



FRM Level 1 Lecture Notes

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Introduction

- The FRM exam
- Key to success

Foundations of risk management

- Overview
- Corporate risk management
- Corporate governance and risk management



Introduction

The FRM exam
Key to success



- ▶ International professional certification offered by **GARP** (The Global Association of Risk Professionals).
- ▶ A certificate focus on risk management, 2 levels:
 - ▶ **Part 1**: tools used to assess financial risk : Foundations of Risk Management, Quantitative Analysis, Financial Markets and Products, Valuation and Risk Models
 - ▶ **Part 2**: Measurement and Management of: Market Risk, Credit Risk, Operational and Integrated Risk; Current Issues in Financial Markets
- ▶ Scoring and results:
 - ▶ All multiple choice questions
 - ▶ No penalties for wrong answers
 - ▶ Passing scores determined by FRM committee (~ 50%)
 - ▶ Exam results emailed six weeks after the exam, quartile results



Table: Part 1 exam contents and weights

Book	Knowledge Domains	Weight	# Questions
1	Foundations of Risk Management	20%	20
2	Quantitative Analysis	20%	20
3	Financial Markets and Products	30%	30
4	Valuation and Risk Models	30%	30

^a 4 hours exam time



Plan and practice

- ▶ Begin studying early
- ▶ Study plan and stick to the plan
- ▶ **Practice exams**

Recourses

- ▶ Official books
- ▶ Schweser
- ▶ bbs.pinggu.org



Foundations of risk management

- Overview

- Corporate risk management

- Corporate governance and risk management



Concepts

- ▶ **Risk:** uncertainty regarding losses/gain.
- ▶ **Risk management:** Activities aimed to reduce eliminate potential to incur expected losses.
- ▶ **Risk trading:** taking risk → generating incremental gains

Risk management process

1. Identify
2. Quantify and estimate
3. Determine collective effects/cost-benefit analysis
4. Develop risk mitigation strategy
5. Assess performance and amend risk mitigation strategy as needed



Tools and procedures

- ▶ Quantitative measures: *e.g.* VaR, Expected shortfall, Exposures^a
- ▶ Quantitative assessment: scenario analysis, stress testing,
- ▶ Enterprise risk management (ERM): integrative approach within an entire entity

^aWill re-visit

Compare

- ▶ Expected & unexpected loss
- ▶ Risk & reward



Types of risks

- ▶ Market risk: *e.g.* IR, FX, equity, commodity price, *etc*
- ▶ Credit risk: *e.g.* default, bankruptcy, downgrade and settlement
- ▶ Liquidity risk: *e.g.* funding/trading liquidity risk
- ▶ Operation risk: non-financial problems; challenging to quantify
- ▶ Legal and regulatory risk
- ▶ Business risk: uncertainty in business environment (supply/demand, business strategy)
- ▶ Strategic risk: associated with large new business investments
- ▶ Reputation risk



1. Examining the impact of a dramatic increase in interest rates on the value of a bond investment portfolio could be performed using which of the following tools?
 - I Stress testing
 - II Enterprise risk management
 - A I only
 - B II only
 - C both I and II
 - D Neither I nor II
2. In considering the major classes of risks, which risk would best describe an entity with weak internal controls that could easily be circumvented with a lack of segregation of duties?
 - A Business risk
 - B Legal and regulatory risk
 - C Operational risk
 - D Strategic risk

Sample question II



1. Examining the impact of a dramatic increase in interest rates on the value of a bond investment portfolio could be performed using which of the following tools?
 - I Stress testing
 - II Enterprise risk management

A I only
B II only
C **Both I and II**
D Neither I nor II
2. In considering the major classes of risks, which risk would best describe an entity with weak internal controls that could easily be circumvented with a lack of segregation of duties?

