

## Chapter 02

### Evaluating Financial Performance

#### True / False Questions

1. An inventory turnover ratio of 10 means that, on average, items are held in inventory for 10 days.

True False

2. All else equal, an increase in a company's asset turnover will decrease its ROE.

True False

3. A company's return on assets will always equal or exceed its profit margin.

True False

4. A company's price-to-earnings ratio is always equal to one minus its earnings yield.

True False

5. Return on assets can be calculated as profit margin times asset turnover.

True False

6. All else equal, a firm would prefer to have a higher gross margin.

True False

7. The times-interest-earned ratio always equals or exceeds the times-burden-covered ratio.

True False

## Multiple Choice Questions

8. The most popular yardstick of financial performance among investors and senior managers is the:
- A. profit margin.
  - B. return on equity.
  - C. return on assets.
  - D. times-burden-covered ratio.
  - E. earnings yield.
  - F. None of the above.
9. Which of these ratios, or levers of performance, are the determinants of ROE?
- I. profit margin
  - II. financial leverage
  - III. times interest earned
  - IV. asset turnover
- A. I and IV only
  - B. II and IV only
  - C. I, II, and IV only
  - D. I, II, and III only
  - E. I, III, and IV only
  - F. I, II, III, and IV

10. Ratios that measure how efficiently a firm manages its assets and operations to generate net income are referred to as \_\_\_\_ ratios.
- A. asset turnover and control
  - B. financial leverage
  - C. coverage
  - D. profitability
  - E. None of the above.
11. Which of the following ratios are measures of a firm's liquidity?
- I. fixed asset turnover ratio
  - II. current ratio
  - III. debt-equity ratio
  - IV. acid test
- A. I and III only
  - B. II and IV only
  - C. III and IV only
  - D. I, II, and III only
  - E. I, III, and IV only
12. Ptarmigan Travelers had sales of \$420,000 in 2013 and \$480,000 in 2014. The firm's current asset accounts remained constant. Given this information, which one of the following statements must be true?
- A. The total asset turnover rate increased.
  - B. The days' sales in receivables increased.
  - C. The inventory turnover rate increased.
  - D. The fixed asset turnover decreased.
  - E. The collection period decreased.

13. In comparison to industry averages, Okra Corp. has a low inventory turnover, a high current ratio, and an average quick ratio. Which of the following would be the most reasonable inference about Okra Corp.?
- A. Its current liabilities are too low.
  - B. Its cost of goods sold is too low.
  - C. Its cash and securities balance is too low.
  - D. Its inventory level is too high.
14. Which one of the following ratios identifies the amount of sales a firm generates for every \$1 in assets?
- A. current ratio
  - B. debt-to-equity
  - C. retention
  - D. asset turnover
  - E. return on assets
15. A times-interest-earned ratio of 3.5 indicates that the firm:
- A. pays 3.5 times its earnings in interest expense.
  - B. has interest expense equal to 3.5% of EBIT.
  - C. has interest expense equal to 3.5% of net income.
  - D. has EBIT equal to 3.5 times its interest expense.
16. At the end of 2014, Stacky Corp. had \$500,000 in liabilities and a debt-to-assets ratio of 0.5. For 2014 Stacky had an asset turnover of 3.0. What were annual sales for Stacky in 2014?
- A. \$333,333
  - B. \$1,200,000
  - C. \$1,800,000
  - D. \$3,000,000

17. Klamath Corporation has asset turnover of 3.5, a profit margin of 5.2%, and a current ratio of 0.5. What is Klamath Corporation's return on equity?
- A. 8.7%
  - B. 9.1%
  - C. 18.2%
  - D. Insufficient information to find ROE.
18. Assume you are a banker who has loaned money to a firm, but that firm is now facing increased competition and reduced cash flows. Which one of the following ratios would you most closely monitor to evaluate the firm's ability to repay its loan?
- A. current ratio
  - B. debt-to-equity ratio
  - C. times-interest-earned ratio
  - D. times-burden-covered ratio
  - E. None of the above.
19. Breakers Bay Inc. has succeeded in increasing the amount of goods it sells while holding the amount of inventory on hand at a constant level. Assume that both the cost per unit and the selling price per unit also remained constant. All else held constant, how will this accomplishment be reflected in the firm's financial ratios?
- A. decrease in the fixed asset turnover rate
  - B. decrease in the financial leverage ratio
  - C. increase in the inventory turnover rate
  - D. increase in the days' sales in inventory
  - E. decrease in the total asset turnover rate

