

## Syllabus

### VALUATION OF THE COMPANY

**Faculty of Economic Sciences**

**Year: 2017/2018**

**Course name: Valuation of the Company**

**Level: Bachelor**

**Language of instruction: English**

**Period: September, 07 – December, 31**

**Workload: 48 hours of classes**

**Coordinator:** Svetlana A. Grigorieva

e-mail: [SGrigorieva@hse.ru](mailto:SGrigorieva@hse.ru), [SvetlanaAGrigorieva@gmail.com](mailto:SvetlanaAGrigorieva@gmail.com)

office hours: Tuesday: 14-16, 4220

Follow the changes on my hse webpage: <http://www.hse.ru/org/persons/65948>.

**Lecturers:**

Svetlana A. Grigorieva, ([SGrigorieva@hse.ru](mailto:SGrigorieva@hse.ru), [SvetlanaAGrigorieva@gmail.com](mailto:SvetlanaAGrigorieva@gmail.com))

Irina V. Skvortsova ([irina.v.skvortsova@gmail.com](mailto:irina.v.skvortsova@gmail.com)),

Alexey Fedotov, E&Y ([Alexey.Fedotov@ru.ey.com](mailto:Alexey.Fedotov@ru.ey.com)),

Alexander Kopylov, E&Y ([Alexander.Kopylov@ru.ey.com](mailto:Alexander.Kopylov@ru.ey.com)).

Борис Яценко, E&Y ([Boris.Yatsenko@ru.ey.com](mailto:Boris.Yatsenko@ru.ey.com))

**Course description:**

The course will introduce students to the most frequently used quantitative valuation techniques. The main topics covered include (1) discounted cash flow methods (2) relative valuation using multiples (3) asset-based approach. Particular attention is paid to evaluation of individual groups of assets under the net asset value method: financial assets, real estate, tangible real property, intangible assets. The focus of the course is on the evaluation of companies in emerging capital markets. Students will learn how to conduct firm valuation in terms of high levels of macroeconomic uncertainty, illiquid capital markets, and high levels of political risks. Participants are provided with the opportunity to work in small teams and value different groups of assets and firms in emerging capital markets. **The course is blended and consists of** lectures along with seminars with lecturers from School of Finance and E&Y and online video lectures from University of Michigan and Stern School of Business.

The *key goal of this course* is to provide students with sufficient theoretical knowledge and practical experience to be able to value a company using three traditional approaches (income approach, market approach, asset-based approach).

**Course objectives:**

After completing the course the student will be able to:

- understand the main steps of business valuation;
- apply different valuation techniques such as Dividend-models, FCFF, FCFE, relative valuation and asset based valuation;
- apply the primary methods to measure value of different groups of company assets;
- understand the importance and apply the discounts and premiums in business valuation (control premium, discount for lack of control, discount for lack of marketability)
- identify and analyze a company's value drivers and relate these drivers to the value enhancement process;
- understand the features of corporate valuation in emerging capital markets.

### **Competencies:**

After completing the course the student develops the following competencies:

- is willing to work with information from a variety of sources (ИК- 4) – analytical tasks that assume the calculation of company's valuation ratios based on the data from financial statements;
- is willing to work in teams (СЖК-7) – cases, analytical tasks based on real information;
- is able to apply traditional valuation methods (ПК-2) – cases, practical exercises, analytical tasks;
- is able to analyse and interpret financial and analytical information, work with data from company's financial statements (ПК-7) – cases, practical exercises, analytical tasks.
- is able to get and use the necessary information from open excess to apply it to business valuation (ПК-4) – cases, analytical tasks.

### **Recommended Prerequisites:**

Statistics, Microeconomics, Corporate Finance-1, Accounting, Financial Economics

### **Teaching method:**

- lectures, including online ones;
- practical exercises;
- case studies;
- analytical tasks;
- team projects;
- self study;
- final exam.

