

San José State University
FALL 2017
BUS 179B – 01 and 02 Business Valuation and Venture Capital

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Class Days/Hours/Room:	179B-01; (MW) (1030 – 1145) and BBC 108 179B-02; (MW) (1330 – 1445) BBC 108
Final Exam:	179B-01; 10:30; 12/15/17 (Fri); 0945- 1200; and 179B-02; 1:30; 12/18/17 (Mon); 1215- 1430
Office Hours:	MW 1200 – 1330 and 1500 – 1700 (BT 850D) By Appointment (BT 850D)

Required Texts:

- The Little Book of Valuation, Aswath Damodoran, John Wiley & Sons, 2011 (“AD”)

Periodicals:

- Wall Street Journal, daily

Extra Reading:

- Venture Deals, Third Edition, Brad Feld and Jason Mendelson, Wiley, 2016.
- Learner, Josh, Ann Leamon, Felda Hardymon, Venture Capital Private Equity, and the Financing of Entrepreneurship, John Wiley & Sons, Inc., 2012.
- Entrepreneurial Finance and Accounting for High-Tech Companies, Frank J. Fabozzi, The MIT Press, 2016.
- Equity Valuation and Analysis with eVal, Third Edition, Russell Lundholm and Richard Sloan, McGraw Hill Irwin, 2013
- Investment Valuation, University Edition, Aswath Damodoran, 3rd Edition, John Wiley & Sons, Inc., 2012.

Websites:

- www.aswathdamodoran.blogspot.com/
- www.wiley.com/go/littlebookofvaluation

Course Content:

This course focuses on valuing and funding of various structures of businesses. In this regard, the course will be developed in two parts. The first part will be the valuation of public corporations for which public accounting data are available is considered. Both intrinsic and relative methodologies are presented and evaluated. In general, relationships are developed and analyzed which determine how business value is created and enables managers to optimize the value of a firm. This includes identifying the key drivers of value of the firm. The methods of valuing private firms of various ages are also considered. This part of the course is referred to as “Business Valuation”.

The second part of the course focuses on young, start-up, firms for which very little, or no public accounting data are available. Specifically, the methods for valuing and funding start-up firms are examined. The types of funding at various levels of development at (various stages) are emphasized. An analysis of the venture capital process is also provided. This part of the course is referred to as “Venture Capital”. A major part of the course is a project which values and analyzes an existing corporation.

Professional Background:

Dr. Frank J. Jones teaches graduate courses MBA (273) and MSA (220X); and an undergraduate course (179B) in Business Valuation and Venture Capital courses at San Jose State University. He also teaches Portfolio Management (172B).

Dr. Jones was on the Board of Directors of the International Securities Exchange (ISE), an electronic options exchange from 2000 until 2010. During this period, Dr. Jones was, at different times, both Chairman and Vice Chairman of the Board. He was also on the Executive, the IPO Pricing Committee, the Corporate Government Committee (Chairman), Compensation Committee, and Audit Committee. In this capacity, he was involved in two major transactions which required business valuations. During March 2005, ISE was involved in an IPO using Morgan Stanley and Bear Stearns as investment bankers. Dr. Jones was the Vice Chairman of the Board and on the IPO Pricing Committee during the closing of this transaction. During May 2007, ISE was acquired by Deutsche Borse, the large Frankfurt, Germany – based securities exchange. ISE used Merrill Lynch and Evercore Partners as investment bankers during this transaction. Dr. Jones was the Chairman of the Board and a member of the Executive Committee during this transaction. Both of these transactions required extensive valuation activities working with external investment bankers, lawyers and accountants.

Currently, while also teaching, Dr. Jones is also the co-Chairman of the Investment Committee and also a principal of Private Ocean Wealth Management, a private, high net worth wealth management firm.

Dr. Jones is also a minority owner of two other start-up firms. Dr. Jones' domain/expertise is Fintech.

