Fall 2014 Name:

Quiz 1: Valuation

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

1. Gios Inc. is a German infrastructure company, specializing in building toll roads across Germany. It is considering building a toll road in India.

- The investment is expected to generate net income of 150 million Rupees next year, growing at 4% a year (in rupee terms), in perpetuity. Once the toll road has been built, there will be no need for additional capital expenditures or working capital investments, but all depreciation will have to be reinvested back in the road to maintain it in working condition.
- Gios has a beta of one, a cost of equity of 8% and a cost of capital of 6.5%, in Euro terms. The country risk premium for India is 3% (in Euro terms) and the expected inflation rate in India is 5%; the expected inflation rate in the Euro is 1%.

  Estimate the most in equity that Gios should be willing to invest in building the toll road. (3 points)

2. You have been given the task of estimating the cost of capital for a Valdez Inc., a Colombia-based company that operates in two businesses – food processing and grocery retail- and in two countries – the United States and Colombia. The estimated values of the businesses is broken down in the table below (with the values in millions of US dollars):

	Colombia	**US**	*Unlevered Beta for business*
Food Processing (Value of business)	$ 1,000	$0	*0.90*
Groceries (Value of Business)	$ 500	$1,000	*0.60*
Government Bond rate (in US $)	*4.00%*	*2.50%*	
Government Bond rate (in Pesos)	*6.00%*	*NA*	
Marginal tax rate	*25.00%*	*40%*	

The company has $500 million in debt, all in its US operations, but is unrated> you have estimated a synthetic rating of BBB, based on its interest coverage ratio; the default spread for US companies with that rating is 1.25%. (You can assume that the company is fairly priced and has no cash. You can also assume that Colombia equities are twice as risky as the Colombian Government bond. You can use any reasonable estimate for the mature market ERP.)

a. Estimate the (levered) beta that you would use for Valdez Inc. (2 points)

b. Estimate the cost of equity in US dollars. (2 points)

c. Estimate the after-tax cost of debt in US dollars. (1 point)

3. The following multiple-choice questions all relate to cash flow or growth rate estimation (Each one is worth ½ point. Please pick only one answer.)
    a. Yuma Inc. is a company with a history of losing money and has a net operating loss carried forward of $400 million. It expects to generate $1 billion in taxable income next year and the marginal tax rate is 40%. How much will the company pay in taxes next year?
        i. $160 million
        ii. $240 million
        iii. $400 million
        iv. None of the above
    b. Siago Pharmaceuticals is a mature company that has seen its R&D expenses decrease from $400 million five years ago to $200 million in the most recent year. The company reported operating income of $500 million in the most recent year. If you capitalize R&D expenses, which of the following would you expect to see happen to your adjusted numbers?
        i. Operating income will increase, FCFF will decrease
        ii. Operating income will decrease, FCFF will decrease
        iii. Operating income will increase, no change in FCFF
        iv. Operating income will decrease, no change in FCFF
        v. Operating income will increase, FCFF will increase
        vi. Operating income will decrease, FCFF will increase
    c. Civitas Inc. is a manufacturing company. Last year, the company generated $80 million in EBITDA and reported $20 million in depreciation and amortization. The company also had $50 million in capital expenditures and reported that non-cash working capital increased from $15 to $25 million. If the tax rate is 25%, what is the reinvestment rate for the company?
        i. 50%
        ii. 66.67%
        iii. 75.00%
        iv. 88.89%
        v. 133.33%
    d. Exim Inc. reported a return on capital of 12% on its existing assets and a reinvestment rate of 60% in the most recent year. It expects to improve its return on capital to 15% next year on both its existing and new investments, while maintaining its existing reinvestment rate. What will the expected growth rate be next year?
        i. 7.2%
        ii. 9.0%
        iii. 29.0%
        iv. 32.2%
        v. 34.0%