

“Fundamental Analysis for Investors, Managers and Entrepreneurs” B7010

Class meetings: THURSDAYS - Full Term, 6 TO 9 PM

Shiva Rajgopal, Tel # 206 724 6056, sr3269@gsb.columbia.edu

Course Description and Objectives

Most of the decisions of analysts, consultants, entrepreneurs, investors and managers require us to look ahead and assess an uncertain future. In this class, you will learn a unique approach to decision making that will help you consider the fundamentals of enterprises and how to link these fundamentals to underlying measures, which in turn will help you make better investment or management decisions. Students who have taken this course often comment on how it has transformed their thinking and understanding of companies. It also serves as a useful “capstone” to the MBA program as we draw on what was taught in most core courses.

In developing this line of reasoning and performing the analysis, we consider how to think about a new business as well as a publicly traded company. Having considered the basic building blocks, we next examine how the business resources and activities are translated into financial statements (whether for an early stage or public company) and consider what we learn from financial statements. We consider the extensive information increasingly available from outside sources, including various websites as well as Bloomberg and CapIQ. We also consider how certain accounting measures and practices impact the measures of the key elements of the business.

Focusing on the future, we take **a different approach** to many topics/concepts that are covered in various ways in other financial statement analysis, earnings quality, and security analysis and valuation classes. Many students take this course as well as other seemingly similar courses, and we have *never* received any feedback that the coverage in this course is redundant, irrespective of the other courses taken by students.

We will focus on understanding how entities create or destroy value for various stakeholders and what it would take to change this, how to consider uncertainty more explicitly in plans, and whether this fundamental value is reflected in the price or not (for entities that it applies to).

We will also take some time each week to address any topics that are in the financial press that bear on the subjects and the approach.

Graded Learning

The only way you will internalize the information in the course is by actually preparing a forecast (plan) of the business that allows you to see the impact of different potential outcomes.

In the **assignments**, you will be asked to analyze some of the key aspects (e.g., revenue, labor, etc.) of ANY company of your choosing from the four recommended below (following the framework provided in the class) on an individual basis. For each topic area of the assignments, you will also do a base forecast for a minimum of two years into the future. However, feel free to talk with each other or with others to help you maximize your learning.

At the end of the class, the deliverable is a **final project for your chosen company**. However, for the final project, you will make sure all the elements of your semester's work are linked appropriately in your model, and add the extra topics not covered in the assignments (e.g., taxes) plus your own individual perspective on the original forecasts (as explained in text).

The grades will be based on your engagement in the class, the assignments, and the final deliverable but we have **no exams**.

What you will get out of this

There is no textbook for what we teach in class. The approach we advocate is quite unique and if I may say so myself, way ahead of most of the fundamentals work practiced on the Street. Every student **who puts in effort** should walk away with an approach and concepts that you can use in almost any business or position in which you find yourself. It is usually a fun and stimulating journey for students. At the same time, I want to emphasize that a "30,000" foot perspective does not work in this class. This is a detail-heavy intense experience.

Is financial expertise critical?

The course presumes that you have a solid understanding of the subject matter covered in the core accounting and finance courses. We have had many students who have no additional financial accounting or finance backgrounds, and by investing in their learning, they end up with H or even H+ grades. So, while financial analysis expertise may be helpful it is not necessary at all provided you are willing to work very hard.

High quality investment decisions in the real world are grounded in a lot of detail about the sustainability of the business model. Without careful analysis, we cannot hope to ferret out price moving information that the market has overlooked. Following that objective, this is a detail-heavy class that gets deep into financial and non-financial data to assess the business.

Moreover, forecasting, by definition, is difficult and requires the analyst to (i) be creative and open to various traditional and new data sources, especially with the vast amount of detailed data likely to be available via big data; (ii) be comfortable with uncertainty as the best we can do is come up with a range of forecasted earnings, not an exact number or a "right" answer.

You may want to take the class only if (i) you feel that you can devote enough time to the class assignments and the final project; (ii) you have an appetite for detailed data; and (iii) you believe you will be comfortable with the uncertainty inherent in forecasting.