### **Course texts:**

#### **Main texts:**

1. Hitchner J.R., Financial Valuation: Applications and Models, 4<sup>th</sup> edition, John Wiley&Sons, 2017. Available at: <https://ebookcentral.proquest.com/lib/hselibrary-ebooks/detail.action?docID=4845203&query=Financial+Valuation%3A+Applications+and+Models> (hse electronic library «ebrary»)
2. Damodaran A. Investment Valuation: Tools and Techniques for determining the value of any asset, 3rd Edition, John Wiley&Sons, 2012 (or later editions). Available at: <https://proxylibrary.hse.ru:2258/toc.aspx?bookid=46153> (hse electronic library «Books 24x7»)

### Supplementary texts:

1. Koller T., Goedhart M., Wessels D., Valuation: measuring and managing the value of companies, 5<sup>th</sup> edition, John Wiley&Sons, 2010, (hse electronic library «Books 24x7»)
2. Pratt S.P., Reilly R.F., Schweihs R.P., Valuing a Business: The Analysis and Appraisal of Closely Held Companies, McGraw-Hill Co., 2000, (hse electronic library «Books 24x7»)
3. Pratt S.P., Niculita A.V., Valuing a Business: The Analysis and Appraisal of Closely Held Companies, 5th Edition, McGraw-Hill Co., 2008.
4. Mard M.J., Hitchner J.R., Hyden S.D., Valuation for financial reporting: fair value measurements and reporting, intangible assets, goodwill and impairment, 2<sup>nd</sup> Edition, John Willey&Sons, 2007, (hse electronic library «Books 24x7»)
5. King A.M., Fair value for financial reporting: meeting the new FASB requirements, John Wiley&Sons, 2006, (hse electronic library «Books 24x7»)
6. Reilly Robert, Schweihs Robert. Valuing Intangible Assets. IRWIN Library of Investment Finance. McGraw-Hill, 2001.
7. The Appraisal of Real Estate, 13th Edition, Thirteenth Edition Appraisal Institute, 2008
8. Valuing Machinery and equipment: the fundamentals of appraising machinery and technical assets / by Machinery and Technical Specialties Committee of the American Society of Appraisers.- 2nd ed., 2005
9. Estridge J., Lougee B. Measuring Free Cash Flows for Equity Valuation: Pitfalls and Possible Solutions. Journal of Applied Corporate Finance, Vol.19, №2, 2007, pp.60-71
10. Garcia-Sanchez J., Preve L., Sarria-Allende V., Valuation in Emerging Markets: A Simulation Approach. Journal of Applied Corporate Finance, Vol.22, №2, 2010, pp.100-108
11. Pereiro L.,E., The Valuation of Closely-held Companies in Latin America, Emerging Markets Review, Vol.2, 2001, pp. 2213-2253
12. Luehrman T.A., Corporate Valuation and Market Multiples, Harvard Business Review, №16, 2009.
13. Fernandez P., 80 common and uncommon errors in company valuation, IESE Research Papers D/550, IESE Business School, 2004.
14. Russian Federal Low on Valuation № 135-Φ3 – [www.consultant.ru](http://www.consultant.ru)
15. Russian Federal Valuation Standards 1-6 – [www.consultant.ru](http://www.consultant.ru).

### Grading:

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

- Class participation 14%
- Team projects 36%
- Final exam 50%
- 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:**

<i>Topic</i>	<i>Total (hours)</i>	<i>Class (hours) including</i>		<i>Self study</i>
		<i>Lectures</i>	<i>Practice</i>	
1. Introduction to Valuation	26	4 + 2 online		22
2. Income approach: discounted cash flow methods, capitalization method	40	4 + 6 online	8	28
3. Market approach: public company method, merger and acquisition method	40	8 online	8	32
4. Cost approach: net asset value method, liquidation value method	38	6 E&Y	4	28
5. Cost approach: individual asset valuation procedures	46	6 E&Y	8	32
<b>Total:</b>	<b>190</b>	<b>20</b>	<b>28</b>	<b>142</b>

**Course outline:**

**1. Introduction to Valuation.**

Business valuation legal and regulatory environment. Business valuation standards.

The role and the process of valuation. Types of firm value: market value, fair value, investment value, intrinsic value, liquidation value, book value. Business valuation approaches and methods. Valuation across the life cycle of the firm. The main steps of corporate valuation. The impact of controlling (noncontrolling) ownership interest and marketability on company value: discount for lack of control and discount for lack of marketability. The structure of business valuation report.

Necessary information to conduct business valuation: company specific data, data about the company's industry and economic environment.

Financial review and pro forma analysis.

