Columbia University
Graduate School of Business
B-8368-01
Security Analysis

Uris 326
Tues: 5:00-9:15pm
Office hours: by appointment

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Course Description

The objective of the course is to present a rational disciplined investment philosophy and process for security analysis. The seminar will focus on melding theory and practice using investment examples across industries and geographies. Investing is as much art as it is science, and therefore, particular attention will be paid to both quantitative and qualitative aspects- including financial statement analysis, valuation methodologies, and competitive strategy and behavioral finance, respectively.

Current and past situations will be discussed in order to encompass a broad set of investment cases across varying economic environments and cycles. In addition, analysis of capital structure and capital markets dynamics will be introduced as a valuable tool that informs the mosaic of investing and can help when allocating capital and managing risk.

While the course material and lectures will review some concepts those enrolled should have a strong familiarity with accounting, corporate finance, and ability to analyze and interpret financial statements in addition to modelling- refer to example appended. The course material will be cumulative and build upon the accounting, finance, and modelling skills needed to complete this exercise. Students should be prepared to commit 15-20 hours per week, with some periods exceeding this amount depending on the lecture material and assignments due.
**Course Structure**

60% - lecture - professor and practitioners (portfolio managers/analysts)
25% - student participation (Socratic method)
15% - student presentation

**Grades**

Factors used to determine grades:

1. Group Investment Thesis/Final Project (in lieu of a final exam, Type A): 20%
   - Length of report should be 8 – 12 pages, excluding exhibits.
   - Format/content will be discussed in more detail in class.
   - Final project submissions due

2. Presentation of Group Investment Thesis/Recommendation (Type A): 15%
   - Everyone will be required to participate in the presentation.

3. Assignments/Quizzes/Tests (Type C): 50%
   - Assignments associated with the investment case studies will be due in advance
   - Quizzes/Tests (some unannounced): will cover readings and incorporate prior class material and concepts covered
   - Modeling Assignment: integrating income statement, cash flow statement, and balance sheet
   - More details will be provided in class

4. Class Participation: 15%
   - Attendance is mandatory and the cumulative attendance record will be taken into consideration when determining grades.
   - Socratic method- interaction is encouraged and expected. Dialogue and debate will enhance the learning environment and students should feel free to challenge and/or share alternate views.
Required readings will be selected from the following:

- Graham, Benjamin, *The Intelligent Investor*
- Greenblatt, Joel, *You Can Be a Stock Market Genius*
- Greenwald, Bruce, Judd Kahn, Paul Sonkin and Michael Van Biema, *Value Investing: From Graham to Buffett and Beyond*
- Greenwald, Bruce and Judd Kahn, *Competition Demystified: A Radically Simplified Approach to Business Strategy*
- Schilit, Howard, *Financial Shenanigans*

Other highly recommended readings:

- Berkshire Hathaway Inc. Shareholder Letters
- Cialdini, Robert B., *Influence*
- Einhorn, David, *Fooling Some of the People All of the Time*
- Fisher, Philip A., *Common Stocks and Uncommon Profits*
- Graham, Benjamin, *The Intelligent Investor*
- Graham, Benjamin and David Dodd, *Security Analysis*
- Kahneman, Daniel, *Thinking, Fast and Slow*
- Klarman, Seth, *Margin of Safety*
- Lefevre, Edwin, *Reminiscences of a Stock Operator*
- Marks, Howard, *The Most Important Thing*
- Rosenberg, Hilary, *The Vulture Investors*
- Schiller, Robert, *Irrational Exuberance*
Detailed Class Schedule and Material (subject to change)

<table>
<thead>
<tr>
<th>Class#</th>
<th>Topic/Material Covered</th>
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<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
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<tr>
<td></td>
<td>Modern Portfolio Theory (MPT), Efficient Market Hypothesis (EMH), CAPM</td>
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<td>Diversification as a risk management tool vs. buy with a large margin of safety</td>
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<td>Investment Process: The Rubrics of Security Analysis</td>
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<td>Assessing Industry Structure, Competitive Advantage, Barriers to Entry</td>
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<td>Valuation</td>
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<td>DCF, Public Market Comparables, Transaction Comparables,</td>
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<td></td>
<td>Free Cash Flow Yield, Private Market Value Premiums Paid for Control</td>
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<td></td>
<td>Leverage vs. Liquidity, Sources and Uses</td>
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<td>Capital Structure Analysis: intra-capital valuations and 'yield' per unit of risk</td>
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Readings: (see reading schedule)
- Graham and Doddsville Spring 2011 Newsletter: Interview with Michael Price
- Graham and Dodd, Security Analysis
- Greenblatt, You Can be a Stock Market Genius
- Greenwald, Value Investing: From Graham to Buffett and Beyond
- Greenwald, Competition Demystified
- Schilit, Financial Shenanigans
- Schiller, Irrational Exuberance

