

Risk Planning and Insurance

David L. Wasserman

This course challenges students to optimize investment and capital decisions in a contemporary business environment. The emphasis will be placed on practical business applications – theories of risk, capital and asset management are referenced to the extent they can be used to better understand real world cases and develop effective solutions. We will introduce financial and economic concepts applicable to today's insurance industry, and address catastrophic risk management, investment risk, regulatory investigations, rating agency reaction and shareholder constraints.

We will begin by exploring various measures of capital, including a focus on risk-based capital (RBC), and how companies allocate RBC to risk bearing activities. This will frame an examination of the practical aspects of institutional investing strategies including hedging methods, the use of special purpose entities (SPEs), the components of investment risk, and a focus on the objectives and analytics of asset/liability management (ALM). In this regard, we will review current practice in the area of investment and ALM risk modeling and implementation. We will then turn to financial risk management at insurers, including an examination of how insurers model and manage catastrophic risks, both natural (e.g. hurricanes, earthquakes,) and man-made (e.g. terrorism). Included will be a demonstration of one of the leading catastrophe models used by the insurance industry in this regard. We will also address regulatory risk by examining the recent investigations being conducted by the New York Attorney General's office of the insurance industry. We will conclude with a review of structured products and financial guarantees, which represent the convergence of insurance and capital markets.

Among the questions considered are the following:

- What is risk-based capital, how is it determined, and how is it used by companies, regulators and rating agencies?
- What investment techniques, risk models, and strategies can be employed to maximize risk-adjusted return on investment portfolios while meeting asset/liability management objectives?
- What are the real world implications of hedging and derivative strategies, and how do special purpose entities serve a valid business purpose for managing risk and addressing constraints?
- What are the implications of regulatory investigations of the industry?
- What is the federal government's role in "insuring" terrorism risk, and how has the insurance industry responded?
- How is catastrophe risk analysis conducted, and how have catastrophe bonds developed in the capital markets?
- How do such financial products as principal protection insurance, credit enhancement and asset residual value guarantees work, and how do they fit into the converging world of insurance and capital markets?

Guest Lecturers:

Mark Radke

Partner with the law firm LeBoeuf, Lamb, Greene & MacRae LLP, which has 650 attorneys operating in 19 offices around the world.

Prior to private practice, Mark was the Chief of Staff to the Chairman of the SEC.

Mark will discuss **regulatory risk**: how public companies manage the risk of regulatory/government investigations such as those launched in the financial services industry by the New York Attorney General's office and the SEC over the last few years.

Ramy Tadros

Managing Director of Mercer Oliver Wyman, which is a leading international consulting firm specializing in financial institutions strategy and risk management.

Ramy is an expert in risk associated with investment portfolios and asset liability management (ALM).

Ramy will discuss **investment risk**: how financial institutions use risk modeling and quantitative analysis to optimize their investment portfolios and manage the ALM risk.

Jason Schupp

Assistant General Counsel of Zurich Insurance Company

Jason is an insurance industry expert on terrorism, and has testified before the US Congress and participated on various government committees and research projects relating to the terrorism risk.

Jason will discuss **terrorism risk**: the joint private industry/ federal government response to the terrorism risk, particularly the Terrorism Risk Insurance Act.

Mitch Sattler

VP of Risk Management Solutions, Inc., which was founded at Stanford University and is the world leader in quantification and modeling of catastrophe risks.

Mitch is an expert in the modeling and analysis of natural disasters (e.g. hurricane, earthquake) and manmade disasters (e.g. terrorism)

Mitch will discuss and demo **natural disaster risk**: the state-of-the-art in catastrophe modeling and how financial institutions are using such modeling to manage the financial risk of catastrophic events.