Financial Modelling in a Firm
Syllabus

Faculty: Economic Sciences
Year: 2019-2020
Course name: Financial Modelling in a Firm
Level: Master, 1Y
Language of instruction: English
Period: 3 module
Workload: 32 hours of classes and lectures, total load 82 hours

Coordinator: Alexander Myshenkov EY
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Follow the changes on my hse webpage: https://www.hse.ru/org/persons/177848268/timetable

Lecturers:
Alexander Myshenkov EY

Classes:
Alexander Myshenkov EY

Course description:

The Financial Modelling in a Firm Course **is aimed** to provide students with the skills necessary for applying excel as a tool to provide models to make corporate financial decisions.

The course explores the best practices of financial modelling according the existent modelling guidelines. Students will learn how to build a financial model, how to create a correct system of financial statements and forecast the changes in firm's future cash flows under different scenarios. Using practical cases, you will find out how to build financial models that are flexible, appropriate, transparent and structured and correspond to the specific financial question. You will also discuss how to make a model user-friendly and audit the quality of the models. Finally, you will get acquainted with the methods of model presentation to the different types of audience.

Course objectives:

After completing the course, the student will know:

- how to apply models for financial decision-making;
- how the valuation technics could help in financial modelling;
- how to create a template in Excel, that will allow building a model that is flexible and intuitive;
- how to check that the model is correct;
- how to audit the model;
- how to incorporate scenario analysis in forecasting firm's future cash flows;
- how to present a model using a dashboard, charts, etc.

Competencies:

After completing the course, the student develops the following competencies:

- consolidation of the foundations and development of specific skills of financial modelling;
- development of a modern system of knowledge and skills that allow to build a financial model of the business depending on task specificity;
- using the skills of collecting, processing, analysing and systematizing information for compiling a financial model;
- understanding the principles of building financial models for companies from different markets;
- use of tools for sensitivity analysis and scenario analysis;
- understanding of approaches to audit the main mistakes of financial models in terms of architecture and presentation format, assumptions used, etc.

Recommended Prerequisites:

Corporate Finance-1,2, International Financial Reporting Standards

Teaching method:

- lectures;
- practical exercises;
- case studies;
- analytical tasks;
- team projects;
- self-study

Course literature:

Main texts:

1. Benninga, Simon, and Benjamin Czaczkes. Financial modeling. MIT press, 2000.
2. Damodaran A. Investment Valuation: Tools and Techniques for determining the value of any asset, 3rd Edition, John Wiley&Sons, 2012, (hse electronic library «Books 24x7»)
3. Fitch Learning Complete Financial Modeller & Modelling Kit
4. Harvard Business Review notes on Financial modelling

Supplementary literature and sources:

1. Beaman, Ian, Erwin Waldmann, and Peter Krueger. "The impact of training in financial modelling principles on the incidence of spreadsheet errors." *Accounting Education: an international journal* 14.2 (2005): 199-212.
2. Beltratti, Andrea, Sergio Margarita, and Pietro Terna. *Neural networks for economic and financial modelling*. London, UK: International Thomson Computer Press, 1996.
3. Breaking Into Wall Street source (www.BreakingIntoWallStreet.com)
4. Copeland T., Koller T., Murrin J., Valuation: measuring and managing the value of companies, Third edition, John Wiley&Sons, 2000, (hse electronic library «Books 24x7»)
5. Day, Alastair L. *Mastering Financial Modelling in Microsoft Excel: A practitioner's guide to applied corporate finance*. Pearson Education, 2007.
6. F1F9 organisation site (www.f1f9.com/)
7. Mard M.J., Hitchner J.R., Hyden S.D., Valuation for financial reporting: fair value measurements and reporting, intangible assets, goodwill and impairment, 2nd Edition, John Willey&Sons, 2007, (hse electronic library «Books 24x7»)
8. Pereiro L. Valuation in Emerging Markets. A Practical Approach. John Wiley &Sons, Inc. 2002.
9. Rees, Michael. *Financial modelling in practice: A concise guide for intermediate and advanced level*. Vol. 629. John Wiley & Sons, 2011.
10. Spronk, Jaap, and Winfried Hallerbach. "Financial modelling: Where to go? With an illustration for portfolio management." *European Journal of Operational Research* 99.1 (1997): 113-125.

Grading:

Grading in the course will be based on the following criteria:

- Home assignment   15%
- Attendance   10%
- Cases (team projects) 40%
- Final case   35%
  Total   100%

Grades criteria:

From	To	Mark
0	4	Not passed
4	5	Satisfactory
6	7	Good
8	10	Excellent

Teaching hours for topics and activities:

Topic	Total (hours)	Class (hours) including		Self-study
		Lectures	Practice	
1. Introduction to financial modelling	12	4	0	10
2. Building a model. Financial statements	28		4	20
3. Forecasting. Financing, discount rate and DCF	26		4	20
4. Model analysis and auditing	24	4	4	16
5. Best practices of financial modelling applications	24	8	4	16
Total:	**114**	**16**	**16**	**82**

Course outline:

1. Introduction to financial modelling

Introduction. Aims of financial modelling. Project finance, business valuation, portfolio analysis. Professions to use the financial modelling. Financial modelling as a tool for corporate decision making. To the right and down principle. Copying across principle. Financial modelling standards.