Course Objectives:

- 1) Understand the various stages in the development of a firm from a beginning stage start-up firm to a mature buy-out stage firm.
- 2) Understand the mechanisms for valuing a firm from three perspectives: accounting, finance, and practical shortcuts.
- 3) Understand how the manager/owner optimizes the value of a firm and the key drivers of value.
- 4) Understand how to forecast the requisite inputs – variables and financial ratios – into these models from current, past, and projected I/S and B/S of the firm and comparable firms.
- 5) Understand the sensitivity of the overall firm value to various variables and financial ratios from I/S and B/S.
- 6) Be able to present and defend an overall firm valuation to a critical audience; identify the critical variables in this valuation; specify “upside” and “downside” valuations and their related scenarios; and compare the valuation with publicly available valuations (e.g. Wall Street analysts).
- 7) On a macro basis, understand how alternate business strategies can be appraised by determining their effects on firm value by using the appropriate assumptions in this methodology.
- 8) With respect to start-up firms:
 - a. understand the valuation methods of start-up firms
 - b. understand deal structures including the economic and control aspects of a term sheet and also capitalization tables
 - c. understand the venture capital process
 - d. understand the funding stages of a start-up firm
- 9) The course experiences continuous tension between understanding:
 - a. The forest: how value is created and destroyed in a firm; and
 - b. The trees: detailed inputs to and outputs from valuation models.
 - c. Understanding both extremes is critical.

Course Grade:

The final grade will be determined as follows:

Project	40%
Mid Semester Exam:	20%
Final Exam:	40%

Class Conduct:

- The course should be very participative and interactive (that is, be “engaged”). Class engagement and involvement are expected.

Course Project:

The project for the course is the valuation of an existing technology corporation in the Silicon Valley area. For the project, the class will be divided into teams of three to five students each. Each team will be assigned a corporation. The output for the project will be of two types:

1. A written report providing data and analysis of the valuation. This report will be in the form of power points which will be used in the presentation. No other writing/submissions are required.
2. A presentation to the entire class of a maximum of twenty minutes followed by a participative Q&A with the class, if feasible.

The tone of this presentation is that of senior investment bankers presenting to the CEO and CFO of a corporation interested in conducting a transaction with the company being valued. That is, the tone is serious. The content of the project is provided below.

The sources of data for the project include:

- (1) The financial information provided by the corporation
- (2) Information on Yahoo, Finance and Morningstar
- (3) Information the team obtains from the public relations department of the corporation.
- (4) Other current information about the corporation (Google, Wall Street Journal, etc.)

Specific components of (1) are as follows:

- Form 10K and Form 10Q
 - Annual and Quarterly Financial Data (I/S, B/S, Cash Flow Statement, Statement of Retained Earnings.)
 - MD&A (Management Discussion and Analysis) from 10k
 - Discussion of results of operations, liquidity, capital resources, off-balance-sheet arrangements, and contractual obligations. Discussion should include trends, significant events and uncertainties, causes of material changes, effects of inflation and changing prices, and critical accounting policies. Although this section contains useful information, investors should be aware that this section is unaudited.

- Schedule 13D
 - Required for 5% (or more) equity owners within 10 days of the initial acquisition event, and additions to their holding.
- SEC Schedule 13 F (Information Required of Institutional Investment Managers)
 - Quarterly report filed by institutional investors managing over \$100 million. Lists the name and amount of each security held at the end of each quarter within 45 days of the end of a calendar quarter.
- Definition: Accredited Investors (AI)
 - Require \$1 million of net worth (excluding value of primary residence) or \$200,000 per year of annual income (\$300,000 per year for couple).

Comments on Projects:

- The entire presentation is the set of power points. Make sure that I have the set of power points used before the presentation.
- Be prepared for the Q&A with the class and me after the presentation.
- Turn in to me in class before the presentation the following:
 - The complete set of power points used in the presentation
 - The output of the major tables from the valuation program
 - The MD&A section from the latest 10K
- No additional writing other than the power points is required or permitted to be presented or turned in.

- The corporations which will be assigned randomly to the teams will be from among those listed below.

Others will also be considered.

