# BEPP 811 Risk and Crisis Management Wharton School, University of Pennsylvania

# Fall 2013

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Class Location: TBD

The connectivity of global economies and their financial markets has given way to risk contagion resulting in increased volatility and the ever increasing demand for risk capital, both in terms of amount and structure. For example, financial problems experienced in one part of the world have implications globally. Likewise, a natural disaster such as the earthquake in Japan resulted in supply chain consequences throughout many continents. Understanding the drivers or risk contagion and anticipating needed changes going forward is important to the design and implementation of responses, both financial and operational, that will help restore confidence in worldwide markets for pure and financial risk. Only then can corporate and financial entities deliver value to clients while meeting their shareholder expectations.

We begin the semester by evaluating recent financial and pure risk events - for example, sovereign debt crisis, continued heightened financial volatility, Japanese earthquake, and BP Deepwater Horizon. Our interest is in how these events are managed and financed in the capital markets and/or insurance markets as well as the underlying consequences and recent innovations. We will also discuss behavior biases which interfere in effective risk management.

Our discussion will reinforce the role of risk management in the preservation and creation of value. Value creation arises when a firm is able to identify, measure, manage/finance and monitor risk such that investments are executed and sustained resulting in a risk-adjusted return (or return on risk-adjusted capital) which exceeds the cost of capital. We will explore the underlying theory of the value creation drivers from the perspective of financials and non financials; and identify effective enterprise risk management strategies to achieve value creation.

The supply of risk capital, traditionally sourced from the insurance and reinsurance markets, is now redefining the strategies of hedge funds, pension funds and private equity firms. We will evaluate new sources of capital for risk financing and how these new sources are changing market strategy.

A key focus in the course will be the practical implementation of effective risk management/financing given the evolving new regulation and governance standards. We will explore new techniques for identifying, managing and financing enterprise wide risk. By integrating capital management with enterprise wide risk management, firms are capable of sustaining shocks due to financial volatility and or physical calamities which will enable value creation - sustainable returns, capital efficiencies and confidence/transparency in the financial markets. In addition we will look at opportunities for corporate growth as well as social, political and economic development if we address emerging risk either within corporate entities or through public/private partnerships.

Traditionally business schools presented finance, economics, risk management and business strategy as distinct disciplines. In INSR 811, we will link the underlying principles and theory of each discipline to develop a holistic discipline to support corporate development. INSR 811 will focus on ERM and risk emergence from the demand perspective as well as recent innovations to meet the demand for risk capital.

### Grading

The course will be graded on the basis of the following exercises: (1) review of an emerging risk with a recommended solution for managing/mitigating and financing the risk; (2) case analysis of the risk management strategy of a company and or public entity following a significant risk event. The final grade will be base on the following weights:

Emerging Risk Review and Solution	40%
Risk Management Case Analysis	40%
Class Participation	20%

### **Emerging Risk Review and Solution**

Working in a team of 3 colleagues, select a risk from the Global Risk 2012, Seventh Edition, World Economic Forum Report. In class on September 16<sup>th</sup> present a 10 minute overview of the risk supported by no more than 5 slides. Slides are posted on Canvas no later than noon on September 15<sup>th</sup>. We will learn techniques throughout the semester in terms of how to manage/mitigate/finance risk either through capital market transactions, public private partnerships, (re)insurance market transactions and/or within the operations of the corporate entity. On October 7<sup>th</sup> each team will report their recommendation to the class using no more than 5 slides. The objective is to identify innovative solutions to pending risks that have global consequences. The deliverable is not a paper but instead your ability to frame the risk, the global consequences and finally your recommendation for action. Final recommendation slides are posted on Canvas by noon, October 6<sup>th</sup>.

