Capital Structure

Optimizing Debt & Equity Finance

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Course Outline

1. Introduction
- Background and course objectives
- Examples of typical situations that would require formal capital structure analysis
- Course Outline

2. An overview of the basic components of a corporate firm's financial statement
- *EBITDA*, *D&A*, *EBIT*, interest, tax, profits, assets, debt and equity
- Other parameters and ratios – i.e. firm's value (*FV*), leverage, *ROE*, *WACC*, etc.
- An overview of real company financial statements

3. The Modigliani-Miller (*M&M*) capital structuring theorems (paper 1)
- Motivation, underlying assumptions and derivation of Propositions I and II
- Practical applications
- Generating the *WACC* and *FV* curves ("capital structure curves")
- Spreadsheet applications and examples
- Short practice session

4. The beta of a firm (paper 3)
- Definition of beta, its relationship with the cost of (return on) equity and implementation in *M&M*
- Effect of leverage on beta (Hamada's Equation)
- Prove that the classical *M&M* approach and Hamada lead to identical capital structure curves

5. The risk of default and its implications
- Probability of default, credit spreads and the notion of credit ratings
- Some simple and not-so-simple types of credit rating models
  - *S&P*
  - *Z*-Score
  - Merton

Outline – cont'd

- Application of an *S&P*-type credit model
  - Concept
  - Applications and examples
  - Short practice session

6. Group practice session using real company names, followed by group presentations:

- Class will be divided into groups
- Each group will be given the financials of a real company
- Work out the capital structure according to *M&M*
- Work out the credit rating of the company based on the *S&P* credit model
- Present results in front of class

7. Extending the rating to a wider range of debt-to-equity scenarios

- Widening the range of the S&P rating across a range debt and equity scenarios
- Example case study

8. Incorporating default risk into *M&M* – Optimizing the capital structure (paper 2)

- Generating the *FV* curve with default risk
- Defining the "optimal capital structure"
- Example case study

9. Revisiting the beta and Hamada's Equation: Incorporating default risk (paper 3)

- Recalling beta and Hamada's Equation
- Incorporating default risk into beta and its impact on Hamada's Equation
- Prove conventional approach and Hamada lead to identical results
- Spreadsheet examples and practice session using real company names

Outline – cont'd

10. Interactive excel spreadsheet model

- Overview of the interactive Excel spreadsheet model
  - Instructions and troubleshooting
  - Components
    - Data input
    - Incorporating market values and differentiating between market and book values
    - Credit rating model
    - Calculations
    - Data output
- Preparation of a pro forma statement for scenario analysis and testing
- Procedure for performing company analysis
  - Financial statements
  - Necessary data for model application
  - Input of data into model
  - Assessing model output
  - Scenario analysis and testing

11. Model's scope and range of applicability

- Mergers and acquisitions
- Divestitures
- Share/debt issues/buybacks
- With and without constraints

12. Applying constraints (paper 4)

- What is meant by "constraints"
- Applying them to the model
- Examples

Outline – cont'd

13. How to deal with private firms
- Problems associated with lack of market data
- Estimating market values via relative valuation techniques
- Sample case study

14. Case studies Involving Corporate Firms
- Detailed case studies will be conducted in class, with the objective of:
  - Generating the capital structure curve
  - Locating the optimal capital structure to help determine whether the firm in question is over leveraged, under leveraged or at its optimal capital structure
  - Determining various possible strategies to help improve the balance sheet - i.e. asset acquisition/divestiture, share/debt swap, etc.
- Case studies will include:
  - Procter & Gamble, Coca-Cola, Nestlé Group, Electrolux, Walt Disney Company, Telenor, Henkel, Microsoft, Hewlett-Packard, etc.
  - Practice session using real company names

15. Capital structure of depository institutions (paper 5)
- How a depository institution works
- Determination of the capital structure curve
- Conclusions

16. Group presentations
- Class will be divided into groups
- Each group will be given the financials of a real corporate firm
- Each group will then work on a full-blown analysis of the firm's capital structure, with intent to provide advice on how to improve it
- Present results in front of class