

# CHAPTER 14

## Financial Statement Analysis

### ASSIGNMENT CLASSIFICATION TABLE

<u>Learning Objectives</u>	<u>Questions</u>	<u>Brief Exercises</u>	<u>Do It!</u>	<u>Exercises</u>	<u>Problems</u>
1. Discuss the need for comparative analysis.	1, 2, 3, 5	1			
2. Identify the tools of financial statement analysis.	2, 3, 5, 6	2			
3. Explain and apply horizontal analysis.	3, 4	2, 3, 5, 6, 7	1, 4	1, 3, 4	
4. Describe and apply vertical analysis.	3, 4	2, 4, 8		2, 3, 4	1
5. Identify and compute ratios used in analyzing a firm's liquidity, profitability, and solvency.	5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	2, 9, 10, 11, 12, 13	2, 4	5, 6, 7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 7
6. Understand the concept of earning power, and how discontinued operations are presented.	20, 21, 22	14, 15	3, 4	12, 13	8, 9
7. Understand the concept of quality of earnings.	23		4		

## ASSIGNMENT CHARACTERISTICS TABLE

<b>Problem Number</b>	<b>Description</b>	<b>Difficulty Level</b>	<b>Time Allotted (min.)</b>
1	Prepare vertical analysis and comment on profitability.	Simple	20–30
2	Compute ratios from statement of financial position and income statement.	Simple	20–30
3	Perform ratio analysis, and evaluate financial position and operating results.	Simple	20–30
4	Compute ratios, and comment on overall liquidity and profitability.	Moderate	30–40
5	Compute selected ratios, and compare liquidity, profitability, and solvency for two companies.	Moderate	50–60
6	Compute numerous ratios.	Simple	30–40
7	Compute missing information given a set of ratios.	Complex	30–40
8	Prepare income statement with discontinued operations.	Moderate	30–40
9	Prepare income statement with non-typical items.	Moderate	30–40

**WEYGANDT FINANCIAL ACCOUNTING, IFRS EDITION, 2e**  
**CHAPTER 14**  
**FINANCIAL STATEMENT ANALYSIS**

<b>Number</b>	<b>LO</b>	<b>BT</b>	<b>Difficulty</b>	<b>Time (min.)</b>
BE1	1	C	Moderate	10–12
BE2	2–5	K, AP	Simple	8–10
BE3	3	AP	Simple	6–8
BE4	4	AP	Simple	6–8
BE5	3	AP	Simple	4–6
BE6	3	AP	Simple	4–6
BE7	3	AP	Simple	4–6
BE8	4	AP	Simple	5–7
BE9	5	AP	Simple	4–6
BE10	5	AP	Simple	3–5
BE11	5	AN	Simple	6–8
BE12	5	AN	Moderate	6–8
BE13	5	AN	Moderate	6–8
BE14	6	AP	Simple	4–6
BE15	6	AP	Simple	3–5
DI1	3	AP	Simple	6–8
DI2	5	AP	Simple	10–12
DI3	6	AP	Simple	6–8
DI4	3, 5–7	C	Simple	3–5
EX1	3	AP	Simple	10–12
EX2	4	AP	Simple	10–12
EX3	3, 4	AP	Simple	12–15
EX4	3, 4	AP	Simple	10–12
EX5	5	AN	Simple	8–10
EX6	5	AP	Simple	8–10
EX7	5	AP	Simple	6–8
EX8	5	AP	Simple	6–8
EX9	5	AP	Simple	6–8
EX10	5	AP	Moderate	8–10

## FINANCIAL STATEMENT ANALYSIS (Continued)

Number	LO	BT	Difficulty	Time (min.)
EX11	5	AP	Simple	10–12
EX12	6	AN	Moderate	8–10
EX13	6	AP	Simple	6–8
P1	4, 5	AP, AN	Simple	20–30
P2	5	AP	Simple	20–30
P3	5	AP, AN	Simple	20–30
P4	5	AP, AN	Moderate	30–40
P5	5	AP, AN	Moderate	50–60
P6	5	AP	Simple	30–40
P7	5	AN	Complex	30–40
P8	6	AP	Moderate	30–40
P9	6	AP	Moderate	30–40
BYP1	3, 5	AN, E	Moderate	20–25
BYP2	3, 5	AN, E	Simple	15–20
BYP3	5	C, E	Moderate	15–20
BYP4	6	AP	Moderate	20–25
BYP5	1, 7	C	Simple	15–20

# BLOOM'S TAXONOMY TABLE

Correlation Chart between Bloom's Taxonomy, Learning Objectives and End-of-Chapter Exercises and Problems

Learning Objective	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
1. Discuss the need for comparative analysis.		Q14-1 Q14-5 Q14-2 BE14-1 Q14-3				
2. Identify the tools of financial statement analysis.	Q14-6 BE14-2	Q14-2 Q14-5 Q14-3	BE14-2			
3. Explain and apply horizontal analysis.	BE14-2	Q14-3 D1 14-4	Q14-4 BE14-7 BE14-2 DI14-1 BE14-3 E14-1 BE14-5 E14-3 BE14-6 E14-4			
4. Describe and apply vertical analysis.	BE14-2	Q14-3	Q14-4 E14-2 BE14-2 E14-3 BE14-4 E14-4 BE14-8	P14-1		
5. Identify and compute ratios used in analyzing a firm's liquidity, profitability, and solvency.	Q14-6 Q14-8 BE14-2	Q14-5 Q14-14 Q14-7 Q14-15 Q14-9 Q14-16 Q14-10 Q14-17 Q14-11 Q14-18 Q14-12 DI14-4 Q14-13	Q14-19 E14-8 BE14-2 E14-9 BE14-9 E14-10 BE14-10 E14-11 DI14-2 P14-1 E14-6 P14-2 E14-7 P14-3 P14-4 P14-5 P14-6	BE14-11 P14-2 BE14-12 P14-3 BE14-13 P14-4 E14-5 P14-7 P14-1		
6. Understand the concept of earning power, and how discontinued operations are presented.		Q14-20 DI14-4 Q14-21 Q14-22	BE14-14 E14-13 BE14-15 P14-8 DI14-3 P14-9	E14-12		
7. Understand the concept of quality of earnings.		Q14-23 DI14-4				
8. Broadening Your Perspective		Decision-Making Across the Organization Communication		Financial Reporting Comp. Analysis		Financial Reporting Comp. Analysis Decision-Making Across the Organization. Ethics Case

# ANSWERS TO QUESTIONS

1. (a) Kurt is not correct. There are three characteristics: liquidity, profitability, and solvency.  
(b) The three parties are not primarily interested in the same characteristics of a company. Short-term creditors are primarily interested in the liquidity of the company. In contrast, long-term creditors and shareholders are primarily interested in the profitability and solvency of the company.
2. (a) Comparison of financial information can be made on an intracompany basis, an intercompany basis, and an industry average basis (or norms).
  - (1) An **intracompany basis** compares an item or financial relationship within a company in the current year with the same item or relationship in one or more prior years.
  - (2) The **industry averages basis** compares an item or financial relationship of a company with industry averages (or norms) published by financial rating services.
  - (3) An **intercompany basis** compares an item or financial relationship of one company with the same item or relationship in one or more competing companies.  
(b) The **intracompany basis** of comparison is useful in detecting changes in financial relationships and significant trends within a company.  
The **industry averages basis** provides information as to a company's relative performance within the industry.  
The **intercompany basis** of comparison provides insight into a company's competitive position.
3. Horizontal analysis (also called trend analysis) measures the dollar and percentage increase or decrease of an item over a period of time. In this approach, the amount of the item on one statement is compared with the amount of that same item on one or more earlier statements. Vertical analysis (also called common-size analysis) expresses each item within a financial statement in terms of a percent of a base amount.
4. (a)  $\text{€}350,000 \times 1.224 = \text{€}428,400$ , 2014 net income.  
(b)  $\text{€}350,000 \div .05 = \text{€}7,000,000$ , 2013 revenue.
5. A ratio expresses the mathematical relationship between one quantity and another. The relationship is expressed in terms of either a percentage (200%), a rate (2 times), or a simple proportion (2:1). Ratios can provide clues to underlying conditions that may not be apparent from individual financial statement components. The ratio is more meaningful when compared to the same ratio in earlier periods or to competitors' ratios or to industry ratios.
6. (a) Liquidity ratios: Current ratio, acid-test ratio, accounts receivable turnover, and inventory turnover.  
(b) Solvency ratios: Debt to total assets and times interest earned.
7. Gordon is correct. A single ratio by itself may not be very meaningful and is best interpreted by comparison with: (1) past ratios of the same company, (2) ratios of other companies, or (3) industry norms or predetermined standards. In addition, other ratios of the company are necessary to determine overall financial well-being.
8. (a) Liquidity ratios measure the short-term ability of a company to pay its maturing obligations and to meet unexpected needs for cash.  
(b) Profitability ratios measure the income or operating success of a company for a given period of time.  
(c) Solvency ratios measure the ability of the company to survive over a long period of time.

