Session 20B: Post Class tests

1. If you use the price to sales ratio to compare the pricing of companies in a sector where there are wide differences in debt ratios, you will tend to find that companies with a lot of debt look cheap (even if they are not),
    a. True
    b. False
2. The key driver of revenue multiples is profit margins. Which of the following measures of profit margin is the most direct determinant of price to sales ratios?
    a. Net Profit margin
    b. Gross profit margin (Gross profit/Sales)
    c. Pre-tax operating margin (EBIT/Sales)
    d. After-tax operating margin (After tax EBIT/Sales)
    e. EBITDA margin
3. A consumer product company plans to cut prices on its products with the intent of generating more sales. Which of the following is the most likely set of consequences from this action?
    a. Higher margins, Higher EV/Sales
    b. Higher margins, Lower EV/Sales
    c. Lower margins, Lower EV/Sales
    d. Lower margins, Higher EV/Sales

    Bonus: Will this translate into higher value for the company?

4. You are looking at valuing the brand name of a consumer product company that has an enterprise value of $2.5 billion on revenues of $ 1 billion. If companies in the same sector that produce generic substitutes trade at an EV/Sales ratio of 1.5, what is the approximate value of brand name at the company?
    a. $ 0.5 billion
    b. $1 billion
    c. $1.5 billion
    d. $2.5 billion
    e. $3.5 billion
5. You are a venture capitalist, who is interested in investing in Lam Media, a social media company. You expect revenues to be $600 million in 3 years and believe that you can sell the company for three times revenues at the end of year 3. The cost of capital for the company is 15%, it has no cash or debt and there is a 20% chance that the firm will not make it (in which case you will get nothing for the assets). Ignoring cash flows in the next 3 years, what is your estimate of the value of equity in the company today (in millions)?
    a. $ 236.7
    b. $ 946.8
    c. $1183.5
    d. $1440.0
    e. $1800.0

Session 19: Post class test solutions

1. **a. True**. If you use just market capital (equity) in the numerator, companies that fund themselves more with debt and generate the same revenues will look cheaper on a price to sales ratio basis.
2. **a. Net Profit margin**. Since the multiple that you are using uses equity value in the numerator, you should use the net profits (the profits to equity investors) in the margin computation.
3. **c. Lower margin, lower EV/Sales ratio**. The margin will drop if prices drop and the lower margins will translate into a lower multiple of revenues. However, the company can still emerge as a more valuable company, if its sales go up more than proportionately.
4. **b. $1 billion**. If you apply the EV/Sales ratio of the generic company to the brand name company's revenues, you get $1.5 billion as enterprise value. Subtracting this from the total enterprise value of $2.5 billion yields a value of $ 1 billion.
5. **b. $946.8 million**. Start by estimating the expected EV at the end of year 3 and discounting back to today at the cost of capital for 15%:
    - Expected EV = 3* 600 = $1800 million

    Discount back at the cost of capital
    - EV value today = $1800/1.15^3 = $1183.5 million

    Adjust for survival
    - Value of equity today = 1183.5*.8 = $946.8 million