# 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 Cyriac Inc., a young, high growth company and have been provided with the following estimates for revenues, operating income, cash flows and cost of capital for the company:

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Revenues | $500 | $750 | $1,000 | $1,200 | $1,250 |
| Operating Income after taxes | $10 | $23 | $35 | $40 | $50 |
| - Reinvestment | $30 | $25 | $25 | $20 | $20 |
| = FCFF | -$20 | -$3 | $10 | $28 | $30 |
| Cost of capital | 12% | 11% | 10% | 9% | 8% |

The firm currently has a book value of equity of $250 million, debt outstanding of $150 million and $20 million as a cash balance. Assuming that the return on capital that the firm earns in year 5 (obtained by dividing the after-tax operating income in year 5 by the invested capital at the end of year 5) will be the return on capital in perpetuity and that the cost of capital in year 5 will be the stable period cost of capital, estimate <u>the present value of the terminal value (at the end of year 5) for the firm with a 3% growth rate in perpetuity</u>. (3 points)

2. You are reviewing the valuation of Simca Inc., a beverage company with a 75% cross holding in a LightEat Inc, a restaurant chain. Using Simca's parent company financials (not consolidated) and LightEat's financials, you have obtained the following:

| | Simca (Parent) | LightEat |
|---|---|---|
| DCF value of the operating assets | $1,500.00 | $600.00 |
| Debt | $500.00 | $300.00 |
| Cash | $200.00 | $100.00 |
| Number of shares | 100.00 | 50.00 |

Estimate the value per share in Simca. (2 points)

3. Raza Automobiles is an auto parts company that reported an operating loss of $20 million on revenues of $ 1 billion, largely due to the economy being in recession. The company is a mature company, with revenues growing at 3% a year in perpetuity and a cost of capital of 9%; it has debt outstanding of $ 250 million and a cash balance of $100 million. There are 30 million shares trading at $20/share. If the market is pricing the stock correctly assuming that the company will return to earnings its "normal" after-tax operating margin over the economic cycle next year and that the company will generate no excess returns in perpetuity, estimate that "normal" after-tax operating margin. (2 points)

4. Cosli Inc. is a mature company with "bad" management in place, with the possibility of a management change. You have the following information:
    a. With existing management in place, the company expects to generate $25 million in after-tax operating income next year, reinvest $10 million of that income and generate a growth rate of 2% a year in perpetuity. It has a cost of capital of 8%.
    b. With "new" management in place, the company expects to generate the same after-tax operating income next year and have the same growth rate in perpetuity, but to double its return on capital from existing levels. Its cost of capital will stay at 8%.

If there is a 40% chance that there will be a management change, estimate the expected value of the operating assets today. (3 points)