20. Which one of the following statements is correct?

- A. If the debt-to-assets ratio is greater than 0.50, then the debt-to-equity ratio must be less than 1.0.
- B. Long-term creditors would prefer the times-interest-earned ratio be 1.4 rather than 1.5.
- C. The assets-to-equity ratio can be computed as 1 plus the debt-to-equity ratio.
- D. To realize the best risk and reward profile, financial leverage should be maximized.
- E. None of the above.

21. On a common-size balance sheet, all accounts are expressed as a percentage of:

- A. sales.
- B. profits.
- C. equity.
- D. total assets.
- E. None of the above.

22. Primavera Holdings has a profit margin of 25%, an asset turnover of 0.5 and financial leverage (assets to equity) of 1.5. Primavera has \$20 billion in assets, of which half is in cash and marketable securities. Assume that Primavera earns a 3 percent after-tax return on cash and securities. What would Primavera's return on equity be if it paid out 90% of its cash and marketable securities as a dividend to shareholders?

- A. Negative
- B. Between 0% and 20%
- C. Between 20% and 40%
- D. between 40% and 60%
- E. Greater than 60%

23. Which one of the following statements does NOT describe a problem with using ROE as a performance measure?

- A. ROE measures return on accounting book value, and this problem is not solved by using market value.
- B. ROE is a forward-looking, one-period measure, while business decisions span the past and present.
- C. ROE measures only return, while financial decisions involve balancing risk against return.
- D. None of these describe problems with ROE.
- E. All of these describe problems with ROE.

Link, Inc.		
Selected financial data (\$ thousands)		
	2013	2014
<b>Income statement and related items</b>		
Sales	\$160,835	\$274,219
Cost of goods sold	141,829	209,628
Net income	(91,432)	(257,981)
Cash flow from operations	(35,831)	(12,538)
<b>Balance sheet items</b>		
Cash	\$236,307	\$164,952
Marketable securities	209,670	22,638
Accounts receivable	12,645	21,655
Inventory	3,971	40,556
Total current assets	462,593	249,801
Accounts payable	17,735	13,962
Accrued liabilities	27,184	76,596
Total current liabilities	44,919	90,558

24. Please refer to the financial data for Link, Inc. above. The current ratio for Link at the end of 2014 is:
- A. 10.21
  - B. 2.31
  - C. 2.76
  - D. 10.30
  - E. None of the above.
25. Please refer to the financial data for Link, Inc. above. Which of the following statements best describes how the Link's short-term liquidity changed from 2013 to 2014?
- A. Link's short-term liquidity has improved modestly.
  - B. Link's short-term liquidity has deteriorated very little, but from a low initial base.
  - C. Link's short-term liquidity has improved considerably, but from a low initial base.
  - D. Link's short-term liquidity has deteriorated considerably, but from a high initial base.
  - E. None of the above.
26. Please refer to the financial data for Link, Inc. above. Assume a 365-day year for your calculations. Link's collection period in days, based on sales, at the end of 2014 is:
- A. 24.3
  - B. 219.6
  - C. 35.7
  - D. 28.8
  - E. None of the above.

27. Please refer to the financial data for Link, Inc. above. Assume a 365-day year for your calculations. Link's inventory turnover, based on cost of goods sold, at the end of 2014 is:

- A. 5.2
- B. 24.3
- C. 28.8
- D. 35.7
- E. None of the above.

28. Please refer to the financial data for Link, Inc. above. Assume a 365-day year for your calculations. Link's payables period in days, based on cost of goods sold, at the end of 2014 is:

- A. 5.2
- B. 24.3
- C. 28.8
- D. 35.7
- E. None of the above.

