

Accounting-Based Valuation (Spring 2021)

Teaching Mode: Online

Course Descriptions and Syllabus

Your instructor

Professor: Julian Yeo

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Consultation hours: Please check NYU Classes, available on Zoom.

IMPORTANT: This course is cross-listed between two programs. Since most of our students are in the MBA program, we will follow the post-graduate class schedule, and classes will not meet on 2/18 (legislative day) and 3/24.

Course Descriptions

Overview

This course synthesizes financial statement analysis, corporate finance, and the valuation of stocks (i.e., investments).

This course is all about gaining knowledge of how financial metrics are mapped into stock prices. The stock market can be an intimidating venture for most people. The determination of stock prices often seems a black-box mystery. Understanding how accounting numbers are tied to the stock price and knowing what to look for in determining how much you think the stock is worth (i.e., intrinsic or fundamental value) are real advantages to investors.

When buying a piece of stock, you are paying for the company's future performance, and you need to be able to monetize and benchmark that performance using financial metrics. You will learn how to quantify the stock price that you are paying into digestible chunks. This course introduces a simple procedure to infer future financial metrics you need to see from the company based on what you are paying. This course also introduces you to several useful tools in assessing whether future performance, as implied by the current stock price, is attainable.

The course has a very practical emphasis. You will apply the tools introduced in this course in a series of class exercises, mid-term exams, and a final assignment and presentation involving listed companies.

Part I – Framework for equity valuation

In Part I of the course, we begin with a framework to think about equity valuation. We examine various accounting measures (e.g., dividends, free cash flows, book values, earnings) that can be used as anchors for equity valuations. Through the development of these valuation models from first principles (yes, in this course, we will derive all the models!), we can synthesize, compare and contrast the different valuation models (e.g., Dividend Discount Model, Free Cash Flows Model, Residual Income Valuation Model, Abnormal Earnings Growth Model). We can also pinpoint the relationships (or lack of) between various accounting variables (such as book value, earnings, EBITDA, etc.) and intrinsic values. To the extent that stock prices and intrinsic values deviate, we will have a better appreciation of multiples such as P/B, P/E, PEG, and other ratios that involve stock prices. Part I of the course concludes with tools that enable us to quantify the stock price, infer future financial metrics we need to see from the company based on what we are paying.

Part II – Analyzing Equity Investment

In Part II of the course, we put our knowledge acquired from Part I into practice and introduce tools that enable us to buy/sell/hold decisions on equity investment. We also examine how financial statements and specific accounting issues enhance/distort our ability to understand businesses' fundamentals. We will highlight the need to reformulate the financial statements prepared under GAAP to depict better business activities for valuation purposes. We also provide a structured approach to identify value drivers (profitability analysis) and sustainable growth. We will also explore tools that enable us to identify and quantify how changes in certain factors (e.g., business risk factors, business outlook, or affiliation with related companies) will impact a company's stock price.

Course Objectives

By the end of the course, you should be able to answer the following questions:

- How are financial metrics mapped into stock price?
- How are fundamental values (or "intrinsic values") estimated?
- What is the relevance (for valuation purposes) of cash-flows? Of dividends? Of earnings? Of book values?
- What do business activities determine value?
- How is "value created for shareholders" identified?
- What determines a firm's P/E ratio? How does one calculate what the P/E should be?
- What determines a firm's market-to-book (P/B) ratio? How does one calculate what the P/B should be?
- How does one pull apart the financial statements to get at the relevant information for valuing equities?
- How does ratio analysis help in valuation?
- What is growth? How does one analyze growth? How does one value a growth firm?
- What are the accounting issues that may hinder our understanding of the fundamentals of the business?
- How to utilize valuation models and analysis to facilitate right questions to ask?
- How to quantify the odds of your equity investment?

- How to quantify future payoffs from owning a company's stock into measures that we can continuously monitor?
- How to incorporate what you observe about the company and translate that knowledge into the stock price you are willing to pay?
- How to quantify factors that may potentially impact the stock price? - How to analyze a company's risk factors?

Reading

Class notes are mandatory reading for our course.

Other Materials

You can also access all course-related materials on NYU Classes.

Assessments

Your final grade is calculated based on:

Homework	10%
Pop Quizzes	10%
Mid-term Exam	40%
Individual Final Project & Presentation	40%

Individual Assignment & Presentation

(i) *Objective*

Build your analysis product and apply it to make an investment decision (buy, sell, or hold).

(ii) *Due Date:*

Investment Report (PowerPoint slides) and Presentation – see the tentative class schedule.

ACADEMIC INTEGRITY

Academic integrity and honesty is central to our mission as an educational institution. [The MBA Code of Conduct](#), which all students sign, therefore places particular emphasis on academic integrity. Notably this includes refraining from any method or means that provides an unfair advantage in exams or papers, and clearly acknowledging the work of others in your own work. As a reminder, the [entire Code of Conduct is available here](#).