FAST standard. SMART guidelines. Excel possibilities. Major rules and principles in modelling in Excel. Future of financial modelling.

Main texts:

1. *Benninga, Simon, and Benjamin Czaczkes. Financial modeling. MIT press, 2000.*

2. *Damodaran A. Investment Valuation: Tools and Techniques for determining the value of any asset, 3rd Edition, John Wiley&Sons, 2012, (hse electronic library «Books 24x7»)*

3. *Fitch Learning Complete Financial Modeller & Modelling Kit*

2. Building a model. Financial statements

How financial model works. Functions: rules of usage. Date and time functions. Styles. Conditional formatting. Referencing. Naming. Errors: how to find and how to deal with messages. Circular referencing. What if analysis. Text functions. Interrelation of blocks. Inputs for a financial model. Internal versus external inputs. Corporate, industry and macro data. Financial statements analysis. Income statement. Revenues, costs of goods sold, operating expenses, taxes. Income statement. Extracting and normalizing the historic data. Retained earnings reconciliation. Cash flow statement. Capital expenditures. Fixed assets. Extracting and normalizing the historic data for the cash flow statement. Balance sheet. Working capital. Cash balance. Statements checks.

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1. *Benninga, Simon, and Benjamin Czaczkes. Financial modeling. MIT press, 2000.*

2. *Damodaran A. Investment Valuation: Tools and Techniques for determining the value of any asset, 3rd Edition, John Wiley&Sons, 2012, (hse electronic library «Books 24x7»)*

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4.

3. Forecasting. Financing, discount rate and DCF

Forecasting. Income statement forecast. Cash flow statement forecast. Balance sheet forecast. Sensitivity analysis. Forecast of free cash flows. FCFF. FCFE. Cost of capital. Discounted cash flow model. Scenarios. Sensitivity analysis.

Main texts:

1. *Benninga, Simon, and Benjamin Czaczkes. Financial modeling. MIT press, 2000.*

2. *Damodaran A. Investment Valuation: Tools and Techniques for determining the value of any asset, 3rd Edition, John Wiley&Sons, 2012, (hse electronic library «Books 24x7»)*

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4. Model analysis and auditing

The model development process. Scope and design. Worksheet design. Separate worksheets by type: Foundation, Workings, Presentation and Control Methods of model presentation. Financial ratios and analysis in financial modelling. Industry and task cases. Dashboard, control board. Audit of the model.

Main texts:

1. *Benninga, Simon, and Benjamin Czaczkes. Financial modeling. MIT press, 2000.*

2. *Damodaran A. Investment Valuation: Tools and Techniques for determining the value of any asset, 3rd Edition, John Wiley&Sons, 2012, (hse electronic library «Books 24x7»)*

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5. Best practices of financial modelling applications

Comprehensive forecasting. Working capital calculations. VAT payable forecast. Financing requirements. FCFE forecasts based on adjusted net profit. FCFE forecasts based on FCFF adjustment. Multipliers. Excel functions & shortcuts. Use of the VLOOKUP, INDEX, MATCH functions. Data Table for sensitivity analysis. OFFSET function for scenario analysis. TRANSPOSE function. Dashboard and control panel.

Main texts:

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2. *Damodaran A. Investment Valuation: Tools and Techniques for determining the value of any asset, 3rd Edition, John Wiley&Sons, 2012, (hse electronic library «Books 24x7»)*

3. *Fitch Learning Complete Financial Modeller & Modelling Kit*

Preliminary list of cases and analytical tasks:

1. (team project)
   Cases on financial modelling for evaluating investment decisions:
   "ChinaCarb" Case by University of Virginia Darden Business Publishing; "Carded Graphics, LLC: Sheeter Replacement Decision" Case by University of Virginia Darden Business Publishing

2. (team project)
   Cases on financial statement modelling, forecasting, scenario managers and DCF modelling: "Bubble and Bee Organic - Pro Forma Modeling Template" by North American Case Research Association, Inc.; "Guna Fibres, Ltd." by University of Virginia Darden Business Publishing

3. (home assignment)

Carefully check the case prepared by another team. Which kind of development of th e model used to find a solution you would propose. How you will change the format of presentation.

4. (final case)

Based on the sample model developed in class the task is to improve it both in terms of calculations, forecasts and scenarios as well as in terms of design, formatting and presentation. A report and model description is developed.

The second part of the task is on model auditing. The task is to prepare a report on the model quality:

- You choose the either the SMART or FAST guidelines to prepare a report on
- Check carefully whether the model goes in line with the principles you have chosen
- Comment on the major changes that you propose for the model improvement