FINM2063 Introduction to Finance

Chapter 5 Exercises

1. From the following information, construct a simple income statement and a balance sheet:

|  |  |
| --- | --- |
| Sales | $1,000,000 |
| Finished goods | 200,000 |
| Long-term debt | 300,000 |
| Raw materials | 100,000 |
| Cash | 50,000 |
| Cost of goods sold | 600,000 |
| Accounts receivable | 250,000 |
| Plant and equipment | 400,000 |
| Interest expense | 80,000 |
| Number of shares outstanding | 100,000 |
| Earnings before taxes | 220,000 |
| Taxes | 100,000 |
| Accounts payable | 200,000 |
| Other current liabilities | 50,000 |
| Other expenses | 100,000 |
| Equity | 450,000 |

1. Two firms have sales of $1 million each. Other financial information is as follows:

|  |  |  |
| --- | --- | --- |
| Firm | A | B |
| EBIT | $150,000 | $150,000 |
| Interest expense | 20,000 | 75,000 |
| Income tax | 50,000 | 30,000 |
| Debt | 400,000 | 700,000 |
| equity | 600,000 | 300,000 |

What are the operating profit margins and the net profit margins for these two firms? What are their returns on assets and on equity? Why are they different?

1. A firm’s balance sheets for the last two years are as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Year 20X1 | | | |
| Assets | | Liabilities and Equity | |
| Cash | $19,000 | Accounts payable | $12,000 |
|  |  | Accruals | 10,000 |
| Accounts receivable | 11,000 | Current bank note | 10,000 |
| Inventory | 20,000 | Long-term debt | 32,000 |
| Plant and equipment | 50,000 | Common stock | 14,000 |
|  |  | Retained earnings | 22,000 |
|  | $100,000 |  | $100,000 |

Note: accruals cover items such as wages and salaries that have been earned but not paid.

|  |  |  |  |
| --- | --- | --- | --- |
| Year 20X2 | | | |
| Assets | | Liabilities and Equity | |
| Cash | $2,000 | Accounts payable | $12,000 |
|  |  | Accruals | 10,000 |
| Accounts receivable | 28,000 | Current bank note | 30,000 |
| Inventory | 20,000 | Long-term debt | 10,000 |
| Plant and equipment | 50,000 | Common stock | 14,000 |
|  |  | Retained earnings | 24,000 |
|  | $100,000 |  | $100,000 |

Sales in 20X1 were $250,000. Sales in 20X2 were $250,000.

1. Based solely on the current ratio and the quick ratio, has the firm’s liquidity position deteriorated or improved?
2. Without doing a calculation, has days sales outstanding (receivables turnover) improved? How do you know?
3. If the firm earned $5,000 during 20X2, what proportion of those earnings were distributed?
4. W. F. Bailey Company had a quick ratio of 1.4, a current ratio of 3.0, and inventory turnover of five times, total current assets of $810,000, and cash and equivalents of $120,000 in 2015. If the cost of goods sold equaled 80% of sales, what were Bailey’s annual sales and days sales outstanding (DSO)?
5. Coastal Packaging’s ROE last year was only 3%, but its management has developed a new operating plan designed to improve things. The new plan calls for a total debt ratio of 60%, which will result in interest charges of $300 per year. Management projects an EBIT of $1,000 on sales of $10,000, and it expects to have a total assets turnover ratio of 2.0 times. Under these conditions, the average tax rate will be 30%. If the changes are made, what ROE will Coastal earn? What is the ROA?
6. Earth’s Best Company has sales of $200,000, a net income of $15,000, and the following balance sheet:

|  |  |  |  |
| --- | --- | --- | --- |
| Cash | $10,000 | Accounts payable | $30,000 |
| Receivables | 50,000 | Other current liabilities | 20,000 |
| Inventories | 150,000 | Long-term debt | 50,000 |
| Net fixed assets | 90,000 | Common equity | 200,000 |
| Total assets | $300,000 | Total liabilities and equity | $300,000 |

1. The company’s new owner thinks that inventories are excessive and can be lowered to the point where the current ratio is equal to the industry average, 2.5, without affecting either sales or net income. If inventories are sold off and not replaced so as to reduce the current ratio to 2.5, if the funds generated are used to reduce common equity (stock can be repurchased at book value), and if no other changes occur, by how much will the ROE change?
2. How would your answer change if we made the following changes: (1) We doubled all of the dollar amounts? (2) We stated that the target current ratio was 3.0? (3) We said that the company had 10,000 shares of stock outstanding, and we asked how much the change in part (a) would increase EPS? (4) What would your answer to (3) be if we changed the original problem to state that the stock was selling for twice the book value, so common equity would not be reduced on a dollar-for-dollar basis?