## Questions Chapter 14 (Continued)

9. The current ratio relates current assets to current liabilities. The acid-test ratio relates cash, short-term investments, and net receivables to current liabilities. The current ratio includes inventory and prepaid expenses while the acid-test ratio excludes these. The acid-test ratio provides additional information about short-term liquidity and is an important complement to the current ratio.
10. Monte Company does not necessarily have a problem. The accounts receivable turnover ratio can be misleading in that some companies encourage credit and revolving charge sales and slow collections in order to earn a healthy return on the outstanding accounts receivable in the form of high rates of interest.
11. (a) Asset turnover.  
(b) Inventory turnover.  
(c) Return on ordinary shareholders' equity.  
(d) Times interest earned.
12. The price earnings (P/E) ratio is a reflection of investors' assessments of a company's future earnings. In this question, investors favor Microsoft because it has the higher P/E ratio. The investors feel that Microsoft will be able to generate even higher future earnings and so the investors are willing to pay more for the shares.
13. The payout ratio is cash dividends divided by net income. In a growth company, the payout ratio is often low because the company is reinvesting earnings in the business.
14. (a) The increase in profit margin is good news because it means that a greater percentage of net sales is going towards income.  
(b) The decrease in inventory turnover signals bad news because it is taking the company longer to sell the inventory and consequently there is a greater chance of inventory obsolescence.  
(c) An increase in the current ratio signals good news because the company improved its ability to meet maturing short-term obligations.  
(d) The earnings per share ratio is a deceptive ratio. The decrease might be bad news to the company because it could mean a decrease in net income. If there is an increase in shareholders' investment (as a result of issuing additional shares) and a decrease in EPS, then this means that the additional investment is earning a lower return (as compared to the return on ordinary shareholders' equity before the additional investment). Generally, this is undesirable.  
(e) The increase in the price-earnings ratio is generally good news because it means that the market price per share has increased and investors are willing to pay that higher price for the shares. An increase in the P/E ratio is good news for investors who own the shares and don't want to buy any more. It is bad news for investors who want to buy (or buy more of) the shares.  
(f) The increase in the debt to total assets ratio is bad news because it means that the company has increased its obligations to creditors and has lowered its equity "buffer."  
(g) The decrease in the times interest earned ratio is bad news because it means that the company's ability to meet interest payments as they come due has weakened.

## Questions Chapter 14 (Continued)

15. 
$$\text{Return on assets} = \frac{\text{Net Income}}{\text{Average Assets}}$$
  
(7.6%)

$$\text{Return on ordinary shareholders' equity} = \frac{\text{Net Income} - \text{Preference Dividends}}{\text{Average Ordinary Shareholders' Equity}}$$
  
(12.8%)

The difference between the two rates can be explained by looking at the denominator value and by remembering the basic accounting equation,  $A = L + E$ . The asset value will clearly be the larger of the two denominator values; therefore, it will also give the smaller return.

16. (a) The times interest earned ratio, which is an indication of the company's ability to meet interest payments, and the debt to total assets ratio, which indicates the company's ability to withstand losses without impairing the interests of creditors.
- (b) The current ratio and the acid-test ratio, which indicate a company's liquidity and short-term debt-paying ability.
- (c) The earnings per share and the return on ordinary shareholders' equity, both of which indicate the earning power of the investment.

17. Earnings per share means earnings per ordinary share. Preference share dividends are subtracted from net income in computing EPS in order to obtain income available to ordinary shareholders.

18. (a) Trading on the equity means that the company has borrowed money at a lower rate of interest than it is able to earn by using the borrowed money. Simply stated, it is using money supplied by non-owners to increase the return to the owners.
- (b) A comparison of the return on total assets with the rate of interest paid for borrowed money indicates the profitability of trading on the equity.

19. 
$$\frac{\text{Net income} - \text{Preference dividends}}{\text{Weighted average} - \text{ordinary shares outstanding}} = \text{Earnings per share}$$

$$\frac{\text{R\$160,000} - \text{R\$30,000}}{50,000} = \text{R\$2.60}$$

EPS of R\$2.60 is high relative to what? Is it high relative to last year's EPS? The president may be comparing the EPS of R\$2.60 to the market price of the company's stock.

20. Discontinued operations refers to the disposal of a significant component of the business such as the stopping of an entire activity or eliminating a major class of customers. It is important to report discontinued operations separately from continuing operations because the discontinued component will not affect future income statements.
21. EPS on income from continuing operations usually is more relevant to an investment decision than EPS on net income. Income from continuing operations represents the results of continuing and ordinary business activity. It is therefore a better basis for predicting future operating results than an EPS figure which includes the effect of discontinued operations that are not expected to recur again in the foreseeable future.



## Questions Chapter 14 (Continued)

22. When comparing EPS trends, discontinued operations should be omitted since they are not reflective of normal operations. In this example, the trend is unfavorable because EPS, exclusive of discontinued operations, has decreased from \$3.20 to \$2.99.
23. (1) Use of alternative accounting methods. Variations among companies in the application of IFRS may hamper comparability.
- (2) Use of pro forma income measures that do not follow IFRS. Pro forma income is calculated by excluding items that the company believes are unusual or nonrecurring. It is often difficult to determine what was included and excluded.
- (3) Improper revenue and expense recognition. Many high-profile cases of inappropriate accounting involve recording items in the wrong period.

# **SOLUTIONS TO BRIEF EXERCISES**

## **BRIEF EXERCISE 14-1**

**Dear Uncle Liam,**

**It was so good to hear from you! I hope you and Aunt Doreen are still enjoying your new house.**

**You asked some interesting questions. They relate very well to the material that we are studying now in my financial accounting class. You said you heard that different users of financial statements are interested in different characteristics of companies. This is true. A short-term creditor, such as a bank, is interested in the company's liquidity, or ability to pay obligations as they become due. The liquidity of a borrower is extremely important in evaluating the safety of a loan. A long-term creditor, such as a bondholder, would be interested in solvency, the company's ability to survive over a long period of time. A long-term creditor would also be interested in profitability. They are interested in the likelihood that the company will survive over the life of the debt and be able to meet interest payments. Shareholders are also interested in profitability, and in the solvency of the company. They want to assess the likelihood of dividends and the growth potential of the shares.**

**It is important to compare different financial statement elements to other items. The amount of a financial statement element such as cash does not have much meaning unless it is compared to something else. Comparisons can be done on an intracompany basis. This basis compares an item or financial relationship within a company for the current year to one or more previous years. Intracompany comparisons are useful in detecting changes in financial relationships and significant trends. Comparisons can also be done with industry averages. This basis compares an item or financial relationship with industry averages or norms. Comparisons with industry averages provide information as to a company's relative performance within the industry. Finally, comparisons can be done on an intercompany basis. This basis compares an item or financial relationship with the same item or relationship in one or more competing companies. Intercompany comparisons are useful in determining a company's competitive position.**

**I hope this answers your questions. If it does not, or you have more questions, please write me again or call. We could even meet for lunch sometime; it would be great to see you!**

**Love,**

**Your niece (or nephew)**

## BRIEF EXERCISE 14-2

- (a) The three tools of financial statement analysis are horizontal analysis, vertical analysis, and ratio analysis. Horizontal analysis evaluates a series of financial statement data over a period of time. Vertical analysis evaluates financial statement data by expressing each item in a financial statement as a percent of a base amount. Ratio analysis expresses the relationship among selected items of financial statement data.

(b) Horizontal Analysis

	<u>2012</u>	<u>2013</u>	<u>2014</u>
Current assets	100%	105%	109%

(105% = \$230,000/\$220,000; 109% = \$240,000/\$220,000)

Vertical Analysis

	<u>2012</u>	<u>2013</u>	<u>2014</u>
Current assets*	44%	38%	38%

\*as a percentage of total assets

(44% = \$220,000/\$500,000; 38% = \$230,000/\$600,000;  
38% = \$240,000/\$630,000)

Ratio Analysis

	<u>2012</u>	<u>2013</u>	<u>2014</u>
Current ratio	1.38	1.35	1.30

(1.38 = \$220,000/\$160,000; 1.35 = \$230,000/\$170,000;  
1.30 = \$240,000/\$184,000)

## BRIEF EXERCISE 14-3

### Horizontal analysis:

	<u>Dec. 31, 2014</u>	<u>Dec. 31, 2013</u>	<u>Increase or (Decrease)</u>	
			<u>Amount</u>	<u>Percentage</u>
Inventory	€ 840,000	€ 500,000	€340,000	68%
Accounts receivable	€ 520,000	€ 350,000	€170,000	49%
Total assets	€2,500,000	€3,000,000	(€500,000)	(17)%
	$\frac{340,000}{500,000} = .68$	$\frac{170,000}{350,000} = .49$	$\frac{(500,000)}{3,000,000} = (.17)$	

## BRIEF EXERCISE 14-4

Vertical analysis:

	Dec. 31, 2014		Dec. 31, 2013	
	Amount	Percentage*	Amount	Percentage**
Inventory	€ 840,000	33.6%	€ 500,000	16.7%
Accounts receivable	€ 520,000	20.8%	€ 350,000	11.7%
Total assets	€2,500,000	100%	€3,000,000	100%

$$\frac{* 840,000}{2,500,000} = .336 \qquad \frac{** 500,000}{3,000,000} = .167$$

$$\frac{* 520,000}{2,500,000} = .208 \qquad \frac{** 350,000}{3,000,000} = .117$$

## BRIEF EXERCISE 14-5

	2014	2013	2012
Net income	\$525,000	\$475,000	\$550,000

	Increase or (Decrease)	
	Amount	Percentage
(a) 2012–2013	(75,000)	(14%)
(b) 2013–2014	50,000	11%

$$\frac{75,000}{550,000} = .14 \qquad \frac{50,000}{475,000} = .11$$

## BRIEF EXERCISE 14-6

	2014	2013	Increase
Net income	\$560,000	X	40%

$$.40 = \frac{\$560,000 - X}{X}$$

$$.40X = \$560,000 - X$$

### BRIEF EXERCISE 14-6 (Continued)

$$1.40X = \$560,000$$

$$X = \$400,000$$

$$2013 \text{ Net income} = \underline{\underline{\$400,000}}$$

### BRIEF EXERCISE 14-7

Comparing the percentages presented results in the following conclusions: The net income for Kemplar increased in 2013 because of the combination of an increase in sales revenue and a decrease in both cost of goods sold and expenses. However, the reverse was true in 2014 as sales revenue decreased while both cost of goods sold and expenses increased. This resulted in a decrease in net income.

