



Finance 553
Problems in Capital Investment Planning
Winter 2016: Evening

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Office Hours: Mondays, 3:00-4:00 p.m., Wednesdays 4:30-5:30 p.m., and by appt.
Course materials available on Canvas

DESCRIPTION:

Capital Investment Planning is a case course examining corporate investment decisions and related issues in financial strategy. The course is organized into three sections:

1. Capital Budgeting
2. Business Valuation
3. Corporate Restructuring

Principal topics include: using discounted cash flow analysis to evaluate investment opportunities, estimating discount rates, valuing a company or division, and analyzing mergers, corporate restructuring, and bankruptcy.

When you complete this course, you should be able to:

- Identify an investment's relevant costs and benefits to calculate free cash flows
- Estimate a company's weighted-average cost of capital and understand its role in investment decision making
- Use discounted cash flow techniques, comparable trades, and real options analysis to analyze investment opportunities
- Value projects and companies
- Identify the relation between corporate restructuring and value creation
- Use valuation techniques to analyze strategic business alternatives

PREPARATION:

Most of our class time will be devoted to discussion of assigned cases. To get the most out of class you must prepare conscientiously and participate actively in study group and class discussions. Failure to participate robs others of your perspective and increases the chances that the discussion will not be relevant to your interests and abilities. Please participate actively.

So what is conscientious case preparation? Read the case thoroughly; identify principal issues to be addressed in the case; attempt to analyze these issues using your common sense and any appropriate tools or techniques, and note any action recommendations implied by your analysis. Alternatively, if you find yourself hitting a roadblock, try to articulate what the problem is. Oftentimes, identifying roadblocks is as valuable as a complete analysis. You should expect to spend between two and three hours preparing each case for class discussion.

For each case assigned you will note below that I have posed one or more preparation questions. The questions play several roles depending on the case. Usually the questions are simply guidelines to help you get started on your analysis. In some instances, I may give you additional information in the questions, or when the case is a mechanical one, I may ask you to perform specific calculations. You should not assume that answering all of the preparation questions necessarily constitutes a complete analysis. My general advice is always to read the preparation questions, but do not feel overly constrained by them.

Do not be surprised if after conscientious preparation you still feel there are some loose ends in the case you are not certain about. Your test of whether you are learning the material and progressing adequately should be how you feel after the class discussion, not before. You are doing fine if after a class discussion you believe you could adequately handle a similar situation in the future.

I will alternate between asking for volunteers and calling on individuals. **If you are not prepared, please notify me before class, and we can both avoid the embarrassment.** If you have spent appropriate time on the case but still feel unsure of your opinions, consider yourself prepared.

COURSE RESPONSIBILITIES:

Your grade will be based on the following:

Participation	30%
Group Assignments (3)	35%
Individual Assignments (3)	35%

Below, I list three group assignments and four individual assignments. These are the assignments that are eligible for your write-ups. All of the group assignments are required. Your grade for the individual assignments will be based on your top three scores. You may choose to complete three of the four listed individual assignments (i.e., you may choose to skip one). Alternatively, you may complete all four individual assignments, and I will base your grade on your top three scores.

Assignment	Due Date
I. Starbucks: Cost of Capital (Individual)	Wednesday, Jan. 13
II. Stryker Corp.: In-sourcing PCBs (Group)	Wednesday, Jan. 20
III. Full Pull Wines (Individual)	Wednesday, Feb. 3
IV. Wind Resources (Group)	Wednesday, Feb. 10
V. RJR Nabisco (Individual)	Wednesday, Feb. 24
VI. Current Event Valuation (Group)	Wednesday, March 2
VII. Dow's Bid for Rohm and Haas (Individual)	Wednesday, March 9

More details about the assignments are provided in the syllabus. Please note that the specific deliverable for each case may differ from the study questions (provided as a basis for class discussion) also included in the syllabus. Assignments for the graded deliverables are outlined in boxes, below.

