1. Cost of equity

Floyd Industries stock has a beta of 1.15. The company just paid a dividend of $.60, and the dividends are expected to grow at 5 percent. The expected return of the market is 11.5 percent, and Treasury bills are yielding 5.5 percent. The most recent stock price for Floyd is $54.

   a. Calculate the cost of equity using the DCF method.
   b. Calculate the cost of equity using the SML method.
   c. Why do you think your estimates in (a) and (b) are so different?

2. Cost of debt

Ying Import has several bond issues outstanding, each making semi-annual interest payments. The bonds are listed in the following table. If the corporate tax rate is 34 percent, what is the after-tax cost of Ying's debt?

<table>
<thead>
<tr>
<th>Bond</th>
<th>Coupon Rate</th>
<th>Price Quote</th>
<th>Maturity</th>
<th>Face Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.00%</td>
<td>102</td>
<td>5 years</td>
<td>$20,000,000</td>
</tr>
<tr>
<td>2</td>
<td>7.60</td>
<td>110</td>
<td>8 years</td>
<td>40,000,000</td>
</tr>
<tr>
<td>3</td>
<td>7.20</td>
<td>99</td>
<td>15½ years</td>
<td>45,000,000</td>
</tr>
<tr>
<td>4</td>
<td>8.90</td>
<td>112</td>
<td>25 years</td>
<td>60,000,000</td>
</tr>
</tbody>
</table>

3. SML and WACC

An all-equity firm is considering the following projects:

<table>
<thead>
<tr>
<th>Project</th>
<th>Beta</th>
<th>Expected Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>W</td>
<td>.75</td>
<td>11%</td>
</tr>
<tr>
<td>X</td>
<td>.90</td>
<td>13</td>
</tr>
<tr>
<td>Y</td>
<td>1.15</td>
<td>14</td>
</tr>
<tr>
<td>Z</td>
<td>1.60</td>
<td>16</td>
</tr>
</tbody>
</table>

The T-bill rate is 5 percent, and the expected return on the market is 12 percent.

   a. Which projects have a higher expected return than the firm's 12 percent cost of capital?
   b. Which projects should be accepted?
   c. Which projects would be incorrectly accepted or rejected if the firm's overall cost of capital were used as a hurdle rate?
4. Finding the WACC

Titan Mining Corporation has 8.5 million shares of common stock outstanding, 200,000 shares of 7 percent preferred stock outstanding and 85,000 8.5 percent semiannual bonds outstanding, par value $1,000 each. The common stock currently sells for $34 per share and has a beta of 1.20, the preferred stock currently sells for $83 per share, and the bonds have 15 years to maturity and sell for 93 percent of par. The market risk premium is 9 percent, T-bills are yielding 5 percent, and Titan Mining's tax rate is 35 percent.

a. What is the firm's market value capital structure?

b. If Titan Mining is evaluating a new investment project that has the same risk as the firm's typical project, what rate should the firm use to discount the project's cash flows?

5. Flotation costs

Suppose your company needs $15 million to build a new assembly line. Your target debt–equity ratio is 0.90. The flotation cost for new equity is 8 percent, but the flotation cost for debt is only 5 percent. Your boss has decided to fund the project by borrowing money because the flotation costs are lower and the needed funds are relatively small.

a. What do you think about the rationale behind borrowing the entire amount?

b. What is your company's weighted average flotation cost, assuming all equity is raised externally?

c. What is the true cost of building the new assembly line after taking flotation costs into account? Does it matter in this case that the entire amount is being raised from debt?

6. Flotation costs

Southern Alliance Company needs to raise $30 million to start a new project and will raise the money by selling new bonds. The company will generate no internal equity for the foreseeable future. The company has a target capital structure of 60 percent common stock, 10 percent preferred stock, and 30 percent debt. Flotation costs for issuing new common stock are 10 percent, for new preferred stock, 7 percent, and for new debt, 4 percent. What is the true initial cost figure Southern should use when evaluating its project?

7. Flotation costs and NPV

Photochronograph Corporation (PC) manufactures time series photographic equipment. It is currently at its target debt–equity ratio of 0.8. It's considering building a new $75 million manufacturing facility. This new plant is expected to generate after-tax cash flows of $10.9 million in perpetuity. The company raises all equity from outside financing. There are three financing options:

1. A new issue of common stock: The flotation costs of the new common stock would be 8 percent of the amount raised. The required return on the company's new equity is 17 percent.
2. *A new issue of 20-year bonds:* The flotation costs of the new bonds would be 4 percent of the proceeds. If the company issues these new bonds at an annual coupon rate of 9 percent, they will sell at par.

3. *Increased use of accounts payable financing:* Because this financing is part of the company's ongoing daily business, it has no flotation costs, and the company assigns it a cost that is the same as the overall firm WACC. Management has a target ratio of accounts payable to long-term debt of .20. (Assume there is no difference between the pre-tax and after-tax accounts payable cost.)

What is the NPV of the new plant? Assume that PC has a 35 percent tax rate.

8. **Flotation costs**

Trower Corp. has a debt–equity ratio of 0.75. The company is considering a new plant that will cost $125 million to build. When the company issues new equity, it incurs a flotation cost of 8 percent. The flotation cost on new debt is 3.5 percent. What is the initial cost of the plant if the company raises all equity externally? What if it typically uses 60 percent retained earnings? What if all equity investment is financed through retained earnings?