

7. The Goodsmith Charitable Foundation, which is tax-exempt, issued debt last year at 9 percent to help finance a new playground facility in Los Angeles. This year the cost of debt is 25 percent higher; that is, firms that paid 11 percent for debt last year will be paying 13.75 percent this year.

- a.* If the Goodsmith Charitable Foundation borrowed money this year, what would the aftertax cost of debt be, based on their cost last year and the 25 percent increase?
- b.* If the receipts of the foundation were found to be taxable by the IRS (at a rate of 34 percent because of involvement in political activities), what would the aftertax cost of debt be?

17. Compute K_e and K_n under the following circumstances:

a. $D_1 = \$5.00$, $P_0 = \$70$, $g = 8\%$, $F = \$7.00$.

b. $D_1 = \$0.22$, $P_0 = \$28$, $g = 7\%$, $F = \$2.50$.

c. E_1 (earnings at the end of period one) = \$7, payout ratio equals 40 percent,
 $P_0 = \$30$, $g = 6.0\%$, $F = \$2.20$.

d. D_0 (dividend at the beginning of the first period) = \$6, growth rate for dividends and earnings (g) = 7%, $P_0 = \$60$, $F = \$3$.

20. Evans Technology has the following capital structure.

Debt	40%
Common equity	60

The aftertax cost of debt is 6 percent, and the cost of common equity (in the form of retained earnings) is 13 percent.

- a. What is the firm's weighted average cost of capital?
- b. An outside consultant has suggested that because debt is cheaper than equity, the firm should switch to a capital structure that is 50 percent debt and 50 percent equity. Under this new and more debt-oriented arrangement, the aftertax cost of debt is 7 percent, and the cost of common equity (in the form of retained earnings) is 15 percent. Recalculate the firm's weighted average cost of capital.
- c. Which plan is optimal in terms of minimizing the weighted average cost of capital?

Masco Oil and Gas Company is a very large company with common stock listed on the New York Stock Exchange and bonds traded over the counter. As of the current balance sheet, it has three bond issues outstanding:

\$150 million of 10 percent series	2026
\$50 million of 7 percent series	2020
\$75 million of 5 percent series	2016

The vice-president of finance is planning to sell \$75 million of bonds next year to replace the debt due to expire in 2016. Present market yields on similar Baa-rated bonds are 12.1 percent. Masco also has \$90 million of 7.5 percent noncallable preferred stock outstanding, and it has no intentions of selling any preferred stock at any time in the future. The preferred stock is currently priced at \$80 per share, and its dividend per share is \$7.80.

The company has had very volatile earnings, but its dividends per share have had a very stable growth rate of 8 percent and this will continue. The expected dividend (D_1) is \$1.90 per share, and the common stock is selling for \$40 per share. The company's investment banker has quoted the following flotation costs to Masco: \$2.50 per share for preferred stock and \$2.20 per share for common stock.

On the advice of its investment banker, Masco has kept its debt at 50 percent of assets and its equity at 50 percent. Masco sees no need to sell either common or preferred stock in the foreseeable future as it has generated enough internal funds for its investment needs when these funds are combined with debt financing. Masco's corporate tax rate is 40 percent.

Compute the cost of capital for the following:

- a. Bond (debt) (K_d).
- b. Preferred stock (K_p).
- c. Common equity in the form of retained earnings (K_e).
- d. New common stock (K_n).
- e. Weighted average cost of capital.

7. Assume a \$40,000 investment and the following cash flows for two alternatives.

Year	Investment X	Investment Y
1	\$ 6,000	\$15,000
2	8,000	20,000
3	9,000	10,000
4	17,000	—
5	20,000	—

Which of the alternatives would you select under the payback method?

8. Assume a \$90,000 investment and the following cash flows for two alternatives.

Year	Investment A	Investment B
1	\$25,000	\$40,000
2	30,000	40,000
3	25,000	28,000
4	19,000	—
5	25,000	—

- Calculate the payback for investments A and B.
- If the inflow in the fifth year for Investment A was \$25,000,000 instead of \$25,000, would your answer change under the payback method?

18. The Pan American Bottling Co. is considering the purchase of a new machine that would increase the speed of bottling and save money. The net cost of this machine is \$60,000. The annual cash flows have the following projections.

Year	Cash Flow
1	\$23,000
2	26,000
3	29,000
4	15,000
5	8,000

- a.* If the cost of capital is 13 percent, what is the net present value of selecting a new machine?
- b.* What is the internal rate of return?
- c.* Should the project be accepted? Why?

28. Oregon Forest Products will acquire new equipment that falls under the five-year MACRS category. The cost is \$300,000. If the equipment is purchased, the following earnings before depreciation and taxes will be generated for the next six years.

Year 1	\$112,000
Year 2	105,000
Year 3	82,000
Year 4	53,000
Year 5	37,000
Year 6	32,000

The firm is in a 30 percent tax bracket and has a 14 percent cost of capital. Should Oregon Forest Products purchase the equipment? Use the net present value method.

5. What are three forms of corporate securities discussed in the chapter? *(LO14-2)*
6. Do corporations rely more on external or internal funds as sources of financing? *(LO14-2)*
7. Explain the role of financial intermediaries in the flow of funds through the three-sector economy. *(LO14-3)*

...ing is security markets important. (LO14-4)

10. How would you define efficient security markets? (LO14-5)

11. The ...