Required Text and Readings

1. Weekly handouts/posts on Canvas substitute for a course packet
2. There is no required text. I am in the early stage of writing one for the class. In the meanwhile, Business Planning, Financial Statement Analysis and Valuation texts can be helpful but in certain topics each of them will argue for approaches that are sometimes at odds with what I am teaching. Here are a few texts you can refer to (note these don't deal with forecasting, so these are references for students who need the comfort of looking back at a text for more the basic/intermediate level concepts):

Basic book Financial and Managerial Accounting for MBAs Hardcover – 2014 by Peter D. Easton, Robert F. Halsey, Mary Lea McAnally, Al L. Hartgraves, and Wayne J. Morse. An older edition is fine.

Intermediate book: Financial Reporting and Analysis, 5th Edition 5th Edition by Lawrence Revsine, Daniel W. Collins, W. Bruce Johnson and H. Fred Mittelstaedt. An older edition works just fine.

3. There will also be additional references provided for those students who want to get more background and a deeper understanding of some of the technical accounting aspects of any topic, but this is **not required**. I am more interested in the willingness to learn and less in prior technical accounting backgrounds. Some of my best students in the past have surprisingly have had nothing more than introductory accounting. But they probably worked the hardest they ever had on this course.

Grading

You have three sets of deliverables with different grading components as follows:

1. In class 1, I would like you to submit your forecast of Home Depot's financial statements for the year ended January 31, 2021 (see detailed assignment enclosed). We will follow Home Depot (and Netflix) throughout the class. Hence, it is useful to start thinking about the company at the beginning. This assignment is mandatory and counts for 10% of your final grade.
2. There will be approximately seven other written assignments during the semester. All these assignments relate to the understanding and forecasting of the specific line items on the income statement and balance sheet for an actual company of your choosing from the list of five firms I provide below. These assignments will be done by you using the Type B assignment scheme (see below) and cover 50% of the grade.

- The remaining 40% of your grade will be based on short in-class quizzes based on the material covered in previous classes, your attendance at class in general and my perception of your preparation and understanding of the class.

How are the seven weekly assignments graded?

TAs grade each assignment looking for whether or not the team has satisfactorily covered the checklist we assign for evaluating every important line item on the financial statements: revenue, capacity, labor costs, supply chain and other operating expenses, funding and capital structure and taxation. Note that the taxation assignment is voluntary. I review the TA's grading process and add my own comments.

How is the project related to the company of your own choosing graded?

The grading scheme for the project is based on individual components of the project. Last year, we graded students' projects on the following 11 categories.

<i>Component</i>
Revenue
Capacity
Labor
Material
Other operating expenses
Funding
Taxes
Linkage of these components
Write up
Valuation
Scenario: bull/bear/base
<i>Total</i>

A few qualitative comments:

- We look for supporting spreadsheets for any of the above modules. Please don't turn in just a text based report. We were looking for $p \cdot q \cdot FX$ times model for revenue and a decomposition of costs into fixed and variable, as will be discussed in class.
- Under the component based grading scheme, excellence in one component cannot completely offset weaknesses in the other components.
- Some of you will take management guidance as a given and that's fine but we want to see what kind of $p \cdot q \cdot FX$ analyses can support that guidance. Failing that, it is hard to know what the management is assuming while giving us the guidance.
- In capacity analysis, we definitely want to see, at a minimum, a discussion of (i) what is the level of PPE the firm expects to need to meet its revenue projections; (ii) operating

leases, if any, the capitalization thereof and what that does to capacity and debt; (iii) an aging of PPE, assumptions about age and how depreciation schedules might reflect the aging of PPE (as will be discussed in class).

- In the labor analysis, we look for a p*q analysis relating labor at various levels to their wage rates from Glassdoor or other sources.
- Absent a spreadsheet, it is somewhat hard for us to verify how each of these components articulate with one another into a comprehensive whole. We look for forecasted income statements for two years at a very minimum.
- We like to see a bull/bear/base scenario in the underlying p*q*FX and the fixed/variable cost decomposition to understand how sensitive the valuation is to changes in assumptions.

