2019

485 Financial Modeling

James Pawlukiewicz
Xavier University

Follow this and additional works at: https://www.exhibit.xavier.edu/finance_syllabi

Recommended Citation
https://www.exhibit.xavier.edu/finance_syllabi/622

This Restricted-Access Syllabus is brought to you for free and open access by the Finance at Exhibit. It has been accepted for inclusion in Finance Syllabi by an authorized administrator of Exhibit. For more information, please contact exhibit@xavier.edu.
College Mission

We educate students of business, enabling them to improve organizations and society, consistent with the Jesuit tradition.

Course Description

The course is designed to develop the students' ability to value the business enterprise, and the financial claims against it, using a variety of valuation techniques.

Learning Outcomes:

Upon successful completion of this class, you will be able to

- Generate a set of pro forma financial statements for a business using excel;
- Determine an enterprise value using discounted cash flow and relative valuation techniques;
- Determine the intrinsic value of equity in publicly-held companies;
- Develop a set of tools to measure the performance of an investment portfolio.

Textbooks:


Course Requirements:

- Attendance, Participation and Punctuality: Attendance at each class is expected. Class lectures complement, but do not duplicate, textbook information. A significant portion of your learning will accrue through the exchange of ideas in class. Active participation in class is expected and encouraged. Please be on time.
- Quizzes and Homework: Quizzes will be periodically given during the semester to gauge your progress in mastering course material. Some of the quizzes may be of the take-home variety.
- Valuation Report(s): The preparation of the Valuation Report(s), described below, is semester-long activity in which you will be asked to value the equity in two or more publicly-traded companies. This group Report will be due before the end of the semester and various stages of the report are to be presented in class.
Exams: During the semester, you will be given two in-class exams, each covering all the material covered in the course up to the exam date.

Instructor Access: My regularly-scheduled office hours are Tuesdays and Thursdays from 1:30 p.m. – 2:30 p.m. I am happy to meet with you during those hours or by appointment at a time that is mutually convenient.

Technology usage during class: As you are expected to be attentive and to participate in class, if you text or access non-course-related information on the web during class, you will be considered absent from class that day.

Course prerequisite: A grade of B- or better in FINC 300 Business Finance.

Grades: Your grade in this class will be determined by your class attendance and participation, valuation report and presentation, and performance on the two exams and quizzes. No extra-credit assignments will be given. Grades will be assigned according to the following grade scale 94-100, A; 90-93, A-; 87-89, B+; 84-86, B, 80-83, B-, 77-79, C+; 74-76, C; 70-73, C-; 57-59, D+;54-56, D; 50-53, D-; 0-49, F. Each of these activities is assigned the following weights:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Weight (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance and Participation</td>
<td>10</td>
</tr>
<tr>
<td>Quizzes and Homework</td>
<td>5</td>
</tr>
<tr>
<td>Valuation Report</td>
<td>25</td>
</tr>
<tr>
<td>Exam 1</td>
<td>30</td>
</tr>
<tr>
<td>Exam 2</td>
<td>30</td>
</tr>
</tbody>
</table>

Valuation Report: The Valuation Report is a group project, to be prepared by groups of two or three students. Each group will be valuing three publicly-traded companies, preparing a written report (see report guidelines) and presenting various stages of your analysis to the class. This project is designed to apply the valuation techniques that we learn in class to real companies. Specific details and format of the report are to follow. You will be assigned by me to a group early in the semester. The group will be responsible to achieving certain milestones on a timely basis during the semester.

Group Interactions: It is expected that group members act professionally and treat the task at hand seriously. Project grades are determined by the quality of the analysis, the recommendation, and the presentations. However, at the end of the semester, each team member will be asked to evaluate the other members of the group. I will take group member evaluations of individual behavior into account when I assign points for the project and for participation.

Prerequisite for FINC 490 Portfolio Management I: Achieving a grade of B- or better in this class is a prerequisite for FINC 490 Portfolio Management I. Firm Valuation serves as the foundation for Portfolio Management I, giving you the tools necessary to value stocks.
Project Milestones:

- **Step 1**: Pick your companies  
  (Tuesday 3 September)
  - The companies are to be publicly traded
  - At least one firm is to be a manufacturing firm
  - At least one firm is to be a service firm
  - Avoid companies that have had losses for more than five consecutive years
  - Avoid financial services firms
  - Companies are to be approved by me.