***Self-study (refresh your knowledge):***

*Video-lecture 1-2. Valuation – fundamental framework Module 2 (2.1-2.2)*

<https://www.coursera.org/learn/valuation-methods/home/week/2>

*Video-lecture 3-6. Valuation – debt and taxes Module 3 (3.1-3.4)*

<https://www.coursera.org/learn/valuation-methods/home/week/3>

***Main texts:***

1. Hitchner J.R., *Financial Valuation: Applications and Models*, 4<sup>th</sup> edition, John Wiley&Sons, 2017, (hse electronic library «ebrary») – Ch.1-3

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») – Ch. 1-3

3. *International Valuation Standards*

4. *Russian Federal Law on Valuation № 135-Φ3 29.07.1998 г.*

5. *Russian Federal Valuation Standards 1-6*

***Supplementary texts:***

1. Pratt S.P., Reilly R.F., Schweihs R.P., *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, McGraw-Hill Co., 2008 (hse electronic library «Books 24x7») – Ch.3,3,7,8.

## 2. Income approach: discounted cash flow methods, capitalization method.

Dividend discount models: assumptions and limitations.

Free cash flow to equity (FCFE) discount models. Free cash flow to firm (FCFF) discount models. Building a financial model: length of the high growth period, forecasting future performance, the main models of estimating terminal value. Forecasting financial performance: prepare pro forma financial statements for the planning period, convert pro forma financial statements to cash flow forecasts, estimate the terminal value of firm FCF. Advantages and disadvantages of percent of sales method.

The equity premium and the cost of capital. The capital asset pricing model (CAPM) approach. The Fama-French three-factor model. Arbitrage pricing theory. Build-up model. The cost of equity of large (small) capitalization companies. The cost of debt and other components of the capital structure. Estimation of the cost of capital in practice.

Valuation issues specific to emerging capital markets: effects of inflation on financial analysis, incorporating emerging market risks in valuation. Calculating the cost of capital in emerging markets: the CAPM-spread model.

Capitalization method. Difference between capitalization rate and discount rate. Limitations of the method.

**Self-study:** *Video-lecture 7. Methods of Valuation – enterprise value, equity valuation* Module 4 (4.1) <https://www.coursera.org/learn/valuation-methods/home/week/4> **NB!** Except APV method!

### Main texts:

1. Hitchner J.R., *Financial Valuation: Applications and Models*, 4<sup>th</sup> edition, John Wiley&Sons, 2017, (hse electronic library «ebrary») – Ch.4,5

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») – Ch. 7-16

### Supplementary texts:

1. Koller T., Goedhart M., Wessels D., *Valuation: measuring and managing the value of companies*, 5th edition, John Wiley&Sons, 2010, (hse electronic library «Books 24x7») – Ch.6-13

2. Pratt S.P., Reilly R.F., Schweihs R.P., *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, McGraw-Hill Co., 2008 (hse electronic library «Books 24x7») – Ch.9,10.

3. Estridge J., Lougee B. *Measuring Free Cash Flows for Equity Valuation: Pitfalls and Possible Solutions*. *Journal of Applied Corporate Finance*, Vol.19, N.2

4. Garcia-Sanchez J., Preve L., Sarria-Allende V., *Valuation in Emerging Markets: A Simulation Approach*. *Journal of Applied Corporate Finance*, Vol.22, №2, 2010, pp.100-108

5. Pereiro L.,E., *The Valuation of Closely-held Companies in Latin America*, *Emerging Markets Review*, Vol.2, 2001, pp. 2213-2253

## 3. Market approach: public company method, merger and acquisition method.

Fundamental principals of relative valuation. Difference between public company method and merger and acquisition method. Basic steps of relative valuation. Criteria for comparable company selection. The most commonly used multiples and its determinants: P/E, EV/S,

EV/EBITDA, P/BV. Sector multiples. Multiples and continuation value. Adjusting multiples for leverage and growth. Pitfalls of relative valuation.

Relative valuation in emerging capital markets. Factors affecting valuation ratios.

