Spring 2015 Name:

# Quiz 3: Corporate Finance

| Answer all questions and show necessary work. Please be brief. This is an open books, open notes exam. |
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1. You have been asked to review the restructuring plan put together by Marcin Inc., a publicly traded firm that is having trouble with its debt burden. You are provided with the current numbers and the numbers that the company would expect to have after the restructuring in the table below (in $ millions)

| | *Before restructuring* | *After restructuring* |
|---|---|---|
| Market Value of Debt | $800.00 | $400.00 |
| Market Value of Equity | $200.00 | $800.00 |
| Interest Expense | $100.00 | $30.00 |
| Operating Income (EBIT) | $75.00 | $100.00 |

The risk free rate is 2%, the equity risk premium is 5% and the marginal statutory tax rate is 40%. (*Since you have the market value of debt, you can assume that the interest rate you are paying on it is the pre-tax cost of debt at that level of debt*).

a. If the equity (levered) beta before the restructuring is 3.04, estimate the cost of capital for the company before the restructuring. (2 points)

b. If the firm carries through the restructuring, estimate the cost of capital after the restructuring. (2 points)

2. Novina Inc. is an all-equity funded firm with 100 million shares trading at \$20/share, with a <u>cost of equity (and capital) of 11.5%</u>. The firm is considering <u>borrowing \$1.2 billion and using the entire proceeds to buy back shares</u>, an action that it believes will <u>lower its cost of capital to 10%</u>. Assuming that the firm is right in its belief and that it is a mature firm <u>with no growth expected in the future</u>, estimate the price at which shares were bought back, if the price per share for the remaining shares after the buyback is \$25/share. (3 points)

3. Sylvan Inc. is planning on doing an acquisition of Vista Inc. and you have been given the following information on the two companies ($ values in millions):

| | *Sylvan (Acquiring firm)* | *Vista (Target firm)* |
|---|---|---|
| Market value of Equity ($ mil) | $1,000 | $500 |
| Debt outstanding ($ mil) | $400 | $100 |
| Duration of assets (years) | 4.00 | 10.00 |
| Duration of debt (years) | 2.00 | 15.00 |

Sylvan is planning on assuming all of Vista's existing debt and it will finance the acquisition of all of Vista's shares with new debt. If the objective is to have the duration of the combined firm's debt be equal to the duration of its assets after the acquisition, estimate the duration of the new debt offering. (3 points)