29. Please refer to the financial data for Link, Inc. above. Assume a 365-day year for your calculations. Link's days' sales in cash at the end of 2014 is:

- A. 24.3
- B. 28.8
- C. 219.6
- D. 249.7
- E. None of the above.

30. Please refer to the financial data for Link, Inc. above. Link's gross margin for 2014 is:

- A. -94%
- B. 13%
- C. 26%
- D. 31%
- E. None of the above.

31. Please refer to the financial data for Link, Inc. above. Link's profit margin for 2014 is:

- A. -94%
- B. -57%
- C. 13%
- D. 31%
- E. None of the above.

32. Please refer to the income statement for VGA Associates below. Assuming that cost of goods sold are variable and operating expenses are fixed, what was VGA Associates' breakeven sales volume in 2014?

VGA Associates	
Income statement for 2014	
Sales	\$200,000
Cost of goods sold	150,000
Gross profit	50,000
Operating expenses	20,000
Operating income	30,000
Interest expense	5,000
Pre-tax income	25,000
Taxes	5,000
Net income	\$20,000

- A. \$20,000
- B. \$80,000
- C. \$150,000
- D. \$180,000
- E. None of the above.

### Short Answer Questions

33. Answer the questions below based on the following information. The tax rate is 35% and all dollars are in millions. Assume that the companies have no liabilities other than the debt shown below.

	Suunto Inc.	Runrun Corp.
Earnings before interest and taxes	\$280	\$294
Debt (at 10% interest)	\$140	\$840
Equity	\$560	\$210

- Calculate each company's ROE, ROA, and ROIC.
- Why is Runrun's ROE so much higher than Suunto's? Does this mean Runrun is a better company? Why or why not?
- Why is Suunto's ROA higher than Runrun's? What does this tell you about the two companies?
- How do the two companies' ROICs compare? What does this suggest about the two companies?

The financial statements for Limited Brands, Inc. follow (fiscal years ending January):

**LIMITED BRANDS, INC.**  
**BALANCE SHEETS (\$ MILLIONS)**

	2007	2006	2005
<b>TOTAL ASSETS</b>	7,093.000	6,346.000	6,089.000
<b>LIABILITIES</b>			
Long-Term Debt Due In One Year	8.000	7.000	0.000
Payables and Accrued Expenses	1,701.000	1,568.000	1,451.000
Total Current Liabilities	1,709.000	1,575.000	1,451.000
Long-Term Debt	1,665.000	1,669.000	1,646.000
Deferred Taxes	173.000	146.000	177.000
Minority Interest	71.000	33.000	33.000
Other Liabilities	520.000	452.000	447.000
<b>TOTAL LIABILITIES</b>	4,138.000	3,875.000	3,754.000
<b>TOTAL EQUITY</b>	2,955.000	2,471.000	2,335.000
<b>TOTAL LIABILITIES &amp; EQUITY</b>	7,093.000	6,346.000	6,089.000
Common Shares Outstanding	398.000	395.000	407.000

**INCOME STATEMENTS (\$ MILLIONS)**

	2007	2006
Sales	10,671.000	9,669.000
Cost of Goods Sold	6,342.000	5,920.000
Gross Profit	4,329.000	3,749.000
Selling, General, & Administrative Exp.	2,837.000	2,502.500
Operating Income Before Deprec.	1,492.000	1,246.500
Depreciation, Depletion, & Amortization	316.000	299.000
Operating Profit	1,176.000	947.500
Interest Expense	102.000	94.000
Non-Operating Income/Expense	23.000	25.000
Special Items	0.000	78.500
Pretax Income	1,097.000	957.000
Total Income Taxes	422.000	291.000
Adjusted Available for Common	675.000	666.000
Extraordinary Items	1.000	17.000
Adjusted Net Income	676.000	683.000
Dividends per share	\$ 0.60	\$ 0.61

34. Please refer to Limited Brands Inc.'s financial statements above. Use the company's operating profit as an approximation of its EBIT, and assume a 40% tax rate for your calculations. For the fiscal years ending in January of 2006 and 2007, calculate:

- a. Debt-to-equity ratio
- b. Times-interest-earned ratio
- c. Times burden covered

35. Please refer to Limited Brands Inc.'s financial statements above. Use the company's operating profit as an approximation of its EBIT, and assume a 40% tax rate for your calculations. What percentage decline in earnings before interest and taxes could Limited Brands have sustained in fiscal years ending in January 2006 and 2007 before failing to cover:

- a. Interest and principal repayment requirements?
- b. Interest, principal, and common dividend payments?

