

Chapter 15: Capital Structure Decisions Mini Case
 Book Title: Financial Management: Theory and Practice
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Chapter Review

Mini Case

Assume you have just been hired as a business manager of PizzaPalace, a regional pizza restaurant chain. The company's EBIT was \$50 million last year and is not expected to grow. The firm is currently financed with all equity, and it has 10 million shares outstanding. When you took your corporate finance course, your instructor stated that most firms' owners would be financially better off if the firms used some debt. When you suggested this to your new boss, he encouraged you to pursue the idea. As a first step, assume that you obtained from the firm's investment banker the following estimated costs of debt for the firm at different capital structures:

Percent Financed with Debt, w_d	r_d
0%	—
20	8.0%
30	8.5
40	10.0
50	12.0

If the company were to recapitalize, then debt would be issued and the funds received would be used to repurchase stock. PizzaPalace is in the 40% state-plus-federal corporate tax bracket, its beta is 1.0, the risk-free rate is 6%, and the market risk premium is 6%.

- Using the free cash flow valuation model, show the only avenues by which capital structure can affect value.
1. What is business risk? What factors influence a firm's business risk?

2. What is operating leverage, and how does it affect a firm's business risk? Show the operating break-even point if a company has fixed costs of \$200, a sales price of \$15, and variable costs of \$10.

c. Now, to develop an example that can be presented to PizzaPalace's management to illustrate the effects of financial leverage, consider two hypothetical firms: Firm U, which uses no debt financing, and Firm L, which uses \$10,000 of 12% debt. Both firms have \$20,000 in assets, a 40% tax rate, and an expected EBIT of \$3,000.

1. Construct partial income statements, which start with EBIT, for the two firms.
2. Now calculate ROE for both firms.
3. What does this example illustrate about the impact of financial leverage on ROE

d. Explain the difference between financial risk and business risk.

e. What happens to ROE for Firm U and Firm L if EBIT falls to \$2,000? What does this imply about the impact of leverage on risk and return?

f. What does capital structure theory attempt to do? What lessons can be learned from capital structure theory? Be sure to address the MM models.

g. What does the empirical evidence say about capital structure theory? What are the implications for managers?

h. With the preceding points in mind, now consider the optimal capital structure for PizzaPalace.

1. For each capital structure under consideration, calculate the levered beta, the cost of equity, and the WACC.

2. Now calculate the corporate value for each capital structure.

i. Describe the recapitalization process and apply it to PizzaPalace. Calculate the resulting value of the debt that will be issued, the resulting market value of equity, the price per share, the number of shares repurchased, and the remaining shares. Considering only the capital structures under analysis, what is PizzaPalace's optimal capital structure?

j. Suppose there is a large probability that L will default on its debt. For the purpose of this example, assume that the value of L's operations is \$4 million (the value of its debt plus equity). Assume also that its debt consists of 1-year, zero coupon bonds with a face value of \$2 million. Finally, assume that L's volatility, σ , is 0.60 and that the risk-free rate r_{RF} is 6%.