F71EM Enterprise Risk Management 2

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Aim

The aims of this module are:

- To provide a good grounding in the best practice of risk management within an organisation
- To understand economic measures of capital and capital allocation
- To have a thorough understanding of operational risk in its various forms
- To identify and measure risks and then to take actions to mitigate risks and exploit risky opportunities through good risk management strategies.

Syllabus

- Regulatory regimes
  - Basel II and Solvency II: underlying principles and calculation methods
- Risk management control cycle
  - Describe typical risk management control cycles and explain the relevance of each component
- Risk management governance and culture
  - Sarbanes-Oxley and other international risk frameworks; underlying principles
  - Risk management governance structures and the risk management culture
  - Governance issues including agency, audit and legal risk
  - Rating agency assessments of an organisation's risk management operation
- Economic capital

  - Economic measures of value and their uses in corporate decision making
  - Capital allocation and the role of risk measures
- Operational risk
  - Examples of operational risk
  - Non-quantitative and quantitative methods and tools for managing operational risk
  - Different ways of quantifying operational risk under Basel II
- Case studies
  - Examples of past disasters and good practice and the lessons to be learned
  - Risk analysis of real and hypothetical scenarios including non-quantifiable risks; views of different stakeholders
- Risk management and optimisation
  - Articulating an organisation's risk appetite and risk objectives; translating these into risk tolerances.
  - Determining an organisation's overall risk exposure
  - How risks and risky opportunities affect the selection of strategy
  - Developing and recommending strategies for risk optimisation
    * Methods for transferring risk to other organisations including financial derivatives, securitisation, insurance, reinsurance, insurance-linked securities
    * Techniques for managing credit risk
    * Different types of securitisation
    * Risk reduction within an organisation
    * Advantages and disadvantages of different approaches to risk reduction; e.g. costs and benefits; information asymmetry; transparency; liquidity; basis risk; moral hazard
    * Dynamic versus static hedging using financial derivatives; practical considerations
    * Modern approaches to immunisation of interest-rate risk
    * Asset-liability modelling
    * Optimising risks and opportunities relative to the Board's declared risk appetite and risk tolerances

Learning outcomes

On completion of this module the student should be able to:

- Show an awareness of the Basel II and Solvency II and other regulatory environments and implement their main requirements

- Evaluate market risk using a standard method under pillar 1 of Basel II.
- Demonstrate an understanding of the main international guidelines on good risk management practice and good governance
- Understand how a ratings agency assess risk management practice and use this to improve risk management practice in an organization
- Show how to measure the economic value of a risky venture and how this can be used to influence decision making
- Understand the different methods for how to allocate capital within an organization and apply these methods in a variety of situations
- Demonstrate a good understanding of the different types of operational risks that might arise in an organization, and be able to identify potential operational risks in a given scenario
- Use quantitative and qualitative methods for analyzing operational risk
- Analyse multivariate operational risk data using standard methods under Basel II and internal models
- Analyse real and hypothetical case studies of good and bad risk management practice
- Analyse real and hypothetical scenarios from the perspective of different stakeholders
- Demonstrate how to establish at Board level an organisation's risk appetite, risk objectives and risk tolerances
- Show to optimize risk and opportunities given Board-level constraints on risk appetite and risk tolerances
- Determine an organisation's overall risk exposure
- Develop and recommend strategies for active management of risks using a variety of methods
- Recommend risk mitigation strategies by transfer of risk
- Develop strategies for management and mitigation of credit risk
- Recommend risk reduction strategies without transferring risk to an external agency
- Demonstrate an understanding of the pros and cons of the different approaches to risk mitigation
- Show an understanding of modern methods for immunization of interest-rate risk
- Show an understanding of the importance of asset-liability modeling for a financial institution

- Develop a risk-management control cycle appropriate to a given scenario

In terms of personal abilities:

- Show an appreciation of the interface between academic theory and industrial practice
- Demonstrate the ability to learn independently and as part of a group
- Manage time, work to deadlines and prioritise workloads
- Present results in a way that demonstrates that they have understood the technical and broader issues of financial risk management
- Show an appreciation of the societal role of risk management in protecting the consumer and other stakeholders

Timetable

The timetable has 5 hours per week:

- Monday 9.15-11.15 in CM S.01 (lecture)
- Monday 2.15-4.15 in DB 1.15 (lecture)
  (some weeks this class will finish early depending on that week's topic)
- Thursday 3.15 in NS 1.01 (tutorial)

You should assume that lectures will continue right up to the end of week 12 (March 30).

Occasionally I may be away from university and unable to give timetabled classes. I will give you plenty of advance warning if this is likely to be the case.

Office Hours

There are no fixed office hours for this module. However feel free to visit the lecturer to discuss any aspect of the module at any time. Ideally, please e-mail the lecturer to make an appointment.

Lectures

Lectures will consist of a mixture of notes and discussion, supplemented by guided *compulsory* reading from various sources.

It is essential that you listen carefully during the discussions and take notes as appropriate. (If I don't give you enough time to note down the points made in class please let me know, so that I can slow down!)

Feedback

The module offers various opportunities for feedback on your progress:

- Written feedback on your continuous assessment.
- You can get feedback on other aspects of the module by visiting the lecturer during office hours or by making an appointment by e-mail.

Special needs

If you have any relevant special needs or disabilities that have not been notified to the university, then please see the Student Welfare Service as soon as possible. Where appropriate, the lecturer will prepare special handouts, or you might be allowed extra time in exams. For example, anyone with visual impairments should notify the university in order that I can prepare suitable handouts.

Assessment

- All students
  - 20% of the final mark will be based on coursework that will be carried out during semester 2.
  - 80% of the final mark will be derived from the final exam after the Easter break.

The module website will have a past paper and a specimen exam paper

Reading

1. (**) Alexander J. McNeil, Rudiger Frey, Paul Embrechts (2005) *Quantitative Risk Management: Concepts, Techniques and Tools.* Princeton University Press,
2. (***) M. Crouhy, D. Galai, & R. Mark (2006) *The Essentials of Risk Management.* McGraw Hill,

3. (***) P. Sweeting (2011) *Financial Enterprise Risk Management.* Cambridge University Press.

4. International Actuarial Association (2008) *Practice Note on Enterprise Risk Management for Capital and Solvency Purposes in the Insurance Industry* (11 August 2008)

5. Standard and Poors (2005) *Evaluating The Enterprise Risk Management Practices Of Insurance Companies* (17 October 2005)

6. Society of Actuaries (2004) *Specialty Guide on Economic Capital*

7. COSO (2004) *Enterprise Risk Management – Integrated Framework*

8. Walker, D. (2009) *A review of corporate governance in UK banks and other financial industry entities: Final recommendations*

9. Financial Services Skills Council (2009) *National Occupational Standards Risk Management for the Financial Sector*

Mobile Phones

Mobile phones must be switched off at all times in lectures, tutorials and lab sessions.

At exam time mobile phones may not be taken into the exam hall.