

Quiz 2: Valuation

Answer all questions and show necessary work. Please be brief. This is an open books, open notes exam.

1. You have been asked to value Nix Software, a small, high growth company and have been given the following forecasts for revenues and operating margins:

	<i>Most recent year</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Revenues	\$100.00	\$300.00	\$600.00	\$1,000.00	\$1,250.00	\$1,500.00
Pre-tax Operating Margin	-40.00%	-20.00%	-5.00%	5.00%	15.00%	25.00%
Cost of capital		24%	20%	16%	12%	8.00%

The company's net operating loss at the end of the most recent year (thus including the loss for the year) is \$125 million and the marginal tax rate is 40%.

- a. The company currently has invested capital of \$750 million and expects to reinvest enough over the next 5 years, in equal annual installments, to have an after-tax return on invested capital of 15% in year 5 (based on expected after-tax operating income in year 5 & invested capital at the end of year 5). Estimate the FCFF each year for the next 5 years. (2 points)

- b. Given the cost of capital, by year, in the above schedule, estimate the present value of the cash flow in year 5 (just one year). (1 point)

3. Attracted by the talk about the upcoming IPO of Alibaba, you decide to take a look at its biggest stockholder, Yahoo!, and collect the following information:
- Yahoo! is a mature company with expected free cash flows to the firm of \$300 million next year, an expected growth rate of 2% a year in perpetuity and a cost of capital of 8%.
 - Yahoo! has \$ 1 billion in debt (market value) and a cash balance of \$3 billion.
 - Yahoo! has 1 billion shares outstanding, trading at \$35/share. It also has 50 million options outstanding that you have valued at \$25/option.
 - Yahoo! owns 24% of Alibaba, but you do not have access to Alibaba's financial statements right now. It also owns 35% of Yahoo Japan, which is publicly traded; Yahoo! Japan has 10 billion shares outstanding trading at \$2.5/share. Neither holding is consolidated.
- Assuming that Yahoo! Japan is fairly priced, and given Yahoo's current price, what value is the market imputing for Alibaba in its pricing of Yahoo!? (4 points)