**Exam 2 Practice**

**1) After-Tax Cost of Debt**

LL Incorporated's currently outstanding 11 percent coupon bonds have a yield to maturity of 14 percent. LL believes it could issue at par new bonds that would provide a similar yield to maturity. If its marginal tax rate is 40 percent, what is LL's after-tax cost of debt? Round your answer to two decimal places.

**2) Cost of Preferred Stock with Flotation Costs**

Burnwood Tech plans to issue some $60 par preferred stock with a 6 percent dividend. The stock is selling on the market for $50.00, and Burnwood must pay flotation costs of 7 percent of the market price. What is the cost of the preferred stock? Round your answer to two decimal places.

**3) Cost of Equity**

The earnings, dividends, and common stock price of Shelby Inc. are expected to grow at 5 percent per year in the future. Shelby's common stock sells for $27.25 per share, its last dividend was $1.80, and it will pay a dividend of $1.89 at the end of the current year.

a. Using the DCF approach, what is its cost of common equity? Round your answer to two decimal places. 

b. If the firm's beta is 1.6, the risk-free rate is 5%, and the average return on the market is 14%, what will be the firm's cost of common equity using the CAPM approach? Round your answer to two decimal places. 

c. If the firm's bonds earn a return of 10%, and analysts estimate the bond risk premium is 3 to 5 percent, what will rs be using the bond-yield-plus-risk-premium approach? (*Hint*: Use the midpoint of the risk premium range). 

d. On the basis of the results of parts a through c, what would you estimate Shelby's cost of equity to be? Round your answer to two decimal places. 

**4) WACC Estimation**

On January 1, the total market value of the Tysseland Company was $60 million. During the year, the company plans to raise and invest $25 million in new projects. The firm's present market value capital structure, shown below, is considered to be optimal. Assume that there is no short-term debt.

|  |  |
| --- | --- |
| Debt | $30,000,000 |
| Common equity | 30,000,000 |
| Total capital | $60,000,000 |

New bonds will have a before tax cost of 8 percent. Common stock is currently selling at $30 a share. Stockholders' required rate of return is estimated to be 12 percent, consisting of a dividend yield of 4 percent and an expected constant growth rate of 8 percent. (The next expected dividend is $1.20, so $1.20/$30 = 4%.) The marginal corporate tax rate is 30 percent.

a. To maintain the present capital structure, how much of the new investment must be financed by common equity? 

b. Assume that there is sufficient cash flow such that Tysseland can maintain its target capital structure without issuing additional shares of equity. What is the WACC? Round your answer to two decimal places. 

**5) Problem 3-6. CAPM and the Fama-French Three-factor Model**

Hint: see discussion in slides 18-22 in the Cost of Capital I slides. Note:  is not referred to in the slides. It is an additional amount added in the equation to determine the cost of equity (see page 100 in the book).

Suppose you are given the following information. The beta of company i,, is 1.2, the risk-free rate,, is 7 percent, and the expected market premium,, is 5.0 percent. (Assume that.)

a. Use the Security Market Line (SML) of CAPM to find the required return for this company. Round your answer to two decimal places. 

b. Because your company is smaller than average and more successful than average (that is, it has a low book-to-market ratio), you think the Fama-French three-factor model might be more appropriate than the CAPM. You estimate the additional coefficients from the Fama-French three-factor model: The coefficient for the size effect,, is 0.8, and the coefficient for the book-to-market effect,, is -0.4. If the expected value of the size factor is 6 percent and the expected value of the book-to-market factor is 3 percent, what is the required return using the Fama-French three-factor model? Round your answer to two decimal places.

**6) Breakeven Quantity.**

Shapland Inc. has fixed operating costs of $700,000 and variable costs of $55 per unit. If it sells the product for $90 per unit, what is the breakeven quantity?

**7)**

Which of the following firms has the most operating leverage?

Firm A: EBIT rises by $20 when units increase by 2

Firm B: EBIT rises by $42 when units increase by 6

Firm C: EBIT rises by $7.5 when units increase by 1

Firm D: EBIT rises by $100 when units increase by 20

Firm E: EBIT rises by $25 when units increase by 5

**8) Bond Valuation with Annual Payments**

Jackson Corporation's bonds have 8 years remaining to maturity. Interest is paid annually, the bonds have a $1,000 par value, and the coupon interest rate is 12 percent. The bonds have a yield to maturity of 13 percent. What is the current market price of these bonds? Round your answer to two decimal places.