**Self-study:** *Video-lecture 8-10. Multiples Module 4 (4.2-4.4)*

<https://www.coursera.org/learn/valuation-methods/home/week/4>

*Video-lecture 11. Relative valuation.* <https://www.youtube.com/watch?v=WDZwqSierZA>

*Video-lecture 12. PE ratios.* <https://www.youtube.com/watch?v=42iyR6Gegiw&t=17s>

*Video-lecture 13. Other earnings multiples.* <https://www.youtube.com/watch?v=xI-KTlxfNDU&t=37s>

*Video-lecture 14. Book value multiples* <https://www.youtube.com/watch?v=O8KojGtlz-E>

*Video-lecture 15. Revenue multiples* [https://www.youtube.com/watch?v=\\_ECSqmEppqA](https://www.youtube.com/watch?v=_ECSqmEppqA) - only first 5 minutes

#### **Main texts:**

1. Hitchner J.R., *Financial Valuation: Applications and Models*, 4<sup>th</sup> edition, John Wiley&Sons, 2017, (hse electronic library «ebrary») – Ch.6.

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») – Ch. 17-20

#### **Supplementary texts:**

1. Koller T., Goedhart M., Wessels D., *Valuation: measuring and managing the value of companies*, 5th edition, John Wiley&Sons, 2010, (hse electronic library «Books 24x7») – Ch.14

2. Pratt S.P., Reilly R.F., Schweihs R.P., *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, McGraw-Hill Co., 2008 (hse electronic library «Books 24x7») – Ch.11,12.

3. Luehrman T.A., *Corporate Valuation and Market Multiples*, *Harvard Business Review*, №16, 2009.

#### **4. Cost approach: overview, individual asset valuation procedures – intangible assets.**

Fundamentals of cost approach. Cost approach versus book value. Main steps of net asset value method. Identify assets and liabilities to be revalued. Construct a value-basis balance sheet. Liquidation value method. Using cost approach for IFRS and US GAAP financial statement preparation: allocation of purchase price in M&A deal. Goodwill. Advantages and disadvantages of cost approach.

*Valuation of intangible assets.* Definition of intangible assets. Identification and classification of intangible assets. Income approach: royalty method, multi-period excess earnings method (MEEM), differential method, greenfield method. Market approach. Nature of the cost approach. Obsolescence adjustment (technological, functional, economic). Intangible asset valuation in practice.

#### **Main texts:**

1. Hitchner J.R., *Financial Valuation: Applications and Models*, 4<sup>th</sup> edition, John Wiley&Sons, 2017, (hse electronic library «ebrary») – Ch.7, 21.

#### **Supplementary texts:**

1. Pratt S.P., Reilly R.F., Schweihs R.P., *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, McGraw-Hill Co., 2008 (hse electronic library «Books 24x7») – Ch.14.

#### **5. Cost approach: individual asset valuation procedures – real estate, machinery and**

### **equipment.**

*Real estate valuation.* Real estate classification. Necessary information to conduct real estate valuation. Income approach: discounted cash flow method, capitalization method. Potential gross income, net operating income, discount rate calculation. Market approach. Basic steps of cost approach. Accounting depreciation versus appraisal depreciation. Types of depreciation: physical depreciation, functional obsolescence, economic obsolescence. Depreciation estimates. Real estate valuation in practice.

*Machinery and equipment valuation.* Machinery and equipment classification. The life cycle of the equipment. Cost approach and principle of substitution. Difference between reproduction and replacement cost. Methods of determining cost new. The influence of different types of depreciation on machinery and equipment valuation. Ways to measure physical depreciation, functional and economic obsolescence. Market approach. Complexities when using the income approach. Basic information required to perform the indirect method of the Cost approach. Machinery and equipment valuation in practice.

#### **Main texts:**

1. Hitchner J.R., *Financial Valuation: Applications and Models*, 4<sup>th</sup> edition, John Wiley&Sons, 2017, (hse electronic library «ebrary») – Ch.7, 21.

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») – Ch.26

#### **Supplementary texts:**

1. Pratt S.P., Reilly R.F., Schweihs R.P., *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, McGraw-Hill Co., 2008 (hse electronic library «Books 24x7») – Ch.14.

