

Enterprise Risk Management (ERM) Module 3.0 (CERA/FSA)

SECTION 1: MODULE OVERVIEW

Introduction

Quick! Try to name a bankruptcy that was solely due to financial risks. It surely can be done, but it's not easy. Think back over the past 20 years: Drexel Burnham's concentration of risk and the resulting conflicts of interest, AIG's overreliance on sophisticated models and home mortgages sold to people with no income. Each of these examples demonstrates how weak processes for controlling the risks have played a leading part in bad endings.

Warren Buffett demonstrated his commitment to a risk management culture during his testimony to the U.S. Congress after Salomon Brothers tried to corner the U.S. Treasury market in 1991. As the leading shareholder, he was brought in to try and save the company. Management statements like "I'd like to start by apologizing for the acts that brought us here" are much too rare. Later in the testimony he stated, "Lose money for the firm, and I will be understanding; lose a shred of reputation for this firm, and I will be ruthless." That was a very clear statement for employees and other stakeholders to hear. Few CEOs are willing to make such a comment out loud, and many show their true colors by accepting huge cash payouts even when the other stakeholders have done poorly through layoffs or poor financial performance.

During your module study, you'll expand your knowledge of ERM. Specifically, you'll learn how the discipline emerged from high-profile organizational failures to become more institutionalized through the development of formal regulations. You'll also learn about a comprehensive risk management framework that covers risk controls, key risk indicators, data gathering, measurement and monitoring and reporting. Finally, you'll learn in more detail about measurement of risk capital and about risk mitigation and financing. Ultimately, this module is intended to help you learn how to identify, measure and manage risk while understanding core regulatory requirements and implications.

Other Risk Resources

There are many risk resources not covered in this module. The Internet is a great resource. Look for initiatives from New Zealand, Australia, the Financial Services Authority in the United Kingdom and others. The European Chief Risk Officer Forum (CRO Forum) and the newly formed North American Chief Risk Officers Council (NACRO) provide a variety of good information from Europe and the U.S. The International Network of Actuarial Risk Managers (INARM) has a discussion list serv and a LinkedIn website. The former can be found at <http://www.soa.org/news-and-publications/listservs/list-publiclistservs.aspx>.

Regulatory Regimes

Regulators continue to evolve their risk management requirements. Most regimes are moving from being rules-based where formulas are applied to current exposures, to principles-based approaches (PBA). PBA techniques borrow heavily from those used for ERM, so the practitioner is able to leverage tools developed for one purpose and apply them to another.

Module Objectives

After you complete this module, you will be able to:

- Explain what enterprise risk management (ERM) means.
- Describe an ERM framework.
- Identify regulatory requirements related to ERM.
- Define, identify and evaluate operational risks.
- Understand data issues in general, and special considerations with respect to ERM.
- Describe and apply quantitative and qualitative methods for assessing risk.
- Describe and apply the components of an effective economic capital model.

Module Sections

This module consists of nine sections:

- Section 1. Module Overview (You are here now).
- Section 2. Introduction to Enterprise Risk Management.
- Section 3. Developing an ERM Framework.
- Section 4. Regulatory Requirements.
- Section 5. Defining, Identifying and Evaluating Operational Risks. □ Section 6. Data Issues.
- Section 7. Risk Measurement Approaches.
- Section 8. Economic Capital.
- Section 9. Putting it all Together.

In addition, this module contains an End-of-Module Test and an End-of-Module Exercise.

SECTION 2: INTRODUCTION TO ENTERPRISE RISK MANAGEMENT

Introduction - Emergence of a New Discipline

Until relatively recently, risk management was not considered to be a separate discipline, even in the financial services industry. While companies had long managed operational risks in addition to credit and market risks, several high-profile failures prompted organizations to begin to approach all risk more formally and systematically.

FSA: ENTERPRISE RISK MANAGEMENT (ERM) MODULE

There are a variety of ways to define risk categories. Later, this module focuses on alternative risk definitions, especially regarding operational risk. While the traditional definition of financial risk includes credit risk and market risk, categories such as strategic risk are not handled consistently by regulatory regimes.

Objectives

Upon completion of Section 2, you should be equipped with the basics to leverage single risk models to review risks consistently at the enterprise level.

After you complete this section, you will be able to:

- Understand the set of risk taxonomies and apply it to different frameworks.
- Explain the need for risk management in an operation-wide capacity.
- Describe the implications of tail events on a firm's results.
- Explain how banks, insurers, pension plans (or financial intermediaries) and rating agencies define risk.
- Identify the drivers behind some well-publicized insolvencies.

SECTION 3: DEVELOPING AN ERM FRAMEWORK

Introduction

Risk management forces firms, and individuals, to think about what risks they are taking. It also encourages them to think about which risks they want to take because they expect to be paid adequately to accept the risk. Then they can act on the two.

