Chapter 14 – Sample Problems – WACC and “Stuff”

1) The weights used to determine the relative importance of the firm’s sources of capital should reflect
   A) book values in accord with generally accepted accounting principles.
   B) current market values for bonds, common stock, and preferred stock and book values for retained earnings.
   C) current market values.
   D) subjective adjustments for firm risk.

2) A firm's capital structure consists of which of the following?
   A) Common stock
   B) Preferred stock
   C) Bonds
   D) All of the above

3) Which of the following must be adjusted for the firm's tax rate when estimating the weighted average cost of capital WACC?
   A) Cost of common equity
   B) Cost of preferred stock
   C) Cost of debt
   D) All of the above

4) For tax purposes, interest on corporate debt is
   A) deductible for the investor, but not for the borrower.
   B) deductible for the borrower, but not for the investor.
   C) fully taxable for both the borrower and the investor.
   D) fully deductible for both the borrower and the investor.

5) The cost of capital is
   A) the opportunity cost of using funds to invest in new projects.
   B) the rate of return the firm must earn on its investments in order to satisfy the required rate of return of the firm's investors.
   C) the required rate of return for new capital investments which have typical or average risk.
   D) all of the above.
Use the following information to answer the following question(s).

The following data concerning Spencer’s capital structure is available.

<table>
<thead>
<tr>
<th>$ millions</th>
<th>Book Values</th>
<th>Market Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts Payable &amp; Accruals</td>
<td>$300</td>
<td></td>
</tr>
<tr>
<td>Short-term notes</td>
<td>$150</td>
<td>$150</td>
</tr>
<tr>
<td>Long-term debt</td>
<td>$450</td>
<td>$600</td>
</tr>
<tr>
<td>Preferred Stock</td>
<td>$75</td>
<td>$150</td>
</tr>
<tr>
<td>Common Stock</td>
<td>$600</td>
<td>$1500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1575</strong></td>
<td><strong>$2400</strong></td>
</tr>
</tbody>
</table>

1) The percentage of common stock in Spencer's weighted average cost of capital is  
   A) 62.5%.  
   B) 66.7%.  
   C) 6.25%.  
   D) 38.1%.

2) The percentage of debt in Spencer's weighted average cost of capital is  
   A) 38.1%.  
   B) 31.25.  
   C) 25%.  
   D) 57.14%.

3) The total capital that should be used in computing the weights for Spencer's WACC is  
   A) $1,275.  
   B) $2,400.  
   C) $2,250.  
   D) $1,575.
1) PVE, Inc. has $15 million of debt outstanding with a coupon rate of 9%. Currently, the yield to maturity on these bonds is 7%. If the firm's tax rate is 35%, what is the after-tax cost of debt to J & B?
   A) 10.76%
   B) 5.85%
   C) 4.55%
   D) 5.4%

2) Bender and Co. is issuing a $1,000 par value bond that pays 9% interest annually. Investors are expected to pay $918 for the 10-year bond. What is the after-tax cost of debt if the firm is in the 34% tax bracket?
   A) 6.83%
   B) 9.00%
   C) 10.35%
   D) 15.68%

3) Alpha has an outstanding bond issue that has a 7.75% semiannual coupon, a current maturity of 20 years, and sells for $967.97. The firm's income tax rate is 40%. What should Alpha use as an after-tax cost of debt for cost of capital purposes?
   A) 2.42%
   B) 4.04%
   C) 4.85%
   D) 8.08%

4) The expected dividend is $2.50 for a share of stock priced at $25. What is the cost of common equity if the long-term growth in dividends is projected to be 4%?
   A) 10%
   B) 8%
   C) 14%
   D) 18%