2. 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 Wiley&Sons, 2007, (hse electronic library «Books 24x7»), - Ch. 2, 3

3. King A.M., *Fair value for financial reporting: meeting the new FASB requirements*, John Wiley&Sons, 2006, (hse electronic library «Books 24x7»)-Ch.9

4. Reilly Robert, Schweihs Robert. *Valuing Intangible Assets. IRWIN Library of Investment Finance.* McGraw-Hill, 2001. Part I, II, III, V

5. *The Appraisal of Real Estate, 14th Edition, Fourteenth Edition Appraisal Institute, 2013, Part VII, Ch. 18-29*

6. *Valuing Machinery and equipment: the fundamentals of appraising machinery and technical assets / by Machinery and Technical Specialties Committee of the American Society of Appraisers.- 2nd ed., 2005, Ch. 1-4*

#### **Preliminary list of cases and analytical tasks:**

1. Richard Ivey School of Business Case «Amtelecom Group Inc.». This case is devoted to valuation of the company in developed capital market using income and market approach to business valuation.

2. Stanford Graduate School of Business Case «Baidu.com Inc.: Valuation at IPO». This case is devoted to valuation of the company in emerging capital market using income and market approach to business valuation.

3. Real estate valuation. Analytical task is based on real data from Russian market.

4. E&Y Case «Pharmaceutical production – SyrupWorld Co.». This case is devoted to valuation of Russian company using asset-based approach to business valuation.

#### **List of self-control questions:**

1. What are the main purposes of business valuation?

2. Who are interested in business valuation?
3. What are the main documents that regulate valuation process in Russia?
4. What organization plays the most important role in valuation process in Russia?
5. Who can provide valuation services in Russia?
6. Who is responsible for the quality of valuation report?
7. Please, give the definition of self-regulatory organization.
8. What is the difference between market value, fair value and investment value?
9. What are the main steps of valuation procedure?
10. What information is needed for corporate valuation?
11. What does the term normalization of company's financial statements mean? Why is it important to normalize historical financial statements?
12. What are the main prerogatives of ownership control?
13. Please, give the definition of the discount for lack of marketability.
14. How to apply premiums and discounts in business valuation?
15. What are the main methods that can be used to assess the size of control premium / discount for lack of marketability?
16. What is the main idea of income approach to business valuation?
17. What is the difference between DCF method and capitalization method?
18. Please, write and explain the FCFF and FCFE formula.
19. What is the main premise of DCF model?
20. What are the key value drivers?
21. How could we define the company's future growth rate?
22. What is the difference between marginal tax rate and effective tax rate?
23. What is the difference between working capital and net working capital?
24. What factors influence the length of the explicit forecast period?
25. What are the main characteristics of stable (mature) companies?
26. Please, explain, how does the percent of sales method work to forecast the company's future performance.
27. What models should we use to calculate cost of equity in emerging capital markets?
28. What is the difference between discount rate and capitalization rate?
29. What is the main idea of market approach to business valuation?
30. What is the difference between public company method and M&A method to business valuation?
31. What are the main steps of relative valuation?
32. How could you define the comparable firm?
33. Please, discuss the advantages and disadvantages of different multiples (P/E, EV/EBITDA, P/BVequity, EV/Sales)
34. What are the main determinants of P/E ratio; EV/S ratio; P/BVequity ratio?
35. What are the main steps of net asset value method?
36. What does it mean: to construct a value-basis balance sheet?
37. Please, give the algorithm of liquidation value method?
38. How could you define goodwill? How is it calculated?
39. What are the advantages and disadvantages of asset-based approach?
40. Please, give the definition and classification of intangible assets.
41. What approaches and methods could we use to find the fair value of intangible assets? Please, briefly characterize these methods.
42. Please, give the definition of real estate.
43. What are the main steps of real estate valuation using income approach?
44. How net operating income (NOI) is calculated?
45. What are the main steps of market approach to real estate valuation?
46. Please, describe the cost approach valuation procedure.
47. What are the main methods that can be used to find the fair/market value of machinery and



equipment?

48. Please, give the definition of physical depreciation, functional and economic obsolescence. How could we measure these types of obsolescence?
49. Please, write the cost approach equation to value machinery and equipment.
50. Please, give the definition of replacement cost and reproduction cost.

### **Grading**

The grade is based on student's work during seminars (14%), team projects (36%) and final exam (50%).

Class participation includes:

- student's involvement into discussion process during the seminars,
- tasks solving,
- results of little quizzes.

Team projects include cases and analytical tasks that are prepared in teams up to 4-5 students. There will be two cases and one analytical task during the course. The weight of each team project is 15%.

Final exam includes theoretical questions in the form of test (multiple choice) and exercises. Only the final grade is rounding according to mathematical rounding.