Session 19a: Post Class tests

1. You are valuing Abel Stores, a small, privately owned apparel store for sale to another private individual, who will be investing all of his wealth in the business. The unlevered beta for publicly traded apparel stores is 1.20 and the average R-squared across the apparel stories (with the market) is 0.36. What is the unlevered beta that you will use, in estimating the cost of equity in this transaction?
    a. 0.72
    b. 1.20
    c. 2.00
    d. 3.33
    e. None of the above
2. You are trying to compute the levered beta that you will use to value Abel Stores. The company has a book value of equity of $600 million and a book value of debt of $ 600 million. If the typical apparel store company trades at three times book value of equity and the market value of debt = book value of debt, what is the debt to equity ratio that you will use to compute the levered beta for Abel Stores? (The marginal tax rate is 40%)
    a. 25%
    b. 33.33%
    c. 100%
    d. 300%
    e. None of the above
3. Now assume that you are looking at the income statement for Abel Stores. The business reported $ 500,000 in after-tax operating income last year, but you note that the owner (who fills multiple roles in the business) has not charged herself a salary. You believe that it will take two hired employees to do the work that the owner used to do and that you would have to pay $150,000 to hire these employees. If your tax rate is 40%, estimate the "adjusted" after-tax operating income for last year.
    a. $350,000
    b. $410,000
    c. $440,000
    d. $560,000
    e. $590,000
4. You have completed your discounted cash flow valuation of Abel Stores, using a total beta and adjusted operating income, and arrived at a value of $ 4.2 million for the equity in the firm. While you have a base liquidity discount of 20% that you usually apply to equity value in a private company, you believe that the discount should be smaller at Abel Stores. Which of the following is a good reason for attaching a smaller discount?
    a. The total beta already results in a discount on value.
    b. You feel that your cash flow estimates are precise
    c. Abel Stores has more revenues than the typical companies that you value
    d. Abel Stores borrows less money than the typical firm in the retail business
    e. None of the above
    f. All of the above

5. The key person discount is the discount attached to a private business to reflect the expected loss in cash flows, as a result of a key person (often the owner) leaving. Assuming that you are the owner of the business and are trying to sell the business, which of the following actions would you take to reduce the key person discount?
    a. Agree to stay on for a transition phase, where you help the new owner connect with your customers
    b. Agree not to start a similar business in a hundred mile radius, after you sell the business
    c. Both
    d. Neither

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1. **c. 2.00.** To get the value, you divide the average unlevered beta across the sector by the correlation coefficient:
    - Correlation coefficient = Square root of $R^2 = 0.36^{.5} = 0.6$
    - Total beta = 1.20/0.6 = 2.00
2. b**. 33.33%.** First, estimate the market values of debt and equity:
    - Market value of equity = 600 * 3 = 1800
    - Market value of debt = 600
    - D/E ratio = 600/1800 = 33.33%
3. **b. $410,000**. Subtract the after-tax salary expense from the after-tax operating income:

    After-tax operating income = 500,000
    Adjusted after-tax operating income = 500,000 – 150,000 (1-.4) = 410,000
4. **c. Abel Stores has more revenues than the typical companies that you value.** None of the other stated reasons would affect the illiquidity discount that you would attach to the company.
5. **c. Both**. Both would serve to reduce the fear of lost business and reduce the key person discount.