### BRIEF EXERCISE 14-8

	<u>2014</u>	<u>2013</u>	<u>2012</u>
Sales revenue	100.0	100.0	100.0
Cost of goods sold	59.2	62.4	64.5
Expenses	<u>25.0</u>	<u>25.6</u>	<u>27.5</u>
Net income	<u>15.8</u>	<u>12.0</u>	<u>8.0</u>

Net income as a percent of sales revenue for Dagman increased over the three-year period because cost of goods sold and expenses both decreased as a percent of sales every year.

### BRIEF EXERCISE 14-9

(a) Working capital = Current assets – Current liabilities

Current assets	£46,690,000
Current liabilities	<u>40,600,000</u>
Working capital	<u>£ 6,090,000</u>

## BRIEF EXERCISE 14-9 (Continued)

(b) Current ratio:

$$\frac{\text{Current assets}}{\text{Current liabilities}} = \frac{\text{£46,690,000}}{\text{£40,600,000}}$$
$$= \underline{\underline{1.15:1}}$$

(c) Acid-test ratio:

$$\frac{\begin{array}{l} \text{Cash + Short-term investments} \\ + \text{Receivables (net)} \end{array}}{\text{Current liabilities}} = \frac{\text{£8,113,000} + \text{£4,947,000} + \text{£12,545,000}}{\text{£40,600,000}}$$
$$= \frac{\text{£25,605,000}}{\text{£40,600,000}}$$
$$= \underline{\underline{.63:1}}$$

## BRIEF EXERCISE 14-10

(a) Asset turnover =  $\frac{\text{Net sales}}{\text{Average assets}}$

$$= \frac{\text{\$88,000,000}}{\frac{\text{\$14,000,000} + \text{\$18,000,000}}{2}}$$
$$= \underline{\underline{5.5 \text{ times}}}$$

(b) Profit margin =  $\frac{\text{Net income}}{\text{Net sales}}$

$$= \frac{\text{\$12,760,000}}{\text{\$88,000,000}}$$
$$= \underline{\underline{14.5\%}}$$

## BRIEF EXERCISE 14-11

(a) Accounts receivable turnover =  $\frac{\text{Net credit sales}}{\text{Average net accounts receivable}}$

	2014	2013
(1)	$\frac{\$3,745,000}{\$535,000^*} = 7.0 \text{ times}$ $*(\$520,000 + \$550,000) \div 2$	$\frac{\$3,000,000}{\$500,000^{**}} = 6.0 \text{ times}$ $**(\$480,000 + \$520,000) \div 2$

(2) Average collection period

$\frac{365}{7.0} = 52.1 \text{ days}$	$\frac{365}{6.0} = 60.8 \text{ days}$
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(b) Gladow Company should be pleased with the effectiveness of its credit and collection policies. The company has decreased the average collection period by 8.7 days and the collection period of approximately 52 days is well within the 60 days allowed in the credit terms.

## BRIEF EXERCISE 14-12

(a) Inventory turnover =  $\frac{\text{Cost of goods sold}}{\text{Average inventory}}$

(1)	2014	2013
	$\frac{\text{₹4,400,000}}{\left( \frac{\text{₹980,000} + \text{₹1,020,000}}{2} \right)} = 4.4 \text{ times}$	$\frac{\text{₹4,600,000}}{\left( \frac{\text{₹860,000} + \text{₹980,000}}{2} \right)} = 5.0 \text{ times}$

Beginning inventory	₹ 980,000	₹ 860,000
Purchases	<u>4,440,000</u>	<u>4,720,000</u>
Goods available for sale	5,420,000	5,580,000
Ending inventory	<u>1,020,000</u>	<u>980,000</u>
Cost of goods sold	<u>₹4,400,000</u>	<u>₹4,600,000</u>

(2) Days in inventory

$\frac{365}{4.4} = 83.0 \text{ days}$	$\frac{365}{5.0} = 73.0 \text{ days}$
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## BRIEF EXERCISE 14-12 (Continued)

- (b) Management should be concerned with the fact that inventory is moving slower in 2014 than it did in 2013. The decrease in the turnover could be because of poor pricing decisions or because the company is stuck with obsolete inventory.

## BRIEF EXERCISE 14-13

$$\text{Payout ratio} = \frac{\text{Cash dividends}}{\text{Net income}}$$

$$.20 = \frac{X}{\$68,000}$$

$$X = \$68,000 (.20) = \$13,600$$

$$\text{Cash dividends} = \underline{\underline{\$13,600}}$$

$$\text{Return on assets} = \frac{\text{Net income}}{\text{Average assets}}$$

$$.16 = \frac{\$68,000}{X}$$

$$.16X = \$68,000$$

$$X = \frac{\$68,000}{.16}$$

$$X = \$425,000$$

$$\text{Average assets} = \underline{\underline{\$425,000}}$$



## BRIEF EXERCISE 14-14

### MING CORPORATION Partial Income Statement

Income before income taxes .....		\$400,000
Income tax expense (\$400,000 X 30%) .....		<u>120,000</u>
Income from continuing operations .....		280,000
Discontinued operations		
Income from operations of retail division, net of \$3,000 tax (10,000 X 30%).....	\$ 7,000	
Loss on disposal of retail division, net of \$24,000 tax saving (\$80,000 X 30%).....	<u>(56,000)</u>	<u>(49,000)</u>
Net income .....		<u>\$231,000</u>

## BRIEF EXERCISE 14-15

### BLEVINS CORPORATION Partial Income Statement

Loss from operations of European facilities, net of €105,000 income tax saving (€350,000 X 30%) ..	€245,000	
Loss on disposal of European facilities, net of €45,000 income tax saving (€150,000 X 30%).....	<u>105,000</u>	<u>€350,000</u>

## SOLUTIONS FOR DO IT! REVIEW EXERCISES

### DO IT! 14-1

	Increase (Decrease) in 2014	
	Amount	Percent
Plant assets	\$71,000	9.5% [(\$821,000 – \$750,000) ÷ \$750,000]
Current assets	<u>(26,000)</u>	(11.6)% [(\$199,000 – \$225,000) ÷ \$225,000]
Total assets	<u>\$ 45,000</u>	4.6% [(\$1,020,000 – \$975,000) ÷ \$975,000]

## DO IT! 14-2

	<u>2014</u>	<u>2013</u>
(a) Current ratio: $\text{€}1,350 \div \text{€}900 =$ $\text{€}1,343 \div \text{€}810 =$	1.50:1	1.66:1
(b) Inventory turnover: $\text{€}984 / [(\text{€}430 + \text{€}390) \div 2] =$ $\text{€}895 / [(\text{€}390 + \text{€}326) \div 2] =$	2.40 times	2.50 times
(c) Profit margin: $\text{€}364 \div \text{€}4,000 =$ $\text{€}213 \div \text{€}3,600 =$	9.1%	5.9%
(d) Return on assets: $\text{€}364 / [(\text{€}2,310 + \text{€}2,243) \div 2] =$ $\text{€}213 / [(\text{€}2,243 + \text{€}2,100) \div 2] =$	16.0%	9.8%
(e) Return on ordinary shareholders' equity: $\text{€}364 / [(\text{€}1,020 + \text{€}1,040) \div 2] =$ $\text{€}213 / [(\text{€}1,040 + \text{€}960) \div 2] =$	35.3%	21.3%
(f) Debt to total assets ratio: $\text{€}1,290 \div \text{€}2,310 =$ $\text{€}1,203 \div \text{€}2,243 =$	55.8%	53.6%
(g) Times interest earned: $(\text{€}364 + \text{€}242 + \text{€}10) \div \text{€}10 =$ $(\text{€}213 + \text{€}142 + \text{€}20) \div \text{€}20 =$	62 times	19 times

**DO IT! 14-3**

**GRINDERS CORPORATION**  
**Income Statement (Partial)**

Income before income taxes .....		<b>\$500,000</b>
Income tax expense .....		<u><b>175,000</b></u>
Income from continuing operations .....		<b>325,000</b>
Discontinued operations		
Loss from operations of music		
division, net of \$21,000 income tax saving .....	<b>\$39,000</b>	
Gain from disposal of music		
division, net of \$14,000, taxes .....	<u><b>26,000</b></u>	<u><b>(13,000)</b></u>
Net income .....		<u><u><b>\$312,000</b></u></u>

**DO IT! 14-4**

- |                             |   |
|-----------------------------|---|
| 1. Current ratio:           | A measure used to evaluate a company's liquidity.   |
| 2. Pro forma income:        | Usually excludes items that a company thinks are unusual or non-recurring.  |
| 3. Quality of earnings:     | Indicates the level of full and transparent information provided to users of the financial statements.                                    |
| 4. Discontinued operations: | The disposal of a significant component of a business.  |
| 5. Horizontal analysis:     | Determines increases or decreases in a series of financial statement data.  |
| 6. Comprehensive income:    | Includes all changes in equity during a period except those resulting from investments by shareholders and distributions to shareholders. |

