Introduction

Corporate Finance and Incentives

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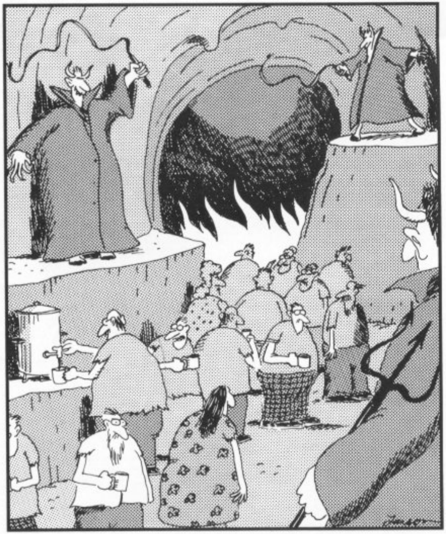
Welcome!



"Oh, man! The coffee's *cold*! They thought of *everything*!"

Practical information

- E-mail: cfi@juloverby.dk
- Course website: www.juloverby.dk/courses/cfi
- Lectures
  - Thursday 16-18 in CSS 34.1.1 (week 36-51)
- Fall break in week 45

Classes with TA's

- Monday 8-10 in CSS 5.0.34 with Carsten Nielsen (English)
- Thursday 12-14 in CSS 22.0.19 with Benjamin Falkeborg (Danish)
- Wednesday 14-16 in CSS 18.01.11 with Benjamin Falkeborg (Danish)

- Exercise sets will be posted on the web-site. After the exercise sets have been completed in the classes, a solution set will be posted.
- Exercises starts next week. Look at problem 1 and 2 as preparation.

Course material

- Grinblatt, M. and Titman, S.: Financial Markets and Corporate Strategy, 2^{nd} edition, McGraw-Hill 2001 or 2007. Chapters 1-3 (cursory) and 4-17.
- Lando, D. and Poulsen, R.: Lecture notes for the course "Investerings- og finansieringsteori". Chapter 3, except section 3.4 and 3.5.2. Available on course website.
- All slide sets will also be posted on the website.

Exam

- Mid-term: available on the course website early in week 42 and to be handed in to the TA's in week 44. The mid-term must be approved by the TA's in order to qualify for the exam, but will not count in the final grade.
- Final exam: 3 hour closed book exam. Calculators allowed.

Aim of the course

- To give an introduction to the world of finance - with a focus on practical applications
- The course is particularly relevant for students who want to pursue careers in
  - The financial industry
    - Asset management
    - Sales & trading
    - Investment Banking
  - Consulting
  - Central banks
  - The private sector in general
  - Financial research

What is finance?

Microeconomic foundation:

- Finance is about the transfer of money over time
- and over states of the world (transfer of risk)

To do this, one must have a notion of how to price:

- Money received at different points in time
- Money received in different states/with different uncertainty

Overview of the course

- Start of with an introduction to financial markets and instruments
- Move on to valuation of financial assets
- Next, we use the techniques learned above to value real assets

Now we're in the world of corporate finance - we look at other aspects of the financial management of corporations

- Capital structure - the theoretically optimal financial strategy decisions

Bonds

Instead af issuing equity, corporations may find external financing in the form of fixed income products Interest rate definitions

- How do they relate to one another?
- Basic bond pricing with zero-coupon rates

Arbitrage

- How to exploit a mis-pricing in the market?

How do we measure a bond's sensitivity to interest rate changes?

- Duration and convexity

Stocks

A share of ownership in a corporation

- How do we determine the required return on equity?
  - What are the relevant risk factors?
  - How are these risk factors priced?
- Tools:
  - Mean-variance optimization
  - The Capital Asset Pricing Model
  - The Arbitrage Pricing Theory

Derivatives

- Forwards & futures
  - Vestas has received a large foreign order for which it will receive payment (in USD) in a year
  - How can it protect itself against unfavorable currency movements?
- Swaps
  - A company with a long term loan with a fixed coupon wants to exploit the current low short term yields in the bond market
  - How can it do this?
- Options
  - Vestas desires a protection against adverse exchange rate movements but would still like to retain the upside potential

Real investments

Valuing real investment opportunities under certainty and uncertainty

- Should Carlsberg open a subsidiary abroad?
- Novo Nordisk has developed a new drug – how valuable will this discovery be for the company?

Real options

Valuing real options: real investment opportunities which are flexible

- How can we explain why a lot in the middle of a city remains vacant, even though money could be earned immediately by developing it?
- Assume that Apple's original calculations for the profitability of the first generation iPod showed this to be a negative NPV project. Why might Apple have launched the product despite this?

Corporate finance

- Capital structure
  - Why is Microsoft 100% equity financed?
  - Why are some companies almost 100% debt financed?
- Dividend policy
  - Why do companies pay dividends?
  - Why do dividends vary across companies, even though it is relatively constant for the individual company across time?

Corporate finance

- Conflicts of interest
  - Management vs. shareholders vs. debtholders
- Incentive problems
  - Do equity holders and management have different views on the optimal strategy for the company?
  - Why do companies use stock options as compensation?
  - Does it make sense for shareholders to pay the CEO of a minor Danish bank a bonus of DKK 100 million?

Questions?