1. Broadcom (BRCM)
2. Agilent (A)
3. Brocade (BRCD)
4. Intuit (INTU)
5. National Semiconductor Corporation (NSM)
6. Juniper (JNPR)
7. Adobe (ADBE)
8. Symantec Corp. (SYMC)
9. Nvidia Corp (NVDA)
10. TIBCO (TIBX)
11. VMware (VMW)
12. Riverbed Technology (RVBD)
13. Electronic Arts (EA)
14. Xilinx (XLNX)
15. SanDisk (SNDX)
16. Net App (NTAP)
17. Fairchild (FCS)
18. PMC Sierra (PMCS)
19. Echelon (ELON)
20. LSI (LSI)
21. SalesForce (CRM)
22. Zynga (ZNGA)
23. Yelp (YELP)

Course Outline

- I. Introduction / Overview
 - a. Valuation Issues by Type / Size of Firm
 - Public firms
 - Private firms
- II. Business Valuation
 - a. See page 9
- III. Venture Capital
 - a. See page 10

Handouts which will be provided in the course are listed below. These handouts are dynamic – some may be deleted and others added.

II. Business Valuation

1. Present Value Topics
 - General
 - DDM
 - Gordon Model
2. Valuation Overview
 - My Handout
 - A.D. Ch. 3&4
3. Yahoo! Finance: HPQ
 - P/E, PEG and other topics
4. Financial Planning: BBM
5. DuPont Model: ROE, ROA, Turnover and Leverage
6. Growth and Funding: Growth (g), ROE, Plowback
7. Cash Flows
8. Residual Income Valuation Equation:

$$RI_t = (ROE_t - r_e) CE_{t-1}$$

Where r_e is calculated via CAPM; $ROE_t - r_e$ is profitability; and CE_{t-1} is growth

 - o This equation shows that value depends on Profitability/Growth
9. WACC/CAPM
10. Structured Financing
11. Valuation Models/Examples
12. Example: Kohl
13. Life Cycle of Firm (9/23/12 Handout)
 - General
 - CFO, CFI, CFF
 - AD: Ch. 5: Chs. 5, 6, 7, 8
14. Drivers of Value (My 1-Pager)
15. Types of Financing:
 - Stocks
 - Preferred
 - Convertibles
 - Bonds
 - Loans (Non-Bank and Bank)
16. Private Firms
17. Applications:
 - ISE: IPO & Mergers
 - Private Firms (e.g. my holdings)

III. Venture CapitalA. Introduction

- a. Life Cycle of a Company
- b. Table of Contents
- c. Glossary
- d. Summary: Venture Capital
- e. Stages of Development/Funding
 - VC as an intermediary
 - PE/MF

B. Valuation

- a. Pre Money / Post Money
- b. 5X Deal
- c. First Round / Second Round
 - Funding New Ventures (HBS: 12/20/06)
- d. My Example: Up Round and Down Round
- e. Deal Structuring: (LLH, Ch.5)
- f. LLH Valuation: Strength & Weaknesses; (LLH, Ch.4)p
 - Venture Capital Method

C. Term Sheet

- a. Liquidation Preference and Participation
- b. Other Terms: Vesting / Covenants / Anti-dilution (LLH, Ch. 5 pp. 139-149)
Pay to Play (FM: pp. 47-49)

D. “The Deal” (F&M)

- a. Term Sheets
 - Economic Terms
 - Control Terms
 - Others Terms
- b. Letters of Intent – The Other Term Sheet
- c. The Capitalization Table