Participation. Your participation grade will be based on your presence in class, my assessment of the extent to which you helped make the class a productive learning experience, and my assessment of the depth of your command of the material.

There are two types of written assignments, Group and Individual. All assignments are due at the beginning of the session during which we will be discussing the case. Please bring paper copy of your assignments to submit.

Group Assignments. During the quarter, you will be responsible for completing three group assignments. Each group should consist of from 3-5 students, and you should retain the same group for each group assignment. If you would like to form your own group, please email me a list of names of students in your group by Friday, Jan. 8. If you would like me to help arrange a group for you, please let me know in the first class session.

Individual Assignments. You are also responsible for completing individual written assignments. Although you are allowed to discuss the assignment with others as described below, you must each prepare and turn in your own work.

You are encouraged to discuss any of the written assignments with other students in the class or with me. You are also welcome to use the internet or any other written resources to research background on the case, although (except as otherwise noted) I don't anticipate that you will need to do any outside research. Please do not use sample solutions from the internet or any other source for any of the case assignments. Also, please do not discuss any of the cases with students in the other section who have already attended the class discussion of that case

Final Exam. There is no final exam for this class.

MATERIALS:

A required packet of cases is available from the University Bookstore under the Finance 553 course title. The cases are also available directly for electronic download from the HBS website.

I recommend the following text as an optional resource for this class:

Robert C. Higgins, *Analysis for Financial Management* (Eleventh Edition), Irwin/McGraw-Hill, 2016.

In addition, there are two books on reserve at the Foster Business Library that may serve as useful background reading.

- **Jonathan Berk and Peter DeMarzo**, *Corporate Finance* (Third Edition), Pearson Education, 2014.
- **Tim Koller, Marc Goedhart and David Wessels**, *Valuation: Measuring and Managing the Value of Companies* (Fifth Edition), John Wiley & Sons, 2010.

TECHNOLOGY POLICY:

I encourage the use of laptops in class for class-related purposes such as note taking and accessing your valuation models. Learning how to prepare financial models in Excel is an important objective of the class. However, I support the School's policy against accessing email, surfing the Internet, etc. during class. Please constrain the use of your laptop during class to class-related purposes.

MBA HONOR CODE:

I employ the policies and procedures espoused by the Foster School of Business Honor Code to maintain academic integrity in the course.

Course Schedule

CAPITAL BUDGETING

Wednesday, Jan. 6

Session 1: Introduction

Optional Reading: Higgins, pp. 239-260 (should be mostly review)

Session 2: Incremental Cash Flows – Replacement Problem

Prepare: Fonderia Di Torino S.P.A.

Optional Reading: Higgins, pp. 260-279

- a.) What are the incremental cash flows associated with acquiring the machine?
- b.) What is the appropriate discount rate? Why? What is the NPV of the project at this discount rate?
- c.) What other factors might influence your recommendation? Are there any qualitative factors that you did not incorporate into the NPV? What would be the impact of an inflation rate of 3%?
- d.) Should Francesca Cerini proceed with the project?

Wednesday, Jan. 13

Session 3: Cost of Capital

Prepare: Starbucks: Cost of Capital (case available on Canvas)

Optional Reading: Higgins, pp. 298-311

- a.) How did Andrews calculate her WACC? Do you agree with her assumptions?
- b.) Calculate the cost of equity using at least three different techniques.
- c.) What is your estimate of the WACC for Starbucks?
- d.) Is the WACC for Starbucks appropriate to use as a discount rate for this project? Why or why not?

Graded Assignment I (Individual Assignment)

Please submit a 1-2 page memo with your estimate of the cost of capital for Starbucks. In your memo, please explain your assumptions and provide a specific value for the WACC.

Session 4: Incremental Cash Flows – Relevant Cash Flows

Prepare: Starbucks: Incremental Cash Flows (case available on Canvas)

- a.) How would you define the “project”?
- b.) What are the incremental cash flows for the project?

