



VALUATION

SPRING 2018

Professor	Cesare Fracassi
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Professor Office Hours	By appointment only
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Course Web Page	via Canvas
Final Exam	Thursday March 9 th
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Course Objectives

This course covers business valuation, equity valuation, and option valuation. The goal of the course is to provide students with practical tools and methods to value a broad range of assets. While the course is designed first and foremost to be very practical, the tools and methods covered in this course are presented in the framework of generally accepted financial theory.

The course starts with a broad overview and discussion of valuation techniques. There are a number of different ways to try and determine the value of an asset, and it is almost always good practice to use more than one valuation method. Following the overview of valuation techniques, we start with methods for calculating the discount rate used in cash flow valuation methods. Our discount rate discussion involves determining the firm's cost of capital – both debt and equity capital – and the effect of leverage (debt) on the firm's cost of equity and the firm's overall cost of capital. Following our discount rate discussion we cover valuation effects of a firm's capital structure.

After our discount rate and capital structure classes we start coverage of cash flow valuation techniques used to value businesses and equity. We start with the discounted cash flow method (DCF), which is the most widely used cash flow valuation method. DCF valuation models are well-suited for sensitivity analysis, and we will cover methods for modeling the effects of varying material inputs of the DCF model. Cash flow valuation methods include many uncertain inputs, and sensitivity analysis help reveal the effects of varying the major inputs of the valuation. I will go through a detailed DCF example in class, and students will perform a valuation and sensitivity analysis on a company of their choosing as one of the major assignments of the course. Following the DCF work, we will cover the use of relative valuation multiples (e.g., EV/EBITDA, P/E) and work through an HBS case on the use of valuation multiples in determining firm and equity value. We conclude the course with a discussion of other valuation techniques, control premiums and liquidity discounts, and a look at valuation in both LBO and M&A contexts.

Prerequisites: Core MBA classes on accounting, statistics, and finance are a prerequisite. Working knowledge of EXCEL is also important. Students who hope to never see a financial statement again

should not take this course. Students should expect the workload for this course to be demanding. Students who took this course in the past have indicated that the workload is heavy compared to other courses.

Materials

Required HBS Case material

- The Boston Beer Company, Inc. – HBS Case #196138

Optional Textbooks

The material taught in class is a collection of concepts and examples drawn from several textbooks, research papers, and newspapers. Thus I do not require any textbook. For those students who want to have a reference book, the two textbooks below are the closest in spirit to what I teach in class:

- Valuation: The Art & Science of Corporate Investment Decisions, by Sheridan Titman and John Martin, Prentice Hall, 2010 3rd Edition, ISBN-10: 0133479528
- Corporate Finance, Jonathan Berk and Peter DeMarzo, 4th Edition, 2016, Prentice Hall, ISBN-10: 013408327X

The *Wall Street Journal*, *Financial Times*, the *New York Times* business section, the *Economist*, or *Business Week* are all recommended. We will cover the conceptual material to help you think through financial decisions. However, we will discuss current financial news during the first 10 minutes of each class.

Course Requirements and Grading

Your grade in the course will be determined as follows:

	<u>Assignment</u>	<u>Points</u>
In-Class Contribution		10
HW#1 (FCF & Discount Rate)	Individual	-
HW #2 (DCF Valuation)	Individual	30
Valuation Case (Boston Beer)	Group	20
Final Exam	Individual	<u>40</u>
		<u>100</u>

Make-up and extra-credit assignments are generally not possible. Your grade will be determined solely by the components listed above. The homework assignments are individual. The case is a group assignments. The average turn-around time for returning the graded HWs and cases back to students is two weeks. The students have two weeks after the assignments are returned to ask questions about the grading and ask for a re-grade.

During the off-class weeks, I will send current articles and materials that I find on newspapers and websites that are pertinent to the topics discussed in class. Please read these articles, discuss them with your group, and be ready to talk about it in class. These article assignments count as asynchronous content.