Company selection

I have picked four firms that I request you to choose from. These are stocks that have significant variation in analyst forecasts and opinions about the firms' future prospects are split between the optimists and naysayers, especially Amazon and Alibaba. I thought I'd assign health care stocks because I am deeply concerned about the potential waste and overspending in this area.

Retail/Technology

- Amazon.com
- Alibaba

Healthcare

- HCA Healthcare (largest hospital system in the U.S.)
- United Health (large insurance company)

I plan on holding optional help sessions on zoom for an hour every week to enable students with their assignments and to come and ask questions. I was planning to hold these virtual "tutorials" from 4-5.15 pm as indicated in the appendix. We will, of course, record these sessions in case you cannot attend for whatever reason.

My TA can also connect students working on the same company so that you can also learn from one another. However, every assignment remains an individual (not a team) responsibility.

Seeking Alpha

Students with outstanding project reports could consider sending their case for shorting or longing a stock to the website "Seeking Alpha" <http://seekingalpha.com/>. I encourage you to shoot for such a publication at the end of the class. Well written and well analyzed articles get thousands of page views in Seeking Alpha and might represent a credible way to get noticed in the analysis world.

Audits

I do not encourage auditing/observing the class. The only way you learn the material is by actually working through the assignments and quizzes.

TA

The TA for the class is MJ Song (mjsong.ybiz@gmail.com).

You can communicate with MJ via email to discuss the course and assignments. **You should also copy me on all correspondence.**

Office Hours: By appointment

Relation to the Core:

This course incorporates elements of every core class.

This course adheres to the Columbia Core Culture. Students are expected to be:

Present:

- On time and present for every session
- Attendance tracked

Prepared:

- Complete pre-work needed, expect cold calls
- Bring nameplates and clickers

Participating:

- Constructive participation expected and part of grade
- No electronic devices unless explicitly called for by the instructor (look under “tablets/computers” below)

Code of Conduct: aka our Contract

The value of the course will depend on how much effort you are willing to put in, and on attendance and participation in the lectures and assignments.

You are expected to treat the class as you would your job, i.e., as a business professional, demonstrating mutual respect for each other, and performing as if it is an important business assignment. This means you need to be prepared, be on time, and be attentive during the class.

My commitment to you:

I will give you as much personal attention as feasible to maximize the benefit from your work. As people come in with different expertise, we can (partially) tailor the output to your strengths and expertise. I appreciate constructive feedback during the course to help optimize your learning, but I have to consider the class as a whole, so individual needs are best dealt with by me or MJ one-on-one.

Type	Designation	Discussion of	Preparation of	Grade
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		Concepts	Submission	
B	Group/Individual	Permitted with designated group*	Individually (No sharing of any portion of the submission.)	Individual

*The designated group is a self-selected study group to be used for the duration of the course.

B 8010: Preliminary Course Outline			
Date	Class #	Subject matter	Specific Topics
Sep 9	1	Overview - Approach to Fundamental Analysis of any Business HD FORECAST ASSIGNMENT DUE IDENTIFY COMPANY YOU WANT TO WORK ON	<ul style="list-style-type: none"> • A general framework for understanding and then forecasting a business and its potential value in an uncertain environment • The “Cycle of Life” of a business • Relating this to financial statements, other information and intrinsic value • A critical review of what we see in practice by companies (early stage and established) and analysts
Sep 16 and 23	2 and 3	Understanding Revenue Sep 16: OP FIN CUT and OP CYCLE DUE	<ul style="list-style-type: none"> • Understanding the product or service • To whom, how and where is it being sold • Pricing • What are the market size and the competitive situation? • How is the revenue recognized? • How and when are customers paying?
Sep 30 and Oct 7	4 and 5	Understanding Productive Capacity, R&D and Intangibles. SEP 30: REVENUE ANALYSIS DUE	<ul style="list-style-type: none"> • What property and equipment (including technology) do they need to sustain the revenue and/or grow (match to the revenue expectations)? • How much does this cost and how will it be financed? • Where and How are(/should) the physical and financing needs (be) reflected in the financial statements? • Considering IP and patents, what R&D or other intangibles are needed, how are they “acquired” and paid for, and how are/should they be reported? • How do these all compare to competitors?
Oct 14 and 28 (no class on Oct 21 - exam week)	6 and 7	Understanding Human Resources and Labor Costs	<ul style="list-style-type: none"> • What type of talent do you need to sustain and/or grow the business, how many and where are they located?

