

Università Bocconi
2nd Semester, Academic Year 2011-2012

30183 – RISK MANAGEMENT AND INSURANCE

Instructor: Prof. Giacomo Nocera, Ph.D.

Giacomo Nocera

Office: *Department of Finance*

Via Röntgen, 1, 2nd floor, room 2-D2-05

E-mail: *giacomo.nocera@unibocconi.it*

Office hours: *Wednesday, 14:00 to 15:00*

Course Description

Firms build value by designing and marketing good products, making astute investment decisions, and carefully managing their human resources. But that value is at risk. A loss in a key supplier or financing, a technological failure, a destruction of assets or information, or a liability suit, can squander the value created. In extreme cases, risky outcomes can bankrupt a firm. Therefore, managers who make decisions without appropriate consideration of risk management issues can jeopardize the long-term survival of their organizations.

This course covers the basic concepts in risk management and insurance, examining how to manage and protect the firm's value.

The purpose of the course is to equip students to develop a conceptual framework for making risk management decisions that increase business value. The emphasis is on traditional management of pure risk and insurance. However, the foundation for understanding other types of risk management is also established. The evolving concepts of enterprise risk management is introduced and blended into several parts of the course.

Prerequisites

Students attending this course should be familiar with the very basic concepts of probability, statistics and finance.

Syllabus

The course is organized around four modular sections.

Module I. The Theory of Risk Lectures

The first module is an introduction to risk and its treatment. The following questions are answered: What does risk mean? How is it measured? How do individuals (and firms) make choices under uncertainty.

Module II. Insurance Lectures

In this module insurance contracts emerge as a central topic. The essential characteristics of all insurance contracts are reviewed. This provides the basis to analyze common insurance contracts.

Module III. Risk Management Process Lectures

The third module provides students with a thorough understanding of the main stages of the risk management process (risk identification, measurement and management).

The module examines a common set of techniques which can be used by managers in dealing with these problems, including prevention, diversification, risk retention and transfer via insurance and non-insurance market tools. A decision framework for selecting among these various tools is established.

Module IV. Enterprise Risk Management Lectures

The fourth module deals with the question how risk features in financial decision-making, expounding the case for a holistic approach to risk management, integrating insurance and treasury risk management into the wider strategic risk management of the firm. The most recent innovations in risk management strategies are finally described, focusing on the insurance-linked securities.

An outline of each module is the following

The Theory of Risk

- Introduction; basic risk concepts; the manifold dimensions of risk
- Risk management and firm value: the risk management irrelevance proposition
- Risk management and firm value: the risk management relevance proposition
 - Risk management as a tool to maximize firm value
 - The tax benefit argument
 - The bankruptcy costs argument
 - The debt overhang argument
 - Risk management as a tool to increase management's utility
- The “decision making under uncertainty” framework

Insurance

- Insurance in the “decision making under uncertainty” framework
- The insurance process
 - Pooling risk management solutions
 - Unfunded vs funded mutual insurance plans
- Insurance pricing
- Moral hazard and adverse selection in insurance
- The insurance contract
 - The object of the insurance contract
 - The principle of indemnity
 - The contractual provisions that limit coverage
- Reinsurance

The Risk Management Process

- Risk identification
- Risk control vs risk financing
- Funded risk retention vs insurance
- The large-loss principle
- Risk financing strategies
 - The objective function of risk management
 - The “risk” of the cost of risk
 - Solving a risk management problem through a Monte Carlo approach

Enterprise Risk Management

- From “tactical” to “strategic” risk management
- Enterprise Risk Management
- Innovations in risk management: Alternative Risk Transfer and Securitized Risk Transfer solutions

Course Materials

There is no required text for this course.

All required readings will be downloadable at your yoU@B Diary page

The book below provides helpful additional (not required) reading materials:

Harrington, S.E., and G.R. Niehaus, *Risk Management and Insurance*, Irwin McGraw-Hill, 2003.

Exam Policies

Each student can choose among three alternative options:

1. Take a (single) final general written exam. The exam will be in-class, closed book and closed notes and based on the material covered during the entire course.
It will consist of 5 equally weighted (6 points each) questions. The length of the *typical* exam will be 90 minutes.
2. Take two written exams, one midway through the course (*i.e.*, midterm exam, on April 18th), the other at the end of the course (on June 13th). The final grade will be an average of the two grades. A minimum of 18 for each of the two exams is needed to get the final grade.
Each exam will consist of 4 equally weighted (7.5 points each) questions. The length of the *typical* exam will be 75 minutes.
3. (*for attending students only*) Take only part of the two written exams and complete three group assignments, according to the following instructions.

Written exams:

Students who choose option no.3 will take both the midterm exam and the exam at the end of the course (18th April and 13th June, respectively) but will be required to answer only one out of 4 (or 3) questions in about 20 minutes. A minimum grade of 3.5 for each exam question is needed to get the final grade.

Group assignments:

Students who choose option no.3 will be assigned three group assignments.

These assignments should help students to better understand how the class material can be applied, as well to solve practical problems commonly encountered in the world of risk management.

The number of people in each group will depend on the assignment and will be announced beforehand.

For the first assignment, groups will be formed by students themselves, but might be randomly formed for the second and third assignments.

Each group will submit a paper copy of the project, clearly listing the names of all group members on the cover page, and will send an electronic version (in the required format) to the following e-mail address: giacomo.nocera@unibocconi.it

A deadline for each assignment is defined. No late assignments will be accepted.

The members of one group might get a different grade, if the contribution of the members to the final output turned out to be different.

The first two group assignments require a presentation session. In this case each group will be required to present its project (groups will organize their presentations by themselves, but all group members are required to present) and, eventually, there will be a Q&A session where all the members of the groups will be required to answer questions from the rest of the class.

All the members of the groups are expected to attend the presentation. Those students who do not attend both the presentation sessions will not be allowed to take the exam according to this option anymore.

Assignment grade will depend (mainly) on the overall quality of the project and on the effectiveness of the presentation of the project (if any) and on the ability to answer the questions from the class.

Since, one of the exam questions (to students opting for option no.1 or 2) might cover the contents of the assignments, students who did not opt for option no.3 are strongly recommended to attend the assignment presentations.

The final grade will be the sum of the following grades (in parentheses the day when the grade will be communicated):

	Date/Deadline	Maximum grade
First assignment grade <i>In-class presentation</i>	March 13 th (March 30 th) <i>March 19th</i>	5.0
First written exam (one question)	April 18 th	7.5
Second assignment grade <i>In-class presentation</i>	May 8 th (May 23 rd) <i>May 15th</i>	5.0
Third assignment grade	May 29 th (June 8 th)	7.0
Second written exam (one question)	June 13 th	7.5
Overall grade		32.0

In order to be graded according to option no.3, students must have:

- attended both the written exams;
- answered only one question of each written exam (a student who answers two or more questions is automatically declaring her/his willingness to opt for option no.2 and will be graded accordingly);
- participated to all the three group assignments;
- missed at most one group assignment presentation.

Classroom participation is important.

When case studies or group assignment presentations are scheduled, students are expected to be prepared for class and to have read the assigned material and completed the assigned exercises.

All lectures, unless otherwise communicated, will be held in Aula N38 (Velodromo)