
**ADDIS ABABA MEDICAL AND BUSINESS COLLEGE
COLLEGE OF BUSINESS**

**FINANCIAL MANAGEMENT II
GROUP ASSIGNMENT**

Ch01 & Ch02

1. The Willy Bunker School of Karate has annual fixed operating costs of \$24,000. Each student pays \$200 in fees; \$40 of this amount covers the per student cost of instructional hand-outs and supplies. There are no other operating costs.
 - a) How many students must the school enroll in order to break even?
 - b) Determine the break-even point if the cost of instructional materials were to increase to \$50 per student.
 - c) Ignoring part b above, what would be the break-even point if fees were to increase by 20 percent?
 - d) Ignoring parts b and c above, what would be the break-even point if fixed costs were reduced to \$21,280?
 - e) Calculate the break-even point if all the above changes (b, c, and d) were to take place simultaneously.
2. Milwaukee Melon Manufacturers sells exotic melons at one price, \$10 each. The firm has variable costs of \$160,000 on sales of 32,000 melons. Fixed costs are \$80,000. Operating income (EBIT) this year is \$80,000 and after-tax net income is \$30,000. Interest expense is \$20,000.
 - a) What is its degree of financial leverage at the current level of EBIT?
 - b) Suppose that EBIT were to decline 10 percent next year. What would be the percentage decline in earnings per share (EPS)?
3. Explain the relationship between DOL, DFL, and DTL and discuss whether firms attempt to achieve a high DOL and a high DFL.
4. David Company and Goliath Company are virtually identical firms (\$50,000 NOI) except for the use of leverage. David has permanent debt of \$200,000 with a 14% interest rate, while Goliath has no debt. The equity capitalization rate of Goliath (in the absence of borrowing) is 20 percent. The corporate tax rate for both firms is 40 percent. Assume that there are no personal taxes.
 - a) What is the present value of the debt tax-shield benefit for David?
 - b) Calculate the income available to all suppliers of capital (both debtholders and shareholders) for the firms.
 - c) Calculate the total value of each firm.

5. Describe the elements that should be considered (financing checklist) to determine the appropriate capital structure.
6. Dickson Corp. is comparing two different capital structures. Plan I would result in 12,700 shares of stock and \$100,050 in debt. Plan II would result in 9,800 shares of stock and \$226,200 in debt. The interest rate on the debt is 10 percent.
 - a) Ignoring taxes, compare both of these plans to an all-equity plan assuming that EBIT will be \$70,000. The all-equity plan would result in 15,000 shares of stock outstanding. Which of the three plans has the highest EPS? The lowest?
 - b) In part (a), what are the break-even levels of EBIT for each plan as compared to that for an all-equity plan? Is one higher than the other? Why?
 - c) Ignoring taxes, when will EPS be identical for Plans I and II?
 - d) Repeat parts (a), (b), and (c) assuming that the corporate tax rate is 21 percent. Are the break-even levels of EBIT different from before? Why or why not?
7. The Continental Company reported the following income statement for 2010:

Sales	15,000,00
Less: Operating expenses	
Wages, salaries, benefits	6,000,00
Raw materials	3,000,00
Depreciation	1,500,00
General, administrative, and selling expenses	1,500,00
Total operating expenses	<u>12,000,00</u>
Earnings before interest and taxes (EBIT)	<u>3,000,00</u>
Less: Interest expense	750,000
Earnings before taxes	<u>2,250,00</u>
Less: Income taxes	1,000,00
Earnings after taxes	<u>1,250,00</u>
Less: Preferred dividends	<u>250,000</u>

Earnings available to common stockholders	<u>1,000,00</u> <u>0</u>
Earnings per share—250,000 shares outstanding	<u>4</u>

Assume that all depreciation and 75 percent of the firm's general, administrative, and selling expenses are fixed costs and that the remainder of the firm's operating expenses are variable costs.