		Oct 14: CAPACITY ANALYSIS DUE	<ul style="list-style-type: none"> • What are(/should) they (be) paid? • How are(/should) they (be) compensated Cash vs Benefits (pensions and health/opeb) vs share-based compensation (shares vs employee stock options)? • Where and How is the cost reflected in financial statements?
Nov 4	8	Understanding Material and other costs LABOR ANALYSIS DUE	<ul style="list-style-type: none"> • What are primary materials/components needed? • How are they sourced (supply chain) and what do they cost? • What are key sales and marketing approaches and costs? • Where and how are these reflected in financial statements?
Nov 11	8-9	Funding, Capital Structure MATERIALS AND OTHER EXP DUE	<ul style="list-style-type: none"> • Funding choices (equity vs debt) for different types of entity (early stage, high growth and steady state; small vs large) • How much and when is funding needed? • How are these reflected in financial statements and performance measures?
Nov 18	10	Funding: Financial Investments, Strategic and M&A and Intangibles from Acquisition CAP STRUCTURE DUE	<ul style="list-style-type: none"> • Considering liquidity and financial investments and how they are reflected in financial statements • Impacts of strategic investments, mergers and acquisitions, and minority stakes. • How do we interpret the related growth and acquisition related assets?
Dec 2 (Nov 25 Thanksgiving break)	11	The Impact and Understanding of Taxation	<ul style="list-style-type: none"> • Tax considerations: what is taxed, where is it taxed, when is it taxed and at what rate? • How is tax reflected in the financial statements and what can we learn from this?
Dec 2	11	Understanding the Basics of Currency Impacts	<ul style="list-style-type: none"> • Transactions vs translation and impact on margins, cash flow, ratios and capital

Dec 9	12	<p>Catch up, valuation and putting it all together</p> <p>VOLUNTARY TAX ASSIGNMENT DUE</p> <p>DEC 13: FINAL PROJECT DUE</p>	<ul style="list-style-type: none"> • Bringing all the pieces together and relating them to forecasts and valuation analysis • Considering the trade-offs of various valuation approaches for managers and different investors.
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Assignment #	Topic	Due Date
1	<i>Forecast for Home Depot</i>	First class on Sep 9
2	<i>Drawing-describing the “Operating and Funding Cycles of a Business” (small, but investing time in this step will pay off)</i>	Sep 16
3	<i>Revenue analysis and 2-year forecast (large)</i>	Sep 30
4	<i>Capacity analysis and 2-year forecast (large)</i>	Oct 14
5	<i>Labor analysis and 2-year forecast (large)</i>	Nov 4
6	<i>Materials and Other Costs and 2 –year forecast (small)</i>	Nov 11
7	<i>Capital structure analysis and 2-year forecast (small)</i>	Nov 18
7A	<i>Taxation analysis and 2-year forecast (voluntary)</i>	Dec 9
8	<i>Write-up and Valuation</i>	Dec 13

Tutorial sessions, Fridays, 4-5.15 pm eastern on Zoom

Session #	Date	Focus on
1	Sep 10	Amazon (other questions also entertained)
2	Sep 17	Alibaba (other questions also entertained)
3	Sep 24	HCA (other questions also entertained)
4	Oct 1	United Health (other questions also entertained)
5	Oct 8	Amazon (other questions also entertained)
6	Oct 15	Alibaba (other questions also entertained)
7	Oct 29	HCA (other questions also entertained)
8	Nov 5	United Health (other questions also entertained)
9	Nov 12	Amazon (other questions also entertained)
10	Nov 19	Alibaba (other questions also entertained)
11	Dec 3	HCA (other questions also entertained)
12	Dec 10	United Health (other questions also entertained)