To help ensure the integrity of our learning community, prose assignments you submit to NYU Classes will be submitted to Turnitin. Turnitin will compare your submission to a database of prior submissions to Turnitin, current and archived Web pages, periodicals, journals, and publications. Additionally, your document will become part of the Turnitin database.

Our undergraduate [Academics Pillar](#) states that *we take pride in our well-rounded education and approach our academics with honesty and integrity*. Indeed, integrity is critical to all that we do here at NYU Stern. As members of our community, all students agree to abide by the NYU Stern Student Code of Conduct, which includes a commitment to:

Exercise integrity in all aspects of one's academic work including, but not limited to, the preparation and completion of exams, papers and all other course requirements by not engaging in any method or means that provides an unfair advantage.

Clearly acknowledge the work and efforts of others when submitting written work as one's own. Ideas, data, direct quotations (which should be designated with quotation marks), paraphrasing, creative expression, or any other incorporation of the work of others should be fully referenced.

Refrain from behaving in ways that knowingly support, assist, or in any way attempt to enable another person to engage in any violation of the Code of Conduct. Our support also includes reporting any observed violations of this Code of Conduct or other School and University policies that are deemed to adversely affect the NYU Stern community.

The entire Stern Student Code of Conduct applies to all students enrolled in Stern courses and can be found here: www.stern.nyu.edu/uc/codeofconduct

To help ensure the integrity of our learning community, prose assignments you submit to NYU Classes will be submitted to Turnitin. Turnitin will compare your submission to a database of prior submissions to Turnitin, current and archived Web pages, periodicals, journals, and publications. Additionally, your document will become part of the Turnitin database.

GENERAL CONDUCT & BEHAVIOR

Students are also expected to maintain and abide by the highest standards of professional conduct and behavior. Please familiarize yourself with Stern's Policy in Regard to In-Class Behavior & Expectations (<http://www.stern.nyu.edu/portal-partners/current-students/undergraduate/resources-policies/academic-policies/index.htm>) and the NYU Student Conduct Policy (<https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/university-student-conduct-policy.html>).

STUDENT ACCESSIBILITY

New York University is committed to providing equal educational opportunity and participation for students with disabilities. Students who are interested in applying for academic accommodations are advised to reach out to the Moses Center for Student Accessibility (CSA) as early as possible in the semester. If you already receive accommodations through CSA, you are encouraged to request your accommodation letters through the Moses portal as soon as possible.

Moses Center for Student Accessibility (CSA), 212-998-4980, mosescsa@nyu.edu, www.nyu.edu/csa

If you will require academic accommodation of any kind during this course, you must notify me at the beginning of the course and provide a letter from the Moses Center for Student Accessibility (212-998-4980, mosescsa@nyu.edu) verifying your registration and outlining the accommodations they recommend. If you will need to take an exam at the Moses Center for Student Accessibility, you must submit a completed Exam Accommodations Form to them at least one week prior to the scheduled exam time to be guaranteed accommodation. For more information, visit the CSA website: <https://www.nyu.edu/students/communities-and-groups/student-accessibility.html>

STUDENT WELLNESS

Classes can get stressful. I encourage you to reach out if you need help. The NYU Wellness Exchange offers mental health support. You can reach them 24/7 at 212 443 9999, or via the "NYU Wellness Exchange" app. There are also drop in hours and appointments. Find out more at <http://www.nyu.edu/students/health-and-wellness/counseling-services.html>

Grading Guidelines

Stern Elective Courses

At NYU Stern, we strive to create courses that challenge students intellectually and that meet the Stern standards of academic excellence. To ensure fairness and clarity of grading, the Stern faculty have agreed that for elective courses the individual instructor or department is responsible for determining reasonable grading guidelines.

Overview of Topic Outline and Descriptions

Part I. The Set-up: Choosing a Valuation Model

1. Stock price - a black-box mystery

We may have some idea of what financial metrics are important in determining how much an investment is worth; however, we are unable to pinpoint the exact relation between accounting variables and stock price. Without an understanding of the relationship between accounting variables and stock prices, we may mistakenly see a relationship between that accounting variable and stock price upon seeing a correlation between certain factors and the stock price. How many times have you heard "I am willing to buy stock at P/E below X or P/EBITDE of X times? Such thinking often leads to ill-conceived valuation model that leads you to paying too much for your investment. A real edge comes only when you demystify the black box and gain a true understanding of how things work.

2. Our benchmarks for performance – accounting metrics

In order to employ accounting metrics in valuing our investment, we need to be first introduced to various accounting metrics and how we can employ them in quantifying the company's performance.

