Chapter 10 Problems

* a.

rs=7.33%

* b.

re=7.70%

* 10-1

**AFTER-TAX COST OF DEBT** The Holmes Company’s currently outstanding bonds have an 8% coupon and a 10% yield to maturity. Holmes believes it could issue new bonds at par that would provide a similar yield to maturity. If its marginal tax rate is 40%, what is Holmes’ after-tax cost of debt?

* 10-2

**COST OF PREFERRED STOCK** Torch Industries can issue perpetual preferred stock at a price of $57.00 a share. The stock would pay a constant annual dividend of $6.00 a share. What is the company’s cost of preferred stock, rp?

**ANSWER ↓**

* 10-3

**COST OF COMMON EQUITY** Pearson Motors has a target capital structure of 30% debt and 70% common equity, with no preferred stock. The yield to maturity on the company’s outstanding bonds is 9%, and its tax rate is 40%. Pearson’s CFO estimates that the company’s WACC is 10.50%. What is Pearson’s cost of common equity?

* 10-4

**COST OF EQUITY WITH AND WITHOUT FLOTATION** Jarett & Sons’s common stock currently trades at $30.00 a share. It is expected to pay an annual dividend of $1.00 a share at the end of the year (D1=$1.00), and the constant growth rate is 4% a year.

* 1. What is the company’s cost of common equity if all of its equity comes from retained earnings?
  2. If the company issued new stock, it would incur a 10% flotation cost. What would be the cost of equity from new stock?
* 10-5

**PROJECT SELECTION** Midwest Water Works estimates that its WACC is 10.5%. The company is considering the following capital budgeting projects:

| **Project** | **Size** | **Rate of Return** |
| --- | --- | --- |
| A | $1 million | 12.0% |
| B | 2 million | 11.5 |
| C | 2 million | 11.2 |
| D | 2 million | 11.0 |
| E | 1 million | 10.7 |
| F | 1 million | 10.3 |
| G | 1 million | 10.2 |

Assume that each of these projects is just as risky as the firm’s existing assets and that the firm may accept all the projects or only some of them. Which set of projects should be accepted? Explain.

**Intermediate Problems 6-13**

* a.

rs=15.6%

* b.

rs=14.4%

* c.

rs=15%

* d.

rs Avg=15.0%

* a.

rs=14.97%

* b.

WACC = 11.62%

* c.

Project A

* 10-6

**COST OF COMMON EQUITY** The future earnings, dividends, and common stock price of Callahan Technologies Inc. are expected to grow 6% per year. Callahan’s common stock currently sells for $22.00 per share, its last dividend was $2.00, and it will pay a $2.12 dividend at the end of the current year.

* 1. Using the DCF approach, what is its cost of common equity?
  2. If the firm’s beta is 1.2, the risk-free rate is 6%, and the average return on the market is 13%, what will be the firm’s cost of common equity using the CAPM approach?
  3. If the firm’s bonds earn a return of 11%, based on the bond-yield-plus-risk-premium approach, what will be rs? Use the midpoint of the risk premium range discussed in **Section 10-5** in your calculations.
  4. If you have equal confidence in the inputs used for the three approaches, what is your estimate of Callahan’s cost of common equity?
* 10-7

**COST OF COMMON EQUITY WITH AND WITHOUT FLOTATION**

The Evanec Company’s next expected dividend, D1, is $3.18; its growth rate is 6%; and its common stock now sells for $36.00. New stock (external equity) can be sold to net $32.40 per share.

* 1. What is Evanec’s cost of retained earnings, rs?
  2. What is Evanec’s percentage flotation cost, F?
  3. What is Evanec’s cost of new common stock, re?
* 10-8

**COST OF COMMON EQUITY AND WACC** Palencia Paints Corporation has a target capital structure of 35% debt and 65% common equity, with no preferred stock. It’s before-tax cost of debt is 8%, and its marginal tax rate is 40%. The current stock price is P0=$22.00. The last dividend was D0=$2.25, and it is expected to grow at a 5% constant rate. What is its cost of common equity and its WACC?

**ANSWER ↓**

* 10-9

**WACC**The Paulson Company’s year-end balance sheet is shown below. Its cost of common equity is 14%, its before-tax cost of debt is 10%, and its marginal tax rate is 40%. Assume that the firm’s long-term debt sells at par value. The firm’s total debt, which is the sum of the company’s short-term debt and long-term debt, equals $1,167. The firm has 576 shares of common stock outstanding that sell for $4.00 per share. Calculate Paulson’s WACC using market-value weights.