The Cost of Capital

- What are the sources of capital?

- What is the cost of capital?
  - The cost of capital reflects the investment opportunities and alternatives in the financial market available to suppliers of the firm’s capital.
The Cost of Capital

• *Which* cost of capital?

• How do we calculate the cost of capital?

The Cost of Common Stock

• There are two ways:

  1.

  2.
The Dividend Growth Model

• Recall:

• Therefore,

• $R_E$ is the required return on equity, or the cost of equity capital.

Dividend Growth Model Example

• Brian’s Burritos just paid a $2.00 dividend, which it expects to grow at 5% per year indefinitely. If the current price of this stock is $25, what is Brian’s cost of equity capital?
The Dividend Growth Model

• **Problem:** We know what the price of the stock is today and we know what the most recent dividend was. We seldom know the growth rate.

• **Potential Solutions:**
  1) 
  2) 
  3)

The Capital Asset Pricing Model (CAPM)

• **Recall:**

• We know the average historical risk premium and can look-up the risk-free rate (e.g., U.S. Treasury bills). We also can calculate or look up betas.

• **Problem:**
The Cost of Preferred Stock

• What do we know about the dividends of preferred stock?

• Recall:

• Therefore:

The Cost of Debt

• The cost of debt is the return that the firm’s creditors demand on ________ borrowing.

• How do we get it?

• Recall:
  ▫ Coupon Rate
  ▫ Current Yield
  ▫ Yield to Maturity
The Weighted Average Cost of Capital (WACC)

- Recall from the balance sheet:

- We are also interested in ____________ cash flows.

- One benefit of debt (not available to equity) is the fact that interest payments are ________________.

The After-tax Cost of Debt
The Weighted Average Cost of Capital (WACC)

\[
WACC = \left[ \left( \frac{E}{D + E + P} \right) \times R_E \right] + \left[ \left( \frac{P}{D + E + P} \right) \times R_P \right] + \left[ \left( \frac{D}{D + E + P} \right) \times R_D \times (1 - t) \right]
\]

Keep in mind:

• __________ Capital Structure
• ________ Values NOT ________ Values

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The Weighted Average Cost of Capital (WACC)

\[
WACC = \left[ \left( \frac{E}{D + E} \right) \times R_E \right] + \left[ \left( \frac{D}{D + E} \right) \times R_D \times (1 - t) \right]
\]

Keep in mind:

• __________ Capital Structure
• ________ Values NOT ________ Values
WACC Example

- The B. B. Lean Co. has 1.4 million shares of stock outstanding. The stock currently sells for $20 per share. The firm’s debt is publicly traded and was recently quoted at 93 percent of face value. It has a total face value of $5 million and it is currently priced to yield 11 percent. The risk-free rate is 8 percent and the market risk premium is 7 percent. You’ve estimated that Lean’s stock has a beta of 0.74. If the corporate tax rate is 34 percent, what is the WACC of Lean Co.?

More on WACC

- What does the WACC measure?
- What is the WACC for a firm financed with all equity?
- WACC and Company Valuation
- How do we estimate the appropriate discount rate for a project with different risk than our company?
Another WACC Example

- As CFO of Mickey’s Mullets, Inc., you are trying to determine the firm’s weighted average cost of capital (WACC). You have gathered the following information: The firm has 2,000 bonds, 35,000 preferred shares, and 100,000 common shares of stock outstanding. The bonds were 20 years bonds when they were issued 2 years ago, have a 9% coupon rate, paid annually, and a $1,000 face value. The bonds currently have a yield to maturity of 6.5881%. The preferred stock pays a $5.25 annual dividend and currently has a dividend yield of 7.5%. The firm just paid a $1.20 dividend on the common stock yesterday, which has a beta of 0.95, and expects to maintain a constant 7 percent growth rate in dividends. You know the yield on short-term U.S. Treasuries is 5.3%, the historical market risk premium is 6 percent, and the firm has a marginal tax rate of 40 percent.

Chapter 14
Suggested Problems

- Concepts Review and Critical Thinking Questions:
  - 1, 4, 5 (the DCF model is the Dividend Growth Model), 7, and 8

- Questions and Problems:
  - 1, 2, 5, 7, 9, 14, 15, 16, 20, and 30 (except part e). Notice how problem 30 brings it all together (i.e., the big picture).