36. Please refer to Limited Brands Inc.'s financial statements above. Prepare common-size financial statements for Limited Brands, Inc. for 2006 - 2007.

## Chapter 02 Evaluating Financial Performance Answer Key

### True / False Questions

1. An inventory turnover ratio of 10 means that, on average, items are held in inventory for 10 days.

FALSE

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

2. All else equal, an increase in a company's asset turnover will decrease its ROE.

FALSE

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

3. A company's return on assets will always equal or exceed its profit margin.

FALSE

*Accessibility: Keyboard Navigation*

*Difficulty: 2 Medium*

4. A company's price-to-earnings ratio is always equal to one minus its earnings yield.

FALSE

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

5. Return on assets can be calculated as profit margin times asset turnover.

TRUE

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

6. All else equal, a firm would prefer to have a higher gross margin.

TRUE

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

7. The times-interest-earned ratio always equals or exceeds the times-burden-covered ratio.

TRUE

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

### Multiple Choice Questions

8. The most popular yardstick of financial performance among investors and senior managers is the:

- A. profit margin.
- B. return on equity.
- C. return on assets.
- D. times-burden-covered ratio.
- E. earnings yield.
- F. None of the above.

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

9. Which of these ratios, or levers of performance, are the determinants of ROE?

- I. profit margin
- II. financial leverage
- III. times interest earned
- IV. asset turnover

- A. I and IV only
- B. II and IV only
- C. I, II, and IV only
- D. I, II, and III only
- E. I, III, and IV only
- F. I, II, III, and IV

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

10. Ratios that measure how efficiently a firm manages its assets and operations to generate net income are referred to as \_\_\_\_ ratios.

- A. asset turnover and control
- B. financial leverage
- C. coverage
- D. profitability
- E. None of the above.

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

11. Which of the following ratios are measures of a firm's liquidity?

- I. fixed asset turnover ratio
- II. current ratio
- III. debt-equity ratio
- IV. acid test

- A. I and III only
- B.** II and IV only
- C. III and IV only
- D. I, II, and III only
- E. I, III, and IV only

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

12. Ptarmigan Travelers had sales of \$420,000 in 2013 and \$480,000 in 2014. The firm's current asset accounts remained constant. Given this information, which one of the following statements must be true?

- A. The total asset turnover rate increased.
- B. The days' sales in receivables increased.
- C. The inventory turnover rate increased.
- D. The fixed asset turnover decreased.
- E.** The collection period decreased.

*Accessibility: Keyboard Navigation*

*Difficulty: 2 Medium*

13. In comparison to industry averages, Okra Corp. has a low inventory turnover, a high current ratio, and an average quick ratio. Which of the following would be the most reasonable inference about Okra Corp.?

- A. Its current liabilities are too low.
- B. Its cost of goods sold is too low.
- C. Its cash and securities balance is too low.
- D. Its inventory level is too high.

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

14. Which one of the following ratios identifies the amount of sales a firm generates for every \$1 in assets?

- A. current ratio
- B. debt-to-equity
- C. retention
- D. asset turnover
- E. return on assets

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

15. A times-interest-earned ratio of 3.5 indicates that the firm:

- A. pays 3.5 times its earnings in interest expense.
- B. has interest expense equal to 3.5% of EBIT.
- C. has interest expense equal to 3.5% of net income.
- D. has EBIT equal to 3.5 times its interest expense.

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

16. At the end of 2014, Stacky Corp. had \$500,000 in liabilities and a debt-to-assets ratio of 0.5. For 2014 Stacky had an asset turnover of 3.0. What were annual sales for Stacky in 2014?