A Business risk
B Legal and regulatory risk
C **Operational risk**
D Strategic risk



Hedging risk exposures – advantages and disadvantages

- ▶ Theoretical considerations
 - ▶ Assumptions of hedging: perfect competitive capital markets;
- ▶ Disadvantages:
 - ▶ Cost management's focus on core business
 - ▶ Compliance costs
 - ▶ May increase the variability of the firm's earnings
- ▶ Advantages:
 - ▶ Lowering cost of capital
 - ▶ Increase shareholders confidence (stable earnings/cash flows)
 - ▶ Controlled financial performance
 - ▶ Operational improvements within a firm
 - ▶ Taxation



Role of board of directors

- ▶ Set the firm's risk appetite
- ▶ Tools of risk management: e.g. risk tolerance, VaR, stress testing
- ▶ Risk and return goals

Hedging practice

- ▶ Clarification as to which risks are insurable, hedgeable, noninsurable, or nonhedgeable
- ▶ Can be performed for various risks factors
 - ▶ Pricing risk (e.g. production companies)
 - ▶ Foreign exchange
 - ▶ Interest rate
- ▶ Static vs dynamic hedging strategies
- ▶ Risk management instruments: Exchange traded, OTC



1. Which of the following statements regarding exchange-traded and over-the-counter (OTC) financial instruments is correct?
 - A There is greater liquidity with exchange-traded financial instruments.
 - B There is greater customization with exchange-traded financial instruments.
 - C There is greater price transparency with OTC financial instruments.
 - D There is credit risk by either of the counterparties inherent in exchange-traded instruments.



Best practice in corporate governance

- ▶ Members with knowledge of the firm's business and industry
- ▶ Board watches out for the interests of all stakeholders
- ▶ Aware of any agency risks and takes steps to reduce them
- ▶ Board maintains its independence from management
- ▶ Board should consider the introduction of a chief risk officer

Best practice in risk management

- ▶ Focus on the economic performance over accounting performance
- ▶ Robust risk management process within the firm
- ▶ Ethics committee; Risk-adjusted performance
- ▶ Board should have a risk committee in place



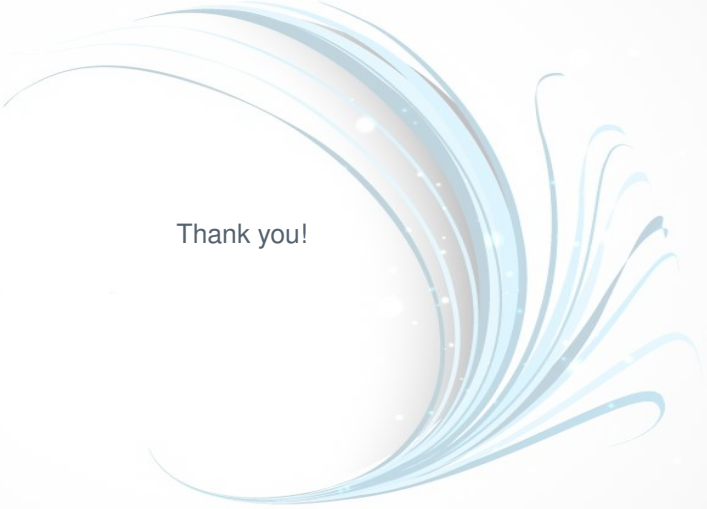
Role of the board of directors in governance

- ▶ The firm's risk management policies
- ▶ The firm's periodic risk management reports
- ▶ The firm's appetite and its impact on business strategy
- ▶ The firm's internal controls
- ▶ The firm's financial statements and disclosures
- ▶ The firm's related parties and related party transactions
- ▶ Any audit reports from internal or external audits
- ▶ Corporate governance best practices for the industry
- ▶ Risk management practices of competitors and the industry



Concepts

- ▶ Risk appetite: tolerance (especially willingness) to accept risk
- ▶ Role of Audit committee, risk advisory director, risk management committee and compensation committee
- ▶ Functional units within a firm
 1. senior management
 2. risk management
 3. trading room management
 4. operations
 5. finance



Thank you!