**Lecture Examples II**

**Example 4.1.a.** Emergent Enterprises, Inc., with no currently outstanding debt, decides to issue 2,000 Series 1 bonds, each having a face value of $100,000, a coupon rate of 8%, and a time to maturity of three years. The current yield on similar bonds is 10.4%. Emergent will issue no new bonds after the Series 1 bonds mature. How much cash does Emergent raise from the bond issue? What is the Value of Debt?

b. Assume interest is paid semiannually. The coupon rate is 8% APR and the annualized yield is 10.4%.

c. Assume payments are annual. Suppose Emergent will issue 3,000 Series 2 bonds three years from now, each having a face value of $100,000, a coupon rate of 11%, and a time to maturity of three years. The current yield on similar bonds is 10.4%. Emergent will issue no new bonds after the Series 2 bonds mature. Calculate the Value of Debt in this case.

d. Calculate the value and OCC of Emergent’s portfolio of ITS. The tax rate is 35%.

e. Now suppose that, in addition to the Series 1 and 2 bonds, Emergent issues $50 million in one-year commercial paper, having a coupon rate and yield of 7%. In future years Emergent plans to increase this debt issue by 5% per year. Calculate the Value of Debt and the Return on Debt, as well as the value and OCC of the portfolio of ITS.

**Example 4.2.a.** Shares of Superannuation Company common stock currently trade at $25.00. At the end of this year Superannuation will pay a dividend of $2.00 per share, and the dividend is expected to grow by 4% per year for the foreseeable future. Calculate the dividend yield, rate of capital gain and return on equity.

b. Suppose Superannuation’s expected dividend growth rate is revised upward to 5% per year. Assume that the return on equity and this year’s dividend remain the same.

**Example 5.1.a.** The financing of Common Co. consists of $20 billion in debt, yielding 7%, and 500 million shares of common stock, currently trading at $80 per share. Common shares will receive an annual dividend of $12 per share for the foreseeable future. The tax rate is 35%. Calculate the the market value of Common, the debt ratio, Dividend Yield, Return on Equity and CCC.

b. Estimate the value and OCC of Common’s non-ITS assets.

c. Suppose Common holds $1.5 billion worth of government securities, yielding 3.5%. Estimate the value and OCC of Common’s real assets.

d. Calculate the enterprise value of Common.

**Example 5.2.** Groovy Grommits Co., a retail hardware chain, is considering entering the wholesale hardware business. Currently there are three major firms that specialize in hard-
ware wholesaling. The following figures have been obtained from financial market data.

<table>
<thead>
<tr>
<th>Value of Firm</th>
<th>$D$</th>
<th>$r_D$</th>
<th>$\beta_E$</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-Purpose</td>
<td>1,250</td>
<td>590</td>
<td>.077</td>
</tr>
<tr>
<td>Builder’s</td>
<td>700</td>
<td>210</td>
<td>.069</td>
</tr>
<tr>
<td>Craft</td>
<td>300</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The three firms hold no financial assets, and each firm faces a tax rate of 35%. Assume that the risk-free rate is 3% and the market risk premium is 7.5%. Use CAPM to obtain an estimate of the ICC for the hardware wholesaling industry.

**Example 6.1.** Goliath Retail Corp. has a current market value of $17.5 billion, financed by $10.5 billion in debt and 350 million shares of common stock. Goliath is considering a shopping complex project requiring an investment of $300 million, yielding future cash flows having a value of $500 million. Goliath pays commissions of 1.5% and 5% of the values of debt and equity transactions, respectively. Goliath faces a tax rate of 35%.

For each of the following financing plans, calculate the APV of the project, Goliath’s market value and share price following project adoption, shareholders’ net benefit per share from project adoption, and the number of shares it must issue or repurchase.

- **a.** Goliath borrows $150 million and finances the remainder by issuing new equity.
- **b.** Goliath borrows $150 million, issues $75 million in new equity, and finances the remainder using internal cash flow.
- **c.** Goliath sells an existing property for $200 million and finances the remainder of the asset investment by borrowing. The property has a current book value of $100 million. The asset sale requires a brokerage cost of $5 million.
- **d.** Suppose Goliath issues debt and equity to obtain financing and maintain its target debt ratio of 60%.

**Example 6.2.a.** Uptown Properties, Inc., is considering an investment of $25 million in an office building, which will yield yearly net cash flows of $4 million in perpetuity. Uptown has a market value of $130 million, pays 9% on its debt and maintains a debt ratio of 65%. Analysis of stock market data reveals that Uptown’s shares return an average of 17%. Uptown’s tax rate is 35%.

What is Uptown’s WACC? Calculate the APV of the office project using the WACC method.

- **b.** Calculate the APV using the conventional method.

**Example 6.3.** Insatiable Industries has a current market value of $12.6 billion, with $5.1 billion worth of debt and 120 million shares of common stock outstanding. Insatiable is seeking to acquire Tasty Technologies’ frozen pastry division for $280 million. Based on product synergies, Insatiable calculates that the division will add $310 million to the value of its real assets. To finance the purchase, Insatiable will issue $160 million worth of new debt, and the balance will be covered by internal cash flow. For handling the transaction, Insatiable’s investment bank will charge a fixed fee of $4 million. The tax rate is 35%.

Calculate the APV of the asset acquisition and its effect on Insatiable’s share price.