E. Other

- a. Discount / Premium
- b. DD Example

HandoutsA. Business Valuation

1. Course Materials
2. Why Business Valuation?
3. Valuation: An Introduction
4. Time Value of Money (Present Value)
5. Yahoo Finance : Data and Calculations
6. Valuation : Typed Version (9/13/14)
7. Valuation, Risk, Stocks and Bonds
8. The Valuation Equations (8/25/14)
9. Long Term Financial Planning (BBM, Ch.18)
10. Financial Ratios and the Dupont Model
11. Leverage, ROA and ROE
12. Growth and Funding
13. Drivers of Value (one-pager)
14. Cash Flows
15. Structured Forecasting : Version III
16. Structured Financing : Example – GOOG
17. Yahoo Finance Data: HPQ
18. Valuation and Funding
19. Inputs into CAPM
20. Valuation Project Steps
21. Overview of eVal/Kohl
22. Valuation Model Calculations: Three Parts
23. Damodaran Blog on Twitter
24. KPMG Valuation Model
25. Crème de la Crème Valuations (Variations on Two Themes)
 - a. 3 stage DCF – MorningStar
 - b. Justified P/E - MorningStar
26. Moats
27. Sales Forecasts (Art & Science) : Moats and RAD
28. Damodaran, Little Book, Value Plays and Conclusions
29. Mergers & Acquisitions
30. Discounts/ Premiums
31. Value Creation/Destruction through Transactions : AOL/TW
32. Asset vs Stock Deal
33. Brad Notes
34. Practice Problems (4/10/15)

Extra:

Mid-Semester Exam Topics

B. Venture Capital

1. Venture Capital: Introduction – Lecture 1
2. (No. 23) Life Cycle of a Firm
3. Table of Contents/Glossary (F&M)
4. Phases of Start-up: Innovation et.al
5. “Lists” of VC/PE/Angels
6. Returns: NX, Y years vs. IRR
7. Venture Capital: An Introduction
 - a. One pager on Participants/Securities
8. (No. 28) Funding new Ventures: HBS Publication; Key Example (Cap Tables, etc.)
9. (No. 29) Example 1: Dilution of Different Investors
10. (No. 30) Up Round and Down Round (Examples)
11. (No. 34) Terms and the Term Sheet
12. Anti-dilution Provisions (LLH)
13. Pooled Liquidation Preferences vs. Senior/Junior Liquidation Preferences (LLH)
14. Advanced Deal Structuring, LLH, Ch. 5 (p. 117-139)
15. Deal Structure: Tables and Figures Only
16. (No. 33) Summary: Net Payout Table (LLH, Ch. 5)
17. (No. 32) Overview of Structures (11/29/14)
18. (No. 35) Comments on Structures (12/02/14)
19. LLH Valuation (Ch. 4): Strengths & Weaknesses; VCM
20. Term Sheets (Feld/Mendelson Chapters)
21. Term Sheets – Abbreviated Version
22. A Tour of a Tour Sheet; Two Term Sheets (LLH)
23. Venture Capital Acquisitions/Deals: Two Examples (D²)
24. Two Deals – Full Presentations (D²)
25. Conclusion: p. 156 LLH
26. What Have We Learned? Summary
27. Review Topics: VC Section
28. Final Class: Applied Valuation

Add-ons:

- Preferred Stock
- Overview: Dilution vs. Growth
- Term Sheet: Document Describing Funding

The final project will be composed of the various sections as follows:

- I. Initial Presentation (Scorecard)
- II. Final Presentation
 - a. Valuation Methods
 - b. Calculations
- III. Final Presentation – Summary

PresentationI. Initial Presentation (Scorecard)

- A. Overview of Company
- B. Industry / Sector
- C. Stock Price History
 - a. vs. Competors
- D. Size: Market Cap
- E. Product (s)
 - a. Consumer vs. Enterprise
 - b. Sales: U.S. vs. International
- F. Competitors
 - a. Pricing Power
 - b. Moats
- G. Major Inputs / Suppliers
 - a. Relative “Clout”
- H. Valuation vs. Competors
 - a. P/E ; P/Sales ; PEG
- I. Earnings (EPS): Last 5 years / Next 5 years (Yahoo!)
- J. Growth:
 - a. Internal (g_i)
 - b. Sustainable (g_s)
- K. Profitability (vs. Competors)
 - a. ROA
 - b. ROE
- L. Profit Margin / Operating Margin (Yahoo!)
- M. Balance Sheet
 - a. Leverage (Debt / Equity) (B/S and Yahoo!)
- N. MDA in latest 10K
- O. Management / Culture / Stability
- P. Current Events in Company