- A. \$333,333
- B. \$1,200,000
- C. \$1,800,000
- D. \$3,000,000

Liabilities/Assets = 0.5 = \$500,000/\$1,000,000

So Assets = \$1,000,000

Then, Sales/\$1,000,000 = 3

So sales = \$3,000,000

*Accessibility: Keyboard Navigation*

*Difficulty: 2 Medium*

17. Klamath Corporation has asset turnover of 3.5, a profit margin of 5.2%, and a current ratio of 0.5. What is Klamath Corporation's return on equity?

- A. 8.7%
- B. 9.1%
- C. 18.2%
- D. Insufficient information to find ROE.

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

18. Assume you are a banker who has loaned money to a firm, but that firm is now facing increased competition and reduced cash flows. Which one of the following ratios would you most closely monitor to evaluate the firm's ability to repay its loan?

A. current ratio  
B. debt-to-equity ratio  
C. times-interest-earned ratio  
D. times-burden-covered ratio  
E. None of the above.

The times-burden-covered ratio is the best answer, as it indicates how well the firm's cash flows cover both debt principal and interest payments. The times-interest-earned ratio applies most appropriately when we are confident the firm can roll over existing debt; this is not the case here.

*Accessibility: Keyboard Navigation*

*Difficulty: 2 Medium*

19. Breakers Bay Inc. has succeeded in increasing the amount of goods it sells while holding the amount of inventory on hand at a constant level. Assume that both the cost per unit and the selling price per unit also remained constant. All else held constant, how will this accomplishment be reflected in the firm's financial ratios?

A. decrease in the fixed asset turnover rate  
B. decrease in the financial leverage ratio  
C. increase in the inventory turnover rate  
D. increase in the days' sales in inventory  
E. decrease in the total asset turnover rate

*Accessibility: Keyboard Navigation*

*Difficulty: 2 Medium*

20. Which one of the following statements is correct?

- A. If the debt-to-assets ratio is greater than 0.50, then the debt-to-equity ratio must be less than 1.0.
- B. Long-term creditors would prefer the times-interest-earned ratio be 1.4 rather than 1.5.
- C. The assets-to-equity ratio can be computed as 1 plus the debt-to-equity ratio.
- D. To realize the best risk and reward profile, financial leverage should be maximized.
- E. None of the above.

*Accessibility: Keyboard Navigation*

*Difficulty: 2 Medium*

21. On a common-size balance sheet, all accounts are expressed as a percentage of:

- A. sales.
- B. profits.
- C. equity.
- D. total assets.
- E. None of the above.

*Accessibility: Keyboard Navigation*

*Difficulty: 1 Easy*

22. Primavera Holdings has a profit margin of 25%, an asset turnover of 0.5 and financial leverage (assets to equity) of 1.5. Primavera has \$20 billion in assets, of which half is in cash and marketable securities. Assume that Primavera earns a 3 percent after-tax return on cash and securities. What would Primavera's return on equity be if it paid out 90% of its cash and marketable securities as a dividend to shareholders?
- A. Negative
  - B. Between 0% and 20%
  - C. Between 20% and 40%
  - D.** between 40% and 60%
  - E. Greater than 60%

Currently, equity = \$13.33 billion ( $20/13.33 = 1.5$ ), sales = 10 ( $10/20 = 0.5$ ) and net income = 2.5 ( $2.5/10 = 25\%$ ).

Paying a \$9 billion dividend would reduce assets to \$11 billion and equity to \$4.33 billion. Net income would fall by  $3\% \times \$9 \text{ billion} = \$0.27 \text{ billion}$ , to \$2.23 billion.

ROE would then be  $2.23/4.33 = 51.50\%$

*Accessibility: Keyboard Navigation*

*Difficulty: 3 Hard*

23. Which one of the following statements does NOT describe a problem with using ROE as a performance measure?
- A. ROE measures return on accounting book value, and this problem is not solved by using market value.
  - B.** ROE is a forward-looking, one-period measure, while business decisions span the past and present.
  - C. ROE measures only return, while financial decisions involve balancing risk against return.
  - D. None of these describe problems with ROE.
  - E. All of these describe problems with ROE.