### Team Case Analysis

During the first week of the semester, identify your team, select a company and a risk event for the Team Case Analysis. The company can be a financial institution, non financial institution or a government and the risk event can be either an economic event or a physical event. The following are examples, although you are encouraged to be creative:

- BP and Deepwater Horizon
- Federal Emergency Management Agency and Superstorm Sandy
- Lehman Brothers and the financial crisis
- City of Boston and the Marathon Bombing

The teams will submit a five to 10 page report covering the following issues related to their selected institution and event:

- 1. Overview of the risk event and the underlying drivers
- 2. Assessment of the financial implications of the risk event
- 3. Assessment of initial response What was the response, how prepared, mistakes made and / or effectiveness
- 4. Assessment of financial preparedness
- 5. Identification of strategic implications going forward
- 6. Management recommendations, including pre / post event financing

Each team will present a 15 minutes summary during class on October 14<sup>th</sup> and will be limited to 10 key slides, posted on Canvas by noon on October 13<sup>th</sup>. The key component of your presentation will be to facilitate a discussion with particular emphasis on your recommendations. The final written report is due on October 16<sup>th</sup>.

### Background

By way of introduction I have attached my professional biography. I look forward to working with you throughout the summer. Please do post your biography as well. Appreciate receiving your background information prior to the semester.

#### Schedule of Classes September 9th, 2013 (3:00 to 6:00 pm) Risk and Crisis Management: Lessons Learned

We begin by evaluating the role of risk management (or lack thereof) in recent failures with attention towards needed changes. The assigned readings provide background for discussion around recent events where risk management failed. We will discuss lessons learned from three case examples – 2008 Financial Crisis, Deepwater Horizon, Japanese Earthquake and Storm Sandy. This will set the stage for the semester as we explore new and evolving risk management disciplines, regulation in light of systemic risk and the role of leadership in crisis

### **Assigned Reading**

O'Harrow, Robert and Brady Dennis, "The Beautiful Machine", Washington Post, December 29<sup>th</sup>, 2008.

Deepwater Horizon: Lessons for Leadership in Crisis, University of Cambridge, September 2010.

Joseph Cyriac, Tim Koller, Jannick Thomsen, Testing the Limits of Diversification, McKinsey Quarterly, February 2012.

#### **Economic of Uncertainty and Behavioral Biases**

Common economic problems such as moral hazard and information asymmetry must be resolved when contracting under uncertainty. Also behavioral issues become important considerations such as framing, anchoring, and referencing. We will review these concepts, illustrate through case examples the consequences and discuss solutions.

#### **Assigned Reading**

McKinsey Quarterly, "Strategic Decisions: When can you trust your gut?"

John Hammond, Ralph Keeney and Howard Raiffa, "The Hidden Traps in Decision Making"

# September 16<sup>th</sup>, 2013 (3:00 to 6:00 pm)

#### Student Presentations: Global Risk, Centers of Gravity

Referencing the Risk Report from the World Economic Forum in Davos, we will turn our attention to emerging risks – their impactions, the need for innovations in risk management and/or public private partnerships. Teams will present a 10 minute overview of their selected risk.

### **Assigned Reading**

Global Risk 2012, Seventh Edition, World Economic Forum Report

#### Enterprise Risk Management – Evolving Risk Management Disciplines

We will turn to financial/risk theory and explore how risk management can create value as a basis for discussion of enterprise risk management (ERM). Understanding a firm's enterprise risk profile and structuring capital accordingly to finance the risk profile is evolving as best practices. Financial and non-financial firms are actively attempting to develop ERM disciplines and embed these disciplines within the organization structure and culture. Likewise, ERM has gained the attention of regulatory authorities and rating agencies. We will break down the various stages of ERM, demonstrate the technological advancements needed to support ERM and provide case evidence of the organizational/behavioral changes necessary to achieve effective ERM.

#### **Assigned Reading**

Harvard Business School, Why Manage Risk?

Peter Tufano, Theory and Practice of Corporate Risk Management, Journal of Applied Corporate Finance, Fall 2009.

Report on the Accenture 2011 Global Risk Management Survey, Accenture, 2011.

# September 23<sup>rd</sup>, 2013 (3:00 to 6:00 pm)

#### Integration of Business Strategy, Risk and Capital Management

Maximizing value and achieving capital efficiencies requires the integrations of strategy with risk and capital management. Nevertheless, management teams tend to evaluate strategic choices such as business growth initiatives independently from financing decisions such as dividend policy.

#### **Assigned Reading**

Marc Zenner, Tomer Berkovistz, John Clark, Creating Value Through Best-In-Class Capital Allocation, Journal of Applied Corporate Finance, Fall 2009

Swiss Re Investor Day Presentation, April 2012

# September 30<sup>th</sup>, 2013 (3:00 to 6:00 pm)

# Natural Disasters and Terrorism – Trends and Implications

The frequency and severity of natural disasters and man made disasters has increased significantly. Communities ability to develop an economic base for growth and sustainably are severely impacted. We will review the facts and discuss innovations for change.

