

DCF Models in Practice

Lecturer: Dmitry Ryabykh

Abstract

This is a practical course. Over the course, students will build financial models for capital investment projects ranging from venture companies to project finance. We will study best practice for presenting project budgets, calculating ratios and performance indicators, doing risk analysis.

The course will develop financial modelling skills used in the business valuation course, but in contrast in this course we will focus on business factors and drivers fuelling success of a project, and will spend more time on their best account and presentation than on the theory of financial analysis.

Course pre-requisite

- Financial reporting and analysis
- Financial mathematics (discounting, statistics)
- Basics of financial modeling in MS Excel
- Business valuation

Learning Objectives

The goal of the course is to provide practical skills in financial modelling of investment projects by discussing best practice with the teacher as well as students work on their own projects.

Learning Outcomes

After the course, students will have necessary knowledge and skills to build a fully fledged financial model for a project or a company. The model can be used to support investment decisions, raise capital or apply for debt financing.

Syllabus

1. Basics of financial modelling
 - 1.1. Available standards and recommendations
 - 1.2. Best practice for structuring worksheets, reports and modules of an Excel model
 - 1.3. Using the most important Excel functions and services.
2. Sales, OPEX, CAPEX, working capital, taxes
 - 2.1. Revenue forecast
 - 2.2. Direct costs
 - 2.3. General operating expenses
 - 2.4. Capital expenditure: investments in progress, depreciation
 - 2.5. Net working capital: direct and indirect methods
3. Financial reports in the model
 - 3.1. Income statement
 - 3.2. Cash flow statement

- 3.3. Balance sheet
4. Financing: loans, lease. Ratios
 - 4.1. Loans. Lease.
 - 4.2. CFADS, DSCR. Using iterative calculations to adjust a loan.
 - 4.3. LLCR, TD/EBITDA, TA/EQ and other ratios
5. Discounted cash flow analysis
 - 5.1. NPV, IRR, Payback chart
 - 5.2. NPV vs business valuation
 - 5.3. Cap tables
6. Scenario analysis
 - 6.1. Sensitivity charts
 - 6.2. Scenarios
 - 6.3. Excel services for the scenario analysis

Grading System

The final grade is 100% a result of the individual assignment:

The students are required to choose a project with a new business (either a green field project or a new business line for an existing company) and develop a financial model presenting:

- Its expected revenue and costs;
- Sources of finance;
- Financial reports;
- DCF performance indicators.

This is a minimum requirement for model, which constitutes 80% of the final mark. The last 20% will be earned by one of the following:

- Build a full-blown scenario analysis section
- Build a multi-stage cap table, if your project is for venture capital
- Develop and deliver a presentation based on your model (5-6 minutes, during the last session)
- Use sophisticated yet clear models for the most important drivers of the project's performance

Methods of Instruction

Lectures and a large individual assignment that is be developed throughout the course.