# SOLUTIONS TO EXERCISES

## EXERCISE 14-1

### GALLUP INC. Condensed Statements of Financial Position December 31

			<u>Increase or (Decrease)</u>	
	<u>2014</u>	<u>2013</u>	<u>Amount</u>	<u>Percentage</u>
<b>Assets</b>				
Plant assets (net)	\$396,000	\$330,000	\$66,000	20.0%
Current assets	<u>128,000</u>	<u>100,000</u>	<u>28,000</u>	28.0%
<b>Total assets</b>	<b><u>\$524,000</u></b>	<b><u>\$430,000</u></b>	<b><u>\$94,000</u></b>	<b>21.9%</b>
<b>Equity</b>				
Share capital— ordinary, \$1 par	\$ 159,000	\$ 115,000	\$44,000	38.3%
Retained earnings	<u>135,300</u>	<u>150,000</u>	<u>(14,700)</u>	(9.8%)
<b>Total equity</b>	<b><u>294,300</u></b>	<b><u>265,000</u></b>	<b><u>29,300</u></b>	<b>11.1%</b>
<b>Liabilities</b>				
Non-current liabilities	138,700	95,000	43,700	46.0%
Current liabilities	<u>91,000</u>	<u>70,000</u>	<u>21,000</u>	30.0%
<b>Total liabilities</b>	<b><u>229,700</u></b>	<b><u>165,000</u></b>	<b><u>64,700</u></b>	<b>39.2%</b>
<b>Total equity and liabilities</b>	<b><u>\$524,000</u></b>	<b><u>\$430,000</u></b>	<b><u>\$94,000</u></b>	<b>21.9%</b>

**EXERCISE 14-2**

**CONARD CORPORATION**  
**Condensed Income Statements**  
**For the Years Ended December 31**

	<b>2014</b>		<b>2013</b>	
	<u>Amount</u>	<u>Percent</u>	<u>Amount</u>	<u>Percent</u>
Net sales	£750,000	100.0%	£600,000	100.0%
Cost of goods sold	<u>480,000</u>	<u>64.0%</u>	<u>408,000</u>	<u>68.0%</u>
Gross profit	<u>270,000</u>	<u>36.0%</u>	<u>192,000</u>	<u>32.0%</u>
Selling expenses	105,000	14.0%	84,000	14.0%
Administrative expenses	<u>75,000</u>	<u>10.0%</u>	<u>54,000</u>	<u>9.0%</u>
Total operating expenses	<u>180,000</u>	<u>24.0%</u>	<u>138,000</u>	<u>23.0%</u>
Income before income taxes	90,000	12.0%	54,000	9.0%
Income tax expense	<u>36,000</u>	<u>4.8%</u>	<u>18,000</u>	<u>3.0%</u>
Net income	<u>£ 54,000</u>	<u>7.2%</u>	<u>£ 36,000</u>	<u>6.0%</u>

**EXERCISE 14-3**

(a) **GARCIA CORPORATION**  
**Condensed Statements of Financial Position**  
**December 31**

	<u>2014</u>	<u>2013</u>	<u>Increase (Decrease)</u>	<u>Percentage Change from 2013</u>
<b>Assets</b>				
Intangibles	\$ 24,000	\$ 40,000	\$ (16,000)	(40.0%)
Property, plant & equipment (net)	100,000	90,000	10,000	11.1%
Current assets	<u>76,000</u>	<u>80,000</u>	<u>(4,000)</u>	<u>(5.0%)</u>
Total assets	<u>\$200,000</u>	<u>\$210,000</u>	<u>\$(10,000)</u>	<u>(4.8%)</u>

**EXERCISE 14-3 (Continued)**

**GARCIA CORPORATION**  
**Condensed Statements of Financial Position (Continued)**  
**December 31**

	<u>2014</u>	<u>2013</u>	<u>Increase (Decrease)</u>	<u>Percentage Change from 2013</u>
<b>Equity and liabilities</b>				
<b>Equity</b>	<b>\$ 20,000</b>	<b>\$ 12,000</b>	<b>\$ 8,000</b>	<b>66.7%</b>
<b>Non-current liabilities</b>	<b>140,000</b>	<b>150,000</b>	<b>(10,000)</b>	<b>(6.7%)</b>
<b>Current liabilities</b>	<b><u>40,000</u></b>	<b><u>48,000</u></b>	<b><u>(8,000)</u></b>	<b>(16.7%)</b>
<b>Total equity and liabilities</b>	<b><u>\$200,000</u></b>	<b><u>\$210,000</u></b>	<b><u>\$(10,000)</u></b>	<b>(4.8%)</b>

**(b) GARCIA CORPORATION**

**Condensed Statements of Financial Position**  
**December 31, 2014**

	<u>Amount</u>	<u>Percent</u>
<b>Assets</b>		
Intangibles	\$ 24,000	12.0%
Property, plant, and equipment (net)	100,000	50.0%
Current assets	<u>76,000</u>	<u>38.0%</u>
<b>Total assets</b>	<b><u>\$200,000</u></b>	<b><u>100.0%</u></b>
<b>Equity and liabilities</b>		
Equity	\$ 20,000	10%
Non-current liabilities	140,000	70%
Current liabilities	<u>40,000</u>	<u>20%</u>
<b>Total equity and liabilities</b>	<b><u>\$200,000</u></b>	<b><u>100%</u></b>

## EXERCISE 14-4

(a)

### HENDI CORPORATION Condensed Income Statements For the Years Ended December 31

	2014	2013	Increase or (Decrease) During 2013	
			Amount	Percentage
Net sales	<u>₺600,000</u>	<u>₺500,000</u>	<u>₺100,000</u>	20.0%
Cost of goods sold	<u>468,000</u>	<u>400,000</u>	<u>68,000</u>	17.0%
Gross profit	132,000	100,000	32,000	32.0%
Operating expenses	<u>60,000</u>	<u>54,000</u>	<u>6,000</u>	11.1%
Net income	<u>₺ 72,000</u>	<u>₺ 46,000</u>	<u>₺ 26,000</u>	56.5%

(b)

### HENDI CORPORATION Condensed Income Statements For the Years Ended December 31

	2014		2013	
	Amount	Percent	Amount	Percent
Net sales	<u>₺600,000</u>	100.0%	<u>₺500,000</u>	100.0%
Cost of goods sold	<u>468,000</u>	78.0%	<u>400,000</u>	80.0%
Gross profit	132,000	22.0%	100,000	20.0%
Operating expenses	<u>60,000</u>	10.0%	<u>54,000</u>	10.8%
Net income	<u>₺ 72,000</u>	12.0%	<u>₺ 46,000</u>	9.2%

## EXERCISE 14-5

- (a) Current ratio = 2.0:1 ( $\$4,054 \div \$2,014$ )  
Acid-test ratio = 1.4:1 ( $\$2,830 \div \$2,014$ )  
Accounts receivable turnover = 4.2 times ( $\$8,258 \div \$1,988.5$ )\*  
Inventory turnover = 5.9 times ( $\$5,328 \div \$899$ )\*\*

$$*(\$2,035 + \$1,942) \div 2$$

$$**(898 + 900) \div 2$$

## EXERCISE 14-5 (Continued)

(b)	Ratio	Nordstrom	Park Street	Industry
Current		2.0:1	2.05:1	1.70:1
Acid-test		1.4:1	1.05:1	.70:1
Accounts receivable turnover		4.2	37.2	46.4
Inventory turnover		5.9	3.1	4.3

Nordstrom is similar to Park Street for the current and acid-test ratios but significantly below for the accounts receivable turnover. Nordstrom is much better than Park Street for the inventory turnover.

Nordstrom is better than the industry average for the current and acid-test ratios but below the industry average for the accounts receivable turnover. Its inventory turnover ratio however is higher than the industry average.

## EXERCISE 14-6

(a) Current ratio as of February 1, 2014 = 2.8:1 ( $\text{R\$}140,000 \div \text{R\$}50,000$ ).

Feb. 3	2.8:1	No change in total current assets or liabilities.
7	2.2:1	( $\text{R\$}112,000 \div \text{R\$}50,000$ ).
11	2.2:1	No change in total current assets or liabilities.
14	2.6:1	( $\text{R\$}100,000 \div \text{R\$}38,000$ ).
18	2.3:1	( $\text{R\$}100,000 \div \text{R\$}43,000$ ).

(b) Acid-test ratio as of February 1, 2014 = 2.5:1 ( $\text{R\$}125,000^* \div \text{R\$}50,000$ ).

\*  $\text{R\$}140,000 - \text{R\$}10,000 - \text{R\$}5,000$

Feb. 3	2.5:1	No change in total quick assets or current liabilities.
7	1.9:1	( $\text{R\$}97,000 \div \text{R\$}50,000$ ).
11	1.9:1	( $\text{R\$}94,000 \div \text{R\$}50,000$ ).
14	2.2:1	( $\text{R\$}82,000 \div \text{R\$}38,000$ ).
18	1.9:1	( $\text{R\$}82,000 \div \text{R\$}43,000$ ).