The final examination will be administered on March 9th. The final exam is cumulative and covers all material mentioned in the course. You are allowed one letter-sized sheet of paper, where you can write, front and back, any formula or information you might need. A regular non-programmable calculator is also allowed. No other material is allowed. The best way to prepare for the final exam is by going through examples from the lecture notes and the textbook after each lecture and by working through problem sets and the sample final exam. Please note the scheduling of the exam. You are responsible for ensuring that you are available and on campus to take the exam. I will not FAX exams to remote locations. I will not permit anyone to take the exams at another time unless you are gravely ill, face a significant emergency or have an exam conflict. If your travel plans conflict with the date of an exam, you should change your travel plans now, or drop the course. Please advise potential employers that you cannot schedule interviews that conflict with your exam schedule.

A forced curve will be used for grading purposes. The target grade distribution follows the Texas MBA program recommended distribution, with approximately:

A	(4.00)	25%
A-	(3.67)	20%
B+	(3.33)	15%
B	(3.00)	35%
B-	(2.67) or below	5%

C's, D's and F's will be awarded where deserved. Natural breaks in the distribution will be used to determine the final grade distribution. No student is allowed to take the course on a pass/fail basis.

Discussion Board

I invite students to post these questions on the discussion board available on Blackboard. My TAs and I will also join the forum as active participants and moderators. This discussion forum is the primary mode of communication for addressing finance topics outside the classroom. My TAs and I will only answer emails regarding questions or concerns about grades, attendance and other individual matters.

McCombs Classroom Professionalism Policy

The highest professional standards are expected of all members of the McCombs community. The collective class reputation and the value of the Texas MBA experience hinges on this. Faculty are expected to be professional and prepared to deliver value for each and every class session. Students are expected to be professional in all respects. I expect the students to agree on the following set of common classroom policies:

- **The use of electronic devices is not allowed at any time unless explicitly directed at the discretion of the professor.** While technology and analytics will be discussed and used extensively during the course, I believe that screens can also be a great source of distraction. When students are surfing the web, responding to e-mails, instant messaging each other, and otherwise not devoting their full attention to the topic at hand, they are doing themselves and their peers a major disservice. Those around them face additional distraction. Fellow students cannot benefit from the insights of the students who are not engaged.
- **Class Attendance is required.** If you miss three or more classes (i.e. more than 20% of the total

number of lectures) for non-religious or health related issues, you will fail the class, and you will be asked to retake the course at a time that is more convenient for you. The education experience for everyone suffers if participation or attendance for the class becomes a problem. If you must miss a class, an examination, a work assignment, or a project, in order to observe religious holidays, you will be given an opportunity to complete the missed work within a reasonable timeframe after the absence.

- **Students are required to arrive on time.** If a student knows of any scheduling conflict, he/she will notify the class in advance by email. On time arrival ensures that classes are able to start and finish at the scheduled time. On time arrival shows respect for both fellow students and faculty and it enhances learning by reducing avoidable distractions.
- **Students are required to display their name cards.** This permits fellow students and faculty to learn names, enhancing opportunities for community building and evaluation of in-class contributions.
- **Turning in your assignment up to a week late for other than health, significant personal, or religious reasons will reduce your grade by 30%.** Assignments cannot be turned in more than a week late. Individual extension of assignment deadlines could negatively alter the level-playing field within the classroom.

Remember, you are competing for the best faculty McCombs has to offer. Your professionalism and activity in class contributes to your success in attracting the best faculty to this program.

Students with Disabilities

Upon request, the University of Texas at Austin provides appropriate academic accommodations for qualified students with disabilities. Services for Students with Disabilities (SSD) is housed in the Office of the Dean of Students, located on the fourth floor of the Student Services Building. Information on how to register, downloadable forms, including guidelines for documentation, accommodation request letters, and releases of information are available online at <http://deanofstudents.utexas.edu/ssd/index.php>. Please do not hesitate to contact SSD at (512) 471-6259, VP: (512) 232-2937 or via e-mail if you have any questions.