5) Sonderson Corporation is undertaking a capital budgeting analysis. The firm's beta is 1.5. The rate on six-month T-bills is 5%, and the Market Risk Premium is 7%. What is the appropriate cost of common equity in determining the firm's cost of capital?
   A) 13.1%
   B) 15.5%
   C) 17.7%
   D) 19.9%
6) Paramount, Inc. just paid a dividend of $2.05 per share, and the firm is expected to experience constant growth of 12.50% over the foreseeable future. The common stock is currently selling for $65.90 per share. What is Paramount's cost of retained earnings using the Dividend Growth Model approach?
   A) 12.50%
   B) 17.90%
   C) 16.00%
   D) 14.55%

7) Based on current market values, Shawhan Supply's capital structure is 30% debt, 20% preferred stock, and 50% common stock. When using book values, capital structure is 25% debt, 10% preferred stock, and 65% common stock. The required return on each component is: debt—10%; preferred stock—11%; and common stock—18%. The marginal tax rate is 40%. What rate of return must Shawhan Supply earn on its investments if the value of the firm is to remain unchanged?
   A) 18.0%
   B) 13.0%
   C) 10.0%
   D) 14.3%

8) Capital budgeting analyses typically assume a constant cost of capital, even though the analysts know it will change. One reason for this practice is that
   A) the changes are too small to affect the decision.
   B) a constant cost of capital is the most conservative assumption.
   C) the changes are unpredictable.
   D) NPV calculations do not allow more than one discount rate.

9) Tropical Fruit Drinks issued $10,000,000 in bonds to expand its production facilities. After issuing the bonds, the company was 60% debt financed and 40% common equity financed. Tropical intends to retire 20% of the bonds each year for the next 5 years and not to issue any new debt.
   A) All things equal, we would expect Tropical Fruit Drinks cost of capital to decrease gradually over the next 5 years.
   B) All things equal, we would expect Tropical Fruit Drinks cost of capital to increase gradually over the next 5 years.
   C) All things equal, we would expect Tropical Fruit Drinks cost of capital to stay the same for the next 5 years, then decrease rapidly.
   D) All things equal, we would expect Tropical Fruit Drinks cost of capital to stay the same for the next five years, then increase.
10) Metals Corp. has $2,575,000 of debt, $550,000 of preferred stock, and $18,125,000 of common equity. Metals Corp.'s after-tax cost of debt is 5.25%, preferred stock has a cost of 6.35%, and newly issued common stock has a cost of 14.05%. What is Metals Corp.'s weighted average cost of capital?

A) 12.78%
B) 10.84%
C) 8.32%
D) 6.56%

11) A company has a capital structure that consists of 50% debt and 50% equity. Which of the following is generally true?

A) The weighted average cost of capital is less than the cost of equity financing.
B) The cost of equity financing is greater than the cost of debt financing.
C) The weighted average cost of capital is calculated on a before-tax basis.
D) Both A and B.

12) Estimating a divisional cost of capital by comparing the division to a similar free-standing company is known as

A) Divisional Average Cost of Capital approach (DACC).
B) Segmental Capital Structure approach. (SCS).
C) the "pure play" approach.
D) Project Specific Approach (PSA).

13) Jen and Barry's Ice Cream needs $20 million in new capital to expand its production facilities. It will use 40% debt and 60% equity. The company's after-tax cost of debt is 5% and the cost of equity is 12.5%. Flotation costs will be 3% for debt and 9% for equity. Compute Jen and Barry's weighted average flotation cost.

A) 6.6%
B) 6.0%
C) 9.5%
D) 16.1%
14) Jen and Barry's Ice Cream needs $20 million in new capital to expand its production facilities. It will use 40% debt and 60% equity. The company's after-tax cost of debt is 5% and the cost of equity is 12.5%. Flotation costs will be 3% for debt and 9% for equity. What rate should be used to discount the cash flows from the expansion project?
   A) 6.6%
   B) 6.0%
   C) 9.5%
   D) 16.1%

15) When new capital must be raised for an expansion project, flotation costs should
   A) be deducted from the operating cash flows.
   B) increase the initial investment outlay.
   C) be considered in recomputing the firm's overall WACC.
   D) be ignored