Session 12: Post Class tests

1. Gerard Enterprises is a publicly traded company. You are trying to estimate how much debt it has outstanding, to compute a cost of capital. Which of the following items would you not include in debt and why?
   a. Short term bank loans
   b. Commercial paper
   c. Corporate bonds
   d. Deferred Tax Liabilities
   e. None of the above

2. Lipscott Inc. is a publicly traded company that has $100 million in bank loan on its books, with a stated interest rate of 3% and $150 million in publicly traded bonds, with a coupon rate of 3.6%. The company currently has a bond rating of BBB, with a default spread of 1.5% over the risk free rate. If the current T.Bill rate is 1%, the ten-year T.Bond rate is 3.5% and the marginal tax rate is 35%, what is the pre-tax cost of debt?
   a. 3.36%
   b. 3.60%
   c. 5.00%
   d. 2.50%
   e. 3.50%

3. Ricotta Inc. is a food processing company that generated $80 million in operating income in the most recent year. The company has $300 million in bank loans with an average book interest rate of $15 million. The company is not rated but you have the following table to compute a bond rating:

   Interest coverage ratios and Default Spreads

<table>
<thead>
<tr>
<th>Large cap (&gt;5 billion)</th>
<th>Small cap or risky (&lt;5 billion)</th>
<th>Rating is (S&amp;P/Moody’s)</th>
<th>Default Spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;8.50</td>
<td>&gt;12.5</td>
<td>Aaa/AAA</td>
<td>0.40%</td>
</tr>
<tr>
<td>6.5-8.5</td>
<td>9.5-12.5</td>
<td>Aa2/AA</td>
<td>0.70%</td>
</tr>
<tr>
<td>5.5-6.5</td>
<td>7.5-9.5</td>
<td>A1/A+</td>
<td>0.85%</td>
</tr>
<tr>
<td>4.25-5.5</td>
<td>6-7.5</td>
<td>A2/A</td>
<td>1.00%</td>
</tr>
<tr>
<td>3-4.25</td>
<td>4.5-6</td>
<td>A3/A-</td>
<td>1.30%</td>
</tr>
<tr>
<td>2.5-3</td>
<td>4-4.5</td>
<td>Baa2/BBB</td>
<td>2.00%</td>
</tr>
<tr>
<td>2.25-2.5</td>
<td>3.5-4</td>
<td>Ba1/BB+</td>
<td>3.00%</td>
</tr>
<tr>
<td>2-2.25</td>
<td>3-3.5</td>
<td>Ba2/BB</td>
<td>4.00%</td>
</tr>
<tr>
<td>1.75-2.25</td>
<td>2.5-3</td>
<td>B1/B+</td>
<td>5.50%</td>
</tr>
<tr>
<td>1.5-1.75</td>
<td>2-2.5</td>
<td>B2/B</td>
<td>6.50%</td>
</tr>
<tr>
<td>1.25-1.5</td>
<td>1.5-2</td>
<td>B3/B-</td>
<td>7.25%</td>
</tr>
<tr>
<td>0.8-1.25</td>
<td>1.25-1.5</td>
<td>Caa/CCC</td>
<td>8.75%</td>
</tr>
<tr>
<td>0.65-0.8</td>
<td>0.8-1.25</td>
<td>Ca2/CC</td>
<td>9.50%</td>
</tr>
<tr>
<td>0.2-0.65</td>
<td>0.5-0.8</td>
<td>C2/C</td>
<td>10.50%</td>
</tr>
<tr>
<td>&lt;0.2</td>
<td>&lt;0.5</td>
<td>D2/D</td>
<td>12.00%</td>
</tr>
</tbody>
</table>

   If the risk free rate is 3% and Ricotta Inc. has 100 million shares trading at $15/share, estimate the pre-tax cost of debt for the company.
4. KGV Inc. has $1 billion in bonds outstanding, with a coupon rate of 4%. The company is rated BBB, with a default spread of 2% (on top of a risk free rate of 3%). The company has an effective tax rate of 20% and the marginal tax rate is 40%. What is the after-tax cost of debt for the company?
   a. 2.4%
   b. 3.0%
   c. 3.2%
   d. 4.0%
   e. 5.0%

5. Garana Inc. is a Colombia coffee company. You have computed a synthetic rating of BBB (with a default spread of 2%) for the company. The US treasury bond rate is 3%, the Colombian Government US $ bond rate is 4.5% and the Colombian Government Peso bond rate is 6%. What is the US$ pre-tax cost of debt for Garana?
   a. 3.00%
   b. 4.5%
   c. 5.0%
   d. 6.5%
   e. 8.0%
Session 12: Post class test solutions

1. **d. Deferred tax liabilities.** These are not legal commitments in the conventional sense but accounting liabilities (reflecting expectations that the firm will have to pay more in taxes in the future).

2. **d. 5.00%.**
   The pre-tax cost of debt is a long term cost of borrowing money today.
   - Pre-tax cost of debt = 3.5% + 1.5% = 5%

3. **c. 4.30%**.
   Interest coverage ratio = 80/15 = 5.33
   Market cap = $1.5 billion
   Synthetic rating based on rating = A-
   Default spread for A- rating = 1.30%
   Pre-tax cost of debt = 3% + 1.30% = 4.30%

4. **b. 3.0%**
   Pre-tax cost of debt = Riskfree rate + Default spread = 3% + 2% = 5%
   After-tax cost of debt = 5% (1-.40) = 3%

5. **d. 6.5%**
   Risk free rate in US $ = 3%
   Default spread for Colombia = 4.5% -3% = 1.5%
   Default spread for company = 2%
   Cost of debt in US $ = 3% + 1.5% + 2% = 6.5%