Foundations of Financial Markets

Professor Lasse H. Pedersen

Today's Class:

- Practical Information about the class
  (see also the syllabus)
- Overview of class:
  - Outline of topics covered
  - The axioms underlying finance
  - The main insights of finance
- First topic of the class: financial instruments

The Web Page

The Course web page is:
http://pages.stern.nyu.edu/~lpederse/courses/c150002/c150002.html

It can be found by starting at my homepage:
http://pages.stern.nyu.edu/~lpederse/

Has information about:

- Class material, problems, and solutions.
- TA office hours.
- My office hours.
Readings

- Bodie, Kane and Marcus
  "Essentials of Investments."
- "Solutions Manual for Essentials of Investments."
- Possibly supplementary readings.

Problems

- Solving problems is crucial to learning the material.
- 10 graded problem sets
  - You may discuss the problems in groups.
  - Turn in your own handwritten solutions.
  - Show how you get your result.
  - Good-faith effort to answer all questions
  - Late problem sets are not accepted.
  - Full score if you get credit on 9 out of 10
- Suggested problems from the books
  - See webpage.
- Challenging problems

Calculators

- You need a calculator for problems and exams.
- Having a financial calculator is an advantage, but not a requirement.
- Standard financial calculators include, for instance,
  - Hewlett Packard 12C and 10B.
Prerequisites

- Some knowledge of the basics of finance, although the course is self-contained.
- Because of the nature of modern practical finance, the course is heavily quantitative:
  - Lot's of algebra in class and in problems.
- Knowledge of how to use a calculator
- Use of spreadsheets: core enhancement.

Classroom Behavior

- Class participation is encouraged and makes the class more fun.
- All questions are encouraged – they help many other students
- The class starts on time!
- The class ends on time.
- Respect classmates desire to learn:
  - Do not disrupt the class
  - Being late is disruptive no matter how quiet you are.
  - No side conversations, even in a whisper.
  - Turn off cell phones and other devices

Grades

- Homework: 15%
- Midterm: 30%
- Core enhancement: 10%
- Final: 45%
- Classroom behavior: on a case-by-case basis

Cheating and copying from others not accepted.
Grades are not subject to discussion.
Only exception: clear grading errors will be corrected.
(FYI: I have never changed a grade so far.)
The Course Outline

- Financial Instruments and Markets
- Time Value of Money
- Portfolio Selection
- Equilibrium Asset Pricing: The Capital Asset Pricing Model
- Equity Valuation
- Arbitrage
- Fixed Income Securities (Bonds)
- Derivative Securities (Options)
- Market Efficiency, Frictions, and Anomalies

Finance is Based on Simple Axioms:

- Investors prefer more to less.
- Investors are risk-averse.
- Money paid in the future is worth less than the same amount today.
- Financial markets are competitive.

The Foundations of Finance: 3 Nobel-Prize-Winning Insights

- Harry Markowitz:
  Optimal portfolio selection.
  "Don't put all your eggs in one basket."
- William Sharpe:
  Capital Asset Pricing Model (CAPM):
  In equilibrium, riskier assets have higher returns
- Robert Merton, Myron Scholes (Fischer Black):
  No arbitrage and pricing of derivatives (options)