Fall 2008 Name:

Quiz 3: Valuation

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

1. First Safe Interstate Bank is a small, regional bank that is trading at a price to book (equity) ratio of 1.50. The bank is in stable growth, with earnings and dividends expected to grow 3% a year in perpetuity. The stock has a beta of 1, the riskfree rate is 5% and the equity risk premium is 4%.

   a. Assuming that the market has priced this stock correctly, estimate the expected return on equity for the bank. (2 points)

   b. Now assume that as a result of the banking crisis of the last few weeks, you expect the regulatory authorities to raise capital requirements immediately for banks by 20%. (Banks will need 20% more book equity to deliver the same net income). In addition, assume that the equity risk premium has risen to 6%. If the stable growth rate remains 3%, stimate the new price to book equity ratio for First Safe Interstate Bank. (2 points)

2. You have been asked to analyze three technology companies and have been provided with the following information on the companies:

Company	*Primary shares outstanding*	*Price/share*	*Net Income*	*Number of Options Outstanding*	*Value per option*
Zap Tech	100	$20	$100	10	$10.00
InfoRock	500	$6	$150	80	$1.50
Lo Software	80	$5	$20	20	$0.50

If you assume that the three companies have the same expected growth rate in net income and share the same return on equity and cost of equity, which of the three companies would you consider the <u>cheapest</u>? Explain why. (2 points)

3. You are reviewing the valuation of Vulcan Enterprises, a private business. The analyst has estimated a <u>value of $ 2.0 million</u> for the company, which is in stable growth and expected to <u>grow 3% a year in perpetuity</u>. The firm has <u>no debt outstanding</u> and is expected to generate <u>after-tax operating income of $300,000 next year</u>; the <u>return on capital is anticipated to be 15%</u>. The analyst valued the company for a <u>private-to-private</u> transaction, and the cost of equity he estimated is correct, given that setting. (He used a total beta to estimate the cost of equity, a riskfree rate of 4% and an equity risk premium of 5%).

However, the buyer is a <u>publicly traded firm</u> with diversified investors. The average R-squared across publicly traded companies in this business is 25%. Estimate the correct value of Vulcan Enterprises for sale to a public buyer. (4 points)