Most people think about risk management as mitigation, how to reduce a risk that is already on the books. But, in addition, firms must determine whether to accept the risk in the first place, and whether to seek out a risk. This allows a firm to optimize its risk profile through strategic and tactical planning.

Objectives

After you complete Section 3, you will be able to:

- Evaluate an ERM framework.
- Use tools common to ERM practice.
- Use common sense to consider models and their results.
- Present a list of risks and prioritize them for a specific firm.

SECTION 4: REGULATORY AND RATING AGENCY PERSPECTIVES

Introduction

In recent years, and in particular as a result of the 2008 financial crisis, regulators across the globe have taken action to increase supervision of insurers and financial institutions. This increased supervision has promoted capital adequacy assessments and has encouraged stronger Enterprise Risk Management activities within the organizations being supervised.

In addition, rating agencies have been increasingly focused on the understanding the strength of insurers' risk management programs.

Objectives

After you complete Section 4, you will be able to:

- Understand the role that related banking regulation has played in the development of insurance regulation for risk management.
- Describe global regulatory initiatives as they relate to ERM.
- Describe European, U.S., and Canadian ERM regulatory initiatives in more detail.
- Describe rating agency expectations for ERM.

SECTION 5: DEFINING, IDENTIFYING AND EVALUATING OPERATIONAL RISKS

Introduction

In section 5, you will review many aspects of operational risk and their link to the broader context of ERM.

Objectives

After you complete Section 5, you will be able to:

- Define and understand the traditional regulatory and broader operational risk approaches.
- Describe major sources of operational risk in general and their link to other risks such as reputational risk from an ERM perspective.
- Understand the use of qualitative approaches such as key risk indicators for risks that do not lend themselves easily to quantification.
- Compare and contrast different approaches to quantitatively evaluate operational risk; including the "actuarial method" approach.
- Describe at least two hedging strategies including control effectiveness and insurance.

SECTION 6: DATA ISSUES

Introduction

Understandably, actuaries spend a great deal of time thinking about models, their construction and evaluation, and their results. They often spend less time thinking about data requirements. When the project begins, it often turns out that collecting and validating the data takes far more time than anticipated. But “Garbage in, garbage out.”

Objectives

After you complete this section, you will be able to:

- Explain the guidance related to data issues provided by actuarial standards of practice in Canada and the U.S.
- Identify and describe the key general considerations related to data and data validation.
- Define categories of data relevant to ERM.
- Explain the uses and misuses of internal data.
- Consider how to handle suboptimal data.
- Identify important considerations in communication of data issues.

SECTION 7: RISK MANAGEMENT APPROACHES

Introduction and Objectives

Section 7 will focus on the common tools used for measuring risk and assessing the effect of unexpected events.

- Understand how strong risk management practices can help better prepare companies for unexpected events.
- Describe how unexpected events can be assessed using extreme value theory, predictive modeling and scenario generators.
- Understand copula models as a way to represent risk interactions.
- Explain how scenario analysis can add value to ERM and discuss several methods for constructing scenarios.
- Integrate many aspects of ERM discussed to this point.

SECTION 8: ECONOMIC CAPITAL

Introduction

Economic capital is an important enterprise risk management tool that assists companies in evaluating and managing their existing and potential risks. Economic capital can enhance strategic decision making, both by improving the understanding of individual risk exposures and by better appreciating the relationships between risks. This holistic perspective aligns economic capital with many of the ERM principles that have been introduced in earlier sections.

Objectives

After you complete Section 8, you will be able to:

- Define and use economic capital in enterprise risk management (ERM).
- Describe the value of economic capital in enterprise risk management (ERM).
- Describe the elements of an economic capital model.
- Describe a process for developing an economic capital model.
- Develop an economic capital model.
- Describe the advantages and disadvantages of various economic capital models.

SECTION 9: ERM AND STRATEGIC PLANNING

Introduction

This section will discuss many of these items in the context of strategic planning. We will see how ERM can be used to provide a firm with a competitive advantage. Traditional views on risk management may focus on mitigating the impact of adverse events, but ERM recognizes that a holistic perspective can identify areas in which taking risk can lead to positive outcomes.

The components we've considered in previous sections include:

- Risk management culture
- Risk identification and control processes
- Regulatory and rating agency considerations
- Data Challenges
- Extreme event management
- Risk models and capital models

Objectives

Optimization of the risk and reward relationship is the key to strategic planning. Prioritization of resources to address all types of risks, leveraging existing projects, will implement the SOA motto, "Risk is Opportunity."

After you complete this section, you will be able to:

- Explain how various strategic planning alternatives would affect risks taken and results achieved.
- Propose solutions to exploit risk knowledge.
- Describe how company size can affect effective ERM strategies.
- Discuss the future of risk management theory and techniques.
- Leverage existing tools for use in ERM and strategic planning.
- Discuss the challenges facing someone setting up a risk unit.

END-OF-MODULE TEST END-OF-MODULE

EXERCISE