

Annotation. Building DCF models in practice

Outline

This course should be viewed as advanced class on valuation. It is strongly recommended that students have previously taken standard valuation class. Class will concentrate only on DCF valuation (DCF models) and its main goal is to further improve practical skills to evaluate public companies.

Special emphasize is made on advanced issues concerning valuation:

- Computing IRR of historical r&d spending;
- Complicated ownership structure cases and financial mix choice (Mutual Limited Partnerships examples)

Each student during this course will prepare at least 1 DCF model on publicly traded company (in class; step by step guidance will be provided). Lecturer will present multiple valuations based on up-to-date financial.

Syllabus

1. *Quick overview of critical DCF valuation related aspect*
 - 1.1. FCF/FCFE models
 - 1.2. Defining CF (FCF; FCFE)
 - 1.3. Working through financial statements (ordinary/extraordinary CF; monetary / nonmonetary expenses; standard b.s. adjustments)
 - 1.4. Typical DCF model structure (1, 2 stage models).
 - 1.5. Gordon model. Consistency issues in terminal period (growth rate / ROIC / reinvestment rate)
 - 1.6. 8 typical mistakes made in DCF models
 - 1.7. COE; COD; WACC (including optimal capital mix)
2. *In class work. Building DCF model.*
 - 2.1. Building **Boeing** DCF model. Special emphasize on capitalizing r&d expenditures and evaluating historical ROIC => detailed work through long term assumptions on future ROIC.
 - 2.2. Celgene (US pharmaceutical company) example on valuing historical r&d; m&a efficiency (presented by lecturer).
3. *In class work. 2 examples concerning complex ownership structure and financial mix choice (will require in class work through companies data).*
 - 3.1. **Tallgrass energy case** (MLP in shale oil US). Special emphasize on interconnection between market stock price and CF projections.
 - 3.2. **Acron** (fertilizers producer Russia). Valuation of its potash greenfield project; special emphasize on declared debt level vs real debt level (given off-balance sheet obligations considering potash project)
4. *Practical aspects of using modern informational systems to get company / sector data for company valuation.*

Prerequisite

- Profound skills on financial statement analyses
- Profound DCF mathematics
- Profound CAPM understanding (cost of capital calculation)
- At least some experience in building DCF models (1-2 models made)
- It is strongly recommended that students have previously taken standard valuation class.

Grading system

- Final exam weight – 100%.
- Final exam will be held in form of students presentations (students will be divided into groups; lecture will provide task for each group; in class preparation time will be provided; no home work through is assumed).
- Standard HSE grading scale will be used (1 to 10).

Pre reading

On DCF mathematics

http://people.stern.nyu.edu/adamodar/New_Home_Page/PVPrimer/pvprimer.htm

On financial statement analyses

http://people.stern.nyu.edu/adamodar/New_Home_Page/AccPrimer/accstate.htm

It is strongly recommended that students have previously taken standard valuation class. **No obligatory reading is assumed (lecture package for valuation class should be enough). Still we can recommend one book, that covers major aspects of this class in detail:**

- Damodaran «Investment Valuation: Tools and Techniques for Determining the Value of Any Asset»

Additional reading:

- Tom Copeland, Tim Koller, Jack Murrin “Valuation. Measuring and managing the value of the companies”
- John D. Stowe, Thomas R. Robinson, Jerald E. Pinto, Dennis W. McLeavey “Analysis on Equity Investments: Valuation”
- Rutgaizer V.M. «Business Valuation»
- William Sharpe, Gordon J. Alexander, Jeffrey W Baile. «Investments»
- Myers, Brealey «Principles of Corporate Finance»