- **Step 2**: Required Rate of Return  
  (Thursday 19 September)
  - Compute the bottom-up beta for your companies
  - Compute the cost of equity for your companies
  - Compute the weighted-average cost of capital for your companies
  - Prepare a summary of the steps taken in your WACC calculation
  - Be prepared to present your WACC calculations to the class

- **Step 3**: Free Cash Flow to the Firm Valuation Model  
  (Tuesday 29 Oct)
  - Compute the Free Cash Flows to the Firm for your companies
  - Determine the drivers of value for each company
  - Perform a sensitivity analysis to determine how sensitive the values are to your input assumptions
  - Present the analysis to one of one of your companies to the class

- **Step 4**: Free Cash Flow to Equity Valuation Model  
  (Thursday 14 Nov)
  - Compute the Free Cash Flows to Equity for your companies
  - Determine the drivers of value for each company
  - Perform a sensitivity analysis to determine how sensitive the values are to your input assumptions
  - Perform a sensitivity analysis to determine how sensitive the values are to your input assumptions

- **Step 5**: Relative Valuation  
  (Thursday 28 Nov)
  - Evaluate your companies against a list of comparable companies (“comps”)
  - Your list of comparable companies is to be approved by me.
  - Choose at least two multiple approaches you believe to be the most appropriate

- **Step 6**: Final Value Estimation  
  (Thursday 5 Dec)
  - Reconcile the values from Steps 4 through 6
  - Determine a range of values

- **Step 7**: Recommendation
  - Specify a range of target values for each stock
  - Make a specific Buy, Sell or Hold recommendation for your stocks.
Miscellaneous Items:

- Miscellaneous readings, handouts, excel files will be posted in Canvas
- The Valuation Report is a semester-long team project. You will, however, be presenting pieces of the report to the class as the semester moves along.

Miscellaneous dates

- **Tuesday August 20th**: our first class
- **Thursday October 3rd**: Fall Break (no class)
- **Thursday October 10th**: Exam 1
- **Thursday November 28th**: Thanksgiving (no class)
- **Tuesday December 3rd**: Exam 2
- **Thursday December 5th**: Final Group Presentations
- **Friday December 7th**: Final Valuation Reports due
- **Tuesday December 10th, 8:30-10:20**: Final Group Presentations

- The Group Presentations will take part during the final exam period on December 10th. Attendance at group presentations is required.
COURSE OUTLINE

I. Introduction to Valuation (Damodaran, Ch. 1, pp. 1-18, 20-24)
   a. Valuation, as you now know it – a review of the time value of money
   b. Misconceptions about valuation
   c. Science vs. Art
   d. Approaches to Valuation
      i. Discounted cash flow valuation
      ii. Relative valuation

II. The Equity Valuation Process (Reading, Stowe Ch. 1 (on Canvas))
   a. Valuation concepts and models
      i. the valuation process
      ii. understanding the business
      iii. forecasting company performance
      iv. selecting the right model
   b. Communicating valuation results
      i. Contents of a research report
      ii. Format of a research report

III. Estimating Discount Rates (Damodaran, Ch. 2, pp. 25-40, 48-59, 62-74, 77)
   a. Cost of Equity
      i. Risk and Return Models
      ii. Parameter estimation
      iii. Equity risk premium
   b. From the Cost of Equity to the Cost of Capital

IV. Measuring Cash Flows (Damodaran, Ch. 3, pp. 79-116)
   a. The importance of earnings
   b. Free Cash Flow to the Firm
   c. Free Cash Flow to Equity

V. Forecasting Cash Flows (Damodaran, Ch. 4, pp. 117-145)
   a. Pro Forma financial statements
   b. Measuring growth
   c. Estimation approaches

VI. Equity DCF Models (Damodaran, Ch. 5, 157-170)
   a. Dividend Discount Model
      i. Constant growth model
      ii. Two-stage growth model
      iii. Three-stage growth model
   b. Free Cash Flow to Equity Discount Models
      i. Inputs
      ii. Strengths and limitations
   c. Dividend Discount Modes v. FCFE Discount Model
VII. Firm Valuation Models (Damodaran, Ch. 6, 193-211, 222-227)
   a. Cost of capital approach
   b. The effects of capital structure on value
   c. Advantages and disadvantages

VIII. Relative Valuation
   a. First principles (Damodaran, Ch. 7, pp. 231-250)
   b. Equity Multiples (Damodaran, Ch. 8, pp. 255-277)
      i. P/E Ratio
      ii. PEG Ratio
      iii. P/BV Ratio
      iv. P/Sales Ratio
      v. Determinants of equity multiples
   c. Value Multiples (Damodaran, Ch. 9, pp. 295-324)
      i. Scaling variable
      ii. Value/Book Capital
      iii. Enterprise value/Revenues
      iv. Enterprise value/EBITDA
      v. Application

IX. Introduction to Valuation – reprise (Damodaran, Ch. 1, pp. 1-18, 20-24)

X. Measuring Portfolio Performance (Bodie, Kane, & Marcus, Ch. 24, on Canvas)