## EXERCISE 14-7

(a)  $\frac{\$140,000}{\$50,000} = 2.8:1.$

(b)  $\frac{\$80,000}{\$50,000} = 1.6:1.$

(c)  $\frac{\$390,000}{\$60,000 (1)} = 6.5 \text{ times.}$

(d)  $\frac{\$187,000}{\$55,000 (2)} = 3.4 \text{ times.}$

(1)  $\frac{\$70,000 + \$50,000}{2}$

(2)  $\frac{\$60,000 + \$50,000}{2}$

## EXERCISE 14-8

(a) Profit margin  $\frac{£42,000}{£700,000} = 6.0\%.$

(b) Asset turnover  $\frac{£700,000}{\left[ \frac{£540,000 + £580,000}{2} \right]} = 1.25 \text{ times.}$

(c) Return on assets  $\frac{£42,000}{£560,000} = 7.5\%.$

(d) Return on ordinary shareholders' equity  $\frac{£42,000}{\left[ \frac{£325,000 + £425,000}{2} \right]} = 11.2\%.$

## EXERCISE 14-9

$$(a) \frac{\$60,000 - \$6,000}{30,000 \text{ shares}} = \$1.80.$$

$$(b) \frac{\$10.80}{\$1.80} = 6.0 \text{ times.}$$

$$(c) \frac{\$21,000}{\$60,000} = 35\%.$$

$$(d) \frac{\$60,000 + \$14,000 + \$17,000}{\$14,000} = \frac{\$91,000}{\$14,000} = 6.5 \text{ times.}$$

## EXERCISE 14-10

$$(a) \text{ Inventory turnover} = 3.4 = \frac{\text{Cost of goods sold}}{\left[ \frac{\text{€200,000} + \text{€180,000}}{2} \right]}$$

$3.4 \times \text{€190,000} = \text{Cost of goods sold}$   
 $\text{Cost of goods sold} = \text{€646,000}.$

$$(b) \text{ Accounts receivable turnover} = 8.8 = \frac{\text{Net sales (credit)}}{\left[ \frac{\text{€73,000} + \text{€126,000}}{2} \right]}$$

$8.8 \times \text{€99,500} = \text{Net sales (credit)} = \text{€875,600}.$

$$(c) \text{ Return on ordinary shareholders' equity} = 25\% =$$

$$\frac{\text{Net income}}{\left[ \frac{\text{€400,000} + \text{€134,000} + \text{€400,000} + \text{€122,000}}{2} \right]}$$

$.25 \times \text{€528,000} = \text{Net income} = \text{€132,000}.$

## EXERCISE 14-10 (Continued)

$$(d) \text{ Return on assets} = 20\% = \frac{\text{€132,000 [see (c) above]}}{\text{Average assets}}$$

$$\text{Average assets} = \frac{\text{€132,000}}{.20} = \text{€660,000}$$

$$\frac{\text{Total assets (Dec. 31, 2014)} + \text{€650,000}}{2} = \text{€660,000}$$

$$\text{Total assets (Dec. 31, 2014)} = (\text{€660,000} \times 2) - \text{€650,000} = \text{€670,000}.$$

## EXERCISE 14-11

$$(a) (\$4,300 + \$22,000 + \$10,000)/\$12,000 = \underline{3.03:1}$$

$$(b) (\$4,300 + \$22,000)/\$12,000 = \underline{2.19:1}$$

$$(c) \$100,000/[(\$22,000 + \$24,000)/2] = \underline{4.35 \text{ times}}$$

$$(d) \$60,350/[(\$10,000 + \$7,000)/2] = \underline{7.10 \text{ times}}$$

$$(e) \$14,000/\$100,000 = \underline{14\%}$$

$$(f) \$100,000/[(\$111,300 + \$120,700)/2] = \underline{.86 \text{ times}}$$

$$(g) \$14,000/[(\$111,300 + \$120,700)/2] = \underline{12.1\%}$$

$$(h) \$14,000/[(\$99,300 + \$89,600)/2] = \underline{14.8\%}$$

$$(i) \$12,000/\$111,300 = \underline{10.8\%}$$

## EXERCISE 14-12

(a) **DOUGLAS CORPORATION**  
**Partial Income Statement**  
**For the Year Ended October 31, 2014**

Income before income taxes .....		<b>£550,000</b>
Income tax expense (£550,000 X 30%) .....		<b><u>165,000</u></b>
Income from continuing operations.....		<b>385,000</b>
Discontinued operations		
Loss from operations of discontinued		
division, net of £18,000 income		
tax saving.....	<b>£42,000</b>	
Loss from disposal of discontinued		
division, net of £27,000 income		
tax savings.....	<b><u>63,000</u></b>	<b><u>(105,000)</u></b>
Net income .....		<b><u>£280,000</u></b>

(b) To: Chief Accountant

From: Your name, Independent Auditor

After reviewing your income statement for the year ended 10/31/14, we believe it is misleading for the following reasons:

The amount reported for income before discontinued operations is overstated by £45,000. The income tax expense should be 30% of £550,000, or £165,000, not £120,000.

Also, the effect of the loss from the discontinued division on net income is only £105,000, not £150,000. An income tax savings of £45,000 should be netted against the loss on the discontinued division.

## EXERCISE 14-13

(a)

**MAULDER CORPORATION**  
**Partial Income Statement**  
**For the Year Ended December 31, 2014**

Income from continuing operations.....	\$290,000
Discontinued operations	
Gain on discontinued division, net of \$10,500	
income taxes.....	<u>24,500</u>
Net income .....	<u><u>\$314,500</u></u>

- (b) The correction of an error in last year's financial statements is a prior period adjustment. The correction is reported in the 2014 retained earnings statement as an adjustment that increases the reported beginning balance of retained earnings by \$17,500, or  $[\$25,000 - (\$25,000 \times 30\%)]$ .

# SOLUTIONS TO PROBLEMS

## PROBLEM 14-1

(a) **Condensed Income Statement  
For the Year Ended December 31, 2014**

	<b>Lionel Company</b>		<b>Barrymore Company</b>	
	<b>Dollars</b>	<b>Percent</b>	<b>Dollars</b>	<b>Percent</b>
Net sales	\$1,549,035	100.0%	\$339,038	100.0%
Cost of goods sold	1,053,345	68.0%	237,325	70.0%
Gross profit	495,690	32.0%	101,713	30.0%
Operating expenses	278,825	18.0%	77,979	23.0%
Income from operations	216,865	14.0%	23,734	7.0%
Interest expense	7,745	.5%	2,034	.6%
Income before income taxes	209,120	13.5%	21,700	6.4%
Income tax expense	61,960	4.0%	8,476	2.5%
Net income	<u>\$ 147,160</u>	<u>9.5%</u>	<u>\$ 13,224</u>	<u>3.9%</u>

- (b) Lionel Company appears to be more profitable. It has higher relative gross profit, income from operations, income before taxes, and net income. Lionel's return on assets of 15.0%  $\left( \frac{\$147,160}{\$981,067} \right)^a$  is higher than Barrymore's return on assets of 6.0%  $\left( \frac{\$13,224}{\$220,400} \right)^b$ . Also, Lionel's return on ordinary shareholders' equity of 18.0%  $\left( \frac{\$147,160}{\$817,556} \right)^c$  is higher than Barrymore's return on ordinary shareholders' equity of 7.0%  $\left( \frac{\$13,224}{\$188,914} \right)^d$ .

**PROBLEM 14-1 (Continued)**

<sup>a</sup>\$147,160 is Lionel's 2014 net income. \$981,067 is Lionel's 2014 average assets:

	<u>2014</u>	<u>2013</u>	
Plant assets	\$596,920	\$575,610	
Current assets	<u>401,584</u>	<u>388,020</u>	
Total assets	<u>\$998,504</u>	<u>\$963,630</u>	= $\frac{\$1,962,134}{2}$

<sup>b</sup>\$13,224 is Barrymore's 2014 net income. \$220,400 is Barrymore's 2014 average assets:

	<u>2014</u>	<u>2013</u>	
Plant assets	\$142,842	\$128,927	
Current assets	<u>86,450</u>	<u>82,581</u>	
Total assets	<u>\$229,292</u>	<u>\$211,508</u>	= $\frac{\$440,800}{2}$

<sup>c</sup>\$147,160 is Lionel's 2014 net income. \$817,556 is Lionel's 2014 average ordinary shareholders' equity:

	<u>2014</u>	<u>2013</u>	
Share capital ordinary	\$578,765	\$578,765	
Retained earnings	<u>252,224</u>	<u>225,358</u>	
Total equity	<u>\$830,989</u>	<u>\$804,123</u>	= $\frac{\$1,635,112}{2}$

<sup>d</sup>\$13,224 is Barrymore's 2014 net income. \$188,914 is Barrymore's 2014 average ordinary shareholders' equity:

	<u>2014</u>	<u>2013</u>	
Share capital ordinary	\$137,435	\$137,435	
Retained earnings	<u>55,528</u>	<u>47,430</u>	
Total equity	<u>\$192,963</u>	<u>\$184,865</u>	= $\frac{\$377,828}{2}$

**PROBLEM 14-2**

(a) Earnings per share =  $\frac{\text{R\$192,000}}{60,000} = \text{R\$3.20}.$

(b) Return on ordinary shareholders' equity = 
$$\frac{\text{R\$192,000}}{\left[ \frac{\text{R\$465,400} + \text{R\$542,600}}{2} \right]}$$
$$= \frac{\text{R\$192,000}}{\text{R\$504,000}}$$
$$= 38.1\%.$$