*Accessibility: Keyboard Navigation*

*Difficulty: 2 Medium*

Link, Inc.		
Selected financial data (\$ thousands)		
	2013	2014
<b>Income statement and related items</b>		
Sales	\$160,835	\$274,219
Cost of goods sold	141,829	209,628
Net income	(91,432)	(257,981)
Cash flow from operations	(35,831)	(12,538)
<b>Balance sheet items</b>		
Cash	\$236,307	\$164,952
Marketable securities	209,670	22,638
Accounts receivable	12,645	21,655
Inventory	3,971	40,556
Total current assets	462,593	249,801
Accounts payable	17,735	13,962
Accrued liabilities	27,184	76,596
Total current liabilities	44,919	90,558

24. Please refer to the financial data for Link, Inc. above. The current ratio for Link at the end of 2014 is:

- A. 10.21
- B. 2.31
- C. 2.76
- D. 10.30
- E. None of the above.

$$249,801/90,558 = 2.76$$

*Difficulty: 1 Easy*

25. Please refer to the financial data for Link, Inc. above. Which of the following statements best describes how the Link's short-term liquidity changed from 2013 to 2014?

- A. Link's short-term liquidity has improved modestly.
- B. Link's short-term liquidity has deteriorated very little, but from a low initial base.
- C. Link's short-term liquidity has improved considerably, but from a low initial base.
- D. Link's short-term liquidity has deteriorated considerably, but from a high initial base.
- E. None of the above.

*Difficulty: 2 Medium*

26. Please refer to the financial data for Link, Inc. above. Assume a 365-day year for your calculations. Link's collection period in days, based on sales, at the end of 2014 is:

- A. 24.3
- B. 219.6
- C. 35.7
- D. 28.8
- E. None of the above.

$$21,655 / (274,219 / 365) = 28.8$$

*Difficulty: 2 Medium*

27. Please refer to the financial data for Link, Inc. above. Assume a 365-day year for your calculations. Link's inventory turnover, based on cost of goods sold, at the end of 2014 is:

- A. 5.2
- B. 24.3
- C. 28.8
- D. 35.7
- E. None of the above.

$$209,628/40,556 = 5.2$$

*Difficulty: 2 Medium*

28. Please refer to the financial data for Link, Inc. above. Assume a 365-day year for your calculations. Link's payables period in days, based on cost of goods sold, at the end of 2014 is:

- A. 5.2
- B. 24.3
- C. 28.8
- D. 35.7
- E. None of the above.

$$13,962/(209,620/365) = 24.3$$

*Difficulty: 2 Medium*

29. Please refer to the financial data for Link, Inc. above. Assume a 365-day year for your calculations. Link's days' sales in cash at the end of 2014 is:

- A. 24.3
- B. 28.8
- C. 219.6
- D. 249.7
- E. None of the above.

$$(164,952 + 22,638)/(274,219/365) = 249.7$$

*Difficulty: 2 Medium*

30. Please refer to the financial data for Link, Inc. above. Link's gross margin for 2014 is:

- A. -94%
- B. 13%
- C. 26%
- D. 31%
- E. None of the above.

$$(274,219 - 209,628)/274,219 = 23.6\%$$

*Difficulty: 1 Easy*

31. Please refer to the financial data for Link, Inc. above. Link's profit margin for 2014 is:

- A. -94%
- B. -57%
- C. 13%
- D. 31%
- E. None of the above.

$$-257,981/274,219 = -94\%$$

*Difficulty: 1 Easy*

32. Please refer to the income statement for VGA Associates below. Assuming that cost of goods sold are variable and operating expenses are fixed, what was VGA Associates' breakeven sales volume in 2014?

VGA Associates	
Income statement for 2014	
Sales	\$200,000
Cost of goods sold	<u>150,000</u>
Gross profit	50,000
Operating expenses	<u>20,000</u>
Operating income	30,000
Interest expense	<u>5,000</u>
Pre-tax income	25,000
Taxes	<u>5,000</u>
Net income	<u>\$20,000</u>

- A. \$20,000
- B. \$80,000**
- C. \$150,000
- D. \$180,000
- E. None of the above.

