

RISK MANAGEMENT

- Aims:*
- i. To enable candidates to understand the meaning of risk and risk management, with focusing on financial market risk.*
 - ii. To introduce basic risk management techniques and regulations in the banking sector*
 - iii. To introduce the measurement of market risk.*
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THE SYLLABUS

Section A – Background

- 1. Risk Management: Introduction**
 - 1.1 Definition of risks: market risk, credit risk and operational risk
 - 1.2 Modern risk management
 - 1.3 Concepts of risk financing, risk control, hedging and insurance
 - 1.4 The need for risk management
- 2. Process of Managing Different Risks**
 - 2.1 Identification of risk factors
 - 2.2 Personal risk management
 - 2.2.1 Financial planning
 - 2.2.2 Insurance
 - 2.3 Financial risk management
 - 2.3.1 Non-insurable risk transfer
 - 2.3.2 Non-speculative risk management
 - 2.3.3 Speculative risk management: Hedging with financial instruments
 - 2.4 Corporation risk management
 - 2.5 Active and passive risk management
- 3. Backgrounds**
 - 3.1 The Markowitz portfolio analysis of risk and return
 - 3.2 Capital Asset Pricing Model (CAPM)

Section B - Risk Management in Banking

- 1. Regulatory and Corporate Environment**
 - 1.1 Group of 30 Policy Recommendation
 - 1.2 The BIS Accord
 - 1.3 Basel II

2. **Structuring Risk Management Functions in Banks**
 - 2.1 Three-Pillar Framework
 - 2.2 The Standardized Approach
 - 2.3 The Internal Models Approach

Section C - Market Risk Measures

1. **Measuring Risk: A Historical Perspective**
2. **Definition of Value at Risk (VaR)**
 - 2.1 Financial definition: Economic capitals
 - 2.2 Statistical definition: Quantile of a distribution
3. **Normal VaR for an Asset**
 - 3.1 Volatility estimates
 - 3.2 The VaR formula
 - 3.3 VaR increment
4. **Normal VaR for a Portfolio**
 - 4.1 Variance-covariance approach to VaR
 - 4.2 Back testing
 - 4.3 Stress testing
5. **Capital Allocation and Performance Measurement**
 - 5.1 Risk adjusted return on capital (RAROC)
 - 5.2 Measuring risk adjusted performance

THE EXAMINATION

Time allowed: Three hours

Examination format:

Five essay-type or extended questions. Each worth 20 marks

Calculators:

Silent, non-programmable calculators may be used in this examination.

Essential readings

(Note: Only up-to-date editions of the recommended textbooks should be used)

陳毅恒, *風險管理精義* (明報出版社)

C. Alexander, *Risk Management and Analysis Volume 1: Measuring and Modeling Financial Risk* (New York: Wiley)

Lau F, *Derivatives in Plain Words* (Hong Kong Monetary Authority)

Further readings

Basle Committee on Banking Supervision, 2002. Quantitative impact study 3. Technical Guidance (Bank for International Settlements, Basel)

C. Olsson, *Risk Management in Emerging Markets* (Prentice Hall)

D.G. Luenberger, *Investment Science* (Oxford University Press, New York)

D.M. Chance, *In Introduction to Derivatives and Risk Management* (Thomson, South-Western)

P. Jorion, *Value at Risk* (McGraw-Hill, New Jersey)

Banking Today [bi-monthly journal] (Hong Kong Institute of Bankers)

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