#### **Assigned Readings**

Swiss Re, Sigma, "Weathering Climate Change: Insurance Solutions for Market Resilient Communities", 2010

Swiss Re Sigma, "Natural Catastrophes and Man-Made Disasters in 2012"

#### Catastrophe Risk – A New Asset Class

Catastrophe risk is currently being securitized and is not a common investment for pension funds, hedge funds and private equity firms. What will be the implications?

### **Assigned Readings**

Convergence of Insurance and Capital Markets, World Economic Forum, October 2008

#### **Terrorism – Public Private Solutions**

Some risks lend themselves to public private solutions. Looking at Terrorism in the US, we will evaluate the effectiveness of the solution and debate the upcoming renewal of legislation.

#### **Assigned Reading**

David Moss Sarah Brennan, Insurer of Last Resort: The Federal Financial Response to September 11<sup>th</sup>, Harvard Business School, March 2007

## October 7<sup>th</sup>, 2013 Student Presentation: Discussion of Solutions for Global Risk, Centers of Gravity

#### **Risk Management – Emerging Markets**

Emerging markets are exposed to significant risk partly due because of exposure to natural disasters and also due to the lack of infrastructure. Also the emerging middle class in disadvantaged by limited access to financial services including the ability to finance risk. We will overview the inhibitor to managing risk in emerging countries, the development of microinsurance and the challenges to meeting the "double bottom line".

#### **Assigned Reading**

Allianz, "Learning to Insure the Poor: Microinsurance Report, 2011.

### October 14<sup>th</sup>, 2013 Student Presentations: Presentations of Case Analysis

#### **Overview of Course**

We will review, reinforce and debate the importance of risk management and approaches for integrating risk management with strategy and capital management. The course integrates risk management with corporate finance with business strategy, in essence providing a capstone to many disciplines taught in the MBA Program.

Joan Lamm-Tennant, PhD Global Chief Economist and Risk Strategist, Guy Carpenter Company, LLC



Dr. Lamm-Tennant's service to the insurance industry spans a 35+ year career at the operating company level of global financial services firms, as a Director of public and private companies and as a Professor of Finance, Investments and Insurance. In her current position, Joan advises Executives and Directors of our industry's most significant multinational companies on emerging trends in advanced and developing economies, corporate strategy, risk and capital management and governance. Joan serves on Enterprise Risk Management Advisory Committee for the Marsh & McLennan Companies.

Prior to joining Guy Carpenter in 2007, Joan was the founding President of General Reinsurance Capital Consultants (GRCC). When initially joining General Reinsurance in 1997, Joan was an advisor to the Chief Investment Officer and Board on setting risk guidelines. She also supported GenRe New England Asset Management, a subsidiary of General Reinsurance, in the design and delivery of risk and capital advisory services to insurers worldwide.

Prior to her executive positions in industry, Joan had a successful academic career. She advanced from an Assistant Professor of Finance and Investments to the Thomas Labrecque Professor at Villanova University. As a tenured scholar, Joan was a prolific author in academic and business journals and recipient of numerous awards for innovations in risk and capital management. Today, Joan is an Adjunct Professor at the University of Wisconsin and at the Wharton School, University of Pennsylvania where she held the Laurence and Susan Hirsch Chair in International Business.

Joan has extensive experience on public and professional boards. She currently serves on the Board of Directors of two public companies, Selective Insurance and Ivans, Inc., and serves on the Board of the International Insurance Society. Prior Board experience includes Turner Investment Advisors and Focus Trust Fund, American Risk and Insurance, and Financial Analyst Society.

Joan is the recipient of the 2013 APIW Insurance Woman of the Year and the 2012 International Insurance Society Kenneth Black Award for service and commitment to the advancement of the global industry.

Joan holds a Ph.D. in Finance and Investments from the University of Texas, Austin. In addition Joan holds an M.B.A. in Finance from St. Mary's University, San Antonio, Texas and a B.B.A. with Honors in Accounting from St. Mary's University, San Antonio, Texas.