Session 20a: Post Class tests

1. The Miller Modigliani theorem posits that debt policy is irrelevant, when it comes to firm value. Assume that you have a firm that is funded entirely with equity and has a beta (unlevered) of 0.90; the risk free rate is 3% and the equity risk premium is 6%. What will happen to the cost of capital, if the firm moves to a 30% debt ratio? (Remember that there are no taxes or default risk in the Miller Modigliani world).
    a. The cost of capital will remain unchanged
    b. The cost of capital will go up
    c. The cost of capital will go down
    Can you provide proof?

2. There is evidence that firms have a financing hierarchy, with more preferred and less preferred sources of financing. Based on surveys, which of the following ordering sof financing is closest to the actual preferences?
    a. Debt, Retained earnings, New stock issues, Convertible debt
    b. Retained earnings, New stock issues, Convertible debt, Debt
    c. Retained earnings, Debt, New stock issues, Convertible debt
    d. Retained earnings, Debt, Convertible debt, New stock issues
    e. New stock issues, Retained earnings, Debt, Convertible debt
    f. None of the above
    Can you provide a rationale for why?

3. The objective in corporate finance is to maximize the value of the business. In the standard cost of capital approach to financing, we argue that the optimal debt ratio is the one that minimizes the cost of capital. For this approach to yield the optimal, which of the following assumptions do you need to make?
    a. The bond rating of the firm will not change as the debt ratio changes
    b. The operating income of the firm will not change as the debt ratio changes
    c. The net income for the firm will not change as the debt ratio changes
    d. The beta will not change as the debt ratio changes
    e. None of the above
4. You are trying to evaluate Farmingdale Inc., a publicly traded company, with a 20% debt to capital ratio, a marginal tax rate of 40% and a beta (levered) of 1.15 , which is considering a move to a 33.33% debt to capital ratio. What will the beta of the firm be after the move to 33.33% debt?
    a. 1.15
    b. 1.20
    c. 1.30
    d. 1.495
    e. None of the above
5. Thadeus Inc. is a publicly traded chemical company with a bond rating of AA and a pre-tax cost of debt of 3.50% at its existing debt to capital ratio of 40% ($400 million debt & $ 600 million equity). The firm has operating income of $70

million and is considering borrowing $ 200 million and buying back stock. If it does so, what will the interest coverage ratio for the firm be, assuming that the firm's rating will drop to BBB and that the interest for BBB rated bonds is 5%?

   a. 2.33
   b. 2.67
   c. 2.92
   d. 3.33
   e. None of the above

6. Morigas Inc. is a publicly traded firm that expects to earn $10 million in operating income and pay a marginal tax rate of 40%. The firm has $100 million in debt, at a 5% interest rate, and is planning to double its debt. If the expected interest rate on the debt will rise to 7.5% on all debt after the debt doubling, what will the after-tax cost of debt for the firm be after the borrowing?
   a. 3.00%
   b. 3.75%
   c. 4.50%
   d. 5.50%
   e. None of the above