

Quantitative Finance and Investment – Investment Risk Management Exam
SPRING 2014/FALL 2014

Important Exam Information:

Exam Date and Time	A read-through time will be given prior to the start of the exam—15 minutes in the morning session and 15 minutes in the afternoon session.
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.
Table	A Cumulative normal distribution table will be provided with the exam.

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FALL 2014

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
 - Ch 1: An Introduction to ERM
- *Risk Management: Foundations for a Changing World*, Haslett, 2012
 - 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
 - Ch 7: Definitions of Risk
 - Ch 8: Risk Identification
 - Ch 20: Case Studies
- *Risk Management: Foundations for a Changing World*, Haslett, 2012
 - 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*

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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, 2012
 - 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
- QFII-109-14: Post-Crisis Financial Risk Management: Some Suggestions