RISK MANAGEMENT in FINANCIAL INSTITUTIONS

Special Topics: B40.3112
NYU-Summer 2007

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Objectives
The course will cover the major foundations of risk management in banks and financial institutions. Many of the elements are also applicable to non-bank corporations. The objectives are to understand the requirements of Basel II and to relate them to theoretical developments in asset pricing and risk assessment. In particular we’ll define and explain the new approaches to market, credit and operational risks.

The course is based on lectures; the PowerPoint presentations will be posted on the course Blackboard site. A book (see below) will provide readings to accompany the lectures.

In the last class, an hour and a half exam will be given based on conceptual, practical and quantitative material.


Power Point presentation will be available on the course Blackboard site.
Lecture Outline:
Thursday June 28

The Need for Risk Management Systems
   The historical evolution
   Why manage risk
   Accounting system versus risk management system
   Lessons from recent financial disasters
   Typology of risk exposures
   Extending risk management systems to non-financial corporations

The required Steps for Risk Management
   Determine the objective function
   Map the risks
   Find the relevant instruments for risk management
   Strategy determination and implementation
   Measure performance

The Regulatory Requirements for Credit Risk in Banks-
   Group of Thirty (G-30) policy recommendations
   The 1988 BIS Accord for credit risk
   The Basel II approach for credit ratings
   The Netting issues
   The new regulatory approach to retail credit risk

Reading: CGM Chapters 1 & 2.

Thursday July 5

Academic Background for Risk Management
   Portfolio analysis
   Adjusting for risk: CAPM and APT
   Option pricing models
   Valuation of equity and credit risk

The new Basel II Approach to Risk Management in Banks
   The three pillars approach
   Risk sensitive approach to calculating required capital
   The internal processes in managing risks
   The role of market discipline

Reading: CGM Chapters 4 & 5.
Thursday July 12

Regulatory Approach to Market Risk
   The “standardized” approach
   The “Internal Models” approach

Measuring Market Risk
   Measuring risk: An historical perspective
   Defining Value-at-Risk
   Calculating Value-at-Risk
   Pros and cons of the different approaches

Reading: CGM Chapters 6 & 7. (Chapter 8 is recommended)

Thursday, July 19

Credit Risk Rating
   Rating agencies
   Introduction to internal risk rating
   Debt rating and migration
   Financial assessment
   Adjustment factors for obligor rating
   Adjustment factors of facility rating
   Cast Study: Example of large corporate

Migration Method (CreditMetrics)

Reading: CGM Chapters 10 & 11. (Chapter 9 is recommended)

Thursday, July 26

Credit Risk Modeling
   Migration method (CreditMetrics)
   Economic models (KMV, Merton Model)
   Statistical and actuarial models

*Credit Risk Mitigation
   Traditional instrument and methods
   Defining credit derivatives
   The players
   Strategies with credit derivatives
Managing Operational Risk
- Typology of operations risks
- Who should manage operations risk?
- The key to implement bank-wide operational risk management
- A four-step measurement process of operational risk
- Capital attributions of operational risk
- Self-assessment versus risk management assessment
- Integrated operations risk

Reading: CGM Chapters 11 & 13. (Chapter 12 is recommended.)
For additional reading on credit risk models, see Chapters 8-11 in Risk Management, by Crouhy, Galai and Mark, McGraw-Hill, 2000.

Thursday, August 2

Model Risk
- Valuation models and sources of model risk
- Typology of model risks
- What can go wrong?
- What market risk management should do to mitigate model risk?
- Case studies

*RAROC and Performance Measurement
- Guiding principles of RAROC implementation
- Relationship of RAROC capital to market, credit and operational risks
- Loan equivalent approach
- Measuring exposures and losses

Corporate Governance and Risk Management
- The new focus on governance
- The Sarbanes-Oxley Act
- Governance and risk management

Exam

* Please note: We may skip some of the topics, depending on previous preparation of student