Assignment #1: due Class 2
Modelling Assignment: due mid-term
Rubrics of Security Analysis: A Deeper Dive
EPS vs. Cash Flow

Income Statement vs. Cash Flow Statement

Broadcom (eps vs free cash flow)

Hidden Value, Liabilities and other considerations

Real estate: book value vs market value

Toll Brothers: homebuilder land banks, scarcity value

Tax attributes

Net Operating Losses/Cash taxes and low effective tax rates

Spansion: post-reorganization equities and NOL value

Equity stakes: private, public

DST Systems: Shedding non-core assets in a tax efficient manner

Liabilities: Incorporating off balance sheet items into valuation and downside analyses:

Pension/OPEB: cash costs, sensitivity to interest rates

Floating rate debt/interest rate swaps

Funding and completion guarantees

WCI Communities

Value of bilateral take-or-pay contracts in a cyclical industry:

AMD/ Global Foundries

Readings: (see reading schedule)
Assignment #2; due Class 3

Rubrics of Security Analysis: A Deeper Dive (cont'd)

Industry specific:

Energy: PV-10

ATP Oil & Gas

Financials: Non-performing loans, assessing provisions, and recoveries implied through market value of equity

iStar

Behavioral Finance/Psychology of Investing

Importance of Self-Awareness

Common Weaknesses/Biases: utilizing weakness as a competitive advantage

Developing Intuition: Focus on process and outcomes will follow

Empathy = Technical Analysis

Evaluating management trustworthiness

Readings: (see reading schedule)

Assignment #3; due Class 4
Healthcare/Lab Services: Quest Diagnostics

* Industry Analysis: Oligopolies and Economies of Scale, regional and national  
  Game Theory: when competitor responses result in diseconomies of scale  
  Regulatory

* Modeling/Accounting: and focusing on what concerns consensus/sellside  
  Bad debt expense  
  Liabilities: Litigation/Reserves  
  Adjustments for stock option dilution: treasury method, Black-Scholes

* Comparing Enterprise Value (at market) to Intrinsic Value  
  Adjusted Earnings Power Value, Sensitivity Analysis

* Evaluating management  
  Organic vs. Inorganic Growth: Evaluating acquisition track record  
  Compensation/Incentives  
  Corporate Governance/Board compositions

* Capital return policy: share buybacks vs. dividends

Reading assignment: 10-k, 10-Q, Shareholder Proxy, By-laws, Earnings call transcripts

Readings: (see reading schedule)
Assignment: prep for next lecture
Guest speaker

Autos/Industrials: Dana Corporation/Navistar

* Earnings Power: current vs. "normalized"  
* Sources of liquidity vs. non-discretionary uses of cash  
* Off Balance Sheet Liabilities

* Unions/Labor: competitive advantage or obstacle?
* Valuation

  Earnings Power Value:  
  Restructuring charges: one-time- are they really infrequent?

  Framing downside risk  
  Liquidation value  
  Pledged vs unpledged collateral

  Public market comparables  
  Ensuring apples-to-apples comparisons

  Sum of the Parts Analysis

Reading Assignment: 10-k, 10-Q, Company Presentation(s)

Readings: (see reading schedule)
Modelling Assignment due
Assignment Group Investment Thesis: formulate groups,
  Deadline for idea submission is one week
Assignment #4, due Class 6
REITs: Spirit Realty Capital

* IPOs: When a ‘failed’ auction becomes opportunity
  Benefitting from leverage financed expansions… especially when
  assets were acquired on somebody else’s dime

* Management change as a catalyst

* Impact of leverage: differentiating between holdco and asset-level debt

* Tenant concentration: an ‘asset’ or ‘liability’?