Academic Dishonesty

I have no tolerance for acts of academic dishonesty. Such acts damage the reputation of the school and the degree and demean the honest efforts of the majority of students. The minimum penalty for an act of academic dishonesty will be a zero for that assignment or exam.

The responsibilities for both students and faculty with regard to the Honor System can be found at <http://www.engr.utexas.edu/undergraduate/forms/462-university-of-texas-honor-code>. As the instructor for this course, I agree to observe all the faculty responsibilities described therein. As a Texas student, you agree to observe all of the student responsibilities of the Honor Code. If the application of the Honor System to this class and its assignments is unclear in any way, it is your responsibility to ask me for clarification.

As specific guidance for this course, you should consider the *writing* of all examinations to be an individual effort. Group *preparation* for examinations is acceptable and encouraged. Individual assignments are to be turned in individually but I encourage you to work together in answering the questions. You should, however, develop your own answer and not cut and paste the work of others.

A fundamental principle for any educational institution, academic integrity is highly valued and seriously

regarded at The University of Texas at Austin, as emphasized in the standards of conduct. More specifically, you and other students are expected to "maintain absolute integrity and a high standard of individual honor in scholastic work" undertaken at the University (Sec. 11-801, *Institutional Rules on Student Services and Activities*). This is a very basic expectation that is further reinforced by the University's Honor Code. If in doubt, please ask me, or consult the honor code.

Valuation Class Schedule Spring 2018- Fracassi

Date	Class	Topic & Assignments	Optional Reading
Fri-Sat Jan 13-14	1-a	Introduction and Discussion of Valuation Techniques. Review of main accounting concepts. Definition of Free Cash Flow. Discounted Cash Flow Model. Annuities and Perpetuities.	Titman & Martin, C2
Fri-Sat Jan 13-14	1-b	Calculating the Discount Rate: The CAPM. Calculating and unlevering/re-levering beta. <i>(Assign HW #1 – Individual Assignment)</i>	Titman & Martin, C4
Fri-Sat Jan 26-27	2-a	Valuing a Company using DCF. No friction Model without Taxes and Bankruptcy Costs. <i>(HW #1 DUE at the beginning of the class)</i>	Berk & DeMarzo, C's 14, 15 & 16
Fri-Sat Jan 26-27	2-b	WACC with Taxes and Bankruptcy costs. Forecasting FFCF.	Berk & DeMarzo, C's 14, 15 & 16
Sun Jan 28	2-c	Valuing a Company using the WACC model. In-class example Model set-up.	Titman & Martin, C's 2, 3, 6 & 9
Sun Jan 28	2-d	Valuing a Company with the DCF method - in-class example. Sensitivity analysis (scenario analysis, break-even, and simulation) <i>(Assign HW #2 – Individual Assignment)</i>	Titman & Martin, C's 2, 3, 6 & 9
Fri-Sat Feb 9-10	3-a	Valuing a company with comparables and multiples; selecting comparable companies; application to the in-class example DCF valuation <i>(HW #2 DUE at the beginning of the class)</i>	Titman & Martin C8
Fri-Sat Feb 9-10	3-b	Additional Topics for Discussion – Other Valuation Models: APV, Cost Approach, Flow to Equity, EVA. Control Premium & Liquidity Discounts. <i>(Assign Valuation Case 1 – Boston Beer (HBS Case #9-196-138) – Group Assignment)</i>	Titman & Martin, C7, 9, 10
Fri-Sat Feb 23-24	4-a	Valuation Case 1: The Boston Beer Company, Inc. <i>(Valuation Case 1 DUE at the beginning of the class)</i>	
Fri-Sat Feb 23-24	4-b	Valuing LBOs and M&A transactions, earnings accretion and dilution in M&A transactions. Industry specific valuations.	
Fri Mar 9	5-a	Final Exam	