3. Show me the money – unraveling the blackbox

You can talk as much as you want but if you can't deliver what you've promised, stop talking. This premise – the expectation that we'll receive what we've been promised – is the basis for our thinking when we are determining how much we are willing to pay for an investment. In unraveling the blackbox, we are quantifying what we need to see from our investments – tangible and measurable payoffs. We develop a framework to begin appreciating how equity valuation can be conducted.

4. What to bet on – choosing an anchor to gain an edge

We explore various commonly cited valuation models such as the dividend discount model, the discounted cash flows model, the residual income model and the abnormal earnings growth valuation model. We compare, contrast and synthesize the various models and choose the one most likely to produce the best value estimate given our constraints.

Part II: How to Apply the "edge"

5. Quantifying your bet – building blocks

We quantify price into building blocks as our way to decipher price information into digestible chunks. We learn how to quantify the stock price we are paying into (i) stockholders' claim of asset value, (ii) earnings power, and (iii) speculative growth. We also better understand P/B and P/E ratios and their implication for future financial metrics.

6. Know your odds – inferring expectations from your bet (from the stock price you are willing to pay)

Rather than speculative on future performance, we'll apply the art of reverse engineering, using what's available, to quantify future performance into measurable benchmarks. We learn a

simple three-step-procedure to infer future performance from a stock's current price. We also further appreciate the stream of expected earnings that we are paying for each building block from topic 5.

7. What worked in the past? Assessing your odds – benchmarking against past performance

How do we assess management performance? We learn how to separate management's operating activities from the company's financing activities. We also focus on ratios of management performance (RNOA, PM and ATO) that directly impact stock price. After we infer future performance monetized in terms of expected financial metrics that we need to observe from the company, we ask whether the implied metrics based on our price and expected rate of return are attainable based on past performance.

8. Let it all hang out – constructing future statements and how each metric is mapped into stock price

We will construct what future financial statements would look like as implied by stock price. We further focus on the implied future sales and earnings we expect from the company.

9. Potential roadblocks – analysis of quality of financial statements

We examine how specific accounting issues enhance/distort our ability to understand the fundamentals of businesses.

10. Sharpening my new "edge"

We examine information contained in SEC filings, specifically the qualitative information, We will identify, examine, and quantify how changes in particular factors (e.g., business risk factors, business outlook or affiliation with related companies) will impact a company's stock price.

11. Presentation – Buy/Sell/Hold

The course has given you the edge to understand the moving variables that determine stock price and quantify these variables into observable financial metrics. You are able to do your own diligence on the stock tips you receive, articulate the future financial metrics you can expect to see from the company. More importantly, you now are able to substantiate your investment decision using financial metrics.

Tentative Class Schedule

Session	Topics	Readings - Class Notes	Class Exercises
1. 2/1	Introduction Framework for Valuation Accounting-based Valuation Common mistakes in Valuation	CN1	
2. 2/4	Business activities and accounting metrics Δ Cash vs Net Income Free Cash Flows and Accounting Information	CN2	CE00
3. 2/8	Valuation of a Savings Account Valuation Fundamentals	CN3	CE01
4. 2/10	Comparable Firm Approach Asset-based Valuation Approach Investments with Finite Time Horizon	CN3	CE02
5. 2/17	Discounted Cash Flow Model	CN4	CE03
6. 2/18	Legislative day (No Class)		
7. 2/22	Residual Income Valuation Model	CN5	CE04
8. 2/24	Residual Income Valuation Model (cont.)	CN5	CE05
9. 3/1	Residual Income Valuation Model (cont.)	CN5	CE06
10. 3/3	Residual Income Valuation Model (cont.)	CN5	CE07
11. 3/8	Residual Income Valuation Model (cont.)	CN5	
12. 3/10	Abnormal Earnings Growth Valuation Model	CN6	CE08
13. 3/15	Abnormal Earnings Growth Valuation Model (cont.)	CN6	CE09
14. 3/17	Mid-Term Review		
15. 3/22	Mid-Term Review (cont.)		
16. 3/24	No class		
17. 3/29	Mid-Term I part A		
18. 3/31	Mid-Term I part B		
19. 4/5	Revisit Reformulation and Ratio Decomposition	CN7	

Session	Topics	Readings - Class Notes	Class Exercises
20. 4/7	Accounting Relations and Forecasting Implied Forecasts from Reverse Engineering	CN8	CE10
21. 4/12	Comprehensive Example		CE11
22. 4/14	Comprehensive Example (cont.)		CE12
23. 4/21	Comprehensive Example (cont.)		CE13
24. 4/26	Comprehensive Example (cont.)		
25. 4/28	Individual Final Project – Buy/Sell/Hold		
26. 5/3	Individual Final Project – Buy/Sell/Hold		
27. 5/5	Individual Final Project – Buy/Sell/Hold		
28. 5/10	Individual Final Project – Buy/Sell/Hold		