(c) Return on assets = 
$$\frac{\text{R\$192,000}}{\left[ \frac{\text{R\$852,800} + \text{R\$946,100}}{2} \right]} = \frac{\text{R\$192,000}}{\text{R\$899,450}} = 21.3\%.$$

(d) Current ratio =  $\frac{\text{R\$345,800}}{\text{R\$203,500}} = 1.70:1$

(e) Acid-test ratio =  $\frac{\text{R\$234,850}}{\text{R\$203,500}} = 1.15:1$

(f) Accounts receivable turnover = 
$$\frac{\text{R\$1,818,500}}{\left[ \frac{(\text{R\$102,800} + \text{R\$105,750})}{2} \right]}$$
$$= \frac{\text{R\$1,818,500}}{\text{R\$104,275}}$$
$$= 17.4 \text{ times.}$$



### PROBLEM 14-2 (Continued)

$$\begin{aligned} \text{(g) Inventory turnover} &= \frac{\text{R\$1,011,500}}{\left[ \frac{\text{R\$115,500} + \text{R\$110,950}}{2} \right]} = \frac{\text{R\$1,011,500}}{\text{R\$113,225}} \\ &= 8.9 \text{ times.} \end{aligned}$$

$$\text{(h) Times interest earned} = \frac{\text{R\$291,000}}{\text{R\$15,000}} = 19.4 \text{ times.}$$

$$\text{(i) Asset turnover} = \frac{\text{R\$1,818,500}}{\text{R\$899,450}^*} = 2.0 \text{ times.}$$

$$^*(\text{R\$852,800} + \text{R\$946,100}) \div 2$$

$$\text{(j) Debt to total assets} = \frac{\text{R\$403,500}}{\text{R\$946,100}} = 42.6\%.$$

# **PROBLEM 14-3**

(a) **2013** **2014**

**(1) Profit margin.**

$$\frac{\$32,000}{\$640,000} = 5.0\%$$

$$\frac{\$42,000}{\$700,000} = 6.0\%$$

**(2) Asset turnover.**

$$\frac{\$640,000}{\left[ \frac{\$533,000 + \$600,000}{2} \right]} = 1.1 \text{ times}$$

$$\frac{\$700,000}{\left[ \frac{\$600,000 + \$640,000}{2} \right]} = 1.1 \text{ times}$$

**(3) Earnings per share.**

$$\frac{\$32,000}{31,000} = \$1.03$$

$$\frac{\$42,000}{32,000} = \$1.31$$

**(4) Price-earnings ratio.**

$$\frac{\$5.00}{\$1.03} = 4.9 \text{ times}$$

$$\frac{\$8.00}{\$1.31} = 6.1 \text{ times}$$

**(5) Payout ratio.**

$$\frac{\$20,000^*}{\$32,000} = 62.5\%$$

$$\frac{\$22,000^{**}}{\$42,000} = 52.4\%$$

\*(\$113,000 + \$32,000 – \$125,000)

\*\*(\$125,000 + \$42,000 – \$145,000)

**(6) Debt to total assets.**

$$\frac{\$160,000}{\$600,000} = 26.7\%$$

$$\frac{\$150,000}{\$640,000} = 23.4\%$$

### **PROBLEM 14-3 (Continued)**

- (b) The underlying profitability of the corporation appears to have improved. For example, profit margin and earnings per share have both increased. In addition, the corporation's price-earnings ratio has increased, which suggests that investors may be looking more favorably at the corporation. Also, the corporation appears to be involved in attempting to reduce its debt burden as its debt to total assets ratio has decreased. Similarly, its payout ratio has decreased, which should help its overall solvency.**

# **PROBLEM 14-4**

## **(a) LIQUIDITY**

	<u>2012</u>	<u>2013</u>	<u>Change</u>
Current	$\frac{€343,000}{€182,000} = 1.9:1$	$\frac{€374,000}{€192,000} = 1.9:1$	No change
Acid-test	$\frac{€185,000}{€182,000} = 1.0:1$	$\frac{€220,000}{€192,000} = 1.1:1$	Increase
Accounts receivable turnover	$\frac{€798,000}{€84,000^*} = 9.5 \text{ times}$	$\frac{€858,000}{€89,000^{**}} = 9.6 \text{ times}$	Increase
	$*(\text{€}88,000 + \text{€}80,000) \div 2$	$**(\text{€}80,000 + \text{€}98,000) \div 2$	
Inventory turnover	$\frac{€575,000}{€126,500^*} = 4.5 \text{ times}$	$\frac{€611,000}{€130,000^{**}} = 4.7 \text{ times}$	Increase
	$*(\text{€}118,000 + \text{€}135,000) \div 2$	$**(\text{€}135,000 + \text{€}125,000) \div 2$	

An overall increase in short-term liquidity has occurred.

## **PROFITABILITY**

Profit margin	$\frac{€42,000}{€798,000} = 5.3\%$	$\frac{€42,500}{€858,000} = 5.0\%$	Decrease
Asset turnover	$\frac{€798,000}{€640,000^*} = 1.2 \text{ times}$	$\frac{€858,000}{€660,000^{**}} = 1.3 \text{ times}$	Increase
	$*(\text{€}632,000 + \text{€}648,000) \div 2$	$**(\text{€}648,000 + \text{€}672,000) \div 2$	
Return on assets	$\frac{€42,000}{€640,000} = 6.6\%$	$\frac{€42,500}{€660,000} = 6.4\%$	Decrease
Earnings per share	$\frac{€42,000}{20,000} = \$2.10$	$\frac{€42,500}{20,000} = \$2.13$	Increase

Profitability has remained relatively the same.

## PROBLEM 14-4 (Continued)

(b)	2013	2014	Change
1. Return on ordinary shareholders' equity	$\frac{€42,500}{€323,000 \text{ (a)}} = 13.2\%$	$\frac{€50,000}{€445,000 \text{ (b)}} = 11.2\%$	Decrease
2. Debt to total assets	$\frac{€342,000 \text{ (c)}}{€672,000} = 50.9\%$	$\frac{€242,000}{€700,000} = 34.6\%$	Decrease
3. Price-earnings ratio	$\frac{€9.00}{€2.13} = 4.2 \text{ times}$	$\frac{€12.50}{€2.50 \text{ (d)}} = 5.0 \text{ times}$	Increase

(a)  $(€200,000 + €130,000 + €200,000 + €116,000) \div 2$ .

(b)  $(€380,000 + €180,000 + €200,000 + €130,000) \div 2$ .

(c)  $€100,000 + €48,000 + €44,000 + €150,000$ .

(d)  $€50,000 \div 20,000$ .

# **PROBLEM 14-5**

(a)	Ratio	Target		Wal-Mart	
		(All Dollars Are in Millions)			
(1)	Current	1.7:1	(\$17,213 ÷ \$10,070)	.9:1	(\$48,331 ÷ \$55,561)
(2)	Accounts receivable turnover	10.3	(\$67,390 ÷ \$6,560)	100.6	(\$405,046 ÷ \$4,025)
(3)	Average collection period	35.4	(365 ÷ 10.3)	3.6	(365 ÷ 100.6)
(4)	Inventory turnover	6.2	(\$45,725 ÷ \$7,388)	9.0	(\$304,657 ÷ \$33,836)
(5)	Days in inventory	58.9	(365 ÷ 6.2)	40.6	(365 ÷ 9.0)
(6)	Profit margin	4.3%	(\$2,920 ÷ \$67,390)	3.5%	(\$14,335 ÷ \$405,046)
(7)	Asset turnover	1.5	(\$67,390 ÷ \$44,119 <sup>a</sup> )	2.4	(\$405,046 ÷ \$167,067.5 <sup>c</sup> )
(8)	Return on assets	6.6%	(\$2,920 ÷ \$44,119 <sup>a</sup> )	8.6%	(\$14,335 ÷ \$167,067.5 <sup>c</sup> )
(9)	Return on ordinary shareholders' equity	18.9%	(\$2,920 ÷ \$15,417 <sup>b</sup> )	21.1%	(\$14,335 ÷ \$68,017 <sup>d</sup> )
(10)	Debt to total assets	64.6%	(\$28,218 ÷ \$43,705)	58.6%	(\$99,957 ÷ \$170,706)
(11)	Times interest earned	6.9	(\$5,252 ÷ \$757)	12.4	(\$23,358 ÷ \$1,884)

$$^a(\$43,705 + \$44,533) \div 2$$

$$^b(\$15,487 + \$15,347) \div 2$$

$$^c(\$170,706 + \$163,429) \div 2$$

$$^d(\$70,749 + \$65,285) \div 2$$

(b) The comparison of the two companies shows the following:

**Liquidity**—Target's current ratio of 1.7:1 is significantly better than Wal-Mart's .9:1. However, Wal-Mart has a better inventory turnover ratio than Target and its accounts receivable turnover is substantially better than Target's.

**Profitability**—With the exception of profit margin, Wal-Mart betters Target in all of the profitability ratios. Thus, it is more profitable than Target.

**Solvency**—Wal-Mart betters Target in both of the solvency ratios. Thus, it is more solvent than Target.

**PROBLEM 14-6**

(a) Current ratio =  $\frac{£204,000}{£134,000} = 1.5:1.$

(b) Acid-test ratio =  $\frac{£21,000 + £18,000 + £85,000}{£134,000} = 0.93:1.$

(c) Accounts receivable turnover =  $\frac{£500,000}{\left[ \frac{£85,000 + £75,000}{2} \right]}$   
= 6.3 times.

