Valuation: Measuring and Managing the Value of Companies

Moving from Enterprise Value to Value per Share

Chapter 12 Problems

1. MarineCo manufactures, markets, and distributes recreational motor boats. Using discounted free cash flow, you value the company's operations at $2,500 million. The company has a 20% stake in a nonconsolidated subsidiary valued at $500 million. The investment is recorded on MarineCo's balance sheet as an equity investment of $50 million. MarineCo is looking to increase its ownership. The company's marginal tax rate is 30 percent. Based on this information, what is MarineCo's enterprise value? If new management announced its plan to sell the subsidiary at its current value, how would that change your valuation?

2. MarineCo has unfunded pension liabilities valued at $200 million, recorded as a long-term other liability. MarineCo has detailed a potential legal judgment of $100 million for defective engines in its annual report. Since management estimates a 90% likelihood the judgment will be enforced against the engine maker and not MarineCo, they have not reported a liability on the balance sheet. The company's marginal tax rate is 30 percent. Based on this information and information provided in Question 1 (assuming no sale of the subsidiary), what is MarineCo's equity value?

3. To finance customer purchases, MarineCo recently started a customer financing unit. MarineCo's income statement and balance sheet is provided in Exhibit 12.8. Separate MarineCo's income statement and balance sheet into the two segments: manufacturing and the customer subsidiary. Assume equity in financing subsidiary is the difference between finance receivables and debt related those receivables. What is the return on invested capital for the manufacturing segment? What is the return on equity for the customer financing subsidiary?

4. In Question 4, we computed ROE based on an equity calculation equal to the difference between finance receivables and debt related those receivables. Why might this ROE measurement lead to a result that is too high?

5. You are valuing a company using probability-weighted scenario analysis. You carefully model three scenarios, such that the resulting enterprise value equals $300 million in Scenario 1, $200

million in Scenario 1, and $100 million in Scenario 1. The probability of each scenario is 25 percent, 50 percent, and 25 percent respectively. What is the expected enterprise value? What is the expected equity value? Management announces a new plan that eliminates the downside scenario, making Scenario 2 that much more likely. What happens to enterprise value and equity value? Why does enterprise value rise more than equity value?

6. You are valuing a technology company whose enterprise value is $800 million. The company has no debt, but considerable employee options, 10 million in total. Based on option pricing models, you value each option at $6.67 per option. If the company has 40 million shares outstanding, what is the company's equity value and value per share? What is the value per share using the exercise value approach? Assume the average strike price equals $15.

EXHIBIT 12.8 **MarineCo: Income Statement and Balance Sheet**

$ million

Income statement	
Sales of machinery	1,500
Revenues of financial products	400
Total revenues	1,900
Cost of goods sold	(1,000)
Interest expense of financial products	(350)
Total operating costs	(1,350)
Operating profit	550
Interest expense, general obligation	(80)
Net income	470

Balance sheet	
Operating assets	2,200
Financial receivables	4,000
Total assets	6,200
Operating liabilities	400
General obligation debt	0
Debt related to financial products	3,600
Stockholders' equity	2,200
Total liabilities and equity	6,200