



VALUATION: PROJECT

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Project Description

- This project is designed to apply the valuation techniques we learn in class on companies in the real world.
- It is a group project, with each person in the group picking one company to value.
- The project analysis is due in two parts:
 - The discounted cash flow valuations are due midway through the semester on March 29, at 5 pm. They will not be graded, but they will be reviewed and returned with comments.
 - The entire project report is due by 5 pm on the last day of class (May 6).

Step 1: Pick the companies

- Pick a group of companies (one for each person in the group), making sure you have at least
 1. one company which has negative earnings in the most recent financial period (year-to-date, if available or most recent financial year (if not)).
 2. one company which has high-growth potential (Look for companies whose revenues are expected to grow > 25% over the near future; the company could be losing money, in which case you could kill two birds with one stone.)
 3. one non-U.S. company, preferably in the local currency and the local listing. (That can be a company like Alibaba that is a Chinese company with a US listing)
 4. one service company (it can be a retail firm, financial service firm etc.)
- While each of you is responsible for the assessment of your company, you also have the responsibility to take the rest of the group along with you. There will be only one grade for the entire group.

Step 2: Intrinsic Valuation

- Develop your narrative for this company. (Give me your story of how you see your company evolving over time, given what you know about it, its market and the competition)
- Tie your narrative to key numbers that you will be using in your valuation.
- Value the stock in each company using a discounted cash flow model.
- Evaluate how sensitive your value estimates are to changes in your narrative. In particular, check what has to be true for the market price to be right, i.e., equal to fair value.

Parts 1 & 2 are due midway through the semester on March 31

Step 3: Value relative to comparables

- Prepare a list of “comparable” companies, using criteria that you think are appropriate
- Choose a multiple that you will use in comparing firms across the group. (You might have to try a number of multiples out before making this choice)
- Evaluate your company against the comparable firms using the multiple that you have chosen for your valuation.
 - using simple techniques (do a qualitative analysis adjusting the average for comparable firms)
 - using a sector regression (a regression across firm in your sector). You can download the data on comparable firms using S&P Capital IQ.

Step 4: Value relative to the market

- Using the latest regression posted for the market on my web site, and the multiple you chose in step 3, evaluate whether your firm is under or over valued.
 - ▣ If you have a non-U.S. company which has an ADR listed on it, you can use the U.S. regression.
 - ▣ If you have a foreign company, you can use the regressions that I have for the region (check my website)

Step 5: Using Option Pricing Models

- Using the option pricing model, value equity in your firm as a liquidation option: Do this only if
 - ▣ Your firm is and has been losing money for a while
 - ▣ Your firm has high debt (a debt to capital ratio $> 50\%$)
 - ▣ Your firm is still being run by its equity investors and has not been forced in receivership or bankruptcy
- If it does not fit these criteria, do not use the option pricing model.

Step 6: Final Value Estimate and Recommendation

- Before you make your recommendation, check whether anything that has happened during the period of your analysis has changed your narrative and your valuation.
- Consider the values you have obtained from the discounted cash flow, relative and option valuation models.
 - ▣ How would you reconcile the different estimates of value?
 - ▣ Make a final recommendation on your stock. Your choices are buy, sell or hold (but only if you absolutely get forced into that choice)

Project Time Frame

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<i>By this date</i>	<i>MBA/UG</i>	<i>You should be done with</i>
1 (2/3)	1-2 (1-3)	Find a group
2 (2/10)	3-4 (4-6)	Pick your firm; Get data;
3 (2/17)	5-6 (7-8)	Pick currency & riskfree rate
5 (2/24)	7 (9)	Estimate cost of capital
6 (3/2)	8-9 (10-11)	Examine operating history
7 (3/9)	10-11 (12-13)	Estimate growth & future CFs
9 (3/23)	12-13 (14-15)	Craft a valuation narrative
10 (3/30)	14-15 (16-17)	Complete intrinsic valuation
12 (4/6)	16-17 (18-19)	Compute current pricing metrics
13 (4/13)	18-21 (20-23)	Find pricing peer group
13 (4/20)	22-23 (24-25)	Pick pricing metric & price
14 (5/4)	24-25 (26-27)	Value optionality (if any)
5/6	26 (28)	Project Due by the end of the day