

Financial Risk Management

Course Objectives

Financial Risk management establishes standards for aggregating disparate information, gathering market data, calculating risk measures and creating timely reporting tools for management market, credit, and operational risks. This course is directed toward students interested in understanding how large-scale complex risk can be quantified, needs to be managed and mitigated.

Syllabus

Financial Risk Management, Risk Measurement & Control, Credit Risk Management, Operational Risk Management and Market Risk Management.

Expected Outcomes

Upon completion of this course, the students will be able to:

1. demonstrate knowledge of the range of financial and financial related risks facing organisations.
2. understand the approach to risk management through risk identification, risk measurement and risk management (or mitigation).
3. document and evaluate outcomes of risk management plans articulate the value of risk management

References

1. Dun & B, Financial Risk Management, McGraw Hill Education (India) Private Limited, 2013
2. Brealey, Richard, Stewart Myers, Pitabas Mohanty, and Franklin Allen. Principles of Corporate Finance, McGraw Hill Education (India) Private Limited, 2012
3. McDonald, Robert. Derivatives Markets, Pearson Education, 2014
4. Hull, John. Options, Futures, and Other Derivatives, Pearson Education, 2013
5. Hull, John, Risk Management and Financial Institutions (WSE), Wiley India Private Limited, 2012
6. Grinblatt, Mark, and Sheridan Titman. Financial Markets and Corporate Strategy. Mcgraw-hill, 1998
7. Garp Philippe Jorion, Financial Risk Manager Handbook, Wiley, 2013
8. Steve. L. Allen, Financial Risk Management: A Practitioner's Guide to Managing Market and Credit Risk, John Wiley & Sons, 2013
9. Sharma and Meera, Management of Financial Institutions: With Emphasis on Bank and Risk Management, PHI Learning Private Limited, 2008
10. Jimmy Skolund and Wei Chen, Financial Risk Management: Applications in Market, Credit, Asset and Liability Management and Firm wide Risk, John Wiley & Sons, 2015

11. Jayanth R. Varma, Risk Management Lessons from the Global Financial Crisis for Derivative Exchanges, IIM Ahmedabad, <http://www.iimahd.ernet.in/~jrvarma/papers/WP2009-02-06.pdf>

12. Various Research articles from Prof. Jayanth R Varma from IIM Ahmedabad link:
<http://www.iimahd.ernet.in/~jrvarma/download.php>

COURSE PLAN

1 Financial Risk Management

Risk Management – Overview, Risk - Review of Modern Portfolio Theory, (EMH) and behavioral finance, Review of key concepts in probability and statistics; policies - Risk Process-Risk Organization - Key risks-Credit risk, market risk, operational risk, liquidity risk, legal risk, interest rate risk and currency risk; Intro to risk management; The Role of Risk Management - The Tools of Risk Management - Measuring risk, Packaging risk, Pricing risk.

2 (a) Risk Measurement & Control

Risk Measurement & Control - Calculation - Risk exposure analysis - Risk management / mitigation policy - Risk immunization policy, strategy for fixing exposure limits - Risk management policy and procedure - Risk adjusted return on capital;

Risk management - Capital adequacy norms - Prudential norms - Exposure norms - Concept of Mid office - Forwards - Futures - Options - Strategies and Arbitrage opportunities - Regulatory prescriptions of risk management.

First Internal Examination

2(b) Value at Risk -VaR Risk measures for various asset classes Need for VaR- Historical VaR Parametric VaR Time scaling Portfolio VaR VaR Tools - Marginal, Component VaR, etc. RAROC Barings revisited;

Measurement Errors GARCH Volatility Models; Back Testing Fat Tails Extreme value Theory; Liquidity Risk and Leverage Liquidity Risk Impact of Leverage Hedge funds and their risk measures.

3 Credit Risk Management

Overview - Basel-I - Three pillars of Basel-II, Basel III and Capital for Operational risk - Frame work for risk management - RBI guidelines on risk management - Risk rating and risk pricing - Methods for estimating capital requirements - Credit risk - standardized approach - Credit risk - advanced approach - Credit rating / credit scoring and rating system design - Credit Bureaus - Stress test and sensitivity analysis - Internal Capital Adequacy Assessment Process (ICAAP) - Introduction to structured products.

Second Internal Examination

4 Operational Risk Management

Operational Risk - Definition, Basel-I & II - RBI guidelines - Likely forms of operational risk and causes for significant increase in operational risk - Sound Principles of Operational Risk Management (SPOR) - SPOR - organizational set up and key responsibilities of ORM - SPOR - policy requirements and strategic approach for ORM - SPOR identification, measurement, control / mitigation of operational risks - Capital allocation for operational risk, methodology, qualifying criteria for banks for the adoption of the methods - Computation of capital charge for operational risk.

5 Market Risk Management

Market Risk - Introduction and definition - Prescriptions of Basel-I and II - Liquidity risk - Interest rate risk - Foreign exchange risk - Price risk (Equity) - Commodity risk - Treatment of market risk under Basel a) Standardized duration method b) Internal measurement approach - VaR Basel-III guidelines - Risk Management Policy - ALCO structure and functions; Review of industry leading risk management system.

Final Examination