(d) Inventory turnover =  $\frac{£315,000}{\left[ \frac{£80,000 + £60,000}{2} \right]} = 4.5 \text{ times.}$

(e) Profit margin ratio =  $\frac{£36,700}{£500,000} = 7.3\%.$

(f) Asset turnover =  $\frac{£500,000}{\left[ \frac{£627,000 + £551,000}{2} \right]} = 0.8 \text{ times.}$

(g) Return on assets =  $\frac{£36,700}{\left[ \frac{£627,000 + £551,000}{2} \right]} = 6.2\%.$

(h) Return on ordinary shareholders' equity =  $\frac{£36,700}{\left[ \frac{£373,000 + £350,000}{2} \right]}$   
= 10.2%.

### PROBLEM 14-6 (Continued)

(i) Earnings per share =  $\frac{£36,700}{30,000 (1)} = £1.22.$

(1)  $£150,000 \div £5.00$

(j) Price-earnings ratio =  $\frac{£19.50}{£1.22} = 16.0 \text{ times.}$

(k) Payout ratio =  $\frac{£13,700 (2)}{£36,700} = 37.3\%.$

(2)  $£200,000 + £36,700 - £223,000$

(l) Debt to total assets =  $\frac{£254,000}{£627,000} = 40.5\%.$

(m) Times interest earned =  $\frac{£64,200 (3)}{£7,500} = 8.6 \text{ times.}$

(3)  $£36,700 + £20,000 + £7,500$



<b>PROBLEM 14-7</b>
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$$\text{Accounts receivable turnover} = 10 = \frac{\$10,500,000}{\text{Average net accounts receivable}}$$

$$\text{Average net accounts receivable} = \frac{\$10,500,000}{10} = \$1,050,000$$

$$\frac{\text{Net accounts receivable 12/31/14} + \$950,000}{2} = \$1,050,000$$

$$\text{Net accounts receivable 12/31/14} + \$950,000 = \$2,100,000$$

$$\text{Net accounts receivable 12/31/14} = \underline{\$1,150,000}$$

$$\text{Profit margin} = 14.5\% = .145 = \frac{\text{Net income}}{\$10,500,000}$$

$$\text{Net income} = \$10,500,000 \times .145 = \underline{\$1,522,500}$$

$$\text{Income before income taxes} = \$1,522,500 + \$550,000 = \underline{\$2,072,500}$$

$$\text{Return on assets} = 20\% = .20 = \frac{\$1,522,500}{\text{Average assets}}$$

$$\text{Average assets} = \$1,522,500 \div .20 = \$7,612,500$$

$$\frac{\text{Assets (12/31/14)} + \$7,500,000}{2} = \$7,612,500$$

$$\text{Assets (12/31/14)} = \underline{\$7,725,000}$$

$$\text{Total current assets} = \$7,725,000 - \$4,620,000 = \underline{\$3,105,000}$$

$$\text{Inventory} = \$3,105,000 - \$1,150,000 - \$480,000 = \underline{\$1,475,000}$$

$$\text{Total liabilities and equity} = \underline{\$7,725,000}$$

$$\text{Total liabilities} = \$7,725,000 - \$3,400,000 = \underline{\$4,325,000}$$

### PROBLEM 14-7 (Continued)

$$\text{Current ratio} = 3.0 = \frac{\$3,105,000}{\text{Current liabilities}}$$

$$\text{Current liabilities} = \$3,105,000 \div 3.0 = \underline{\underline{\$1,035,000}}$$

$$\text{Long-term notes payable} = \$4,325,000 - \$1,035,000 = \underline{\underline{\$3,290,000}}$$

$$\text{Inventory turnover} = 4.2 = \frac{\text{Cost of goods sold}}{\left[ \frac{\$1,720,000 + \$1,475,000}{2} \right]}$$

$$\text{Cost of goods sold} = \$1,597,500 \times 4.2 = \underline{\underline{\$6,709,500}}$$

$$\text{Gross profit} = \$10,500,000 - \$6,709,500 = \underline{\underline{\$3,790,500}}$$

$$\text{Income from operations} = \$3,790,500 - \$1,500,000 = \underline{\underline{\$2,290,500}}$$

$$\text{Interest expense} = \$2,290,500 - \$2,072,500 = \underline{\underline{\$218,000}}$$

<b>PROBLEM 14-8</b>
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**VIOLET BICK CORPORATION**  
**Condensed Income Statement**  
**For the Year Ended December 31, 2014**

<hr/>		
Operating revenues		
(€12,900,000 – €2,000,000) .....		€10,900,000
Operating expenses		
(€8,700,000 – €2,500,000) .....		<u>6,200,000</u>
Income from operations .....		4,700,000
Other income and expense .....		<u>200,000</u>
Income before income taxes .....		4,500,000
Income tax expense (€4,500,000 X 30%).....		<u>1,350,000</u>
Income from continuing operations.....		3,150,000
Discontinued operations		
Loss from operations of hotel		
chain*, net of €150,000 income		
tax saving .....	(€350,000)	
Gain on sale of hotels, net of		
€90,000 income taxes .....	<u>210,000</u>	<u>(140,000)</u>
Net income .....		<u>€ 3,010,000</u>
*€2,000,000 – €2,500,000 = (€500,000)		

<b>PROBLEM 14-9</b>
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**GOWER CORPORATION**  
**Income Statement**  
**For the Year Ended December 31, 2014**

Net sales .....		<b>\$1,600,000</b>
Cost of goods sold.....		<u><b>1,100,000</b></u>
Gross profit.....		<b>500,000</b>
Selling and administrative expenses .....		<u><b>160,000</b></u>
Income from operations .....		<b>340,000</b>
Other income and expense .....		<u><b>(6,000)</b></u>
Income before income taxes.....		<b>334,000</b>
Income tax expense (\$334,000 X 30%) .....		<u><b>100,200</b></u>
Income from continuing operations .....		<b>233,800</b>
Discontinued operations		
Income from operations of discontinued		
division, net of \$4,500 income taxes .....	<b>10,500</b>	
Loss on sale of discontinued division,		
net of \$24,000 income tax saving.....	<u><b>(56,000)</b></u>	<u><b>(45,500)</b></u>
Net income .....		<u><u><b>\$ 188,300</b></u></u>

(a)

**SAMSUNG ELECTRONICS CO.**  
**Trend Analysis of Net Sales and Net Income**  
**For the Five Years Ended 2010**

**Base Period 2006—(in millions)**

	2010	2009	2008	2007	2006
(1) Net sales	₩154,630,328	₩136,323,670	₩121,294,319	₩98,507,817	₩85,834,604
Trend	180%	159%	141%	115%	100%
(2) Net income	16,146,525	9,760,550	5,890,214	7,922,981	8,193,659
Trend	197%	119%	72%	97%	100%

Between 2006 and 2007 Samsung's net sales increased by 15%. Its net sales increased by 23% between 2007 and 2008 and by 13% each year between 2008 and 2010. Samsung's net income decreased by 3% between 2006 and 2007, and by 26% between 2007 and 2008. Net income increased by 66% between 2008 and 2009 and by 65% between 2009 and 2010.

(b) (Korean Won amounts in millions)

## (1) Profit Margin

$$\begin{aligned} 2010: & \quad \text{₩}16,146,525 \div \text{₩}154,630,328 = 10.4\% \\ 2009: & \quad \text{₩}9,760,550 \div \text{₩}136,323,670 = 7.2\% \end{aligned}$$

## (2) Asset Turnover

$$\begin{aligned} 2010: & \quad \text{₩}154,630,328 \div [(\text{₩}134,288,744 + \text{₩}112,179,789) \div 2] = 1.25 \text{ times} \\ 2009: & \quad \text{₩}136,323,670 \div [(\text{₩}112,179,789 + \text{₩}105,300,650) \div 2] = 1.25 \text{ times} \end{aligned}$$

## (3) Return on Assets

$$\begin{aligned} 2010: & \quad \text{₩}16,146,525 \div [(\text{₩}134,288,744 + \text{₩}112,179,789) \div 2] = 13.1\% \\ 2009: & \quad \text{₩}9,760,550 \div [(\text{₩}112,179,789 + \text{₩}105,300,650) \div 2] = 9.0\% \end{aligned}$$

## BYP 14-1 (Continued)

### (4) Return on Ordinary Shareholders' Equity

$$2010: \quad \cancel{W}16,146,525 \div [(\cancel{W}89,349,091 + \cancel{W}73,045,202) \div 2] = 19.9\%$$

$$2009: \quad \cancel{W}9,760,550 \div [(\cancel{W}73,045,202 + \cancel{W}63,460,385) \div 2] = 14.3\%$$

Samsung's profitability increased from 2009 to 2010.

### (c) (dollar amounts in millions)

#### (1) Debt to Total Assets

$$2010: \quad \cancel{W}44,939,653 \div \cancel{W}134,288,744 = 33.5\%$$

$$2009: \quad \cancel{W}39,134,587 \div \cancel{W}112,179,789 = 34.9\%$$

#### (2) Times Interest Earned

$$2010: \quad (\cancel{W}19,328,656 + \cancel{W}7,700,099) \div \cancel{W}7,700,099 = 3.5 \text{ times}$$

$$2009: \quad (\cancel{W}12,191,596 + \cancel{W}10,174,219) \div \cancel{W}10,174,219 = 2.2 \text{ times}$$

Creditors provide roughly one-third of Samsung's total assets, so its long-term solvency is not in jeopardy. Even through Samsung's times interest earned ratio is low it improved in 2010 and the company has the ability to pay the interest on its debt.

