management: Progress Is Occurring but Opportunities for Improvement Remain, available at www.erm.ncsu.edu.

Berger, A.N., J.D. Cummins, M.A. Weiss and H. Zi. 2000. Conglomeration versus Strategic Focus: Evidence from the Insurance Industry, *Journal of Financial Intermediation*, 9: 323-362.

Cummins, J. D., and X. Xie. 2008. Mergers and Acquisitions in the U.S. Property-Liability Insurance Industry: Productivity and Efficiency Effects. *Journal of Banking & Finance*, *32*(1): 30-55.

Federal Insurance Office (FIO). 2013. Annual Report on the Insurance Industry, U.S. Department of the Treasury, Washington, D.C.: www.treasury.gov/initiatives/fio.

Grace, M.F., J.T. Leverty, R.D. Phillips and P. Shimpi. 2014. The Value of Investing in Enterprise Risk Management,*The Journal of Risk and Insurance*, forthcoming. .

Hoyt, R., and A. Liebenberg. 2011. The Value of Enterprise Risk Management, *Journal of Risk and Insurance*, 78: 795-822.

Kleffner, A.E., R.B. Lee and B. McGannon. 2003. The Effect of Corporate Governance on the Use of Enterprise Risk Management: Evidence from Canada, *Risk Management and Insurance Review,* 6: 53-73.

Liebenberg, A. and R. E. Hoyt, 2003, Determinants of Enterprise Risk Management: Evidence from the Appointment of Chief Risk Officers, *Risk Management and Insurance Review*, 6(1): 37-52.

Liebenberg, A., and D. Sommer. 2008. Effects of Corporate Diversification: Evidence from the Property-Liability Insurance Industry, *Journal of Risk and Insurance*, 75: 893-919.

Shim, J. 2013. Mergers & Acquisitions, Diversification and Performance in the U.S. Property-Liability Insurance Industry. *Journal of Financial Services Research,* 39:119-144.

Standard & Poor's (S&P). 2012. North American and Bermudian Insurers See Little Change in ERM Scores Despite Significant Catastrophe Losses and Macroeconomic Uncertainty.