Wednesday, Jan. 20

Session 5: Incremental Cash Flows – Framing an Analysis

Prepare: Stryker Corp.: In-sourcing PCBs

- a.) Should Stryker Corp. begin manufacturing its own printed circuit boards? What leads you to this conclusion?

Graded Assignment II (Group Assignment)

Please submit a printout of a spreadsheet with the NPV of the in-sourcing alternative (option #3) relative to the status quo. For your spreadsheet, you may calculate incremental free cash flows on an annual basis; there is no need to worry about the timing of quarterly cash flows within the year. Clearly note your major assumptions, either directly in the spreadsheet or in a brief, attached memo.

Session 6: Capital Budgeting Systems

Prepare: Stryker Corporation: Capital Budgeting

Optional Reading: Higgins and Schall, “Capital Budgeting Systems: Missing Link in Project Appraisal” (available on Canvas)

- a.) How do resource allocation decisions get made at Stryker? What are the pros and cons of this approach?
- b.) As CEO of a company like Stryker, what types of projects (in general) do you want the firm to undertake? Does this always happen? Why or why not?
- c.) What changes, if any, would you recommend at Stryker?

BUSINESS VALUATION

Wednesday, Jan. 27: No Class

Watch: Video Lecture 1 (on Canvas)

Read: Higgins, “Three Equivalent Ways to Value a Business Using DCF” (available on Canvas)

Optional Reading: Higgins, pp. 343-356, pp. 326-332, and pp. 312-314. See also, Berk and DeMarzo, Chapter 18.

Wednesday, Feb. 3

Session 7: NPV Valuation

Prepare: Full Pull Wines (case available on Canvas)

- a.) What is Full Pull Wines worth today?

Graded Assignment III (Individual Assignment)

Please submit a printout of a spreadsheet with your valuation of Full Pull. Use the NPV method to answer this question. Clearly note any assumptions, either on your spreadsheet or in an attached memo.

Session 8: Lecture: Alternative Approaches to Valuing a Business (cont.).

Optional Reading: Higgins pp. 315-321 and 357-362.

Wednesday, Feb. 10

Session 9: Equity Valuation

Prepare: Wind Resources, Inc. (case available on Canvas)

- a.) Which alternatives are available to Wind Resources now? What are the pros and cons of these alternatives?
- b.) How do the cash flows presented in Exhibit 5 relate to cash flows for the equity method of valuation?
- c.) Based on the analysis in Exhibit 5, at what price should WRI be willing to sell the easement?
- d.) What is the financing structure underlying the valuation in Exhibit 5? How was this capital structure chosen? Show that the resulting capital structure satisfies the required conditions.
- e.) Exhibit 5 indicates that equity investors should be willing to pay \$26.828 million for the equity in the redeveloped Canyon Wind farm project. How much of this value is due to the production tax credit? How much is due to accelerated depreciation? How important are government tax incentives to this project?

Graded Assignment IV (Group Assignment)

Prepare and submit responses to the five study questions, above. For question (b), also restate the cash flows for 2007 from Exhibit 5 in the format described in the Higgins Valuation Note ("Three Equivalent Ways to Value a Business Using DCF") assigned for Jan. 27.

Session 10: Real Options Valuation

Prepare: Wind Resources, Inc. (Continued)

Optional Reading: Berk and DeMarzo, Chapter 22 (Real Options)

- a.) Is the ability to postpone redevelopment of the site for up to three years valuable to the developers? Why? How might you estimate this value?
- b.) Value the redevelopment project using the Black-Scholes option pricing model. What values will you assume for the various inputs to the Black-Scholes model? (I have posted

- a link to an option pricing calculator on Canvas, so given your assumptions you can use the online calculator to value the option.)
- c.) As a potential buyer, what is the most you would bid for the Canyon Wind Farm redevelopment rights? As Bittner, what is the lowest price you would accept?

