



# FRM Level 1 Lecture Notes

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## Introduction

The FRM exam

Key to success

## Foundations of risk management

Overview

Corporate 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

<sup>a</sup> 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](http://bbs.pinggu.org)



## Foundations of risk management

- Overview

- Corporate 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<sup>a</sup>
- ▶ Quantitative assessment: scenario analysis, stress testing,
- ▶ Enterprise risk management (ERM): integrative approach within an entire entity

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<sup>a</sup>Will 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

# Sample question 1



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

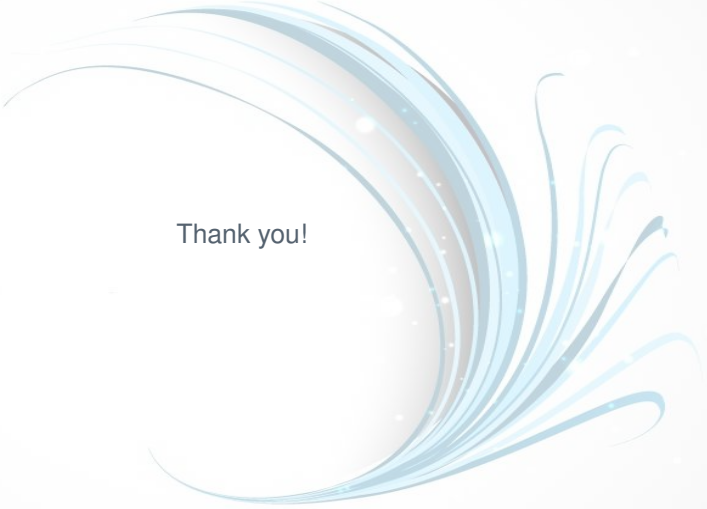
- ▶ Theoretical considerations
  - ▶ Assumptions of hedging: perfect competitive capital markets;
- ▶ Disadvantages:
  - ▶ Cost management's focus on core business
  - ▶ Compliance costs
  - ▶ May increase the variability of the firm's earnings
- ▶ Advantages:
  - ▶ Lowering cost of capital
  - ▶ Increase 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 risk factors



Thank you!