Gross margin =  $50,000/200,000 = 25\%$ .

Breakeven sales volume =  $\text{Operating expenses}/\text{Gross margin} = \$20,000/0.25 = \$80,000$ .

*Difficulty: 2 Medium*

### Short Answer Questions

33. Answer the questions below based on the following information. The tax rate is 35% and all dollars are in millions. Assume that the companies have no liabilities other than the debt shown below.

	Suunto Inc.	Runrun Corp.
Earnings before interest and taxes	\$280	\$294
Debt (at 10% interest)	\$140	\$840
Equity	\$560	\$210

- Calculate each company's ROE, ROA, and ROIC.
- Why is Runrun's ROE so much higher than Suunto's? Does this mean Runrun is a better company? Why or why not?
- Why is Suunto's ROA higher than Runrun's? What does this tell you about the two companies?
- How do the two companies' ROICs compare? What does this suggest about the two companies?

	Suunto Inc.	Runrun Corp.
Net income	172.9	136.5
ROE	31%	65%
ROA	25%	13%
ROIC	26%	18%

- Runrun's higher ROE is a natural reflection of its higher financial leverage. It does not mean that Runrun is the better company.
- This is also due to Runrun's higher leverage. ROA penalizes levered companies by comparing the net income available to equity to the capital provided by owners and creditors. It does not mean that Runrun is a worse company than Suunto.
- ROIC abstracts from differences in leverage to provide a direct comparison of the earning power of the two companies' assets. On this metric, Suunto is the superior performer. Before drawing any firm conclusions, however, it is important to ask how the business risks faced by the companies compare and whether the observed ratios reflect long-run capabilities or

transitory events.

*Difficulty: 2 Medium*

The financial statements for Limited Brands, Inc. follow (fiscal years ending January):

**LIMITED BRANDS, INC.**  
**BALANCE SHEETS (\$ MILLIONS)**

	2007	2006	2005
<b>TOTAL ASSETS</b>	7,093.000	6,346.000	6,089.000
<b>LIABILITIES</b>			
Long-Term Debt Due In One Year	8.000	7.000	0.000
Payables and Accrued Expenses	1,701.000	1,568.000	1,451.000
Total Current Liabilities	1,709.000	1,575.000	1,451.000
Long-Term Debt	1,665.000	1,669.000	1,646.000
Deferred Taxes	173.000	146.000	177.000
Minority Interest	71.000	33.000	33.000
Other Liabilities	520.000	452.000	447.000
<b>TOTAL LIABILITIES</b>	4,138.000	3,875.000	3,754.000
<b>TOTAL EQUITY</b>	2,955.000	2,471.000	2,335.000
<b>TOTAL LIABILITIES &amp; EQUITY</b>	7,093.000	6,346.000	6,089.000
Common Shares Outstanding	398.000	395.000	407.000

**INCOME STATEMENTS (\$ MILLIONS)**

	2007	2006
Sales	10,671.000	9,669.000
Cost of Goods Sold	6,342.000	5,920.000
Gross Profit	4,329.000	3,749.000
Selling, General, & Administrative Exp.	2,837.000	2,502.500
Operating Income Before Deprec.	1,492.000	1,246.500
Depreciation, Depletion, & Amortization	316.000	299.000
Operating Profit	1,176.000	947.500
Interest Expense	102.000	94.000
Non-Operating Income/Expense	23.000	25.000
Special Items	0.000	78.500
Pretax Income	1,097.000	957.000
Total Income Taxes	422.000	291.000
Adjusted Available for Common	675.000	666.000
Extraordinary Items	1.000	17.000
Adjusted Net Income	676.000	683.000
Dividends per share	\$ 0.60	\$ 0.61

34. Please refer to Limited Brands Inc.'s financial statements above. Use the company's operating profit as an approximation of its EBIT, and assume a 40% tax rate for your calculations. For the fiscal years ending in January of 2006 and 2007, calculate:

- a. Debt-to-equity ratio
- b. Times-interest-earned ratio
- c. Times burden covered

	Fiscal Year Ending	
	Jan. 2007	Jan. 2006
a. Debt-to-equity ratio	1.40	1.57
b. Times-interest-earned ratio	11.53	10.08
c. Times burden covered	10.35	10.08

(Note that principal payment in year t equals current portion of long-term debt in year t-1.)

