Spring 2014 Name:

Quiz 3: Valuation

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

1. You are trying to value Yahoo and recognize that one of the challenges that you face is that it has cross holdings in Yahoo! Japan (35%) and Alibaba (24%). Neither holding is consolidated and Yahoo uses the equity approach to report them.[1] The following table summarizes key numbers for all three companies:

	Yahoo!	*Yahoo! Japan*	*Alibaba*
Revenues	$5,000.00	$4,000.00	$8,000.00
EBITDA	$700.00	$2,000.00	$5,000.00
EBIT (Operating income)	$600.00	$1,500.00	$3,600.00
Expected growth rate in Revenues	-2.00%	5.00%	30.00%

A regression of EV/Sales across all online advertising companies yields the following result:

EV/Sales = 1.50 + 5.00 (Expected Revenue growth rate) + 10.00 (Pre-tax operating margin)

(For a company with 10% growth and 15% pre-tax margin, this would result in an EV/Sales = 1.50 + 5.00 (.10) + 10.00 (.15) = 3.50)

Estimate the enterprise value of Yahoo!. (3 points)

[1] In the equity approach, you show the proportion of the net income that you generate from the holding in your income statement below the operating income line item and show the book value of your proportional holding of equity as an asset.

2. You are an activist investor considering an acquisition of a poorly run steel company. The stock currently trades at $8/share and the book value per share is $10/share. The stock is correctly priced, given its expected growth rate of 2% a year in perpetuity, its expected earnings per share of $0.80 for next year and its current debt to equity ratio (zero debt). You believe that you can increase the debt to equity ratio to 50% and double the company's return on equity on new investments, while maintaining a 2% stable growth rate. What is the most that you will be willing to pay per share to acquire the company? (The marginal tax rate is 40%, the risk free rate is 3% and the equity risk premium is 5%) (4 points)

3. You are valuing a privately own software company, with no debt. The company is expected to generate $10 million in free cash flow to the firm next year, growing 3% a year in perpetuity. There are two potential buyers: a private buyer (who is completely undiversified) and a venture capitalist (who has multiple holdings in technology). The unlevered beta of publicly traded software companies is 0.80, the correlation of a software company with the market is 0.25 and the correlation of the VC's portfolio with the market is 0.50. If the venture capitalist is able to buy the company by paying a premium of 25% over the best price that the private buyer can offer, estimate the value he gains or loses in this transaction. (The risk free rate is 3%, the equity risk premium is 5% and the marginal tax rate is 40%).