II. Final PresentationA. Valuation Methods1. Relative Valuation

- a. Relative (“Comps”) (Price)
 - i. P/E
 - ii. P/Sales (Revenue)
 - iii. P/Cash Flow
 - iv. P/Book Value (Common Equity)
 - v. PEG
- b. “Comps” (Comparables)
 - i. Transaction Based
 - ii. Total Sector (All Traded)
- c. Competitors
 - i. Identity
- d. Relative Valuations/ Calculations and Range
 1. $P_F = E_1$ (Forecast) x (P/E) Competitor
 2. And for other metrics (EBITDA, S, CE)

II. Final Presentation

2. Intrinsic Valuation

a. Inputs

i. Ratios:

- 1. Turnover (Asset)
- 2. Margin (Profit)
- 3. Leverage
- 4. ROE
- 5. ROA
- 6. Growth:
 - a. Internal
 - b. Sustainable
- 7. Sales Forecast
 - a. Annual Sales – through H (s₁...s_H)
 - b. H
 - c. g



Sales... (% Growth).....	<u>H</u> (g = 5%)
A	
NI	
CE	
1/ (1+r _e)	
GCF (Generalized Cash Flow)	Increase by g% per year after H
X: $\sum_{i=1}^N \frac{GCF}{(1+r_e)^i}$	
Y: $\frac{GCF(1+g)}{(1+r_e)^H(r_e-g)}$	<i>Gordon Model:</i> $\frac{GCF(1+g)}{r-g}$
V = X + Y	
Z: No. of Shares Outstanding	
Share Price: P = V/Z (Calculated)	
Market Share Price (Actual)	
Compare/Comment	

3. Intrinsic

Valuation Methods (Note: see my “Valuation Models” handout)

A. Methodology Steps

1. 10Ks (I/S, B/S and Cash Flow Statement)
2. Calculate Ratios (Turnover; Margin; Leverage; Tax Rate; Interest Expense) (Dupont Model)
3. Sales Forecast – H years
4. Calculate I/S and B/S for H years
5. Calculate $DCF_t = NI_t - (CE_t - CE_{t-1})$ for H years
6. Calculate Gordon Model for the period from H and thereafter
7. Calculate Total Value (TV) (= *DCF Value + Gordon Model Value*)
8. Calculate Share Price (TV divided/by shares outstanding)
9. Specify Market Price
10. Comment on difference between Market Price and Calculated Share Price (Value)

(Note: Use my INTC Handout)

Gordon Model (One Stage Model)

$$V = \frac{DCF(H)(1 + g)}{r - g}$$

		g			
		5%	10%	12%	15%
r	5%				
	10%				
	12%				
	15%				
	20%				

- Use g_s (for g), use WACC or r_e (Cost of Equity capital) for r

This is sensitivity analysis

4. Summary – “Football Field”
 - a. Intrinsic: DCF + Gordon Model
 - b. Gordon Model (r and g)
 - c. Relative Approach

5. Total Valuation – Weighted
 - i. 60% Intrinsic
 - ii. 40% Relative

6. Relative vs Intrinsic
 - i. Pros and Cons

7. Growth Analysis
 - i. Acquisitions (External) and Organic (Internal)
 - ii. Total Growth Estimates
 1. Past 5 years - History
 2. Analysts: next 5 years
 3. Your calculation
 4. g_i (internal) and g_{st} (sustainable)
 - iii. History of Acquisitions and Results
 - iv. History of Internal Growth:
 1. R & D (Organic)
 - a. Past
 - b. Prospects
 2. Comments from MD&A
 - v. Future Strategies

III. Final Presentation

Summary

1. Key Material – Summary

- MD&A (include key parts in submission)
- MOATs
- R&D Expenses
- Acquisitions } Gordon Model
 g_i and g_s }
- WACC and r_e
- Management / Culture

b. Wrap-up

i. Summarize recent growth

i. Organic

ii. Acquisition

e. Growth forecast

I. Organic

II. Acquisition

f. Growth Strategies

3. Fish or Cut Bait?