*Difficulty: 2 Medium*

35. Please refer to Limited Brands Inc.'s financial statements above. Use the company's operating profit as an approximation of its EBIT, and assume a 40% tax rate for your calculations. What percentage decline in earnings before interest and taxes could Limited Brands have sustained in fiscal years ending in January 2006 and 2007 before failing to cover:

a. Interest and principal repayment requirements?

b. Interest, principal, and common dividend payments?

a. For the fiscal year ending January 2006:

Interest expense = \$94

Principal repayment = \$0 (long-term debt due in one year from 2005)

EBIT = \$947.5, so it could have fallen  $(947.5 - 94)/947.5 = 90.1\%$

before failing to cover interest and principal.

For the fiscal year ending January 2007:

Interest expense = \$102

Principal repayment = \$7 (long-term debt due in one year from 2006)

EBIT = \$1,176, so it could have fallen  $(1,176 - 102 - 7/0.6)/1,176 = 90.3\%$

before failing to cover interest and principal.

b. For the fiscal year ending January 2006:

Interest expense = \$94

Principal repayment = \$0 (long-term debt due in one year from 2005)

Common dividends = Shares outstanding  $\times$  Dividends per share =  $395 \times 0.61 = \$241.0$

EBIT = \$947.5, so it could have fallen  $(947.5 - 94 - 241/0.6)/947.5 = 47.7\%$

before failing to cover interest, principal, and dividends.

For the fiscal year ending January 2007:

Interest expense = \$102

Principal repayment = \$7 (long-term debt due in one year from 2006)

Common dividends = Shares outstanding  $\times$  Dividends per share =  $398 \times 0.60 = \$238.8$

EBIT = \$1,176, so it could have fallen  $(1,176 - 102 - 245.8/0.6)/1,176 = 56.5\%$

before failing to cover interest, principal, and dividends.

*Difficulty: 2 Medium*

36. Please refer to Limited Brands Inc.'s financial statements above. Prepare common-size financial statements for Limited Brands, Inc. for 2006 - 2007.

**BALANCE SHEETS (% of Assets)**

	2007	2006	2005
<b>TOTAL ASSETS</b>	100.00%	100.00%	100.00%
<b>LIABILITIES</b>			
Long-Term Debt Due In One Year	0.11%	0.11%	0.00%
Payables and Accrued Expenses	23.98%	24.71%	23.83%
Total Current Liabilities	24.09%	24.82%	23.83%
Long-Term Debt	23.47%	26.30%	27.03%
Deferred Taxes	2.44%	2.30%	2.91%
Minority Interest	1.00%	0.52%	0.54%
Other Liabilities	7.33%	7.12%	7.34%
<b>TOTAL LIABILITIES</b>	58.34%	61.06%	61.65%
<b>TOTAL EQUITY</b>	41.66%	38.94%	38.35%
<b>TOTAL LIABILITIES &amp; EQUITY</b>	100.00%	100.00%	100.00%
Common Shares Outstanding	398	395	407

**INCOME STATEMENTS (% of Sales)**

	2007	2006
Sales	100.00%	100.00%
Cost of Goods Sold	59.43%	61.23%
Gross Profit	40.57%	38.77%
Selling, General, & Administrative Exp.	26.59%	25.88%
Operating Income Before Deprec.	13.98%	12.89%
Depreciation, Depletion, & Amortization	2.96%	3.09%
Operating Profit	11.02%	9.80%
Interest Expense	0.96%	0.97%
Non-Operating Income/Expense	0.22%	0.26%
Special Items	0.00%	0.81%
Pretax Income	10.28%	9.90%
Total Income Taxes	3.95%	3.01%
Adjusted Available for Common	6.33%	6.89%
Extraordinary Items	0.01%	0.18%
Adjusted Net Income	6.33%	7.06%

*Difficulty: 2 Medium*