390-01-02 Firm Valuation

James Pawlukiewicz

Xavier University

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**FINC 390-01 and 390-02: Firm Valuation**

Department of Finance  
Xavier University  
Spring 2016  
(TR 8:30-9:45 am and 2:30-3:45 pm, Smith 250)

<table>
<thead>
<tr>
<th>Instructor:</th>
<th>James E. Pawlukiewicz</th>
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<tbody>
<tr>
<td>Phone:</td>
<td>513-745-3066</td>
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<td><a href="mailto:pawlukiewicz@xavier.edu">pawlukiewicz@xavier.edu</a></td>
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<tr>
<td>Office hours:</td>
<td>TR 1:00 – 2:30. Additional times by appointment.</td>
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**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 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- and privately-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. Homework is assigned below.
- *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 1:00 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. You are welcome of course to just drop by at any time.

**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>
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</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>
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<tr>
<td>Exam 2</td>
<td>30</td>
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**Homework**: The following problems from chapters in the Damodaran text are required and will be collected. They will be graded as pass-fail on a best-efforts basis. The due dates are variable and will be announced in class.

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Problems</th>
<th>Chapter</th>
<th>Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four</td>
<td>1, 9, 10</td>
<td>Twelve</td>
<td>1, 3</td>
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<tr>
<td>Seven</td>
<td>2, 10, 12</td>
<td>Fourteen</td>
<td>1, 3, 7</td>
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<tr>
<td>Eight</td>
<td>1, 2, 5, 18</td>
<td>Seventeen</td>
<td>1, 3, 4</td>
</tr>
<tr>
<td>Nine</td>
<td>1</td>
<td>Eighteen</td>
<td>1, 5, 7</td>
</tr>
<tr>
<td>Ten</td>
<td>1, 4, 6</td>
<td>Nineteen</td>
<td>1, 2, 7</td>
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**Valuation Report**: The Valuation Report is a group project, to be prepared by groups of three to five students. Each group will be valuing two to four 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 for 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.

**Miscellaneous Items:**

- Miscellaneous readings, handouts, excel files will be posted Blackboard (Blackboard.xavier.edu)
- 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 January 12th: our first class
  - **Thursday March 3rd:** Exam 1
  - Thursday April 17th: Easter Break (no class)
  - **Thursday April 21st:** Exam 2
  - **Tuesday April 26th:** Final Valuation Reports due
  - Tuesday April 26th: Final Group Presentations
  - Thursday April 28th: Final Group Presentations
  - Tuesday - Friday, May 3rd – May 6th: Final Exam Week
  - Tuesday May 3rd 8:30-10:20 & Thursday May 5th 1:00-3:00: Final Group Presentations
- The Group Presentations will take part on three different days: the last two days of regularly-scheduled class and the final exam period on May 6th. Attendance at group presentations is required.
- **Note that the date of Exam 1 is the Thursday BEFORE spring break.** Make your travel plans accordingly.
Group Project Milestones:

• Step 1: Pick your companies (Tuesday 26 January)
  o The companies are to be publicly traded
  o At least one firm is to be a manufacturing firm
  o At least one firm is to be a service firm
  o Avoid companies that have had losses for more than five consecutive years
  o Avoid financial services firms
  o Companies are to be approved by me.

• Step 2: Required Rate of Return (Thursday 11 February)
  o Compute the cost of equity for your companies
  o Compute the weighted-average cost of capital for your companies
  o Prepare a summary of the steps taken in your WACC calculation
  o Be prepared to present your WACC calculations to the class

• Step 3: Ratio Analysis (Thursday 18 February)
  o Conduct a DuPont Analysis on your companies
  o Be prepared to present your analysis to the class

• Step 4: Free Cash Flow to the Firm Valuation Model (Thursday 17 March)
  o Compute the Free Cash Flows to the Firm for your companies
  o Determine the drivers of value for each company
  o Perform a sensitivity analysis to determine how sensitive the values are to your input assumptions
  o Present the analysis to one of your companies to the class

• Step 5: Free Cash Flow to Equity Valuation Model (Tuesday 29 March)
  o Compute the Free Cash Flows to Equity for your companies
  o Determine the drivers of value for each company
  o Perform a sensitivity analysis to determine how sensitive the values are to your input assumptions
  o Perform a sensitivity analysis to determine how sensitive the values are to your input assumptions

• Step 6: Relative Valuation (Thursday 14 April)
  o Evaluate your companies against a list of comparable companies (“comps”)
  o Your list of comparable companies is to be approved by me.
  o Choose at least two multiple approaches you believe to be the most appropriate

• Step 7: Final Value Estimation (Tuesday 19 April)
  o Reconcile the values from Steps 4 through 6
  o Determine a range of values

• Step 8: Recommendation
  o Specify a range of target values for each stock
  o Make a specific Buy, Sell or Hold recommendation for your stocks.
C O U R S E   O U T L I N E

I. Introduction to Valuation (Damodaran, Ch. 1)
   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 (Damodaran, Ch. 2, p. 11-23)
      i. Discounted cash flow valuation
      ii. Relative valuation
      iii. Contingent claim valuation

II. The Equity Valuation Process (Reading, Stowe, Ch. 1 (on Blackboard))
   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. Evaluating Financial Performance (Damodaran, Ch. 3)
   a. Basic financial statements
   b. Measuring financial leverage
   c. Measuring earnings and profitability
   d. Accounting measures of risk
   e. Sources and uses of fund

IV. The Basics of Risk (Damodaran, Ch. 4, excl. 72-76)
   a. Defining risk
   b. Equity risk and expected return
      i. Diversifiable and non-diversifiable risk
      ii. Capital asset pricing model
      iii. Other equity return model
         1. APT
         2. Multifactor models
   c. Measuring default risk

V. Riskless Rates and Risk Premiums (Damodaran, Ch. 7, p. 154-166, 172-176)
   a. The risk-free rate
   b. Equity risk premium
      i. Historical risk premiums
      ii. Implied risk premiums
   c. Default spreads on bonds
VI. Estimating Discount Rates (Damodaran, Ch. 8)
   a. Cost of Equity
      i. CAPM
      ii. Parameter estimation
      iii. Equity risk premium
   b. From the Cost of Equity to the Cost of Capital
      i. The cost of equity
      ii. Calculating the cost of debt
      iii. Estimating the tax rate
      iv. Calculating the weights
      v. Calculating the WACC

VII. Measuring Earnings (Ch. 9)
    a. Accounting versus financial (market) balance sheets
    b. Adjusting earnings

VIII. From Earnings to Cash Flows (Damodaran, Ch10)
    a. The importance of earnings
    b. The tax effect
    c. Reinvestment needs

IX. Forecasting Cash Flows
    a. Pro Forma financial statements
    b. Measuring growth (p. 271-273, 278-302)
    c. Estimation approaches
    d. Excel exercises

X. Equity DCF Models (Damodaran, Ch. 13-16)
   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
COURSE OUTLINE (cont’d)

XI. Relative Valuation ((Damodaran, Ch. 17-19)
   a. First principles
   b. Equity Multiples
      i. P/E Ratio
      ii. PEG Ratio
      iii. P/BV Ratio
      iv. P/Sales Ratio
      v. Determinants of equity multiples
   c. Value Multiples
      i. Scaling variable
      ii. Value/Book Capital
      iii. Enterprise value/Revenues
      iv. Enterprise value/EBITDA
      v. Application

XII. Introduction to Valuation – reprise (Damodaran, Ch. 1)

XIII. Measuring Portfolio Performance (Bodie, Kane, & Marcus, Ch. 24)