

Quantitative Finance and Investment – Investment Risk Management Exam
Spring and Fall 2015

Important Exam Information:

[Exam Registration](#)

Candidates may register online or with an application.

[Order Study Notes](#)

Study notes are part of the required syllabus and are not available electronically but may be purchased through the online store.

[Introductory Study Note](#)

The Introductory Study Note has a complete listing of all study notes as well as errata and other important information.

Case Study

There is no case study for this examination.

[Past Exams](#)

Past Exams from 2000-present are available on SOA website.

[Updates](#)

Candidates should be sure to check the Updates page on the exam home page periodically for additional corrections or notices.

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1. Topic: Governance

Learning Objectives

The candidate will understand the needs and methods of governing investments.

Learning Outcomes

The candidate will be able to:

- a) Compare the interest of key stakeholders
- b) Explain principal versus agent conflict
- c) Identify sources of unethical conduct and explain the role of a fiduciary
- d) Describe governance mechanisms that attempt to address these conflicts
- e) Understand the importance of an organization's culture in effectuating governance
- f) Explain how governance may be structured to gain competitive advantages and efficiencies
- g) Demonstrate understanding of how ethics relates to business decision-making, and relate ethics in business to personal ethics

Resources

- *Financial Enterprise Risk Management*, Sweeting, 2011
 - Ch 1: An Introduction to ERM
- *Risk Management: Foundations for a Changing World*, Haslett, 2010
 - Ch 45: The Ten Commandments of Operational Due Diligence
- QFII-100-14: Chapter 7 of *Integrated Risk Management*, Doherty
- QFII-101-14: Chapter 11 of *Strategic Management: An Integrated Approach*, Hill & Jones
- QFII-102-14: Part One and Two of *Governance and Investment of Public Pension Assets: A Practitioners' Perspective*, Rajkumar and Dorfman
- QFII-103-14: Advances in Risk Management and Risk Governance

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2. Topic: Investment Risk Management

Learning Objectives

The candidate will understand and be able to apply the components of an effective risk management system.

Learning Outcomes

The candidate will be able to:

- a) Explain the importance of risk culture in an investment firm
- b) Identify and describe the various kinds of risks, including market, credit, operational, etc.
- c) Identify and describe various approaches for managing risks including risk budgeting, position limits, etc.
- d) Explain the features of a best practices enterprise risk management system
- e) Evaluate a company's risk management process
- f) Examine examples of risk management failure

Resources

- *Managing Investment Portfolios*, Maginn & Tuttle
 - Ch. 9: Risk Management, sections 1–4 and 6
- *Financial Enterprise Risk Management*, Sweeting, 2011
 - Ch 7: Definitions of Risk
 - Ch 8: Risk Identification
 - Ch 20: Case Studies
- *Risk Management: Foundations for a Changing World*, Haslett, 2010
 - Ch 9: Managing Firm Risk
 - Ch 18: The Sense and Nonsense of Risk Budgeting
 - Ch 33: Risk Management Programs
- *The Top Ten Operational Risks: A Survival Guide for Investment Management Firms and Hedge Funds*, Miller and Lawton, 2010
- QFII-101-14: Chapter 11 of *Strategic Management: An Integrated Approach*
- QFII-110-15: The Devil is in the Tails: Actuarial Mathematics and the Subprime Mortgage Crisis

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3. Topic: Risk Measurement

Learning Objectives

Understand and be able to apply different approaches to risk measurement.

Learning Outcomes

The candidate will be able to:

- a) Evaluate a company's or a portfolio's exposures to various risks
- b) Explain the advantages and limitations of different risk metrics including value at risk
- c) Compare different approaches to stress testing
- d) Analyze and evaluate risk aggregation techniques, including the use and misuse of correlation, integrated risk distributions and copulas

Resources

- *Managing Investment Portfolios*, Maginn & Tuttle
 - Ch. 9: Risk Management, section 5
- *Risk Management: Foundations for a Changing World*, Haslett, 2010
 - Ch 2: Practical Issue in Choosing and Applying Risk Management Tools
 - Ch 5: Risk Management: A Review
 - Ch 14: Merging the Risk Management Objectives of the Client and Investment Manager
 - Ch 46: Models
- QFII-104-14: Correlation: Pitfalls and Alternatives
- QFII-105-14: Risk²: Measuring the Risk in Value at Risk
- QFII-106-14: Value-at-Risk: Evolution, Deficiencies and Alternatives
- QFII-107-14: Chapter 14 of *Value at Risk*, Third Edition, Jorion
- QFII-108-14: Developments in Modelling Risk Aggregation, pp. 76-87
- QFII-109-14: Post-Crisis Financial Risk Management: Some Suggestions
- QFII-110-15: The Devil is in the Tails: Actuarial Mathematics and the Subprime Mortgage Crisis