- a) Determine Continental's fixed costs, variable costs, and variable cost ratio.
 - b) Based on its 2010 sales, calculate the following for the firm:
 - i) Degree of operating leverage
 - ii) Degree of financial leverage
 - iii) Degree of combined leverage and interpret this value
8. Two identical firms exist except that Firm A uses no debt and Firm B uses some debt. The total value of Firm A is less than the total value of Firm B, but you own 2% of Firm B. Based on the arguments by Modigliani and Miller regarding the total value principle, what should you do (Multiple choice - Choose the correct one)?
- a) Buy 2% of Firm A with funds from "shorting" your shares in Firm B. Submit a press release that the two firms should be worth identical values. This will cause Firm A to rise in value and leave you extra funds for investment.
 - b) You should borrow enough funds to equal the difference in firm value, purchase shares of Firm A with these funds, and sell your shares in Firm B. This will leave extra funds for an investment of your choice.
 - c) Sell your shares, personally borrow 2% of the quantity of firm debt, and purchase 2% of Firm A. This will leave extra funds for an investment of your choice.
 - d) Sell enough of your shares (Firm B) to purchase 2% of Firm A. This will leave extra funds for an investment of your choice.
9. (M&M) Sugar Skull Corp. uses no debt. The weighted average cost of capital is 7.9 percent. If the current market value of the equity is \$15.6 million and there are no taxes, what is EBIT?
10. (M&M and Taxes) In Problem 9, suppose the corporate tax rate is 22 percent. What is EBIT in this case? What is the WACC? Explain.
11. (Calculating WACC) Solar Industries has a debt-equity ratio of 1.25. Its WACC is 7.8 percent, and its cost of debt is 4.7 percent. The corporate tax rate is 21 percent.
- a) What is the company's cost of equity capital?
 - b) What is the company's unlevered cost of equity capital?

- c) What would the cost of equity be if the debt-equity ratio were 2? What if it were 1? What if it were zero?
12. (Calculating WACC) Navarro Corp. has no debt but can borrow at 5.9 percent. The firm's WACC is currently 9.2 percent, and the tax rate is 21 percent.
- a) What is the company's cost of equity?
 - b) If the firm converts to 25 percent debt, what will its cost of equity be?
 - c) If the firm converts to 50 percent debt, what will its cost of equity be?
 - d) What is the company's WACC in part (b)? In part (c)?
13. (M&M) Tool Manufacturing has an expected EBIT of \$57,000 in perpetuity and a tax rate of 21 percent. The firm has \$134,000 in outstanding debt at an interest rate of 5.35 percent, and its unlevered cost of capital is 10.3 percent. What is the value of the firm according to M&M Proposition I with taxes? Should the company change its debt-equity ratio if the goal is to maximize the value of the firm? Explain.
14. (Firm Value) Tempest Corporation expects an EBIT of \$37,700 every year forever. The company currently has no debt, and its cost of equity is 11 percent. The tax rate is 22 percent.
- a) What is the current value of the company?
 - b) Suppose the company can borrow at 6 percent. What will the value of the firm be if the company takes on debt equal to 50 percent of its unlevered value? What if it takes on debt equal to 100 percent of its unlevered value?
 - c) What will the value of the firm be if the company takes on debt equal to 50 percent of its levered value? What if the company takes on debt equal to 100 percent of its levered value?
15. Smalltown Diners has a policy of treating dividends as a passive residual. It forecasts that net earnings after taxes in the coming year will be \$500,000. The firm has earned the same \$500,000 for each of the last five years and has paid between \$200,000 and \$350,000 out in dividends in each of those years. The company is financed entirely with equity and its cost of equity capital is 12 percent.
- a) How much of the coming year's earnings should be paid out in dividends if the company has \$400,000 in projects whose expected returns exceed 12 percent?
 - b) How much should be paid out if the company has investment projects of \$5,000,000 whose expected return is greater than 12 percent?