- (d) Substantial amounts of important information about a company are not in its financial statements. Events involving such things as industry changes, management changes, competitors' actions, technological developments, governmental actions, and union activities are often critical to the successful operation of a company. Financial reports in the media and publications of financial service firms (Standard & Poors, Dun & Bradstreet) will provide relevant information not usually found in the annual report.

		Zetar	Nestlé
(1)	(i) Percentage increase in net sales	$\frac{£134,998 - £131,922}{£131,922} = 2.3\%$	$\frac{CHF109,722 - CHF 107,618}{CHF 107,618} = 2.0\%$
	(ii) Percentage increase (decrease) in net income	$\frac{£4,482 - £4,268}{£4,268} = 5.0\%$	$\frac{CHF 35,384 - CHF 11,793}{CHF 11,793} = 2.0\%$
(2)	(i) Percentage increase (decrease) in total assets	$\frac{£93,062 - £85,108}{£85,108} = 9.3\%$	$\frac{CHF 111,641 - CHF 110,916}{CHF 110,916} = 0.7\%$
	(ii) Percentage increase (decrease) in total ordinary shareholders' equity	$\frac{£46,287 - £41,755}{£41,755} = 10.9\%$	$\frac{CHF 62,598 - CHF 53,631}{CHF 53,631} = 16.7\%$

The two companies net sales increased by roughly the same percentage. However, it appear that Nestlé's percentage increase in net income is substantially greater than Zetar's (200% vs 5%). This apparent disparity is due to the profit on discontinued operations that was included in Nestlé's net income. If you remove these amounts for 2009 and 2010, Nestle's net income actually decreased by 5%. Zetar's total assets increased by a greater percentage than Nestlé's (9.3% VS 0.7%), but the percentage increase in the return on ordinary shareholders' equity is the opposite, with Nestlé's increasing by 16.7% while Zetar's increased only 10.9%.

The current ratio increase is a favorable indication as to liquidity, but alone tells little about the going-concern prospects of the client. From this ratio change alone, it is impossible to know the amount and direction of the changes in individual accounts, total current assets, and total current liabilities. Also unknown are the reasons for the changes.

The acid-test ratio decrease is an unfavorable indication as to liquidity, especially when the current-ratio increase is also considered. This decline is also unfavorable as to the going-concern prospects of the client because it reflects a declining cash position and raises questions as to reasons for the increases in other current assets, such as inventories.

The change in asset turnover cannot alone tell anything about either solvency or going-concern prospects. There is no way to know the amount and direction of the changes in sales and assets. An increase in sales would be favorable for going-concern prospects, while a decrease in assets could represent a number of possible scenarios and would need to be investigated further.

The increase in net income is a favorable indicator for both solvency and going-concern prospects, although much depends on the quality of receivables generated from sales and how quickly they can be converted into cash. If there has been a decline in sales, a significant factor is that management has been able to reduce costs to produce an increase in earnings. Indirectly, the improved income picture may have a favorable impact on solvency and going-concern potential by enabling the client to borrow currently (if it needs to do so) to meet cash requirements.

The 32-percent increase in earnings per share, which is identical to the percentage increase in net income, is an indication that there has probably been no change in the number of ordinary shares outstanding. This, in turn, indicates that financing was not obtained through the issuance of ordinary shares. It is not possible to reach conclusions about solvency and going-concern prospects without additional information about the nature and extent of financing.



### **BYP 14-3 (Continued)**

**The collective implications of these data alone are that the client entity is about as solvent and as viable a going concern at the end of the current year as it was at the beginning although there may be a need for short-term operating cash.**

**To: Kyle Benson**  
**From: Accounting Major**  
**Subject: Financial Statement Analysis**

**There are two fundamental considerations in financial statement analysis: (1) the bases of comparison and (2) the factors affecting quality of earnings. Each of these considerations is explained below.**

**1. Bases of comparison. The bases of comparison are:**

- a. Intracompany—This basis compares an item or financial relationship within a company in the current year with the same item or relationship in one or more prior years.**
- b. Industry averages—This basis compares an item or financial relationship of a company with industry averages (or norms).**
- c. Intercompany—This basis compares an item or financial relationship of one company with the same item or relationship in one or more competing companies.**

**2. Factors affecting quality of earnings are:**

- a. Alternative accounting methods—Variations among companies in the application of IFRS may hamper comparability and reduce quality of earnings.**
- b. Pro forma income—This income figure usually excludes items that the company thinks are unusual or nonrecurring.**
- c. Improper recognition—Because some managers have felt pressure from investors to continually increase earnings, they have manipulated the earnings numbers to meet these expectations.**

**(a) The stakeholders in this case are:**

- ▶ **Robert Turnbull, president of Turnbull Industries.**
- ▶ **Perry Jarvis, public relations director.**
- ▶ **You, as controller of Turnbull Industries.**
- ▶ **Shareholders of Turnbull Industries.**
- ▶ **Potential investors in Turnbull Industries.**
- ▶ **Any readers of the press release.**

**(b) The president's press release is deceptive and incomplete and to that extent his actions are unethical.**

**(c) As controller you should at least inform Perry, the public relations director, about the biased content of the release. He should be aware that the information he is about to release, while factually accurate, is deceptive and incomplete. Both the controller and the public relations director (if he agrees) have the responsibility to inform the president of the bias of the about to be released information.**

## GAAP EXERCISES

### GAAP 14-1

#### CHEN COMPANY Statement of Comprehensive Income For the Year Ended December 31, 2014

Sales revenue .....	\$1,000,000
Cost of goods sold.....	<u>700,000</u>
Gross profit.....	300,000
Operating expenses .....	<u>200,000</u>
Net income .....	100,000
Other comprehensive income.....	
Unrealized gain on non-trading securities	<u>75,000</u>
Comprehensive income.....	<u><u>\$ 175,000</u></u>

### GAAP 14-2

#### CHEN COMPANY Income Statement For the Year Ended December 31, 2014

Sales revenue .....	\$1,000,000
Cost of goods sold.....	<u>700,000</u>
Gross profit.....	300,000
Operating expenses .....	<u>200,000</u>
Net income .....	<u><u>\$ 100,000</u></u>

#### CHEN COMPANY Statement of Comprehensive Income For the Year Ended December 31, 2014

Net income .....	\$100,000
Other comprehensive income.....	
Unrealized gain on non-trading securities.....	<u>75,000</u>
Comprehensive income.....	<u><u>\$175,000</u></u>

(a)

**TOOTSIE ROLL INDUSTRIES, INC.**  
**Trend Analysis of Net Sales and Net Income**  
**For the Five Years Ended 2010**

**Base Period 2006.....(in thousands)**

	2010	2009	2008	2007	2006
(1) Net Sales	\$517,149	\$495,592	\$492,051	\$492,742	\$495,990
Trend	104%	100%	99%	99%	100%

	2010	2009	2008	2007	2006
(2) Net Earnings	53,714	53,878	39,315	51,914	66,011
Trend	81%	82%	60%	79%	100%

Between 2006 and 2009 Net sales were fairly constant, however 2010 net sales increased by 4% over 2006. Tootsie Rolls net income decreased 40% from 2006 to 2008. Net income in 2009 and 2010 increased approximately 37% over that of 2008, however, 2010 net income was still 19% below that of 2006. So, while net sales have increased 4% over the 5-year period, net income has decreased by 19%.

(b)

	2010	2009
(1) Debt to total assets ratio	$\frac{\$191,429}{\$860,383} = 22.2\%$	$\frac{\$183,108}{\$838,247} = 21.8\%$
(2) Times interest earned ratio	$\frac{\$53,714 + \$20,375 + \$142}{\$142} = 522.8 \text{ times}$	$\frac{\$53,878 + \$10,301 + \$243}{\$243} = 265.1 \text{ times}$

Creditors are providing approximately 22% of Tootsie Roll's total assets and the company's times interest earned ratio indicates the company is in no danger of not being able to service their debt.

<b>(c)</b>	<b>2010</b>	<b>2009</b>
(1) Profit margin	$\frac{\$53,714}{\$517,149} = 10.4\%$	$\frac{\$53,878}{\$495,592} = 10.9\%$
(2) Asset turnover	$\frac{\$517,149}{(\$860,383 + \$838,247)/2} = .61 \text{ times}$	$\frac{\$495,592}{(\$838,247 + \$813,525)/2} = .60 \text{ times}$
(3) Return on assets	$\frac{\$53,714}{(\$860,383 + \$838,247)/2} = 6.3\%$	$\frac{\$53,878}{(\$838,247 + \$813,525)/2} = 6.5\%$
(4) Return on ordinary shareholder's equity	$\frac{\$53,714}{(\$668,954 + \$655,139)/2} = 8.1\%$	$\frac{\$53,878}{(\$655,139 + \$637,021)/2} = 8.3\%$

Tootsie Roll had a small decline in profitability as evidenced by the slight decrease in the profit margin, return on assets and return on ordinary shareholders equity ratios. The asset, turnover ratio had a slight increase.

- (d) Substantial amounts of important information about a company are not in its financial statements. Events involving such things as industry changes, management changes, competitors' actions, technological developments, governmental actions, and union activities are often critical to the successful operations of a company. Financial reports in the media and publications of financial service firms (Standard & Poors, Dun & Bradstreet) will provide relevant information not usually found in the annual report.