CORPORATE RESTRUCTURING

Wednesday, Feb. 17

Session 11: Bankruptcy and Restructuring (APV Valuation)

Prepare: Infinity Carpets, Inc.

- a.) Why did Infinity Carpets get into financial difficulty? Was it bad luck, bad strategy, or bad execution?
- b.) How pressing is the situation? Can Infinity get by without restructuring?
- c.) What do you think Infinity would fetch in liquidation? How would these proceeds be divided among the claimants?
- d.) What is a reasonable, conservative estimate of Infinity's firm value?
- e.) As Benson, recommend an action plan to Infinity's controlling stockholder, SLP.

Session 12: IPOs (Valuation using Comparable Trades)

Prepare: Rosetta Stone: Pricing the 2009 IPO

- a.) What are the advantages and disadvantages to Rosetta Stone of going public?
- b.) Use comparable trades and discounted cash flow to estimate the value per share of Rosetta Stone stock.
- c.) At what price would you recommend that Rosetta Stone's shares be sold?

Wednesday, Feb. 24

Sessions 13 and 14: Leveraged Buyouts

Prepare: RJR Nabisco

Optional Reading: Higgins, pp. 362-373

- a.) What is the value of RJR Nabisco under
 - i. The pre-bid operating strategy?
 - ii. The Management Group's operating strategy?
 - iii. KKR's operating strategy?
- b.) What accounts for any difference in the value among the three operating plans?
- c.) Evaluate the Special Committee's use of an auction of RJR Nabisco.
- d.) Which bid should the Special Committee select, if any? What other actions should the Special Committee take?

Graded Assignment V (Individual Assignment)

Please submit your responses to questions (a.i) and (b) above. For question (a), use the APV method to value RJR Nabisco. You only need to submit your valuation under the pre-bid scenario; please submit a printout of your spreadsheet for this valuation, along with a brief discussion of your assumptions. Express your valuation as a stock price per share. Your response to question (b) should be one or two paragraphs, and should be based on the case discussion and the cash flow projections provided in the case. Please see Canvas for some additional assumptions to help you with your analysis.

Wednesday, March 2**Sessions 15 and 16:** Current Event Valuation/Mergers and Acquisitions

For this class session, we will use the Comparable Trades method to value a company. I plan to choose the company about two weeks before this session. My goal is to choose a company that is in the news for valuation-related reasons. Please see Canvas for study questions.

Graded Assignment VI (Group Assignment)

Please submit a spreadsheet with your valuation of the chosen company using the Comparable Trades method. Clearly note any assumptions, either on your spreadsheet or in an attached memo. Please see Canvas for more details.

Wednesday, March 9**Session 17:** Acquisitions**Prepare:** Dow's Bid for Rohm and Haas

- a.) Why does Dow want to buy Rohm and Haas?
- b.) How much is Rohm worth per share on a standalone basis? How much is Rohm worth to Dow? Was the \$78 per share bid reasonable?
- c.) What are the major deal risks inherent in this merger transaction? How and to whom does the merger agreement allocate these key risks? (Hint: Analyze some of the provisions in case Exhibit 4. What risk does each provision address and which party ultimately bears the risk?)
- d.) As of early February 2009, what should Liveris do, and what should Gupta do?

Graded Assignment VII (Individual Assignment)

Please submit written responses to all four study questions, above. In responding to question (b), you should estimate the value of Rohm both when Dow originally announced the deal (July 2008) and based on the revised expectations as of early February 2009 (so you will have four valuations total: standalone and as an acquisition target, in July 2008 and February 2009). Please include the printout of a spreadsheet with these valuations in your response. Be sure to discuss clearly your main assumptions. On page 4, the case discusses the \$800 million in annual cost synergies, which can be achieved with a one-time cost of \$1.3 billion. Assume that both the \$800 million and the \$1.3 billion figures are pre-tax.

Session 18: Summary and Course Overview