IEOR E4403: Quantitative Corporate Finance

Fall 2017

Time: Wednesdays, 4:10pm - 5:40pm
Holiday: Nov 22, 2017
Location: 329 Pupin

Professor: Rodney Sunada-Wong rs3730@columbia.edu by apptmt

TA’s: TBD

CA’s: TBD
Course Overview

- The first few lectures introduce basic Financial Accounting\(^1\), \(^2\).
- We look at methods of evaluating cash flows and projects, how to make go / no-go decisions, how to maximize value to shareholders.
- We examine the relationship between risk and return, and how that translates into discounting the cash flows of a project.
- Then we apply this framework to valuing a company.
- We examine different sources of funding: Borrowing, Issuing Equity, Issuing debt and discuss optimal capital structure.
- There may be guest lecturers from the Investment Banking community.

\(^1\) Financial Accounting is the “language” companies use to explain to investors, lenders, etc. the financial condition of the company, what kinds of assets and liabilities the company has, its earnings, its cash flows. “Managerial Accounting”, in contrast, is the language used within companies to manage.

\(^2\) FYI: I may look like an accountant, but I am not an accountant.
Application Areas: A Few Examples

- **Mergers and acquisitions**
  - Help companies search for the best partner/target by valuing synergies

- **Restructuring** - Help companies maximize their value through
  - Internal improvements, external opportunities (divestures or acquisitions),
  - Financial engineering

- **Value-based planning**
  - Help management value each business unit
  - Determine the key drivers that are distinctive for each business
Grading

- Participation (10%)
- Assignments (20%)
- Midterm (35%) potentially Oct. 19, 2017  Time: TBD
- Final (35%) date and time: TBD

- Exams are closed text and closed notes
  - You may bring a calculator and one 8.5" by 11" sheet with formulas
  - You may not use any other electronic devices e.g. smartphones

- All examinations and written homework are subject to the usual standards of academic honesty as described in the University's Student Handbook
Course Materials

- Recommended Text for Corporate Finance:

- Others:

- For Financial Accounting, I don’t recommend a specific book, partially because accounting is not the key focus of the class.

Other:

No photographs, or audio or video recording allowed during class without permission.
Specific Topics

➤ Interpreting Financial Statements

- Balance Sheet, Income Statement, Cash Flow Statement
- The impact of taxes, depreciation
- Case Examples

➤ Evaluating Economic Performance of Companies and Industrial Projects

- Profitability Analysis
- Turnover-Control Ratios
- Leverage and Liquidity Analysis
- Discrete and Continuous Compounding
Specific Topics (cont’d)

- **Figures of Merit**
  - The NPV Criteria
  - The Benefit-Cost Ratios Criteria
  - The Project Balance Concept
  - Conventional, Potentially Profitable, Pure and Mixed Investments
  - Determining the Relevant Cash Flows

- **Capital Structure and Dividend Policy**
  - Lintner’s Model and the Dividend Controversy
  - Modigliani-Miller Theory
  - Debt Policy
Specific Topics (cont’d)

- Weighted Average Cost of Capital & Optimal Capital Structure
  - Estimating WACC Parameters
  - Unlevering and Relevering Betas
  - Optimal Capital Structure
  - Cost of Financial Distress

- Deterministic Capital Budgeting Models
  - Pure Capital Rationing, with no Lending or Borrowing Allowed
  - Capital Budgeting, with Equal Borrowing and Lending Rates
  - Capital Budgeting, with Unequal Borrowing and Lending Rates
  - Discrete Capital Budgeting
  - Capital Budgeting with Multiple Objectives