* Value of Growth
  Return potential vs. investments required and their cost of capital

* Cost of Capital
  Interpreting CAPM in various cycles
  NOI, cap rates, cost of capital

Reading Assignment: Prospectus (S-11, 424B4), IPO roadshow presentation

Readings: (see reading schedule)
Guest speaker
Assignment: Work on group projects, prep for next lecture

Power/Utilities: NRG Energy

* Levered equity analysis
  What is good for bondholders isn’t necessarily good for equity holders… and vice versa
  Capital structure: intra-capital structure arbitrage, contractual limitations to capital return and
  what this means for the equity

* Cyclical vs Secular?
  Creating a margin of safety through discounts to replacement cost/newbuild economics

* M&A
  Strategic implications: offense or defense?
  Monetizing change-of-control provisions
  Merger Agreements
  Material Adverse Change, Termination fees, Antitrust considerations

Reading Assignment: 10-k 10-Q, 8-k/Merger Agreement, Merger Proxy,
Prospectus/Indenture, Company Presentation(s)

Readings: (see reading schedule)
Guest speaker

Assignment: Work on group projects, prep for next lecture
Technology: Blackberry/Dell
* Option value upside associated with unlevered balance sheets
  * Valuing net cash: repatriation issues, risks borne by Outside Passive Minority Investors (OPMIs)
  * Modified Sum-of-the-Parts Analysis: valuing cash flows in a declining S-curve environment plus asset value
  * Transaction multiples, premiums paid for control
  * Private market value/LBO Analysis
  * Levered Recapitalizations

* Value of Growth
  assessing return on incremental capital employed
  reinvesting in non-core business vs. returning capital to shareholders

* Use of derivatives and options
  Information value
  Hedging/creating more favorable risk-reward

Reading Assignment: 40-F, 10-k, 10-Q, Company Presentations

Readings: (see reading schedule)
Guest speaker

Assignment: Work on group projects

Student presentations
* 2-3 Investment Practitioners will be invited to provide feedback on presentations and participate in a Q&A session post presentation
* Investment Practitioners will also share their background, investment philosophies, areas of expertise and career choices.

Student presentations (cont'd)

Group Investment Thesis Project Due
Representative Case Study and Modeling Assignment

Exercises are meant to serve as an opportunity to incorporate lessons learned, review accounting and corporate finance concepts as well as practice integrating the financial statements in an excel model.

Models are used to incorporate assumptions, analyze their impacts to valuation further refining the range of possible outcomes ultimately leading to buy/sell recommendations.

WatchCo Inc.
The Company designs, manufactures, and repairs watches. It operates exclusively in the US. The watch repair business is a cyclical one and can be expected to perform poorly in a recession/stagnating economy. During the last recession, the company saw sales decline 25% from its peak sales and operating margins dip below 10%. The company is forecasting a recession in 2013 with a rebound to 2012 levels in 2014, partially driven by a strategic shift by the management and board who’ve decided to broaden the existing luxury line into the marketing and sale of new moderately-priced watches. Management forecasts that the company will grow the top line 20% in 2015 and then should moderate to grow at the industry growth rate of 5%. However, management has a mediocre track record of managing operating expenses especially during times of economic uncertainty, and the additional advertising, sales, and marketing costs associated with the new product launches have hampered near-term margins. As such, Wall Street estimates are all over the map. Most assume that by 2016, WatchCo Inc. should reach 15% operating margins.

The company depreciates its PP&E over 10 years and expects to spend about 5.0% of sales each year on capital expenditures. Minimum cash is $5mm. The company also would like to pay down its term loan after it pays its revolver down, rather than build cash. Wall Street estimates for working capital as well as historical financials can be found in the excel file.

Assignment
Complete an integrated financial projections model using the assumptions given above and in the excel file. Calculate the appropriate weighted average cost of capital (wacc). Calculate a per share value by (1) using a discounted cash flow analysis and (2) using a multiple approach for terminal value. Explain your choice of multiple.

Formatting has deliberately been removed from the projected years in order to encourage you to practice formatting as well (e.g. blue cells for inputs/assumptions, uniformity, detail where confidence is greatest, etc).